

Economic Analysis of Law in European Legal Scholarship 7

Klaus Mathis  
Avishalom Tor *Editors*

# New Developments in Competition Law and Economics

 Springer

# **Economic Analysis of Law in European Legal Scholarship**

Volume 7

## **Series Editor**

Klaus Mathis, University of Lucerne, Switzerland

## **Editorial Board**

Pierluigi Chiassoni, University of Genoa, Italy

Péter Cserne, University of Hull, United Kingdom

Bruno Deffains, University of Paris II - Sorbonne Universities, France

Thomas Eger, University of Hamburg, Germany

Mariusz J. Golecki, University of Łódź, Poland

Andreas Heinemann, University of Zurich, Switzerland

Régis Lanneau, University of Paris Nanterre and Sciences Po Paris, France

Aurélien Portuese, De Montfort University Leicester, United Kingdom

Kai Purnhagen, University of Wageningen and Erasmus University Rotterdam,  
The Netherlands

Lucia A. Reisch, Copenhagen Business School, Denmark

Anne-Lise Sibony, University of Louvain, Belgium

Endre Stavang, University of Oslo, Norway

The purpose of this book series is to publish high quality volumes in the growing field of law and economics research in Europe, from a comprehensive theoretical and practical vantage point. In particular, the series will place great emphasis on foundational and theoretical aspects of economic analysis of law and on interdisciplinary approaches in European Legal Scholarship. Following Nobel laureate Ronald Coase's famous essay "The Problem of Social Cost" (1960) fifty years ago law and economics has become the lingua franca of American jurisprudence. In recent decades, law and economics has also gained widespread popularity in Europe and its influence on Legal Scholarship is growing significantly. Therefore, the economic analysis of law in European Legal Scholarship academic book series illustrates how law and economics is developing in Europe and what opportunities and problems – both in general and in specific legal fields – are associated with this approach within the legal traditions of European countries. Rather than further exploring economic analysis as such, the main focus of this series lies on the implementation of economic methods in legislation and legal adjudication from a European perspective. It takes into account the particular challenges the European legal systems face. Volumes will address law and economics research in Europe from a critical and comparative viewpoint. The studies in this series are strong and bold narratives of the development of economic analysis of law in European Legal Scholarship. Some are suitable for a very broad readership. Contributions in this series primarily come from scholars in Europe. The purpose is to provide the next generation of European lawyers with the models and skills needed to understand and improve the economic analysis of law in their own legal field. The series includes monographs focusing on specific topics as well as collections of essays covering specific themes.

More information about this series at <http://www.springer.com/series/11927>

Klaus Mathis • Avishalom Tor  
Editors

# New Developments in Competition Law and Economics

 Springer

*Editors*

Klaus Mathis  
Faculty of Law  
University of Lucerne  
Lucerne, Switzerland

Avishalom Tor  
The School of Law  
University of Notre Dame  
Notre Dame, IN, USA

Economic Analysis of Law in European Legal Scholarship  
ISBN 978-3-030-11610-1      ISBN 978-3-030-11611-8 (eBook)  
<https://doi.org/10.1007/978-3-030-11611-8>

Library of Congress Control Number: 2019934349

© Springer Nature Switzerland AG 2019

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Cover design: eStudio Calamar, Berlin/Figueres

This Springer imprint is published by the registered company Springer Nature Switzerland AG.  
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

# Preface

This volume, *New Developments in Competition Law and Economics*, is the result of the 7th Law and Economics Conference held at the University of Lucerne on 13 and 14 April 2018. The conference was organized in partnership with Notre Dame Law School and the Notre Dame Program on Law and Market Behavior (ND LAMB). The main focus of the conference was on European legal questions as presented by European legal scholars. They were complemented by insights from distinguished scholars from the USA in order to foster the dialogue between the two different legal cultures. The thematic scope of this volume spans both the theoretical and practical developments of competition law.

We take this opportunity to thank all those who have contributed to the organization of the conference and to the successful completion of this volume. First of all, we would like to thank Moritz Pachmann, MLaw, for his flawless coordination and organization of the conference. Furthermore, we wish to thank Steven Gruendel, MLaw, and Lynn Gummow, MLaw, for their reviewing and diligent proofreading. Special thanks go to the Swiss National Science Foundation (SNSF), the Research Commission (FoKo) of the University of Lucerne and the Institute *lucernaiuris* for supporting the conference. Finally, we are grateful to Kay Stoll and Anja Trautmann at Springer Publishers for overseeing the publishing process.

Lucerne, Switzerland  
Notre Dame, IN, USA  
October 2018

Klaus Mathis  
Avishalom Tor

# Introduction

This edited volume *New Developments in Competition Law and Economics* is the result of the 7th Law and Economics Conference held in Lucerne on 13 and 14 April 2018. The idea of these conferences in Lucerne is to develop a European law and economics tradition, embedded in European legal culture and from a distinctly European perspective. This, however, does not exclude our profound interest in a dialogue and collaboration with American law and economics scholars. In fact, this was the fifth conference run in partnership with the University of Notre Dame Law School generally and the third conference organized jointly with the Notre Dame Program on Law and Market Behavior (ND LAMB). As a result, this edited volume provides interesting insights from both a European and an American perspective.

Part I, Foundations of Competition Law, begins with Avishalom Tor's discussion of behavioural law and economic aspects in competition law. He argues that the central economic justification for competition law—the promotion of social welfare—rests on the assumption that consumer demands are strictly rational. However, empirical behavioural studies have shown that boundedly rational consumers exhibit mistaken beliefs and constructed preferences regarding some of the products and services they demand in the market. These behavioural findings, therefore, challenge the conventional economic justification for the important role served by competition law and its institutions as the means for protecting competition in the market. The author describes how these behavioural economics challenge the standard approach which underlines competition law and how, despite these challenges, competition and competition law can still promote social welfare.

The chapter “Two Contexts for Economics in Competition Law” by Jan Broulík analyses the two different contexts within which economics can and is applied in competition law. First, he describes the effects of competition law on business conduct (the so-called deterrence effects). He argues that this shows that market players take the law into account when strategizing and states that these effects are best studied by means of economic analysis of law. The second context he describes is the effect of business conduct on competition or the so-called competitive effects. These he views as occurring due to the influence dominant market players have on the behaviour of their customers, suppliers and competitors. By distinguishing

between these areas, the author argues, it facilitates the application of economics to competition law issues.

Martin Meier argues for a shift away from the dichotomy of the two predominant European approaches in competition law—“freedom to compete approach” and “more economic approach”—and turn towards a promising third way: the so-called multiple goal approach. He argues that this conciliatory approach combines the positive aspects of both the “freedom to compete” and the “more economic approach” leading to a more realistic, inclusive and transparent competition law. Furthermore, this third approach to competition law, the “multiple goal approach”, may also further a new debate and possible alternatives to the question of what goals competition law should pursue.

