Organisation for Economic Co-operation and Development

DAF/COMP(2022)8

Unclassified

English - Or. English

9 May 2022

DIRECTORATE FOR FINANCIAL AND ENTERPRISE AFFAIRS
COMPETITION COMMITTEE

Integrating Consumer Behaviour Insights in Competition Enforcement – Background Note

By Matthew Bennett

24 June 2022

This document was prepared by Matthew Bennett to serve as background material for the 138th meeting of the Competition Committee on 22-24 June 2022.

The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Organisation or of the governments of its member countries.

More documentation related to this discussion can be found at:
www.oecd.org/daf/competition/behavioural-insights-in-competition-enforcement.htm

Please contact Mr. Renato Ferrandi if you have any questions about this document
[E-mail: Renato.Ferrandi@oecd.org].

JT03495002

Integrating Consumer Behaviour Insights in Competition Enforcement*

Increased understanding of behavioural economics has affected, and will continue to affect, the enforcement of competition policy. Traditional models assume that customers are rational, know their preferences and are able to come to the optimal decision. However, the behavioural economics literature shows that often consumer biases affect the decision-making process. In addition, firms may have an incentive to exploit or even exacerbate consumer biases. These practices may not only lead to direct consumer harm, but they may also be used to harm competition by making it easier to exclude rivals and harder for new entrants to compete away any distortions.

This paper provides an overview of some of the key behavioural biases and their potential impact on competition. Then, it goes through each of the key elements of different types of competition cases, and considers how behavioural insights may play a role in the investigation by a competition authority.

Understanding the reason why consumers act as they do can provide better insights into what impact a firm's conduct will have and when it may be problematic. Certain consumer behavioural biases like default biases, loss aversion and the endowment effect may strengthen dominance and market power. Practices like default options may reduce the likelihood of customers switching to

* This paper was prepared by Matthew Bennett, Vice President of Charles River Associates, in cooperation with Renato Ferrandi and Tommaso Majer of the OECD Competition Division, and benefited from comments by Antonio Capobianco, Ori Schwartz and other colleagues of the OECD Competition Division, and by the colleagues of the OECD Consumer Policy Unit.

competitors, while tying and bundling may result in competition restrictions in the presence of consumer biases.

Awareness of behavioural insights can also help competition authorities to conduct consumer surveys in a way that minimises the potential effect of biases. For example, survey respondents may be influenced by the way questions are framed or may overestimate their likelihood of acting if a certain event occurs.

Finally, behavioural insights may prove particularly valuable in the design of remedies, insofar as a clear understanding of how consumers behave can help competition authorities to come up with the most appropriate and effective remedies.

Table of contents

BOXES

1. Introduction

1. Market outcomes are determined by the interaction of demand and supply conditions. Both the demand- and supply-sides of any market need to work effectively for consumers to benefit from low prices, good quality, high levels of innovation and responsive customer service. Much of the work of competition authorities focuses on supply-side interventions. For example, merger control seeks to ensure that transactions do not result in worsened competitive outcomes, while anti-cartel enforcement seeks to ensure that suppliers do not eliminate competition between them by agreement.

2. However, the extent to which these supply side interventions may impact competition not only depends upon firms' actions, but also depends on how consumers react to those actions. A clear example is consumer switching, which may affect market power. Whilst traditional models incorporate standard barriers to consumer switching, such as switching costs and search costs, the behavioural economics literature has also shown that there may be behavioural barriers to switching that can also influence the profitability of firms' actions. In particular, in markets where customers face challenges such as barriers to accessing relevant information on price or quality, difficulties in assessing and comparing offers across competitors, or where they face barriers to understanding the choices on offer, firms may be able to exercise greater market power than absent these consumer issues.

3. Traditional models about anti-competitive practices have assumed that customers are rational, know their preferences, and are able to evaluate these preferences across different choice sets in order to come to the optimal decision. However, the behavioural literature shows that in reality, consumers may not make decisions in the way that standard models assume. Consumers may struggle with information, or rely on 'rules of thumb', they may focus on specific elements of an offer rather than its entirety. All of these may lead to consumers making poor decisions. Importantly however, one of the key findings of behavioural economics is that consumers biases, whilst not necessarily rational, will be irrational in a systematic and predictable manner (Ariely, 2008[1]). The ability to predict the irrationality and biases of consumers raises the possibility that these biases may also be exploited by firms, both as a tool to potentially exclude rivals, but also and more generally as a means of exploiting consumers.

4. This has direct implication for the running of competition cases. For example, a traditional view may assume that in a market with minimal direct costs to switching, there is no real issue of any single firm to act independent of its rivals, and therefore no dominance. However, if there are default biases then switching may be significantly more difficult, and measures that can be undertaken to magnify those biases may lead to the foreclosure of rivals or entrants. Similarly, in merger analysis, a lack of customer switching due to behavioural biases may suggest that expected entry is significantly less likely to be 'sufficient' to constrain a price rise than a traditional 'cost of entry' view may suggest.

5. The increasing importance of online retailing and services has only increased the relevance of behavioural biases. Whereas previously firms may have had relatively limited information on consumers and how they acted, the collection of online data has given firms access to significantly greater amounts of data regarding consumer behaviour. Online firms are increasingly collecting consumer data to perform randomised experiments or A/B tests to help them increase their sales, and whilst this may often be benevolent, it may also open up opportunities for firms to design their platforms and offers in order to exploit these consumer biases for their gain (see for example (OECD, 2021[2])).

6. This paper considers how an increased understanding of behavioural economics has affected, and will continue to affect, the enforcement of competition policy. It first provides a short summary of some of the main consumer behavioural biases that have played a role in competition cases. It then uses the economic literature in behavioural economics to provide an overview of how these biases can impact competition, and what are the main results from the literature. For example, one of the key findings in the behavioural literature is that whilst more competition will still generally improve the outcomes for consumers, it may not remove distortions, and as discussed in Section 3. , in some specific cases may actually make consumers worse off if those consumers are subject to behavioural biases.

7. In addition to providing an overview of some of the key behavioural biases and their potential impact on competition, this paper attempts to provide a pragmatic view on where behavioural economics may have an influence on how competition cases are run. It goes through each of the key elements of different types of competition cases, and considers how behavioural insights may play a role in the investigation by a competition authority. As discussed below, in many cases Competition Authorities are already incorporating behavioural economics, even if unconsciously, by the mere fact that empirical analysis of how consumers behave generally plays a key part in most competition cases. For example, to the extent that there are behavioural biases that influence consumer switching, empirical estimates of switching rates will incorporate the impact of these biases.

8. For the purposes of this OECD roundtable, this paper only focuses on consumer behavioural biases, on which the behavioural economics literature has been primarily focused. However, it should be noted that there are also strands of the literature that concern how firms, and even organisations such as competition authorities, may exhibit behavioural biases. For example, whilst traditional models generally assume that firms are profit maximising, there is some evidence that firms, just as consumers, may operate using rules of thumb, which can lead to biases. Firms will typically function through group decisions, which leads to different sets of biases and influences. Finally, the managers and owners of firms may not be typical people, for example they may have stronger preferences for risk, or a tendency to overconfidence .[1] Whilst there may be good reasons to consider that firms will generally exhibit a lower degree of behavioural biases than consumers, all of these aspects can have an impact on firms' decision making and on competition cases.[2]

9. The remainder of the paper is structured as follows. Section 2. considers the key behavioural biases and provides a brief overview of those that are particularly relevant to competition cases. Section 3. discusses the emerging 'behavioural industrial organisation' literature to consider what implications behavioural biases have on competition policy. Section 4. then turns to competition cases, and considers how behavioural biases may influence the way that Competition Authorities run different types of competition cases, and their implication for anti-trust practitioners.

2. Behavioural biases and how can they influence competition

10. Traditional models of competition assume that consumers have preferences that are rational, well ordered, do not depend upon the context in which decisions are made, and are consistent across time. However, there is now substantial research to show that these assumptions will often not hold. Behavioural economics research has identified over one hundred different 'biases' – i.e. departures from rational choice. Whilst the number of behavioural biases having been identified has increased significantly in recent research, the fact that consumers may not be rational and operate exactly in the ways assumed in traditional models of economics is not a new discovery. Economists have long been aware that consumers may not exhibit the rational characteristics associated in theoretical models.[3]

11. However, any economic model is necessarily a short cut in considering reality. No economic model can model all elements, nor are they intended to. In this respect many features of competition are simplified or left out of stylised models, and to date whilst many of these biases have been known, they are just one more element that an economic model abstracts from. Many of the biases may not have any impact on the specific competition question or model considered, and therefore there is no need to model the bias – it would simply unnecessarily complicate the model without adding significantly to our understanding. This means it is not necessary to simply tear up all models of competition on the basis that consumers do not exhibit the rational preferences on which they are based.

