

# Chapter 11

## Behavioural Antitrust

### A “More Realistic Approach” to Competition Law

Andreas Heinemann

**Abstract** The paper explores the potential of behavioural economics for competition law. After a summary of the most important behavioural findings from a competition law perspective, several applications are presented. Behavioural economics does not only influence basic concepts like the definition of relevant markets but also affects the competition law analysis of specific conduct like vertical agreements, practices on aftermarkets, tying and bundling, conditional rebates, predatory pricing and merger control. Moreover, the behavioural insights have an impact on the shaping of remedies and sanctions. In spite of these consequences, it seems more appropriate to describe this development as a “behavioural turn” than a “behavioural revolution” since traditional analysis is not replaced but complemented. Therefore, the new insights can be integrated into the existing system without major frictions. Although the behavioural approach more often makes a case for enforcement than against it, it cannot be blamed for greater interventionism. The goal of the “more realistic approach” is, no more and no less, to base competition law on a more reliable foundation.

#### 11.1 Introduction

In the field of competition law, the most important change of the last decades has been the revolution brought about by the Chicago School of Antitrust Analysis in the 1970s. The Chicago School placed efficiency at the core of competition law and attacked traditional concepts protecting the competitive process as such or allowing for goals of competition law other than efficiency.<sup>1</sup> As a consequence, the

---

<sup>1</sup> Bork 1993 (first edition 1978); Posner 1976, 1979. For a discussion of the different and possibly conflicting goals of competition law see Stucke 2013, p. 34 et seq.; Zimmer 2012.

---

A. Heinemann (✉)  
Commercial, Economic and European Law, University of Zurich,  
Rämistrasse 74/40, Zurich 8001, Switzerland  
e-mail: andreas.heinemann@rwi.uzh.ch

form-based approach focusing on certain types of restrictions was replaced by an effects-based approach, calculating the effects of the behaviour in question on efficiency in every single case. In Europe, the transition to an effects-based perspective has been called the “more economic approach”.<sup>2</sup> The new approach is modelled on the basic assumption that market participants act perfectly rational and maximise their own profit or utility. In practice, the effects-based approach has led to a more lenient competition policy, especially in the field of vertical restraints and the abuse of dominant positions. There is hardly a jurisdiction in the world which has not been affected by the Chicago revolution.

The great achievement of the Chicago School is the fact that competition policy has been brought in line with the insights of the economic mainstream. Thus, consistency between legal and economic sciences has been created. However, the main weakness of the Chicago approach is its focus on theoretical models which are often far away from the reality of markets. A “more realistic approach” is urgently needed.<sup>3</sup> In this respect, behavioural economics in general and behavioural law and economics in particular seem promising. Model assumptions are replaced by empirically backed descriptions of human behaviour. Thus, consistency could be created not only between competition law and the model assumptions of industrial organization but also between antitrust and behavioural sciences.

The reception of behavioural economics in competition law began later than in other branches of law. The seminal article creating explicitly the relationship between behavioural economics and competition law dates from 2002.<sup>4</sup> In spite of its growing importance,<sup>5</sup> behavioural antitrust cannot yet be qualified as an established sub-discipline, let alone a recognized tool of analysis in legal practice.<sup>6</sup> Despite these uncertainties, the tension between the traditional assumption of the rational, selfish and utility-maximising person and the insights of the empirical behavioural studies are palpable. The goal of this paper is to revise conventional competition analysis from the perspective of behavioural economics. To this end, stock has to be taken of its main findings. In a second step, these results will be applied to selected competition law problems before some general conclusions are drawn.

---

<sup>2</sup> For a discussion whether efficiency or the “freedom to compete” should be the goal of competition policy see for example Schweitzer 2009; Vanberg 2011; Zäch and Künzler 2009.

<sup>3</sup> See Tor 2013 (passim, for example at 16) who underlines the empirical character of behavioural economics as opposed to the theoretical alignment of the rationality hypothesis.

<sup>4</sup> Tor 2002, in particular 548 et seq. For a history of behavioural antitrust see Huffman 2012, 120 et seq.

<sup>5</sup> See for example Arnaudo 2013; Bennett et al. 2010; Engel 2011 (with focus on the experimental foundations); Haucap 2011; Morell 2011, p. 187 et seq.; Reeves and Stucke 2011; Salinger 2010; Stucke 2007, 2013; Tor 2003, 2004, 2013; Tor and Rinner 2011; Van den Bergh 2013.

<sup>6</sup> See Tor 2013, p. 88: “behavioral antitrust clearly can advance the law by offering a better understanding of the behavior of antitrust actors, though the approach still is nascent”.

## 11.2 Behavioural Economics from a Competition Law Perspective

### 11.2.1 General Context

Behavioural economics is a branch of economics that underpins neoclassical economics with insights from psychology, and in turn, contributes to behavioural sciences by its economic perspective and the abundant experimental practice it has developed.<sup>7</sup> The branch has developed since the 1960's and has acquired universal notoriety since the Nobel Memorial Prize in Economics for Daniel Kahneman in 2002 at least.<sup>8</sup> In substance though, the behavioural approach in economics reaches back much further. Already Adam Smith, the father of classical economics, had a strong affinity to behavioural thinking by underlining the social and altruistic qualities of man which are at the basis of every political and economic organization. In his first book, the *Theory of Moral Sentiments*, he explained:

How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it.<sup>9</sup>

Subsequently, the behavioural and institutional roots of economics passed into oblivion,<sup>10</sup> before being resuscitated by informational, institutional and behavioural economics. This development did not pass unnoticed by legal sciences.<sup>11</sup> The application of behavioural economics to law led to the new branch of behavioural law and economics providing the economic analysis of law with a more precise picture of human decision-making.<sup>12</sup> The ambition of the new approach is to replace mere assumptions on human behaviour (for example the rationality assumption of traditional

<sup>7</sup> For introductions into behavioural economics see e.g. Angner 2012; Wilkinson and Klaes 2012.

<sup>8</sup> One of the best introductions to the field is his revised Nobel lecture, see Kahneman 2003a.

<sup>9</sup> Smith 1997 (first edition 1759), 1. See Ashraf, et.al. 2005, 142, who underline that “Adam Smith’s world is not inhabited by dispassionate rational purely self-interested agents, but rather by multidimensional and realistic human beings”.

<sup>10</sup> This statement has to be taken with a big grain of salt. There have always been efforts to combine behavioural sciences and economics. One example is cultural anthropology as applied to the economic sphere; see for example Kottak 2012, chapter on economic systems.

<sup>11</sup> Legal sciences do not have the same degree of methodological unification compared to economics. Therefore, the relationship of law with psychology and the behavioural sciences never has been cut. Only one example is the work of the *Gruter Institute for Law and Behavioral Research* (founded in 1981), see for example Gruter 1991.

<sup>12</sup> See the apt characterization by Tor 2008, at I.: “the behavioral approach thus provides an empirically-based middle ground between the theoretical abstractions of the rational-actor model and the implicit, intuitive, and unstructured view of human behavior of traditional legal scholarship.” For general outlines of behavioural law and economics see Engel, Englerth, et al. 2007; Englerth 2010; Fleischer and Zimmer 2011; Jolls, et al. 1998; Korobkin and Ulen 2000; Loacker 2012; Sunstein 2000.

economics<sup>13</sup>) with empirical behavioural findings.<sup>14</sup> From a systematic perspective, “behavioural antitrust” is a subfield of behavioural law and economics, i.e. the application of behavioural law & economics to the field of competition law.

### 11.2.2 *Behaviour of Consumers and Firms*

Often, the findings of behavioural economics are restricted to the behaviour of consumers, thus creating an asymmetry between consumers and firms. Firms are considered to act as rational profit maximizers because they transact incessantly which is why errors can be constantly corrected. Firms which are not able to control cognitive biases are driven out of the market since they cannot keep up with competitors acting more professionally.<sup>15</sup>

This starting point has been criticized, however.<sup>16</sup> Empirical evidence shows that firms, too, are subject to cognitive biases.<sup>17</sup> This seems plausible as firms are no black boxes but complex organisations based on individual behaviour of managers and other employees.<sup>18</sup> Group pressure and the fear of ostracism by peers may influence the behaviour of individuals. It has been shown that friendship between managers enables and stabilizes cartels,<sup>19</sup> and that internal sanctions against cartel members (which are not necessarily self-serving but in the general interest of the cartel) are an effective means to maintain collusion even between greater numbers of firms.<sup>20</sup> In the same vein, information exchange between competitors may strengthen trust and thus facilitate collusion even if the information exchanged is unobjectionable under conventional standards.<sup>21</sup>

Moreover, firms are exposed to complex situations, too, in which they may recur to rules of thumb triggering biases comparable to those of consumers.<sup>22</sup> The

---

<sup>13</sup> For a nuanced description of the development of the law and economics movement including the assumption of rationality see Elkin-Koren and Salzberger 2013, 14 et seq. with the conclusion at 31: “The insistence of most scholars to continue the Chicago path in this realm too, therefore, makes their work of little contribution to the real world of law”.

<sup>14</sup> Tor 2013, p. 32.

<sup>15</sup> Posner 1998; for a similarly sceptical view regarding the application of behavioural law and economics to firms and their decision-makers see R. Fleischer 2013, 222–223. But see Morell 2011, 216, who discusses the applicability of the behavioural approach to small retailers.

<sup>16</sup> See for example Tor 2013, p. 52 et seq.

<sup>17</sup> See Armstrong and Huck 2010.

<sup>18</sup> See Reeves and Stucke 2011, p. 1540: “the assumption that bounded rational consumers magically transform themselves individually or collectively into rational, far-sighted, strategic maximizers with perfect willpower upon entering the workplace is empirically suspect”; Tor 2013, p. 54 et seq.

<sup>19</sup> Ingram and Roberts 2000.

<sup>20</sup> Roux and Thöni 2013.

<sup>21</sup> Bennett, et al. 2010, p. 124.

<sup>22</sup> The effects of these biases are ambivalent and depend highly on the circumstances of the specific case.

result is not necessarily a restriction of competition or the use of market power, but sometimes the contrary: It has been suggested that firms sometimes renounce on fully using their market power but content themselves with a “fair” remuneration.<sup>23</sup> Generally, the question may be asked if not only consumers but also firms have a tendency to “satisficing”<sup>24</sup> instead of maximizing.<sup>25</sup>

*A priori* no assumptions should be attributed to firms, but their real conduct should count no matter if it is compatible with traditional assumptions or not.<sup>26</sup> Such a “realistic” approach is at the very heart of behavioural economics.

### ***11.2.3 Restrictions of Rationality Particularly Relevant for Competition Law***

Behavioural economics has established that real human beings do not necessarily have a stable, context-free and consistent system of preferences and that they do not always maximize their own utility but will bear cost in order to intervene against unfair behaviour. Moreover, they lack willpower, have only restricted computational capacity and they do not act perfectly rational since human behaviour is subject to heuristic fallacies. Therefore, even if there were a consistent system of preferences, choices do not necessarily reveal them.<sup>27</sup> The number of biases identified by behavioural economics is impressive.<sup>28</sup> The following summary is restricted to deviations from the rationality assumption of special relevance to competition law.<sup>29</sup>

**Prospect Theory** According to prospect theory, developed by Daniel Kahneman and Amos Tversky,<sup>30</sup> gains and losses—contrary to conventional economics—are not attributed the same value: A loss is perceived stronger than a gain of the same amount of money.<sup>31</sup> This has an impact on choice: People tend to renounce an option for action if a risk of loss is involved. Even if the expected value of that option exceeds the value of the (sure) alternative, many people will refrain from acting.

