



A Better Way to Measure Risk Tolerance

By Joe Tomlinson
October 15, 2013

In building financial plans, it is critical that asset-allocation recommendations recognize the client's ability to absorb risk. To aid in this assessment, advisors often utilize risk-tolerance questionnaires, but these tools have shortcomings. The evolving field of brain science can help to design better questionnaires.

Risk tolerance can be thought of as an individual's psychological ability to deal with uncertain outcomes. Most investment companies and financial planning packages provide investor questionnaires as measurement tools. These questionnaires typically have a dozen or fewer questions. Besides risk tolerance, they also deal with aspects of risk such as financial capacity to absorb losses and investment time horizon. Given the small number of questions covering a broad subject area, these questionnaires provide only rough indications.

A more rigorous and scientific approach is provided by the [FinaMetrica Risk Profiling System](#). FinaMetrica is both a provider of a risk-tolerance assessment tool and a research organization dedicated to the study of the subject. They have developed a 25-question profiling system, which is widely used by financial planners around the world. Unlike the simpler questionnaires I mentioned, their questions focus heavily on the individual's psychological comfort with risk.

However, even FinaMetrica's questionnaire has been criticized and could use improvement. I will suggest improvements for evaluating and managing client risk, including an approach to risk-tolerance questionnaires that incorporates teachings from brain science.

Criticisms of questionnaires

Although risk-tolerance questionnaires are heavily used, there are significant doubts about their value. When many investors proved unable to stay on course with investments during the 2008 financial crisis, the questionnaires, including FinaMetrica's, were criticized for not anticipating how market turmoil would cause changes in risk tolerance. FinaMetrica defended its questionnaire by showing that crisis-induced anxiety and stock-selling may have been a function of changes in perceptions about the riskiness of equity investments rather than changes in tolerance. But the FinaMetrica research was based on the FinaMetrica measurement tool, so questions still remain.



Carrie Pan and Meir Statman of Santa Clara University criticized existing risk-tolerance questionnaires in a March 2012 [study](#) . FinaMetrica views risk tolerance as a stable psychological trait, but these authors argued that risk tolerance varies with circumstances and is subject to mis-measurement because of various behavioral biases. They used results from a survey of 2,500 people to suggest improvements to questionnaires, expanding beyond risk tolerance and attempting to also measure propensities for regret, overconfidence and other investor biases.

My reaction to the Pan/Statman paper was that the authors provided useful insights but didn't really identify the core problem. A recent article by Michael Finke of the Personal Financial Department at Texas Tech entitled "[Why Stock Investors Freak Out](#)" crystallized my thinking on this issue.

In the article, Finke quoted fellow faculty member Russell James, who specializes in applying neuroscience to financial planning. James noted that people are typically in a rational or "cold" state when they fill out a risk tolerance assessment. But when they experience a loss, they use different parts of their brains associated with emotion. It's as if the person who fills out the risk tolerance assessment is different than the person experiencing the loss. Not surprisingly, the emotional response, which may result in ill-timed investment changes, does not match the rational expectations that went into filling out the questionnaire.

It's as if the rational Dr. Jekyll fills out the questionnaire, but the emotional Mr. Hyde controls the investing.

We need better questionnaires, with questions that do a better job predicting how individuals will react in times of market turmoil. Many of the questions in current risk-tolerance questionnaires try to do this but fail to get the job done. An example is where they ask how much of a loss an individual would be willing to risk for an investment expected to earn X% more than a safe investment such as a CD. The problem is that such questions can be answered with virtually no emotional affect, so they do a poor job predicting the actual response in a crisis. One of the questions in the [Vanguard Investor Questionnaire](#) tries to get around this problem by asking respondents who owned stocks how they actually responded to the 31% drop from September through November of 2008. People may not answer honestly, especially if they feel stupid about the actions they took, but at least the question tries to reveal the responder's actual response in times of stress.

A broader approach

Better questionnaires are needed, and improvements alone may not be enough. It's time to think more broadly about solutions that include improved questionnaires as a component.



I suggest a three-part approach, with improvements in each of these areas:

- Structuring of the client relationship
- Understanding of client characteristics
- Developing questionnaires

The Michael Finke article mentioned earlier includes ideas about improvements in all three of these of these areas, as do two Vanguard studies: ["The aftermath: Investor attitudes in the wake of the 2008-2009 market decline,"](#) published in October 2009, and ["Equity risk and time: A survey of U.S. investors,"](#) published in May 2010.

