

**Declining Trust and Confidence in Financial Markets as a
Societal Challenge: A Theoretical Framework Utilizing the
Fishbein Multi-Attribute Model**

**Stacy R. Barnes
College of the Albemarle
1208 North Road Street
Elizabeth City, NC 27906
Email: srbarnes@albemarle.edu**

**Submitted to the Southeastern Chapter of INFORMS Conference
Myrtle Beach, South Carolina, October 1-2, 2009**

Track: The Recent Financial Crisis

Abstract

On the basis of the more recent breakdown of the U.S. financial system, investor risk attitudes and risk perceptions are in flux, which may have significant consequences for the future outlook of financial markets. Changes in future outlook or investor expectations can be theorized in terms of risk attitudes and changing risk preferences. More specifically, the investor loses his/her stronger reliance upon subsequent motivation to the point that it will be atypical. It is the purpose of this paper to provide a framework for examining the possible effects of declining trust and confidence in financial markets on investor risk perceptions and attitudes, which is considered by many observers to be a societal issue. If trust and confidence have been eroded, the dynamics and ongoing methods of investor information search and processing may distort risk expectations resulting in frustration and conflict concerning their needs and beliefs. Based upon declining trust and confidence in financial markets as a societal challenge, this paper proposes a theoretical framework utilizing the Fishbein multi-attribute model, which attempts to encapsulate overall attitudes into one score based upon a simple computational method.

Theoretical Premise and Selected Literature

Trust and Confidence and Risk/Reward

Investing is based upon the ability of the investor to ascertain risk/reward. However, it is the anticipation of the reward that is crucial to the investor's, confident, expectations and energetic behavior. In addition, as the reward increases, investors feel positive, are more confident, and will often add to their participation. Expectations have a tendency to not only rise but rise faster than they can be fulfilled. And they continue to do so until a breaking point is reached and disappointment becomes inevitable. Thus, it can have both positive and negative aspects, which may not always be easy to determine. It is the potential of profit that motivates investors. Although market indicators influence investors' decisions, these indicators such as price-earnings, revenues, profit margins, etc. only have an effect on a company's stock price if people are motivated to act.

However, market participants will not act if the investing public's attitudes toward trust and confidence have become embedded in society as a whole. Logically, as an efficient market hypothesis would suggest, investors are assumed to have access to complete information. As such, a company's stock price, its future value and changes in its stock price is reflected in investors' risk perceptions and attitudes. Perhaps the single best predictor for the success of financial markets is investor trust and confidence, which is manifested in investor perceptions, attitudes and expectations about the future.

Therefore, the overall positive experiences and outcomes depend on the depth of trust and confidence that reinforce and increase the likelihood that the investor will continue sustained participation in financial markets. Accordingly, to obtain the most profitable rewards, optimum functioning of the financial market system is essential. As a consequence, the behavior of market participants impacts economic outcomes (The Durable Investor, 2009). There is sparse argument among financial economists as to its relevancy. For example, aggressive marketing of financial products, or aggressive marketing of easy credit may have repercussions for the financial health of the economy and may also provoke social consequences. Correspondingly, academic researchers and interested observers contend that *perception* influences risky complex investing decisions.

Changes in risk attitudes are tantamount to changing preferences, which tend to change investor behavior through *learning*. As Assael (2004) contends, in the sense of knowledge, it is what one needs to learn when one needs to learn it. A change in risk perception and attitudes has been utilized to explain short term developments in financial markets, which theorizes that changes in risk perception and attitudes affect actions undertaken in more risky situations. For example, as a function of outcomes, Weber and Milliman (1997) found that when investors' risk perception/attitude, information acquisition, and stock selection change, investor stock selections and perception of the risk of the same stocks were different in a series of decisions in which they lost money than in a series in which they made money. If the discrepancy between investor lost was the result of fraud/corruption the financial markets, then any erosion in trust and confidence

could perhaps be explained through changing investor risk preferences and thus risk perception and attitude especially with respect to future market participation.