Loss and risk-aversion is at the heart of many heuristic fallacies: As real life decisions constantly imply uncertainty, a preference for the status quo can be

<sup>23</sup> See Tor 2013, pp. 23–24 with further references.

<sup>24</sup> Simon 1956.

<sup>25</sup> Armstrong and Huck 2010, p. 22 et seq.

<sup>26</sup> See Tor 2013, p. 32 et seq., underlining the occurrence of bounded rationality in all classes of actors and emphasizing the limited constancy and uniformity of this phenomenon.

<sup>27</sup> The revealed preference theory was coined by Samuelson 1938.

<sup>28</sup> For an overview see for example Kahneman 2011, p. 107 et seq.

<sup>29</sup> And thus deviates from the frequently used categories of bounded rationality, bounded willpower and bounded self-interest, see Jolls et al. 1998, p. 1476.

<sup>30</sup> Kahneman and Tversky 1979.

<sup>31</sup> See Kahneman, et al. 1991, p. 194: The “disutility of giving up an object is greater than [in the original article: “that”] the utility associated with acquiring it”.

observed. A form of this status quo bias is the default bias which makes people stick to pre-settings. Moreover, the endowment effect describes the phenomenon revealed in experiments that man values objects more after they have been acquired than before. Obviously, loss aversion is behind this finding that is incompatible with basic assumptions of the standard model of consumer behaviour.

**Truncated Reasoning** Other fallacies may be classified into biases where people take no account, or too little account of relevant information (so-called “truncated reasoning”) or where they, in the contrary, take into consideration information which is irrelevant (so-called “overreaching reasoning”, see *infra*). Examples of truncated reasoning follow.

According to the short-term bias, people seem to emphasize short-term outcomes thus neglecting the development over the full period. To a certain extent, preference for the present may be explained by discounting, i.e. the division of payments in the future by one plus the discount rate for each period of time in question. However, according to the findings of behavioural economics, the preference for the present is stronger than can be explained by usual discounting. Hyperbolic discounting leads to inconsistency over time.<sup>32</sup> Choices which are made under the overwhelming influence of immediate payoffs reveal economic myopia which has a huge impact on transactions that extend over more than one period of time. The short-term bias may drive consumers in economic decisions which are negative for them in the long run thus raising the question whether competition law should counteract.

Another example of behavioural shortcomings is the treatment of opportunity costs. Behavioural economics underlines that opportunity costs are often underweighted relative to out-of-pocket costs. Although opportunity costs are highly relevant for the assessment of different options, their significance is often too abstract for consumers. This may be explained by loss aversion and the endowment effect. Opportunity costs are rather seen as foregone gains than as actual losses.<sup>33</sup> Similarly, anchoring may be classified as “truncated”: If agents rely in a particular way on the first piece of information they get, other information necessarily does not get the same degree of attention.

**Overreaching Reasoning** The preceding examples concern situations in which agents do not take into consideration all relevant factors. However, a negative impact on the quality of decisions may also be caused by the opposite mechanism, i.e. by relying on factors which are not objectively relevant but which are relied on heavily by the acting subject. One example is sunk costs. Costs which have already been incurred and which cannot be influenced anymore should not influence decisions according to the recommendations of traditional economics. Behavioural economics has produced abundant evidence that this recommendation is often disregarded in reality. Due to the sunk cost fallacy, not only the consequences of a decision in

<sup>32</sup> For hyperbolic discounting see Rubinstein 2003; Wilkinson and Klaes 2012, p. 293 et seq., with discussion and further references.

<sup>33</sup> Cf. Jolls, et al. 1998, p. 1482.



the future are taken into consideration, but also the expenses which have been made in the past even though they cannot be reversed.

Another example is the availability heuristic. Frequency or probability is estimated by “the ease with which instances come to mind”.<sup>34</sup> Information which is easily available because it is salient or recent will be given excessive weight. This phenomenon leads to suboptimal decisions.

**Framing** The afore mentioned biases, along with other cognitive prejudices may be used to influence decisions. If for example a certain option is described as a forgone opportunity, and the alternative as an actual loss, decision makers may be induced to choose the former rather than the latter, since a forgone opportunity is given lower weight than an actual loss of the same objective value. The impact of framing on decision-making is an important component of behavioural economics.<sup>35</sup> Of special importance in this context is the concept of “reference point”. In order to assess if there is a loss or “only” a forgone opportunity, the zero point of the value scale has to be defined. This may be, but is not necessarily the status quo. Framing the reference point in different ways has a considerable influence on decision-making.<sup>36</sup>

Default biases may be understood as a form of framing. As people tend to consider the default as the normal setting they do not see a particular reason why to deviate from it and therefore stick to the default. Thus, defaults have a huge impact on human behaviour.

#### ***11.2.4 Bounded Rationality as a New Form of Market Failure***

The heuristics and distortions mentioned are highly relevant for competition policy. To the extent that loss averseness, truncated or overreaching reasoning and framing create consumer inertia, they increase switching costs thus facilitating market foreclosure.<sup>37</sup> On the other hand, although cognitive biases have a big influence on the market process, they do not undermine the system as a whole. Decision biases should rather be considered as another form of market failure.<sup>38</sup> It is recognized that in the case of natural monopolies, public goods, external effects and information asymmetry, state action may be indicated if the benefits from public intervention exceed the costs due to market failure (and government failure<sup>39</sup>).

---

<sup>34</sup> Kahneman 2011, p. 129.

<sup>35</sup> Cf. Tversky and Kahneman 1981.

<sup>36</sup> See Wilkinson and Klaes 2012, p. 164 et seq.

<sup>37</sup> Bennett, et al. 2010, p. 121.

<sup>38</sup> Bar-Gill 2004, p. 1428 et seq.; Bennett et al. 2010, p. 113 and 115.

<sup>39</sup> The positive theory of regulation has complemented the normative approach by pointing to the costs caused by wrong intervention or by rent-seeking behaviour; see the seminal contributions by Tullock 1967 and Krueger 1974.

A similar conclusion may be drawn for cognitive biases. Insofar as no rational utility maximizing takes place, it may be necessary for the state to intervene in order to achieve the best results for the economy as a whole. Many forms of regulation come into consideration, such as consumer protection law.<sup>40</sup> In this article, the implications of the behavioural approach for competition policy shall be considered.<sup>41</sup> Through various examples, it will become apparent at which point of the analysis behavioural arguments are relevant.

### 11.3 Applications

The pertinence of behavioural economics for competition law will be examined through the examples of vertical agreements, aftermarket, tying and bundling, conditional rebates, predatory pricing, merger control, remedies and sanctions. At the beginning, however, stands the question, fundamental for competition law analysis, if behavioural economics influences the way relevant markets are defined.

#### 11.3.1 *Definition of Relevant Markets*

According to the European Commission, a “relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products’ characteristics, their prices and their intended use”.<sup>42</sup> This definition refers to real consumer behaviour, not to behaviour how it should be under the assumptions of traditional economics. If consumers are subject to biases which reduce the ability or willingness to access information, to assess offers and to act accordingly, relevant markets may be narrower than with fully informed consumers free of prejudice. This is the case, for example, with brand loyalty: If consumers stick to a certain brand, and if the SSNIP test reveals inflexibility in spite of a “small but significant, non-transitory increase in price”, the relevant market may be restricted to that brand.<sup>43</sup> All kinds of consumer

---

<sup>40</sup> For the political relevance of behavioural economics for consumer protection law see for example the reflections of the European Commission, Directorate-General SANCO (Health and Consumers) (accessed 11 February 2014); see generally Thaler and Sunstein 2009.

<sup>41</sup> For a behavioural link between consumer protection and competition law see for example Metha 2013.

<sup>42</sup> European Commission, Notice on the Definition of Relevant Market for the Purposes of Community Competition Law, OJ 1997, C 372/5, n. 7.

<sup>43</sup> Desai and Waller 2010, p. 1475: “If one takes the notion of brands and branding seriously, however, there will be instances where a single brand of a product or service *is* the relevant market, even if there are physically identical or similar alternatives” (emphasis in the original). See also Rose 2010, p. 107, who discusses the question if a tee shirt with the logo of a certain music group sold at £ 18 belongs to a different market than a plain tee shirt sold at £ 3, adding: “But in fact what



markets are concerned by this phenomenon, for example fashion, cars, luxury goods and electronic products.<sup>44</sup>

The example shows that the field of market definition is based on actual preferences even if these tastes were to be qualified as boundedly rational. Thus, market definition appears as a gate which has always been wide open to considerations which today are labelled behavioural.<sup>45</sup> Moreover, behavioural analysis might have an influence on methodological awareness when practicing the SSNIP test: Consumers might react stronger to an increase in price for the relevant product than to a decrease in price for alternative ones. Framing may therefore lead to a stronger willingness to switch thus defining markets larger and underestimating market power of the manufacturer of the relevant product. A more lenient treatment of conduct practiced on that broadly defined market would be the consequence. It is therefore important to take framing effects into consideration when shaping consumer surveys.<sup>46</sup>

### 11.3.2 Vertical Agreements

The field of US antitrust law in which Chicago School-inspired thinking has led to the most spectacular overrulings is that of vertical agreements. In *Sylvania*, the U.S. Supreme Court withdrew the *per se* interdiction for certain territorial restrictions in distribution systems.<sup>47</sup> In *State Oil Co. v. Khan*, the Supreme Court made the fixing of maximum prices subject to the rule of reason.<sup>48</sup> And finally, in *Leegin*, the Supreme Court repealed the *per se* interdiction for resale price maintenance (RPM) with respect to the vertical fixing of minimum prices.<sup>49</sup> The changes in case law were explicitly based on new economic insights, according to which restrictions of intrabrand competition in a context of sufficient interbrand competition are regularly considered not dangerous but rather efficiency-enhancing. One standard argument for the more lenient treatment of RPM is that distributors will invest more in service and promotion if intrabrand price competition is excluded. Free-riding on these activities by other distributors is prevented if RPM applies to all of them.

---

courts have been doing all along may be closer to behavioral economics than to more conventional economic theories of rational behavior” (108).

<sup>44</sup> For the phenomenon of herding in this context see Stucke 2012, p. 552.

<sup>45</sup> See Petit and Neyrinck 2010, at I. A: “In the present state of EU competition law, the practice of market definition seems to already incorporate—at least in part—the findings of behavioral economics”.

<sup>46</sup> Tor 2013, p. 77.

<sup>47</sup> U.S. Supreme Court—*Continental T.V., Inc. v. GTE Sylvania Incorporated*, 433 U.S. 36 (1977) overruled U.S. Supreme Court—*United States v. Arnold, Schwinn and Co.*, 388 U.S. 365 (1967).

<sup>48</sup> U.S. Supreme Court—*State Oil Co. v. Khan*, 522 U.S. 3 (1997) overruled U.S. Supreme Court—*Albrecht v. Herald Co.*, 390 U.S. 145 (1968).

<sup>49</sup> U.S. Supreme Court—*Leegin Creative Leather Products, Inc. v. PSKS, Inc.*, 551 U.S. 877 (2007) overruled the centenary U.S. Supreme Court—*Dr. Miles Medical Co. v. John D. Park and Sons Co.*, 220 U.S. 373 (1911).

