

***Paving Wall Street: Experimental Economics and the Quest for the Perfect Market.* By Ross M. Miller. John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10158-0012, 212-850-6336 or 1-800-225-5945, www.wiley.com. 314 pages, \$34.95.**

Reviewed by Martin S. Fridson, CFA.

- Circuit breakers, or prearranged trading halts intended to curb market freefalls, are counter-productive.
- Derivatives, which are widely thought to intensify stocks' propensity to diverge from fundamental value, actually limit the tendency of bubbles to form.
- Despite the belief that market efficiency depends on the participation of rational investors, competitive equilibrium will reliably emerge in a market inhabited entirely by robot traders programmed to make random bids and offers.

These counterintuitive conclusions derive from simulated trading environments described in *Paving Wall Street: Experimental Economics and the Quest for the Perfect Market*. Author Ross M. Miller, a former academician and founder of Miller Risk Advisors, traces the evolution of this fascinating specialty within financial research. Beginning with simple classroom exercises conducted by Harvard's Edward Chamberlin in the 1940s, the field of experimental economics advanced to the "double oral auction" mechanism¹ introduced by Purdue's Vernon Smith in the 1950s and, from there, to today's highly sophisticated, computer-based auction markets in which students respond to real monetary incentives.

Anticipating the reflexive objection to the inherent artificiality of such approaches, Miller writes:

Despite the limitations of laboratory results, experimental methods are useful for the insights that they provide into how bubbles and other market anomalies come about. Furthermore, experimental markets are *real* and the bubbles that appear in them are *real*; it is just that the setting in which they are produced is not a product of nature, but rather is engineered by the experimenter to test a specific hypothesis.

Moreover, the discoveries of experimental economics are gradually working their way into the exchange of actual assets. For instance, U.S. federal law now mandates the sale of 700-megahertz electromagnetic spectrum by combinatorial auctions,² another mechanism originated by the experimentalists. Implementation has been delayed, accord-

ing to Miller, by "[b]ureaucrats [who] realize that by turning their regulatory authority over to markets they may greatly reduce their political power." Meanwhile, however, combinatorial auctions have been adopted in markets for certain assets less subject to governmental intervention, including pollution emission permits and cargo containers.

For readers to whom the intricacies of market structure are not intuitive, it is fortunate that Miller has a gift for explicating economic concepts. He further enhances the readability of *Paving Wall Street* by highlighting personality quirks of the economists he discusses. Thorstein Veblen, we learn, washed his accumulated dirty dishes with a garden hose, and Jeremy Bentham arranged for his corpse to be stuffed for public display.

As in any book as wide-ranging as this one, the author's erudition occasionally falls short. For example, Miller describes the adage "There is no such thing as a free lunch" as "Milton Friedman's famous saying." In reality, the eminent economist makes no claim to have coined the phrase, the use of which is attested as early as the 1930s. Additionally, Miller recounts how an investment banker hid "toxic waste" (highly volatile tranches of mortgage-backed securities) in his desk drawer, then found the drawers of his desk nailed shut as a prank when he started his next job. The subject of this anecdote was not an investment banker, however, but a bond trader. Finally, evidently unaware that a watermark is a line marking the tide's high or low point, the editors let stand the orthography "high-water mark." Sources such as the financial glossary accessible at www.creinvest.ch/85.html render the term, in the investment-management-fee-related sense in which Miller uses it, as "high watermark."³

Notwithstanding such minor imperfections, *Paving Wall Street* is both illuminating and provocative. For instance, Miller floats the notion of trading the aforementioned "toxic waste" debt tranches in casinos. "Given the pervasive role of technology in the gaming industry," he writes:

[i]t will make little difference to gamblers whether the numbers and fruitlike objects that appear on their slot machines, state lotteries, and Internet displays come from a microprocessor-based random number generator or are the leftovers from the kitchens of Wall Street's financial engineers.

Clearly, a peek into the burgeoning field of experimental economics will benefit investment professionals who want to expose themselves to fresh ideas.