With these precepts in mind, one might infer that from an investor's standpoint today's financial markets in fact distort investor risk preferences, which would indicate changing risk perceptions and attitudes. More financial economists now agree that there are many reasons for the erosion of trust and confidence. Foremost is faulty due diligence and neglect of fiduciary responsibilities and business ethics and may be viewed by investors as a societal issue. Providing investors believe this to be true, then there may be a genuine crisis of trust and confidence apparently made worst by large financial institutions, political and government regulatory agencies that were relied upon to protect the sacredness of free markets and the legal framework upon which they function. For that reason, many observers may now see trust and confidence in the financial markets as one with societal magnitude. One observer, Schiller (2009) expresses the idea of trust and confidence by employing "animal spirits" in the moral fiber of that expressed by Keynes interpretation. Schiller explains:

The term "animal spirits," popularized by John Maynard Keynes in his 1936 book "The General Theory of Employment, Interest and Money," is related to consumer or business confidence, but it means more than that. It refers also to the sense of trust we have in each other, our sense of fairness in economic dealings, and our sense of the extent of corruption and bad faith. When animal spirits are on ebb, consumers do not want to spend and businesses do not want to make capital expenditures or hire people.

The Human Response to Inequality and Fairness

Classical economic theory can reveal something interesting about the human response to inequality and fairness. One of these can be explained through the so-called "*ultimatum game*" developed by Forsythe, Horowitz, Savin and Sefton (1994) in (McCabe, 2003). The ultimatum game makes two predictions about outcomes: (1) the offer by the proposer will always be unfair, and (2) the unfair offer will always be accepted by the responder. Assuming both participants are rational, it is understood by both that a small amount of money is inherently better than no money at all. As such, reason and greed will triumph over ethical notions of fairness. Presume there are two participants who are told that they have the opportunity to split \$10. If one participant is informed that as a first proposer, he/she makes a onetime offer that allows him/her to split the \$10 as they wish.

Now assume the other participant is informed that he/she (as the responder) acquires the opportunity to either accept or reject this onetime offer (no matter the split). If the offer is rejected, both participants end up with nothing. This "something or nothing" negotiation is the work of experimental economists Werner, Schmittberger and Schwarze (1982) in (McCabe, 2003) who were the first to study this idea. In the end, these economists got a surprise. In economic science, game theory predicts an unequal split favoring the participant who makes the offer. So, if a participant offers a (\$9, \$1) split where the second participant receives \$1, should not the second participant accept it? One would speculate that \$1 is better than nothing. However, instead of acceptance, a majority of the offers were distributed equally as a 50-50 split. Of course, this is not an altogether terrible strategy. In some cases, the responder is willing to

reject unequal offers. And although this occurs, it does not occur often. What can explain the equal split offers? Is it fear of rejection?

First of all, experiments have shown that most proposers offer about \$4, which is quite fair and totally irrational from a self-interest standpoint. If irrational, then why do proposers engage in such generosity? According to Forsythe, Horowitz, Savin and Sefton (1994) in (McCabe, 2003), it is because they are able to visualize how the responder will suffer if the offer is unfair. And second, the proposer knows that an unfair proposal will produce anger in the responder, which will lead the responder to reject the offer and leave both participants with nothing. As a consequence, proposers restrain their greed, and thereby split the \$10 equitably giving the appearance of fairness for everyone. Nonetheless, there's one easy way to change the behavior of participants during the *ultimatum game* according to researchers. When participants are given a test before the money is distributed (the type of test is of no consequence) and then the "high scorers" receive the \$10 to distribute, responders are willing to accept unfair offers. In other words, people are willing to tolerate inequality when they think it's deserved. These researchers surmise that this may explain why people are not normally outraged when Wall Street hands out obscene bonuses.

