

SHOULD ANTITRUST SURVIVE BEHAVIORAL ECONOMICS?



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By Andreas Heinemann



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I. INTRODUCTION

The accepted economic foundation of antitrust law is straightforward: The neoclassical market model shows that perfect competition among firms maximizes productive and allocative efficiencies and social welfare. This model rests on several assumptions, including — as in neoclassical economics more generally — the notion that consumers are rational actors whose decisions always maximize their utility. To maximize the benefit from their consumption decisions, consumers choose the best mix of products they can obtain, at the best price available. The difference between the market price consumers pay and their valuation of the goods or services, i.e. 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. Competitive equilibrium generates both productive and allocative efficiency, which maximize both consumer and total welfare. This attractive, welfare-maximizing property of the competitive equilibrium serves as the key economic justification for antitrust law. Like any regulatory regime that requires significant resources and imposes substantial social costs, antitrust law is economically justified only insofar as its benefits clearly exceed its costs.

Nonetheless, a substantial body of empirical evidence shows that real consumers often fail to comport with the assumption of rationality that underlies the welfare benefits generated from the interaction between rational consumers and producers in competitive equilibrium. Specifically, 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. In fact, under some circumstances, competition among sophisticated producers over the custom of boundedly rational consumers can even diminish efficiency. Beyond the problem of distorted demand, behavioral research also documents numerous instances in which consumers’ product choices are constructed or shaped *ad-hoc*, at the time of decision, in clear contrast to the assumption that consumers hold stable, preexisting and orderly preferences. As a result, 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 typically unlikely to improve matters much and can even make consumers worse off.

But if competition over boundedly rational consumers fails to maximize efficiency or advance consumer welfare what remains of the economic justification for antitrust’s mission of protecting competition?

II. A SMALLER PROBLEM: COMPETITION OVER BIASED CONSUMERS

An extensive body of empirical behavioral evidence shows that individuals are boundedly rational actors. Unlike the hypothetical rational actor that inhabits standard microeconomic models, the behavior of boundedly rational actors is shaped by their limited cognitive resources, motivation, and emotion. At times, they engage in formal, effortful, and time-consuming judgment and decision making, but more commonly, they use mental and emotional shortcuts — known as “heuristics” — to make judgments and rely on situational cues to guide their choices. These judgment and choice processes are adaptive, necessary, and usually beneficial. At times, however, they lead decision makers to systematically and predictably deviate from the normative standards of rationality.²

Beyond documenting manifestations of individuals’ general deviations from strict rationality, researchers also study psychological processes that are specific to consumers. For example, some studies examine biases in consumers’ inferences about products and their attributes, while others research the specific ways in which sellers and marketers impact consumer judgment and choice through branding, advertising, or sales promotions. Unsurprisingly, these and other related studies 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.

Boundedly rational consumers exhibit systematic errors when judging products or services, sometimes misjudging product quality or absolute or relative prices, or even making erroneous predictions of their own future consumption needs. When such mistakes of judgment occur, demand is inevitably distorted. Consumers demand either smaller or greater quantities of some products than they would have absent their errors. Moreover, consumers’ biased demand for one product distorts their demand for other products and services. For instance, consumers who erroneously overestimate the quality of one product and consequently demand too much of it will also demand too much of the product’s complements and too little of its substitutes. More generally, since consumers’ budgets are limited, distorted demand for one product indirectly decreases or increases the resources available for other products. The demand inefficiencies caused by consumer bias also lead producers to misallocate their productive resources. Mirroring the effects of consumers’ systematic errors in judgement, sellers looking to meet distorted demand will supply consumers with too much or too little of the relevant product, leading to a further misallocation of productive resources.

Moreover, profit-maximizing producers design their products and services to take maximum advantage of extant consumer bias and even exacerbate it when possible and profitable. Indeed, more recently the empirical behavioral evidence has also caught the attention of industrial organization economists, who have begun examining how sophisticated sellers may exploit and even facilitate consumers’ deviations from rationality to maximize their own profits, as well as the effects of competition among such sellers. The analyses of these “behavioral industrial organization” scholars show that the efficiency benefits of competition may be less pronounced than traditional models suggest and that increased competition can even harm efficiency under some circumstances.

