Oxera

Agenda

Advancing economics in business

Behavioural economics: making choices at the individual and firm level

The interdisciplinary field of behavioural economics studies the impact of psychological factors on economic decision-making. It contributes significantly to our understanding of how real people make choices, and shows us that there is a difference between choices made by individuals and those made by the 'homo economicus'. Annemieke Tuinstra-Karel at the Netherlands Authority for Consumers and Markets (ACM) discusses latest developments in the field, and looks at the results of recent studies by ACM and Oxera

In the last decade there has been a growing interest in behavioural economics. The area has gained prominence not just in academic circles but also among practitioners and policy-makers. Several institutions and academics have started to explore what behavioural economics could mean for competition policy, consumer protection and sector regulation—with some deducing quite far-reaching conclusions for competition policy.[1] The Netherlands Authority for Consumers and Markets (ACM)[2]—which has powers in all three of these areas—is taking a great interest in this development.

ACM has researched the implications of behavioural economics for competition policy—and, as part of this, asked Oxera to investigate the practical implications of the literature on consumer biases for the day-to-day application of economic analysis in competition cases. In order to assess the potential impact of behavioural economics on competition policy, ACM has assessed whether and how the behavioural economics literature affects our current understanding of the effects of competition on consumer welfare and the explanatory value of the economic models commonly used in competition analysis—such as the definition of markets and the assessment of potential entry.

For this purpose, ACM used a relatively narrow definition of 'behavioural economics', focusing on biases and heuristics in consumer and firm behaviour, and excluding the effects of asymmetric information, imperfect information and switching costs, which have long been incorporated in the 'traditional' economic theory guiding competition policy.

Competition and consumer welfare

The beneficial impact of competition on consumers is an underlying premise of competition law. This premise is supported by a large body of empirical and theoretical work that confirms the welfare-enhancing effects of competition. Therefore, it is relevant to know if behavioural economics offers any insights that could, or should, cast doubt on the goals and benefits of competition policy.

The behavioural economics literature to date appears to be mostly concerned with studying behavioural biases of individuals or firms, and has looked much less into the relationship between biased (consumer and/or firm) behaviour and market outcomes. However, a recent strand of literature, commonly called 'behavioural industrial organisation', has begun to explore how rational firms may respond to consumer biases, and how this may affect market outcomes. Important contributions in this field are those by Spiegler,[3] Heidhues, Kőszegi and Murooka,[4] and Gabaix and Laibson.[5] A typical result is that firms may exploit the naivety of consumers by hiding the true quality or price of their products ('shrouding'). According to this literature, more competition—for instance, in the form of an increase in the number of firms, such as through entry—will not always improve market outcomes. More competition may even be detrimental to welfare: when consumers have limited ability to compare competing products and the number of firms increases, firms may further complicate comparisons in order to discourage consumers from attempting them, instead of lowering prices (as in a

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'normal' market). The empirical validity of this result, and other findings of the behavioural industrial organisation literature, has not yet been systematically tested. What this literature suggests is that, in specific circumstances, competition may not improve (and may even worsen) consumer welfare—and it highlights that a blind, uncritical belief in competition is not always warranted.

Consumer behaviour and market outcomes

The implication is that, given any real-life situation, an individual's choice might well, in fact, differ from that of a fully rational economic actor (the 'homo economicus'). Indeed, behavioural economics presents plenty of evidence of individuals not maximising utility, and emerging literature shows that firms may not always maximise profits either. But this does not necessarily mean that the standard theory that explains market outcomes will, or should, be different.

