

Risk Perception and Risk Tolerance Changes Attributable to the 2008 Economic Crisis: A Subtle but Critical Difference

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Abstract: *The economic crisis of 2008 has been said to lower the risk tolerance of the investing public. We present data on risk tolerance collected pre- and post-crisis inception, showing that the decline in risk tolerance was relatively small. What has changed more dramatically is the public's perception of the risk inherent in investing. Both risk tolerance and risk perception influence investing behavior.*

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Assessment of risk tolerance is now generally recognized as a prerequisite to the development of a sound financial plan for the client. A question of considerable importance to both researchers and practitioners is whether financial risk tolerance is an immutable or a malleable characteristic, because this can inform the financial advisor about whether it is necessary to remeasure it and, if so, when and how often. According to one point of view, risk tolerance is an extremely stable characteristic, like blood type, that remains the same over one's lifetime, and so once determined, it does not require reassessment. The opposing position is that risk tolerance is extremely fleeting, like mood, and therefore it may be futile to attempt to structure any investment plan based on this characteristic. We intend to show that as with most things in life, extreme views tend to be wrong and that the truth is somewhere in the middle. Although risk tolerance is largely a fixed personality trait and stable, it is nonetheless marginally subject to situational influences (e.g., mood) and may change due to life circumstances (e.g., aging).

Risk Tolerance Changes Attributable to the 2008 Economic Crisis

The global economic collapse that occurred in 2008 offers a rare opportunity to investigate the matter of stability of risk tolerance further, perhaps a once-in-a-lifetime chance to do so. Anecdotal data and the results of some surveys reported in the popular media suggest that risk tolerance declined substantially as a result of the collapse. For instance, the 2009 Fidelity *Investments Couples Retirement*

*Study*¹ asked 502 couples: “Has your risk tolerance changed as a result of the market crisis of the last 6 months?” When taken at face value, their answers, which are reported below, suggest a considerable decline, especially for the wives.

Answer	Husbands	Wives
Maintained same level of risk tolerance	52%	42%
Became concerned as a result of the market turmoil and became less risk tolerant	41%	54%
Saw market decline as an opportunity and willing to take on more risk	7%	4%

However, it needs to be recognized that the conclusion is based on the answer to a single question requiring a global self-appraisal, which doesn’t control for possible changes in one’s risk perception. The question could have easily been interpreted by the typical respondent to mean, “Has your willingness to invest in the market changed as a result of the market crisis?” An overall decline in willingness to invest due to the economic crisis is without question. A survey sponsored by Vanguard’s Center for Retirement Research, conducted in late May and early June of 2009, showed that 21% of the public owning stock prior to the crisis reduced their stock holding and another 5% sold off all their stocks.² The issue is the extent to which this reflects a change in risk perception versus a change in risk tolerance. We suspect that the majority of the investing public as well as many financial service professionals fail to adequately distinguish between these two concepts.

Risk Tolerance versus Risk Perception

Discussions of risk and the tendency to avoid or undertake it often involve an imprecise vocabulary.³ The literature is replete with terms such as “risk tolerance,” “risk acceptance,” “risk appetite,” “risk attitude,” “risk profile” and “risk propensity,” all of which deal with the same basic notion, namely, whether one is willing or unwilling to undertake a nonguaranteed course of action. For the sake of simplicity and consistency, in our discussion, we will just use the term risk tolerance and we will differentiate it from the concept of risk perception. As noted by Hunter, “Risk perception and risk tolerance are related and often confounded constructs,”⁴ but each one can independently contribute to risk-taking behavior.⁵

Furthermore, we agree with Hunter’s distinction between these two constructs, namely: “Risk perception may...be conceived as primarily a cognitive activity, involving the accurate appraisal of external and internal states. By contrast, risk tolerance is better conceptualized as a personality trait. Risk tolerance may be defined as the amount of risk that an individual is willing to accept in the pursuit of some goal.”⁶ Risk perception is elicited by the following type of question: “Please indicate how risky you view investment X (possible answers: not at all risky/somewhat risky/moderately risky/extremely risky),” whereas risk tolerance would be tapped by a question such as: “Please indicate your likelihood of making investment X given that level of risk (possible answers: very unlikely/somewhat unlikely/somewhat likely/very likely).”

