Book Review
Lessons from Kahneman’s *Thinking, Fast and Slow*: Does Behavioral Economics Have a Role in Antitrust Analysis?

Daniel Kahneman
*Thinking, Fast and Slow*
Farrar, Straus & Giroux 2011

Reviewed by Hal Singer and Andrew Card

Through April 2012, Daniel Kahneman’s *Thinking, Fast and Slow* had endured for half a year as a top twenty nonfiction best seller according to the *New York Times*. That staying power is a testament to the book’s popular rendition of decades of research into the role of cognitive psychology in economic decision-making. Although Kahneman is a great writer and a great economist (he is a psychologist by training), the book is no tiptoe through the tulips; reading it is like running uphill both ways. But the rewards for making it through to the end are bountiful. One of those rewards was an expansion of our insight into how antitrust might improve its analytical framework by acknowledging and incorporating the limitations of our cognitive powers.

Kahneman’s empirical research (much of which, as the book recounts, was done in conjunction with his frequent collaborator, the late Amos Tversky) pioneered the field of behavioral economics, which sought to shake the fundamental building blocks of microeconomic analysis, and netted him a Nobel Prize. To formalize economic activity into a set of predictable behaviors, economists (who generally insist on rigorous mathematical underpinnings) needed to postulate certain assumptions about peoples’ preferences, the way we process information, and the way we make decisions. It turns out many of these assumptions are not as axiomatic as they first seemed.

Through their numerous experiments in cognitive psychology, Kahneman and Tversky showed that most consumers fall far short of the ideal of “homo economicus.” In the real world, consumers systematically err when assessing costs and benefits, are prone to errors in mental accounting, and employ shortcuts in the face of complex decisions that often lead to choices that fail to maximize utility. Kahneman and Tversky are credited with uncovering several biases in human decision-making, including that consumers favor choices presented as default options (the “status quo bias”); consumers often assess the probability of an event by asking whether relevant examples come to mind (the “availability heuristic”); and consumers make choices based on sunk, rather than incremental costs (the “sunk cost fallacy”).

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2. These errors plague even the best of us: One of us inadvertently watched *The Muppets* with his daughters in reverse order. Having arrived at the theater a few minutes late, we entered the wrong screening room during a musical number (the finale) only to see the credits roll in twenty minutes; the sunk cost fallacy doomed us to watch the middle third of the movie in the correct screening room next door, and the first third in the screening room we originally entered.
In light of these biases, should we junk everything we learned about microeconomics in graduate school? Of course not: Economic models yield important insights about human behavior despite their dependence on technical assumptions that are unlikely to hold for all individuals in all situations at all times. We should be willing to revisit our fundamental assumptions, however, and place more emphasis on empirical outcomes and less on first principles—like the one that structurally competitive markets will always generate competitive outcomes. The incorporation of behavioral insights into policymaking does not imply a heavy dose of intervention; for example, behavioral economists modestly suggest heightened disclosure rules or a change in default options to counteract behavioral biases.

**Lessons for Lawyers**

By making Kahneman and Tversky’s research accessible to a popular audience, the book has many lessons for the non-economist, non-psychologist lawyer. The first that comes to mind is framing: Human beings (including judges and jurors) are influenced by the way in which choices are presented. This observation is not new. But Kahneman’s experiments are designed to show precisely how we err when our choice set is slightly modified. With superior information and with control of the frames, both lawyers in the courtroom and firms in the marketplace could exploit these errors to their advantage and for their own ends.

One experiment involving a mild form of torture is particularly revealing. Because our memory gives too much consideration to the tail end of an experience (what psychologists call the “recency effect”), human guinea pigs in the cold-hand experiment repeatedly elected to subject themselves to longer torture sessions. Subjects were exposed to two sessions in which their hands were submerged into freezing cold water: a shorter session and a longer session. Although both the shorter session and the longer session involved sixty seconds at the same, freezing cold temperature, the longer session also included a period of slightly warmer water temperatures at the tail end. When asked which session they preferred to repeat, the subjects overweighted in their memories the relatively warmer ends of the longer session. Thus, the subjects inadvertently chose the inferior (that is, longer) torture session.