Part II, Applications of Competition Law, begins with an interesting look at the effects of deregulation of professions in the Polish market. Jarosław Bełdowski, Wiktor Wojciechowski and Łukasz Dąbroś describe the impact deregulation of professions has on competition. They describe how the changes in Polish law issuing professional licences in different market sectors started from a *laissez-faire* approach and ended up with over-regulation of profession within 25 years. They focus on three professional sectors in particular: civil notary, tourist guide and taxi driver in Poland, describing the historical developments and the roles played by the competition authority in Poland along with various other market players in the process of regulating those professions.

The chapter “Taking Unfair Commercial Prohibition Seriously: Assessing Misleading Statements” by Mariusz J. Golecki and Piotr Tereskiewicz analyses the misleading character of advertising statements. In view of the European Union Unfair Commercial Practices Directive, which views a commercial practice, such as advertising, as misleading if it “is likely to deceive the average consumer or is likely to cause him to take a transactional decision that he would not have taken otherwise”, the authors discuss the application of this by courts and consumers using the example of risky mortgage loans.

The next chapter by Nicolas F. Diebold and Cyrill Schäke delves into the *de minimis* exceptions in Swiss competition law. A recent decision by the Swiss Federal Tribunal, the Elmex decision, has resulted in change in practice regarding the assessment of vertical agreements that qualify as unlawful hardcore restrictions on competition. The authors begin by discussing the Swiss Competition Commission’s previous practice before analysing the significance of the Elmex precedent. In particular, the authors illuminate the practice of price-fixing agreements or agreements limiting a seller or retailer to a specific geographical location, as this would under the new precedent be viewed as unlawful.

Ndjuoh MehChu begins his chapter “Whole Foods, Fresh Concerns? How the Recoupment Requirement Misses the Mark on Amazon’s Anticompetitive Practices” by outlining the historical developments of American Antitrust law. This legal framework was established in the 1970s. In particular, the author focuses on the development of predatory pricing claims arising under Section 2 of the Sherman Antitrust Act, which fails to appreciate the particular challenges posed by the high-technology markets of the twenty-first century. While the US courts recognize



predatory pricing as generally implausible, due to the recoupment requirement, developments in economic theory over the last 20 years contravene this view. Using Amazon's acquisition of Whole Foods to anchor the discussion, the author argues that the recoupment requirement should be augmented to permit predatory pricing to be demonstrated by proof that a predatory scheme recognized in modern economic teachings.

Part III, Intellectual Property Rights and Patents, delves into various challenges presented by intellectual property rights and patents in competition law. It begins with an in-depth analysis of the practice of applying for so-called blocking patents from a competition law perspective by Andreas Heinemann in his chapter "Blocking Patents and the Process of Innovation". He begins by describing how competition law can be applied to intellectual property rights. In essence, dominant firms must not abuse their dominant position no matter if their market power is based on immaterial or material positions. It is recognized that the acquisition of patents by fraud on the patent office may constitute such an abuse. Moreover, in EU law, the refusal to license intellectual property rights may, in exceptional circumstances, be qualified abusive as well. In particular, the author addresses the question if the mere acquisition of a patent, without any misleading representations to the patent office and independently of subsequent licensing strategies, may, in very rare cases, also constitute an abuse. He argues that this is indeed the case, as there are situations where the grant of a patent discourages innovation instead of encouraging it. To distinguish between instances of non-abusive and abusive filings for a patent, he proposes a four-prong test.

Franziska Sucker makes a case for an international regulatory framework for competition in the digital market. She argues that increasing borderless and digitalized markets tend to develop mass markets, which increases the integration of enterprises and so makes goods and services readily accessible to a broad audience. However, the strong copyright protection framework in the culture and media industry further strengthens oligopolies in their market positions. This, in turn, excludes other, weaker market players, which limits the diversity of expression. Filling the regulatory gap in international competition law and remedying the insufficiencies in copyright law would reduce trade distortions and facilitate diversity of expression.

Finally, the excessive prices resulting from patents in the pharmaceutical industry are analysed from a competition law perspective by Behrang Kianzad. In his chapter, "Excessive Pharmaceutical Prices as an Anticompetitive Practice in TRIPS and European Competition Law", he elaborates on the potential use of a competition law approach to facilitate access to patented pharmaceutical products. While developing countries and poverty-stricken populations try to provide medical care, the often highly priced patented pharmaceutical products are simply inaccessible. This issue has been hotly debated from a right to health perspective, but little attention has been paid to the effectively anticompetitive practice these excessively priced products construe. This chapter delves into this angle by analysing both the TRIPS agreement to provide compulsory licensing and the case law regarding the principle of "unfair" pricing as enshrined in article 102 TFEU.

Part IV, *Impact of Information Technology*, turns its attention to the rise of e-commerce, big data and other IT-based developments and analyses their impacts on competition. This section begins with Rolf H. Weber's analysis of the disruptive effects technologies have on the market and competition law. In his chapter "Disruptive Technologies and Competition Law", he describes how increased digitization in the last 20 years has impacted the markets and thereby also influenced competition law. He separates these developments into three phases. The first phase is the advent of online transactions. The second phase is the increased value of data ownership and privacy. But it is the third phase he ascribes the greatest disruptive effects to, the new disruptive ledger technologies, algorithms and artificial intelligence. It is this last phase that poses the greatest challenges to competition law.

Mira Burri's chapter provides an overview of the issues posed by big data and big data analytics on market dynamics and, in particular, competition. After describing the relevance of big data analytics, she delves into the current debates on their effects. In particular the question of whether big data can be qualified as a distinct phenomenon in and of itself is discussed. If this is the case, then competition law needs to be adjusted to take into account the impacts that big data and big data analytics have on the market.

Miriam C. Buiten treats the challenge powerful and data-rich platforms pose on competition law. After describing recent competition law cases concerning data, she outlines how consumers increasingly sharing vast amounts of data with data giants such as Google and Facebook cause both privacy and market power concerns. While the privacy issue should be treated by data protection law, competition law is likely to step in where companies have gained market power by collecting and processing data.

Closing this section is Margherita Colangelo's chapter "Competition Law and Most Favoured Nation Clauses in Online Markets". In this chapter, the peculiar features of platform most favoured nations are analysed in light of the business models adopted by online platforms (with a particular attention to digital comparison tools), examining the role of such intermediaries, how their activities may affect competition and how the enhanced transparency typical for the Internet influences the markets concerned and the consumer's trust and behaviour. The recent EU anti-trust enforcement has been confronted with the use of most favoured nation (MFN) clauses by online platforms. In online settings, the typical situation consists of an upstream supplier that sells its products through a downstream online platform and guarantees that the price and terms it sets for a particular product on that platform are no higher than the price and terms it sets for the same product on another platform. The author focuses on the European competition authorities' handling of these platform MFNs by discussing the example of the online hotel booking sector. Subsequently, the question of whether these cases truly harm the market is discussed. She concludes by highlighting the difficulties that the adoption of a generalized approach to the competition assessment of these clauses poses and argues that the effects of platform MFNs combined with other clauses, such as best price guarantees, must be investigated further.