Why? They assume the executives deserved the bonuses. Then again, people now see it differently. Why? The normal sense of fairness breaks down. After witnessing this injustice, a cascading of undesirable events can ensue including disruptive markets. When proposers do something to deserve their monies, nobody complains. Then again, when they are rewarded for no justifiable reason and then refuse to fairly distribute their reward, participants get upset. They begin doubting the integrity of the system, and become more sensitive to perceived inequalities. As a result, their risk perceptions and attitudes as to expectations change perhaps in the end rejecting the very premise of fair markets. The global significance of "fairness" is reflected in a recent comment by Simon Johnson (2009) (Professor MIT Sloan's School of Management & former IMF Official) who reflected on the state of global financial markets:

The crash of the financial markets has laid bare many unpleasant truths about the United States. One of the most alarming is that the finance industry has effectively captured the U.S. Government—a state of affairs that more typically describes emerging markets, and is at the center of many emerging-market crises. If the IMF's staff could speak freely about the U.S., it would tell us what it tells all countries in this situation: recovery will fail unless we break the financial oligarchy that is blocking essential reform. And if we are to prevent a true depression, we're running out of time.

The Precariousness of Investor Trust and Confidence

Shiller (2009) contends that there appears to be sparse data available for quantitative evidence on investor perception, and so those who think that there are important changes in these perceptions. Over time analysts are obliged to rely mostly on their own casual and informal observations. Most data and research on investor perception, he insists refer to simple expectations for price change or indicators of these expectations. So far, there has been no admission of responsibility in what financial institutions did to help bring about the current financial crisis. Even so, there is an apparent confirmation of poor risk management, unsound models, irresponsible lending, and markedly leveraged investment strategies.

At their worst, many observers feel that these institutions acted with ethical and moral coldness. As many now realize, these institutions knew the way they were conducting business was on the blink. They seemed to have forgotten that trust and confidence in financial institutions is essential in a capitalistic system. Without well functioning markets, markets will simply implode if not in the short term, certainly in the longer term. Even more dangerous is to ignore countermeasures that swiftly punish those for breaking the rules (that requires a functioning legal framework). Unfortunately, the very people in charge either do not see swift punishment as an imperative or worst do not understand the precariousness of investor trust and confidence. Others assert that the unevenness of justice and punishment can have repercussions beyond boundaries not yet tested. In any event, it is the long term unintended consequences that are at risk.

According to Peterson (2009), dedicated to investor psychology, behavioral finance, and neuro-finance, studies show that people will pay to punish others who violate "social norms" and will do it with self-confident righteousness, which fuels revenge. Conversely, the more unusual aspect of this is that many people will use their own hard-earned income to punish those responsible for breaking the rules, even if they are not affected. Put another way, they simply want revenge. Though not gender-specific, it tends to be even stronger in men. Some recent observers assign having a higher baseline testosterone level in the morning, independent of other events may increase the aggressiveness of risk-taking and lead to higher markets returns. However, one might be skeptical of the research since the sample size was fairly small (17) and homogenous (Petersen, 2008). Petersen (2008) also cites Knutson's study (2006), which explains the dopamine surge when in sight of a sexy photo. He contends that this and other stimuli increases financial risk taking going forward.

In fact, again according to Peterson (2009), studies also show that the neuro-chemical dopamine is released in the brain (reward system) of people who take revenge on others. They actually get satisfaction from punishing those who break the rules, which can be addictive since it undoubtedly feels pleasurable to them. Of the essence, observers contend is that it seems likely that the U.S. economy and its reputation are going to continue to suffer the cost of which is anybody's guess. As a result, financial institutions have lost trust in each other, investors have lost trust in the markets to provide a comfortable long term return, and now we are all losing faith in the ability of government to solve major problems.

The Effect of Values on Attitudes and Perceptions

Free market enthusiasts insist that the term rational expectation is still appropriate because whenever new relevant information appears, the behavior of market participants is to revise their expectations accordingly. That is, any one participant can be wrong about the market, but it remains that the market is always right. This interpretation may be entirely true in a market environment where unethical, manipulative and fraudulent intent is minimized.

All the same, if one assumes normal market functionality when the intent by financial management in large firms and others are to circumvent the legal framework upon which other participants rely, then one would be suspicious that indeed such market activity may be

unreliable. However, what if market participants interpret such information as relevant, when in fact; it is irrelevant or perhaps manipulative and worst false.