Equivalently, an increase in interbrand competition is expected because RPM allows new manufacturers to penetrate the market via motivated distributors which are not impeded by free riders. Certainly, RPM may facilitate horizontal agreements between manufacturers or between retailers because it may serve as an instrument to detect price-cutting manufacturers or to organize collusion between distributors. But this would fall under the *per se* interdiction for hardcore cartels. For the remainder, the US Supreme Court prefers the flexibility of the rule of reason.

This leaves space for taking into account the less positive sides of RPM. The argument—often put forward—that RPM avoids double marginalization<sup>50</sup> can only justify price ceilings, i.e. maximum prices, not minimum RPM. The goal of avoiding free-riding may be relevant in certain cases. But this depends on the circumstances of the single case, in particular on the nature of the product in question (for example in case of experience or complex products<sup>51</sup>). Often, a selective distribution system may be a less intrusive means than RPM. In our context, the behavioural aspects of the problem are to be explored. If brand loyalty is strong (for whatever reason or bias), market power of the trademark owner will be considerable so that interbrand competition is reduced. In that scenario, the linkage between restrictions of intrabrand competition and strong interbrand competition is less convincing. Apart from that, behavioural research has shown that manufacturers use RPM much more often than explicable in terms of efficiency: Different mental shortcuts, like for example anchoring, make them exaggerate the disadvantages stemming from retailer price-cutting. Dealers or media reports dramatizing occasional price-cutting lead to availability and representative biases. Due to loss aversion and fairness-driven behaviour (in particular the rejection of free-riding), the harm of price-cutting is overestimated.<sup>52</sup> Often, RPM is even detrimental for those who practice it, in the sense that the manufacturer's profits could be higher without vertical price fixing.<sup>53</sup> Anticompetitive effects occur mainly if RPM is practiced industry-wide, if concentration and barriers to entry are high, or if the manufacturer has significant market power.<sup>54</sup> Behavioural explanations have also been given for the much-debated question why retailers respect non-binding vertical price recommendations. This might be due to loss aversion of their clients: If the recommended price creates a reference point, higher prices will be interpreted as losses by consumers.<sup>55</sup> However, this only

---

<sup>50</sup> Cf. for example Motta 2004, p. 307 et seq.

<sup>51</sup> See European Commission, Guidelines on Vertical Restraints [hereinafter 2010 Vertical Guidelines], OJ 2010, C 130/1, n. 225.

<sup>52</sup> See the detailed analysis by Tor and Rinner 2011 with an impressive table enumerating all biases involved in RPM, 821–822.

<sup>53</sup> Tor and Rinner 2011, p. 839 et seq., analysing empirical data from the US where—due to the repeal of legislative acts allowing diverging state law in 1975—the effects of RPM could precisely be studied. The authors use the behavioural approach also in order to explain the tardiness of learning effects.

<sup>54</sup> Tor and Rinner 2011, p. 854 et seq. and 861.

<sup>55</sup> Puppe and Rosenkranz 2011. But see Buehler and Gärtner 2013, who explain RPM as a communication device in a self-enforcing relational contract serving to transfer information from manufacturer to retailer for maximizing joint surplus.

explains why retailers do not increase prices above the recommended price. It does not explain the frequently observed fact that retailers do not undercut the recommended price either.<sup>56</sup>

The starting point in European competition law is different from US antitrust since the concept of *per se* interdiction is unknown: At least in theory, any restrictive agreement may be justified under Art. 101(3) TFEU with the burden of proof on the defendant.<sup>57</sup> Although shifts have taken place in European competition law, too, as regards the assessment of vertical restraints, the legal categories had not to be altered therefore. The new economic insights have been integrated by fine-tuning of the relevant block exemption regulations and the accompanying guidelines.<sup>58</sup> Even though a more positive assessment of vertical restraints has taken place, RPM is still black-listed,<sup>59</sup> which means that it is not block exempted. As regards the direct application of the efficiency defence (Art. 101(3) TFEU), it is not sufficient to point in a general way to the advantages of RPM. These efficiencies have to be specified and proven in the single case. Moreover, the other requirements of Art. 101(3) TFEU have to be proven, e.g. the indispensability of RPM for attaining the efficiency goals.<sup>60</sup> As a result, European competition law still is rather hostile to RPM but does not bar the resort to the efficiency defence.<sup>61</sup> As regards behavioural influences, there are some allusions in the vertical guidelines. For example, brand loyalty is taken into account,<sup>62</sup> and vertical restraints with respect to branded products are assessed more strictly.<sup>63</sup> But this is remote from a systematic reception of behavioural analysis.

However, the categories of European competition law appear sufficiently broad to integrate the behavioural approach. Behavioural analysis could turn out to justify the rules on vertical restraints in European competition law or, at least, give an additional argument for the stricter treatment prevalent in the EU.

---

<sup>56</sup> Cf. Puppe and Rosenkranz 2011, p. 326.

<sup>57</sup> In this context, a distinction has to be drawn between the burden of production and the burden of proof. The administrative procedure before the European Commission follows the inquisitorial system (as opposed to the adversary system) meaning that the public authority has to investigate the facts, including those in favour of the accused party (though with duties of the parties to cooperate). The rules on burden of proof become only relevant if the inquiry does not lead to a clear result (case of *non liquet*).

<sup>58</sup> The current texts are: Commission Regulation (EU) No 330/2010 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of vertical agreements and concerted practices, OJ 2010, L 102/1; 2010 Vertical Guidelines.

<sup>59</sup> See Art. 4(a) Regulation 330/2010.

<sup>60</sup> The proposal of Tor and Rinner 2011, p. 858 et seq., of a structured rule of reason analysis under US antitrust law taking into consideration the boundedly rational aspects of RPM contains similar, though not identical elements.

<sup>61</sup> For details, see 2010 Vertical Guidelines, n. 223 et seq.

<sup>62</sup> 2010 Vertical Guidelines, n. 117.

<sup>63</sup> See 2010 Vertical Guidelines, n. 104: “Vertical restraints agreed for non-branded goods and services are in general less harmful than restraints affecting the distribution of branded goods and services. Branding tends to increase product differentiation and reduce substitutability of the product, leading to a reduced elasticity of demand and an increased possibility to raise price”.

### 11.3.3 *Aftermarkets*

A classical problem of competition law is the status of aftermarkets, i.e. markets for accessories, spare parts or services for a main product. To what extent does the assessment of aftermarkets depend on the competitive situation in the primary market? The Chicago School argued that restrictions on aftermarkets are harmless if there is effective competition in the primary market. Clients who are not satisfied with the conditions on the secondary market can choose a competing product on the primary market. Thus, sufficient competitive pressure is guaranteed.<sup>64</sup> According to this view, it is not the competition between manufacturers of accessories and spare parts or between providers of services for a certain product which counts but the overall competition between entire “systems” of main products including the aftermarkets.

The opposing view finds that there is no general systems market but separate markets for primary and secondary products. The US Supreme Court decided in the *Kodak* case that secondary markets deserve a separate analysis. If a firm has market power in such a secondary market, the application of antitrust law may be justified even if there is effective competition on the primary market. Everything depends on the circumstances of the specific case.<sup>65</sup> This corresponds to the situation in European competition law. Primary and secondary markets are considered separate relevant markets.<sup>66</sup> It depends on the circumstances of the specific case though, if a dominant position exists and if this position has been abused.<sup>67</sup> Part of the analysis is the question to what extent customers are informed about prices on secondary markets and if they really take into account this information for their purchase decision on the primary market.

This leads over to the contribution of behavioural economics. In the context of aftermarkets, e.g. the razor and blades business model, two underestimation biases may be observed: First, consumers systematically underestimate how often they will need secondary products in the future. And second, they are subject to a misperception of price in that they underestimate the price level for those secondary products.<sup>68</sup> Empirical observations show that consumers very often do not use consistent discount rates when assessing the advantages and disadvantages of different payment options between the price for the primary product and the payments for secondary products distributed over a longer period of time.<sup>69</sup>

The decisive question is if restraints of competition on secondary markets should be tolerated if there is sufficient competition on primary markets. In this context, the relevance of behavioural insights for the competitive assessment on these secondary

<sup>64</sup> See for example Bork 1993, p. 436 et seq.

<sup>65</sup> US Supreme Court—*Eastman Kodak Co. v. Image Technical Services, Inc.*, 504 U.S. 451 (1992).

<sup>66</sup> See for example ECJ, 31.5.1979, *Case 22/78 Hugin/Commission*, ECR 1979, 1869, n. 8.

<sup>67</sup> See for example European Commission, XXVth Report on Competition Policy 1995, n. 87.

<sup>68</sup> See Gabaix and Laibson 2006.

<sup>69</sup> See the analysis by Bechtold 2007, p. 38 et seq.; Van den Bergh 2013, p. 224 et seq.

markets has to be determined. Is a firm, active on a primary market, allowed to exclude competition on secondary markets by unilateral conduct (for example by the refusal to deliver spare parts or information essential for repair or maintenance services) or by contract (for example tying of primary and secondary products)? The existence of the underestimation biases mentioned does not, in itself, justify the application of competition law since the clients might learn over time.<sup>70</sup> If, however, a market analysis shows that competitive pressure stemming from adaptive clients capable of learning is insufficient, behavioural analysis gives an additional argument in favour of the application of competition law even in cases of effective competition in the primary markets.<sup>71</sup>

The important message in our context is that behavioural economics does not give answers *a priori* but requests an analysis of how markets really are. The example of aftermarket impressively underlines the advantages of an approach close to reality.

### 11.3.4 Tying and Bundling

By tying or bundling, customers are required to buy an additional product or functionality with the good they basically want to purchase. The main problem linked to tying and bundling in competition law is the danger of foreclosure. Competitors may be driven out of the market if market power is used to impose goods on customers which then will not resort to competitors of the tying firm any longer. Another concern of tying and bundling underlined in European competition law is exploitation: If the customer prefers to buy the main product separately, she may be placed at a disadvantage if she is compelled to acquire an additional product at the same time.

The Chicago School attacked this line of reasoning on the basis of the single monopoly profit theory: There is only one monopoly profit to be earned. Higher payments for the tied product actually are part of the price of the tying product. If the monopoly is lawful, nothing can be said against the distribution of the monopoly rent to both products. If, by contrast, the monopoly is anticompetitive, antitrust law should directly attack this monopoly, but not ban tying since tying often enhances efficiency or, at least, does not cause any damage.<sup>72</sup> Later, game theory showed that the traditional scepticism of antitrust law against tying may well be justified although a *per se* interdiction is not justified.<sup>73</sup>

In European competition law, tying is explicitly mentioned as a putative restrictive agreement in Art. 101(1) lit. e TFEU and as a possible abuse of a dominant position

---

<sup>70</sup> Their knowledge could also be improved by consumer protection law, e.g. by information obligations imposed on the manufacturer and the dealers in order to specify the consequences of purchase decisions on future expenses for accessories.

<sup>71</sup> Bennett, et al. 2010, p. 122.

<sup>72</sup> Bork 1993, p. 365 et seq.

