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Transparency and empowerment in an investment environment

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ABSTRACT

In a laboratory-controlled environment we provide experimental evidence on the effects of transparency (complete over incomplete information) and empowerment on trust and trustworthiness. We implement a simple version of the standard two-person investment game in a repeated game context with multiple treatments under two information environments. We find that when principals are empowered by being able to penalize agents who may not act in a way the principal believes is in the principal's best interest, the level of trust and investment increases over that which is realized in the absence of empowerment regardless of the degree of transparency. In transparent environments the effect of empowerment is about the same regardless of whether empowerment is introduced or removed. However, in opaque environments, the loss of empowerment has a substantially greater negative effect on trust than the positive effect associated with the introduction of empowerment.

1. Introduction

Trust involves an economic interaction between at least two parties who need to collaborate to maximize their joint gains. One party must put some economic resources at risk with an agent expected to be trusted to use his expertise to take actions that will increase the wealth of both parties. When the investor enters into such a relationship, she will have *expectations* about the potential actions of the agent and the likely outcomes. These expectations reflect the degree of confidence in the integrity of the agent and the likelihood that these expectations will be fulfilled.

During the last two decades, the observed phenomena of recurring corporate scandals (e.g., Enron, WorldCom and Countrywide Financial) and questionable compensation packages of corporate chief executive officers (CEOs) relative to their firms' performances have resulted in the loss of shareholder confidence and trust in the integrity of corporate managers. This has created public perceptions that CEOs may use their power to exploit their firms' resources to maximize their own self-interest at the expense of their shareholders' interests (see Khan, Dharwadkar, & Brandes, 2005; Lippert & Porter, 1997; Young & Tsai, 2008). For example, in 2007, the CEO of Countrywide was paid $103 million, while shareholders suffered an 80% decline in share value (Morgenson, 2010).

Recent changes in world-wide corporate regulation are directed towards excessive CEO compensation and restoring investors' trust by empowering investors with the ability to formally express their dissatisfaction with CEO compensation and impose compensation claw backs for firms that misreport earnings. Recent regulations such as the Dodd–Frank Financial Reform Act of 2010 aim to rectify the balance of power between shareholders and CEOs by introducing stronger provisions for shareholders' to have input on CEO compensation (say-on-pay proposals) and permit automatic claw backs in CEO compensation for poorly performing firms or firms that misreport.

This paper presents the results of a laboratory-controlled experiment designed to study the effects of the introduction or removal of an empowerment mechanism comparable to a *binding* say-on-pay practice into or from a simple investment environment in which information is incomplete. This extends earlier work on the effects of the absence of transparency (opacity) on trust in a repeated investment game (Kanagaretnam, Mestelman, Nainar, & Shehata, 2010) and the

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effects of the introduction or removal of empowerment on trust in a transparent environment in a repeated investment game (Kanagaretnam, Mestelman, Nainar, & Shehata, 2012). The design permits us to study the impact of opacity on the effects of empowerment and disempowerment on the behavior of investors and their agents. Our results suggest that although empowerment increases trust, it does not close the gap created by opacity (see Kanagaretnam et al., 2010 and 2012, respectively). Furthermore, the loss of empowerment (similar to the removal of a *binding* say-on-pay practice) leads to a precipitous drop in trust (and investment) relative to the gains displayed by the introduction of empowerment in opaque environments. The asymmetric effects of empowerment and disempowerment in opaque environments suggest that repealing *binding* say-on-pay legislation may not simply restore the level of trust characteristic of the pre-say-on-pay environment.

2. Theoretical development, hypotheses and related literature

Kanagaretnam et al. (2010, 2012) design and implement controlled laboratory settings to test the effects of reputation building and empowerment on participants in an investment game comparable to that in Berg, Dickhaut, and McCabe (1995). In its simplest form, this is a one-shot, two-person game in which an investor, who has an endowment of resources, chooses to send all, some or none of her resources to an agent. The agent then receives three times this investment from which he must return zero, some or all to the investor. The investment multiplier of three represents the contribution the agent brings to this interaction. There is a Nash equilibrium solution to this one-shot game that has the investor investing nothing. If the investor invested all of her resources, the total gain to the principal and the agent would be three times the principal's endowment. The intuition to this solution is that once the agent has the investment, in the context of a one-shot game, the agent would simply keep the entire output of the investment. Trust is important in creating more wealth. When faced with repeated play, trustworthiness (reciprocity) is important to maintaining wealth.