Whether unintended outcomes or not, the results are markets where prices do not accurately reflect risk. In the short term, the market simply cannot account and respond to different questionable intent, especially when such practices may ultimately undermine trust and confidence. Based upon real market extremes, free market enthusiasts may counter this argument and consider irrational behavior as the norm. Behaviorists disagree with the perception that markets behave consistently as posed by free market advocates. Clearly, in leading up to the current financial crisis, the free market mechanism did not correctly predict underlying financial institutions' future results. If so, it would have been reflected in the legal framework set forth in the tradition of participation based upon a sense of fairness (ethics). A focus on how well free markets in the financial sector perform may be obstructed by changing American values and attitudes about its economic system.

If the ability of the U.S. economy to grow is impeded by substantial corruption, then financial behaviorists would reject the idea that real markets are efficient. Does the context of the current financial crisis reflect changing American values? From the perspective of the financial sector, Johnson (2009) thinks so and has made that clear with convincing narration of how America has been changed by oligarchs. His contention is that the American financial industry reaped political power by gathering a class of cultural capital in the sense of a belief system. Over the past decade, the attitude became that what was good for Wall Street was good for the country. The banking-and-securities industry has become one of the top contributors to political campaigns benefiting from the fact that Washington insiders already believed that large financial institutions and free capital markets were crucial to America's position globally (Johnson, 2009).

Pryor (2005) argues that only when a significant share of a capitalist society's population share certain economic values (shared values of society about what is good and what is not) and attitudes (which is rooted in Protestantism) will the free market system maintain its viability over the long term. While free market purest would argue that economic values and attitudes change only as the level of economic growth increases; financial behaviorists, on the other hand would not ignore the impact of society's values. In light of changing societal values, these observers would see a convergence of activities of a limited number of economic players and the absence of particular capitalist characteristics such as strict property rights, enforceable contracts, or low information costs. A quantitative measure of the relationship between economic values, ethics, morality and economic growth is difficult yet essential, especially if one is interested in enhancing the validity of so-called "free" markets, which relies upon society's attitudes toward this institution.

Again, Johnson (2009) makes Pryor's (2005) point. He says leaving aside the taxpayer fairness issue regarding bank bailouts, the government's velvet-glove tactic with the banks is deeply disturbing in that it is not enough to change the behavior of a financial sector accustomed to conducting business on its own terms, at a time when that behavior must change.

The Theoretical Framework

As a part of the theoretical framework for this paper, several requisite explanations are presented in the ensuing narration. In the financial investment literature, risk attitude and perception are thought to be essential to evaluation of investment opportunities and return on invested monies. Risk can be defined as partial knowledge which entails probabilities (that a negative event will occur) and possible known outcomes as expressed in Webster's New World Finance and Investment (2003). Risk attitude refers to the investor's general or consistent tendency towards risks. An attitude is a favorable or unfavorable evaluative response toward something or someone displayed by one's beliefs, feelings, or intended behavior (Myers, 2004). Risk attitudes are commonly modeled within an expected utility framework. Risk perception reflects the investor's interpretation of the likelihood of risk exposure and is defined as the investor's assessment of the risk inherent in a given investment opportunity.

It is a social orientation, an underlying inclination to respond to something either favorably or unfavorably (i.e., this supposes that beliefs play a causal role in the development of behavior). Investors' overall belief (i.e., the term "belief" refers to the attitude one has, generally, whenever one takes something to be the case or regard it as accurate) (Schwitzgebel, 2006) as to whether, for example trust and confidence in financial markets is high or low. With these clarifying prerequisites, an attribute model is suggested as a basis for establishing investor attitudes surrounding trust and confidence in financial markets. In the Fishbein multi-attribute model, risk attitudes are theoretical constructs that are latent or are theoretical variables in that they cannot be directly observed. Instead, they must be inferred from observable responses. The multi-attribute attitude model is used to organize the key concepts of behavior as reflected in attitudes. The Fishbein multi-attribute model (attitudes toward financial markets) has been utilized widely, which attempts to encapsulate overall attitudes into one score employing the equation (Fishbein, 1963):

$$A_b = \sum_{i=1}^n W_i X_{ib}$$

Where:

A_b = belief attribute

W_i = weight or importance of each belief

X_{ib} = evaluation of belief

The model views an attribute object as processing multiple individual attributes that establish the basis for attitudes. It can also offer a fundamental conceptual framework for analyzing the linkage between overall attitudes toward trust and confidence in financial markets and perceptions about various attributes associated with investor future expectations concerning those markets. That is, for each belief, a weight or importance (W_i) of that belief and multiply it with its evaluation (X_{ib}). For example, an investor believes that well-functioning free markets is moderately important, or a (four) 4 on a scale from (one) 1 to 7 (seven). The investor believes

that financial transparency is very important, or a (six) 6 on a scale from 1 to 7. Hence, trust and confidence in financial markets is important $4(6) = 24$ (Perner, 2009).

On the other hand, if the investor believes that the potential for corruption and fraud are extremely important seven (7), and financial markets fare moderately shoddily, at a score of (minus four) -4, on this attribute (since this is a negative belief, negative numbers are utilized from -1 to -7, with -7 being worst). Accordingly, we now have $7(-4) = -28$. Had these two beliefs been the only beliefs the investor held, the investor's total, or aggregated, attitude would have been $24 + (-28) = -4$. In practice, of course, individuals tend to have many more beliefs that would have to be utilized in order to obtain meaningful accuracy. Changing attitudes toward societal issues such as financial markets is a difficult task since attitudes are most always deep-seated. According to Assael (2004), to restore financial market trust and confidence, some success may be effective through marketing communications.

The following characterizes the parameters surrounding the use of the Fishbein model in the context of the literature described above, which include:

1. Fishbein (1963) refers to beliefs, attitudes, and intentions and can be identified as the cognitive, affective, and behavioral components of attitudes, which relies on Katz's functionalist theory. It holds that attitudes are determined by the functions they serve for people...that they embrace given attitudes because these attitudes help them achieve basic goals (Katz, 1960). In this paper, the basic goals are based on Katz's four types of psychological functions that attitudes meet. These include:
 - Instrumental - people want to maximize rewards and minimize penalties and people are more likely to change their attitudes if doing so allows them to realize goals or avoid undesirable consequences;
 - Knowledge- attitudes provide a meaningful, structured environment since people seek some degree of order, clarity, and stability as a personal frame of reference;
 - Value-expressive – people express basic values and reinforce self-image. For example as an investor, people can reinforce that image by adopting investor class beliefs and values;
 - Ego-defensive - some attitudes serve to protect people from acknowledging basic truths about themselves or the harsh realities of life. People with feelings of inferiority may develop attitude of superiority when a part of the investor class, which serves as a defense mechanism (Katz, 1960).
2. Assumptions of the Fishbein model include:
 - Behavioral intentions are the only direct determinant of behavior;
 - Behavioral intentions are determined by affective attitudes and subjective norms;
 - Affective attitudes are a function of beliefs about consequences (subjective evaluation of those consequences);
 - Subjective norms are a function of beliefs about the expectations of others times my motivation to comply with them (Fishbein, 1963).

3. It is also of the essence to understand that the Fishbein multi-attribute model risk attitudes are theoretical constructs, which means they are theoretical variables. That is, they cannot be directly observed. As an alternative, they must be contingent upon observable responses. The multi-attribute attitude model is used to organize the strategic concepts of behavior and to predict behavior (Hailu, 2004).
4. In using the Fishbein model as a framework, what possible outcomes may occur?
 - Expectations may not be confirmed;
 - Information may be inconsistent with previous beliefs which may lead to attitude change;
 - Investors may behave in a counter-attitudinal manner...people who say they one thing but do another;
 - Investor attitudes may become non-instrumental, because of the high monetary costs of market participation;
 - Value-expressive...investing may become inconsistent with the trust and confidence most people expect, so they adopted anti-market attitudes.