Kahneman explains that our memory selves are in conflict with our experiential selves, and argues that economic models incorrectly assume that the two are in sync. In that sense, the conflict is analogous to a model of competition that assumes perfect information, even in the face of imperfect information, which has widely been accepted in economics to yield outcomes that diverge from the model’s first-principles framework. This is because imperfect information can create economically “irrational” outcomes even from otherwise rational individuals. Behavioral economics explains that information asymmetries exist not only between two economic actors (for example, a seller and a buyer), but also within an economic actor, in terms of what he has experienced and what he remembers (and can access again).

Another lesson for the non-economist, non-psychologist lawyer is whether to present regression analysis to a jury or judge (or law clerk) in support of economic testimony. Kahneman explains that the party who must explain regression is bound to lose. The likely explanation is that our brains are programmed to reject the counter-intuitive lessons of regression—namely, that the best prediction is to ignore idiosyncratic evidence and to revert instead to the mean of a comparable sample (“mean reversion”). Instead, we are hardwired to overweight factors in our predictions that are only loosely correlated with what we are trying to predict. Furthermore, when presented with tough questions on a subject about which we know little, we substitute the hard question with an easier one (the availability heuristic), which often leads to biased answers. Telling a juror to ignore factors that he thinks are predictive (but are not) is a tough sell.
Suppose you have been asked to predict Mary’s GPA in her freshman year in college, but there is something about Mary that throws off the calculation—she was an early reader in elementary school. Consequently, when presented with making this prediction along with data on the average freshman GPA at Mary’s college, subjects tend to overweight the early reading evidence and thereby overstate Mary’s GPA: Because Mary was in the top 90th percentile in reading in elementary school, subjects reason, she must be several standard deviations above the average freshman GPA. But Mary is almost always closer to the average than we think. Kahneman offers a correction for what he calls “non-regressive intuitive predictions,” which should be taught to all economics students—namely, discount the seemingly important evidence by the correlation between that factor and the value you are trying to predict.

This example may explain why damages experts in antitrust litigation still use simple benchmarking, which involves averaging among a set of comparables: Benchmarking implicitly discounts the potentially related evidence in the background, while regression analysis makes the discounting explicit. Regression therefore invites the audience into an unhelpful debate on how to weight different factors, many of which seem intuitive—and more important than they really are—to the audience. And, of course, regression is also a lot harder to explain than benchmarking.

Rethinking Antitrust
Does Thinking, Fast and Slow contain any lessons for antitrust? If the measure of influence is the number of mentions of, or citations to, antitrust or competition in his book, then the quick answer is “no.” But Kahneman’s critique of the fundamental tenets of microeconomics can be interpreted as a critique of any analytical framework that relies on these principles, including competition law. After all, predictions about competitive outcomes depend on lots of assumptions about human behavior, including the ability of consumers to process information about their choices, product quality, and relative prices. If consumers cannot or will not consider quality-adjusted prices when making decisions, and if consumers cannot or will not learn from repeated experience, then we cannot expect market forces necessarily to drive prices down to competitive levels in the presence of structural competition (low entry barriers, many firms).

As Nudge, another New York Times bestseller on behavioral economics, pointed out, markets do not tend to eliminate less than fully rational behavior; rather, firms will often exploit a consumer’s irrationality. Richard Thaler and Cass Sunstein, the co-authors of Nudge, illustrate how consumers’ difficulty in calculating the costs and benefits of complex products like insurance (which necessarily involves probability analysis and mental accounting) can lead to scenarios where markets will fail to discipline prices. Oren Bar-Gill offers several instances where firms tailor their terms and prices to capitalize on consumers’ misperceptions and cognitive biases. For example, many credit cards structure their terms and pricing to take advantage of a consumer’s consideration of only immediate prices as opposed to total costs over the life of a transaction (“hyperbolic discounting”).