What Is Risk?

In order to differentiate between risk tolerance and risk perception, we must first define risk. Risk is really the uncertainty that exists as to what the eventual outcome will be. Risk arises in any decision where there is some doubt about at least one of the possible outcomes. The risk inherent in any given situation will depend on the range of possible outcomes and the likelihood and value of each particular outcome. Thus, in a financial context, risk tolerance is the amount of risk an individual chooses when making a financial decision. If one person is willing to wager \$50 on a coin toss that will result in either losing this amount of money or doubling it, and another person is unwilling to make this same wager, we can infer that the first person is more risk tolerant than the other (at least under these circumstances).

The concept of risk is sometimes differentiated from the concept of “uncertainty” or “ambiguity,” the difference being that under “risk” the probabilities are known, whereas in the case of uncertainty/ambiguity, the probabilities associated with the various outcomes are unknown. In certain instances, such as games of chance, the risk is easy to define. As Vogler so eloquently describes it:

The possible outcomes in games of chance are extraordinarily well defined. Barring acts of God or mechanical failures that prevent the completion of play, the ball will land in one of the slots on the roulette wheel; a pull of the slot machine will or

will not hit a jackpot combination; a winning ticket will be drawn in the lottery; a roll of the dice at the table will win or lose. The pressing questions concern determining the odds of winning. And it is easy to lay odds in games of chance according to the number of lottery tickets sold, the number of slots where the ball might land in a fair spin of the roulette wheel, the combinations of faces that might turn up in rolls of one or more pairs of fair dice at the gaming table, or the possible combinations that might result from a pull of the slot machine lever. For the purposes of modeling choice, such odds count as objective probabilities.⁷

Unfortunately, in most real-life situations, the odds and potential outcomes are not as clear-cut as in games of chance. Although in games of chance the degree of uncertainty can be expressed as a mathematical probability (50% in our coin toss example), in investment contexts the degree of uncertainty can be rather ambiguous and difficult to express in precise mathematical terms. In other words, in the real world we frequently have to deal more with uncertainty than with risk.⁸ People are typically more averse to ambiguity than to risk.⁹

Role of Perception

Furthermore, an evaluation of the degree of risk generally involves a perception of the situation, which means that there is some interpretation of the objective reality. Research shows that risk perception is more a function of intuitive notions of risk (e.g., probability of loss) than of technical risk measures such as beta, the standard deviation, or variance.¹⁰ Vlaev, Chater, and Stewart investigated preferences among investors for different ways of conveying risk information, finding that presenting risk in terms of a minimum (worst case) and maximum (best case) with an average was the most preferred format.¹¹

The decision in the face of risk is seldom made on a purely cognitive basis, however; emotions play a role in how risk information is processed.¹² Risk-taking is not only a function of the likelihood of each outcome in objective terms, but also of the psychological value of that outcome to the decision maker (not necessarily the same as the dollar value). Thus, perceived risk is gener-

ally not the same as the risk calculated on an actuarial basis.¹³ Two individuals presented with the same “facts” may interpret the inherent risk differently. For some, factory smoke evokes fear because it indicates pollution, whereas for others it is a reassuring sign because it symbolizes employment.¹⁴ One’s personality, past experiences, culture, and world view play a significant role in the interpretation of the mathematical information.¹⁵ After years of study, Paul Slovic, a renowned researcher on risk, concluded that risk is “inherently subjective.”¹⁶ Risk perception is an idiosyncratic process that adds meaning to an objective situation and is itself shaped by knowledge, emotion, and experience. For instance, consider a study by Weber and Hsee in which American, Chinese, German, and Polish nationals were presented with the same exact mathematical probabilities, expected values of the outcomes, and the standard deviations of these expected values.¹⁷ They were then asked to indicate how risky these bets are. The perceived risk varied by nationality, with the Chinese perceiving the least risk and Americans the most risk in these same gambles.