The laboratory environments that permit investors to veto decisions made by their agents utilize tools closely related to empowering investors with tools such as *binding* say-on-pay practices. Kanagaretnam et al. (2010, 2012) provide empirical evidence suggesting that building *reputation* through repeated period interaction with the same partner and empowering the investor to *punish* her agent for betraying trust are two key ingredients in building trust. Their results also indicate that with transparency (complete information), the effects of empowering investors are fully offset when the sequence of the treatments is changed and investors are disempowered by the removal of the opportunity to veto an agent's action. The objective of this study is to extend the earlier work of Kanagaretnam et al. (2010, 2012) by permitting interactions between empowerment and transparency. The following sections provide the foundations for this experiment.

2.1. Transparency

With transparency in the investment game, both the investor (sender) and the agent (receiver, responder) know each other's initial endowments and the investment multiplier (technology). The amount invested by the investor signals her trust and the agent gets an unambiguous signal. With opacity (incomplete information) the participants' initial endowments are randomly picked from a uniform distribution known by both the investor and the agent, where the expected value of the endowment equals the known endowment in the transparent environment.

Anderhub, Engelmann, and Güth (2002), Bohnet and Huck (2004), Cox and Deck (2006) all introduce opacity into an investment game or similar environment and demonstrate that the information treatment is important. However, none identify transparency (or opacity) with the endowments of the participants. Kanagaretnam et al. (2010) show that in one-shot games opacity leads to lower levels of trust and lower levels of reciprocity than will be realized with transparency.

Most investment activities and business transactions are conducted on an ongoing basis rather than as one time encounters. In a repeated-interaction environment, one's reputation may be an effective a priori control on ex-ante opportunism. Sending credible signals (by investors to agents and by agents to investors) is likely to influence the adoption of strategies that enhance cooperation and lead to Pareto-superior outcomes (see Eckel & Wilson, 2003; Engle-Warnick & Slonim, 2004; Kreps, Roberts, Milgrom, & Wilson, 1982). However, even if the repeated game is capable of inducing cooperation, it may not be sufficient to offset any effects on trust or reciprocity that may be realized because of opacity.

Kanagaretnam et al. (2010) show that although repeated play results in increased trust in both transparent and opaque environments, differences in trust that arise in a one-shot investment game because of opacity are not offset with the introduction of four rounds of repeated play in an investment game. Repeated play also results in an increase in reciprocity in both information conditions, however, the differences observed in reciprocity in one-shot investment games disappear with the introduction of repeated play.

2.2. Empowerment

In the two-person investment game, trust is constrained by the uncertainty involved in investing a positive amount that may or may not be reciprocated by the agent. This is especially so in a one-shot investment relationship where there is no opportunity for investors to retaliate against perceived breach of trust or for agents to build positive reputations.

One way to provide opportunities for retaliation (empowerment) and reputation building into the investment game is to move from a one-shot game to a repeated game as described in the previous section. A more direct and perhaps more effective way of empowering investors is to permit them the opportunity to exhibit their objection to what is returned to them in the investment game by vetoing the response and voiding the contract. This veto could be costly to only the agent or to both the agent and the investor.

Kanagaretnam et al. (2012) implement two veto mechanisms in a repeated investment game characterized by transparency. One mechanism is a costly veto. By exercising the veto both the investor and agent receive nothing for the decision round. The second mechanism is the (relatively) costless veto. By exercising this veto the agent receives nothing for the decision round and the investor receives her investment back and is left with her endowment for the decision round. Both veto mechanisms significantly increase trust. The fear of retaliation by investors who have acquired the ability to punish agents may increase the agents' propensities to reciprocate by returning greater portions of the grossed up investments. This may then result in the level of reciprocity in repeated game environments with vetoes to be greater than the level of reciprocity in comparable environments without vetoes. As the cost of punishment falls, the agent may expect the investor will be even more likely to veto an unacceptable return. Therefore, the level of reciprocity under a costly veto may be lower than the level of reciprocity under a less costly veto. Kanagaretnam et al. (2012) support this result in a transparent environment.

In addition to introducing empowerment treatments, Kanagaretnam et al. (2012) also questions whether the substantial increase in trust with the costless veto is a product of learning or a product of the costless veto. To evaluate this, they conduct sessions using a backward sequence. In this design, participants experience the costless veto before experiencing the repeated game with the costly veto or no veto. They find that there is no significant difference between the levels of trust and reciprocity in the costless-veto environment regardless of the sequence. They then attribute the