The ultimate effects of the deviations of real consumer behavior from the standard rationality-based model depend, of course, on the nature of competition in the market. After all, the benefits gained from exploiting consumer bias in the absence of competition may be dissipated in the presence of competition from other sophisticated sellers who are similarly attempting to exploit consumers. However, the overall picture that emerges from the literature in this area is that distorted demand typically generates inefficiencies even in an otherwise perfectly competitive market. Competition often drives product prices down as usual, but the excessive demand generated by consumer bias means that both price and quantity are higher than in a competitive market with unbiased consumers. Perhaps more strikingly, some behavioral industrial organizational models show that increased competition in a market with distorted demand can sometimes reduce efficiency compared to a monopolized market.

² See, e.g. Christine Jolls, Cass Sunstein & Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 *STAN. L. REV.* 1471, 1536-37 (1998); Avishalom Tor, *The Methodology of The Behavioral Analysis of Law*, 4 *HAIFA LAW REVIEW* 237 (2008); Avishalom Tor, *Understanding Behavioral Antitrust*, 92 *TEX. L. REV.* 573 (2014).

III. THE BIGGER PROBLEM: MALLEABLE PREFERENCES AND CONSUMER WELFARE

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 antitrust law's economic justification. This evidence shows that not only does consumer *choice* deviate from assumptions of rationality in predictable ways — much as in the case of consumer *beliefs* — but it is also subject to context-specific influences and may be constructed *ad-hoc*, in the process of choosing among products or services. The extensive findings in this area have led two prominent behavioral 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.”³

The behavioral literature reveals numerous ways in which actual consumer behavior violates the assumptions of the neoclassical economic model on which antitrust relies. One typical and illustrative set of findings in this area that is particularly relevant for consumer behavior concerns the basic assumption of procedure invariance. Consumers' preferences over different product options — whether vacations, cars, or mortgages — must be independent of the specific procedure used to elicit these preferences. Yet studies offer much evidence of preference reversals in which, under predictable circumstances, different but analytically comparable procedures elicit different choices. These differences are found in comparisons of consumers' willingness to pay for different options to their choices among those same options, consumers' choice of a preferred option from a given set to their rejection of all the less attractive options from the same set, consumers' rating of options presented separately to their choice from among the same options when presented jointly, 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. Participants in one between-subjects question 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 while the other was very good on some dimensions and bad on other dimensions. One version of the problem asked participants which spot they preferred, while the other stated that they currently had two reservations and asked which reservation they wanted 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.⁴

Other studies show how apparently different preferences can be manifested in 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 familiar product categories (e.g. computers, cars, treadmills) in which product options are added to a basic product to other customized offerings in which product options are subtracted from a “loaded” model. 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.⁵ In the same vein, 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 percent more of the total cost of the cars.⁶

These and many similar examples of systematic violations of rational choice axioms also show how researchers and market participants alike can influence consumers' choices. This is particularly troublesome for antitrust, since insofar as consumer demand in the market reflects malleable, *ad-hoc* preferences that may not maximize individuals' utility, the notion of consumer surplus and welfare — that most basic economic compass of antitrust — risks losing its meaning altogether. Indeed, the fundamental nature of this challenge has led even those few scholars who recognized its existence to do little beyond that recognition. Thus, recent behavioral industrial organization models that examine the market effects of non-standard consumer preferences still take these preferences as given. They study the supposed welfare effects of competition over consumers with such preferences, while ignoring the question of whether consumer surplus remains a meaningful measure in their presence.

³ Sarah Lichtenstein & Paul Slovic, *THE CONSTRUCTION OF PREFERENCE*, (2006).

