

James Montier on the Failures of Modern Finance

By Robert Huebscher

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The seeds of the next crisis have already been sown, according to James Montier – and they are fundamental flaws buried deep within the current theory and practice of finance. Bad models were the root of the financial crisis, Montier said, and a slew of behavioral biases are reinforcing financial instability today.

Montier is a member of the asset allocation team at Boston-based Grantham Mayo van Otterloo. He delivered the opening keynote presentation on May 6 at the CFA Institute Annual Conference in Chicago.



A mere four days later, JP Morgan's CEO, Jamie Dimon, revealed that his firm lost \$2 billion because of a derivatives-trading strategy that he deemed ill-conceived and poorly executed.

Montier did not mention Dimon or JP Morgan in his talk, but his warnings about the limitations of banks' risk management tools all but foretold the disaster.

Dimon steered his firm away from the losses that befell other banks during the financial crisis, building a reputation as a shrewd risk manager during his time at the helm of the nation's largest bank. But, as Montier warned, financial theory still lacks the tools to fully understand and manage risk, leaving practitioners vulnerable to predictable surprises.

The financial industry is guilty of a "massive neglect of risk," Montier said. He blames our under-appreciation of Black Swans and our inability or unwillingness to confront what he called "predictable surprises."

"Predictable surprises are really about situations where some people are aware of the problem," he said. "The problem gets worse over time and eventually explodes into crisis."

Montier offered some advice to investors for navigating the dangers posed by flawed theory, but first let's review what he identified as the failures of modern finance.

Bad models are to blame

The flaws in our models, policies, incentives and behaviors – and the interaction among them – set the stage for the global crisis, Montier said.



Foremost among the bad models Montier cited was value-at-risk (VaR), a tool used to measure the size and likelihood of potential losses to a portfolio. (A portfolio with a one-day 5% VaR of \$1 million, for example, has a 5% probability of losing \$1 million in the next day.) The calculation of VaR is typically based on historical results and the assumption that returns are normally distributed.

The problem with VaR, as Montier and many others have noted, is that it ignores the extremes of distributions – the potential for “black swan” adverse outcomes that appear unlikely based on the historical data, and so are underrepresented in a normal distribution.

Moreover, Montier said that VaR ignores the systemic risk created by the large number of institutions that use it. As volatility and perceived risk increases, those institutions – relying in concert on the same VaR-based models – are forced to sell simultaneously. The leverage in their portfolios amplifies price declines.

Montier said that the adoption of VaR began in earnest in the early 2000s, and it accelerated the use of debt by banks, many of which were leveraged up to 35 times. “There is absolutely no margin of safety there,” he said. “Everything has to go to perfection when you are leveraged 35 times, because it takes virtually no asset damage to completely eradicate your shareholders.”

Compounding the inadequacy of VaR-based models is that regulators have adopted them, too. Montier likened that to allowing children to grade their own homework.

Physicists and financial theorists share a reliance on models, but Montier drew a clear distinction between them. There is a desire, he said, to turn finance into a complex field, like physics, and use difficult equations and identify solutions.

But that is inappropriate, because physicists are naturally aware of the limitations of their models and the fragility that stems from data extracted from experience. Not only do financial practitioners fail to compensate for those weaknesses, Montier said, but they often “actively seek to exploit them.”

He used the capital asset pricing model (CAPM) as an example. It is based on a number of assumptions, such as ignoring transaction costs and liquidity, and using volatility as the only measure of risk. CAPM fails to work consistently, Montier said, because those assumptions are routinely violated. For example, as the failure of Long Term Capital Management demonstrated, a highly leveraged portfolio will face extraordinary risks when markets become illiquid. “We still haven’t learnt that lesson,” Montier said.

Benjamin Graham recognized the dangers of mathematical models, Montier noted. In 1958, Graham wrote, “Mathematics is ordinarily considered as producing precise, dependable results. But in the stock market, the more elaborate and obtuse the mathematics, the more uncertain and speculative the conclusions we draw therefrom.