People act on the basis of perceived rather than actual risk. It has been well documented that the same individual is willing to take different amounts of risk in different contexts, e.g. physical risks versus financial risks.¹⁸ One possible reason for this inconsistency is that different levels of risk are perceived in these varying situations.¹⁹ There is also some evidence to suggest the often-noted lower risk-taking behavior of women relative to men may be due more to males’ perception of lower risk in a given situation than to males’ higher risk tolerance.²⁰ Similarly, entrepreneurs seem to differ from the general population not so much in risk tolerance as in perceiving low risk in the ventures they undertake due to optimism and overconfidence.²¹

Since the 1960s research has been conducted to understand the determinants of perceived risk and under what circumstances the actuarial danger in a given situation will be attenuated or amplified.²² Heuristics, or mental shortcuts, shape our perceptions. Generally, there is a tendency to weight negative outcomes (losses) more heavily than positive ones (gains). Also, people tend to overweight low probability events and to underweight high probability events.²³ Research also shows

that risk of death from events that are dramatic and sensational is overestimated (e.g., tornadoes, accidents), whereas risks that are unspectacular tend to be underestimated (e.g. asthma, diabetes).

Generally, the risks in familiar actions are prone to underestimation. Similarly, experience may attenuate our fear. Thus, experienced pilots see less risk in a given hazard than do less experienced pilots.²⁴ Analogous differences have been observed among mountaineers.²⁵ Notably, investors with greater investment experience hold higher-risk portfolios than less experienced investors,²⁶ perhaps partly for this same reason. It may be for this reason that financial advisors see less risk in products that they know.²⁷ The familiarity effect is particularly strong when the adverse consequence of the potential danger was not realized in the past and where the individual believes that one's skill and experience will allow him or her to control the situation and thereby mitigate the risk, even when the control is more illusionary than real.²⁸

Typically, investment decisions are based on some combination of a description of possible outcomes and one's personal experience. Because personal experience is more emotionally charged and vivid, it generally receives the greater weight in the decision.²⁹ Risk perceptions can be manipulated, however, by the use of different words, such as "gain" versus "loss," a phenomenon known as "framing."³⁰

Reasons for Undertaking a Risk

At the most basic level then, a decision under risk is a function of (1) the perceived probabilities of the alternatives, (2) the perceived consequences, and (3) the psychological propensity of the individual to undertake risk. In other words, risk taking is determined by how much risk the observer believes there exists in the task and whether he or she is willing to act at that level of risk. Hunter found that among aircraft pilots, the risks they perceived in flying under various conditions were only mildly related to their risk tolerance, suggesting that perceived risk and risk tolerance are related but distinct constructs.³¹ Thus, two people making the same decision could be doing it for different reasons. The one person may not be fully aware of the danger in the situation,

whereas the other one may recognize the potential for adverse results but welcome the excitement associated with awaiting the outcome. Research on mishaps attributable to pilot behavior indicates that generally these are due to misdiagnosis of the risk (risk perception) rather than overly high risk tolerance.³²

One's willingness to act or not act under a given level of perceived risk is probably a function of some biologically set arousal preferences and involves differences in levels of neurochemicals such as monoamine oxidase³³ and dopamine.³⁴ The differences are likely genetic in origin.³⁵ The studies that have examined the genetics of risk tolerance suggest that somewhere from 20% to 63% of risk tolerance is hereditary.³⁶ Not surprisingly, research reported in a number of studies³⁷ indicates that financial risk tolerance has long-term stability comparable to that of personality characteristics thought to be hard-wired into our systems.³⁸ Investigations on how to best promote safe behavior in the workplace indicate that it is generally more effective to train people to recognize a risk than to try to change their risk tolerance.³⁹

Financial Services Views on the Impact of the Crisis

In a recent article, Olivia Mellan discusses industry debates on the changes in investment behavior resulting from the 2008 crisis.⁴⁰ She aptly points out that perceptions about the riskiness of an investment can easily shift, noting: "Risk perception changes frequently (and sometimes irrationally), depending on whether markets are up or down and what sector is hot at the moment. For example, during the technology bubble of the late 1990s, even risk-averse clients wanted to invest heavily in tech stocks. Why? Because they perceived that these stocks weren't risky at all." She quotes Michael Kitces (publisher of the *Kitces Report*), who maintains that today's attitudes about the stock market are attributable to a change in risk perception and not a shift in risk tolerance, which Kitces believes to be fairly stable. He states, "Because we are not terribly rational, and because we have lots of biases that constantly cause us to misjudge risk, in a bull market clients think that being 100% in stocks is safe and that stocks will go up forever. In a bear market, they think that stocks will probably go

down to zero. Both are totally irrational and untrue.”

