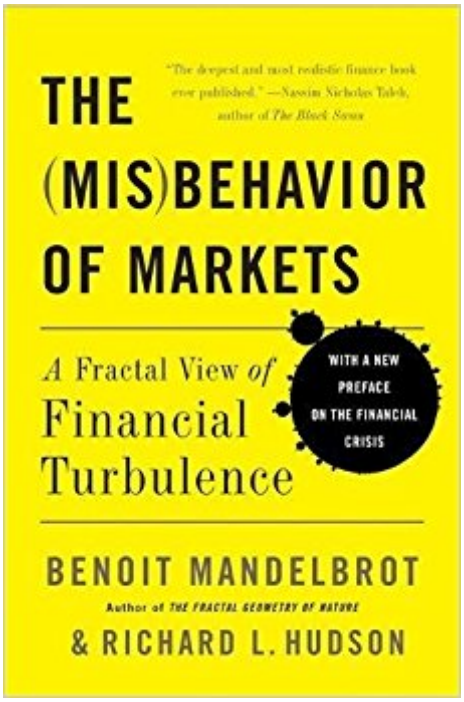
The Misbehavior Of Markets: A Fractal View Of Financial Turbulence



Synopsis

Mathematical superstar and inventor of fractal geometry, Benoit Mandelbrot, has spent the past forty years studying the underlying mathematics of space and natural patterns. What many of his followers don’t realize is that he has also been watching patterns of market change. In The (Mis)Behavior of Markets, Mandelbrot joins with science journalist and former Wall Street Journal editor Richard L. Hudson to reveal what a fractal view of the world of finance looks like. The result is a revolutionary reevaluation of the standard tools and models of modern financial theory. Markets, we learn, are far riskier than we have wanted to believe. From the gyrations of IBM’s stock price and the Dow, to cotton trading, and the dollar-Euro exchange rate--Mandelbrot shows that the world of finance can be understood in more accurate, and volatile, terms than the tired theories of yesteryear.The ability to simplify the complex has made Mandelbrot one of the century’s most influential mathematicians. With The (Mis)Behavior of Markets, he puts the tools of higher mathematics into the hands of every person involved with markets, from financial analysts to economists to 401(k) holders. Markets will never be seen as "safe bets" again.

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Customer Reviews

Nassim Nicholas TalebÃ¢â ¬Å“The deepest and most realistic finance book ever published.Ã¢â ¬Â•

Benoit B. Mandelbrot is Sterling Professor of Mathematical Sciences at Yale University and a Fellow

Emeritus at IBM's Thomas J. Watson Laboratory. He is the inventor of fractal geometry, whose most famous example, the Mandelbrot Set, has been replicated on millions of posters, T-shirts, and record albums. He was a leading figure in James Gleick's Chaos and has received the Wolf Prize in Physics, the Japan Prize in science and technology, and awards from the U.S. National Academy of Sciences, the IEEE, and numerous universities in the U.S. and abroad. His books include Fractals: Form, Chance and Dimension, which was later expanded into the classic The Fractal Geometry of Nature, which has sold more than 200,000 copies. This is his first book for lay readers on finance, a subject he has studied since the 1960s. He lives in Scarsdale, New York. Richard L. Hudson was the managing editor of the Wall Street Journal's European edition for six years, and a Journal reporter and editor for twenty-five years. He is a 1978 graduate of Harvard University and a 1991 Knight Fellow of MIT. He lives in Brussels, Belgium.

Great book (albeit incomplete if you're looking for definitive answers) that discusses the shortcomings of risk assessments for financial products and portfolios. As others have said, the author has posed several questions regarding the validity of financial practitioners' existing tools in corporate finance (valuation), options, and portfolio theory. One answer: multifractal theory; which the author posits could be the foundation for the next class of financial economists (best case).My key takeaway from this book is that market participants' tools underassess risk and thus market participants should be wary of becoming model-dependent.Additionally, supporting research and proofs are in the appendix or on the book's designated website for the more curious readers.

Mandelbrot shows that modern finance has a problem.He examines CAPM, MPT, and Black-Scholes and shows that these models have major issues, mainly rigid assumptions.He then shows that fractals provide a more realistic approach.Before reading this book, I have only heard about fractals. It is interesting that fractals can be used in finance.However, as the other reviews suggest fractals have some issues as well (large subjectivity!).Overall, the book is still a good read because Mandelbrot shows the issues in modern finance and tries tosuggest a better approach (fractals).

This book should be required reading for all of Wall Street's money managers. It would have saved billions of their clients' money.Let's look at the Long Term Capital disaster. Intelligent people, Nobel laureates, so what went wrong? The answer is simple: fat tails! (The concept that supposedly one-in-a-billion events are, in fact, not unusual). Clearly, it was not lack of intelligence that caused

their downfall, but a childish reliance on flawed financial theories.Mandelbrot identifies and explains the flaws. True, he does not provide an alternative theory, but perhaps the whole point is that financial markets, being chaotic systems, are not predictable.Let’s look at another chaotic system, the weather. Here the parameters such as temperature, wind speed, humidity, are easily measurable. Yet, we still cannot predict the weather accurately for more than a day or two. How then can the stock market, which is far more complex than the weather, be predictable, when most of the parameters that affect it are not measurable, and some are not even known?Perhaps the weakest part of the book is the beginning of a theory that Mandelbrot tries to found. He suggests that fractal equations produce charts that look and feel like real stock price charts, and that there might be some connection that can be exploited to predict or describe financial markets. He does not, however, go beyond this suggestion and hopes that someone else would develop his theory.Bottom line: Mandelbrot’s "fat tail" theory explains the financial disasters suffered by many "brilliant" money managers. It does not predict the market, but explains the risks of conventional capital market theories. It saves you money, and after all a penny saved is a dollar earned.

Mandelbrot never was a traditional scientist: he rather liked pictures, he was quite appreciative of qualitative theory,...This books compiles his views, theories and struggles in the financial maths department. He shows us the "current", accepted but above all, WELL ESTABLISHED theories and proceed to show how these are either wrong or in urgent need of improving, which he does (show how to improve).This is how financial mathematics should be done: from data to theory, not the other way around. The maths EXPLAINED in this book (he does NOT go into equations but he does speak about some mathematical properties of systems, distributions,...) may, sometimes, be just a little too difficult for the everyday reader but with just a touch of perseverance I believe even everyone can learn from this book.

The one downside about this book (and I find other books like this) is that it ends up being long for the level of detail contained. An 15 page essay could probably capture the most salient points of the book quite easily. Regardless, I’m partial to the book because I find it a relatively rational and clearheaded approach to markets. Many theorists these days who have seen the efficient market theory fail pounce on the opportunity and hail their theory as the new lens through which markets should be studied -- Soros, Lo, Talib, and the list goes on. Mandelbrot is no different, but he identifies the shortcomings of his theory in a much more palatable fashion than I’ve seen from some other authors, easing you into his ideas. He plainly says that his theory is a new mathematical

approach to securities prices, and not a mechanism by which to make money (at least not yet). His application of fractals from nature to securities prices does make intuitive sense. His work in other fields shed light on what you may find in the book: "Clouds are not spheres, mountains are not cones, coastlines are not circles, and bark is not smooth, nor does lightning travel in a straight line" -- neither do security prices follow smooth curves. He leaves the math out of this book, but certainly embarks on a fresh approach without sounding like he's found the Holy Grail.