Whenever calculus is brought in, or higher algebra, you can take it as a warning signal that the operator is trying to substitute theory for experience.”

The causes of bad behavior

But it is not just the models that are at fault; Montier blamed practitioners equally. He cited the NRA slogan, “It’s not guns that kill people; It’s people that kill people,” and a rebuttal, “People kill people, but so would monkeys if you give them guns.” Montier said he takes a similar view of financial practitioners and financial models.

“If you were to give a bunch of monkeys a CAPM pricing model or a VAR risk model, you will end up creating a financial crisis,” he said. “In fact, I am pretty sure that is just what we have done.”

Monkey-like decision making is driven, in part, by a number of behavioral biases that Montier discussed. I am sure that most are familiar to our readers.

One is our over-reliance on experts’ opinions – advice he said is usually “wrapped up in a huge dose of mathematics. Experts, unfortunately, have the effect of turning our brains off.” Montier then jokingly assured the audience that he was not an expert in anything.

Automation bias is our tendency to defer to technology, and to assume that computers and models are largely accurate; this bias reinforced the use of VaR.

Narrow framing prevents us from looking at the broader perspective, and leads to questionable shortcuts, such as defining risk as volatility. Montier cited a statement by UBS, which attributed its post-2008 problems to relying too heavily on data from a period of time that had gone relatively well. “We have virtually no doubt that these behavioral biases actually matter for the world of finance,” he said.

We are biased to be overly optimistic, according to Montier. That could be an evolutionary phenomenon, he said, because primitive humans would have never left their caves to hunt woolly mammoths if they understood that the odds of success were very low.

Intentional blindness – the habit of seeing only what one expects to see – is well-known, most famously illustrated by [experiment](#) where an “invisible” gorilla walks through a scene while participants are told to count the number of times a ball was passed around.

Distorted incentives underlie bad decision making, as Montier illustrated. Auditors are victimized by a self-serving bias, driven by incentives that reward them for providing favorable assessments in order to retain clients. In the run-up to the financial crisis, mortgage originators had the same problem – commissions incented them to lend to riskier borrowers.



Sometimes it's asymmetry of incentives that creates problems. Montier said that rewarding corporate executives with options may seem reasonable on the surface, but not once one considers that managers who get options are left with far greater possible gains than what they have to lose. They make riskier decisions as a result.

Better models and better decisions

Overcoming the limitations of financial theory and the biases of its practitioners will be difficult, but Montier offered some recommendations.

Practitioners embrace complexity, Montier said, because it protects their careers. It impresses others, allows them to charge high fees and keeps outsiders out, he said. "We rely on complexity to baffle and bamboozle."

"Treat all financial innovation with extreme skepticism," Montier admonished. He said almost all financial innovation could be reduced to ways to get leverage back into the system. "Know the limits of your models, and don't try to exploit them."

Don't build models with the goal of obtaining an optimal outcome, such as the best risk-adjusted return, Montier advised, because optimality cannot possibly exist unless you can predict the future. Optimality is known only after the fact, so "instead of obsessing about optimality, we need to consider robustness," he said. "Build portfolios that are designed to survive multiple different environments."

Indeed, one of Montier's seven immutable [laws](#) of investing is that, if you don't understand something, you shouldn't invest in it.

To overcome biases, Montier's best advice was to follow the financial equivalent of the Hippocratic oath that was proposed by Emanuel Derman in 2008:

- I will remember that I didn't make the world, and it doesn't satisfy my equations.
- Though I will use models boldly to estimate value, I will not be overly impressed by mathematics.
- I will never sacrifice reality for elegance without explaining why I have done so.
- Nor will I give the people who use my model false comfort about its accuracy. Instead, I will make explicit its assumptions and oversights.
- I understand that my work may have enormous effects on society and the economy, many of them beyond my comprehension.

"If only that could be incorporated into the CFA code of ethics," Montier said, "I would be a very happy man."



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