Our data support the viewpoint that the change is largely in perception. As we aim to show, it is possible for individuals to have retained a similar level of risk tolerance but yet perceive a different level of risk in the same situation before and after the start of a crisis and hence to behave in a less risky manner.

Prior Research Linking Risk Tolerance and Economic Climate

There exists research conducted prior to the crisis of 2008 attempting to examine the effect of economic climate on risk tolerance. Yao, Hanna, and Lindamood explored willingness to take financial risk as a function of economic conditions on the basis of answers to a question on the Federal Reserve’s *Survey of Consumer Finances* (SCF), which is conducted every three years.⁴¹ The SCF question was: “Which of the statements on this page comes closest to the amount of financial risk that you and your (spouse/partner) are willing to take when you save or make investments?”

The possible answers were:

1. Take substantial financial risks expecting to earn substantial returns.
2. Take above-average financial risks expecting to earn above-average returns.
3. Take average financial risks expecting to earn average returns.
4. Not willing to take any financial risks.

The distribution of answers in years 1983, 1989, 1992, 1995, 1998, and 2001 is shown in Table 1. The analysis by Yao, Hanna, and Lindamood showed that willingness to take risk declined between 1983 and 1989, remained stable between 1989 and 1992, increased in 1995 and 1998, but then decreased in 2001. (Remained stable means that a statistically significant difference

between any two survey periods was not found.) These researchers then compared the answers each year to stock market patterns right before the survey was administered and concluded that these changes may be a reaction to the market since they corresponded to periods of increasing and decreasing stock market returns.⁴²

But again, because of the nature of the question, it remains unclear as to what this change reflects: risk perception or risk tolerance. Although it is widely used as a measure of financial risk tolerance, some researchers, including one of the authors of the study cited, wonder whether the SCF item is a good measure of stable investment risk tolerance.⁴³

An analysis of risk tolerance data collected by means of another national survey, the annual Health and Retirement Survey (HRS) sponsored by the University of Michigan, was conducted by Sahm, who examined data collected over an 11-year period (1992 to 2002).⁴⁴ The risk tolerance questions in the HRS involve making a choice between hypothetical jobs offering either certain or nonguaranteed pay outcomes. It is based on the validated premise that the risk-tolerant person is willing to accept a gamble, whereas the risk-averse individual prefers a guaranteed result. In this survey, the respondent was asked to choose between a job that offers a guaranteed but lower (current) income and a job that had the potential of either resulting in higher income or a lower income than the job with a guaranteed income. The probabilities and potential amounts of gains and loss were manipulated. For example, in the 1992 survey, the scenario was as follows:

Suppose that you are the only income earner in the family and you have a good job guaranteed to give you your current (family) income every year for life. You are given the opportunity to take a new and equally good job, with a 50–50 chance it will double your (family) income and a 50–50 chance that it will cut your (family) income by a third. Would you take the new job?

Based on the answer to this first scenario, another gamble was then presented. If the respondent was willing to accept the new job under the first set of circumstances, the second scenario had a higher downside risk: a 50–50 chance that one’s income could be reduced by

TABLE 1

	1983	1989	1992	1995	1998	2001
Substantial	6.1%	4.2%	3.2%	3.5%	4.9%	4.5%
Above average	11.0%	8.8%	11.0%	13.6%	17.9%	18.2%
Average	38.0%	37.9%	35.9%	37.2%	38.5%	37.4%
No risk	45.0%	49.1%	49.8%	45.7%	38.7%	39.8%

one-half. Conversely, if the person refused to take the job in the first scenario, the risk in the second scenario was lowered to a 50–50 probability that it would reduce one's income by 20%.