But can’t markets be counted on to discipline such exploitation? After all, if predatory or unfair conduct is leading to excessive profits, as an FTC economist may argue, then enterprising firms should be able to bid those profits away by acting and competing responsibly. There are at least four reasons why we cannot expect rival sellers to systematically correct the problem of consumer misperceptions. First, a seller might find it beneficial to exploit the misperception itself. Second, if a seller invests in educating a consumer about its superior offering—“I won’t take advantage of you on the extended warranty like my rival”—then its rivals will free ride on that seller’s efforts.

reducing their product differentiation and competing away the profit. Third, even assuming no free riding, the costs of informing consumers about a rival’s mispricing (through advertising or direct solicitation) may outweigh the gains from doing so. Fourth, education might attract consumers who are thereafter very price-sensitive with respect to the attribute over which you promised to improve—and who wants those types of customers? For these reasons, firms may be more likely to accommodate and mimic the exploitative behavior of their rivals than to differentiate themselves as model firms (an example of the latter being Southwest’s Bags-Fly-Free campaign).

Even at competitive levels, behavioral economics teaches that prices might still be too high for consumers’ own good. In addition to the list of biases mentioned above, two other behavioral biases contribute to poor decision-making by consumers—narrow bracketing (a consumer’s tendency to evaluate risky decisions separately) and the endowment effect (a consumer’s tendency to demand greater compensation to forfeit something than to acquire it). As explained by Thaler, these two biases combined will induce consumers to be willing to pay $100 for an extended warranty that has an expected value to them of $50. Competition may be expected to drive price down to $90 because the cost of selling the product exceeds zero, but it will not prevent consumers from doing something dumb.\(^5\)

In general, economists have established that when (1) information available to consumers is limited or costly, (2) consumers are imperfectly rational, or (3) the good or service at issue is an “ancillary” or “add-on” item, even structurally competitive markets may fail to discipline prices and protect consumers. That markets are susceptible to failure in the presence of information barriers is as old as disco music. In 1971, Peter Diamond showed that if consumers are unaware that other firms in a market are charging lower prices, a firm can charge supracompetitive prices without losing sales.\(^6\) Nobel Laureate Joseph Stiglitz and Professor Steven Salop found that when search costs are sufficiently high (implying that many consumers have limited information), firms will either charge the monopoly price or a range of prices between the competitive price and the monopoly price.\(^7\) In a seminal article in the *American Economic Review*, Stiglitz upended the widespread belief that all that is required for markets to work well is for there to be some individuals who are informed and who engage in arbitrage. The informed confer only a limited positive externality on the uninformed, in the sense that without them there would be fewer stores charging the competitive price. It is remarkable how little influence these economists have had in the antitrust arena—Salop being the possible exception—compared to Chicago School economists, who preached the efficiency of markets. The behavioral economists identified a likely and important source of the information barrier that prevents competitive outcomes—namely, our sometimes misfiring synapses.

**Vulnerable Aftermarkets**

Much of the debate that Kahneman has stirred up seems to be directed at aftermarkets. And once again, behavioral economists were not the first to the party but they have illuminated the picture. Economists have shown that structural competition may fail to discipline prices if the product at

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\(^5\) To be fair, evidence of the endowment effect has been criticized by Kathryn Zelzer and Charles Plott, who could not replicate Thaler’s results after controlling for other causes of subject misconceptions. See Charles R. Plott & Kathryn Zelzer, *The Willingness to Pay—Willingness to Accept Gap, the “Endowment Effect,” Subject Misconceptions, and Experimental Procedures for Eliciting Valuations*, *95 Am. Econ. Rev.* 530 (2005).