12. As such the key question is whether these biases significantly change economic models of competition, and if so how. In this respect, whilst the understanding that consumers exhibit behavioural biases is not new, what is relatively much newer is the understanding of how and where these behavioural biases may affect models of competition.

13. The terms "behavioural economics" and "behavioural insights" are both often used when discussing this field. As set out in a previous OECD paper, those two terms are closely related; however, they do not have exactly the same meanings (OECD, 2017[3]). While there is no universally-agreed definition of behavioural economics, a widely accepted formulation describes behavioural economics as the incorporation of psychological insights into the study of economic problems (OECD, 2014[4]). Behavioural insights often involve multidisciplinary research in fields, such as economics, psychology, neuroeconomics, and marketing science, to understand consumer behaviour and decision making.

14. Consumer biases have been extensively studied in the field of consumer policy. Box 1, reproduced from (OECD, 2017[3]), displays some examples of behavioural biases that have proven particularly relevant for consumer policy.

Box 1. Examples of behavioural biases related to consumer policy

Choice/information overload: When faced with either complex products or a bewildering array of choices, consumers can sometimes ignore possible choices, walk away from markets, or

choose not to choose. Consumers can also rely on relatively simple "rules of thumb" or "heuristics" to make decisions.

Default and status quo effect: Presenting one choice as default option can induce consumers to choose that option. The power of default is related to the status quo effect, where consumers have a strong tendency to remain at the status-quo, since the disadvantage of leaving it loom larger than advantages of leaving.

Endowment effect: Consumers often demand much more to give up an object than they would be willing to pay to acquire it. The value of a good for consumers increases when it becomes a part of a consumers' endowment.

Anchoring: Consumers "anchor" decisions around information that they think is the most important. Consumers may fail to adjust their perception of the value of the offer sufficiently, even when additional information is provided to them, since they cannot stray far from the anchor point.

Framing: Consumers are influenced not only by the content of the information provided by suppliers but also by how the information is presented. Presenting an option in a certain way may induce consumers to evaluate the choice from a particular reference point.

Priming effect: When consumers are repeatedly exposed to certain objects, for example, through publicity, certain attributes can play an undue role in consumer decisions. Priming can influence preferences by making certain dimensions salient that would otherwise have been considered as less important.

Overconfidence: Consumers tend to think that they are more likely to experience an outcome from some action that is better than the average expected outcome. For example, many drivers think that they are safer than the average person, and when consumers are told that 20% of customers will benefit from a particular product, they tend to expect that they will be the part of that 20%.

Hyperbolic discounting / myopia: Consumers' discount rate tends to rise steeply the shorter the time period being considered. This means that consumers tend to treat the present as if it were more important than other time periods. This explains outcomes such as low retirement savings in the absence of compulsion.

Time-inconsistency: While traditional economics assumes that consumers behave in a time-consistent way, i.e. that they are able to make decisions knowing their long-term interest and resist short-term actions that go against that, in reality, choices are not consistent across time periods. Consumers may face a conflict between short-term urges and long-term interests.

Fairness: Consumers are generally concerned that market transactions should be fair to other consumers and often concerned about the conditions of supply (e.g. labour condition, use of environmental resources). This means that consumers are concerned not only about their own interest.

Social norms: Consumers are often guided by the values, actions, and expectations of a particular society or group. For example, when people are made aware of what others are doing, it can reinforce individuals' underlying motivations.

Sources: (Kahneman et al., 1991[5]), (OECD, 2007[6]), (OECD, 2006[7]), (Office of Fair Trading, 2012[8]), (McAuley, 2013[9]), (Oxera, 2013[10]), (Shafir, 2008[11]), (Behavioural Insights Team UK, 2014[12])

15. Whilst the box above provides a list of consumer biases, the section below provides a more detailed discussion on those biases that are particularly relevant to competition cases. Note that the section

does not attempt to provide an exhaustive analysis of all the behavioural biases that may have an influence on competition, but focuses on those biases that have had an impact on models of competition, and more importantly on competition cases to date. However, the fact that a bias has been omitted from the description below does not imply that that bias may not be relevant to models of competition in certain circumstances, more importantly nor does it imply that a particular bias may not be relevant in competition cases.

2.1. Endowment effect, loss aversion and default biases

16. One relatively strong result from the experimental behavioural economics literature is that consumers care more about losses than gains. This can be due to the endowment effect, where consumers place a higher value on what they already have, versus what they do not yet have. This aversion to the possibility of a consumer losing what they already have rather than what they may receive in the future, is termed 'loss aversion'. The endowment effect and the resulting loss-aversion can lead to inertia. Because consumers care more about what they have, and losing what they have relative to what they may receive in the future, they may stick with the status quo, even if the future provides a better offer.

17. These biases have important implications for competition models because they predict that consumers may be significantly more 'sticky' with respect to competitive offers on the market. Even if there are no switching costs, and therefore traditional models would predict intense competition, in reality consumers may exhibit significant inertia. This inertia means that firms may face significantly lower competitive pressure than one would predict, and consumers may therefore have worse outcomes than expected.

18. Whilst loss-aversion bias can have a significant impact on the outcome in and of themselves, it has been argued that firms may exploit and exacerbate such a bias through strategic decision making. Specifically, the more complex the switching decision becomes, the harder it may be to determine whether there is a benefit in switching, and therefore the stronger the inertia may be. As such firms may have an incentive to increase complexity to increase inertia and soften competition. This is discussed further in the context of models in which more competition does not necessarily lead to better outcomes, with firms competing to confuse consumers, a so called 'confusopoly'.[4]

19. A second bias that leads to inertia, is the default bias. There is evidence that consumers choose default options far more frequently than predicted. Whilst this may be related to the loss-aversion, the literature shows that this default bias can occur in situations without potential losses, and therefore goes beyond the loss-aversion effect. A telling example of this is the use of defaults in the practice of organ donation. Organ donation rates are substantially higher where the default is to consent to donate an organ, and people have to opt out of that consent compared to countries where the default is not donating their organs and people have to opt in (Johnson and Goldstein, 2003[13]). Default bias can also influence how consumers choose products, for example studies have shown that consumers will pick more add-on product items when a fully loaded product is presented and consumers must opt out of add-ons, versus when a stripped down product is presented and consumers must opt into the add-ons (Park, Jun and MacInnis, 2000[14]).

20. Just as within loss-aversion, one outcome of default bias may be inertia, with consumers switching between firms on the basis of better offers less frequently than traditional models may predict. Competition may theoretically 'only be a click away' but if consumers have biases towards defaults or risk aversion, then this competition may never take place, at which point being the default option becomes a very valuable asset (as discussed further below). Furthermore, like loss-aversion, firms can also exacerbate or exploit the existence of the default bias. For example, the default bias can be highly sensitive to the way that information is presented.[5] Equally importantly, consumers may not be aware of their default bias, and as

discussed in the next section, this may have important implication for the use of economic evidence, particularly survey evidence on hypothetical switching questions.

21. Finally, one must be careful however not to over attribute customer inertia to consumer biases such as loss-aversion or default bias. In some cases, inertia may be entirely rational. For example, in the UK, the CMA has frequently investigated the Banking and Energy sectors on the basis that the switching rates between providers are relatively low, and has instigated a number of measures to increase the accessibility and comparability of provider offers, whilst decreasing the switching costs. None the less, switching levels, particularly in banking in the UK still remain very low. Whilst some of this may be due to loss-aversion and default biases, it may also be a rational decision on behalf of many consumers. On average the gains from switching bank accounts are estimated in the UK to be around £100 per year, and even with switching costs being relatively low, people may just be making a rational choice that the benefits are not sufficient to outweigh the cost in terms of time, combined with a risk that the process will not be smooth.

22. The fact that consumers exhibit inertia and a bias towards defaults can have both a direct and indirect effect on competition cases. As discussed in section four, inertia will be reflected in lower levels of consumer switching and therefore may play a role in competition cases through more narrowly defined markets and/or dominance. In addition however, to the extent that a company can exacerbate and increase customer inertia, this may allow firms to protect or leverage their dominant positions. For example, as discussed in section four, the EC found that Microsoft had abused its dominant position by tying its Windows operating system to its media player, and disadvantaging rival media players via the existence of the default bias.