Sahm classified participants in the panel taking the survey into one of six levels of risk tolerance by looking at the largest downside risk accepted and the smallest downside risk rejected. The 11-year period was characterized by changes in economic climate as well as personal circumstances for the respondents, but Sahm's abstract to her manuscript concludes, "While there are some systematic changes in risk tolerance, such as a decline with age and a positive co-movement with macroeconomic conditions, the persistent differences across individuals account for more than 80% of the variation in measured risk tolerance." Furthermore, according to her analysis, "Attitudes toward risk may move over the business cycle, but there is no evidence this translates into a permanent shift in risk tolerance."⁴⁵

Although the job-gamble type of question more clearly captures risk tolerance than the SCF one, it too is not without drawbacks. The flaw with this type of approach is that risk preferences can differ based on the payoff domains and response modes in such questions.⁴⁶ A comprehensive questionnaire-based approach to assessing financial risk tolerance should include a variety of types of questions, including preferences in lottery scenarios differing in payoff and probability, minimum return required to undertake a risky venture, minimal probability of success required to take a risky option over a guaranteed one, preferences for different investment vehicles, reactions to sample portfolios, emotional reactions to risky situations, and self-classification. As Roszkowski recommends:

Only by presenting the client with a sufficiently large number of questions can you hope to get a representative sample of past behaviors, current attitudes, and intentions regarding the future. The greater the number of questions asked, the more accurate the results of the assessment are likely to be.... In the absence of any information regarding which approach is most effective with a particular client, averaging the answers from the different approaches will probably provide the best estimate of

the client's risk tolerance. Some approaches may overestimate the true level of risk tolerance whereas others may underestimate it. By averaging the results, you will be able to cancel out these two errors and arrive at the most accurate impression possible....⁴⁷

It is intuitively obvious that methods such as investment vehicle and portfolio preferences are probably influenced by the current market situation more so than the other types of questions.

Evidence for Stability in FinaMetrica Data

FinaMetrica is an Australian company that offers risk tolerance assessments to the financial services industry and has been collecting data on financial risk tolerance since 1999. The risk tolerance measure marketed by FinaMetrica is a comprehensive questionnaire (<http://www.riskprofiling.com>). Those tested are predominantly clients of financial advisors. More than 360,000 profiles have been completed primarily from Australia, the United States, and the United Kingdom. The scores are reported on a standardized scale, with an average of 50 and a standard deviation of 10. Because of the properties of the normal curve, almost all people fall between plus or minus 3 standard deviations of the mean (i.e., 20 to 80).

Prior to the advent of the crisis, Santacruz used the FinaMetrica questionnaire to study the relationships between investor risk tolerance, general economic mood, and stock market performance in Australia over the period May 1998 to May 2007. He found that the risk tolerance of 66,943 Australians, as measured by the FinaMetrica test, did not change with general economic mood, as measured by Westpac Melbourne Institute consumer sentiment index (CSI), nor with stock market performance, as measured by the ASX All Ordinaries Accumulation Index.⁴⁸

Here, we will examine FinaMetrica data in the context of the 2008 economic crisis, considering the risk tolerance scores prior to and following it. Our purpose is to present the overall picture; the data has been made available to other researchers to "slice and dice" and examine in more detail.

The monthly averages for risk tolerance scores collected between January 2007 and June 2009 are shown in Figure 1. The number of cases per month ranged

from a low of 2,852 (December 2007) to a high of 5,635 (March 2009), with an average of 4,301 (SD = 581) cases per month. There is clearly a general pattern of decline over this period but only of about three points, i.e. less than a third of a standard deviation. However, this is cross-sectional data and one can question the results because the individuals being compared pre- and postcrisis are not the same ones for the most part.

