Journal of Economic Psychology 53 (2016) 83–98

Contents lists available at ScienceDirect

Journal of Economic Psychology

journal homepage: www.elsevier.com/locate/joep

Risk mitigation and trust experimental evidence from Jordan and the United States ☆

Mohamad Al-Ississ [a,*], Iris Bohnet [b,1]

[a] The American University in Cairo, AUC Avenue, P.O. 74, New Cairo 11835, Egypt
[b] Harvard Kennedy School, 79 JFK Street, Cambridge, MA 02138, United States

A R T I C L E   I N F O

Article history:
Received 1 December 2014
Received in revised form 3 October 2015
Accepted 29 December 2015
Available online 11 January 2016

JEL classification:
C72
C91

PsycINFO classification:
2220
2340
2360
2930
3040

Keywords:
Trust
Reciprocity
Social preferences
Gender
Risk mitigation
Vulnerability
Cross-cultural experiments

A B S T R A C T

This paper examines how trust and trustworthiness respond to lowering the principal's risk in cultural settings focused on risk mitigation vs. risk prevention. We employ a binary-choice trust game and show that principals are confronted with a complex optimization problem: risk mitigation lowers the principal's cost of betrayal but if agents are inequality averse or reciprocally minded, it can also increase its likelihood. This may be exacerbated in cultures not used to fostering trust by risk mitigation. Our experiments suggest that lowering risk only increases trust in the United States but not in Jordan. In both countries, trustworthiness decreases as the principal's vulnerability decreases. We extend our findings to naturally occurring vulnerabilities in addition to the financial ones created in the laboratory.

1. Introduction

Virtually every commercial transaction has within itself an element of trust. Trust is the foundation of many economic interactions, from holding a country's currency trusting that the government will defend its value to making an investment in a publicly traded company believing that the firm's earnings will be fairly distributed among stakeholders and

☆ We thank Al-Zaytoonah Private University in Amman, Jordan, for the permission to conduct the experiment and for their logistical support, and the participants of seminars at Harvard, Maryland, Stanford, and Valencia universities for their helpful comments. Financial support from the U.S. Army Research Laboratory and the U.S. Army Research Office under grant number W911NF-08-1-0144 is gratefully acknowledged.

* Corresponding author. Tel.: +20 2 2615 3206.
E-mail addresses: alississ@aucegypt.edu (M. Al-Ississ), iris_bohnet@harvard.edu (I. Bohnet).
[1] Tel.: +1 617 495 5605.

http://dx.doi.org/10.1016/j.joep.2015.12.010
0167-4870/

shareholders (Arrow, 1972). In fact, trust has been linked to improved human capital, governance, investment, inter-organizational cooperation, democratic stability and welfare, and is conducive to economic growth.[2]

Despite its importance for social stability and economic growth, the determinants of trust are not well understood. Presumably, people are more likely to enter a contract when the parties of the contract are more likely to obey its terms. Indeed, laboratory experiments conducted in the Netherlands and the United States show that trust increases as the risk of betrayal decreases (Malhotra, 2004; Snijders & Keren, 1998). Both of these high-income countries rely upon legal mechanisms such as damages, as well as insurance provisions to mitigate the risk inherent in trusting. In contrast, such legal mechanisms are absent in many low-income countries. In such environments, trust is often fostered by repeated interactions within a group (e.g., within an extended family, a tribe or an ethnic group). In other words, high-income countries typically rely on mitigation-based strategies to lower the risk of betrayal; in contrast, many low-income countries rely upon prevention-based strategies (Bohnet, Herrmann, & Zeckhauser, 2010).

Using subjects recruited from Jordan and the United States, we employ a laboratory experiment to test whether changes in the cost of betrayal in a trust game have a differential effect on an agent's trustworthiness when the subjects are accustomed to prevention-based approaches rather than mitigation-based approaches. We focus on Jordan, where societal organization and the legal system require individuals to rely upon prevention-based strategies.[3] We compare the behavior of subjects recruited in Jordan in a trust game with that of subjects recruited in the United States.