Structuring the client relationship ahead of market turmoil is key. Finke cited studies showing that individuals with advisor relationships and, in particular, written financial plans and investment policy statements were better able to focus on the long-term and weather the 2008-2009 turmoil.

Regarding client characteristics, Finke noted that being near retirement or under financial strain from mortgage debt led to a higher propensity to bail out. Wealthier, better-educated, more experienced investors showed a stronger tendency to stay the course. The Vanguard studies produced findings similar to Finke's. They also noted that 401(k) investors made fewer portfolio changes in response to the financial crisis than investors in taxable accounts, who may have held more of a trading mentality. One aspect unique to Finke's research was the finding that older individuals who had experienced cognitive decline were less able to maintain stock allocations. Colleague Russell James notes that such individuals likely lacked the "rational cognitive 'horsepower' to overcome the adverse emotional reaction."

With regard to coming up with better questions, Finke cites questions relating to investment loss aversion as having been predictive of bailout behavior. Respondents who tended to focus more on potential losses rather than potential gains from taking investment risk showed more propensity to bail out in down markets.

I developed my personal perspective on these issues as an advisor and FinaMetrica user leading up to 2008. Clients who possessed a lot of confidence prior to the crash turned out to be a mixed group in terms of response. Those whose confidence was rooted in the belief that the stock market would be a good investment over the long term and that losses would typically set the stage for later gains were mostly able to weather the storms despite understandable nervousness along the way.



On the other hand, there were those whose confidence was rooted in the belief that they could step to the sidelines to avoid losses. They required a lot of coaching (sometimes unsuccessful) to avoid ill-timed investment moves.

Another problem group was those I refer to as the "extrapolators." These are individuals who lock in on recent past performance as the best indicator of future performance and who focus on individual asset classes or funds rather than on their overall portfolios. Such clients often call in with questions like, "Should we get rid of that TIPS fund? It was down 3% last month."

These tendencies I cite can be identified by getting to know clients better, but they could also be revealed through potential new questions for risk-tolerance questionnaires. For example, questions about stock market beliefs could be helpful in identifying potential behavior issues, indicating areas where coaching might prove useful as a preventative measure.

Brain science applications

Developing improved risk-tolerance questionnaires will require a lot more discipline and science than just acting on the ideas I've presented. Development efforts could benefit greatly from advances in applying neuroscience to financial decision-making. For example, questionnaires can be tested in laboratories using live subjects and "stock-market games" rather than having to wait for live-testing in adverse market conditions.

It is feasible to set up advisor-intermediated stock-market games where individuals receive signals from both simulated market performance and simulated advisor input. Another element of such research involves tools such as functional magnetic resonance imaging (fMRI) and skin conductance measurements to develop a better understanding of how the brain and nervous system respond to these stimuli. Michael Finke, Russell James and their colleagues at Texas Tech are already engaged in this type of research involving a variety of financial-planning applications. Research on risk tolerance is a logical extension of work they are already doing and holds great promise.

Coordinating with financial projections

Another source of information for asset allocation recommendations is financial projections. Most planners use financial-projection software, usually with Monte Carlo simulations, to show potential ranges of outcomes, including risks of depleting savings during retirement. Often, such projections point toward a substantial investment in stocks to reduce the probabilities of plan failure, but a large stock allocation may not match a client's risk tolerance. This is mostly a conflict between the long-term view of outcomes and the short-term effects of volatility.



The appropriate role for risk-tolerance assessments is to focus on the client's psychological capacity to deal with short-term volatility. Risk-tolerance questionnaires do not need to deal with the length of the investment horizon or the financial capacity to bear risk, because those issues can be addressed with the financial projections.

What the risk-tolerance assessment system needs to do, and to do better than is being done today, is anticipate how the client will react emotionally to the inevitable stresses that occur in the course of all financial plans. A good risk-tolerance assessment will help the advisor in coaching clients and, when appropriate, in dialing down the asset allocations indicated by the financial projections.

We need better questionnaires and other improvements to deal with risk tolerance. Evolving applications of brain science will play an important role in moving that development forward.

Joe Tomlinson, an actuary and financial planner, is managing director of Tomlinson Financial Planning, LLC in Greenville, Maine. His practice focuses on retirement planning. He also does research and writing on financial planning and investment topics.

www.advisorperspectives.com

For a free subscription to the Advisor Perspectives newsletter, visit:
<http://www.advisorperspectives.com/subscribers/subscribe.php>