This volume closes with Part V, Energy Markets and Competition Law. James W. Coleman begins this section by discussing the causes and effects of the changes in regulating how energy commodities are produced in America. The consumer demand for environmentally friendly energy production resulted in governments' regulating production standards. These standards most typically banned or penalized production methods which are particularly greenhouse gas intensive. Such standards were not only implemented on a country level but also on individual province, state and locality level. Companies wishing to sell in these markets must be able to certify that their production methods comply with these regulations at every step of the supply chain. As a result, they must be able to either control the entire vertical supply chain or only deal with other companies that are able to fulfil these standards. This has led to the power and fuel markets being concentrated. Furthermore, this shift in regulation allowed the energy market to split and create markets for boutique fuels and power. As a result, energy firms restrict output and raise prices without fear of competition. The author argues that the jurisdiction-specific supply-chain standards should be replaced with one or two agreed sets of regulations applicable across all jurisdictions. This would allow energy to become a commodity again without sacrificing the sustainability goals of supply-chain standards.

The final chapter by Felix Ekardt and Jutta Wieding turns its attention to the EU's various challenges posed by the EU state aid law with regard to indirect subsidies in favour of fossil fuels. The EU state aid law is a central aspect of EU's competition law. The subsidies given to support renewable energy systems coupled with the Commission's drive to transition towards a tendering model have given rise to much heated debate. The authors argue that the tendering system is not proven to be supportive of competition. They view the debate more as a continuance of the controversy regarding quantity control versus price control in energy policy. But they still support this approach if its primary aim is to phase out fossil fuels.

The volume covers the many new challenges competition law faces both in Europe and the USA: from fundamental theoretical questions, such as what goals competition law should pursue, to practical questions raised by law changes in other sectors and the rapid developments in information technology.

# Contents

## Part I Foundations of Competition Law

<b>Justifying Competition Law in the Face of Consumers' Bounded Rationality</b> .....	3
Avishalom Tor	
<b>Two Contexts for Economics in Competition Law</b> .....	27
Jan Broulík	
<b>Pleading for a "Multiple Goal Approach" in European Competition Law</b> .....	51
Martin Meier	

## Part II Applications of Competition Law

<b>The Impact on Competition by Deregulation of Professions (Reducing Occupational Licenses): The Case of Three Professions in Poland from 1989 to 2018</b> .....	69
Jarosław Beldowski, Wiktor Wojciechowski, and Łukasz Dąbros	
<b>Taking the Prohibition of Unfair Commercial Practices Seriously</b> .....	91
Mariusz J. Golecki and Piotr Tereszkiwicz	
<b>De minimis Exceptions for Hard-Core Restrictions in Swiss Competition Law</b> .....	107
Nicolas F. Diebold and Cyrill Schäke	
<b>Whole Foods, Fresh Concerns?</b> .....	123
Ndjuoh MehChu	

## Part III Intellectual Property Rights and Patents

<b>Blocking Patents and the Process of Innovation</b> .....	149
Andreas Heinemann	

**Why an Absent International Regulatory Framework for Competition and Strong Copyright Protection Harms Diversity of Expressions and What to Do About It** ..... 169  
 Franziska Sucker

**Excessive Pharmaceutical Prices as an Anticompetitive Practice in TRIPS and European Competition Law** ..... 197  
 Behrang Kianzad

**Part IV Impact of Information Technology**

**Disruptive Technologies and Competition Law** ..... 223  
 Rolf H. Weber

**Understanding the Implications of Big Data and Big Data Analytics for Competition Law** ..... 241  
 Mira Burri

**Regulating Data Giants: Between Competition Law and Data Protection Law** ..... 265  
 Miriam C. Buiten

**Competition Law and Most Favoured Nation Clauses in Online Markets** ..... 295  
 Margherita Colangelo

**Part V Energy Markets and Competition Law**

**Energy Competition: From Commodity to Boutique and Back** ..... 321  
 James W. Coleman

**EU Competition Law, Renewable Energies and the Tendering Model: Quantity Control Versus Price Control in Climate Politics** ..... 331  
 Felix Ekardt and Jutta Wieding

**Index** ..... 353

# Contributors

**Jaroslaw Beldowski** Department of International Comparative Studies, Warsaw School of Economics, Warsaw, Poland

**Jan Broulík** Charles University Faculty of Law, Prague, Czech Republic

**Miriam C. Buiten** Department of Law, University of Mannheim, Mannheim, Germany

**Mira Burri** Faculty of Law, University of Lucerne, Lucerne, Switzerland

**Margherita Colangelo** Department of Law, University of Roma Tre, Rome, Italy

**James W. Coleman** Southern Methodist University Dedman School of Law, Dallas, TX, USA

**Lukasz Dąbroś** Department of International Comparative Studies, Warsaw School of Economics, Warsaw, Poland

**Nicolas F. Diebold** Faculty of Law, University of Lucerne, Lucerne, Switzerland

**Felix Ekardt** Research Unit Sustainability and Climate Policy, Leipzig, Germany

**Mariusz J. Golecki** Department of Legal Theory and Philosophy of Law, Faculty of Law and Administration, University of Łódź, Łódź, Poland

**Andreas Heinemann** Faculty of Law, University of Zurich, Zurich, Switzerland

**Behrang Kianzad** Center for Advanced Studies in Biomedical Innovation Law, Faculty of Law, University of Copenhagen, Copenhagen, Denmark

**Klaus Mathis** Faculty of Law, University of Lucerne, Lucerne, Switzerland

**Ndjuoh MehChu** Howard University School of Law, Washington, DC, USA

**Martin Meier** Faculty of Law, University of Lucerne, Lucerne, Switzerland

**Cyrill Schäke** Faculty of Law, University of Lucerne, Lucerne, Switzerland

**Franziska Sucker** Oliver Schreiner School of Law, University of the Witwatersrand, Johannesburg, South Africa

**Piotr Tereszkiwicz** Faculty of Law and Administration, Jagiellonian University of Cracow, Cracow, Poland

**Avshalom Tor** University of Notre Dame Law School, Notre Dame, IN, USA  
Faculty of Law, University of Haifa, Haifa, Israel

**Rolf H. Weber** Faculty of Law, University of Zurich, Zurich, Switzerland

**Jutta Wieding** Research Unit Sustainability and Climate Policy, Leipzig, Germany

**Wiktor Wojciechowski** Department of International Comparative Studies, Warsaw School of Economics, Warsaw, Poland

**Part I**  
**Foundations of Competition Law**



# Justifying Competition Law in the Face of Consumers' Bounded Rationality



Avishalom Tor

**Abstract** The central economic justification for competition law is that the protection of competition promotes welfare. In particular, perfect competition among firms catering to consumer demand for goods and services maximizes social welfare by generating both allocative and productive efficiencies. This standard account rests *inter alia*, however, on the assumption that consumer demand reveals rational consumer beliefs and preferences. Hence, an otherwise competitive market that caters to “erroneous” demand based on consumers’ mistaken beliefs or constructed, *ad-hoc* preferences will fail to maximize efficiency and welfare. Yet, empirical behavioural findings show that boundedly rational consumers exhibit mistaken beliefs and constructed preferences regarding some of the products and services they demand in the market. These behavioural findings, therefore, challenge the conventional economic justification for the important role served by competition law and its institutions as the means for protecting competition in the market. After explaining the challenges that the behavioural evidence poses for the standard economic account, this chapter outlines two key elements of the behavioural economic case that suggest competition law still has an important role to play in advancing efficiency and welfare even after the bounded rationality of consumers is accounted for, albeit perhaps a more modest role than competition law discourse usually ascribes to it.