Is there an attitude-behavior relationship? Measuring attitudes is difficult. In many situations, individuals do not consciously catalog how positively or negatively they feel about, for example financial markets. When a researcher asks a subject about their beliefs concerning financial markets, how important these beliefs are, and their evaluation of financial markets with respect to these beliefs, subjects often will not give very consistent answers. As a consequence, subjects may act consistently but behave based upon their real attitudes, which were never discovered because in fact measurement was not accurate (Perner, 2009). This may in part explain the current financial investment environment, which has overridden the original intent of a well functioning financial market system as a working rationing price mechanism for society's welfare.

Conclusion

While there are many other investor attitudes that might also be studied, it appears that these two may deserve particular consideration, namely trust and confidence. Schiller (2009) alleges their importance because of their assumed tendency to change significantly through time and their potential consequences for the behavior of markets. This research has presented a theoretical framework set in the Fishbein multi-attribute model in which the model hypothetically plays a role in changing investor attitudes in relation to a social issue, namely to ascertain investor attitudes toward trust and confidence in financial markets. Further studies may embellish the appropriateness of the Fishbein model as a measure of investor beliefs, attitudes, and intentions principally when trust and confidence in financial markets weighs heavily on future economic outcomes.

References

- Assael, H. (2004). *Consumer Behavior: A Strategic Approach*. In H. Assael, *Consumer Behavior: A Strategic Approach*. Boston: Houghton Mifflin Company.
- CalUniversity. (2008). MKT. 646- Consumer Behavior. In CalUniversity. Diamond Bar: CalUniversity.
- Cooper, D. R., & Schindler, P. (2008). *Business Research Methods*. NewYork City: McGraw-Hill Irwin.
- Fishbein, M. (1963). An Investigation of the Relationships Between Beliefs about an Object and the Attitude Toward that Object. *Human Relations* , 233-240.
- Hailu, G. (2004, August 5). *Impact of Decision Makers Divergence in Risk Attitudes and Perceptions on Cooperative Management in Canada* . Edmonton, Alberta, Canada.
- Hesmondalgh, D. (2002). *The Cultural Industries*. Thousand Oaks: Sage Publications.
- Johnson, S. (2009, March). *The Atlantic* . Retrieved March 30, 2009, from The Atlantic: <http://www.theatlantic.com>
- Katz, D. (1960). *The Functional Approach to the Study of Attitudes*. Johnson Reprint Corporation.
- McCabe, K. (2003, September 24). *Neuroeconomics*. Retrieved March 27, 2009, from Center for the Study of Neuroeconomics at George Mason University: <http://neuroeconomics.typepad.com>
- Meyers, D. (2004). *Social Psychology*. New York: McGraw-Hill Education.
- Mowen, J. C., & Minor, M. (2007). *Personality and Psychographics*. Retrieved March 20, 2009, from Consumer Behavior: <http://www.consumerbehavior.net>
- Parasuraman, A., & Grewal, D. K. (2007). *Marketing Research*. Boston: Houghton Mifflin Company.
- Perner, L. (2009). *Consumer Psychologists*. Retrieved March 5, 2009, from University of Southern California: <http://www.consumerpsychologist.com>
- Peterson, R. L. (2009). *MarketPsych*. Retrieved March 27, 2009, from MarketPsych: <http://www.marketpsych.com/investorbrain>
- Schutt, R. K. (2009). *Investigating the Social World: the Process and Practice of Research*. London: Pine Forge Press.

Schwitzgebel, E. (2006). *Stanford Encyclopedia of Philosophy*. Retrieved March 27, 2009, from Metaphysics Lab Stanford University: <http://plato.stanford.edu/entries/belief>

Shiller, R. (2009, January 27). *The Wall Street Journal*. Retrieved March 25, 2009, from A Wall Street Journal Website: <http://online.wsj.com/article/sb123302080925418107>

The Durable Investor. (2009, March 12). Retrieved March 25, 2009, from The Durable Investor: <http://durableinvestor.wordpress.com/category/behavioral>

Weber, E., & Milliman, R. A. (1997). Perceived Risk Attitudes: Relating Perception to Risky Choice . *Management Science* , 123- 144.

Webster's New World Finance and Investment . (2003). Indianapolis: Wiley's Publishing Inc.