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27. October 2008

Online at <http://mpra.ub.uni-muenchen.de/19637/>

MPRA Paper No. 19637, posted 30. December 2009 10:21 UTC

Sorting with Shame in the Laboratory

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December 29, 2009

Abstract

Trust is indispensable to fiduciary fields (e.g., credit rating), where experts exercise wide discretion on behalf of others. Can the shame from a scandal sort trustworthy people out of a fiduciary field? I tested for the possibility that a shame *externality* can sort in a charitable contribution game where subjects could be "ungenerous" when unobserved. After establishing that "generosity" required a contribution of more than \$6, subjects were given the choice of contributing either \$5 publicly or \$0-\$10 privately. 20/22 control subjects chose to contribute privately less than \$2. 10/26 treatment subjects, after being told the prediction that they were unlikely to contribute more than \$2, if they contributed privately, contributed \$5 publicly. (This group also showed higher shame sensitivity.) This suggests that the mere belief that a subject would exploit the greater discretion and unobservability of a fiduciary-like position can deter entry into such a position. Thus, scandals that create such a belief could repel shame-sensitive people from that field – possibly to the detriment of the field and the economy as a whole.

JEL Codes: C91, C72, H41, H42

Keywords: shame, psychological game theory, beliefs preferences, charitable contributions game, fiduciary

Acknowledgement 1 *I would like to thank Giacomo Bonanno, Klaus Nehring and Burkhard Schipper for their advising. I would also like to thank Young Joon Park, Richard Robins, Guido Kuersteiner, Scott Carell, Travis Lybbert, Doug Miller, Chris Knittel, Yoonie Chung, Scott Niven, Will Ambrosini, Matthew Pearson, Santiago Buccaran, Olena Sloan, and Jeffery Graham for their feedback on various parts of the writing, as well as the participants of the Applied Micro Brownbag.*

1 Introduction

President Obama called Wall Street bankers “shameful” for giving themselves nearly \$20 billion in bonuses as the economy deteriorated and the government spent billions to bail out some of the nation’s most prominent financial institutions. [Stolberg and Labaton, 2009]

“I’d almost rather say I’m a pornographer,” said a retired Wall Street executive. [Segal, 2009].

Trust is indispensable to fiduciary fields, where experts exercise wide discretion according to unobservable, subjective judgments. Clients of doctors, dentists, credit rating agencies, investment bankers, clergy, accountants...teachers need to trust the fiduciary for the same reason that they need their services – lack of expertise. An unmeasured (to my knowledge) consequence of recent scandals among financial fiduciaries, where trust was betrayed, is that persons most sensitive to the shaming belief that they may also be untrustworthy, might avoid scandalized tasks, leave, or never enter the profession. They may opt for non-fiduciary work where they are fully observed, and therefore, will be rewarded for moral behavior, instead of fiduciary work, where they are unobserved but suspected of immoral behavior due to the taint of scandal. If shame sensitivity positively correlates with trustworthiness, scandals could do grave damage to a profession and make future scandals even more likely through a ‘shame externality’ which causes trustworthy people to exit and untrustworthy people to enter ¹.

Though the issue of whether the shame externality from a scandal can sort people in fiduciary fields is an empirical question, shame aversion is not measured in job interviews, nor perhaps more importantly, when one chooses majors in college. Even if it were, since we want to measure the sorting power of shame, we would want to measure those people *who would have but did not apply* for a job or a college major. Thus, to see if the shame externality of a scandal can sort, a controlled experiment is required.

[Tadelis, 2007] established experimentally that betrayals of trust can be deterred by the threat of *mere observation of that betrayal*, presumably from shame. Whether the suspicion incited by *others’* shameful actions when *unobserved* could deter a person from entering into a similar *unobserved* situation has yet to be addressed. This is what is tested in the

¹Shame may have sorted the more trustworthy people out of:

1. Accounting after the indictment of Arthur Andersen.
2. Credit rating agencies after the conflict of interest scandals associated with the internet stocks bubble.
3. Politics after a major corruption scandal.
4. The Catholic clergy after the pedophilia scandal.
5. The mortgage lending business after the recent subprime mortgage crisis.

following public goods contribution game where shame is induced by the belief that one will be ungenerous when unobserved.

48 subjects spent about 20 minutes taking the TOSCA-3, a standard test for shame and guilt aversion in psychology, which they were told was a personality test to predict their likely level of generosity to a famous charity. After they revealed that ‘generosity’ (on average) required a contribution of more than \$6 of the \$10 they would earn, they were given the choice of contributing either \$5 publicly or \$0-\$10 privately. All but 2 out of 22 of the control subjects contributed privately, less than \$2. 10 out of 26 of the treatment subjects contributed \$5 publicly, after being told that given their low test scores, they were unlikely to contribute more than \$2, if they contributed privately. The p-value was 0.02². The TOSCA-3 score for shame aversion gives an independent check for separation. It went from an average of 46 for both the treatment and the control groups to an average of 45 for those who chose private and 49 for those who chose public in the treatment group. A probit regressions of the choice of public on shame sensitivity resulted in a p-value of 0.3. The guilt sensitivity showed no such sorting and was constant at 62 across both those who chose private and those who chose public.

