The Review of Austrian Economics
https://doi.org/10.1007/s11138-024-00650-6

Patrick Schotanus, *The market mind hypothesis: Understanding markets and minds through cognitive economics*. Berlin/Boston: Walter de Gruyter (2023) LXVII + 426 pages. Paperback

Matthew Kelly[1]

© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2024

Patrick Schotanus of the Edinburgh Futures Institute at the University of Edinburgh has authored an ambitious book. *The Market Mind Hypothesis* (MMH) combines cognitive psychology with financial economics to articulate a phenomenology of market exchange under reflexive uncertainty, promising no less than a solution to philosophy's mind–body problem along the way. The book meanders but is frequently insightful. Despite stylistic quirks, readers will find much inspiration in this well-researched interdisciplinary text.

The essential thesis of MMH is simple: markets are like minds; minds are like markets. There exists an economy of mental exertion. Prices transfer information like neurons firing in the brain. Is this a trivial parallel or a revolutionary paradigm shift? The importance of these cybernetic similes is sometimes elusive. Readers must circle the hypothesis like a blind man sensing an elephant, feeling about as different anecdotes, quotations, and metaphors gradually give form to the argument. Patient readers are eventually rewarded.

The forward, prologue and introductory sections are followed by 12 chapters, interspersed with standalone textbox notes. These notes, which sometimes feel superfluous, relate the MMH to everything from ESG (Environment, Social, Governance) investing to political correctness. Chapter 1 introduces markets as social adaptations that co-evolved with human consciousness. Chapter 2 critiques "mechanistic" neoclassical economics and juxtaposes it with the organic MMH framework. Chapters 3 and 4 review issues related to cognitive science and epistemology.

The 5th and 6th chapters discuss behavioral economics and complexity science. Halfway through is an intermezzo by psychologist and complexity scientist Scott Kelso, who admits the MMH is speculative while reassuring us it is grounded in solid science. The next four chapters are concerned with price discovery, portfolio

✉ Matthew Kelly
Matthew.Kelly1@utdallas.edu

[1] Department of Finance, University of Texas at Dallas, Richardson, TX, USA

Published online: 12 August 2024

theory, empirics, and criticisms, respectively. The book's final two chapters summarize and conclude with a call to action: "drain the swamp" of the dehumanizing Smithian "men of system."

Over the course of the book something like a "weak form" of the MMH slowly emerges. Human beings are conscious. Qualitative elements of the market influence asset and commodity prices in ways that neoclassical finance does not capture. "What makes us human is—more than anything—our consciousness… consciousness values but is itself invaluable and precious." (p. 243) In markets, "emotions are what people do together" (p. 60) and shared "market moods" are understudied phenomena.

To describe market moods, MMH assimilates behavioral economics, while resisting epistemic paternalism. Relating his theory to Daniel Kahneman's (2011) system 1 (emotional, instinctive) and system 2 (rational) concepts, Schotanus insists these two modes can only be instantiated within a third system associated with *being itself*. Whether traders are being rational or irrational, they are "being in the market," present and reflexively participating in the world. Quotations from Heidegger (1927) clarify the point, while quips from investors like George Soros (1987) reinforce it with experience.

The more provocative "strong form" of the MMH will surely strike Austrian readers as suspect: markets are conscious organisms. The shared mood of the market is more than a mere background condition or an observed spontaneous order. Schotanus considers "the market as [a] collective entity to be conscious…" (p. xxix). Intersubjective trade suggests the actions of a genuinely collective being. (I can almost hear the methodological individualists bristle.) Schotanus cites Carl Jung (1934) alongside several contemporary psychologists to support his claim. Investing "takes place anonymously… you do not directly trade with… any other person. You trade with Mr. Market" (p. LVII). But does anonymity imply collectivity? Schotanus surely knows buyers and sellers trade with intermediary market makers staffed by, who else, but individuals. Readers are nonetheless encouraged to think of the crowd, mad or wise, as an organic whole.

