RiskPACK: How to Evaluate Risk Tolerance

by David M. Cordell, Ph.D., CFA, CFP, CLU

A common complaint against financial planners is that their investment recommendations violate suitability standards. Evaluating a client's risk tolerance should be a primary task for financial planners, but few planners understand the basic issues involved in risk tolerance assessment.

Relying on the results of a superficial questionnaire may satisfy the broker/dealer and provide legal cover in the case of a lawsuit, but it doesn't ensure an adequate assessment of the client's risk tolerance.

RiskPACK is a simple framework I propose that separates risk tolerance into four components: propensity, attitude, capacity and knowledge (thus the acronym "PACK"). By evaluating each component, the planner can develop a better understanding of the client's risk tolerance.

Risk Propensity

In the RiskPACK context, propensity refers to the client's real-life decisions in financial situations. Whether consciously or unconsciously, planners reviewing a new client's current situation typically infer something about the client's risk tolerance by looking at his or her past decisions.

Selling short, speculating with options and commodities, and avoiding needed insurance coverages obviously indicate a propensity to incur risk. Many other actions also may indicate a high, or low, propensity to incur risk. However, inferring risk tolerance from past actions is an inexact science at best. In general, researchers have found the following variables to be associated with increasing risk tolerance:[1]

- Ratio of high-risk to low-risk investments
- Ratio of liabilities to assets (debt ratio)
- Ratio of liabilities to income
- Ratio of salary to life insurance
- Number of voluntary job changes to number of years of work experience
- Percentage of annual salary spent on recreational gambling
- Shortness of job tenure

Probably the most common propensity-related risk tolerance inference that planners make relates to investments. Specifically, when a planner sees that a new client's portfolio contains risky assets, the planner is probably more likely to recommend risky investments. There are at least two problems with this approach. One, the planner must make sure that the reason for recommending risky investments is because the client is truly risk tolerant, and not merely because the client will be more likely to accept the recommendation. Two, the client's risk propensity in the investment portfolio may be a misleading indicator of risk tolerance for many reasons, including the following:

- The client may not have understood the risk inherent in a specific investment.
- Assets may have been obtained by a spouse or through inheritance.
- The client's financial situation may have changed since the asset was obtained.
- Assets may have changed in riskiness since being obtained.
- The assets may be retained for family or sentimental reasons.
- Assets may be retained because of tax reasons, especially in estate planning situations when substantial capital gains are involved.

Planners often mistakenly infer that risk propensity is an adequate surrogate for risk tolerance. The danger is that the client has historically violated his or her actual risk tolerance, and that judging, for example, investment suitability by the client's risk propensity could have two detrimental effects. First, it may exacerbate the existing inappropriateness of the client's portfolio. Second, it may lull the planner into thinking that, since the asset recommendation is consistent with the client's existing portfolio, the planner is protected from malpractice claims.

Risk Attitude

Risk attitude is the characteristic that most people probably think of when they talk about risk tolerance, and many people probably use the terms synonymously. In the RiskPACK context, risk attitude simply refers to the client's willingness to incur monetary risk.

Rather than evaluating "willingness" by looking at the client's actual past decisions, which is the purview of risk propensity, risk attitude concentrates on the client's responses to scientifically designed questions. The biggest challenge in measuring risk attitude is making sure to isolate it from the other factors. Several types of questions evaluate risk attitude with a set of probability and payoff preferences.[2]

Some frequently used questions provide dubious results because they presume too much. For example, one type of question presents a set of investment alternatives of varying riskiness and asks the client to rank them in order of the client's preference. The point is to assess the client's risk tolerance by the type of risk-reward profile of his or her investment choice. However, the client often lacks the requisite understanding of investments to make an informed selection. Another type of question asks the client to rank a set of investment objectives (such as growth or liquidity). Again, the question assumes that the client understands the implications of the selections.