—M.S.F.

Notes

1. In this arrangement, buyers and sellers participate on an equal basis, with bids and offers communicated orally to an auctioneer so that all participants can hear them.
2. A combinatorial or combined-value auction permits bids on baskets of items (such as broadcast licenses in adjacent regions), rather than individual items alone.
3. Readers should not imagine that Miller's hyphenated form is the original, authentic usage. According to William Morgan's *Illustrations of Masonry by One of the Fraternity* (1827, p. 22), the penalty for revealing the Freemasons' secrets is death, followed by burial "in the rough sands of the sea at low water-mark"—not low-water mark.

***Fooled by Randomness: The Hidden Role of Chance in the Markets and in Life.* By Nassim Nicholas Taleb. Texere LLC, 55 E. 52nd St., 40th Fl., New York, NY 10035, 212-317-5511, www.etexere.com. 203 pages, \$27.95.**

Reviewed by Mark S. Rzepczynski.

Wall Street traders and investment professionals are paid handsomely; consequently, they are quite confident in their trading skill. But whereas some surely earn their keep, most are just lucky. The same may be said of portfolio managers—regardless of their credentials. Nassim Taleb, in *Fooled by Randomness: The Hidden Role of Chance in the Markets and in Life*, pinpoints the reasons for our hubris concerning trading skill and richly describes our inability to appreciate fully the deeper philosophical problems of probability.

The greatest problem of risk may be our lack of critical thinking about induction and our confusions concerning chance. When we confuse luck with skill, coincidence with causality, or randomness with determinism, we create opportunities for trading failure. These qualitative aspects to understanding risk, which are not associated with measuring volatility, may be more relevant and more far-reaching for investors than the latest fads in statistics.

Taleb subscribes to a view that traders are vulnerable to mistakes in logic and to their own biases. His experiences provide colorful stories about the recent developments in behavioral finance, but he raises his arguments to another level by pointedly describing the market environment we live and deal with through a specific philosophical and probabilistic lens of randomness. Seemingly random events at the extremes, or just those events that are unanticipated, are often the key determinants of performance—good or bad—but we often place too little emphasis on these uncertain events. When we win, we believe our victory is skill, not the luck of the draw, and when we lose,

Mark S. Rzepczynski is president and chief investment officer, John W. Henry & Company, Concord, Massachusetts.

we dismiss the result as improbable and something that will not occur again.

Taleb focuses, from a fresh perspective, on the old controversies concerning the difference between risk and uncertainty. What we must fear most in trading is that which is unknown or is not measurable from past data. In this way, probability has a qualitative aspect because worrying about what happens in the future, not the events of the observable or countable past, is what is relevant.

Taleb is literate and erudite, a Tom Wolfe for quants and derivatives traders who provides rich descriptions of trading "masters of the universe" but with an edge that supports his view that much trading performance is driven by luck. He is strident and opinionated, so some who are skewered by his opinions would hate to have him as a colleague, but everyone should take to heart his thesis on the threat of randomness.¹ Taleb, as was George Soros, has been influenced by the great 20th century philosopher of science Karl Popper.² He invokes the tale of the black swan as a metaphor for the risk problem associated with the use of inductive logic: No matter how many white swans we may count or see, we do not have proof that a black swan does not exist. Applied to markets, the lesson would be: Just because an event has not occurred does not mean it will not occur. The quest of the great trader is to anticipate the unexpected and prepare for the rare events, even at the expense of near-term profits. Playing with this strategy may not get you world fame, but it may ensure that you will be able to stay in the game.

For Taleb, the how and why of return generation is critical; the end result matters least. We underestimate randomness and confuse noise for meaning. To stay in the game, traders have to minimize their maximum loss through expecting the unknown and random market behavior. Markets are at times unstable and nonstationary, and it is during those times that we face the greatest risks. Investors should play the "odds" that random or rare events will occur. Taleb's most prescriptive advice is to use alternative histories as an important method of introspection about the markets. The paths not taken can reveal important information.