

On the Verges of Overconfidence[†]

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Economists have been concerned about issues of overconfidence at least since Adam Smith (1776, Book I, Chapter X), who wrote in *The Wealth of Nations*: “The over-weening conceit which the greater part of men have of their own abilities, is an ancient evil remarked by the philosophers and moralists of all ages.” Titans of modern economics have had similar reactions to the “ancient evil.” Daniel Kahneman recently told an interviewer that if he had a magic wand that could eliminate one human bias, he would do away with overconfidence. As Shariatmadari (2015) reports: “Not even he [Kahneman] believes that the various flaws that bedevil decision-making can be successfully corrected. The most damaging of these is overconfidence: the kind of optimism that leads governments to believe that wars are quickly winnable and capital projects will come in on budget despite statistics predicting exactly the opposite.” Kahneman argues that overconfidence “is built so deeply into the structure of the mind that you couldn’t change it without changing many other things.”

Evidence concerning the prevalence of overconfidence is widespread and robust. Some of the results have even become fairly well-known in popular culture, like the findings that most drivers believe they are safer than a typical driver, or that

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[†] For supplementary materials such as appendices, datasets, and author disclosure statements, see the article page at <http://dx.doi.org/10.1257/jep.29.4.3>

doi=10.1257/jep.29.4.3

the unskilled tend to overestimate their abilities. The finding about driver overconfidence stems from a Svenson (1981) study, a lab experiment using undergraduate students as subjects, which found that 83 percent of American subjects believed that they were in the top 30 percent in terms of driving safety. The finding about overestimation of ability comes from a Kruger and Dunning (1999) study, which reports: “[P]articipants scoring in the bottom quartile on tests of humor, grammar, and logic grossly overestimated their test performance and ability. Although their test scores put them in the 12th percentile, they estimated themselves to be in the 62nd.” Overconfidence on both sides of a conflict may be linked to the willingness to fight a war (Wrangham 1999; Johnson 2004) or to the conditions that lead a strike to occur (Neale and Bazerman 1985). Garrison Keillor, long-time host of the popular radio variety show *A Prairie Home Companion*, each week includes a story about the people and events in the mythical town of Lake Wobegon. The monologue always ends this way: “Well, that’s the news from Lake Wobegon, where all the women are strong, all the men are good looking, and all the children are above average.” A “Lake Wobegon effect” and references to everyone being above average have become something of a *terminus technicus* in discussions of testing (for example, see Cannell 1988; Hartocollis 1999).

In social psychology and organizational behavior, overconfidence and other self-enhancement biases have been studied for decades (for example, Miller and Ross 1975; Langer 1975; Weinstein 1980). Overall, psychologists view above-average effects and comparative optimism as “perhaps the two most robust and widely replicated phenomena from the literature on social comparative judgments” (Chambers and Windschitl 2004, p. 1). Two prominent behavioral economists, Werner DeBondt and Richard Thaler (1995, p. 389) have stated: “Perhaps the most robust finding in the psychology of judgement is that people are overconfident.”

Economic researchers have started to explore the implications of this bias. In economics, the key question is how overconfidence affects decision makers: consumers, investors, chief executive officers, and others. Moreover, economists study these individual motivations in the context of a market, where interactions can lead to unexpected results. For example, we know that the interaction of self-interested individuals in a market can, as if led by an invisible hand, have desirable incentive effects. But what about a market consisting of economic agents who are both self-interested and overconfident? For example, if one or both parties are overconfident, they may underestimate the likelihood or the costs of not reaching an agreement, and thus make it harder for a market to function.

This symposium provides several examples of overconfidence in certain economic contexts. Michael Grubb looks at “Overconfident Consumers in the Marketplace.” Ulrike Malmendier and Geoffrey Tate consider “Behavioral CEOs: The Role of Managerial Overconfidence.” Kent Daniel and David Hirshleifer discuss “Overconfident Investors, Predictable Returns, and Excessive Trading.” A number of insights and lessons emerge for our understanding of markets, public policy, and welfare. How do firms take advantage of consumer overconfidence? Might government attempts to rule out such practices—say, by disallowing certain types of

offers by credit card companies that lead overconfident consumers along a welfare-decreasing path—end up providing benefits to some consumers but imposing costs on others? How can researchers use the timing of when chief executive officers choose to exercise stock options as a way of measuring overconfidence? How are empirical measures of CEO overconfidence related to investment and the capital structure of firms? Can overconfidence among at least some investors help to explain prominent anomalies in stock markets like high levels of trading volume and certain seemingly predictable patterns in stock market returns?