<sup>73</sup> See Motta 2004, p. 464 et seq. with further references.



in Art. 102(2) lit. d TFEU. However, tying is justified by the Block Exemption Regulation on Vertical Agreements<sup>74</sup> if market shares do not exceed 30 per cent. The Vertical Guidelines explain that no anti-competitive effects can be expected if buyers have sufficient alternatives to buy the tying product or its substitutes without the tied product. This is the case if there are sufficient competitors in the market for the tying product and if they do not practice tying themselves.<sup>75</sup>

Behavioural aspects have been touched upon in the European *Microsoft* case. One issue of the case is the question if the intervention of competition law against bundling is indicated although customers could easily switch to competitors' products, and if there is no exploitation since the tied product is given for free. The European Commission answered in the affirmative. The Commission held that the tying of the operating system Windows and the Windows Media Player (WMP) was an abuse because the ubiquitous presence of *Microsoft's* media player prevented Original Equipment Manufacturers (OEMs) from shipping third party streaming media players, thus harming competition on the market for streaming media players.<sup>76</sup> The fact that customers do not pay an extra-price for the media player or that they are not forced to use the WMP does not change this fact. The Commission did not consider the possibility to download competing media players as a satisfying alternative since consumers did not have sufficient incentives to do so. In fact, only few users did so in the relevant period of time. Moreover, indirect network effects increased the attractiveness of the WMP.<sup>77</sup>

Even if software downloads were not as easy and fast in the period of time scrutinized by the European Commission (1999–2004) as they are today, one could have argued<sup>78</sup> that nothing prevented users from downloading competing media players, so that neither exploitation nor exclusion took place. There were no exclusivity clauses between *Microsoft* and OEMs or software developers either.<sup>79</sup> If consumers kept using the WMP of their own accord, their choice was—in this view—due to advantages of the *Microsoft* product compared to competing media players.<sup>80</sup>

The European Commission, however, did not rely on rational, but on actual behaviour of consumers. Its line of argumentation can best be explained by

<sup>74</sup> Commission Regulation (EU) No 330/2010 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of vertical agreements and concerted practices, OJ 2010, L 102/1; 2010 Vertical Guidelines.

<sup>75</sup> 2010 Vertical Guidelines, n. 214 et seq., in particular n. 220.

<sup>76</sup> European Commission, 24.5.2004, COMP/C-3/37.792—*Microsoft*, OJ 2007 L 32/23 (short version).

<sup>77</sup> As a consequence of the ubiquitous distribution of the Windows Media Player, developers had strong incentives to produce complementary content and applications rather for this platform than for competing media players.

<sup>78</sup> And *Microsoft* did so in the European proceedings, see e.g. General Court, 17.9.2007, T-201/04—*Microsoft/Commission*, ECR 2007, II-3601, n. 996.

<sup>79</sup> And *Microsoft* did so in the European proceedings, see e.g. General Court, 17.9.2007, T-201/04—*Microsoft/Commission*, ECR 2007, II-3601, n. 994–995.

<sup>80</sup> See Stucke 2012, p. 560: “Through the lens of neoclassical economic theory, such behavior, rather than exploitive, appears benign”.



behavioural economics, for example by the influence of default settings on human behaviour.<sup>81</sup> Due to the status quo bias, people tend to stick with the default even if it would be cheap or nearly costless to switch to another option.<sup>82</sup> In the *Microsoft* case, the European Commission made a clear statement in this sense:

A supply-side aspect to consider is that, while downloading is in itself a technically inexpensive way of distributing media players, vendors must expend resources to overcome end-users' inertia and persuade them to ignore the pre-installation of WMP.<sup>83</sup>

Hence, default settings influence the outcome even if transactions costs are low.<sup>84</sup> On the other hand, consumers' preference for integrated products may also serve as an argument against the application of competition law: If consumers have only a limited capacity to decide by themselves on the choice of different components, it may be efficient to offer them a bundled product.<sup>85</sup> We will come back to this point when the influence of behavioural economics on the design of remedies is studied.<sup>86</sup>

### 11.3.5 *Conditional Rebates*

In general, rebates are part of normal price competition: The seller contents himself with less money for the good in question than normally required. If rebates are based on the quantity sold, they may serve to pass efficiency gains (either completely or partially) on to the customer. However, rebates may also serve to foreclose markets to the detriment of competitors. This is the case with certain conditional rebates practiced by dominant firms and having the same effect as exclusive purchasing agreements. If customers are reliant on a certain amount of goods of the dominant firm (for example must stock items), the dominant firm may use this non-contestable quantity as leverage to conquer the contestable part of the demand. The instrument is quantity rebates with retroactive effect: Purchases beyond a certain threshold trigger rebates which are not only applied to quantities beyond the threshold but to the entirety of purchases. This creates a strong incentive to reach the threshold and therefore not to buy goods from the dominant firm's competitors.

---

<sup>81</sup> See the analysis of Stucke 2012, p. 562 et seq.; Stucke 2013, p. 2 et seq.

<sup>82</sup> See Chap. 11.2.3. The relevant behaviour can also be interpreted as risk averseness: if the product works, it would be risky to switch to a competing product whose user-friendliness cannot be assessed before trying.

<sup>83</sup> European Commission, 24.3.2004, COMP/C-3/37.792—Microsoft (full text, available at accessed 11 February 2014), n. 870.

<sup>84</sup> Bennett, et al. 2010, p. 121.

<sup>85</sup> Bennett, et al. 2010, pp. 121–122.

<sup>86</sup> See Chap. 11.3.8.

All this is standard industrial economics.<sup>87</sup> In addition, the foreclosure effects of conditional rebates may be based on behavioural economics.<sup>88</sup> Starting point is the uncertainty inherent to conditional rebate schemes. This is not only the case with rebate schemes lacking transparency. Even if the conditions for the rebate are clear,<sup>89</sup> the uncertainty of the customer about reaching the threshold until the relevant point in time (for example until the end of the year) will have an impact on her behaviour. Moreover, the (irrational) relevance of sunk costs and loss aversion may lead to a lock-in of customers who do not want to lose the rebate they have reckoned on. This may make them stick with a certain supplier even if the expected value of renouncing on the rebate and buying somewhere else is higher than the completion of the rebate scheme.<sup>90</sup> The huge success of frequent flyer programs illustrates the impact of rebates on loyalty.

### 11.3.6 *Predatory Pricing*

The practice on predatory pricing is ambiguous in our context. In US antitrust law, not only must it be shown that the price in question is below an appropriate measure of cost but also that short term losses due to price undercutting are to be recouped in the medium and long term.<sup>91</sup> Under European competition law, there is no such requirement of proving the prospect of recouping the losses.<sup>92</sup> The recoupment test can already be criticized under traditional assumptions: If no advantages in the future were to be expected, a rational firm would not engage in below-cost activities.<sup>93</sup>

<sup>87</sup> See the analysis in European Commission, Guidance on the Commission's Enforcement Priorities in Applying Article 82 of the EC Treaty [now: Art. 102 TFEU] to Abusive Exclusionary Conduct by Dominant Undertakings, OJ 2009, C 45/7, n. 37 et seq.

<sup>88</sup> See the analysis by Morell 2011, p. 216 et seq.

<sup>89</sup> This was not the case in ECJ, 9.11.1983, Case 322/81—*Michelin/Commission*, ECR 1983, 3461, n. 83: “Furthermore, the lack of transparency of Michelin NV's entire discount system, whose rules moreover changed on several occasions during the relevant period, together with the fact that neither the scale of discounts nor the sales targets or discounts relating to them were communicated in writing to dealers meant that they were left in uncertainty and on the whole could not predict with any confidence the effect of attaining their targets or failing to do so”.

<sup>90</sup> Morell 2011, p. 222 et seq., who points at the same time to the fact that there is not (yet) sufficient empirical data to underpin the behavioural basis of the effect of rebates on foreclosure (at 241).

<sup>91</sup> See for example U.S. Supreme Court—*Brooke Group Ltd. v. Brown and Williamson Tobacco Corp.*, 509 U.S. 209 (1993). But see Supreme Court Justice Stevens' dissenting opinion in this case (which is closer to the legal assessment in Europe): “When a predator deliberately engages in below-cost pricing targeted at a particular competitor over a sustained period of time, then price-cutting raises a credible inference that harm to competition is likely to ensue”.

<sup>92</sup> ECJ, 2.4.2009, Case C-202/07 P—*France Télécom/Commission*, ECR 2009, I-2369, n. 29 et seq., 110, 113.

<sup>93</sup> The practice of US antitrust law seems to work the opposite way: If the plaintiff cannot show a rational prospect of recoupment, there cannot be an antitrust violation so that summary judgment is granted for the defendant.

Hence, already on the basis of the rational choice approach, a recoupment test does not seem necessary.<sup>94</sup>

Behavioural economics comes in as an additional argument insofar as it supports the insight that voluntary short term losses are only incurred if advantages in the future will compensate for it.<sup>95</sup> If there were any biases involved, such as hyperbolic discounting, the gains in the future must even be very high. According to the Chicago School, predatory pricing should be a rather rare phenomenon since it will be difficult to recoup losses in the real world, because prices above marginal cost will spur market access.<sup>96</sup> However, this finding is based on the assumption that actors behave rationally and calculate by the expected value of the different options. If, by contrast, actors are subject to an overconfidence bias and if they are risk seeking because losses are beyond the reference point, they may well engage in predatory practices even if the expected value is negative.<sup>97</sup> Besides, it might sometimes be the case that firms do not maximize profits but market shares. Depending on the cultural context, they may also be driven by non-monetary goals like patriotism for example.<sup>98</sup> Moreover, predatory pricing may develop a stronger deterrence than explicable by conventional economics if—due to the availability bias—competitors overestimate the sustainability of low-cost campaigns because they were under the influence of particularly aggressive strategies in the (recent) past.<sup>99</sup> Predatory pricing strategies may be successful precisely because competitors know that the relevant actor is boundedly rational and will continue his low-cost strategy even if he loses money.<sup>100</sup>

These are strong arguments against a too generous assessment of below-cost practices. In light of the few predation cases in Europe, the lower requirements for the establishment of predation in European competition law do not seem to have caused over-enforcement, let alone false positives. Rather, rejecting the recoupment test makes sure that a concept recognized in theory is actually applied in practice.<sup>101</sup>

<sup>94</sup> See Reeves and Stucke 2011, pp. 1151–1152.

<sup>95</sup> For an early contribution from a psychological perspective see Gerla 1985.

<sup>96</sup> In this sense U.S. Supreme Court—*Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986): “there is a consensus among commentators that predatory pricing schemes are rarely tried, and even more rarely successful”.

<sup>97</sup> See the ground-breaking analysis of Tor 2003, for example 54: “Because loss aversion generates risk seeking for losses, market participants will tend to take high-risk opportunities, such as predatory pricing strategies, against the odds, in the hope of winning a negative expected value gamble and eliminating a painful loss”.

<sup>98</sup> Leslie 2010, pp. 293–295.

<sup>99</sup> Tor 2003, p. 56.

<sup>100</sup> Leslie 2010, p. 297 et seq.

<sup>101</sup> See also Van den Bergh 2013, p. 223: “Under current law, the abuse system of the European Union is more hospitable to behavioral insights than the U.S. prohibition” (with respect to the assessment of predatory pricing); Petit and Neyrinck 2010, at II.A: “On close examination, EU predatory pricing law seems even behavioralist in essence”.