## 1 Introduction

The accepted economic foundation of competition law is straightforward: The neo-classical market model shows that perfect competition among firms to supply consumer demand for goods and services maximizes productive and allocative

---

A. Tor (✉)

University of Notre Dame Law School, Notre Dame, IN, USA

Faculty of Law, University of Haifa, Haifa, Israel

e-mail: [ator@nd.edu](mailto:ator@nd.edu)

© Springer Nature Switzerland AG 2019

K. Mathis, A. Tor (eds.), *New Developments in Competition Law and Economics*, Economic Analysis of Law in European Legal Scholarship 7, [https://doi.org/10.1007/978-3-030-11611-8\\_1](https://doi.org/10.1007/978-3-030-11611-8_1)

efficiencies and thus maximizes social welfare.<sup>1</sup> This model rests on several assumptions, including—as in neoclassical economics more generally—the notion that consumers are rational actors, with pre-existing, complete and orderly preferences, whose decisions always maximize their utility.<sup>2</sup> To get the maximum benefit from their consumption decisions, consumers choose the best mix of products they can obtain, at the best price available. These aggregate consumption decisions are depicted by the demand curve, which relates the prices consumers are willing to pay to the quantities they demand at different price levels. Because different consumers place different values on different goods, the difference between the market price actually paid by consumers and their valuation of the purchased goods, or the “consumer surplus”, is a measure of consumers’ welfare—the greater this surplus, the better off consumers are.

The virtues of competition within the neoclassical framework are many. In a perfectly competitive market, goods are sold by those sellers who can produce them at the lowest cost; more efficient sellers, therefore, replace less efficient ones, which brings about productive efficiency. Competition also brings about allocative efficiency, maximizing total gains from trade. These gains or “total surplus” are the combination of “producer surplus”—namely, the difference between the overall cost of production and the overall price of the quantity sold—and consumer surplus. In the competitive equilibrium—when supply equals demand—those consumers who value the goods most purchase them from the lowest cost producers. Since there are no higher valuing consumers who cannot buy or lower cost producers who cannot sell, the surplus on both sides of the market is necessarily maximized. Therefore, in the competitive equilibrium both consumer surplus and total surplus—and thus both consumer and total welfare—are maximized.<sup>3</sup>

The attractive welfare-maximizing property of the competitive equilibrium serves as the key economic justification for competition law.<sup>4</sup> Like any other regulatory regime that imposes compliance costs and litigation risks on firms in the market, requires a substantial enforcement apparatus, and uses significant judicial resources, a competition law regime is economically justified only insofar as its benefits exceed its costs. Hence, the greater the welfare benefits provided by competition law, the more likely its enforcement will be socially beneficial on balance.<sup>5</sup>

Nonetheless, a substantial body of empirical evidence shows that real consumers often fail to comport with the assumption of rationality that underlies both their role in the neoclassical model and the welfare benefits generated from the interaction between rational consumers and producers in the competitive equilibrium.<sup>6</sup>

---

<sup>1</sup> Mankiw (2015).

<sup>2</sup> Hausman (1992).

<sup>3</sup> McAfee et al. (2009).

<sup>4</sup> Hovenkamp (2013).

<sup>5</sup> Cf. Easterbrook (1984).

<sup>6</sup> Jolls et al. (1998), Korobkin and Ulen (2000) and Tor (2008, 2014).

Specifically, as explained in detail below, these findings show that in some cases consumers hold biased beliefs about the value of products and services and, consequently, demand too much or too little of them. Further analysis shows that in the face of such distorted demand competition cannot maximize efficiency.<sup>7</sup> In fact, under some circumstances competition among sophisticated producers over the custom of boundedly rational consumers can even lead to less—instead of more—efficient outcomes. And, if the problem of distorted demand were not enough, behavioural research also documents instances in which consumers' preferences for different products are constructed or shaped *ad-hoc*, at the time of their choice,<sup>8</sup> in clear contrast to the assumption that consumers hold stable, preexisting and orderly preferences.<sup>9</sup> Yet, neither the demand generated by consumers whose preferences are malleable nor the resulting consumer surplus offer a meaningful measure of consumer welfare. Competition over such consumers, moreover, is often unlikely to improve matters much and can even make consumers worse off.<sup>10</sup>

After explaining these challenges that the reality of consumers' bounded rationality poses for the standard economic account, the Chapter outlines two key elements of a behavioural economic justification for competition law: First, in many cases competition still promotes efficiency and welfare, if not as well as traditional economic models would have us believe. Second and importantly, more competition among firms to supply products and services to boundedly rational consumers typically brings about better welfare outcomes than does less competition, in the form of either monopolized or heavily regulated markets. Competition law, it thus turns out, still plays an important role in advancing efficiency and welfare even recognizing the bounded rationality of consumers, albeit a more modest role than the legal discourse in the field usually ascribes to it.

## 2 Competitive Outcomes with Biased Consumer Beliefs

An extensive body of empirical behavioural evidence shows that individuals are boundedly rational actors.<sup>11</sup> Unlike the hypothetical rational actor that inhabits standard microeconomic models, these individuals' behaviour is shaped by their limited cognitive resources, motivation, and emotion.<sup>12</sup> At times, they engage in formal, effortful, and time-consuming judgment and decision making. More commonly, however, to function well in a complex world, boundedly rational individuals use mental and emotional shortcuts—known as “heuristics”—to make judgments and

---

<sup>7</sup>Huck and Zhou (2011).

<sup>8</sup>Lichtenstein and Slovic (2006).

<sup>9</sup>Baumol and Blinder (2012).

<sup>10</sup>Huck and Zhou (2011).

<sup>11</sup>Cooper and Kovacic (2012).

