

Mind Over Model

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In investing, factor models have been a frequent topic of discussion. Often marketed as smart beta strategies, these products are based on underlying models with limitations that many investors may not be aware of.

To help shed light on this concept, let's start by examining an everyday example of a model: a weather forecast. Using data on current and past weather conditions, a meteorologist makes a number of assumptions and attempts to approximate what the weather will be in the future. This model may help you decide if you should bring an umbrella when you leave the house in the morning. However, as anyone who has been caught without an umbrella in an unexpected rain shower knows, reality often behaves differently than a model predicts it will.

In investment management, models are used to gain insights that can help inform investment decisions. Financial researchers frequently look for new models to help answer questions like, "What drives returns?" These models are often touted as being complex and sophisticated and incite debates about who has a better model. Investors who are evaluating investment strategies can benefit from understanding that the reality of markets, just like the weather, cannot be fully explained by any model. Hence, investors should be wary of any approach that requires a high degree of trust in a model alone.

Checking the weather?
Guess what—you're using a model. While models can be useful for gaining insights that can help us make good decisions, they are inherently incomplete simplifications of reality.

MIND THE JUDGMENT GAP

Just like with the weather forecasts, investment models rely on different inputs. Instead of things like barometric pressure or wind conditions, investment models may look at variables like the expected return or volatility of different securities. For example, using these sorts of inputs, one type of investment model may recommend an "optimal" mix of securities based on how these characteristics are expected to interact with one another over time. Users should be cautious though. The saying "garbage in, garbage out" applies to models and their inputs. In other words, a model's output can only be as good as its input. Poor assumptions can lead to poor recommendations. However, even with sound underlying

assumptions, a user who places too much faith in inherently imprecise inputs can still be exposed to extreme outcomes.

Given these constraints, we believe bringing financial research to life requires presence of mind on behalf of the user and an acute awareness of the limitations involved in order to identify when and how it is appropriate to apply that model. No model is a perfect representation of reality. Instead of asking, "Is this model true or false?" (to which the answer is always false), it is better to ask, "How does this model help me better understand the world?" and, "In what ways can the model be wrong?"

So what is an investor to do with this knowledge? When evaluating different investment approaches, understanding a manager's ability to effectively test and implement ideas garnered from models into real-world applications is an important first step. This step requires judgment on behalf of the manager, and an investor who hires a manager to bridge this judgment gap is placing a great deal of trust in that manager. The transparency offered by some approaches, such as traditional index funds, requires a low level of trust on behalf of investors because the model

is often quite simple, and it is easy to evaluate whether they have matched the return of an index. The tradeoff with this level of mechanical transparency is that it may sacrifice the potential for higher returns, as it prioritizes matching the index over anything else. For more opaque and complex approaches, like many active or complex quantitative strategies, the requisite level of trust needed is much higher. Investors should look to understand how these managers use models and question how to evaluate the effectiveness of their implementation. When doing so, rigorous attention must be paid to how any such strategy is implemented. To quote Nobel laureate Robert Merton, successful use of a model is "10% inspiration and 90% perspiration." In other words, having a good idea is just the beginning. Most of the effort required to make an idea successful is in effectively implementing that idea and making it work.

In the end, there is a difference between blindly following a model and using it judiciously to guide your decisions. As investors, cutting through the noise around the "latest and greatest" investment products and identifying an approach that employs sound judgment and thoughtful implementation may increase the probability of having a positive investment experience.

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Robert Merton provides consulting services to Dimensional Fund Advisors LP.