### 11.3.7 *Merger Control*

Barriers to entry are highly relevant in merger control. When market access is easy, the threat to competition is low.<sup>102</sup> The theory of contestable markets went so far as to saying that—in absence of barriers to entry—even a monopoly may be a competitive market since raising prices above the competitive level will undoubtedly attract new competitors.<sup>103</sup> With this insight, the analysis of market entry barriers has become an important part of competition law practice. However, potential competition is not put on the same level with actual competition because, in reality, many barriers to entry exist. There may be legal obstacles, imperfect information, difficult access to the relevant technology, strategic behaviour by the incumbent, and, above all, sunk costs. For practical purposes therefore, the degree of contestability has to be determined.

It has been discussed if behavioural insights may be used in the context of merger control.<sup>104</sup> To a certain extent, authorities already follow a behavioural angle. In the Horizontal Merger Guidelines of the European Commission, consumer loyalty to a certain brand and reputation are specified as examples for barriers to entry. Therefore, real consumer behaviour may be relied upon in order to underline negative effects of a merger. In the literature, it has been suggested that overconfident managers may systematically overestimate efficiencies due to a merger, and that therefore—against conventional wisdom—most mergers cannot be presumed pro-competitive.<sup>105</sup>

On the other hand, the overconfidence bias, if applied to firms, may work in the direction of stronger contestability. If potential competitors systematically overestimate their prospects of success, there may be more market entrants than explicable by the extent of barriers to entry.<sup>106</sup>

Against this backdrop, the impact of behavioural economics on merger analysis is ambivalent. Authorities are well-advised to explore the opposed effects as far as possible. In this context, behavioural insights are particularly valuable for merger control.<sup>107</sup>

---

<sup>102</sup> See European Commission, Guidelines on the Assessment of Horizontal Mergers under the Council Regulation on the Control of Concentrations between Undertakings, OJ 2004, C 31/5, n. 68: “When entering a market is sufficiently easy, a merger is unlikely to pose any significant anti-competitive risk. Therefore, entry analysis constitutes an important element of the overall competitive assessment”.

<sup>103</sup> Baumol, et al. 1982.

<sup>104</sup> See for example Oldale 2010; Werden, et al. 2011.

<sup>105</sup> Reeves and Stucke 2011, p. 1560 et seq.

<sup>106</sup> For a comprehensive analysis of this phenomenon and the conclusions to be drawn from it see Tor 2002.

<sup>107</sup> Reeves and Stucke 2011, p. 1580: “More generally, it may be the case that behavioral economics finds its best fit in merger review [...]. At times, neoclassical theory cannot explain the evidence of the merging parties’ behavior, intent, motives, or post-merger plans”.

### 11.3.8 Remedies

The insights of behavioural economics may be used to reach a better design of remedies. Good examples are the European *Microsoft* cases. In its 2004 decision, the European Commission obliged *Microsoft* to offer—in addition to the integrated version containing the Windows Media Player (WMP)—a Windows version without WMP.<sup>108</sup> However, as *Microsoft* kept the right to sell the full Windows program for the same price as the version without WMP, this remedy was useless: The Windows version without the media player was not accepted by the market.<sup>109</sup>

The lessons from this failure were later drawn in the European browser case. In 2009, the European Commission accused *Microsoft* of abusing its dominant position by tying again, this time with respect to the Internet Explorer and its integration into the Windows operating system. The case was solved through the commitment by *Microsoft* to make a choice screen available asking users to download the browser of their choice in addition to, or instead of, the Internet Explorer.<sup>110</sup> From a behavioural perspective, this approach is by far preferable: The ballot screen prompts users to make an active choice thus breaking the power of defaults and minimizing the impact of market dominance while maintaining and strengthening the autonomy of consumers.<sup>111</sup>

However, it is important in this context not to create a counter-productive “choice overload”.<sup>112</sup> Behavioural economics has pointed to the restricted computational capacity of man. Choice therefore should stay manageable. This path is followed in the European *Google* investigation. The European Commission has accused *Google* of the abuse of a dominant position by—*inter alia*—giving favourable treatment to its own specialized web search services over those of competitors.<sup>113</sup> The procedure will probably end with the adoption of a commitments decision.<sup>114</sup> The commitment

<sup>108</sup> This is one of the differences between the European and the American *Microsoft* case. In the US, *Microsoft* undertook to renounce on exclusive dealing contracts and to allow OEM’s as well as end-users to remove the visibility of the WMP by putting it on the “Add/Remove” list. However, the American authorities did not interfere with product design by imposing an obligation to sell “modular” Windows, see Court of Appeals for the D.C. Circuit, 30.6.2004 (accessed 11 February 2014), 15: “the district court, by remedying the anticompetitive effect of commingling, went to the heart of the problem Microsoft had created, and it did so without intruding itself into the design and engineering of the Windows operating system. We say, Well done!”.

<sup>109</sup> See Heinemann 2005, p. 79 (with the proposal to prefer a must carry approach over a software removal remedy at 80–81).

<sup>110</sup> European Commission, 16.12.2009—*Microsoft (Tying)*, OJ 2010, C 36/7. *Microsoft* did not respect the commitment, though, and was fined for non-compliance with its browser choice commitments, see European Commission, 6.3.2013—*Microsoft (Tying)*, OJ 2013, C 120/15.

<sup>111</sup> For a behavioural perspective on the commitments in the European browser case see Bennett, et al. 2010, p. 130.

<sup>112</sup> Stucke 2012, p. 570 et seq.

<sup>113</sup> See for example European Commission, Press Release IP/13/371 of 25.4.2013.

<sup>114</sup> Under Art. 9 Regulation 1/2003 on the Implementation of the Rules on Competition Laid Down in Articles 81 and 82 of the Treaty, OJ 2003, L 1/1. As regards “search neutrality”, the European case will be stricter than the US case: The Federal Trade Commission (FTC) closed the



on the vertical search topic will oblige *Google* to display three rival services whenever it displays its own specialized search services. The presentation of the rivals' services has to be as visible and as attractive as *Google's* own services.<sup>115</sup> The restriction to three competitors (which will have to be chosen on the basis of objective criteria, for example the results in *Google's* organic search results) can well be explained by the goal of avoiding information overload on the part of consumers.

Hence, even if not expressly referred to, behavioural economics plays an important role when it comes to the elaboration of competition law remedies.

### 11.3.9 Sanctions

Behavioural insights have been reflected in the context of sanctions, too. According to the theory of optimal deterrence, fines should equal the cartel rent divided by the probability of detection.<sup>116</sup> This concept is based on the assumption that decision makers act rationally and that they will calculate costs and benefits on the basis of said formula. However, this calculus will not yield the optimal result if decision makers have a different perception of probabilities. If they are overconfident and assess the risk of detection lower than objectively founded, the fine will be too weak for deterrence.<sup>117</sup> Hubris may well explain the fact that cartels are still being practiced in spite of the important increase in fines over the last decades.

In European competition law, the level of fines has risen constantly in recent times. Instead of further increasing fines, it seems preferable to think about criminal sanctions against the responsible managers. In this respect, US law could serve as a model.<sup>118</sup> In the US, criminal enforcement including imprisonment is considered an important reason for the decrease in domestic cartel activity.<sup>119</sup> From a behavioural angle, loss aversion plays an even more important role if the risk is not a fine but jail, especially if the profile of the typical offender is taken into consideration.<sup>120</sup> Generally, the availability bias could be used for deterrence by increasing even more public awareness of prosecution activities and sanctions.

---

investigation with respect to the allegations of "search bias" since it saw the practices in question justified as innovations, see FTC, News Release of 3 January 2013 (accessed 11 February 2014).

<sup>115</sup> Almunia 2014.

<sup>116</sup> See the seminal paper by Landes 1983. However, behavioural economics casts doubt on the idea that people actually think in terms of optimal deterrence, see Sunstein, et al. 2000.

<sup>117</sup> Reeves and Stucke 2011, p. 1569.

<sup>118</sup> See Baer and Hosko 2013, p. 2. In 2013, US courts imposed 28 prison terms for antitrust violations with an average sentence of more than two years per defendant.

<sup>119</sup> See Wils 2008, p. 183 et seq. with further references.

<sup>120</sup> Most illustrative Liman 1977, pp. 630–631: "For the purse snatcher, a term in the penitentiary may be little more unsettling than basic training in the army. To the businessman, however, prison is the inferno, and conventional risk-reward analysis breaks down when the risk is jail. The threat of imprisonment, therefore, remains the most meaningful deterrent to antitrust violations".



## 11.4 The Impact of Behavioural Economics on Competition Law

The examples outlined above have shown that behavioural economics is highly relevant for competition law in many respects. This does not only apply to substantive competition law, but also to analytical tools like market definition and to the design of smart remedies and sanctions. Not taking into account the new insights would lead to flawed results. In the following section, the extent of the behavioural impact on competition law shall be evaluated. From the perspective of European competition law, it shall be analysed if reforms are indicated or if the new insights can be taken into account within the existing system. Moreover, it will be determined what impact behavioural economics has on the activities of competition authorities.

### 11.4.1 A “Behavioural Turn” or a “Behavioural Revolution” in Competition Law?

Traditionally, competition is defined as a situation in which firms strive to establish business contacts with buyers (or suppliers) by proposing better products or more advantageous conditions in terms of price or service than other firms selling (or buying) substitutable products. Clients (or furnishers) are supposed to deal with the firm submitting the most attractive proposal.

Behavioural economics does not fundamentally question this mechanism but eliminates the fiction of perfect rationality with respect to the mechanism’s actors. It complements traditional analysis with human behaviour beyond the *homo oeconomicus* hypothesis.<sup>121</sup> For the design of competition law, this means that rules should be avoided which are exclusively based on the rationality assumption. It is equally true that rules should not be based on constantly irrational behaviour either, since the *homo sapiens* is complex and multi-faceted. For this reason, Herbert Simon’s term of “bounded rationality” has widely been adopted.<sup>122</sup> While boundedly rational conduct is variable and heterogeneous, there are nevertheless behavioural regularities.<sup>123</sup> As a consequence, competition law should be sufficiently flexible to react to the diversity of human behaviour. On the other hand, the goal of legal certainty requires a sufficient degree of predictability. In US law, a structured rule of reason analysis responds to this goal.<sup>124</sup> In European competition law, such a structure is provided for by the law, since a distinction is made between a general prohibition (in Art. 101(1) TFEU) and its exceptions (in Art. 101(3) TFEU).

---

<sup>121</sup> For a general discussion of this concept see Kirchgässner 2013.

<sup>122</sup> Simon 1957; see also Kahneman 2003b.

<sup>123</sup> Tor 2013, p. 84. The title of Dan Ariely’s bestselling book is “Predictably Irrational”, see Ariely 2009.

<sup>124</sup> See Tor 2013, p. 80 et seq.

Generally, behavioural economics seems to be used as a corrective against exaggerations of economic modelling. The behavioural approach creates a new legitimacy to refer to real behaviour of market actors. In this sense, it is not primarily the details of behavioural sciences which are important since they may be perfectible. Rather, a counterweight is created against an approach which is at risk of losing or having lost touch with reality.<sup>125</sup> In any event, the point is that empirical evidence must not be disregarded with the argument that it is not compatible with economic theory.<sup>126</sup> To the contrary, economic theory and the application of competition law has to be adapted strictly to the empirical evidence found. This is the best guarantee for avoiding enforcement errors.

