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Book Review



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Abstract

Proponents of laissez-faire economic philosophy have long relied upon the concept of the “invisible hand” to justify non-intervention by governments in markets. The term is typically interpreted to describe how the independent actions of self-interested individuals can lead to a beneficial societal outcome. Since Adam Smith introduced the concept in 1776, the invisible hand has become an important foundation of economic analysis and has consistently been a source of controversy, debate, and policy inspiration. As one of the core tenets of neoclassical economic theories and the Chicago School of economic thought, the invisible hand has been associated with the modern shift in emphasis from regulation to free market philosophy. However, the appeal of the concept has somewhat diminished in the wake of the 2008 financial crisis, with many blaming rising income inequality and reduced social mobility on lax regulations and limited oversight of the financial sector.

Book Review

Virtual Competition: The Promise and Perils of the Algorithm-Driven Economy, by Ariel Ezrachi & Maurice E. Stucke¹

ROBERT VAN DE MARK²

PROPONENTS OF LAISSEZ-FAIRE ECONOMIC PHILOSOPHY have long relied upon the concept of the “invisible hand” to justify non-intervention by governments in markets. The term is typically interpreted to describe how the independent actions of self-interested individuals can lead to a beneficial societal outcome.³ Since Adam Smith introduced the concept in 1776, the invisible hand has become an important foundation of economic analysis and has consistently been a source of controversy, debate, and policy inspiration.⁴ As one of the core tenets of neoclassical economic theories and the Chicago School of economic thought, the invisible hand has been associated with the modern shift in emphasis from regulation to free market philosophy.⁵ However, the appeal of the concept has somewhat diminished in the wake of the 2008 financial crisis, with many blaming rising income inequality and reduced social mobility on lax regulations and limited oversight of the financial sector.⁶ Particularly in the context of competition law,

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 3. Karen I Vaughn, “Invisible Hand” in John Eatwell, Murray Milgate & Peter Newman, eds, *The Invisible Hand* (London: Palgrave Macmillan, 1989) 168 at 170-71.
 4. See e.g. Mark Thornton, “Cantillon and the Invisible Hand” (2009) 12:2 QJ Aus Econ 27 at 27-32.
 5. Ezrachi & Stucke, *supra* note 1 at 205.
 6. *Ibid.*

some experts question the effectiveness of the neoclassical model that created the merger-friendly environment of the 1990s, which contributed to many financial institutions becoming “too big to fail.”⁷ Naturally, some competition experts have begun to consider other rapidly evolving industries where application of traditional free market philosophy may lead to the creation of anti-competitive market dynamics and negative societal outcomes.

In *Virtual Competition: The Promise and Perils of the Algorithm-Driven Economy*, Ariel Ezrachi and Maurice E. Stucke explore the transformative impact that “Big Data,” computer algorithms, artificial intelligence, and machine learning have had on competitive markets and overall consumer welfare. By examining two contradictory themes—the commonly accepted promise of a more competitive environment under the “algorithm-driven economy” and its less-discussed perils—Ezrachi and Stucke analyze the overarching effect that new technologies and market structures have on competition, privacy, democratic ideals, and overall consumer well-being. In particular, the authors attempt to demonstrate how new technologies are challenging traditional dynamics of competition and giving rise to an entirely new environment—one that displays the characteristics of competitive markets, but is driven by different forces. In the words of the authors, “[t]he good old invisible hand of competition, which safeguarded our welfare when we shopped in our local fruit market, is being displaced by the digitalized hand.”⁸ Given the presence of these distinct market forces, the authors argue that some type of intervention by regulators is necessary in order to preserve competitive markets and protect consumer privacy interests.

I. EXAMINING HIDDEN FORCES ON MODERN MARKETS CREATED BY THE USE OF NEW TECHNOLOGIES

Ezrachi and Stucke venture behind the “façade of virtual competition” by presenting three unique scenarios that demonstrate the newly emerging anti-competitive dynamics created by new technologies.⁹ In the first scenario, the authors address how algorithms and other advancing technologies can facilitate collusion and cartel activity. Ezrachi and Stucke describe the shift “from a world where executives expressly collude in smoke-filled hotel rooms” to one where pricing algorithms that allow firms to engage in tacit collusion are used to set

7. *Ibid* at 22.

