

A Comparison of Survey and Incentivized-Based Risk Attitude Elicitation

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EXECUTIVE SUMMARY

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One of the duties of financial advisors is to assist investors with building a portfolio that fits their needs and preferences. An important issue is how much risk the investor should be exposed to. To address this issue advisors typically begin by looking at an investor's profile, collecting such information as income, age, level of financial literacy, investing experience, and tax status. The problem is that although socioeconomic variables can proxy for the willingness to take risk, they cannot fully capture it. Attempting to measure risk preferences more accurately, advisors can turn to surveys aimed at identifying risk tolerance and financial objectives. In Canada, these surveys are part of what is called as the Know-Your-Client process, a step mandated by regulation, in which financial advisors assess their clients' investment needs and objectives, financial circumstances and level, and risk tolerance OSC (2009).

An alternate method of eliciting preferences relevant for investment decisions is the use of incentivized instruments in economics experiments. With these instruments people make decisions that reveal their preference and attitudes through actions rather than words or socioeconomic status. In fact, experiments, through the control of the laboratory environment, make it possible to measure multiple dimensions of risk attitudes. However, experiments are costly, with regard to both time and resources, making their use unfeasible in many contexts. This limitation often makes questionnaires the only alternative to measure risk attitudes. Thus it is important to understand what the questionnaires measure with as much precision as possible.

One way to pin down the interpretation of questionnaire responses is to explore the association between survey and experimental methods. In this paper for the first time we do exactly that by comparing responses to the "Know-Your-Client" (KYC) survey, taken from a sample survey designed by the Mutual Fund Dealers Association of Canada (MFDA (2014)) to guide its members, and a set of incentivized laboratory instruments in an online experiment with heads of households. The survey included seven questions aimed at assessing the participants' level of financial risk tolerance and attitudes towards losses. The experimental tasks measured four dimensions of risk preferences: risk and ambiguity aversion, temperance, prudence, and loss aversion. We explore the association between the results of the survey and the experimental tasks. While other papers explore the determinants of risk attitudes (Dohmen et al. (2011), Ding et al. (2010)), the association between different experimental measures of risk aversion (Menkhoff et al. (2006)), and the empirical association between different dimensions of risk preferences (Deck and Schlesinger (2014)), none examine a specific questionnaire in use in the finance industry.

Our aim in this paper is to test to what extent survey questions used by financial professionals are associated with incentivized measures of risk attitudes. With our experiments we measured five dimensions of risk preference: risk and ambiguity aversion, prudence, temperance, and myopic loss aversion. We organize the discussion of our results around two self-explanatory behavioral conjectures.

Conjecture 1: The survey measures of risk preference elicit related information using different frames, as do the measures of loss aversion. Thus responses to questions 1, 2, 5 and 7 will be correlated with each other as will responses to questions 3, 4 and 6.

Conjecture 2: The survey measures of risk preference will be correlated with the experimental measures of risk and ambiguity preference. The survey measures of loss aversion will be correlated with the experimental measures of myopic loss aversion.

We found that the responses to the risk questions in the survey were highly correlated with each other, as are the responses to the loss questions. Indeed, the risk and loss questions are also correlated with each other. By contrast, we found less correlation among the incentivized instruments. We found that the risk instruments significantly predict responses to the risk questions with the exception of one question that includes a time dimension. By contrast, the loss aversion instruments did not predict responses to the loss questions. Indeed, if anything, risk instruments predicted the majority of the loss questions. We concluded that the survey was successful in eliciting attitudes towards risk, and that the survey appears to be less successful with regard to loss aversion. We speculate that the survey may benefit from questions about higher order risk preferences.

We divided the survey between questions about risk attitudes and questions about attitudes toward losses. We showed that the responses to the questions were highly correlated, suggesting that they elicit similar information. By contrast, the risk instrument behavior was not intercorrelated, but the loss aversion measures were.

We found that in general the risk instruments had predictive power for the responses to the risk questions: a comforting finding for the validity of the survey. The lone exception was the question that included time in its elicitation of a preferred portfolio among choices with different variances over time. We speculated that time preferences may help predict this response. We also found that risk measures, and not loss measures, help to explain two of the three loss questions. This finding suggests that again in general, the loss questions may be eliciting information about risk attitudes.

Most financial professional are taught to summarize risk preferences with risk aversion, following a mean-variance analysis, for guiding a financial advisor in making decisions for a client. Our evidence suggests that this form appears to accomplish this goal. However, higher moments of the return distribution are usually disregarded in forms such as the KYC, which could lead to suboptimal decisions. For instance, as explained by Cvitanic et al. (2008) in his analysis using CRRA utility functions, if higher moments are disregarded, over-investment in risky securities, especially under high volatility, could result.

Our evidence thus further suggests that higher moment elicitation may indeed be called for. While they do help to predict risk responses, as they should, they also vary in different dimensions, providing more information. Since the risk questions correlate with the higher order risk instruments, perhaps survey questions on the higher moments would be useful as well.



Finally, we found little evidence that loss aversion is being elicited in the survey. This could be due to the questions themselves, or the instrument performance in the experiment. The evidence suggests, however, that since the majority of these questions are correlated with the risk instruments and since the loss aversion instrument is correlated with several risk instruments as well, except in the loss questions, these questions may not be invoking loss aversion at all.

At any rate, because experiments may not always be feasible in practice, designing survey questions specifically designed to measure each risk dimension is useful. Our experimental results suggest that the form does bring important and vital information to bear on the client-investor relationship.

For a more detailed look at this work, please refer to the full research paper posted on the GRI website.



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