2.2. Salience, Framing effects and drip pricing

23. The second set of consumer biases that may affect models of rational consumers of competition are consumer framing and myopia biases, both of which can give rise to difficulty in making accurate comparisons across different competitive offerings. Whilst traditional models of competition assume that consumers are able to compare across different aspects of a firms offering, in reality consumers may unduly focus on one particularly salient aspect of the offering, and not on the offering as a whole. For example studies of online platforms have shown that consumers disproportionately focus on the price of postage and packaging. As such, consumers are more likely to purchase a product when the postage price is lower, even if the total cost is exactly the same (which may go some way to explains the prevalence of 'free delivery' offers) (Hossain and Morgan, 2006[15]).[6]

24. Similarly the way that information is framed or presented can have a significant impact on the decisions that consumers may make. For example a charge that is expressed in terms of a relatively low percentage fee may have a significantly different impact on consumers than if it is expressed in terms of an absolute amount, particularly in large purchases such as real estate. Similarly one particularly common framing bias is when prices are expressed in terms of discounts on the previous price – was GBP 10 now GBP 5. Faced with the £5 when framed against an alleged previous price of GBP 10 a consumer may well make a different purchase decision when simply presented with a price of GBP 5.

25. One stark and important example of framing and salience biases is related to how consumers may consider apparently 'free' products, that have costs associated with them that may not be at first apparent. Consumers may have an undue focus on the free explicit price rather than the actual implicit price derived either through additional add-on charges, or other implicit payments. Furthermore there is evidence of a 'free effect' which refers to the greater impact that a price of zero may have on consumers relative to what the cost-benefit difference would show, and thus what a model of rational consumers would predict.[7] The biases that are derived in the way that consumers consider a product as 'free' has been looked at recently in (OECD, 2018[16]) which considers not only the background to free pricing but also the complications of

how one should consider markets with free-pricing in the context of competition investigations. These issues have become particularly important given that the 'free' model is one of the main business models of the internet and internet services.

26. Common to the other biases described, salience and framing biases can result in consumers making sub optimal decisions that can influence the competitive process. However as before, firms can actively choose to exacerbate and exploit such biases, increasing switching costs and reducing competition. One such phenomenon is termed 'Drip Pricing', where rather than setting out all the elements of an offer in a single price, a firm may decide to advertise a single low upfront price, which then steadily increases as additional 'non-optional' extras are added. Such a practice has been particularly prevalent in online purchases. For example in low cost airline tickets, in some cases a consumer may only find out what the full price of the ticket is once it has invested considerable time going through and entering in their information through a number of screens. The slow 'drip' of additional costs through the purchasing process rather than presenting them all up front, not only exploits potential framing biases, but also inertia biases given that a consumer would have to start again and reinput its information elsewhere in order to make a fully informed price comparison and may rationally decide that this is simply not worth the potential savings.[8]

27. There are limited instances of salience or framing biases forming the basis of competition cases in the same way that default biases have. However the view of consumer privacy as an aspect which can be exploited by firms, has been considered in the German Competition Authority's (FCO) Facebook decision.[9] Furthermore, just as default biases may influence the rates of customer switching, salience and framing biases may also have a similar effect. To the extent that these result in lower degrees of switching and competitive interaction, this may again tend towards more narrowly defined markets and a greater likelihood of dominance within those markets.

2.3. Time inconsistency and over optimism/pessimism

28. Related to the discussion on salience above, consumers may exhibit time inconsistent preferences where they concentrate more on features of the offer that are prevailing today, rather than potential ones that come in the future. This may be because they are unaware of the potential for future costs to arise, or simply because they exhibit strong biases towards the present – sometimes modelled as consumers having hyperbolic discounts.

29. Another strand in the discussion of time inconsistent preferences consists of consumers being over optimistic or pessimistic regarding their future consumption patterns. For example consumers may make decisions today based on overly optimistic assumptions about what they will need or how they will behave in the future. A classic example of this is in consumers demand for gyms. It is well documented that consumers will often be over-optimistic about the amount of usage they will receive from a gym membership when they sign up (DellaVigna and Malmendier, 2006[17]). Similarly consumers will often overestimate their usage of their mobile phone and therefore sign up for larger bundles of calls and data than they need (Grubb, 2009[18]).

30. Once again, faced by these behavioural biases it may be rational for firms to exacerbate and exploit them, particularly given that these inconsistencies are predictable. For example in the case of gyms, it may be optimal for gyms to offer upfront gym memberships at a discounted cost to the per-usage model on the basis that consumers will often under use that membership (DellaVigna and Malmendier, 2006[17]). Similarly with mobile phone contracts it may be optimal for providers to charge relatively higher per minute or per MB data fees in order to push consumers to buying larger bundles of calls and data than they actually need (Grubb, 2009[18]). Whilst both the above examples fall into a category of potentially exploitative consumer harms, as with the previous biases, to the extent that they reduce the ability for customers to switch, this will also have additional impacts on the extent of competition within the market.

2.4. Complexity and information overload

31. Another area where the reality of consumers may depart from traditional models is the assumption that consumers are able to correctly assess and compare competing offers from firms in order to come to the best decisions. This is despite those offers being in potentially very different formats or require complex calculations to result in accurate comparisons. For example, as discussed above, mobile offers may differ in their structures, some with higher monthly charge rates and lower usage charges once a monthly cap have been exceeded, whilst others may have higher usage rates and lower monthly caps. This can make it necessary for a customer to gather amounts of information before being able to make a true comparison. Moreover, in some cases even if consumers have the information it may not be simple to calculate the relevant comparison across products. As such, consumers may rely on rules of thumb when presented with complexity, and importantly having more information and more choices may not improve the accuracy of consumer decision making. This problem has been particularly noted in the context of the financial market, where decisions are often abstract and complex.[10]

32. This issue of complexity is particularly relevant in competition cases with respect to the question of remedies. It may be tempting to conclude that the cure for issues involving biases such as salience issues, time inconsistency and over/under optimism is providing customers with more information on their biases. However, there is a risk that such information may have limited benefits if it leads to information overload between customers, and at the extreme may result in greater harm. As such, as discussed in the section four, remedies need to be designed carefully, thinking about their framing, the context in which information is read and the ability for consumers to understand it (see for example (OECD, 2018[19])).

3. General implications for competition policy

33. Whilst the section above has provided a brief (and necessarily incomplete) summary of some of the key behavioural biases that may influence competition, the more pertinent question is what does this mean for our understanding of competition and competition models? Specifically, consumers may have any number of different biases, but does it matter for models of competition in such a way that we should worry about these biases?

34. Over the last 15 years or so there has been a growing strand of literature that has linked the behavioural literature, which has identified the various consumer biases, with the industrial organisation literature, which considers how firms interact in the market to determine outcomes. This literature combining the two strands has been termed the 'behavioural industrial organisation' literature. This section provides a brief summary of some of the key implications from this behavioural industrial organisation literature.

3.1. Can't assume that companies will necessarily be neutral bystanders

35. The first main take-away from the literature on competition and consumer biases (as evidence from the discussion above) is that whilst consumers may exhibit these biases, firms may have an active incentive not only to exploit these biases, but sometimes to actively exacerbate them. In general, this literature has concentrated on how firms may exploit consumer biases directly to increase prices, rather than exploiting them as a strategic tool to exclude competitors.

36. Importantly, the fact that firms factor in consumer biases in their commercial policy and in some cases exploit them might be relevant in terms of consumer protection but does not necessarily raise competition concerns in itself. The focus of this discussion is to what extent these aspects affect competition dynamics and their outcome.

37. The fact that firms may actively design their pricing structures to accentuate biases has been considered in a number of academic papers. For example (Grubb, 2009[18]), analysed U.S. mobile phone data to investigate whether the three part tariffs seen within the U.S. mobile phone industry were developed as a means of capturing consumers' overconfidence. He concluded that this was the most likely of different explanations for the tariff structure, and argued that such firm behaviour can be interpreted more widely to explain the use of flat rates and late fees in rental markets, and teaser rates on loans.

38. The predecessor of the CMA, the OFT, considered that firms may have an active incentive to exacerbate consumer biases across the process of consumer purchasing decision making. First, firms may have an incentive to make it harder to 'Access' appropriate information to inform their purchasing decisions. By making add-on prices more difficult to see, or using drip-pricing – only revealing the true price once a consumer has invested time in choosing.[11] Second, firms may have an incentive to make it harder to 'Assess' the information gathered across firms in order to determine the best offer. For example by increasing the complexity of their product (as suggested by the 'confusopoly' literature), firms can

differentiate themselves and soften competition.[12] Third, firms can make it harder for consumers to 'Act' and switch once they have made a decision as to what product they will purchase. For example having rolling contracts, or making it harder to reach a customer support representative to serve notice on the contract.