In addition, these essays on the economics of overconfidence offer a window into some key recurring issues in the current generation of studies of behavioral economics. One issue is that terminology about heuristics and biases borrowed from the psychology literature can turn out to be rather broad, at least initially. To pin down testable implications, we need to delineate a theory that specifies more precisely how such biased behavior differs from the traditional neoclassical approach. For example, overconfidence can manifest itself in various ways. It can involve *overoptimism*, which involves overestimating positive outcomes, either in terms of magnitude or in terms of frequency, and including outcomes that are not under one's own control ("number of gold medals the United States will win at the Olympics"). When the outcomes are (perceived to be) under one's control, such as one's own abilities or prospects, the term *overconfidence* is often used directly. This meaning is closely related to the "better-than-average" effect, in which individuals tend to overestimate their acumen relative to the average (Larwood and Whittaker 1977; Alicke 1985; Taylor and Brown 1988). Alternatively, overconfidence can take the form of *overprecision*, in which economic actors may hold accurate economic beliefs on average but underestimate the variance of possible outcomes—and in this way underestimate the risks they are actually facing. A number of researchers have demonstrated that people tend to have a strong belief in the effectiveness of their own intuition as opposed to statistical rules, even when there is strong evidence to the contrary (Dawes, Faust, and Meehl 1989; Grove, Zald, Lebow, Snitz, and Nelson 2000). Clearly, differing aspects of overconfidence like overoptimism and overprecision require rather different theoretical approaches—depending on whether the issue involves beliefs about the central tendency of a distribution, or beliefs about the underlying distribution of outcomes around that central tendency—and generate different empirical predictions.

The discussion of behavioral biases inevitably raises the question of how the bias can persist over time. Sure, a consumer or an investor or a top executive might be overconfident at certain times. But under the incentives created by market experience, shouldn't overconfidence be learned away? This question of why behavioral biases can persist has (at least) three interrelated answers.

First, learning may be more difficult in some settings than in others. For example, people tend to be more overconfident about their ability to perform tasks for which feedback is infrequent and inconclusive. The "hard/easy effect" postulates that people tend to be more overconfident about difficult problems and even underconfident about easy ones (Lichtenstein and Fischhoff 1977). As it is for the case of any belief-based bias, overconfidence can persist as long as the individual

can avoid learning about one variable by instead updating beliefs about another stochastic variable, for instance: “The reason why I am not going to the gym isn’t that I underestimated my self-control problems; it’s just that I am busier than I thought I would be” (as in DellaVigna and Malmendier 2006).

Second, different behavioral biases may reinforce each other. For example, overconfidence might persist in part because of hindsight bias, which is the tendency to believe with hindsight that something that has already happened was highly predictable, even when there would have been little basis beforehand for such a belief (Roese and Vohs 2012). It may also be strengthened by self-attribution bias, which arises when people who experience successful outcomes regard it as a result of their own skill, but blame unsuccessful outcomes on bad luck (Shefrin 2000, p. 101). The theory of cognitive dissonance, going back to Festinger (1957), argues that people experience stress when confronted with information that calls existing beliefs into question, and thus try to avoid facing such belief-changing information. Hence, cognitive dissonance also allows overconfident beliefs to persist. Other biases can be thought of as aspects of overconfidence, or ways in which overconfidence can manifest itself. For example, the illusion of control is a phenomenon experienced by most people who play a game of chance, in which they feel as if they can control the next roll of the dice or the next card they will receive (Langer 1975; Presson and Benassi 1996).

Third, a common theme across behavioral biases is that they may be a useful rule of thumb in some contexts and then spill over to other contexts where they are less useful—hence, the literature in this area sometimes refers to a dual perspective of “heuristics and biases” (as in Gigerenzer 1991). For example, overconfidence may help in bargaining situations or as argued by Schelling (1960 [1980], p. 23) in the context of international conflict and wars. Those who are overconfident about their own perceptions or abilities, or perceive risks as smaller than they actually are, may also be more likely to veer away from usual or accepted group perspectives, which can foster innovation (Bernanrdo and Welch 2001). In fact, even if overconfidence is not individually optimal it might be socially optimal in certain contexts, as Bernardo and Welch (2001) illustrate in the context of entrepreneurship.

An understanding of overconfidence thus matters both for its direct effects and its market implications in many arenas: consumer behavior and firm responses; investor behavior and financial markets; chief executive officer behavior and the market for corporate control; and even labor strikes and declarations of war. In addition, overconfidence is important throughout the study of behavioral economics because it helps to answer the question of why we all tend to hold so tightly to our own views, even when the rational part of our brains has been quite well-informed—whether through real-world experience or academic studies—that our judgment is diverging from textbook rationality.

■ *This introduction draws in part upon earlier drafts of the papers prepared for this symposium.*

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