In this sense, behavioural antitrust aims at providing competition law with a more realistic view on the conduct of market actors. The central issue is how to provide a more reliable basis for the application of competition law. If rational choice cannot fully explain the conduct of individuals and firms, the standard model has to be enriched by more realistic components.<sup>127</sup> Behavioural economics is highly useful in this context insofar as its findings are sufficiently robust. This means that behavioural economics is not supposed to replace traditional analysis but to complement it, and only to the extent that its insights have proven their value. Thus, predictability is not put at risk.

In view of the complementary character of behavioural analysis, it appears more appropriate to speak of a “behavioural turn” of competition law than of a “behavioural revolution”.

#### ***11.4.2 Need for Reforms or Reception within the Existing System?***

Even though it is more a turn than a revolution, the legal rules currently in force have to be checked as to their permeability for the behavioural insights. European competition law appears to be in need of receptiveness rather than of reform in order to achieve this aim.

**Recognition Within the Existing System** It is possible to take behavioural economics into account within competition law under two conditions. The first one sounds self-evident: Law must allow its application to real world behaviour. This condition is not fulfilled if the legal rules blind out practices which are not in

<sup>125</sup> Cf. Reeves and Stucke 2011, p. 1581: “Behavioral economics thus can fill in the analysis and explain the real-world evidence when neoclassical economic theory cannot”. See also Tor 2013, p. 73 et seq., who underlines the importance of case-specific evidence from the perspective of behavioural antitrust.

<sup>126</sup> See Christian Morgenstern’s poem “The Impossible Fact”: “For, he reasons pointedly/That which must not, cannot be” (in the German original: “Weil so schliesst er messerscharf/nicht sein kann, was nicht sein darf”).

<sup>127</sup> Therefore, courts should not grant summary judgment to the defendant with the argument that the conduct in question cannot be explained rationally; see the criticism by Tor 2013, p. 74.

accordance with the rationality assumption. If, for example, in the field of predatory pricing, it is *a priori* said that no anticompetitive behaviour can be found if a reasonable prospect of recouping losses cannot be proven, there is no possibility to find predation on the basis of less rational behaviour.<sup>128</sup> Therefore, openness to facts and real behaviour is needed.

The second condition requires sufficient flexibility of legal rules in order to integrate the lessons of behavioural economics. In US antitrust law, the broadly formulated codes seem sufficiently open, but the existing case law with its precedents establishes a narrower framework. It is the task of scholars and courts to develop this framework further in order to take into account the new insights.<sup>129</sup> European competition law seems, already in its current state, open to a behavioural turn. Starting point is the distinction in Art. 101 TFEU between prohibition (section 1) and justification (section 3). This dualism allows taking into account real behaviour in its diversity on the level of the prohibition. For Art. 101(1) TFEU, it is sufficient that an agreement has as its object, not necessarily effect, the restriction of competition. Efficiencies come in only on the next level, that of justification. In spite of the more economic approach,<sup>130</sup> European competition law has never given efficiency an absolute status. The ECJ, for example, has repeatedly underlined the structural aspects of European competition law and the goal of protecting “competition as such”.<sup>131</sup> Therefore, on the level of the prohibition, it is not necessary to find a welfare loss in a narrow sense.<sup>132</sup> Although Art. 102 TFEU does not have the same structure as Art. 101 TFEU, it is interpreted in the same two-tiered sense, i.e. in categories of prohibition and justification.<sup>133</sup>

Against this backdrop, the concepts of anticompetitive object (Art. 101(1) TFEU) and of abuse (Art. 102 TFEU) appear sufficiently broad to encompass distortions of competition due to boundedly rational behaviour. Various gateways have been described in the survey on selected anticompetitive practices.<sup>134</sup> The leeway for incorporating behavioural analysis may be illustrated by the example of customer foreclosure which is relevant both for restrictive agreements and the abuse of a dominant position. According to traditional analysis, in order to prove foreclosure, it is necessary to show that competitors do not have access to customers due to the strategy in question. Exclusivity agreements and fidelity rebates, for example, are

---

<sup>128</sup> See Chap. 11.3.6.

<sup>129</sup> Tor 2013, p. 80 et seq.

<sup>130</sup> Schweitzer 2009; Vanberg 2011; Zäch and Künzler 2009.

<sup>131</sup> ECJ, 6.10.2009, Joined Cases C-501/06 P et al.—*GlaxoSmithKline Services and others/Commission and others*, ECR 2009, I-9291, n. 63.

<sup>132</sup> ECJ, 6.10.2009, Joined Cases C-501/06 P et al.—*GlaxoSmithKline Services and others/Commission and others*, ECR 2009, I-9291, n. 63.: Ibid.: “Consequently, for a finding that an agreement has an anti-competitive object, it is not necessary that final consumers be deprived of the advantages of effective competition in terms of supply or price”.

<sup>133</sup> See the priority paper of the European Commission, Guidance on the Commission’s Enforcement Priorities in Applying Article 82 of the EC Treaty [now: Art. 102 TFEU] to Abusive Exclusionary Conduct by Dominant Undertakings, OJ 2009, C 45/7, n. 37 et seq. supra note 87.

<sup>134</sup> See Chap. 11.3.

relevant in this context since they may bar competitors from continuing or establishing commercial contacts with the clients concerned. While an exclusivity agreement blocks competitors on the basis of legal commitments, fidelity rebates raise barriers because the non-contestable part of the demand may be used as a leverage to lower the price for the contestable portion to the point that competitors cannot keep up anymore.<sup>135</sup>

Behavioural economics goes one step further. Exclusionary conduct may occur, even if competitors are not foreclosed legally or economically, but simply factually, due to actual and not necessarily reasonable behaviour of customers. An example is the bundling part of the European *Microsoft* case.<sup>136</sup> As media players (at least in their basic versions) have been distributed for free, and since no technical obstacles existed, users had the possibility of downloading competing media players so that—on the basis of traditional legal and economic analysis—it would have been possible to deny foreclosure. However, since consumers rely to a great extent on default settings and renounce on choosing third party software in spite of the better quality of the competing product and in absence of any noteworthy switching costs, it was correct to find foreclosure. The result cannot be explained by traditional economics, but requires referral to behavioural insights. The outcome of the European *Microsoft* case shows that the rules in force are sufficiently flexible to meet this requirement.

**Debiasing?** The focus of this paper is on the impact of bounded rationality on competition law. It has been demonstrated that competition law follows—or at least should follow—a factual approach. Markets are analysed as they really are, not as they should be. If a certain conduct is anticompetitive, competition law should step in, no matter if the behaviour in question is due to bounded rationality of the actor or if it makes use of the bounded rationality of other market participants.

From a policy perspective, the question may be asked if—in cases of bounded rationality—the problem should not be tackled at the roots. If it is possible to fix behavioural market failure by appropriate rules, the application of competition law may no longer be required. Thus, “Debiasing through Law”<sup>137</sup> may render the intervention by competition law unnecessary. An example is the razor and blade-problem.<sup>138</sup> If legal provisions established transparency regarding follow-up costs of durable goods and total costs over the economic lifetime of a product and if this influenced consumer behaviour, underestimation biases would disappear and effective competition would be strengthened with respect to primary and secondary markets in their entirety. There would be less need for the application of competition law, at least from the angle of cognitive biases. Hence, taking into account bounded

<sup>135</sup> European Commission, Guidance on the Commission’s Enforcement Priorities in Applying Article 82 of the EC Treaty [now: Art. 102 TFEU] to Abusive Exclusionary Conduct by Dominant Undertakings, OJ 2009, C 45/7, n. 39.

<sup>136</sup> European Commission, 24.3.2004, COMP/C-3/37.792—Microsoft (full text, available at accessed 11 February 2014), n. 870.

<sup>137</sup> See the seminal paper by Jolls and Sunstein 2006.

<sup>138</sup> See Chap. 11.3.3.

rationality in other fields of law, like consumer protection, may affect competition law.

However, there is also the opposite mechanism, in the sense that competition renders debiasing less necessary. The market mechanism and learning effects may reduce biases or at least their extent so that there is less reason for intervention.<sup>139</sup> The effects of markets on judgment and choice are not that clear-cut, though.<sup>140</sup> In particular, biases may be exploited systematically. Expectations to the corrective forces of the market mechanism must therefore not be exaggerated.<sup>141</sup> They have to be shown in the specific context.

### ***11.4.3 Behavioural Antitrust and the Role of Competition Authorities***

Although behavioural antitrust has only just begun, it has already been confronted with several reproaches including short-termism, paternalism and exaggerated interventionism.

**Short Term Bias of Competition Authorities?** The preceding analysis deals with bounded rationality of consumers and businesses. It has been suggested to apply behavioural economics to the activities of public authorities and their servants themselves.<sup>142</sup> This proposal is in line with public choice theory which applies economic tools to public actors. The combination of behavioural economics and public choice could be called “Behavioural Public Choice”.<sup>143</sup> In our context, it has to be asked if competition authorities themselves run the risk of driving under the influence of different biases. A criticism often advanced against competition authorities, especially in the context of innovative industries, is that they prefer short term static efficiency over long term dynamic thinking.<sup>144</sup> However, a closer look at the relevant cases shows that this reproach is unfounded. There is no disagreement about the necessity of long term thinking as such but about the way in which future—which means uncertain—developments are to be integrated into antitrust analysis. According to Frank Easterbrook’s error cost approach, the sum of the costs of false

<sup>139</sup> Bennett, et al. 2010, pp. 125–126: “It will be unnecessary to intervene, and could indeed have negative unintended consequences, where the problems in the market would otherwise be self-correcting. This will be true, for example, where there are market solutions, where consumers may learn, or where firms can self-regulate”.

<sup>140</sup> See the detailed analysis of Tor 2013, p. 43 et seq.; see also Tor 2002, 563, against the frequently advanced argument that irrational decisions cancel each other out in the aggregate.

<sup>141</sup> Garcés 2010, p. 151.

<sup>142</sup> See generally Jolls and Sunstein 2006, pp. 233–234. For a special focus on competition authorities see Bennett, et al. 2010, p. 129; Kovacic and Cooper 2012.

<sup>143</sup> This term is used by Frey and Stutzer 2012, p. 663.

<sup>144</sup> For a summary see Heinemann 2009, pp. 625–626; see also Kovacic and Cooper 2012, p. 782, who explain activism of competition authorities with hyperbolic discounting of long-term costs.



positives, of false negatives and of the system itself has to be minimized.<sup>145</sup> To simplify, authorities should abstain from intervention when the costs of over-enforcement exceed the costs of under-enforcement. As the losses in long-term dynamic efficiency due to antitrust intervention may be high, “errors on the side of excusing questionable practices are preferable” because—*inter alia*—“the economic system corrects monopoly more readily than it corrects judicial errors”, and “in many cases the costs of monopoly wrongly permitted are small, while the costs of competition wrongly condemned are large”.<sup>146</sup>

This position amounts to a presumption against the application of competition law. As the long-term impact on innovation is unclear, but possibly high, interference is advised against. The problem of this argument however, is that the long-term impact of competition law abstinence on innovation is likewise unclear, but possibly even higher, in particular if the conduct in question aims precisely at preventing competitors from developing innovative products in the future. Such strategies do not only reduce dynamic efficiency with respect to competitors but also with respect to the incumbent himself: His own incentives to innovate are diminished if competition by substitution is impeded by his exclusionary conduct.<sup>147</sup> More generally, behavioural antitrust underlines the risk of under-enforcement in cases in which the rationality assumption pleads against the application of competition law, but where the actors’ real behaviour requires enforcement.<sup>148</sup>

In sum, the application of competition law in innovative markets cannot be reduced to thinking in terms of static efficiency. Competition authorities regularly analyse the effects not only of the relevant conduct but also of the authority’s intervention on the incentives to innovate of all market actors including the incumbent. Therefore, the reproach of a short term bias has to be rejected.<sup>149</sup> Of course, other biases cannot be excluded. However, if competition authorities are independent, biases due to political influence or lobby groups can be eliminated or at least be reduced to a minimum.<sup>150</sup>

---

<sup>145</sup> Easterbrook 1984.