8. *Ibid* at 27.

9. *Ibid* at 2.

the market price above an efficient level.¹⁰ In the second scenario, the authors suggest that firms are beginning to use advanced technology to engage in almost perfect behavioral discrimination. Powerful firms are collecting unprecedented amounts of information about individual consumers to exploit biases, use targeted advertising, and adjust prices to minimize consumer surplus.¹¹ In the final scenario, the authors address a new competitive dynamic arising between major players in the digital ecosystem, which the authors refer to as a “Frenemy” relationship.¹² This dynamic highlights the complexity of the online ecosystem where “super-platforms,” such as Google and Apple, have a disproportionate amount of power and influence over independent developers.¹³

These scenarios are each particularly compelling because they are not conjectural—competition authorities are actually dealing with these issues today—and the authors frequently contextualize their conceptual framework using real world examples. Beyond present day cases, the authors also provide a forward-looking perspective for each of the issues, presenting possible future developments in each scenario. While this type of information is naturally more theoretical, it assists the reader with understanding the potential negative impact of these developments on markets if left unchecked.

When outlining each scenario, Ezrachi and Stucke frequently compare and contrast each topic using traditional neoclassical economic theory and modern behavioural economic theory. The authors consistently argue that you cannot adequately understand the complexity of these competition issues by strictly using the lens of neoclassical economic analysis.¹⁴ While the authors make it clear they endorse the use of behavioural economics to view the issues through a “prism of fairness and equality,”¹⁵ the inclusion of competing theories provides readers with context regarding common counterarguments to the authors’ positions and how economic analysis has generally evolved over time.

The well-designed structure of the book also makes it easy for readers to understand the sometimes-technical information and critically assesses the authors’ arguments. At the end of each section, the authors provide a nuanced reflection of the material covered and outline the enforcement tools that currently exist across jurisdictions to address the issues raised. This structure puts readers

10. *Ibid* at 36-37.

11. *Ibid* at 101-16.

12. *Ibid* at 145.

13. *Ibid* at 147-58.

14. For a discussion on the merits of behavioural discrimination examined using neoclassical and behavioural economic theory, see *e.g. ibid* at 119-21.

15. *Ibid* at 121.

in a better position to evaluate different options when the authors ultimately provide recommendations near the conclusion of the book.

II. CONTRIBUTION TO MODERN COMPETITION LAW AND ANTITRUST THEORY

Virtual Competition provides a powerful theoretical cornerstone for future study of anti-competitive market dynamics caused by the use of increasingly sophisticated algorithmic technology. As the scenarios described in the book become increasingly commonplace, further research on the empirical effects of tacit collusion caused by the “digitalized hand” of the market will surely follow. As the authors note, one of the most important issues with anti-competitive market dynamics is the general lack of public and regulatory awareness. On the surface, online markets typically appear competitive with many pro-competitive attributes, such as lower search costs and fewer barriers to market entry.¹⁶ However, as the authors note, behind this “competitive veneer” new strategies powered by a complex web of algorithms are rapidly developing and maximizing firms’ profits, while at the same time harming societal welfare.¹⁷ Despite this, there is very little relevant discussion in the academic community: Leading competition law publications still do not directly address these changing dynamics.¹⁸ Additionally, the same firms responsible for creating these problems dominate the academic conversation about the state of competition in online markets. For example, when Google was facing intense antitrust scrutiny in 2011, the company made a major contribution to George Mason University’s Law and Economics Center and directly funded a number of academic studies.¹⁹ The result was the publication of a number of research papers defending Google and arguing that intense competition exists in the industry.²⁰ Google was then able to forward these

16. *Ibid* at 4-9.

17. *Ibid* at 203.