<sup>12</sup>Cooper and Kovacic (2012).

rely on situational cues to guide their choices.<sup>13</sup> These judgment and choice processes are adaptive, necessary, and usually beneficial. At times, though, they lead decision makers systematically and predictably to deviate from the normative standards of rationality.<sup>14</sup>

Beyond documenting consumer-related manifestations of individuals' general deviations from strict rationality,<sup>15</sup> researchers also study psychological processes that are specific to consumers.<sup>16</sup> For example, many studies examine biases in consumers' inferences about products and their attributes.<sup>17</sup> These scholars also researched the specific ways in which sellers and marketers impact consumer judgment and choice behaviour, such as by using brands, advertising, or sales promotions.<sup>18</sup> Numerous theoretical and empirical contributions further seek to understand how consumers determine the strategies they employ when evaluating products and choosing among them.<sup>19</sup>

These and similar findings unsurprisingly reveal that consumers' judgment and decision processes at times systematically deviate from the theoretical economic model of perfect rationality in ways that matter for the interaction between consumers and producers in the market. More recently, this evidence has also caught the attention of industrial organization economists, who began examining how sophisticated sellers may exploit and even facilitate consumers' deviations from rationality to maximize their own profits,<sup>20</sup> as well the consequences of the competition among such sellers over boundedly rational consumers.<sup>21</sup> As the following sections show, the conclusions of these analyses indicate that the efficiency benefits of competition may be less pronounced than traditional models suggest and that increased competition may even harm efficiency under some circumstances.<sup>22</sup>

### 3 Biased Consumers and Distorted Demand

Boundedly rational consumers exhibit systematic errors when judging products or services, sometimes mistaking product quality or absolute or relative prices, or even making erroneous predictions of their own future consumption needs.<sup>23</sup> To

---

<sup>13</sup>Tor (2008).

<sup>14</sup>Jolls et al. (1998), Korobkin and Ulen (2000) and Tor (2008).

<sup>15</sup>Simonson (2001).

<sup>16</sup>Loken (2006) and Tybout (1994).

<sup>17</sup>Kardes et al. (2004).

<sup>18</sup>Loken (2006) and Tybout (1994).

<sup>19</sup>Bettman et al. (1986).

<sup>20</sup>Bar-Gill (2012).

<sup>21</sup>Spiegler (2011).

<sup>22</sup>Spiegler (2011).

<sup>23</sup>Cf. Huck and Zhou (2011).

illustrate, consumers judging the quality of a product (*e.g.* how likely is this used car to develop a major mechanical problem in the next year?) while relying on the representativeness heuristic will place too much weight on anecdotal, case-specific evidence (*e.g.* the recommendation of a mechanic who inspects the car) and too little weight on the relevant base-rate information (*e.g.* statistics about the particular car brand, model, and year from consumer reports).<sup>24</sup>

When such mistakes of judgment occur, demand inevitably is distorted. Consumers demand either smaller or greater quantities of some products than they would have demanded absent their errors.<sup>25</sup> Moreover, consumers' biased demand for any product also distorts their demand for other products and services. For instance, consumers who erroneously overestimate the quality of one product (*e.g.* a new iPhone model) and consequently demand too much of it will also demand too much of the product's complements (*e.g.* a protective case for the new iPhone) and too little of its substitutes (*e.g.* a previous iPhone model). More generally, since consumers' budgets are limited, distorted demand for one product indirectly decreases or increases the resources they can direct to consuming other products, thus distorting their demand vis a vis these other products as well.

Besides the demand inefficiencies directly and indirectly caused by consumer bias, moreover, producers who seek to maximize their profits by fulfilling distorted consumer demand misallocate their productive resources.<sup>26</sup> Mirroring the effects of systematic errors in judgment on the demand side, sellers will supply too much or too little of the specific product in response to consumer demand. This response represents a misallocation of productive resources away from products that in truth are more valuable to consumers. In the same vein, producers will be producing the wrong quantities of complements and substitutes to the product that consumers misjudge.

In reality, of course, producers' responses depend on the nature of consumer distortions: Producers will strive to correct instances of consumer bias that reduce the demand for their products yet will be content to enjoy the fruits of those consumers' mistakes that increase demand beyond that of unbiased consumers. This intuitive observation is also confirmed by several formal economic models of markets with consumer bias. For instance, Spiegler (2006) models a "market for quacks" in which sellers offer credence goods whose quality consumers are unable to determine (such as "quack" healing techniques), using the extreme case of products or services that improve consumer outcomes with a probability that is no different from chance (*i.e.* from the likelihood of improvement for consumers who do not purchase these products or services).<sup>27</sup> Boundedly rational consumers who reason anecdotally—in this case, relying on random, casual stories of healing as if they truly revealed meaningful information about treatment quality—attribute the treat-

---

<sup>24</sup> Kahneman and Tversky (1973).

<sup>25</sup> Huck and Zhou (2011).

<sup>26</sup> Huck and Zhou (2011).

<sup>27</sup> Spiegler (2006).

ments' occasional success to quality rather than to luck. Consequently, all consumers who choose to participate in the market by purchasing "quack" treatment suffer a welfare loss because they wasted resources on valueless services.<sup>28</sup>

Besides mistakes regarding the quality of products or services, consumers sometimes also misestimate their own future needs.<sup>29</sup> For example, consumers who are overoptimistic about their self-control will overestimate their future demand for "investment" products, which have current costs and future benefits (*e.g.* health club attendance) but underestimate their future demand for "leisure" products, which have current benefits and future costs (*e.g.* credit card borrowing).<sup>30</sup> Consumers' overestimation of future demand leads them to consume excessively at present, purchasing a larger number of units than they will need, a product bundle that is too large for their actual future demand (such as a cellphone data plan), or a product with features they will underutilize or perhaps not use at all.<sup>31</sup> Those overoptimistic consumers who underestimate their future demand, on the other hand, consume too little at present: They may purchase ill-fitting products (say, a basic product lacking some beneficial add-on features), product bundles that are too small and necessitate additional, often costlier, purchases later, and so on.<sup>32</sup>

Profit maximizing producers are unlikely simply to adjust their production to extant consumer error and will design their products and services to take advantage of them, as illustrated by more advanced models in behavioural industrial organization. These models find that when consumers overestimate demand, firms offer arrangements with high fixed fees and low per-use charges (as in the case of gym memberships), while the opposite pattern, of low fixed fees and high per-use charges, is offered in response to demand underestimation (*e.g.* introductory offers for credit cards).<sup>33</sup>

Indeed, we should also expect these sophisticated, profit-maximizing actors not only to exploit extant consumer bias, but also to facilitate it when that would redound to their benefit. For instance, Zhou (2007) models a setting in which sellers manipulate the perceptions of boundedly rational consumers with limited attention through advertising, thereby generating distorted demand for product attributes.<sup>34</sup> The model shows how this distorted demand for attributes generates efficiency losses for both naïve and sophisticated (unbiased) consumers. The naïve buy products with excess quality on the advertised attribute but insufficient quality overall, while those unbiased consumers cannot obtain the attribute combination they prefer.<sup>35</sup>

---

<sup>28</sup>Spiegler (2006).