39. Indeed one strategy consultancy advertises courses on how to minimize banking competition by increasing the difficulties for consumers to compare across products, stating that: *'The likelihood that banks continually try to undersell one another is greater if their price structures make it easy for customers to compare offers. In order to prevent easy comparisons, a bank should create price structures that are clearly distinguishable from those of its rivals. Price systems with several price components are especially effective'*.[13]

3.2. Firms may compete to exploit, and more competition may not always solve this

40. The second main take-away from the behavioural industrial organisation literature on behavioural biases and its interaction with models of competition is that more competition may not always solve the issue, particularly if firms compete to exploit. Under the traditional intuition, competition was seen as a solution to firms attempting to exploit biases. If some firms have an incentive to exploit biases, then other firms will have an incentive to inform customers of those biases, thereby attracting them and driving out the exploitative firms. However, a strand of the industrial organization literature now shows that this assumption may not always be true, as exploiting consumers biases (rather than revealing them) may be an equilibrium in which no firm has the incentive to deviate from.

41. The seminal paper on this is from (Gabaix and Laibson, 2006[20])who considered a model in which there is the ability to partition pricing. The authors posit that there are two types of consumers: 'sophisticates' who are able to consider the full price of the product, including both the upfront cost as well as the optional add-on, and 'naïves' who only consider the upfront cost of the product unless the firm choses to 'unshroud' the add-on price. Both types can, with some cost, substitute away from the add-on in advance. The authors then go on to show that not only is partitioning pricing a profitable strategy for competitors rather than charging a single price, but (assuming there are sufficient numbers of naïve customers) no firm has an incentive to unshroud the price and inform consumers. In this respect competition between suppliers doesn't unwind the shrouding equilibria, as firms compete to attract and exploit the naïve consumers.[14]

42. This result, that firms may have an incentive to exploit biases, and that such exploitation of biases is an equilibrium even under competition, shows that the benefits of competition in solving consumer biases may be significantly lower than traditional models suggest. Other papers in the 'behavioural industrial organisation' literature show a similar result in the context of other consumer biases.[15] For example more competition will generally be ineffective in solving salience issues or drip pricing.

43. Put simply, firms will not have an incentive to educate or de-bias consumers if de-biased consumers are not profitable – sometime termed as "the curse of education". (Laibson, 2018[21])provides several nice examples of instances of educating consumers that would generally improve consumer welfare, but is unlikely to be profitable to suppliers of the products.[16] These include educating consumers that: *"Financial markets are nearly efficient.", "Bottled water is no better than tap water.", "The typical bank account holder pays $90 per year in add-on fees.",* and *"Sharing your data with us is valuable to our company and increases your risk of being manipulated and/or hacked."*

44. Whilst the literature suggests that competition will not always solve the harm from consumer biases, it should not be interpreted as saying that it will not ever solve the harm (or indeed mitigate it as discussed below). For example, following on with the analogy of naïve and sophisticated consumers, the

'hidden pricing' equilibria only arises when there are sufficient numbers of 'naïve' consumers in the market. However if firms are able to convert enough customers to becoming 'sophisticated' then there is no longer an incentive to hide prices. Similarly, competition may lead to intermediaries (such as price comparison websites) in the market who will not necessarily have the same incentives as suppliers with respect to hiding prices. Whilst such intermediaries will not always be completely effective (and may indeed exploit other biases or have different incentives), they generally tend to reduce the impact of such consumer biases on competition.

3.3. Competition is still likely to generate benefits, even if it doesn't solve the problem

45. Following on from the discussion above, the third take-away from the behavioural Industrial organisation literature is that whilst competition may not necessarily solve the problem (in terms of breaking a 'bad' equilibria), it can still provide benefits to consumers and may mitigate the harm.

46. Specifically, more competition will tend to increase the upfront competitive intensity for consumers with biases. Following on from the 'naïve' and 'sophisticated' terminology before, whilst more competition does not provide an incentive for any single firm to 'unshroud', it will increase the level of competition for naïve consumers, thereby reducing the upfront price in order to attract them. This is sometimes called the 'waterbed' effect – whereby increased profits from being able to exploit consumers through aspects like add-on, are competed away to some degree by the desire to attract the consumers in the first place. Although the naïve consumers may still be exploited through higher add-on prices, the fact that competition drives lower upfront prices reduces the harm. Whilst this greater competition reduces harm, in general competition will not fully offset the harm and restore welfare to the level absent the bias – in this sense the 'waterbed' effect is unlikely to be complete absent special circumstances.[17]

47. Finally, it should be noted that there is a small body of literature that looks at the specific instances in which more competition may have no benefit to consumers or even make things worse. Specifically where firms can chose to adopt complex pricing strategies, consumers may resort to heuristics – looking at just a few firms offers – and choosing amongst the smaller sample. In this setting firms may react to more competition by increasing the complexity of their offers rather than competing on price (Spiegler, 2016[22]).

48. Overall, whilst behavioural biases will typically generate inefficiencies – even in highly competitive markets, in most cases competition will still operate to drive product prices down, such that any distortions in demand due to the biases will tend to be mitigated.

4. Implications for competition enforcement

49. The sections above have summarised some of the key findings in the behavioural literature, and how they may impact competitive outcomes. However as is evident from the discussion above, much of the behavioural industrial organisation literature has focused on how behavioural biases can be exploited or exacerbated, rather than how they may influence anti-competitive behaviour. As such this discussion is more relevant to consumer policy cases, and direct market interventions rather than traditional anti-trust cases involving mergers, exclusionary behaviour and horizontal or vertical agreements.

50. Despite the literature being less focussed on traditional anti-trust cases, behavioural economics can still have important implications for the application of competition law. Indeed as discussed below, there are already several high profile and well known examples where the implications from behavioural economics has played a key role not only in the thinking of the case, but also in the design of remedies. The rest of this section goes through each of the different elements of competition cases and points out the implications that behavioural economics may have on them.

4.1. Gathering of empirical evidence

51. Perhaps the key lesson from the behavioural literature is the fundamental importance of gathering empirical evidence on how consumers are actually behaving at all stages of a case. The behavioural literature makes it clear that simply relying on views about how consumers should act may miss very important differences in how consumers actually *do* act.

52. In this respect evidence of actual consumer behaviour when faced with changes in prices is likely to be the most valuable empirical evidence, given that it will take into account any potential biases that consumers may have. For example, if a price rise of 10% is subsequently followed by 20% of a firm's customers switching, it may not matter if the switching is motivated by consumer biases, or if it is motivated on the basis of more traditional switching cost models, it is still an objective view of the level of switching in the market and thus the competitive pressure faced by the firm. Therefore, to the extent that competition authorities are already undertaking empirical analyses of consumer behaviour, they will also often be implicitly taking account of any behavioural biases that consumers may have.

53. The fact that consumers have biases will also have an impact on the way that empirical data is collected, particularly with respect to evidence collected from questioning consumers (either formally through surveys or more informally during a case procedure). There is a long and well understood literature on how the framing of survey questions can have a signficant impact on how consumers will respond, and therefore the outcome of the survey.[18] The existence of consumer biases is likely to accentuate the importance of ensuring that surveys are well designed in as neutral fashion as possible. Kahneman et al (1986) give several examples of how survey questions can be answered very differently depending on the framing (Kahneman, Knetsch and Thaler, 2019[23]). For example, one experiment showed that 58% of surveyed consumers responded that it was fair if a car dealer eliminated a USD 200 discount that it was giving off the list price for a popular vehicle. However, 71% of consumers said that it was unfair to increase

the price of the vehicle by USD 200 above the list price – despite the fact that the price increase was identical (Kahneman, Knetsch and Thaler, 2019[23]). The fact that such different responses can be solicitated just through the rephrasing of the question substantially increases the importance of adhering to best practices in survey design and implementation, and above all transparency with respect to the methodology for both sides.[19]

54. Importantly there may be some consumer biases which affect consumer responses regardless of how neutral and how well the survey is designed. For example, if consumers have strong default biases, they may underestimate how likely they are to switch in response to changes in competitive offers. Similarly, some types of questions, particularly abstract hypothetical questions asking about future behaviour, may be inherently difficult questions for consumers and particularly susceptible to biases. Whilst there may be some ways to mitigate potential biases – for example asking a more concrete question about what consumers would do if the product was no longer available, rather than the more difficult question of what they would if the price increased by 10% - both may still be susceptible to time inconsistency biases. In these circumstances empirical evidence on what consumers actually do may be more valuable than survey evidence on what consumers say they would do.