18. See e.g. Herbert Hovenkamp, *Hovenkamp’s Federal Antitrust Policy, The Law of Competition and Its Practice*, 5th ed (St Paul, Minn: West Academic, 2016); Cassandra Brown & Brian A Facey, *Competition and Antitrust Laws in Canada: Mergers, Joint Ventures and Competitor Collaborations*, 2nd ed (Toronto: LexisNexis Canada, 2017).

19. David Dayen, “Google’s insidious shadow lobbying: How the Internet giant is bankrolling friendly academics—and skirting federal investigations,” *Salon* (24 November 2015), online: <www.salon.com/2015/11/24/googles_insidious_shadow_lobbying_how_the_internet_giant_is_bankrolling_friendly_academics_and_skirting_federal_investigations/>.

20. See e.g. Joshua Wright, “Defining and Measuring Search Bias: Some Preliminary Evidence” (2011) Intl Center L & Econ at 49-51.

studies on to policymakers in an attempt to justify their practices.²¹ This type of “intellectual capture” threatens the integrity of the regulatory environment and Eyrachi and Stucke expect it to become more prevalent in future years.²² *Virtual Competition* will hopefully inspire further independent study on lesser-known anti-competitive forces and the actions of major players in these industries.

Through this discussion, readers’ perspectives of algorithm-driven markets are likely to be challenged simply because the conclusions of the authors are counterintuitive. With price transparency at an all-time high and millions of options for applications only a tap away, there is clearly a powerful illusion of competition in digital markets. Those who read this book are likely to come away with a better understanding of the seriously overlooked negative market consequences of popular new technologies, the value of their own data, and the means by which competitive changes are negatively impacting consumer privacy protections.²³ *Virtual Competition* will also hopefully increase public awareness of these issues and heighten pressure on competition authorities to modernize their practices. As noted by Eyrachi and Stucke, the ability of competition authorities to address many of these issues depends on how thoroughly they understand how these digital innovations are fundamentally changing market dynamics.²⁴ At present, it appears that many leading competition authorities may not even have the tools to handle these issues, further highlighting the need for additional empirical research on this topic.²⁵

III. CONCLUSION

By shining light on the anti-competitive aspects of recent technological advancements, *Virtual Competition* addresses a wide range of timely issues and makes a major contribution to the field of competition law. Eyrachi and Stucke convincingly employ real world case studies and behavioural economic analysis to demonstrate the impact of newly emerging market dynamics. While strict proponents of neoclassical economics may disagree with how the Chicago School of economic thought is portrayed in this book, it will be hard for readers to escape the conclusion that the invisible hand may no longer be an entirely viable concept in an increasingly digitalized market universe.

21. Dayen, *supra* note 19.

22. Eyrachi & Stucke, *supra* note 1 at 246-47.

23. *Ibid* at 176.

24. *Ibid* at 222.

25. *Ibid* at 218, 220-21.

Virtual Competition should also provoke additional conversation and research on these consequential market shifts. As many of us—including laypeople and regulatory authorities—do not recognize the impact that these developments are already having on competition and consumer welfare, raising awareness right now is critical. Beyond empirical research, future studies could address a number of other unexplored topics that are touched upon by the authors. Notably, the authors raise a number of relevant ethical questions—such as the extent to which a human should be responsible for the actions of an algorithm they have programmed—that were not fully addressed because the questions fell outside the scope of the book.²⁶ Hopefully, some of these questions will be explored in more detail by future researchers, so as to better understand how to approach enforcement and intervention in the markets.

In summary, *Virtual Competition* is a foundational piece in the emerging field of digital competition and provides a framework for future research. Ezechia and Stucke utilize their novel concept of the “digitalized hand” to provoke readers to reconsider how their data is being used in an increasingly digitalized economy and demonstrate that data driven online markets will not necessarily correct themselves. In doing so, they challenge regulatory authorities to modernize their enforcement toolboxes and implement careful and measured intervention to safeguard consumer welfare and promote competitive market environments in the digital age.

26. *Ibid* at 78, 223.