which draws on some aspects of ancient thought, is one attempt to restore the ethical tradition of economics. There are others.

More fundamentally, serious discussion of ethical issues in economics needs to be legitimized. While some discussion and research has commenced along these lines (including aspects of behavioural economics), much more is required before it can be regarded as having entered the mainstream. The positive/normative distinction in economics has been a disaster. If the ethical tradition is to be restored to health, and coexist with engineering, the value-free rhetoric of modern economics must be abandoned. Only then can discussion of ethical motivations, human flourishing, and ethical social achievements begin in earnest.

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Models. Behaving. Badly: Why Confusing Illusion with Reality Can Lead to Disaster on Wall Street and in Life

Emanuel Derman

New York: Free Press, 2011 (230 pages)

That financial models are metaphors for reality (instead of *being* reality) is quickly gaining acceptance. This does not imply we should eschew their use, but rather that we must use them with a good dose of humility. Columbia University professor Emanuel Derman explains through analogies why, after twenty years as a Wall Street quant, he cannot place his trust in the accuracy of the models he used (and built) throughout his career.

Were this the end of the *Models. Behaving. Badly.* story, it would be little different from any one of Nassim Taleb's ventures to bring realism to financial theory. Derman goes two steps further. On the one hand, he delves into the basics of what a model is and is not and why financial markets do not open themselves to theories necessitated for proper modeling. On the other hand, he draws real implications from this, in the form of the ethical commitments that end users of financial theory should abide by. Both these aspects will interest readers of the *Journal of Markets & Morality*, though it is the specific ethical implications that set this book apart from its peers.

Derman makes heavy use of rationalism, especially that of Baruch Spinoza. This multidisciplined approach is refreshing, and the fresh vantage points bring the reader to new perspectives.

As an example, consider Spinoza's three primitive sensations: desire, pain, and pleasure. Derman uses this three-pronged framework to look at money, "a topic fraught with a variety of emotions" (88). Once upon a time coinage evoked all three sensations: the pain of mining and creating commodity money balanced the pleasures it could purchase today, as well as the desires it would secure in the future. Fiat money breaks this trinity; the lack of pain associated with its creation reduces the "value and respect" that we afford it. In this way, the book complements Jörg Guido Hülsmann's *The Ethics of Money*

Production (2009, Ludwig von Mises Institute), both providing welcome additions to the sparse but necessary literature on the ethics of monetary aspects of the economy. Derman is able to touch on money specifically, and then extrapolates it to the larger financial field. Many of the conclusions in Hülsmann's book are theoretically pinned to this skewing of the cost-benefit calculus of fiat money production.

If models are forever tainted as metaphors due to their necessary lack of realism, then theories, as Derman conveys, are a more pure beast. Theories deal with absolutes, and as such provide the ultimate in complex value-free statements. It is no surprise that most accepted theories concern inanimate matter—Newtonian mechanics, electromagnetic theory, relativity, and quantum mechanics—all of which Derman (whose PhD is in physics) expertly navigates. What about the other absolutes? Chapter 3, "The Absolute," deals with the idea of God, "the ultimate ground beneath all metaphors" (73).

Social scientists must search for a tenuous balance. On the one hand, the search for truth calls for the researcher to pursue value-free theories as in the natural sciences. At the same time, the social nature of our studies must stem from some ultimate absolute—one that we may ascribe to ethics, shared values, or, in Derman's case, a greater Being. The conflict that arises is evident: "If you cannot distinguish between God's creations and man's idols, you may mistake your models for laws" (144). While much press directs ire at unearned and even false profits in the financial industry, Derman's warning suggests that we should rather beware false prophets masquerading as sophisticated financial modelers.

An extension of Spinoza's three categories of knowledge—adequate, inadequate, and intuitive—is used to demonstrate where financial modelers' humility must come from, and why it is important. Adequate knowledge is global; it transcends time and place. Theories are adequate knowledge, and can be used with full confidence of their applicability. Models are inadequate, in the sense that they cannot explain a phenomenon generally. Take a simple question: What caused the United States' subprime crisis? Most of us would likely take recourse in a long series of regressions, and which of the two prevailing ultimate sources of financial imbalance we eventually choose (the glut of global savings, or a too-low, too-long interest rate policy) is largely inconsequential. What is of consequence is that any theory we use to explain the crisis will be limited in scope, and any model we apply will be necessarily inadequate.

To bridge the gap between these two types of knowledge Derman recommends intuition. This is a curious part of the book, and his use of intuition largely complements Ludwig von Mises' contribution to the theory of *Verstehen*, or understanding, in his *Theory and History* (New Haven, Conn: Yale University Press, 1957). That an intuition when using models is instrumental in projecting their results into the future is evident in Derman's discussion. It is a curious link because it severely limits the role of the academic, and places a larger emphasis on the entrepreneur (or user of financial models in Derman's emphasis) to determine the causes of the crisis and the best path forward.

The book is not without its faults. Illustrated mostly through anecdote, Derman loses the readers in several lengthy and only tangentially related stories. His discussions and applications of the relationships between physics and financial modeling may throw some readers off, and although this reviewer is knowledgeable of and interested in these links, he, too, thinks that they could have been better presented to ease the layman. These points may make the book a tough read at points but do not detract from its wider message.

Derman finishes with a concrete application that business schools are mostly paying only lip service to—a financial modeler's manifesto. In his "Modeler's Hippocratic Oath," he concisely clarifies what is and is not wrong with the way that we approach financial modeling, and how we should ourselves be cognizant of these faults, as well as making others aware of them. Adherence to such an oath would do much to alter the current disillusionment aimed at capitalism and financial markets, to direct it at the true culprit: a lack of understanding of our use of knowledge, and the constraints this places on our actions.

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Luis de Molina's *De Iustitia et Iure*: Justice as Virtue in an Economic Context

Diego Alonso-Lasheras

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Diego Alonso-Lasheras' revised dissertation examines Luis de Molina (1535–1600) as a moral theologian through a study of the economic teaching in the Jesuit theologian's *De iustitia et iure*. He observes that scholars from Marjorie Grice-Hutchinson to Francisco Gómez Camacho have shown the importance of the Spanish Scholastics—and of Molina in particular—to the history of economic thought before Adam Smith. For this reason, the book does not set out to explain Molina's economic teaching as such but instead examines its place in his broader moral theology. This approach provides an important counterweight to the appropriation of the late scholastics by some classical liberals.

Alonso-Lasheras sets Molina into the context of economic, technological, and scientific changes that resulted especially from the Spanish conquest of the New World. Using the language of Kuhnian paradigm shifts, the author describes the ways in which theology took part in these changes, particularly the crisis of Aristotelian philosophy. The encounter with the natives of the Indies and the debate about their rights and about how to work toward their conversion led to profound shifts in moral theology. In 1553, Domingo de Soto, a Spanish Dominican, inaugurated the genre of treatises on justice and law (*de iustitia et iure*) that employed the structure of Thomas Aquinas' *Summa theologiae* but addressed new problems and offered much more extensive treatments of legal, political, and economic issues. The author often suggests that the attention of nominalists to experience and to the concrete encouraged Spanish theologians in the sixteenth century to investigate social and economic issues. The book, however, does not provide compelling evidence of direct nominalist influence on Molina.

Molina's fame rests, however, on his contribution to the *De auxiliis* controversy over predestination, grace, and free choice that divided Dominican and Jesuit theologians.