issue is an ancillary or add-on good, and if consumers face significant switching costs. Such consumers are often referred to as “captive” or “locked-in” customers. Paul Klemperer showed that when consumers incur costs to switch between suppliers, “firms’ incentives to exploit repeat purchasers” lead to higher prices.9

The literature on switching costs and ancillary markets is vast, but a few examples should drive home the point. Severin Borenstein, Jeffrey MacKie-Mason, and Janet Netz analyzed the pricing incentives of firms that are the sole provider of products in ancillary markets with switching costs.10 They show that under certain conditions “a firm that has market power over sales in its associated aftermarkets will exercise that power at least to some extent, pricing aftermarket goods and services above their competitive levels.”11 They also show that firms with a degree of market power over ancillary goods may successfully sustain prices at supracompetitive levels “regardless of the structure” of the underlying primary market.

In a similar vein, Xavier Gabaix and David Laibson modeled a hotel market in which the participating firms sold rooms, the primary service, along with proprietary add-on services like room service and movies.12 They showed that when consumers were prone to hyperbolic discounting, “firms exploit myopic consumers” by increasing the prices of the proprietary add-on goods. They also showed that firms would find it more profitable to pursue a pricing strategy that exploited myopic consumers with higher prices than to attempt to steal customers from one another by slashing prices of ancillary services, even in “highly competitive markets.” In a recent article on the pricing of concessions at movie theaters, Richard Gil and Wesley Hartmann explain that when consumers lack alternatives in the ancillary market, firms may profitably raise the prices of ancillary goods to a level that reduces consumer surplus for individuals purchasing both the primary and the ancillary good.13

At least one competition authority appears to be doing something about these vulnerable aftermarkets. In December 2003, the UK Competition Commission conducted a study on the market for extended warranties sold in retail stores.14 Among its major findings, the Commission reported that almost all extended warranties are purchased at the point of sale; few consumers seek information on extended warranties prior to their purchase; and consumers have little opportunity to consider alternatives to the extended warranty on offer at the point of sale. The report also uncovered that extended warranties on offer at the point of sale are nearly always all from one provider, usually the retailer or a third party that is the sole supplier to the retailer, and there is generally no information available at the point of sale on prices, terms, or conditions of extended warranties available from alternative providers, such as manufacturers, insurers, credit card companies, or others. It doesn’t take a Ph.D. in economics to know that when these conditions are

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11 Id. at 184.
present, no amount of ex ante choices among retailers will deliver competitive prices for extended warranties in the secondary markets.

Policy Implications

Should antitrust law be adapted in any way to accommodate the lessons of behavioral economics? We offer some modest suggestions, and as noted below, recognize that we are not the first to address this question.

First, structural competition should be deemphasized in relation to evidence-based, direct effects of anticompetitive behavior. A common element of any proof of anticompetitive effects is the existence of market power; the premise is that a firm cannot generate anticompetitive effects without having market power. Unfortunately, market power is typically established through structural analysis—for example, counting up the number of competitors, calculating market shares, or demonstrating ease of entry. But the behavioral economics literature establishes that, under certain conditions, a firm can wield market power—that is, raise prices over competitive levels with impunity—even when the market is structurally competitive. In this sense, the exploitation of consumers’ irrationality is both an expression of market power and an act of calculated nondisclosure, perhaps bordering on fraud. The irony is that Chicago School economists have been arguing for years that high market concentration is insufficient to demonstrate market power, citing direct evidence of competitive prices in such markets. We agree, but conversely, a firm can also have considerable market power (at least in ancillary markets) even in the face of low concentration. Thus, concentration is neither a necessary nor a sufficient condition for market power.