55. Finally, whilst surveys may be most susceptible to consumer biases, other empirical techniques may also require special attention. For example, if consumers show loss aversion, then their reactions to a price increase may be much greater than that of a price decrease. However many demand estimation techniques implicitly rely on the assumption of broadly symmetric responses. To the extent that these responses to price rises versus reductions are highly asymmetric, then this may impact the estimates of responses.

56. In summary, behavioural biases increase the importance of empirical based evidence – and should decrease the reliability on theoretical models without empirical foundations. Competition may well be just a theoretical click away, but if the evidence shows that consumers are not clicking in response to changes in the competitive offering, then this is what is relevant. As (Huffman, 2018[24]) states: *"the use of behavioural economics in antitrust is best understood as using economics as evidence, not as a policy tool[.]"*

4.2. Market definition

57. The key question for market definition revolves around the concept of the hypothetical monopolist test. Would it be profitable for a monopolist of a particular product, to raise its prices by 5-10%, or would it face constraints from outside the candidate market in the form of consumer switching away, such that it would not be profitable?

58. *First*, as discussed above, behavioural biases put more emphasis on empirical evidence, particularly evidence of what consumers are actually doing. The potential for behavioural biases should increase the degree of scepticism one applies to statements of how consumers should, or are assumed, to act. Given the hypothetical nature of the market definition, there may be significant issues with asking such a question to consumers in a survey setting. Consumers may significantly over or underestimate their true behaviour depending on the nature of the bias. In this respect the use of 'natural experiments' on the basis of past events may be more reliable. To the extent that surveys are used however, it may be more reliable to asking what consumers did following an actual event.

59. *Second*, the existence of consumer biases may suggest narrower product markets than a traditional analysis may suggest. For example, to the extent that there are different types of customers based on their consumer biases, and firms are able to successfully price discriminate to these groups of customers, then this could suggest separate market for these different groups. In general the greater the

ability to target specific groups of consumers, the less likely it is that other consumers are able 'protect' those consumers by their behaviour.

60. *Third*, following on from the narrower markets, the existence of behavioural biases is likely to increase the likelihood that aftermarkets are separate relevant markets rather than being part of a bundled product market. For example, the presence of salience biases means consumers may be less likely to focus on the total lifetime cost, and more likely to focus on the upfront cost. In this situation a hypothetical monopolist of an add-on or aftermarket products is likely to find it profitable to increase the price of such products from their competitive level.[20]

4.3. Dominance/market power

61. Many of the same issues affecting market definition will also affect any analysis of dominance or market power, given the close similarity of both analyses, in particular the question of how one gathers empirical evidence. However, in addition to this there may be a number of other areas where consumer biases may have an impact.

62. *First*, dominance may be more prevalent under consumer behavioural biases compared to traditional models of consumer behaviour. Dominance is generally defined as the ability to behave independently from one's competitors, customers and ultimately of consumers (European Court of Justice, 1978[25]). In this respect the case law does not consider why an entity may have the ability to behave independently, only that *it is* able to behave independently. To the extent that there are behavioural biases that allow firms greater independence, this is consistent with dominance being more prevalent than a simple traditional analysis of switching costs may imply. As discussed above, one of the main results of default biases, loss aversion and the endowment effect, is that consumer inertia may be much more prevalent than expected. If inertia is more prevalent, then the market forces that prevent dominance – expansion of rivals and entry, may be less effective. Correspondingly, markets may be defined narrower and dominance within such markets, more common.

63. It is important to note that this does not necessarily mean that dominance findings in practice will be much more frequent. If Authorities are basing their analysis of switching and market definition/dominance on empirical analysis, they will already be taking into account any existence of consumer biases and their effect on switching (regardless of the underlying driver). Having a theoretical model of consumer biases will not change the empirical backing for the dominance finding, but it will provide insights as to why the dominance exists.

64. *Second*, behavioural analysis suggests that one may want to be even more wary of market shares than traditional analysis may suggest. We have long realised that simple market shares may be missing key interactions in differentiated markets. However following on from the first point, behavioural biases may suggest that correctly defined antitrust markets may be considerably narrower than a simple view may suggest. As such even at relatively low shares on a poorly defined market, firms may have the ability to price independently of competitors, and therefore able to engage in practices that harm competition.

65. *Third*, the existence of consumer biases should further increase scepticism that the market is 'homogeneous' or 'it is a bidding market'. It is generally acknowledged that the conditions for a market to be considered in a Bertrand framework, or be a 'bidding' market are strict and therefore such markets are relatively rare.[21] Behavioural biases provide further support for this scepticism. This is because if consumers are susceptible to biases, they may have different preferences amongst firms or offers, even in undifferentiated markets.

66. *Fourth*, consumer biases can also have an impact on countervailing buyer power as factor to mitigate dominance. Under traditional models, firms pursue whatever policies are profit maximising with little regard for their potential consequences on others. However if customers have strong considerations

of fairness, then the response from customers if they believe that they are being exploited or abused may be much stronger than anticipated. Customers may choose to switch, or go out of their way to punish a firm, out of fairness considerations even if it is not in their own self-interest. Similarly, concerns for customer relationships by suppliers, particularly when they are personal, may also suggest that countervailing buyer is stronger than often considered.

67. *Finally*, as well as consumer biases, such as those related to inertia, potentially making it more difficult for entrants to gain significant market share and place a constraint on firms, there is also the possibility the behavioural biases on the firm side may make entry more frequent, but successful entry less frequent. As mentioned at the start, the existence of supply side biases is not the focus of this paper, however there is a significant literature in this area that suggests that because entrepreneurs are over-confident, entrants may also be confident. This means that entry may occur more often than in a market without such biases, however entry will also fail more often than expected meaning that *successful* entry may be less frequent.[22]

4.4. Exclusionary Conduct

68. Exclusionary conduct is an area which has seen perhaps the largest application of behavioural economics in antitrust, given several relatively recent technology cases.

69. First, as discussed above, given the existence of biases, what may seem like relatively small factors in a consumer contract or firms' product offering, may have significant impacts on consumer behaviour and therefore competitive outcomes. For example seemingly small changes to customer default options (as discussed below), may substantially reduce the likelihood of customer switching to competitors, and significantly increase the ability to deprive rivals of new customers. This is particularly relevant in digital markets given the ability for firms to run A/B testing and randomised control trials to adjust their commercial policies (see for example (OECD, 2021[2])). Whilst many of these may generate considerable benefits to consumers, some may harm competition and consumers by reducing switching. It may therefore be difficult for competition authorities to differentiate between such changes, especially when they can be seemingly very small.

70. Second, with respect to tying and bundling cases, an important insight from the behavioural literature is that bundling across products may be easier given consumer biases. In the bundling/tying literature it is generally less problematic when consumers are able to buy two goods separately, versus when they are only able to buy the bundle (i.e. the goods are not offered separately). However the behavioural literature shows that even if the goods are not physically tied, consumer biases may have a similar impact – a result that has had an impact in several significant EC cases.

Box 2. Examples of exclusionary cases in which behavioural economics played a role

- In the EC Microsoft Media player case, Microsoft was found to have tied its media player to its dominant windows operating system. In theory, consumers however could 'untie' the bundle by swapping Microsoft's media player with an alternative competing media player (although they were unable to delete it). As such traditional models may suggest that there is limited harm – as in theory, the costs to downloading were low, whilst the benefits from a new product were potentially significant. However, the fact Microsoft installed its Media Player product as the default, meant that in practice, very few consumers ever made the switch. Importantly and consistent with the discussion above, the EC did not explicitly refer to this as a behavioural bias, it simply noted that given the

pre-installation consumers did not switch. In this respect, the use of empirical analysis implicitly incorporated the impact of the behavioural bias.

- In the EC Microsoft Browser case, the EC was concerned that by bundling Microsoft's browser with the Windows operating system, it would again allow Microsoft to foreclose rival providers of browser software. As above, because consumers were free to download other browser software and it was relatively easy to do so, a purely theoretical analysis would suggest that there is limited harm. However once again, a behavioural analysis would suggest that the use of default biases and the resulting inertia may be significant. Whilst the EC did not explicitly mention the default bias, as discussed in the section on remedies, it is clear that this was a key concern given the design of the browser remedy.
- The EC Google Android case was very similar to the aforementioned cases, but is one of the first cases where behavioural biases appeared to play an explicit role. Specifically the EC was concerned about a number of Google practices that it considered were designed to maintain Googles' dominance in search. These included tying OEM's phone manufacturer's installation and access to Google's application store to various conditions including pre-installing the Google search application, having it as the default search application, and having it on the first screen. Whilst it was possible for users to install other search applications, and move the Google application onto a different screen, the evidence showed that very few consumers did. Importantly the EC explicitly stated that a key driver of the abuse was the status quo bias.
- In the EC Google Shopping case behavioural biases again played a relatively important role in the Commission's theory of harm. The EC found that the fact that Google was able to place its products at the top of the Google search results, meant that consumers were much likely to click through to it. This goes to the framing bias – where the way that a product is framed (in this case appearing at the top of the screen) has a disproportionate effect on consumers.