Can this "strong form" of the MMH hold? Readers who come to scoff may stay to appreciate the subtlety in Schotanus' presentation. After all, where does individual consciousness begin and end? Schotanus' main contribution is an application of the 4E cognitive science framework to financial markets. The 4 E's stand for embodied, embedded, enacted, and extended. Schotanus sees Hayek's *Sensory Order* (1952) as the proper microeconomic foundations of capital theory and sociology, all of which he says can be subsumed by 4E cognitive science. So, the market should be studied like a mind. What is a mind anyway? More than the brain, it has no fixed boundary. Schotanus' review of cognitive psychology literature elevates his conjecture nearer to a qualified scientific proposition.

Schotanus is a self-described "pracademic," having worked in banking and portfolio management for almost thirty years. The book is not a memoir, but personal experience enhances the narrative, especially when describing the psychology of traders in a vol-induced "flow state."

Schotanus aims to launch an empirical research program. In chapter 9, he proposes empirical tests meant to verify his hypothesis. New experimental instruments must first be fashioned. The author suggests an imaginary machine to sonify market data, giving fluctuations an audible representation to enhance users' felt connection with prices. One imagines Dr. Schotanus fiddling with the dials of such a machine alongside his Bloomberg terminal, listening intently for musical patterns. Improved profitability would presumably validate the hypothesis. Although this reviewer was not convinced that data from such an experiment could reject or fail to reject the MMH, this part of the work is compelling. Skeptical readers are asked to conjure experimental designs that *would* work. Perhaps the ineffability of consciousness means no such test exists. But if that makes the MMH unverifiable, it never ceases to be intellectually stimulating.

However, some applications of the MMH framework to contemporary finance seem inconsistent. For example, Schotanus asserts passive index funds (a popular way to diversify savings) make markets inefficient because they encourage groupthink. This take is not unique to Schotanus, but misses obvious rebuttals (e.g., the Kirznerian retort is that if indexing is so pernicious, alert individuals would profitably create alternative investment strategies). Psychological metaphors, like indexing as "mindless" herding, sometimes lack economic intuition.

The MMH adopts Hayek's practical dualism, identifying production with physical reality and financial asset prices with psychological reality. The dialectic dance between the ideal and material is recorded as objective market value. "… the practical message of this book for cognitive science is that financial markets provide insights in the elusive but irreducible collective dimension of human consciousness, backed up by large amounts of empirical data waiting to be further (and freshly) explored *from this new perspective*" (p. 238).

Readers may find Schotanus' writing challenging. Word salad is on the menu with sentences like, "Experiences are specific but produce a mixed return when entangled in our mind–body portfolio" (p. 242). Some readers may dislike the element of mysticism in the MMH. For example, since All is One (twentieth century Zen master Alan Watts (1951) is quoted to support that premise) all humankind manifests financial crises. "Financial instability can thus basically be reduced to a metaphysics mismatch whereby any resulting crisis is the rebalancing in the economic mind-matter realm" (page XLV). The numerological significance of price is also a theme, e.g., the "Devil's Low" in 2009, when the S&P 500 plummeted to 666. Such uncannily ominous prices contain "subliminal messages". These free associations are a stylistic stretch not all readers will entertain, but ultimately add to the book's charm.

Critiques aside, Schotanus succeeded in convincing me that his MMH has merit. Beliefs inform action, so the belief that markets have minds of their own demands serious study by economists seeking causal-genetic explanations rather than positivist prediction. Can cognitive economics provide a qualitative methodology to better describe spontaneous market orders? Why not?

The MMH demands an open-minded reader. Though it teeters under its breadth, the book is necessary and guaranteed to stimulate new ideas. Anyone seeking a fresh perspective on the market order will be glad to read the MMH.

References

Hayek, F. A. (1952). *The sensory order: An inquiry into the foundations of theoretical psychology*. University of Chicago Press.
Heidegger, M. (1927). *Being and time*. (J. Macquarrie & E. Robinson Trans.). Blackwell Publishers. 1998.
Jung, C. (1934). The archetypes and the collective unconscious. In: Gerhard, A., & Hull R. F. C. (Eds.), *The collected works of C.G. Jung, Vol. 9, part I*. Routledge.
Kahneman, D. (2011). *Thinking fast and slow*. Penguin.
Soros, G. (1987). *The alchemy of finance: Reading the mind of the market*. John Wiley & Sons Inc.
Watts, A. (1951). *The book: On the taboo against knowing who you are*. Pantheon Books.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.