Second, antitrust enforcement could be expanded to take on a class of conduct that degrades consumers’ choices by exploiting information asymmetries and cognitive limitations in a way that results in higher prices and lower output without offsetting efficiencies. Think about the class of unilateral conduct that may get a firm in trouble with the antitrust laws: tie-ins, exclusive dealing, and raising-rival-cost strategies. One purpose of such conduct is to reduce the available options for the buyer, which makes the buyer less price-sensitive (technically by shifting the firm’s residual demand curve), which in turn permits higher prices. To the extent that catering to a buyer’s cognitive limitations triggers the same mechanism of harm, why prosecute it under a different set of laws?

Further inroads made by behavioral insights into antitrust could bring about a convergence of consumer protection and antitrust enforcement. Historically, deciding which product offerings are acceptable may be fair game for consumer protection, but is arguably anathema to the objectives of antitrust. At a minimum, the economic modeling of the conduct is the same in either setting. Joshua Wright explains that the intellectual rift between the rational-choice approach and the behavioral approach that shapes the development of antitrust and consumer protection, respectively, will continue for some time. 15

Consider a not-so-hypothetical fact pattern: At the point of sale, a heavy equipment rental company informs its customers that they must buy a damages waiver unless they have a certificate of insurance. The damages waiver is set equal to 15 percent of the daily rental rate. The rental company relays the deductible information in a way that is hard for the buyer to interpret (for example, in fine print on the back of the policy, the deductible is calculated as the minimum of some

complex function of variables). The deductible is set in a way that ensured the policy was never worth having on an ex ante basis. Finally, the rental company does not inform buyers of the pay-outs (for example, the historical probability of having an accident is known only to the rental car company), and it pays its agents a commission for each damage waiver sold. This case was actually pursued under the consumer protection laws. But it is not a stretch to see how the same conduct could be challenged under the antitrust laws. For those who have not rented heavy equipment recently (including your delicate economic authors), a similar experience may be felt upon arriving at a Caribbean resort, only to learn that the inescapable resort fee boosts the daily rate by 15 percent. Had the resort fee been clearly posted on the resort’s website, the total rate would have been incorporated into the customers’ decision-making, and some customers may well have chosen a different hotel.

The difficulty in prosecuting such cases under the antitrust laws is that the rental equipment agency and the resort are hardly monopolists in their respective primary markets. But conditional on selecting a given heavy-equipment rental company (or resort), the customer is captive and thus can be exploited in the add-on sale of the damage waiver (or resort fee) if the seller engages in selective nondisclosure.

The Supreme Court has weighed in on the issue of vulnerable aftermarkets. In *Eastman Kodak Co. vs. Image Technical Services, Inc.*, plaintiff Image Technical Services claimed that Kodak attempted to monopolize the aftermarket for repair services on high-volume photocopiers and other equipment Kodak manufactured. The district court dismissed the case on summary judgment, reasoning that because the primary market for the sale of equipment and parts was structurally competitive, Kodak did not have the ability to charge supracompetitive prices for servicing in the tied aftermarket. According to traditional economic logic, if Kodak were to charge supracompetitive prices in the secondary market, consumers would respond by decreasing their purchases of Kodak products in the primary market, rendering such a strategy unprofitable.

The district court’s decision was overturned by the Ninth Circuit Court of Appeals, and the Ninth Circuit’s decision was affirmed by the Supreme Court in 1992. Both appellate courts observed that for prices in the servicing market to affect demand in the primary equipment market, customers must be able to inform themselves of the entire cost of the “package” (equipment plus aftermarket parts and service for the life of the equipment) at the time they purchased the equipment. They also must be able to switch to an alternative equipment manufacturer upon encountering supracompetitive prices for servicing. The appellate courts deemed both requirements unrealistic for several reasons. Acquiring information on prices was difficult or impossible for customers. Prices for parts and services changed over time, pricing was often customer-specific, and gathering such information was expensive and time consuming. Moreover, customers who had already purchased Kodak equipment faced prohibitive switching costs; because Kodak was the only entity that could service Kodak machines, customers wishing to switch servicers would also have to buy entirely new equipment from an alternative supplier. Channeling the lessons of behavioral economics, these factors led the appellate courts to conclude that Kodak’s lack of market power in the tying market did not rule out the potential for supracompetitive pricing in the tied aftermarket.