4.5. Mergers

71. Many of the same issues resulting from consumer biases discussed above are also likely to apply within mergers – including, empirical evidence gathering, market definition, the likelihood of entry, and countervailing power. However, there are also likely to be important differences in mergers versus anti-trust cases. This is because compared to an analysis of dominance in which the question is whether there is enough competition, in merger analysis the key question is how the merger changes competition. The fact that biases may exist may therefore have an impact on the overall intensity of competition, but not necessarily the level of competition lost through the merger.

72. For example, to the extent that there is a default bias, this will suggest that switching rates away from one of the merger parties is low in absolute terms. Whereas for the question of closeness of competition and pricing pressure, the relative proportion of switching between rivals is the key question rather than absolute level. In this respect if the default bias affects switching to all competitors equally, it will make limited difference as to whether the absolute level of switching is low or not because the relative level between competitors will remain the same.[23] Indeed it may even be argued that because a bias implies that there is limited competition between Parties today, any loss in competition is actually lower than a traditional model may predict. Of course, the flip side is that what little competition remains may be significantly more important in constraining price and therefore should be preserved.

73. Finally, as discussed in the previous section there is a small strand of literature that suggests that greater competition may, in very specific circumstances, lead to worse consumer outcomes. However,

these results tend to be less frequent (Spiegler, 2016[22]). As such it is not suggested that they should form the basis of a rethink of merger policy towards support for greater concentration.

4.6. Remedies

74. In general, remedies have been seen in the past as perhaps the less interesting end of anti-trust, taking the back seat role to the more dynamic role of catching the problem in the first place. However, remedies are now increasingly being considered as a key part of any effective enforcement, and are one of the areas of anti-trust where the use of behavioural biases has had a signficant impact. This is because badly designed remedies that go against the flow of consumer decision making are more likely to fail.

75. A classic case often referred to in which behavioural analysis could have led to more effective remedies is the Microsoft Media Play case. Having concluded that the tying of the media player with the Windows operating was anti-competitive, the EC required Microsoft to sell an untied version – XP N. However importantly the EC allowed Microsoft to sell the untied version at the same price. Applying behavioural analysis, it is perhaps unsurprising that, when presented with two versions of Windows costing the same price, but one doesn't allow the user to play media files with downloading further software, demand for the reduced version was negligible (Marson, 2005[26]).

76. On the contrary, the second EC remedy on the Microsoft Browsers case is a well-known example of remedy working with customer behavioural biases. As discussed previously, the EC considered that Microsoft's bundling of the Windows and the Microsoft browser was harming competition and therefore consumers. Rather than going down the same route as the Media Player case, the remedy worked with the view of trying to remove the default bias, by creating a 'browser choice' screen. All European users who updated their Windows version were presented with a choice screen that presented at one browser chosen at random as the default, but also offered the choice of other browsers if the consumer wanted to choose. This effectively removed Microsoft's browser as the default choice, nullifying the advantage of the tying. This remedy proved highly successful.

77. Whilst it may be tempting to engage in direct intervention on the back of behavioural evidence, intervention can still lead to unforeseen issues, and therefore any intervention must be thought through carefully. One example of unforeseen consequences is the recent series of bankruptcies of energy providers in the UK Energy market. Following on from a market study, the CMA found that because pre-payment customers were less able to switch, they were facing higher prices. As such the CMA introduced a price cap on pre-payment customers as a direct intervention. The UK Government subsequently extended this price-cap to all 'default tariff' customers (on the back of CMA findings of market power on default tariffs due to customer inertia). However, the speed at which the price-cap could be changed is significantly slower than the speed at which wholesale energy prices have changed in recent times. As many of the entrant energy providers aggressively pursued short term cost reduction strategies (using unhedged energy spot market), this pushed them into unprofitability as costs rose but prices remained capped. The result has been large number of providers going bankrupt, and the government having to step in to ensure an orderly transition.

78. Although it is natural to consider that a behavioural remedy is likely to be the best response to a case based on consumer behavioural concerns, the key point is that it can't be assumed that remedies will be successful. It is not enough to identify a bias and then assert that a specific remedy will successfully correct it. The existence of behavioural biases may make it just as likely that a remedy may fail as succeed. As such a key take away is that remedies need to be market tested – including if possible, on consumers rather than just on competitors. Remedies need to go with the way that consumer behave and take this into account, rather than simply try to force a change in consumer behaviour (see for example (OECD, 2018[19]) and (OECD, 2018[27])).

79. In many cases it may be possible to work with firms within the market to test the remedy before it is implemented. This may particularly be the case within the technology space, where A/B testing and randomised control trials within platforms are increasing common and done at a relatively low cost with high frequency. This presents the possibility of competition authorities utilising firms' A/B testing in order to test the effectiveness of remedies on the platform and on consumers before they are rolled out more widely.

80. Finally, it should also be noted that the importance of testing remedies, particularly consumer-based remedies, remains even in cases which may not be based on behavioural biases. A potential example of this is the cases on Hotels Platforms and Best Price Guarantees, based on MFN clauses in their contracts with hotels. Several authorities have raised concerns that these best price guarantees may reduce competition between hotel platforms. Whilst it is relatively easy to stop Hotel Platforms implementing best price guarantees in hotel contracts, it may be much harder to stop them implementing other policies that have the same effect. For example it may be easy to ban a platform delisting a hotel for discounting on another website. However, it is much harder to stop the platform downplaying that hotel in its search rankings – particularly when the rankings are based on non-transparent factors. As discussed above, given consumer biases, simply moving them to the bottom of the second page on the search rankings may result in them receiving only a small fraction of the click throughs compared to them being on the first page, and therefore have a similar impact to them being delisted. As such, careful consideration of remedies is important not just for cases based on behavioural biases.

81. In summary, common with empirical analyses, the key takeaway for the potential of consumer biases on remedies is that remedies need to foresee and avoid possible consumer biases, and then should be empirically tested before implementation to ensure they are effective. Such testing may vary from relatively simple surveying of consumers (being aware of the potential issues), to more sophisticated A/B testing where possible. However simply assuming a remedy will be effective based on a theoretical model is likely to generate significant risks to its success.

5. Conclusions

82. Consumer biases have the potential to affect consumer outcomes and decision-making as well as to generate market distortions. Firms may have an incentive to exploit consumer biases or even deliberately exacerbate them through their conduct, and competitive pressure may not necessarily represent a solution.

83. Firms' practices may not only lead to direct consumer harm, which may also raise concerns from a consumer protection point of view (exploitative competition cases have seldom been taken), but may also be used to harm competition by making it easier to exclude rivals and harder for new entrants to compete away any distortions.

84. This paper does not intend to suggest that behavioural insights have been neglected by competition enforcement. On the contrary, standard empirical analysis in competition cases usually factors in the existence of behavioural biases. Most competition cases are based on empirical analysis – for example using consumer switching data to define markets, or determine dominance. Direct empirical estimates of switching and other evidence of consumer behaviour will therefore already incorporate any impacts from consumer biases.

85. Nevertheless, behavioural insights may play a key role in an investigation by a competition authority insofar as they allow for a better understanding of the underlying drivers for consumer behaviour. Understanding the reason why consumers act as they do can provide better insights into what impact a firm's conduct will have and when it may be problematic. Experiments can help to observe how consumers react to certain commercial practices in specific circumstances and hence to identify the crucial factors that influence consumers' decision-making process.

86. With regard to dominance and market power, certain consumer behavioural biases like default biases, loss aversion and the endowment effect may lead consumers to stick with the status quo. Dominance is generally defined as the ability to behave independently from one's competitors and ultimately of consumers. If inertia is more prevalent than expected in absence of biases, then the market forces that prevent dominance, i.e. expansion of rivals and entry, may be less effective and the incumbent may enjoy greater market power.

87. Furthermore, due to biases, even small factors in firms' practices may have significant impacts on consumer behaviour and therefore competitive outcomes. For example, evidence shows that consumers are likely to choose default options, so that seemingly small changes to default options may substantially reduce the likelihood of customer switching to competitors. Likewise, behavioural insights have been particularly important in the understanding of tying and bundling cases, and the harm that seemingly innocuous practices may have in the presence of default biases.