The theoretical economics underlying competition analysis is designed to explain market outcomes (such as market price), and is not designed to explain individual behaviour. Consumer behaviour is nevertheless relevant for this theory, through the aggregate demand curve. The theoretical models are based on the general principle that the relationship between price and the quantity demanded is negative (the downward-sloping market demand curve). They assume that the quantity demanded will decrease (increase) as the price increases (decreases). The general principle of a downward-sloping demand curve appears not to rely on consumers making 'rational' and/or unbiased decisions,[6] and is empirically validated. In other words, even if individual consumers act impulsively, or, conversely, are inert, aggregate market demand would still generally be downward-sloping—and the explanatory value of standard economic theory would thus not be affected.[7]

Existing theoretical models guiding competition analysis show that the market price can be affected by the sensitivity of the quantity demanded to price increases (elasticity of demand). They do not, however, assume a specific *level* of sensitivity as a general principle. Widespread biases/heuristics *can* lead to specific levels of elasticity of demand in specific markets—but it is important to note that such findings are theoretically neutral. Hence, the impact of consumer biases on demand elasticity can be factually important in individual competition cases. Potential biases and their effect on the price elasticity of demand are often taken into account by competition authorities when they estimate demand. In this sense, biases are already part of the integral assessment of the economic effects in competition cases. The contribution of behavioural economics to competition analysis lies in highlighting that demand might be more or less elastic than one might expect a priori, and in underscoring the importance of empirical research in concrete cases.

Firm behaviour and market outcomes

The literature on firm biases is still developing and is potentially highly relevant. How, exactly, firm biases might affect market outcomes and competition analysis is currently unclear, however. For one thing, it is not evident that individual consumer behaviour (often tested in lab experiments with students) is necessarily informative about firm behaviour. Firms are repeat players that can learn from and correct their mistakes. They may leave business decisions to experts or specialised departments, and collective decision-making may correct individual biases. Even if insights on individual consumer biases could simply be carried over to firm behaviour, it is unclear whether—and, if so, how—–firm biases would affect competition and, ultimately, market outcomes. Behavioural economics does not, as yet, offer much insight into this issue.

Aside from the issue of whether consumer biases can be carried over to firms, the evidence to date shows that biases can work in opposite directions, resulting in either excess entry (over-optimism) or sparse entry (lack of confidence), stable or instable collusion (trust or vengeance), and so on. A firm may be subject to multiple biases that do not necessarily work in the same direction. This makes it difficult to predict what the overall effect will be on its behaviour.

As with consumer biases, it is often not the behaviour of a single firm that needs to be predicted, but the market outcome when various firms interact—some of which are subject to biases, while others are possibly not. Empirical research on firm biases is still scarce. However, the literature on this topic is growing and could potentially be of great relevance.

Pockets of market power

One of the possible implications of behavioural economics for market outcomes is that, if consumers are found to focus mainly (or only) on the primary price when comparing competing product offerings, and are less sensitive to the price of add-ons, suppliers may enjoy market power vis-à-vis individual consumers with regard to the add-ons, possibly to the extent that they could constitute (possibly very small) separate relevant markets, or pockets of market power. In these situations, (biased) consumers would not, or would no longer actively, switch between suppliers even in the absence of switching costs.

In markets characterised by pockets of market power, firms can effectively exploit consumer biases. In such circumstances the legal rules against the abuse of a dominant position could potentially be used to address the problem. Indeed, Article 102 TFEU[8] prohibits, among other things, exploitative behaviour (such as excessive pricing) of dominant firms. Is intervention even warranted, however? And if so, is applying abuse of dominance rules really the most appropriate form of intervention?

It is possible that dynamic learning effects on the part of consumers, and/or institutional innovations, will eventually undermine the firm behaviour that results in pockets of market power. However, if learning effects are limited, intervention may be warranted. At that point, the relevant question becomes: 'which policy instrument (or which combination of instruments) is best suited to resolving the resulting market problems?' Arguably, such situations are better addressed by consumer protection and policy aimed at empowering the consumers, rather than competition law enforcement. Consumer protection laws and policy aimed at consumer empowerment have the advantage of being able to address the root causes of pockets of market power caused by biases, and can protect consumers in the long run by stimulating competition. It is likely that behavioural economics can add significant value to consumer protection and consumer empowerment; further research into these areas is recommended.