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17 As explained by David Goldfine and Kenneth Vorrasi, however, federal district courts “have bent over backwards to construe Kodak as narrowly as possible,” thereby narrowing Kodak “to the point where it is simply no longer an effective weapon for antitrust plaintiffs.” David A.J. Goldfine & Kenneth M. Vorrasi, *The Fall of the Kodak Aftermarket Doctrine: Dying a Slow Death in the Lower Courts*, 72 *Antitrust L.J.* 209 (2004).
Signs of Influence?

Although one will not find the phrase “behavioral economics” in the 2010 Merger Guidelines, the agencies seem to be paying more attention to the lessons from Kahneman. For example, in April 2007, the FTC held a “Behavioral Economics and Consumer Policy Conference” that examined, among other items, how consumers process information and how it affects their purchasing decisions. In May 2012, the FTC hosted a seminar on drip pricing (that is, revealing hidden costs late in a multi-stage purchase process), which attracted several economists noted for their research into the ability (or lack thereof) of competition to limit harm to consumers in situations where firms shroud pricing from customers. The FTC also appears to be investigating Google under a theory of deception: although Google has claimed in the past that it wants users to get off its webpage as quickly as possible, it is increasingly providing its own answers in the form of “specialized search” results to users’ queries. Robert Litan and one of us (Singer) explain why such conduct does not likely harm competition, and why to the extent it does, the FTC could simply compel Google to change the disclaimer on its website.

Despite the acknowledgment by some courts that under certain conditions markets cannot always be counted on to prevent supracOMPETITIVE pricing, the application of behavioral economics to antitrust faces an uphill battle. Recently, proponents of behavioral economics have shown how behavioral theories might explain inconsistencies between the traditional assumptions embraced by antitrust authorities and observed behavior in the real world. Amanda Reeves and Maurice Stucke explain why firms and individuals may fall prey to cognitive biases and informational limitations that prevent them from acting “rationally,” and from pursuing socially optimal outcomes. For example, potential entrants often enter markets when they should not (“optimism bias”), and they fail to enter markets when they should. Behavioral economics offers several insights into why predicted merger-related efficiencies do not occur—including the tendency for executives to overestimate their own management abilities (“self-attribution bias”), and the potential for companies to let passion trump rationality in bidding wars.

Stucke and Reeves, as well as others advocating a “behavioral antitrust” approach, have provoked responses from those who believe that a “behaviorally informed” approach to competition policy is premature or unnecessary. For example, Gregory Werden, Luke Froeb, and Michael Shor conclude that behavioral insights do not add much to standard merger analysis. James Cooper and William Kovacic do suggest, however, integrating behavioral insights into the decision-making of regulators. Last, but not least, Joshua Wright and Judd Stone argue that behavioral economics does not yet undermine traditional microeconomic theories based upon the rational choice paradigm. Further, they call into question the assertion by behavioral antitrust proponents that incorporating cognitive insights uniformly leads to more antitrust intervention.

assumes that a given behavioral bias applies equally to all firms or actors in a market (incumbents and entrants) rather than only some firms, the predictions of theories grounded in behavioral economics may not materially differ from those offered by the rational-choice models embraced by mainstream antitrust analysis. Wright and Stone’s pushback to the behavioral enthusiasts is less a rebuke of behavioral economics in general, however, and more an invitation to further develop applications of behavioral economics (both from an empirical and theoretical standpoint). While Wright and Stone are probably correct that behavioral economics does not yet provide a unifying rubric for antitrust analysis, they acknowledge that current mainstream antitrust paradigms fail to reconcile theory with much of the observed behavior of firms and individuals.

Although Kahneman’s lessons have not upended the traditional antitrust paradigm, his work will likely have a lasting impact on the way we think about competition law.