Dimensional

PERSPECTIVES

Celebrating Groundbreaking Research with Giants of Finance: Robert Novy-Marx

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KEY TAKEAWAYS

- This year marks the anniversaries of research that laid the foundation for a new way to invest.
- Merton's Intertemporal Capital Asset Pricing Model (ICAPM) (1973), the Fama/French three-factor model (1993), and Novy-Marx's profitability research (2013) underpin Dimensional strategies.
- In the third of three conversations, we hear from Robert Novy-Marx about finding profitability as a driver of expected stock returns.

Since 1993 and the publication of the Fama-French three-factor model, academia and members of the investment industry have proposed more than 400 other factors. Most of those lack a strong theoretical underpinning or additive value. However, in 2013, an academic out of the University of Rochester, Robert Novy-Marx, published an influential paper that showed profitability is a long-term reliable driver of differences in expected stock returns, just like size and value. This catapulted profitability, also known as quality, into its role as a key factor for systematic equity strategies.

The year 2023 marks the anniversaries of that and two other breakthroughs in financial science that underpinned a new way of investing—factor investing—which combined the low cost, transparency, and diversification of index investing with a systematic pursuit of higher expected returns:

- Fifty years since the publication of Robert C. Merton's Intertemporal Capital Asset Pricing Model (ICAPM), which provided the theoretical framework for multifactor investing.
- Thirty years since the development of the three-factor model of Eugene Fama and

Kenneth R. French, which paved the way for the implementation of multifactor systematic investing.

- Ten years since the publication of the profitability research of Robert Novy-Marx, which added the profitability premium to the ranks of size and value as an important long-term driver of expected stock returns.

In honor of these 50-, 30-, and 10-year anniversaries, I had the great fortune to interview the pioneers themselves on their findings. In this series of three articles, I asked Bob, Ken, Gene, and Robert about the impact and continuing relevance of their groundbreaking work. Here, in part three, Professor Novy-Marx talks about why it took so long and how profitability works with the other factors.

10 YEARS OF PROFITABILITY

Professors Fama and French always knew the three-factor model they introduced in 1993 did not explain everything—it is a model after all, not reality. But it was another 20 years before someone provided strong empirical evidence of a fourth factor beyond market, size, and relative price: profitability.

Savina Rizova

: The link between profitability and expected stock returns comes from the valuation theory, which has been known for decades—the expected return on an investment depends on the price you pay today and on the expected future cash flows. Why did it take us so long to show empirically the importance of this link for practical investment solutions?

Robert Novy-Marx

: First, I think analysts' focus on bottom-line earnings misdirected early tests of profitability. Broader measures of profitability from farther up the income statement more accurately reflect economic profitability, have more power predicting future profitability, and are much better for identifying differences in expected returns across stocks.

Savina

: So we'd just been looking in the wrong places?

Robert: Well, there's also another, subtler reason that finding the link between profitability and practical investment solutions was difficult empirically. This is driven, ironically, by the fact that value and profitability are so deeply connected through the valuation equation. The intuition from the valuation equation says that, holding all else equal, firms with lower relative prices are being priced using higher discount rates, and thus have higher expected returns. Similarly, and again holding all else equal, it says that firms with greater profitability are being priced using higher discount rates, and thus have higher expected returns.

The part about "holding all else equal" is, however, critical. When you just look for profitability on its own, and don't hold all else equal, the premium is obscured by the fact that more profitable firms tend to be more expensive. That is, simple, univariate profitability strategies tend to have a growth tilt, and this headwind made it harder to identify the profitability premium. That is why profitability and value work so well together. It's also why I named my original profitability paper, "The Other Side of Value"!

Savina

: You mean the value and profitability premiums are connected at the hip, so you can't think about one without the other?

Robert

: I've always preferred to think about profitability as a way of making the price signal in value more informative. We've already talked about how holding all else equal firms with lower relative prices are priced using higher discount rates, and thus have higher expected returns. But everything else isn't always equal. In particular, while low prices help you identify high discount rates, they also help you identify low future cash flows.

The fact that cheap firms tend to have lower future cash flows makes the price signal less informative. Incorporating profitability helps fix this. Firms with similar profitability are more likely to have similar future cash flows. Price differences between these firms consequently more accurately reflect discount rate differences. Investment solutions incorporating profitability as well as relative price are thus more reliable.

Savina

: Your seminal 2013 paper talks about profitability. Most of the industry talks about quality, and the two have become synonymous. Are they the same?

Robert

: I've never liked the term "quality." It seems like a marketing term. People started using it trying to capture flows out of growth funds after the dot-com bust, offering a growth-like alternative to growth for growth-minded investors after growth had really underperformed. The big problem with the term is that it doesn't have a well-defined, agreed-upon meaning. You can pretty much use it to mean whatever you personally want it to. I prefer precision.

At the same time, I accept that the term is here to stay. Profitability is a quality strategy, the way people use the term quality, but people put a lot of other things in the quality bucket as well.

Savina

: Is there anything of value to investors in that "quality bucket"?

Robert

: The interesting question is really if there is anything to these broader measures of quality that isn't already captured by profitability. My answer is not much. A lot of the other things people call quality have profitability tilts, and that's what drives their performance. That's not to say there is nothing there. Some of these things predate profitability, and an investor that had traded them would have benefited from the profitability tilt it would have given them, but there are more efficient ways to capture that premium today.

Savina

: Where do you see financial science and investing evolving?

Robert

: From the academic point of view, I think the most important thing we can do is take practical considerations more seriously. Too much of what we do ignores real-world frictions. I have recent work showing that when we incorporate these into our models, then the inferences we draw from the data can completely change. It would also help us focus on what is really important, and greatly increase the impact we have on practice.

On the practitioner side, I see increasing importance of tailoring investment solutions to individuals' specific needs. This is something that wasn't practical or even feasible 10 years ago, but I expect to see a lot more of going forward. It's something that can greatly benefit a lot of investors.

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