A more convincing picture emerges from longitudinal data, in which test scores for the same 2,586 individuals were compared before and after the onset of the crisis. The first test was administered between July 1,

2003 and December 31, 2007 (inclusive), and the second test was given between August 1, 2008 and June 30, 2009. The longest period between test and retest was 71 months and the shortest was 9 months. The results are presented in Figure 2, which shows the percentage of respondents losing or gaining a certain number of points between the first and second administrations of the financial risk tolerance questionnaire. The distribution of gains and losses approximates a bell-shaped (normal) distribution, but it is somewhat asymmetrical, with a skew to the left. (The skewness was $-.28$, whereas for a perfectly normal curve it would be equal to zero).

Overall, 6.3% of the sample had exactly the same scores on the two occasions (change of zero on the x axis of the figure), but 56.3% lost some points (cases to the left of zero), and 37.4% gained a point or more (cases to the right of zero). The largest loss was 57 points and the biggest gain was 37 points; however, most of the changes, either positive or negative, were small. This can be seen in the figure, where the highest points on the curve are not far from zero, either to the left to right.

For those people who scored higher on the second administration, the gain on average was about 5.95 points (SD = 4.69). Conversely, for the respondents who scored lower on the second testing, the average loss was about 7.26 points (SD = 5.82). Overall, when considering the entire sample, there was a decrease of, on average, 1.86 points (SD = 8.17). The average risk tolerance score before the start of the crisis was 53.14 (SD = 11.01) and 51.28 (SD = 11.53) after the onset of the crisis. Since this drop is less than one-fifth of the standard deviation of 10 points, a change of this size would not have a significant practical impact.

Some of the fluctuation between test and retest is to be expected and can be attributed to random error that occurs in any test that has less than perfect reliability.⁴⁹ For some however, the changes, especially the drops, were much larger and it is worth considering other possible explanations.

It is well established that personality traits can be changed by major life events, positive or negative, especially if these are traumatic in scope. For some, the 2008-09 bear market would be a negative life event (if, for example, someone's retirement savings had been wiped out), and one's risk tolerance might have decreased dra-

FIGURE 1

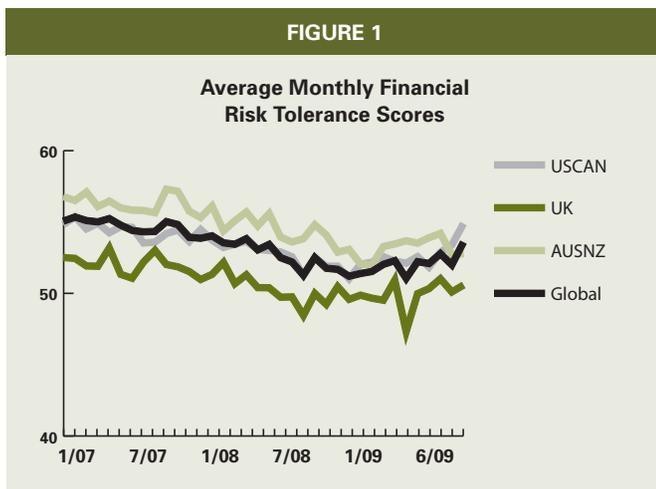
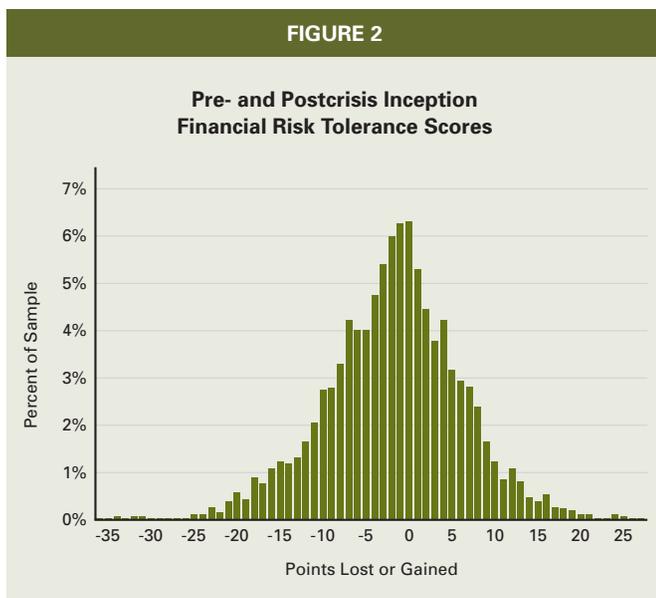


FIGURE 2



matically, bringing the average down. Also, there might have been a greater change in some of the questions asked in the questionnaire. Since the perceived riskiness of the stock market is now greater, it is plausible that more conservative answer options were selected for questions involving stocks, which would lead to a lower overall score. Further research on the FinaMetrica data base will address this issue.