ACM not only has competition powers, but also has regulatory and consumer protection powers. It can therefore view potential market problems caused by behavioural biases from a broad perspective, and can determine which policy regime, or instrument, is best suited to solve particular problems.

Conclusion

'What can behavioural economics mean for competition policy?' was the question at the heart of the research by ACM and Oxera. Taking into account the research findings by Oxera, ACM analysed the implications of the main finding of behavioural economics—that people display certain behavioural biases—for the effects of competition on consumer welfare (ie, the very basis of competition policy) and for the explanatory value of the theory underlying competition analysis. ACM found that the findings of behavioural economics to date do not necessitate a re-evaluation of the fundamental basis and benefits of competition policy or the explanatory value of standard economic models. Nevertheless, behavioural economics can offer valuable insights with respect to explaining the observed behaviour of consumers—and, to a lesser degree, firms—in markets.

Note that in individual competition cases, the existing analytical framework already allows biases and heuristics to be part of the integral assessment of the economic effects. The contribution of behavioural economics to competition analysis lies in highlighting that demand might be more or less elastic than one might expect a priori, and underscoring the importance of empirical research in concrete cases.

ACM and Oxera also discussed the issue of potential pockets of market power in which firms may exploit consumer biases. If dynamic learning effects are limited and the exploitation of consumer biases appears persistent, regulators may decide to intervene—in which case, enforcement of consumer protection laws, market scans and effective communication (to help 'de-bias' consumers) are, arguably, the best instruments to deal with this issue.

The research by ACM and Oxera has focused on the implications of behavioural economics for competition policy. ACM considers it likely that behavioural economics will be of significant value to consumer protection and consumer empowerment, and recommends further research into the exact implications of behavioural economics for these areas.

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[1] Reeves and Stucke, for instance, argue that '[behavioural economics] raises questions about our ability to predict outcomes and optimize efficiency through antitrust's rule of reason standard, suggesting that antitrust's prevailing legal standard be brought closer to rule of law principles.' See Reeves, A. and Stucke, M. (2011), 'Behavioral Antitrust', *Indiana Law Journal*, **86**:4, pp. 1526–86.
[2] The ACM was officially launched on April 1st 2013, uniting the former Netherlands Competition Authority (NMa), the Independent Post and Telecommunications Authority (OPTA) and the Netherlands Consumer Authority (CA). See https://www.acm.nl/en/about-acm/our-organization/the-netherlandsauthority-for-consumers-and-markets/ for more information.
[3] Spiegler, R. (2011), *Bounded Rationality and Industrial Organization*, Oxford University Press.
[4] Heidhues, P., Kőszegi, B. and Murooka, T. (2012), 'Inferior Products and Profitable Deception', mimeo; and Heidhues, P., Kőszegi, B. and Murooka, T. (2012), 'Exploitative Innovation', mimeo.
[5] Gabaix, X. and Laibson, D. (2006), 'Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets', *Quarterly Journal of Economics*, **121**:2, pp. 505–40.
[6] Becker, G. (1962), 'Irrational Behavior and Economic Theory', *Journal of Political Economy*, **70**:1, pp. 1–13.
[7] This is because the theorem largely results from changes in opportunities (ie, relative prices) alone. That is, a higher price for product X, holding income and prices of all other goods constant, simply means that people can buy less of it, and consumption patterns will shift accordingly, irrespective of *how* people choose to spend their income (whether utility-maximising or not). Another example of real-life behaviour differing from that predicted by standard economic theory might be that people procrastinate. However, delayed individual choice does not imply that there is no aggregated downward-sloping demand curve.
[8] European Commission (2008), 'Treaty on the Functioning of the European Union', C115 47. This also applies to the TFEU's Dutch equivalent, Article 24 of the Dutch Competition Act.