We adopt a definition of trust proposed by a cross-disciplinary review as "a psychological state composing the intention to accept vulnerability based on positive expectations of the intentions or behavior of another" (Rousseau, Sitkin, Burt, & Camerer, 1998, p. 395). In a trust game, the first-mover or principal makes herself vulnerable by passing money on to a second-mover or agent. The agent receives the transfer with a surplus, which he can either share with the principal or keep for himself. In the latter case, the principal is worse off than if she had never trusted the agent by making a transfer. In the laboratory, it is possible for the experimenter to decrease the cost of betrayal to the principal when the agent does not reward the principal's trust, thus, making it less risky to trust. However, lowering the cost of betrayal to the principal may also affect the behavior of the agent. More specifically, the agent may be more likely to betray the principal when the principal is partially insured against betrayal. To the extent that the principal recognizes the potential effect of lowering the cost of betrayal on the agent's behavior, the principal's optimization problem becomes significantly more complex, thus making this an interesting theoretical, as well as empirical issue.

The incentives in the trust game are further complicated by social preferences and the perceived financial vulnerability of the principal. Concerns about reciprocity and inequality aversion may make an agent less inclined to honor trust as the financial vulnerability of the principal decreases.[4] Indeed, if the principal is fully insured against the cost of betrayal, the risk from trusting would be completely removed and the agent may feel little compulsion to honor the principal's trust by returning money to the principal. In other words, the financial vulnerability of the principal may impact the agent's reciprocal obligations to honor the principal's trust or the decrease of payoff differences between the agent and principal in case of betrayal may simply make the agent less inequality averse.

Reciprocity and inequality aversion have been studied across disciplines, and many believe that they are relatively universal social motivations. For example, Gouldner, an early contributor to the literature, wrote: "A norm of reciprocity is, I suspect, no less universal and important an element of culture than the incest taboo..." but its "concrete formulations may vary with time and place" (Gouldner, 1960, p. 171). Similarly, much evidence suggests that people generally dislike being worse off than others and that such fairness considerations can be traced back to the brain (e.g., Loewenstein, Thompson, & Bazerman, 1989; Tabibnia & Lieberman, 2007).

In addition, cultural factors may affect an agent's responsiveness to the principal's vulnerability (Bohnet et al., 2010; Gelfand, Spurlock, Sniezek, & Shao, 2000; Meier, Pierce, & Vaccaro, 2013). Previous trust studies in the Arab world found higher levels of betrayal aversion, stronger preference for in-group trust, and trust to be less elastic to changes in the likelihood of trustworthiness (Bohnet et al., 2012). We hypothesize that decreases in the costs of betrayal will have a greater impact on agents' trustworthiness and on principals' trust when people are more accustomed to prevention-based approaches to fostering trust, rather than mitigation-based approaches.

One concern often raised about the validity of cross-cultural experiments is the degree to which cross-country variation in financial incentives created in the laboratory captures a particular concept, such as a principal's vulnerability. Therefore, we measure the vulnerability of the Jordanian subjects in two ways: by the payoffs that principals receive in the case of betrayal by the agent, which we refer to as financial vulnerability, and by the vulnerabilities that principals bring to the laboratory due to their demographic characteristics, namely gender and national origin. We refer to the latter as naturally occurring vulnerability.[5] While obviously not perfect, this is a first attempt at measuring the robustness of people's responses

[2] See Bjørnskov, 2012; Fukuyama, 1995; Inglehart, 1999; Knack & Keefer, 1997; Kramer & Tyler, 1996; Mayer, Davis, & Schoorman, 1995; Putnam, 2000; Zak & Knack, 2001.

[3] The Jordanian Civil Code does not include in its assessment of damages – compensating the victim of a breach for lost profit or for moral prejudice – both considered as conjectural and non-tangible and therefore contrary to Shari'a teaching (Saleh, 1993: 166). This is not the case in the laws of other Middle Eastern countries such as – Egypt, Libya, Syria, and Iraq [which] all make room in their statutes for loss suffered and lost profit as well as for compensation for moral prejudice (Saleh, 1993: 166).

[4] See, for example, Rabin (1993), Fehr and Schmidt (1999), Bolton and Ockenfels (2000), and Gaechter, Nosenzo, and Sefton (2013) for an introduction to the literature on reciprocity and inequality aversion.

[5] See Ben-Ner and Halldorsson (2010) for the impact of factors determined at birth such as origin and gender affect decisions of trust and trustworthiness.