The Case for 'Behavioral' Portfolio Theory

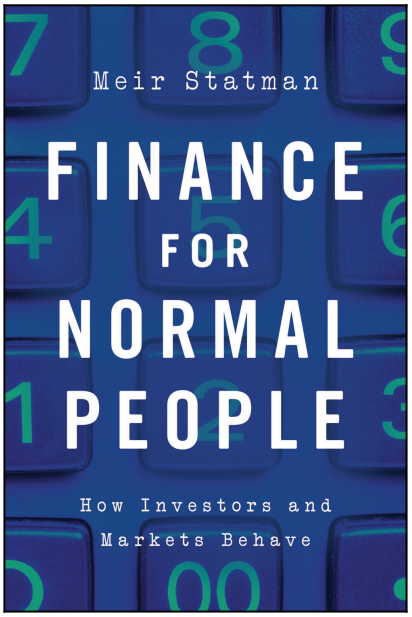
By Meir Statman *Wed, Apr 12, 2017*

In his latest book, 'Finance for Normal People: How Investors and Markets Behave,' Prof. Statman describes the behavioral-wants frontier. He contends that people seek 'utilitarian, expressive and emotional' benefits from what they buy.

A segment of "60 minutes," the television program, featured Leona and Harry Helmsley, owners of the Helmsley Palace Hotel and 200 other New York buildings. Leona described the expressive and emotional benefits they derive from their wealth as they stand on a hotel balcony overlooking New York's Central Park. Harry points at buildings and says: "I'm taking inventory. I own this, I own this, and that one, and that one."

Behavioral portfolio theory describes portfolios on behavioral-wants frontiers and prescribes them to investors whose wants extend beyond the utilitarian benefits of high expected returns and low risk, to expressive and emotional benefits such as those of demonstrating sincere social responsibility, high social-status, hope for riches, and protection from poverty.

People are not likely to distinguish an 80% probability of reaching a goal from a 90% probability, but they are likely to distinguish something they need from something they merely want, and something they wish they had from something they dream they will have.



The process of sequencing "goals to reach" and "circumstances to avoid" transforms advisers from experts at investment management or estate planning to competent and caring professionals, good at eliciting clients' wants and associated goals and helping clients satisfy them.

The portfolio pyramid

A central feature in behavioral portfolio theory rests on the observation that investors view their portfolios as sets of distinct mental account layers in a portfolio pyramid. Each mental account corresponds to a particular want, associated goal, and their utilitarian, expressive and emotional benefits.

An optimal behavioral-wants portfolio is one that balances wants while avoiding cognitive and emotional errors. Consider a 50-year-old investor with a $1-million portfolio, described by Harry Markowitz, Meir Statman and two of their colleagues. She divides her portfolio into three mental accounts of wants and associated goals, specified as target wealth at target dates. She places:

- $800,000 in a mental account dedicated to retirement spending, with a $1,917,247 target wealth goal, implying a 6% annualized return during the 15 years till the target date.
- $150,000 in a mental account dedicated to education expenses, with an $188,957 target wealth goal, implying a 8% annualized return during the 3 years till the target date.
- $50,000 in a mental account dedicated to bequest money, with an $850,003 target wealth goal, implying a 12% annualized return during the 25 years till the target date.

Each mental account is optimized by the mean-variance procedure, where risk is measured by the standard deviation of returns.

Our investor faces three investments: a bond mutual fund with a 2% expected annual return and a 5% standard deviation of returns; a conservative stock mutual fund with an 8% expected annual return and a 20% standard deviation of returns; and an aggressive stock mutual fund with a 15% expected annual return and a 40% standard deviation of returns. The correlations between the bond fund and each of the two stock funds are zero. The correlation between the returns of the two stock funds is 0.25.

The investor calculates optimal mean-variance portfolios for each of the three mental accounts and the portfolio as a whole, displayed in Table 8-3. The annualized standard deviation of the returns of the retirement mental account is the lowest at 10.45%, followed

by the 15.23% of the education mental account and the 25.28% of the bequest mental account.

The 6.60% expected return of the portfolio as a whole is a weighted average of the returns of the portfolios of the three mental accounts, but the 11.85% standard deviation of the portfolio as a whole is lower than the weighted average of the standard deviations of the three mental accounts. All the mental accounts and the portfolio as a whole are on the behavioral-wants frontier.

	Retirement Want	Education Want	Bequest Want	Portfolio as a Whole
Allocations	$800,000	$150,000	$50,000	$1,000,000
Bond Fund	52.51%	29.40%	-16.80%	45.58%
Conservative Stock Fund	31.06%	45.40%	74.06%	35.36%
Aggressive Stock Fund	16.43%	25.20%	42.74%	19.06%
Total	100%	100%	100%	100%
Expected Return	6.00%	8.00%	12.00%	6.60%
Std. Deviation	10.45%	15.23%	25.28%	11.85%

The proportion allocated to the bond fund is highest in the retirement mental account, lower in the education mental account, and lowest in the bequest mental account. Arranging the portfolio as a set of the three mental accounts does not imply that we need three "real" bond accounts, one for the bond fund in the retirement mental account, another for the bond fund in the education mental account, and a third for the bond fund in the bequest mental account.

Instead, we have one real bond account and three "virtual" bond accounts listing the allocation in the bond fund of each mental account. Investors can observe portfolios in two formats, an actual account format for the portfolio as a whole and a virtual account format for each of the mental accounts.

The presentation of the portfolio as a whole, with the sum of the three mental accounts has an advantage over a sole presentation of the portfolio as a whole. The mental accounts presentation speaks the language of normal investors. Investors want to reach their goals, not only have portfolios on the mean-variance frontier.

Wants-based mental accounts let investors articulate each want and associated goal, the

target wealth at the target date, and the attitude toward risk, measured by standard deviation, in the mental account of each want and associated goal.