Model-free and Model-based Learning as Joint Drivers of Investor Behavior

Nicholas Barberis and Lawrence Jin

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Abstract

In the past decade, researchers in psychology and neuroscience studying human decision-making have increasingly adopted a framework that combines two systems, namely "model-free" and "model-based" learning. We import this framework into a simple financial setting, study its properties, and link it to a wide range of applications. We show that it provides a foundation for extrapolative demand and experience effects; resolves a puzzling disconnect between investor allocations and beliefs in both the frequency domain and the cross-section; helps explain the dispersion in stock market allocations across investors as well as the inertia in these allocations over time; and sheds light on the persistence of household investment mistakes. More broadly, the framework offers a way of thinking about individual behavior that is grounded in recent evidence on the computations that the brain undertakes when estimating the value of a course of action.

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