88. The use of behavioural insights is also important when collecting empirical evidence such as information through consumer surveys. An understanding of the potential biases consumers may face when answering questions helps the design of the survey and minimises the effect of the biases. For example, survey respondents may be influenced by the way questions are framed or may overestimate their likelihood of acting if a certain event occurs.

89. Finally, another area where understanding the underlying consumer bias is particularly important is the design of remedies. As discussed, without a clear understanding of how consumers behave,

remedies designed to solve competition problems risk being ineffective or even counter-productive. Therefore, behavioural analysis is likely to be particularly valuable and suitable in designing the most appropriate and effective remedies.

90. One question that has been asked is whether behavioural economics increases legal uncertainty and makes it harder for firms to predict which practices may be problematic and comply with competition rules. In particular, there is a concern that a more widespread use of behavioural analysis might lead to qualify new practices and new fact patterns as potentially anti-competitive. However, in the competition cases that have taken behavioural insights into account, it was not the abstract consideration of consumer biases that formed the basis for the case, but rather the impact that these consumer biases had on competition that formed the basis for the case. For example, in both the Microsoft cases, the European Commission was relatively silent on the mechanism for why consumers were not switching from their default position – rather it was sufficient to evidence that consumers did not switch. In this respect, a view that if consumers do not switch to competitors, this may raise the likelihood of dominance is not a 'new result' given it is entirely consistent with existing case law. Furthermore, in many cases firms appear to be well aware of the importance of biases and how they can influence competition. Therefore, as long as there is evidence that there is harm to competition and consumers, then there seems to be no real reason why a case should not be pursued on the basis of the actions that consumers are actually taking (rather than what they may be predicted to take).

91. In conclusion, behavioural economics is an additional tool for competition cases that can fruitfully complement traditional models of industrial organisation. Behavioural economics stresses the importance of conducting empirical evidence of how consumers actually behave rather than relying on theoretical models. This should not entail a different assessment of the conduct by competition authorities, but rather a better understanding of the underlying mechanisms, making it easier for competition authorities to identify the specific factors that can harm consumers and design the most appropriate remedies.

Endnotes

[1] See (Armstrong and Huck, 2010, pp. 3-45[28]) for a review of the literature on firm biases.

[2] In general firms may be subject to less bias given that they will be making similar buying and supply decision multiple times (unlike consumers). Firms will also have the ability to hire in analytical expertise on decisions, unlike consumers. Finally firms are also subject to the market discipline, where firms that make consistently poor decision will go out of business, unlike consumers.

[3] For example in 1955 the Nobel prize winner Herbert Simon wrote that: "*Traditional economic theory postulates an "economic man" who, in the course of being "economic" is also "rational". This man is assumed to have knowledge of the relevant aspects of his environment which, if not absolutely complete, is at least impressively clear and voluminous. He is assumed also to have a well-organized and stable system of preferences, and a skill in computation that enables him to calculate, for the alternative courses of action that are available to him, which of these will permit him to reach the highest attainable point on his preference scale. Recent developments in economics, and particularly in the theory of the business firm, have raised great doubts as to whether this schematized model of economic man provides a suitable foundation on which to erect a theory"*. Quoted from (Walker, 2017[29])

[4] For example (Kalayci and Potters, 2010[30]) conducted an experimental study looking at the frequency of distorted consumer decisions as firms offers become more complex. They found that not only did consumers make worse decisions as offers become more complex, but the average price also increased.

[5] See for example (Baye, Morgan and Scholten, 2004[31])

[6] See also (Morwitz, Greenleaf and Johnson, 1998[32]).

[7] See for example (Ariely and Shampan'er, 2011[33]), see also (Gal and Rubinfeld, 2016[34]).

[8] See (Office of Fair Trading, 2010[35]); out of five practices considered in the research (drip pricing, discount framing, complex pricing, baiting and time limited offers), drip pricing had one of the largest distortionary effect on consumer purchasing decisions.

[9] Whilst the FCO case was centred predominantly on the fact that Facebook did not notify consumers that it was collecting and processing data from third party sources, it raises the possibility that a dominant firm that exploits consumers biases (for example not focussing on the privacy 'cost' of a product), may be considered an abuse of dominance. In the context of PPI discussed previously, the OFT similarly considered bringing an Article 102 case against the suppliers of PPI rather than a market reference to the Competition Commission. See (Office of Fair Trading, 2006[36]).

[10] See for example the study by (Chater, Huck and Inderst, 2010[37]), which found that consumers are often confused about the risks of their investments and have limited time to fully understand complex retail financial products. The authors consider that this leads consumers to be susceptible to herding instincts and over-reliance on experts advice, despite there being potential for conflicts of interest.

[11] See for example (Ellison and Ellison, 2009[38]) who argue that economists should think about firms' active incentives to obfuscate as well as consumers' incentives to search.

[12] (Spiegler, 2006[39]) has commented on the asymmetry between firms on consumers on their abilities to understand the market. This means that firms may be better at learning how to exploit consumers than consumers are at learning how to avoid being exploited.

[13] Quoted from (Ofiice of Fair Trading, 2010[40])

[14] The intuition is relatively straightforward. By partition pricing the firm can attract naïve customers by charging a low upfront price, followed monopoly add-on price. Competition between providers results in downward pressure on the upfront price in order to attract naïve customers. Sophisticates are able to avoid the add-on price and therefore enjoy the low upfront price without incurring the cost of the add-on, and therefore are cross-subsidised by the naïve consumers. Given this, if a firm unshrouds its price unilaterally the sophisticates will no longer be able to buy the upfront product at a subsidised level, and will need to pay a higher price. As such, they will leave the deviating firm. The naïve consumers will see cheaper upfront prices elsewhere and therefore will also want to leave, thus making the unshrouding deviation unprofitable.

[15] See also (Ellison and Wolitzky, 2012[41]), (Chioveanu and Zhou, 2013[42])

[16] Laibson D. Presentation April 26th 2018, ACM Conference in the Hague, https://www.acm.nl/sites/default/files/documents/2018-05/presentation-mr-laibson-acm-2018-conference.pdf

[17] See (Davis et al., 2012[43]) *"[.] customer myopia tends to result in waterbed pricing, which opens up the possibility for miss-selling, obfuscation of secondary product prices, or discrimination of customer depending on how informed (or myopic) they are. This price obfuscation is called shrouding in the economic literature. Shrouding, when combined with heterogeneous customers, can result in an incomplete waterbed."*

[18] See for example (Deaton, 2012[44]) on how respondents may answer differently depending on the order of questions. See also (Holbrook et al., 2007[45]) on the importance of answer choice listings.

[19] For further information on the design of surveys in the context of merger cases see (CMA, 2018[46])

[20] For example in the UK Payment Protection Insurance (PPI) Market Investigation, the predecessor of the CMA (the Competition Commission) found that consumers tended to purchase PPI at the point of sale of other financial products and did not shop around. As such, the Competition Commission found that firms had effective monopoly positions in PPI. See (UK Competition Commission, 2009[48]), *Market investigation into payment protection insurance*, 4.97

[21] For a discussion of the use and abuse of bidding markets in antitrust, see Klemperer, Paul, Bidding Markets (March 2007). Journal of Competition Law & Economics, Volume 3, Issue 1, March 2007, Pages 1–47,

[22] See for example (Tor, 2002[47]); see also (Camerer and Lovallo, 2019[49]) who found that high rates of business failure in the USA, concluding that this is a result of managers overconfidence in their skill.

[23] Specifically the key factor for the impact of a merger is the diversion *ratio* between the Parties, rather than the absolute diversion level. As long as a consumer bias affects the diversion rate consistently across firms, the relative ratio will not change.