⁴ Eldar Shafir, *Choosing Versus Rejecting: Why Some Options Are Both Better and Worse Than Others*, 21 *MEMORY & COGNITIONS* 546 (1993).

⁵ Park, C. Whan, Sung Youl Jun & Deborah J. MacInnis, *Choosing What I Want Versus Rejecting What I Do Not Want: An Application of Decision Framing to Product Option Choice Decisions*, 37 *JOURNAL OF MARKETING RESEARCH* 187 (2000).

⁶ Andreas Herrmann, Christian Hildebrand, David E. Sprott, & Eric R. Spangenberg, *Option Framing and Product Feature Recommendations: Product Configuration and Choice*, 30 *PSYCHOLOGY & MARKETING* 1053 (2013).

Another case in point is the passing argument of some well-known antitrust economists that “irrational decision making by consumers destroys the analytic basis of welfare economics” and should therefore be ignored.⁷

In contrast, the following sections outline a number of ways in which the undeniable empirical evidence of systematic consumer bias and malleable consumer choice may be accounted for while largely retaining the familiar economic justification for antitrust law.

IV. THE UNEASY BEHAVIORAL ECONOMIC CASE FOR ANTITRUST

Consumer bias and the malleability of consumer choice challenge the efficiency and welfare foundations of antitrust law and economics. Somewhat ironically, the same bounded rationality of real consumers that antitrust commentators often draw on to justify more assertive enforcement in fact may undermine the foundational economic justification for protecting and promoting competition. Yet, further analysis suggests two main lines of response to this challenge: First, a careful assessment of the empirical behavioral evidence reveals that although competition typically cannot maximize efficiency or welfare, it still has the general tendency of advancing these critical social goals. Second, a competition-favoring approach remains a more attractive policy baseline than its realistic alternatives despite competition’s substantial shortcomings in the presence of boundedly rational consumers. The following sections sketch the basic contours of these two responses, which I develop more fully elsewhere.⁸

A. A First Line of Defense — Competition Still Performs (Sort of)

Where biased consumer beliefs are concerned, those behavioral industrial organization models showing how substantial inefficiencies can remain in a variety of competitive settings also indicate that some market settings reasonably approximate the predictions of traditional rationality-based models even in the presence of real, boundedly rational consumers. For instance, consumers are likely to develop more accurate assessments of the quality of products and services they use frequently, particularly when good information and clear feedback are available. In addition, at least in some markets, sellers or information intermediaries can benefit from advising consumers. Such efforts will not always be effective or truly informative, even when they do take place, but their presence still tends to reduce consumer bias.

In some specific models, moreover, competitive markets with boundedly rational consumers that are not maximally efficient even outperform comparable markets populated with rational consumers. These results obtain, for example, when the nature of the product or the market are such that sellers facing perfectly rational consumers lack the incentive to offer certain superior products that they are incentivized to provide in the presence of boundedly rational consumers.

Notably, some factors that help consumers avoid systematic errors of judgment, including substantial experience in an environment that offers relatively clear and immediate feedback, may also attenuate our concerns regarding the malleability of preferences. Indeed, the empirical behavioral evidence clearly indicates that a substantial fraction of preferences is already there prior to the time when consumers demand specific products or services in the market, despite the extensive evidence for ad-hoc preference construction.

Furthermore, the evidence of lability concerns “final preferences” over specific products, services, or other immediate objects of choice — the same preferences aggregated by the consumer demand function in microeconomic models. Yet, observable final preferences are not the only preferences that consumers hold and, likely, are not even the most important category of preferences for the purpose of establishing a meaningful link between consumer choice and consumer welfare. After all, consumers are usually more interested in what a given product offers in terms of the features they care about than in the detailed specifications of these features. In this case, however, so long as the constructed final preferences still satisfy consumers’ more abstract requirements, consumer choice is still significantly associated with consumer welfare.