In this context, it is worth reporting that a recent study of the impact of the economic crisis based on a risk profiling tool used by AMP, a large Australian financial corporation, produced similar findings on stability among Australian investors. The researchers conclude:

Despite the sharp deterioration in economic conditions at the time of the 2008 survey, the scores from the risk profiling questionnaire were almost identical in both sets of responses: around 76% of respondents scored in the middle range as “balanced” with virtually no one classified as “aggressive” and very few “conservatives.” In fact the only demographic indicator of a change of attitudes between the 2007 and 2008 surveys can be seen in responses to the question, “Do you own stocks and shares?” The percentage of the sample who answered “no, but considering” fell from 41 to 31 and the number responding “no, not interested” rose from 16 to 28 between 2007 and 2008.⁵⁰

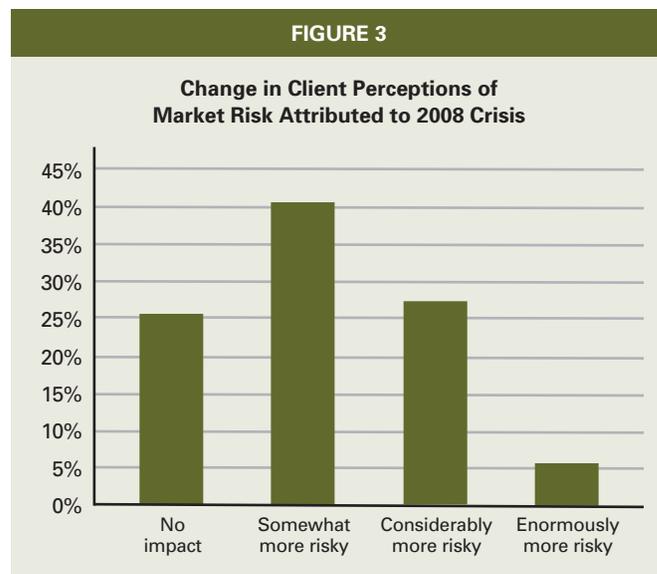
It is also very important to note that the changes in the FinaMetrica risk tolerance scores are fairly proportional to the original scores, as reflected by the correlation of approximately .74 between test and retest. This index shows that while there was some change in absolute stability, relative stability was maintained at a fairly high level. Absolute stability refers to consistency in the person’s actual scores over time, whereas relative stability refers to the consistency of an individual’s rank order within a group.⁵¹

It may be helpful to think of one’s risk tolerance as being regulated by some sort of mechanism that is analogous to a thermostat, a device for controlling temperature. Although some variation occurs, the thermostat maintains the system’s temperature near some set desired point that was engineered into the device. Different thermostats have different set points, just as different people have different set points for risk tolerance. Life circum-

stances can increase or decrease risk tolerance within the limits of that set point (which may be genetically engineered into us according to some research). Another analogy is the ocean tide: just as a receding tide lowers all boats in the water, it does so to the same extent; a boat 30 feet in height will remain this tall under both a low and a high tide, and a 10-foot-high boat will retain its height as well. Economic circumstances seem to do the same to people’s risk tolerance. We found it insightful to read that in the Vanguard survey, the 17% of investors who increased their stock holdings after the crisis had characteristics that had been related in prior research to high risk tolerance: male, above average level of education, investment sophistication, and high wealth.

Although risk tolerance appears to have remained fairly stable in the face of the crisis, both anecdotal and survey data indicate that risk perceptions have changed substantially. Between December 2008 and June 2009, FinaMetrica conducted surveys of 127 financial advisors and 452 clients. Question 4 in the client survey was: To what extent has the current share market decline affected your view of share market risk? The possible answers were:

- No impact.
- I now believe that the share market is somewhat more risky.
- I now believe that the share market is considerably more risky.