<sup>29</sup>Bar-Gill (2012).

<sup>30</sup>DellaVigna and Malmedeir (2004).

<sup>31</sup>DellaVigna and Malmedeir (2006).

<sup>32</sup>Eliasz and Spiegler (2006).

<sup>33</sup>DellaVigna and Malmedeir (2004, 2006).

<sup>34</sup>Zhou (2007).

<sup>35</sup>Zhou (2007).

Producers seeking to facilitate consumer error may also direct their efforts at product pricing, generating confusing or unnecessarily complex pricing schemes.<sup>36</sup> This may happen, for example, in the market for cellular service, in which individuals consume a combination of different services (*e.g.* voice, data, messaging),<sup>37</sup> or the market for credit cards, in which consumer contracts involve a complex array of fees and interest rates.<sup>38</sup> Mistakes are particularly likely, moreover, when firms offer products or services that have many attributes or that cover numerous contingencies.<sup>39</sup> Consumers who purchase life or health insurance, for instance, need to calculate tradeoffs across many contingencies. Insurance companies also can apply different reimbursement policies to different scenarios or magnify the difficulty of consumers' task here by other means.<sup>40</sup> More generally, profit maximizing sellers can facilitate consumer error by intentionally "obfuscating",<sup>41</sup> breaking prices down to multiple components to reduce price transparency and make meaningful price comparisons more difficult and costly.<sup>42</sup>

All in all, the response of producers and other market participants to consumer error is likely to depend on factors such as the nature of the relevant product or service or the source of consumer bias and its effects on demand. Importantly, moreover, this response is also a function of the competitive conditions in the market, to which we now turn.

### 3.1 *Competitive Effects*

While the existence of demand distortions that are exploited and even facilitated by sellers can create substantial inefficiencies, the ultimate effects of the deviations of real consumers' behaviour from the standard rationality-based model greatly depend on the nature of competition in the market. After all, the additional benefits gained by monopolists from their exploitative interactions with boundedly rational consumers may have to be competed away to attract consumers to their products in the face of similarly sophisticated competing sellers who vie for consumers' custom.

If one takes the existence of consumer bias as given, distorted demand generates inefficiencies even in an otherwise perfectly competitive market. Competition in such a market still drives product prices down as it does under the traditional rationality assumption. However, the excessive demand generated by consumer bias means that both price and quantity increase compared to a competitive market with

---

<sup>36</sup> Grubb (2009).

<sup>37</sup> Bar-Gill (2012) and Bennett et al. (2010).

<sup>38</sup> Bar-Gill and Warren (2008).

<sup>39</sup> Spiegel (2011).

<sup>40</sup> Baker and Siegelman (2014) (check bluebook but on p. 32).

<sup>41</sup> Ellison and Wolitzky (2012).

<sup>42</sup> Duke et al. (2010).

unbiased consumers, although the competitive price is lower and the quantity demanded is greater than in a monopolized market with biased consumers. Nonetheless, consumers still demand too great a quantity of the product to which the bias pertains, so substantial demand distortions may remain; consumers are still not directing their resources to those ends that in fact are most valuable to them.

This outcome is reflected in several formal models that consider the effects of competition with biased consumers and is clearly illustrated by Huck and Zhou's (2011) simple monopoly model. The model considers a case in which consumers purchase unneeded units due to their overestimation of future demand needs, but the units that are ultimately found to be unneeded are not delivered (*e.g.* unused minutes in a cellphone plan or a underutilized gym membership). Price turns out to increase with the degree of consumer overestimation, as one might expect, and the price consumers pay for the unneeded units is a pure transfer to the monopolist. This increases the monopolist's profits, diminishes consumer surplus, and increases the deadweight loss compared to the standard monopoly case that assumes unbiased consumers. Furthermore, consumers' overestimation of demand in this simple model generates inefficiencies even under perfect competition, despite competition's generally beneficial tendency of driving prices down: When firms price at marginal cost (as they are assumed to do under perfect competition), they still make profits by selling the unneeded units with their attendant inefficiencies. Indeed, the portion of the efficiency loss that is due to the overproduction of unneeded units remains even when firms compete away all their bias-borne profits by pricing below marginal cost.<sup>43</sup>

The same model generates different results, however, when consumers underestimate their future demand: In this case, the monopoly makes a second sale at the later date on which consumers realize they underestimated their needs. One interesting consequence of this is that overall efficiency can improve even compared to the standard monopoly case because the monopolist can sell larger quantities overall, although the magnitude of the deadweight loss increases with consumers' bias. Again, competition does not eliminate all inefficiencies, at least when firms can contract with consumers over the prices they will charge in the second period (when consumers will realize they need an additional purchase). Instead, firms price below cost in the first period and offer a monopoly price for the second period's residual demand. Consumers find this pricing attractive since they do not expect any demand in the second period, so a misallocation remains.<sup>44</sup>

A somewhat different result is obtained by the Zhou's (2007) previously mentioned model in which a monopoly seller manipulates the perceptions of boundedly rational consumers with limited attention through advertising and thereby generates distorted demand for product attributes. Although he does not explicitly model the competitive equilibrium, Zhou notes that the effects of competition in this case resemble familiar models of price discrimination. These models indicate that com-

---

<sup>43</sup>Huck and Zhou (2011).

<sup>44</sup>Huck and Zhou (2011).



petition over biased consumers sometimes can eliminate the distortion of product design that prevents sophisticated consumers from obtaining the mix of product attributes they prefer. Yet, this beneficial consequence of competition depends on a set of assumptions (some quite restrictive), without which the qualitative product distortion result of the monopoly model remains even under competition.<sup>45</sup>

Competition has more ambiguous and potentially even negative outcomes in Spiegler's (2006) market for quacks model discussed above, in which an increased number of quack providers) does not necessarily improve market outcomes. On the one hand, competition among providers tends, as usual, to drive prices down, which reduces the welfare loss to the consumers who participate in the market (a beneficial "competitive" effect). Yet, an increased number of providers also increases the overall number of success anecdotes that facilitate demand for the useless services, which increases the welfare loss (a harmful "exploitative" effect). Spiegler finds that when the number of competing providers is sufficiently large the beneficial competitive effect outweighs the harmful exploitative effect in this model.<sup>46</sup> Extensions of the model further show that even the presence of some providers who offer valuable services—a more realistic scenario for many credence goods—still fails to generate an efficient outcome. In the face of consumers who reason anecdotally, moreover, firms can reduce competitive pressure on prices by artificially differentiating their products (*e.g.* offering a broad range of "treatments") and replacing price competition with inefficient, spurious product differentiation.<sup>47</sup>

The competitive result is also ambiguous in models of consumer bias in the face of complex or obfuscatory pricing that force boundedly rational consumers to rely on simplifying heuristics and judge products based on a small sample of prices or other product attributes they believe are the most important and then choose the most attractive product based on this small sample. Firms competing over such consumers face two conflicting considerations: On the one hand, they need to attract consumers by offering lower prices (the familiar "competitive" motive), while on the other they have an incentive to increase the variance of their price distribution (or the complexity of its contractual terms) so that confused consumers will be more likely to choose them over competitors with lower expected prices (a harmful "obfuscatory" motive). Here, a basic model shows that in equilibrium firms respond to greater competition with greater obfuscation, rather than with more competitive pricing (though the incentive to obfuscate is not strong in equilibrium).<sup>48</sup> Another variant of this model also finds that firms obfuscate in equilibrium, though competition imperfectly constrains their incentive to obfuscate and reduces the profits they extract from consumers.<sup>49</sup>

---

<sup>45</sup>Zhou (2007).

