

## **Research@Smith May 2007**

### **Limits of Investor Behavior**

Poking at the sacred cows of any academic field can be risky business, but it can also lead to new insights. Mark Loewenstein and Gregory Willard, assistant professors of finance, are co-authors of “The Limits of Investor Behavior,” a paper that presents pointed criticism of a famous and seminal behavioral finance model. Their chutzpah—and compelling results—were recognized with a Smith Breeden Distinguished Paper award from the *Journal of Finance*, one of the most significant and prestigious awards in the finance profession.

The paper sits squarely in the stream of recent research that questions the foundations of behavioral finance, a theory of investor behavior that arose in the last 20 years to describe the seeming disparities between classical finance theories and actual observation of investor behavior in the marketplace.

Loewenstein and Willard examined the DSSW model, proposed by DeLong, Schleifer, Summers, and Waldmann in an early and extremely influential paper that is famous for arguing that noise traders have important influence on prices and can interrupt the mechanism of the Law of One Price through irrational behavior.

In looking closely at the DSSW model, Loewenstein and Willard found that some markets don't clear, and that non-clearing is what drives most of the model's results. “And it's not just that the markets don't clear, it is the potentially violent nature of the non-clearing,” explains Loewenstein. This non-clearing is the result of a flaw in the DSSW model, which incorporates an unstated assumption that allows for unlimited borrowing of extremely large amounts in a way that is implausible economically.

A second assumption in the DSSW model involves assets that always pay positive dividends but carry potentially negative prices. Loewenstein and Willard found that when prices obey limited liability and investors' borrowing satisfies plausible limits, prices collapse to the right value and the Law of One Price is restored.

Loewenstein and Willard argue that certain economic principles, such as market clearing, collateralized borrowing, and limited liability, limit the properties of asset prices independent of investor behavior. They demonstrate this in a model that uses only budget equations and market clearing and requires virtually no assumptions about investor behavior.

Loewenstein and Willard's paper brings to light a few of the serious flaws in the DSSW model, and thus the foundations of behavioral finance. “People are starting to take more seriously what is going on in these models,” says Loewenstein. “The DSSW model looks reasonable at first glance, but if you look at it more closely, it makes economically unreasonable assumptions.”

“The Limits of Investor Behavior” was published in the *Journal of Finance*. For more information about this research, contact [mloewens@rhsmith.umd.edu](mailto:mloewens@rhsmith.umd.edu) or [gwillard@rhsmith.umd.edu](mailto:gwillard@rhsmith.umd.edu).