An important aspect to remember about risk attitude is that it is not immutable. The client's risk attitude will change with the mere passage of time, but it also can change because of developments in the client's family or employment situation, or even by the short-term performance of a particular investment. Clients' attitudes toward risk can be influenced by their friends' and relatives' experiences. This can be particularly dangerous if a friend's good experience with a risky investment compels the client to become bolder. This could render a false reading in the risk attitude evaluation.

Risk Capacity

Risk capacity refers to the client's financial ability to incur risk. The typical approach to evaluating risk capacity starts with determining the client's phase in the so-called life cycle. For example, if all other things are equal, younger clients can accept more risk than older clients because they have more time to ride out the investment storms. Of course, all other things are never equal. For example, the presence of financial dependents reduces the client's ability to assume risk. Among other important factors are

- Portfolio goals and constraints: time horizons, current income needs, capital preservation, growth, tax minimization, competing objectives
- Income: amount and stability
- Expenses: fixed versus discretionary, amount relative to income
- Balance sheet:
    1. Net worth
    2. Assets: diversification, asset allocation, risk exposure in various assets (inflation, interest rate fluctuation, market, default, liquidity, marketability, tax, event, additional commitment, political, and exchange rate risk)
    3. Liabilities: amount, time frame and structure of debt
- Financial obligations: family, contractual, retirement
- Insurance coverages: medical, disability, life, long term care, property and casualty, liability, business/ professional

Unfortunately, there is no simple risk capacity formula with specific coefficients for each of these and the many other possible variables. In theory, a risk capacity model would take a similar approach to credit scoring models that lenders use. However, while a typical credit scoring model leads primarily to an accept/reject decision, a risk capacity model would categorize along an entire continuum.

Risk Knowledge

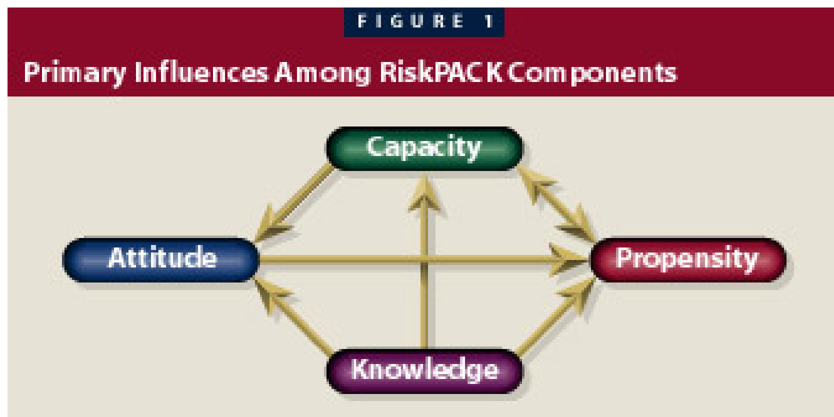
Risk knowledge refers to the client's relative understanding of risk and the risk-return trade-off. Clients who comprehend risk are more likely to make informed financial planning decisions consistent with accomplishment of their goals. For example, clients who understand the nature of stock market risk are more likely to seek or accept asset allocations consistent with their risk capacity and risk attitude. Just as important, this knowledge helps them to resist the tendency to panic when the inevitable bear market occurs.

Obviously, most clients have minimal knowledge of the risk concepts alluded to in the risk capacity section above. They are even less likely to understand investment risk concepts such as standard deviation, covariance, beta, and Monte Carlo analysis, or portfolio performance measures such as the Sharpe Ratio, the Treynor Ratio or Jensen's Alpha. (One might argue that, if the client had such knowledge, he or she would be less likely to engage the services of a financial planner!)

Since there is no accepted measurement device to evaluate risk knowledge, planners must use subjective judgment to determine the client's relative level of risk knowledge. This restriction is less critical than it might appear. Typically, the planner uses this assessment, in conjunction with his or her familiarity with the client's financial needs and relative interest in learning about risk concepts, to decide how much education to provide the client. In other words, to some extent, the client's ultimate risk knowledge is a function of the planner's efforts to increase that knowledge.

