Individual Preferences, Monetary Gambles, and Stock Market Participation: A Case for Narrow Framing

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Abstract

- **Narrow Framing** means that an agent who is offered a new gamble evaluates that gamble in isolation, separately from her other risks.
- This may be a more important feature of decision- making than previously realized.
- The starting point in this paper is that people are often averse to a small, independent gamble, even when it's actuarially favorable.
- It is found that a wide range of utility functions have trouble explaining this evidence, but that allowing for narrow framing could solve the problem.
- An analysis as to what kinds of preferences can most easily address the stock market participation puzzle.

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Introduction

- Economists and financial economists have long been interested in how people evaluate risk.
- This paper argues that narrow framing may play an important role in decision making under risk.

- We think that decision making under risk of different people in behavioral finance is very interesting.
- The fact that this paper tries to find utility functions that can explain some preference specifications that occur in real life but are hard to catch in a utility function makes it interesting to us.

- The starting point in this paper is that people are often averse to a small, independent gamble, even when it's actuarially favorable.
- In this paper the writers try to understand what kinds of preferences can explain such attitudes to risk.

- **First-order risk** aversion allows for risk-averse behavior, even if the stakes are small.
- **Second-order risk** aversion implies approximately risk-neutral behavior when small risks are concerned.

Introduction

- The contributions of this paper are:

1. To show that even utility functions that do exhibit first-order risk aversion have difficulty why such a gamble would be rejected,
2. That utility functions that combine first-order risk aversion with narrow frame have a much easier time doing so.

- The intuition for these results is that an agent with first order risk aversion rejects a small gamble, without narrow framing this can only be explained with an extreme parametrization of their utility function. But this parametrization implies, counterfactually, the rejection of highly attractive gambles with larger stakes.
- Hence we need narrow framing to explain this.

- This paper shows that a more basic piece of evidence, not normally associated with narrow framing may also need to be thought of in these terms.
- If narrow framing does, sometimes, play a role in the way people evaluate risk, it is important we learn more about its underlying causes.

Attitudes to Monetary Gambles

- An agent with a wealth level below, say $1,000,00 probably rejects this gamble: Gs = (550, 0.5; -500, 0.5)
- An agent with a wealth level over, say, $100,000 mostly accepts the gamble: Gt = (20,000,000, 0.5; -10,000, 0.5)
- Hence we need a preference specification that can predict:

1. That Gs is rejected for wealth levels W < $1,000,000, and
2. That Gt is accepted for wealth levels W > $100,000.

- For certain utility specifications it can be make a difference whether gambles are *immediate* or *delayed*. An immediate gamble is resolved at once while a delayed gamble plays out somewhere in the future.
- So, we look for preference specifications that can satisfy conditions 1. and 2. when they are immediate and when they are delayed.

Utility Functions

- The utility functions in this paper can be divided in 4 specific classes:

1. [EU]: Expected Utility preferences

Nonexpected utility preferences:

2. [R-EU]: Recursive utility with EU certainty equivalent
3. [R-SORA]: Recursive utility with non EU, second-order risk averse certainty equivalent
4. [R-FORA]: Recursive utility with non EU, first-order risk averse certainty equivalent

The Limitations of Standard Preferences

- The first three kinds of utility functions on our list - the EU, the R-EU, and R-SORA classes - have trouble satisfying condition I (the rejection of Gs) while also satisfying condition II (the acceptance of Gl).
- Even R-FORA class has difficulties
- Risk neural versus risk-averse
- In the special case where Gs and Gl are played out immediately, then, preferences with first-order risk aversion can satisfy conditions I and II.

Narrow Framing: A Potential Solution

- Gs = (550, 0.5; -500, 0.5) and Gt = (20,000,000, 0.5; -10,000, 0.5)
- Consider the gamble Gs proposed to a first-order risk averse agent
- First-order risk aversion can explain why the gamble will be rejected when played *immediately*
- Assume however that the gamble is *delayed*, the agent may either: 1) merge it with her preexisting risk (integration) or 2) regard it in isolation and reject it (segregation)
- Case 2 is refered to as "narrow framing"
- Barberis et al. show that an agent may prefer to reject Gs but accept Gl, *given that she is first-order-risk-averse and frames the games narrowly*

Stock Market Participation

- What is meant by the stock market participation puzzle?

--> observation that historically many households haven't invested in the stock market, even though the stock market has a high mean return

- Suggested reasons for this include: 1) (too) high transaction costs of investing in the stock market, 2) non-stockholders may have background risk correlated with the stock market
- However, scholars have argued against these reasons and Barberis et al. suggest a a third possible reason, which is *preference-based,*

Stock Market Participation

- Stock market returns usually not correlated with other risks such as labour income risk -> should make stock market investments favorable even for first-order risk averse individuals due to diversification benefits
- However, segregation of potential stock market investments can explain non-participation
- Narrow framing can also explain lack of diversification in stock choices
- Risk premia may also be affected by narrow framing

Interpreting narrow framing

- Two different views of narrow framing

1. When regret is taken into account
2. When decisions are made intuitively rather than through reasoning

- "The disposition effect"

Conclusion

- This paper finds that a surprisingly wide range of utility functions have trouble explaining the evidence that people are often averse to a small, independent gamble
- This difficulty can be overcome by narrow framing
- The analysis does not prove that narrow framing is at work
- However, given the difficulties faced by standard preferences, narrow framing may needs to be taken more seriously than before the paper.

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Thank you!

Are there any questions?