<sup>146</sup> Easterbrook 1984, p. 15.

<sup>147</sup> See the European Commission’s *Microsoft* decision, n. 783. See also Petit and Neyrinck 2010, at II.C, calling into question effects on the incentives to innovate because competition law intervention against dominant firms is rare and managers do not take into account events of very low probability.

<sup>148</sup> Tor 2013, p. 75; see also Reeves and Stucke 2011, p. 1543: “It [scil. Behavioural Antitrust] calls into question our preoccupation with the cost of false positives (which has taken prominence over the last 30 years) while not attending to the cost of false negatives”.

<sup>149</sup> Biases can rather be attributed to the opposite position. Easterbrook himself uses the term when saying: “Yet precision is unobtainable, and the bias in favor of business practices is appropriate” (Easterbrook 1984, p. 40).

<sup>150</sup> The scepticism of Kovacic and Cooper 2012 against increased competition law activity is based on the premise of strong political influence on competition authorities with political overseers having “a relative preference for policies that maximize outputs or otherwise convey the appearance of action” (at 782).



**Paternalism?** Findings of behavioural economics may be controversial in detail, but the existence of boundedly rational behaviour is beyond doubt. The normative question is how politics and law should respond to this fact. According to the most famous concept, people should be given a nudge in order to make better decisions.<sup>151</sup> To this end, the power of defaults has to be used. If people regularly choose the path of least resistance, defaults should be set where the outcome will be the best for everyone or for society as a whole. While people do not have to stick to the default, they have to make an effort in order to change it. The authors of *Nudge* themselves have endorsed the label “Libertarian Paternalism” for their concept of choice architecture.<sup>152</sup>

The proposal has been met with severe criticism from some commentators discerning a threat to liberty and individual autonomy.<sup>153</sup> This attack has been specifically directed at behavioural antitrust.<sup>154</sup> These concerns cannot be confirmed in our context. The central goal of behavioural antitrust is to provide a more solid basis for the application of competition law. Of course, whoever considers these general rules too interventionist, will not find comfort in the behavioural turn. But this is due to the general rules and to their application to specific cases and not to the improvement of the factual basis. An example is the European *Microsoft* browser case.<sup>155</sup> The remedy was (implicitly) based on behavioural arguments, i.e. consumer inertia, but it promoted active choice and thus autonomy. The European rules on tying and bundling may be discussed, but it is not the behavioural basis of the remedy that is the proper target for the paternalism verdict.

**Does Behavioural Antitrust Lead to More Intervention?** Closely linked to the reflections on paternalism is the question if behavioural antitrust necessarily leads to more frequent or more intense interventions by competition law. In this respect, a distinction has to be drawn between the methodological rationale behind the behavioural approach and its application to specific competition law problems. As regards the former, behavioural analysis leads to a more reliable basis for decision-making, yet not necessarily to a modification of the rules. Therefore, as a methodological tool, it is neutral with respect to the outcome. In principle, behavioural antitrust works in either direction.<sup>156</sup>

---

<sup>151</sup> Thaler and Sunstein 2009.

<sup>152</sup> Thaler and Sunstein 2009, pp. 5–6 and 15.

<sup>153</sup> See for example Wright and Ginsburg 2012. For a more balanced discussion see Kirchgässner 2013, p. 269 et seq.

<sup>154</sup> Wright and Stone 2012. According to the authors’ “irrelevance theorem”, there is no difference between behavioural antitrust and rational-choice models if all firms are subject to the same biases. Detailed analysis of Tor 2013, p. 43 et seq.; see also Tor 2002, p. 563, against the frequently advanced argument that irrational decisions cancel each other out in the aggregate.

<sup>155</sup> European Commission, 16.12.2009—*Microsoft (Tying)*, OJ 2010, C 36/7. *Microsoft* did not respect the commitment, though, and was fined for non-compliance with its browser choice commitments, see European Commission, 6.3.2013—*Microsoft (Tying)*, OJ 2013, C 120/15.

<sup>156</sup> See Reeves and Stucke 2011, p. 1543: “Behavioral economics does not necessarily call for less or more antitrust regulation”; Bennett, et al. 2010, p. 129: “In summary, we cannot assume that behavioral economics implies more intervention”. For a future perspective see Tor 2013, p. 71,

As regards the application of the behavioural approach to specific competition problems, our survey has shown heterogeneous results.<sup>157</sup> However, overall, there are more constellations in which the behavioural approach leads to the application of competition law than to abandonment.<sup>158</sup> This is due to the fact that its insights may plead for the application of competition law even though traditional economic analysis would suggest reservation. Taking for example vertical restraints, aftermarkets, tying and predatory pricing, the application of competition law in some constellations is backed by behavioural insights whereas the assumption of rational choice would indicate otherwise. However, the examples show at the same time that the rationality assumption oversimplifies and does not fully grasp the economic phenomena. The application of competition law in these cases is not due to a tightening of the substantive rules but instead to a more exhaustive appreciation of the facts. Moreover, the impact of behavioural analysis has to be determined separately for every single problem.

## 11.5 Outlook

In real life, economic actors do not always behave as rationally as implied by the standard model. The consequences for competition law are ambivalent: There are situations in which the application of competition law may be indicated although a conventional analysis based on the rationality assumption would advise abstention. The opposite constellation is equally conceivable, though, i.e. no need for intervention precisely because of the real behaviour of market participants. Competition law is therefore well advised to follow the insights of behavioural economics closely and to pay attention to them when applying the law to specific cases. Competition law rules must be able to embrace the real behaviour of market actors in contrast to fictional conduct underlying abstract models. Prudence should therefore be exercised with respect to rules of *per se* legality. For example, the popular message according to which restrictions of intrabrand competition are benign if there is sufficient interbrand competition does not stand close examination since cognitive biases may outweigh pressure stemming from interbrand competition. Hence, behavioural law and economics provides (additional) arguments for flexible rules on vertical restrictions excluding black and white thinking inspired by the *homo oeconomicus* assumption.

Since the mid-1990ies, European competition law has been under the influence of the “more economic approach” giving central weight to an effects-based and efficiency-oriented analysis under the assumption of rational choice. At the same

---

who underlines the analytical potential of behavioural antitrust for antitrust scholars of any policy predisposition once certain wide-spread errors will have been removed.

<sup>157</sup> See Chap. 11.3 of this paper.

<sup>158</sup> This may in part explain assessments establishing a one-sided link between the behavioural approach and intervention; see for example Huffman 2012, p. 106: “Until very recently, all of the writing advocating Behavioral Antitrust favored increased antitrust enforcement”.

time, the European Court of Justice has upheld more traditional concepts such as the protection of the competitive process in itself. The Court thus pursues the objective to defend legal certainty against a too radical case-by-case approach. A stronger orientation towards behavioural insights may help to reconcile economic analysis and the need for clear and general rules. The “behavioural turn” should be used to transform the “more economic approach” into a “more realistic approach”. Behavioural antitrust has the potential to overcome the ideological confrontations between the classical antitrust schools and to help solving specific problems. Thus, the behavioural approach is particularly promising for the field of competition law.

## Bibliography

- Almunia, Joaquín. 2014. Statement on the Google investigation. SPEECH/14/93 of 5.2.2014.
- Angner, Erik. 2012. *A course in behavioral economics*. Houndmills: Palgrave Macmillan.
- Ariely, Dan. 2009. *Predictably irrational: The hidden forces that shape our decisions*. New York: Harper.
- Armstrong, Mark, and Steffen Huck. 2010. Behavioral economics as applied to firms: A primer. *Competition Policy International* 6 (1): 3–45.
- Arnaudo, Luca. 2013. The quest for behavioral antitrust: Beyond the label battle, towards a cognitive approach. *The Dovenschmidt Quarterly* 2:77–88.
- Ashraf, Nava, Colin F. Camerer, and George Loewenstein. 2005. Adam Smith, behavioral economist. *Journal of Economic Perspectives* 19:131–145.
- Baer, William J., and Ronald T. Hosko. 2013. Cartel prosecution: Stopping price fixers and protecting consumers. Statement of 14.11.2013.
- Bar-Gill, Oren. 2004. Seduction by plastic. *Northwestern University Law Review* 98 (4): 1373–1434.
- Baumol, William J., John C. Panzar, and Robert D. Willig. 1982. *Contestable markets and the theory of industry structure*. San Diego: Harcourt Brace Jovanovich.
- Bechtold, Stefan. 2007. *Die Kontrolle von Sekundärmärkten-Eine juristische und ökonomische Untersuchung im Kartell- und Immaterialgüterrecht*. Baden-Baden: Nomos.
- Bennett, Matthew, John Fingleton, Amelia Fletcher, Liz Hurley, and David Ruck. 2010. What does behavioral economics mean for competition policy? *Competition Policy International* 6 (1): 111–137.
- Bork, Robert. 1993 (1978). *The antitrust paradox-a policy at war with itself*. 2nd ed. (1st ed.) New York: The Free Press.
- Buehler, Stefan, and Dennis L. Gärtner. 2013. Making sense of nonbinding retail-price recommendations. *American Economic Review* 103 (1): 335–359.
- Desai, Deven R., and Spencer Waller. 2010. Brands, competition, and the law. *Brigham Young University Law Review* 2010 (5): 1425–1499.
- Easterbrook, Frank H. 1984. The limits of antitrust. *Texas Law Review* 63 (1): 1–40.
- Elkin-Koren, Niva, and Eli M. Salzberger. 2013. *The law and economics of intellectual property in the digital age: The limits of analysis*. Milton Park: Routledge.
- Engel, Christoph. 2011. Die Bedeutung der Verhaltensökonomie für das Kartellrecht. In *Beitrag der Verhaltensökonomie (Behavioral Economics) zum Handels- und Wirtschaftsrecht*, eds. Holger Fleischer and Daniel Zimmer. 100–121. Frankfurt a. M.: Verlag Recht und Wirtschaft.
- Engel, Christoph, Markus Englerth, Jörn Lüdemann and Indra Spiecker genannt Döhmann, eds. 2007. *Recht und Verhalten: Beiträge zu Behavioral Law and Economics*. Tübingen: Mohr Siebeck.
- Englerth, Markus. 2010. Verhaltensökonomie. In *Ökonomische Methoden im Recht*, ed. Emanuel V. Towfigh and Niels Petersen, 165–199. Tübingen: Mohr Siebeck.