References

Ariely, D. (2008), *Predictably Irrational: The Hidden Forces That Shape Our Decisions*, HarperCollins, https://doi.org/10.1108/07363760910927064. [1]

Ariely, D. and K. Shampan'er (2011), "How Small is Zero Price? The True Value of Free Products", *SSRN Electronic Journal*, https://doi.org/10.2139/ssrn.951742. [33]

Armstrong, M. and S. Huck (2010), "Behavioral Economics as Applied to Firms: A Primer", *SSRN Electronic Journal*, https://doi.org/10.2139/ssrn.1553645. [28]

Baye, M., J. Morgan and P. Scholten (2004), "Price dispersion in the small and in the large: Evidence from an Internet price comparison site", *Journal of Industrial Economics*, Vol. 52/4, https://doi.org/10.1111/j.0022-1821.2004.00236.x. [31]

Behavioural Insights Team UK (2014), *EAST: Four simple ways to apply behavioural insights*, http://www.behaviouralinsights.co.uk/publications/east-four-simple-ways-to-apply-behavioural-insights. [12]

Camerer, C. and D. Lovallo (2019), "Overconfidence and excess entry: An experimental approach", in *Choices, Values, and Frames*, https://doi.org/10.1017/CBO9780511803475.024. [49]

Chater, N., S. Huck and R. Inderst (2010), *Consumer Decision-Making in Retail Investment Services : A Behavioural Economics Perspective Final Report*. [37]

Chioveanu, I. and J. Zhou (2013), "Price competition with consumer confusion", *Management Science*, Vol. 59/11, https://doi.org/10.1287/mnsc.2013.1716. [42]

CMA (2018), *Good practice in the design and presentation of consumer survey evidence in merger cases*, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/708169/Survey_good_practice.pdf. [46]

Davis, P. et al. (2012), *The Economics of Secondary Products Markets*, Office of Fair Trading, https://konkurrencejura.dk/sites/default/files/decisions/the_economics_of_secondary_product_markets.pdf. [43]

Deaton, A. (2012), "The financial crisis and the well-being of Americans", *Oxford Economic Papers*, Vol. 64/1, https://doi.org/10.1093/oep/gpr051. [44]

DellaVigna, S. and U. Malmendier (2006), *Paying not to go to the gym*, https://doi.org/10.1257/aer.96.3.694. [17]

Ellison, G. and S. Ellison (2009), "Search, Obfuscation, and Price Elasticities on the Internet", *Econometrica*, Vol. 77/2, pp. 427-452, https://doi.org/10.3982/ecta5708. [38]

Ellison, G. and A. Wolitzky (2012), "A search cost model of obfuscation", *The RAND Journal of Economics*, Vol. 43/3, pp. 417-441, https://doi.org/10.1111/j.1756-2171.2012.00180.x. [41]

European Court of Justice (1978), "United Brands Continentaal BV v Commission of the European Communities - Case 27/76". [25]

Gabaix, X. and D. Laibson (2006), "Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets", *The Quarterly Journal of Economics*, Vol. 121/2, pp. 505-540, https://doi.org/10.1162/QJEC.2006.121.2.505. [20]

Gal, M. and D. Rubinfeld (2016), "The hidden costs of free goods: Implications for antitrust enforcement", *Antitrust Law Journal*, Vol. 80/3, https://doi.org/10.2139/ssrn.2529425. [34]

Grubb, M. (2009), "Selling to overconfident consumers", *American Economic Review*, Vol. 99/5, https://doi.org/10.1257/aer.99.5.1770. [18]

Holbrook, A. et al. (2007), "Response Order Effects in Dichotomous Categorical Questions Presented Orally", *Public Opinion Quarterly*, Vol. 71/3, pp. 325-348, https://doi.org/10.1093/poq/nfm024. [45]

Hossain, T. and J. Morgan (2006), "...Plus Shipping and Handling: Revenue (Non) Equivalence in Field Experiments on eBay", *The B.E. Journal of Economic Analysis & Policy*, Vol. 6/2, https://doi.org/10.2202/1538-0637.1429. [15]

Huffman, M. (2018), "A Look at Behavioral Antitrust from 2018", *CPI Antitrust Chronicle*, https://ssrn.com/abstract=3309341. [24]

Johnson, E. and D. Goldstein (2003), "Do Defaults Save Lives?", *Science*, Vol. 302/5649, pp. 1338-1339, https://doi.org/10.1126/science.1091721. [13]

Kahneman, D., J. Knetsch and R. Thaler (2019), "Fairness as a constraint on profit seeking: Entitlements in the market", in *Choices, Values, and Frames*, https://doi.org/10.1017/CBO9780511803475.019. [23]

Kahneman, D. et al. (1991), "Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias Anomalies The Endowment Effect, Loss Aversion, and Status Quo Bias", *The Journal of Economic Perspectives Journal of Economic Perspectives*, Vol. 5/1. [5]

Kalayci, K. and J. Potters (2010), "Buyer Confusion and Market Prices", *SSRN Electronic Journal*, https://doi.org/10.2139/ssrn.1804302. [30]

Laibson, D. (2018), "Behavioral Economics and Behavior Change ACM Conference in The Hague". [21]

Marson, I. (2005), "Still "no demand" for media-player-free Windows", *www.cnet.com*, https://www.cnet.com/tech/services-and-software/still-no-demand-for-media-player-free-windows (accessed on 2 May 2022). [26]

McAuley, I. (2013), "Behavioural economics and public policy: some insights", *International Journal of Behavioural Accounting and Finance*, Vol. 4/1, https://doi.org/10.1504/ijbaf.2013.057365. [9]

Morwitz, V., E. Greenleaf and E. Johnson (1998), "Divide and prosper: Consumers' reactions to partitioned prices", *Journal of Marketing Research*, Vol. 35/4, https://doi.org/10.2307/3152164. [32]

OECD (2021), "Roundtable on Dark Commercial Patterns Online", https://one.oecd.org/document/DSTI/CP/CPS (accessed on 3 May 2022). [2]

OECD (2018), "Designing and Testing Effective Consumer-facing Remedies", http://www.oecd.org/daf/competition/consumer-facing-remedies.htm (accessed on 3 May 2022). [27]

OECD (2018), "Improving online disclosures with behavioural insights". [19]

OECD (2018), *Quality Considerations in digital zero-price markets: Background note by the Secretariat*, https://one.oecd.org/document/DAF/COMP(2018)14/en/pdf. [16]

OECD (2017), "Use of Behavioural Insights in Consumer Policy"*, OECD Science, Technology and Industry Policy Papers*, No. 36, OECD Publishing, Paris, https://dx.doi.org/10.1787/c2203c35-en. [3]

OECD (2014), "Regulatory Policy and Behavioural Economics", in *Regulatory Policy and Behavioural Economics*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264207851-4-en. [4]

OECD (2007), *Roundtable on Economics for Consumer Policy: Summary Report*, http://www.oecd.org/sti/consumer/39015963.pdf. [6]

OECD (2006), *Roundtable on Demand-side Economics for Consumer Policy: Summary Report*, http://www.oecd.org/sti/consumer/36581073.pdf. [7]

Office of Fair Trading (2012), *Drip pricing: UK experience*, http://www.ftc.gov/sites/default/files/documents/public_events/economics-drip-pricing/afletcher.pdf. [8]

Office of Fair Trading (2010), "The impact of price frames on consumer decision-making, Economic Discussion paper". [35]

Office of Fair Trading (2006), "Payment protection insurance: Report on the market study and proposed decision to make a market investigation reference". [36]

Ofiice of Fair Trading (2010), *What does Behavioural Economics mean for Competition Policy?*, https://webarchive.nationalarchives.gov.uk/ukgwa/20140402182927/http:/www.oft.gov.uk/shared_oft/economic_research/oft1224.pdf. [40]

Oxera (2013), *Behavioural economics and its impact on competition policy: A practical assessment with illustrative examples from financial services*, http://www.oxera.com/Oxera/media/Oxera/downloads/reports/Behavioural-economics-and-its-impact-on-competition-policy.pdf?ext=.pdf. [10]

Park, C., S. Jun and D. MacInnis (2000), "Choosing what I want versus rejecting what I do not want: An application of decision framing to product option choice decisions", *Journal of Marketing Research*, Vol. 37/2, https://doi.org/10.1509/jmkr.37.2.187.18731. [14]

Shafir, E. (2008), "A behavioural perspective on consumer protection", *Competition and Consumer Law Journal*, pp. 302-317. [11]

Spiegler, R. (2016), *Choice Complexity and Market Competition*, https://doi.org/10.1146/annurev-economics-070615-115216. [22]

Spiegler, R. (2006), "Competition over agents with boundedly rational expectations", *Theoretical Economics*, Vol. 1, pp. 207–231. [39]

Tor, A. (2002), "The Fable of Entry: Bounded Rationality, Market Discipline, and Legal Policy", *Michigan Law Review*, Vol. 101/2, https://doi.org/10.2307/1290548. [47]

UK Competition Commission (2009), *Payment protection insurance (PPI) market investigation*, https://www.gov.uk/cma-cases/payment-protection-insurance-ppi-market-investigation-cc (accessed on 3 May 2022). [48]

Walker, M. (2017), "Behavioural economics: the lessons for regulators", *European Competition Journal*, Vol. 13/1, pp. 1-27, https://doi.org/10.1080/17441056.2017.1298338. [29]