<sup>46</sup>Spiegler (2006, 2011).

<sup>47</sup>Spiegler (2006).

<sup>48</sup>Spiegler (2006, 2011).

<sup>49</sup>Spiegler (2011).

Furthermore, under plausible assumptions, increased competition (in the sense of a larger number of competing sellers) can reduce efficiency in this setting. The reason for this outcome is that, while the model finds expected prices to be independent of the number of firms, the variance of the prices these firms offer increases with their number, exposing consumers to greater risk. Such increased risk may be welfare-reducing for risk averse consumers, though the result is not clear cut, since these consumers are unaware of the risk they are facing when choosing based on a small sample of prices. Increased competition is also shown to diminish efficiency in an extension of the basic model in which firms control not only price, but also product quality. In this case, firms produce also at a quality above the efficient level as part of their obfuscatory response to greater competition, a result that together with consumers' diminishing marginal utility from quality implies a welfare loss.<sup>50</sup>

These and similar models, therefore, make clear that when sophisticated sellers can benefit from, exploit, or facilitate consumer bias that increases their profits, competition may fail fully to exert its standard beneficial effects and occasionally can even diminish efficiency. Moreover, even in the more common case in which competition drives prices down below the level that obtains under a monopoly facing biased consumers, the resulting equilibrium involves substantial inefficiencies.

However, the various behavioural industrial organization models discussed so far do not consider situations in which sophisticated sellers engage in educational activities, though the empirical behavioural literature on debiasing suggests that such efforts will be challenging and often prone to failure.<sup>51</sup> Nevertheless, focused interventions sometimes may still help consumers form more accurate beliefs regarding specific products or services. One would expect market participants to engage in such corrective efforts when they find them profitable, yet that frequently may not be the case. When consumer bias generates profits for sellers due to excess demand, they will have no incentive to invest in correcting it, unless that investment can be recouped in the form of increased sales. Similarly, sellers who would like to help consumers correct errors that depress the demand for their products will be reluctant to commit resources to consumer education unless they can recoup their investment. But even when less biased judgments would increase demand, so long as educated consumers can turn to other producers, the incentives of individual sellers to invest in improving consumer judgment are limited.<sup>52</sup>

All in all, even if some market settings provide opportunities for profitable debiasing or educational interventions by sellers or other parties (*e.g.* information intermediaries), the difficulty of recouping investments in such efforts can limit their relevance. In the latter instances, as we have seen, competition may even diminish efficiency compared to a monopoly facing biased consumers. And even when competition improves market outcomes, the resulting equilibria usually are less beneficial than the traditional microeconomic models would predict, with substantial inefficiencies remaining.

---

<sup>50</sup>Spiegler (2011).

<sup>51</sup>Tor (2008).

<sup>52</sup>*Cf.* Gabaix and Laibson (2006).

## 4 Consumer Welfare with Malleable Preferences

Consumers' biased beliefs raise significant questions about the extent of competition's efficiency benefits, yet, the empirical evidence regarding the nature of consumer preferences reveals an even thornier problem for competition law's economic justification. This evidence shows that consumer *choice* not only deviates from the assumptions of rationality in predictable ways—much as we have seen with respect to consumer *beliefs*—but is also subject to context-specific influences and may be constructed *ad-hoc*, in the process of choosing among products or services.<sup>53</sup> The extensive findings in this area even have led two leading scholars to argue that “[t]he variability in the ways we construct and reconstruct our preferences yields preferences that are labile, inconsistent, subject to factors we are unaware of, and not always in our own best interests. Indeed, so pervasive is this lability that the very notion of a ‘true’ preference must, in many situations, be rejected.”<sup>54</sup>

For present purposes, the problem of constructed consumer choice can be illustrated with some typical examples of consumers' violations of three aspects of the assumption of consumer rationality. Preferences manifested by rational consumers should depend neither on the way in which options are merely presented or described (“description invariance”), nor on the specific process by which consumers make their choices (“procedure invariance”), nor on the specific context in which they happen to make these decisions (“context independence”).<sup>55</sup> Yet, the behavioural literature reveals numerous ways in which actual consumer behaviour violates the three requirements of description invariance, procedure invariance, and context independence.

One essential condition for rational choice is that individuals' preferences over different options must be independent of the way in which these options happen to be described, so that alternative descriptions of the same options yield the same choices. Yet, the description or “framing” of options matters greatly for the choices made by real consumers. A common class of framing effects involves the description of the same outcomes in positive (“gain”) versus negative (“loss”) terms vis a vis a psychologically neutral reference point. Individuals naturally favour seemingly positive outcomes and dislike negative outcomes even more. Hence, when choosing among positive outcomes they exhibit risk aversion, while tending to manifest loss aversion—a dislike for negative outcomes that can lead to risk seeking—when faced with a choice among potential losses.<sup>56</sup>

In a typical consumer choice example, researchers found that consumers respond differently to economically equivalent insurance deductibles and rebates, depending on framing.<sup>57</sup> Deductibles are a common method by which insurance policies leave

---

<sup>53</sup>Lichtenstein and Slovic (2006).

<sup>54</sup>Lichtenstein and Slovic (2006), p. 2.

<sup>55</sup>Tversky (1996), pp. 6–17.

<sup>56</sup>Kahneman and Tversky (1979).