Primary Influences among RiskPACK Components

RiskPACK components are influenced by each other to a degree as illustrated by Figure 1. Consider risk propensity. A client's propensity to buy high-risk assets, for example, may be a function of his or her relatively high risk capacity and high risk attitude. However, it also may be a function of the client's risk knowledge, or lack thereof, if the client does not understand the level of risk inherent in the investment.



Risk attitude may be a function of risk capacity, but the nature of the relationship can be complicated. Some individuals with a high capacity to accept risk may feel more inclined to do so, while others with high capacity may exhibit attitudes that reflect the fact that their financial situations allow them to avoid risk. At the other end of the spectrum, some individuals with minimal capacity are likely to adopt a rather conservative attitude toward risk, while others may subconsciously adopt a risk-taking attitude in the hope of making a big score.

Risk attitude also may be affected by risk knowledge. Clients with a greater understanding of risk may provide more positive responses to risk attitude questions because they can process the information better and their knowledge gives them less reason to fear the unknown.

Risk capacity is influenced by risk knowledge. For example, if everything else is held constant, the individual who understands risk is more likely to make insurance, portfolio and other decisions that eliminate unnecessary or noncompensated risk, thus giving him or her greater capacity to incur risk. One might also argue that capacity-altering actions are an indirect function of knowledge and a direct function of propensity. In other words, it is the action, represented by propensity, rather than the thought, represented by knowledge, that affects capacity.

Unlike the other three components, risk knowledge is not particularly influenced by other components, yet it exerts influence on all three of the others as described above.

Implications

Some planners find comfort in using their broker/dealer's risk tolerance questionnaire as legal protection against an ethics or malpractice complaint. Unfortunately, most of these measurement devices are poorly and unscientifically designed. At the very least, planners should review each question to see which RiskPACK component is being examined so that the evaluation can be refined.

Risk capacity and risk attitude are the primary components in the RiskPACK approach. It is obvious that a finding of high risk capacity linked with high risk attitude indicates an individual who is highly risk tolerant. Conversely, low risk capacity linked with low risk attitude suggests low risk tolerance.

When capacity and attitude give conflicting signals, the lower of the two values is a constraint. That is, if an individual has low risk attitude with high risk capacity, risk tolerance is fairly low, although not as low as if capacity had also been low. Relatively low tolerance also exists if capacity is low and attitude is high. Rather than considering tolerance as an average of capacity and attitude, think of capacity and attitude as links in the tolerance chain, and the chain is no stronger than the weakest link.

Planners should use risk propensity as a signpost. If propensity is at odds with attitude and capacity, the planner must determine why the discrepancy exists. Planners are rightly hesitant to recommend investments inconsistent with the client's past actions, but if the past actions are inconsistent with the client's true risk tolerance, the planner must help the client understand that an incongruity exists and must be addressed.

The planner shouldn't stretch the client's suitability range beyond what is indicated by either risk capacity or risk attitude. The good news is that education can improve risk knowledge, and an improvement in risk knowledge can increase the client's risk attitude and even risk capacity if the client takes appropriate actions. With this direction from the planner, the client can become more risk tolerant, resulting in higher potential returns and greater wealth accumulation.

Endnotes

1. David A. Littell, Kenn B. Tacchino and David M. Cordell, *Financial Decision Making at Retirement*, Fourth Edition, The American College, Bryn Mawr, PA, 1999, p. 248.
2. Michael J. Roszkowsky, "Risk Tolerance in Financial Decisions," in *Readings in Financial Planning*, fifth edition, David M. Cordell, editor, The American College, Bryn Mawr, PA, 2001, pp. 280–285.

David M. Cordell, Ph.D., CFA, CFP, CLU, is an associate professor of finance at The American College in Bryn Mawr, Pennsylvania. His e-mail address is davidc@amercoll.edu.