

## Betrayal Aversion and Group Identity: An Investigation of Identity Motivations

Noah Bacine, Economics Department, 4<sup>th</sup> Year Ph.D. student

Dr. Catherine Eckel

Introduction: What distinguishes an act of trust from a similarly risky decision? Traditional economic theory predicts that as long as payoffs and probabilities are equivalent then nothing distinguishes an act of trust from taking a gamble. However, a growing body of experimental and empirical research has illustrated this is not the case; the decision to trust is context specific and that individuals behave differently when other individuals are present. Bohnet and Zeckhauser (2004) investigate this question by comparing the decision to trust against identical gambles in the laboratory and find the presence of betrayal aversion, or the tendency for individuals to desire a higher chance of a good outcome when paired with a human as opposed to a computer. We expand this research to investigate the recurring finding that individuals tend to enter trusting relationships with those that are similar to them as opposed to those that are different. Our initial results replicate the original findings that individuals express an aversion to risk when the source of the outcome is another subject as opposed to nature; we find that this aversion is strongest when subjects are paired with another subject whose identity is different from their own.

Methodology: To investigate how trust differs from a similarly risky decision, we adapt the approach first introduced by Bohnet and Zeckhauser (2004) to include identity. The authors alter the trust game originally outlined in Berg, Dickhaut, McCabe (1995) to allow identification of separate motivations in trust.

In the original game, a first mover gets to choose any amount of an endowment,  $x$ , to send to a second mover. Any amount to the second mover receives is multiplied by  $M$  leaving the second mover with  $Mx$ . Then, the second mover has the opportunity to send any amount of the multiplied amount ( $Mx$ ) back to the first mover. Because game theory predicts that the second mover will return nothing and recognizing this the first mover will keep their entire endowment, a non-zero amount sent by the first mover is considered an act of trust while any amount returned is considered an act of reciprocity. However, since its original publication a number of researchers have shown that actions in the trust game may be due to a litany of behavioral motivations (for example Cox [2004] or Eckel & Wilson [2004]).

Bohnet and Zeckhauser (2004) approach the investigation of trust by designing treatments to isolate different behavioral motivations. The authors adapted the original design into three treatments: the decision problem, the risky dictator game, and the trust game. Each treatment is a binary version of the trust game in which the first mover gets to decide to trust or not trust by declaring the probability of reciprocation at which they desire to trust.

Thus, in each condition, first movers must express their minimal acceptable probability (Henceforth, MAP) at which they desire to take a gamble. The treatments are separated by who

receives a payoff and who determines the probability of reciprocity. In the decision problem, the decision is made by a computerized lottery. The risky dictator problem has a similar mechanism except that there is a second player who passively receives the outcome of the decision made by the first mover. The trust game is distinguished by the probability of reciprocation being determined by a pool of second movers as opposed to a computer. The treatments are conducted between subjects and analysis is completed by comparing aggregate behavior across treatments. Of note, treatments are made comparable by setting the probability of the computer “reciprocating” equal to the fraction of second movers in the trust game condition that choose to reciprocate on trust. Thus, the probability of a first mover receiving the desired outcome is the same across all three treatments. The factors that distinguish the treatments are: 1. the presence of a second mover receiving payoffs and 2. Whether the outcome is determined by a randomly paired second mover or a computer. We compare aggregate MAPs across treatments to measure subject’s level of inequality aversion, the desire to not make less than another subject, as well as their betrayal aversion, the desire to avoid a gamble when it is decided by another person as opposed to nature.

We expand this literature by including the factor of identity. Specifically, we adapt the design outlined above to include the within subjects factor of residential college identity. We use students at Rice University who are randomly assigned to residential colleges when they first arrive on campus. This form of group identity is ideal because we can avoid concerns about artificial group identity being an artefact of the laboratory as well as concerns about group characteristics and selection as assignment is random ensuring an even distribution of characteristics across residential colleges.

Description of Data: In the fall of 2017, we ran 9 sessions producing a total of 122 subjects across all three treatments. Our extension incorporates the within subjects factor of identity so that each subject only experienced one of the three treatments outlined above but made a decision with a member of their own college and a member of another college whose order was randomly determined. Our primary unit of analysis is a comparison of within subject preferences as well as aggregate preferences across treatments.

Preliminary Findings: We find the presence of betrayal aversion replicating the original finding that individuals are more averse to risk when it is determined by another subject as opposed to nature. We find that individuals tend to be less inequality averse towards member of their college but the finding is not statistically significant. On the other hand, we find a significant difference in betrayal aversion in that subjects require a higher probability of reciprocation before choosing to trust a member of another college.

Conversation: Our results add to a growing body of literature investigating what distinguishes an act of trust from a gamble. This paper stimulates conversation by asking what distinguishes trust from a similarly risky gamble and how identity alters preferences. We plan to encourage conversation regarding how identity can be incorporated into theory to reach more accurate conclusions as well as discussing how our findings can be used to encourage higher efficiency in trade through developing intergroup trust.

## Bibliography

Berg, Joyce, John Dickhaut, and Kevin McCabe. "Trust, reciprocity, and social history." *Games and economic behavior* 10.1 (1995): 122-142.

Bohnet, Iris, and Richard Zeckhauser. "Trust, risk and betrayal." *Journal of Economic Behavior & Organization* 55.4 (2004): 467-484.

Cox, James C. "How to identify trust and reciprocity." *Games and economic behavior* 46.2 (2004): 260-281.

Eckel, Catherine C., and Rick K. Wilson. "Is trust a risky decision?." *Journal of Economic Behavior & Organization* 55.4 (2004): 447-465.