To illustrate, a consumer contemplating the purchase of a digital camera may want a lightweight camera that produces high quality pictures at a low cost, all of which are somewhat abstract attributes and require further specification. Even a clear preference regarding a relatively straightforward attribute, such as the camera’s weight, must be further specified, and the consumer is unlikely to hold an extant preference for a specific camera weight over all other possible weights. Consequently, the consumer’s weight preference may well depend in part on the particular options she evaluated, the order of their evaluation, and other factors that have been shown to contribute to final preference construction. Yet, what most likely matters for the consumer’s welfare is not whether the camera they end up selecting weighs 4.94 oz or 5.14 oz — an outcome

⁷ Gregory J. Werden, Luke M. Froeb & Mikhael Shor, *Behavioral Antitrust and Merger Control*, 167 J. INSTITUTIONAL & THEORETICAL ECON 126 (2011).

⁸ Avishalom Tor, *The Uneasy Behavioral Economic Case for Antitrust* (working paper, April 2016).

that may well depend on various construction processes — but rather whether they subjectively experience that camera’s weight as light.

Indeed, the very evidence for preference malleability and construction indicates that consumers do hold certain preferences, albeit sometimes process-oriented or more abstract rather than fully fleshed-out final preferences. Many documented behavioral effects succeed in influencing consumer choice precisely because consumers hold preferences for not choosing extreme options (and therefore tend to prefer intermediate ones), for getting “better” deals (and thus gravitate towards options that seem to offer such deals), and so on.

Finally, the behavioral findings regarding both consumer bias and preference construction reveal a significant degree of heterogeneity in rationality.⁹ That is, some consumers exhibit a greater degree of bias while the judgments of others better approximate the normative requirements of strict rationality. In the same vein, not all consumers are equally susceptible to framing, context effects, or any of the other factors that have been shown to contribute to the construction of preferences. Additionally, one finds only limited correlations among consumers’ different manifestations of bounded rationality. A consumer who tends to rely on anecdotes when judging product quality, for instance, is not necessarily also among those whose choices are more susceptible to the influence of framing effects. For this reason, any given market is populated by a mix of consumers who deviate to different degrees from perfect rationality. This heterogeneity in rationality, in turn, may limit the problematic consequences of consumers’ bounded rationality for efficiency and welfare. In this vein, some behavioral industrial organization models find that the efficiency of market outcomes tends to increase with the proportion of consumers that better resemble the hypothetical rational actor.

Hence, a closer inspection suggests that the challenges posed by consumer bias and the malleability of consumer preferences are substantial, but perhaps not as detrimental as they initially appear. In many market settings, competition is still likely to promote efficiency and consumer welfare even when the full benefits anticipated by the traditional microeconomic model are unattainable.

B. A Second Line of Defense — Competition is Still (Usually) Better than its Alternatives

The conclusion that competitive markets with real, boundedly rational consumers can still achieve some of the benefits expected of competition in rationality-based models is comforting. Yet, from a competition policy perspective, the most important comparison is not between real competitive markets and the traditional microeconomic model, but instead the comparison between more competitive markets with boundedly rational consumers and less competitive markets with the same consumers. Put differently, policymakers do not have the privilege of choosing the consumers that populate real markets. Rather, they must determine whether the protection of competition in markets with boundedly rational consumers tends to advance efficiency and consumer welfare better than its alternatives — that is, better than diminished competition in the form of increased market power or further direct market regulation.

Once the question is posed this way, however, the answer becomes quite clear. Even in behavioral industrial organization models, increased competition often improves market outcomes compared to monopoly or diminished competition conditions. And though in some cases competition generates further inefficiencies, the circumstances that bring about such “harmful competition” are usually limited in scope.

Moreover, competition may also offer a superior means for advancing consumer welfare in the face of preference malleability. We have seen that consumer choice may be less susceptible to *ad-hoc* construction processes when consumers have more product-specific experience, particularly if good information and clear feedback are available. As with consumer bias, a monopoly producer that can profit from shaping consumer choices will do so. A more competitive market, on the other hand, may generate competing efforts by other producers to offer alternatives and shape consumer choice, thus offering consumers at least some opportunity to identify those alternatives that better fit their underlying, more abstract but more meaningful preferences.