<sup>57</sup>Johnson et al. (1993).

insureds with some of the risk of accident to reduce moral hazard (the likelihood of excessive risk taking by these consumers). Loss averse consumers will tend to dislike a deductible if they treat it as an additional loss that is separate from the cost of the insurance premium and occurs only in the case of an accident. The same deductible, however, can be framed as a rebate: The cost of the deductible can be integrated into the overall cost of the insurance premium, with consumers receiving a rebate from which the cost of accidents is deducted.<sup>58</sup> Indeed, researchers who tested this hypothesis in an experimental setting found that only 44.3% of participants facing a choice in the deductible frame said they would pay a \$1000 premium with a \$600 deductible for a given car insurance coverage, while 67.8% of the participants presented with the rebate frame said they would pay a \$1600 premium with a \$600 rebate.<sup>59</sup> Participants' clear preference for the rebate frame over the deductible frame is particularly striking since the latter in fact is economically superior; in the rebate frame, the insured effectively gives the insurance company a \$600 interest-free loan for 1 year, getting nothing in return.<sup>60</sup>

A similar pattern of framing effects was also found in several field studies, such as Ganzach and Karsahi's (1995) study of consumer behaviour in the financial domain. The researchers sent messages regarding the benefits of credit card usage, framed in terms of either gains from using the card or losses from failing to use it, to two hundred forty-six credit card owners who did not use their cards for a period of 3 months.<sup>61</sup> Participants' credit-card charges were monitored for 2 months after the receipt of the message and they were also interviewed 6 months after the intervention. In line with the effect of framing observed elsewhere, the researchers found that participants who received a loss-framed message utilized their cards about twice as much as did their gain-frame counterparts, and the resulting card charges were about twice as high in the former than in the latter group as well.<sup>62</sup>

Another basic condition for rational consumer choice is that preferences over different options must be independent of the specific procedure used to elicit these preferences.<sup>63</sup> Yet, a large and varied body of research offers evidence of preference reversals in which, under predictable circumstances, different but analytically comparable procedures elicit different choices.<sup>64</sup> Such violations of procedure invariance have been found in consumer studies that compared consumers' willingness to pay for different options to their choices among those same options,<sup>65</sup> consumers' choice of a preferred option from a set to their rejection of all the less attractive

---

<sup>58</sup> Thaler and Johnson (1990).

<sup>59</sup> Johnson et al. (1993).

<sup>60</sup> Johnson et al. (1993).

<sup>61</sup> Ganzach and Karsahi (1995).

<sup>62</sup> Ganzach and Karsahi (1995).

<sup>63</sup> Kahneman and Tversky (1979).

<sup>64</sup> Lichtenstein and Slovic (2006).

<sup>65</sup> Kahneman and Tversky (1979).

options from the same set,<sup>66</sup> consumers' rating of options presented separately to their choice from among the same options when presented jointly,<sup>67</sup> and more.

For instance, Shafir showed that the positive features of options are weighed more heavily in tasks requiring choice of the superior option, while negative features receive greater weight in tasks that call for rejection of inferior options.<sup>68</sup> In one between-subjects question participants were asked to imagine they were planning a vacation over spring break and have two reasonably priced options for which the travel brochure gives a limited amount of information. The available information showed one vacation spot was of average quality on the five relevant dimensions of weather, beaches, hotel, water, and nightlife (the average option) while the other was very good on the first three dimensions and bad on three other dimensions (the last two from the preceding list plus very strong winds) (the extreme option). One version of the problem asked participants which spot they prefer while the other stated they currently have two reservations and asked which reservation they decide to cancel. While two-thirds of the participants in the choice condition preferred the extreme option, almost half of those in the cancellation condition chose to cancel that same option.<sup>69</sup>

Other studies show how apparently different preferences can be manifested for common consumer tasks that require something akin to choosing versus rejecting. Park and colleagues, for example, studied consumer preferences over products by comparing customized offerings in a familiar product category (*e.g.* automobiles) in which product options are added to a basic product to other customized offerings in which product options are subtracted from a "loaded" model.<sup>70</sup> As predicted, the researchers found that participants facing a subtraction frame selected more product options and at a higher overall price than did their counterparts facing an addition frame.<sup>71</sup> Similar, striking results were obtained by researchers in two field experiments using a German car manufacturer's online configuration tool. In both field studies, real car purchasers again ended up purchasing more options in the subtractive frame than in the additive frame, with the price paid averaging over 10% more of the total cost of the cars (over 2400 euros in one study and about 2200 euros in another).<sup>72</sup>

The final fundamental requirement for rational choice to be discussed here is context independence—namely, that the relative attractiveness of different options within a given choice set to consumers should not change with the addition or deletion of other options. A consumer who prefers apples to oranges should not change her relative preference between these products when a third option, say a banana, is

---

<sup>66</sup> Shafir (1993).

<sup>67</sup> Hsee et al. (1999).

<sup>68</sup> Shafir (1993).

<sup>69</sup> Shafir (1993).

<sup>70</sup> Park et al. (2000).

<sup>71</sup> Park et al. (2000).

<sup>72</sup> Herrmann et al. (2013).

offered as well. Notwithstanding the intuitive appeal of context independence, however, behavioural research reveals circumstances that lead consumers to violate it, such as when attraction or compromise effects are present.<sup>73</sup> Attraction effects can appear when the addition to an extant choice set of an asymmetrically dominated option—that is, one which is inferior to at least one option in the set but not to another—increases the attractiveness of the asymmetrically dominating option.<sup>74</sup>

Compromise effects, on the other hand, make an option appear more attractive when presented as an intermediate alternative rather than as an extreme one (*i.e.* the least or most expensive in the set).<sup>75</sup> Simonson demonstrated the compromise effect in a series of studies in which participants rated and chose among different common consumer products, including mouthwash, calculators, TV sets, and more. He presented participants with choice sets, each containing three products of different brands that varied along two attributes (*e.g.* price and quality). The results showed a significant compromise effect, such that intermediate alternatives were chosen on average 17.5% more often than competing products. Moreover, the compromise effect was found even for the same products, which were chosen more often when they appeared as compromise options than when they were offered as extreme ones. In fact, the effect held even when an extreme option was present but unavailable to consumers (so that both available options—including the compromise one—were *de facto* extreme ones).<sup>76</sup>

Together, these examples of systematic violations of the rational choice axioms of description invariance, procedure invariance, and context independence clearly illustrate how researchers and market participants alike can influence consumers' choices. Yet, consumers manifesting such *ad-hoc*, constructed preferences pose a fundamental, dramatic challenge to the standard microeconomic model that undergirds competition law. Specifically, we have seen that in this model perfect competition is a highly beneficial equilibrium in which both consumer and total welfare are maximized. But this standard result, like the other welfare outcomes of the model, depends *inter alia* on the assumption of consumer rationality. Rational consumers maximize their utility by choosing products and services that best satisfy their pre-existing, complete, and orderly preferences.<sup>77</sup> When this condition is fulfilled, consumer surplus—the difference between the utility consumers in the aggregate derive from their purchases and the market price—is the appropriate measure of consumer welfare. However, if consumer demand reflects constructed, malleable preferences that may not maximize individuals' utility, the notion of consumer surplus and welfare—that most basic economic compass of competition law—risks losing its meaning altogether. The construction of preferences also distorts the nature and consequences of competition in the market. Its potential competitive effects are

---

<sup>73</sup>Dawes (1998).

<sup>74</sup>Huber and Puto (1983).

<sup>75</sup>Dawes (1998).

<sup>76</sup>Simonson (1989).

<sup>77</sup>Blaug (1992).