- Fleischer, Romy Nicole. 2013. *Die Dynamik des Wettbewerbsschutzes im US-amerikanischen, europäischen und australischen Kartellrecht-Eine rechtsvergleichende Untersuchung zu Sec. 2 Sherman Act, Art. 102 AEUV und Sec. 46 CCA 2010*. Cologne: Carl Heymanns Verlag.
- Fleischer, Holger, and Daniel Zimmer, eds. 2011. *Beitrag der Verhaltensökonomie (Behavioral Economics) zum Handels- und Wirtschaftsrecht*. Frankfurt a. M.: Verlag Recht und Wirtschaft.
- Frey, Bruno S., and Alois Stutzer. 2012. The use of happiness research for public policy. *Social Choice and Welfare* 38:659–674.
- Gabaix, Xavier, and David, Laibson. 2006. Shrouded attributes, consumer myopia, and information suppression in competitive markets. *Quarterly Journal of Economics* 121:505–540.
- Garcés, Eliana. 2010. The impact of behavioral economics on consumer and competition policies. *Competition Policy International* 6 (1): 145–152.
- Gerla, Harry S. 1985. The psychology of predatory pricing: Why predatory pricing pays. *Southwestern Law Journal* 39:755–780.
- Gruter, Margaret. 1991. *Law and the mind: Biological origins of human behavior*. Newbury Park: Sage Publications.
- Haucap, Justus. 2011. Bounded rationality and competition policy. In *Competition policy and the economic approach: Foundations and limitations*, eds. Josef Drexl, Wolfgang Kerber, and Rupprecht Podszun, 217–229. Cheltenham: Edward Elgar.
- Heinemann, Andreas. 2005. Compulsory licences and product integration in european competition law: Assessment of the european commission's microsoft decision. *International Review of Intellectual Property and Competition Law* 36:63–82.
- Heinemann, Andreas. 2009. Intellectual property rights and merger control: How to secure incentives to innovate in the long run. In *Technology and competition: Contributions in honour of Hanns Ullrich*, eds. Josef Drexl, Reto M. Hilty, Laurence Boy, Christine Godt, and Bernard Rémiche, 601–626. Brussels: Larcier.
- Huffman, Max. 2012. Marrying neo-Chicago with behavioral antitrust. *Antitrust Law Journal* 78 (1): 105–145.
- Ingram, Paul, and Peter W. Roberts. 2000. Friendships among competitors in the sydney hotel industry. *American Journal of Sociology* 106:387–423.
- Jolls, Christine, and Cass, R. Sunstein. 2006. Debiasing through law. *Journal of Legal Studies* 35 (1): 199–241.
- Jolls, Christine, Cass R. Sunstein, and Richard Thaler. 1998. A behavioral approach to law and economics. *Stanford Law Review* 50:1471–1550.
- Kahneman, Daniel. 2003a. Maps of bounded rationality: Psychology for behavioral economics. *American Economic Review* 93:1449–1475.
- Kahneman, Daniel. 2003b. A perspective on judgment and choice: Mapping bounded rationality. *American Psychologist* 58:697–720.
- Kahneman, Daniel. 2011. *Thinking, fast and slow*. London: Allen Lane.
- Kahneman, Daniel, and Amos Tversky. 1979. Prospect theory: An analysis of decision under risk. *Econometrica* 47:263–291.
- Kahneman, Daniel, Jack L. Knetsch, and Richard H. Thaler. 1991. The endowment effect, loss aversion, and status quo bias. *Journal of Economic Perspectives* 5 (1): 193–206.
- Kirchgässner, Gebhard. 2013. *Homo Oeconomicus*. 4th ed. Tübingen: Mohr Siebeck.
- Korobkin, Russell B., and Thomas S. Ulen. 2000. Law and behavioral science: Removing the rationality assumption from law and economics. *California Law Review* 88 (4): 1051–1144.
- Kottak, Conrad Phillip. 2012. *Cultural anthropology*. 15th ed. New York: McGraw-Hill.
- Kovacic, William E., and James C. Cooper. 2012. Behavioral economics and its meaning for anti-trust agency decision making. *Journal of Law, Economics & Policy* 8 (4): 779–800.
- Krueger, Anne. 1974. The political economy of the rent-seeking society. *American Economic Review* 64 (3): 291–303.
- Landes, William M. 1983. Optimal sanctions for antitrust violations. *University of Chicago Law Review* 50:652–678.
- Leslie, Christopher R. 2010. Rationality analysis in antitrust. *University of Pennsylvania Law Review* 158 (2): 261–353.



- Liman, Arthur L. 1977. The paper label sentences: Critique. *The Yale Law Journal* 86 (4): 630–635.
- Loacker, Leander D. 2012. Verhaltensökonomik als Erkenntnisquelle für die Rechtsetzung. In *Interdisciplinary studies of comparative and private international law*, ed. Bea Verschaegen, 45–97. Vienna: Jan Sramek Verlag.
- Metha, Judith, ed. 2013. *Behavioural economics in competition and consumer policy*. Norwich: ESRC Centre for Competition Policy.
- Morell, Alexander. 2011. *(Behavioral) Law and Economics im europäischen Wettbewerbsrecht-Missbrauchsaufsicht über Zielrabatte*. Baden-Baden: Nomos.
- Motta, Massimo. 2004. *Competition policy. Theory and practice*. Cambridge: Cambridge University Press.
- Oldale, Alison. 2010. Behavioral economics and merger analysis. *Competition Policy International* 6 (1): 139–143.
- Petit, Nicolas, and Norman Neyrinck. 2010. Behavioral economics and abuse of dominance: A fresh look at the article 102 TFEU case-law. *Austrian Competition Journal* 203–209.
- Posner, Richard A. 1976. *Antitrust law: An economic Perspective*. Chicago: University of Chicago Press.
- Posner, Richard A. 1979. The Chicago school of antitrust analysis. *University of Pennsylvania Law Review* 127 (4): 925–948.
- Posner, Richard A. 1998. Rational choice, behavioral economics, and the law. *Stanford Law Review* 50:1551–1575.
- Puppe, Clemens, and Stephanie Rosenkranz. 2011. Why suggest non-binding retail prices? *Economica* 78:317–329.
- Reeves, Amanda P., and Maurice E. Stucke. 2011. Behavioral antitrust. *Indiana Law Journal* 86:1527–1586.
- Rose, Vivien. 2010. The role of behavioral economics in competition law: A judicial perspective. *Competition Policy International* 6 (1): 103–109.
- Roux, Catherine, and Christian Thöni. 2013. Collusion among many firms: The disciplinary power of targeted punishment. Accessed 11 Feb 2014.
- Rubinstein, Ariel. 2003. “Economics and psychology”? The case of hyperbolic discounting. *International Economic Review* 44 (4): 1207–1216.
- Salinger, Michael A. 2010. Behavioral economics, consumer protection, and antitrust. *Competition Policy International* 6 (1): 65–86.
- Samuelson, Paul A. 1938. A note on the pure theory of consumer’s behaviour. *Economica* 5 (17): 61–71.
- Schweitzer, Heike. 2009. The role of consumer welfare in EU competition law. In *Technology and competition: Contributions in honour of Hanns Ullrich*, eds. Josef Drexler, Reto M. Hilty, Laurence Boy, Christine Godt, and Bernard Rémiche, 511–539. Brussels: Larcier.
- Simon, Herbert A. 1956. Rational choice and the structure of the environment. *Psychological Review* 63 (2): 129–138.
- Simon, Herbert A. 1957. *Models of man-social and rational*. New York: Wiley.
- Smith, Adam. 1997 (first edition 1759). *The theory of moral sentiments*. Washington: Regnery Publishing.
- Stucke, Maurice E. 2007. Behavioral economists at the gate: Antitrust in the twenty-first century. *Loyola University Chicago Law Journal* 38:513–591.
- Stucke, Maurice E. 2012. Behavioral antitrust and monopolization. *Journal of Competition Law & Economics* 8:545–574.
- Stucke, Maurice E. 2013. The implications of behavioral antitrust. *The University of Tennessee: College of Law Faculty Scholarship*.
- Sunstein, Cass R., ed. 2000. *Behavioral law & economics*. Cambridge: Cambridge University Press.
- Sunstein, Cass R., David Schkade, and Daniel Kahneman. 2000. Do people want optimal deterrence? *The Journal of Legal Studies* 29 (1): 237–253.
- Thaler, Richard H., and Cass R. Sunstein. 2009. *Nudge: Improving decisions about health, wealth and happiness*. London: Penguin Books.



- Tor, Avishalom. 2002. The fable of entry: Bounded rationality, market discipline, and legal policy. *Michigan Law Review* 101 (2): 482–568.
- Tor, Avishalom. 2003. Illustrating a behaviorally informed approach to antitrust law: The case of predatory pricing. *Antitrust* 18 (1): 52–59.
- Tor, Avishalom. 2004. A behavioural approach to antitrust law and economics. *Consumer Policy Review* 14 (1): 2–5.
- Tor, Avishalom. 2008. The methodology of the behavioral analysis of law. *Haifa Law Review* 4:237–327.
- Tor, Avishalom. 2013. Understanding behavioral antitrust. *Texas Law Review* 92(forthcoming).
- Tor, Avishalom, and William J. Rinner. 2011. Behavioral antitrust: A new approach to the rule of reason *Leegin*. *University of Illinois Law Review* 2011:805–864.
- Tullock, Gordon. 1967. The welfare costs of tariffs, monopolies, and theft. *Western Economic Journal* 5 (3): 224–232.
- Tversky, Amos, and Daniel Kahneman. 1981. The framing of decisions and the psychology of choice. *Science* 211:453–458.
- Van den Bergh, Roger. 2013. Behavioral antitrust: Not ready for the main stage. *Journal of Competition Law & Economics* 9:203–229.
- Vanberg, Viktor J. 2011. Consumer welfare, total welfare and economic freedom: On the normative foundations of competition policy. In *Competition policy and the economic approach: Foundations and limitations*, eds. Josef Drexl, Wolfgang Kerber, and Rupprecht Podszun, 44–71. Cheltenham: Edward Elgar.
- Werden, Gregory J., Luke M. Froeb, and Mikhael Shor. 2011. Behavioral antitrust and merger control. *Journal of Institutional and Theoretical Economics* 167:126–142.
- Wilkinson, Nick, and Matthias Klaes. 2012. *An Introduction to behavioral economics*. 2nd ed. Houndmills: Palgrave Macmillan.
- Wils, Wouter P. J. 2008. *Efficiency and justice in European antitrust enforcement*. Oxford: Hart Publishing.
- Wright, Joshua D., and Douglas H. Ginsburg. 2012. Behavioral law and economics: Its origins, fatal flaws, and implications for liberty. *Northwestern University Law Review* 106 (3): 1033–1088.
- Wright, Joshua D., and Judd E. Stone II. 2012. Misbehavioral economics: The case against behavioral antitrust. *Cardozo Law Review* 33 (4): 1517–1553.
- Zäch, Roger, and Adrian Künzler. 2009. Reining in the ‘more economic approach’: Some overriding constraints from constitutional law and economics. In *Technology and competition: Contributions in honour of Hanns Ullrich*, eds. Josef Drexl, Reto M. Hilty, Laurence Boy, Christine Godt, and Bernard Remiche, 541–555. Brussels: Larcier.
- Zimmer, Daniel, ed. 2012. *The goals of competition law*. Cheltenham: Edward Elgar

**Prof. Dr. Andreas Heinemann** Zurich. Professor of Commercial, Economic and European Law at the University of Zurich. CH-8001 Zurich, Rämistrasse 74/40, Tel. +41 (0)44 634 15 52; Fax +41 (0)44 634 15 89. andreas.heinemann@rwi.uzh.ch. Fields of Interest: Swiss, European and International Economic Law with a special emphasis on Competition and Intellectual Property Law.