Where the comparison between competition and regulation is concerned, some models suggest the latter can outperform the former. Nonetheless, this advantage is typically limited to narrow market settings and, more importantly, depends on mostly unrealistic assumptions regarding regulators’ knowledge and ability. The limits of regulatory interventions are particularly significant, moreover, with respect to consumer choice. Indeed, interventions that limit sellers’ manipulation of consumer choice might be beneficial, but they function best as complements for competition-favoring policies. Regulatory efforts to directly constrain and determine consumer choice, in contrast, are usually unlikely to improve consumer welfare and cannot replace competition as the fundamental policy approach to market behavior across the board.

⁹ Avishalom Tor, *Understanding Behavioral Antitrust*, 92 TEX. L. REV. 573 (2014).

Frequently, the strategic responses of rational producers to the predictable mistakes of some boundedly rational consumers also render regulatory alternatives to competition inefficient or at least effective only under very specific circumstances. Even when simple models suggest that direct regulation of price or other product characteristics can outperform competition, the reality involved in implementing such regulation is likely to be far more challenging, as the public choice literature describes at length and amply illustrated by the empirical evidence.

The need for caution regarding the likely benefits of regulatory alternatives to competition is further suggested by regulators' own bounded rationality. And while regulators are better positioned than individual consumers to avoid systematic error, they are still at a substantial disadvantage *vis à vis* sophisticated firms that react strategically to their interventions.

Finally, most significant markets in which competition may generate substantial inefficiencies are already subject to extensive regulatory schemes. Industries that revolve around credence goods — such as the services of professionals that most consumers cannot judge on their own, like medical or legal services — are subject to professional regulation. Similarly, the financial and telecommunications industries are subject to regulatory schemes that partly seek to address consumer protection concerns, even if these schemes are not explicitly or directly aimed at responding to the effects of consumers' bounded rationality.

V. CONCLUSION

The economic justification for policy makers' reliance on the costly and cumbersome apparatus of antitrust law and its enforcement is based on the efficiency and welfare maximization properties of competitive markets. These beneficial outcomes of competition rest *inter alia* on the assumption that consumers are rational economic actors, whose judgments of the products available to them in the market are unbiased and who hold extant, complete and orderly preferences regarding these products. Yet, the reality of consumer behavior is dramatically and systematically different from that assumed by the traditional microeconomic market model. This discrepancy between theory and reality raises fundamental questions about the ability of competition and its protection to yield the efficiency and welfare benefits predicted by the standard neoclassical model.

All is not lost, however. The two avenues of response outlined here may help justify the survival of antitrust law despite the challenges posed by consumer bias and the construction of consumer preferences. First, while competition with real, boundedly rational consumers usually cannot maximize efficiency or welfare, it still has the general tendency of advancing these critical goals. Second, a competition-favoring approach remains a more attractive policy baseline than its realistic alternatives of diminished competition due to either increased private market power or enhanced governmental regulation, the substantial shortcomings of competition notwithstanding. Hence, further research and analysis are required to identify the specific market settings in which monopoly or additional regulation may outperform competition, but the present findings can still justify the law's general policy orientation of protecting competition.

Nevertheless, the behavioral challenges for and defense of antitrust do offer a cautionary note for practitioners, policy makers, and scholars in the field. Even if a basic pro-competition stance still makes good (behavioral) economic sense in the face of the interaction between boundedly rational consumers, sophisticated firms, and well-meaning regulators, some humility is in order. Unlike the textbook case for competition as an efficiency and welfare maximizing panacea, real world competition is destined to fall short of these goals in the best of circumstances, regardless of its superiority to any realistic policy alternative.

Finally, besides humility, the limited efficacy of competition with boundedly rational consumers also raises intriguing new questions concerning the proper balancing of competition against other policies, such as sector-specific regulation, intellectual property, and more, which offer fertile grounds for further study.



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