- I now believe that the share market is enormously more risky.

The answers to this question are as reported in Figure 3.

As a result of the economic crisis, 33% of the clients now see the market as enormously or considerably more risky and a further 41% see it as somewhat more risky—meaning that the perceived risk has increased for three out of four clients. These results are consistent with the Vanguard survey mentioned earlier; it reported that 49% of respondents agreed with the statement that the stock market is now more “dangerous” than in the past. The shift in perception is somewhat predictable from studies of two phenomena in risk perception: “risk denial”⁵² and the “affect heuristic.”⁵³

Risk denial is the finding that generally people tend to be overly optimistic about risks that they have not experienced and tend to perceive less risk for themselves than for others engaged in the same activities. For example, most people feel that hazards involved in driving an automobile are lower for them than the public in general. It is only after they experience the negative impact of a hazard that they come to better appreciate the real risk.⁵⁴ For instance, after suffering a bout of food poisoning, the affected individuals still perceived lower future personal risk from food poisoning than the risk they perceived for other people, but their experience with food poisoning did tend to reduce their optimistic bias.⁵⁵ Until this economic crisis, many investors had not experienced any declines in their portfolios and so remained overly optimistic. To them, the future was going to mirror the past, a common tendency that is sometimes formally known as “projection bias.”⁵⁶

The “affect heuristic” refers to the finding that when asked to assess the risks and benefits associated with various activities, people tend to perceive lower risk in what they view to be beneficial activities and higher risk in activities that they consider nonbeneficial, even when they do not differ mathematically. Until recently, investing was seen as primarily a beneficial activity, and again, the actual risk was attenuated in people’s minds.

Conclusion

The financial services industry needs to be more careful with the language it uses when speaking about

“risk.” When discussing client behavior under risky circumstances, it is helpful to distinguish between “risk perception” and “risk tolerance.” Both factors contribute to a decision when facing risk, and it is helpful to know whether a client is not acting (or acting) because of (1) misperception of the risk or (2) a reluctance (or eagerness) to make a risky decision.

Our data suggest that risk tolerance appears relatively stable and was not drastically affected by the economic circumstances of 2008. However, there was clearly a change in people’s risk perception, as indicated by their self-assessments. This is good news for advisors. Advisor and client share a common interest: neither wants the relationship to end in disappointment, and both want to reduce the potential for abrupt reversals.

If the client’s risk tolerance collapsed in a bear market there would be little the advisor could do to prevent a panicked sale. However, if increased risk perception is the likely Achilles heel, then the advisor can influence the client’s risk perception through education about market risk. As Mellan observed, “An advisor’s education and communication skills can be instrumental in changing risk perceptions over the life of a relationship. A good advisor would have educated his or her clients that tech stocks’ wild upswing didn’t make them safe. More recently, clients riding the long bull market needed to be educated about the risk of falling short of their goals if the market imploded.”⁵⁷

Of course, this presupposes that the investment strategy being followed is consistent with the client’s risk tolerance and financial capacity to sustain losses in the first place...but that’s another story.

Limitations

The primary limitation in our analysis is that the question about a change in “risk perception” was asked retrospectively. It was a self-determination of the change. In other words, we do not have a precrisis measurement of perceived risk and then another one at postcrisis onset (as we do with risk tolerance). Having this type of pre/post measurement on perceived risk of the stock market would allow for a clearer determination of the amount of change in risk perception versus the amount of change in risk tolerance.

Further Research

The test-retest data, which begin in 1999, is now being analyzed in detail by a number of academic researchers and should prove to be fertile ground for further and more nuanced findings. The data comprise answers to 25 risk questions of varying types and formats and, in most cases, includes answers to eight demographic questions—age, gender, education, marital status, dependants, personal and joint income, and wealth. Not only will researchers be able to see how risk tolerance scores change over time but also to determine changes in answers to individual questions in a demographic context. Another issue worthy of investigation is the extent to which the perception of the risk in investing pre- and postcrisis is a function of the individual's risk tolerance itself. ■

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