The increased willingness to pay to seem generous suggests that the *mere belief* that a subject might exploit the wide discretion and unobservability (e.g., give \$0-\$10 unobserved) of a fiduciary like position can deter entry into such a position. Thus, scandals which create such beliefs could change a fiduciary field by repelling shame-sensitive people – possibly to the detriment of the field and the economy as a whole, if shame sensitivity is positively correlated with trustworthiness.

This result that shame of others can sort more trustworthy people out of situations in which they might exploit moral hazard is consistent with the predictions of the pooling and separating equilibria of [Ong, 2008a]³. To my knowledge, there are no other papers on belief or ‘shame externalities’, though [Lazear et. al, 2009] allows potential proposers to sort out of ultimatum games.

There are broader applications for this notion of shame externality since subjective judgments are ubiquitous, for instance, in hiring and promotion decisions by managers⁴. Scandalous prejudicial hiring practices within a firm can impose a belief externality on similar unobservable subjective judgments of others within the firm or the industry, which may result in public but suboptimal actions or appeasing speech acts – political correctness on the part

²I would like to thank Karl Schlag for making me aware of the Fisher’s Exact-Boschloo test, which performs exact, unconditional tests of homogeneity. It is uniformly more powerful than Fisher’s exact test. See [Schlag, 2008] for his notes. See [Berger, 2005] for the calculation software. See [Greenland, 1991] for the justification for the use of the unconditional p-value.

³This confirms the predicted separating (Eq. 4) and pooling (Eq. 1) equilibria in [Ong, 2008a].

⁴"But outsiders or lower-level employees are seldom privy to the complex deliberations and the raft of subjective judgments that go into the selection of the top people in any large, complex organization." See [Loury, 1996].

of everyone who has to make such subjective judgments⁵.

The psychology literature has focused upon measuring shame, but not its externalities. See [Tracy et. al, 2007] for a recent compilation of significant research in psychology.

The outline of the experiment follows. The rationale of the experiment is in Section 3. Possible issues with the experiment are addressed in Section 3.5.

2 Experimental Design

1. Advertisements for subjects with the heading, "Make \$10 in 40 minutes," were placed around campus and on Facebook. Subjects were then asked for their availability for on certain days, and assigned a time slot based on their answer.
2. Upon arrival, I read the "Instructions and Consent" of Appendix A to the subject ("Bob" for convenience) and walked him through the experiment.
3. Bob took a standard psychological test that measures guilt and shame sensitivity (TOSCA-3), which contains 17 questions with 4 or 5 parts each that requires about 20 minutes to complete. Bob was told that the test was to predict his likely level of generosity to Doctors Without Borders (DWB) a famous charity. I added a question about Bob's major and whether he had contributed to DWB within the last year. There were no other identifiers. Bob scored his own test to maintain his anonymity.
4. Bob was then asked how much "generous" and "ungenerous" types of UC Davis students would give of the \$10 that they would earn from the experiment. See Appendix B for the survey. The prior subject ("Alice" for convenience) was called in from surfing the web to witness this. (The first prior subject was a student confederate.)
5. If Bob was in the control group, he was told that a prediction based upon his test score about his likely level of contribution would not be made. If Bob was in the treatment group, he was told that a prediction would be made.
6. In the **control group** Alice (always with the experimenter present) read out to Bob, "Do you want to choose the private option, where you can contribute whatever you like or contribute \$5 here as you hand in the test?"
7. In the **treatment group**, before Bob was given the choice between public or private contribution in step 6, Alice asked Bob, "Is your score below 438?" If Bob said yes,

⁵"...Consider "diversity training." Texaco has pledged some \$35 million for employee workshops on race relations...I doubt that anyone astute enough to rise to the top of a major corporation really believes that diversity workshops are the way to get blacks and whites to work together with mutual respect. But few will now dare give candid expression to that view. Hiring a diversity consultant is a primary way for the company to show its concern for minority sensibilities." [Loury, 1996][Eichenwald, 1996]

Alice then read out, “According to our past experience, you are not likely to contribute more than \$2, if you choose the private option.” He was then given the choice in step 6.

8. Bob was paid either immediately before he was given the choice in steps 6 or 7, or immediately after, in one case deviating from the order in the Instructions and Consent. Though these different orderings, which were done for the sake of robustness, could constitute different treatments, the effect of the announcement can be made more or less effective by a particular order of payment. Below, I test for the statistical significance of the announcement regardless of the order of the choice of public or private and payment.
9. Bob followed through with his choice. If Bob chose the private option, he would walk into room 109 next door, close the door and put whatever money he wanted to contribute with his test into an envelope, and then, into a sealed box. Bob had been told that the box would not be opened until at least three other subjects had done the same.

3 Rationale for Experimental Design

3.1 Increasing Subjects Shame Sensitivity

TOSCA-3 asks subjects to imagine themselves in 17 scenarios in which they might feel shame. I used this test to prime subjects for the possibility of shame, because in effect, it asks subjects to practice feeling ashamed in imagination. An example of a question from TOSCA-3:

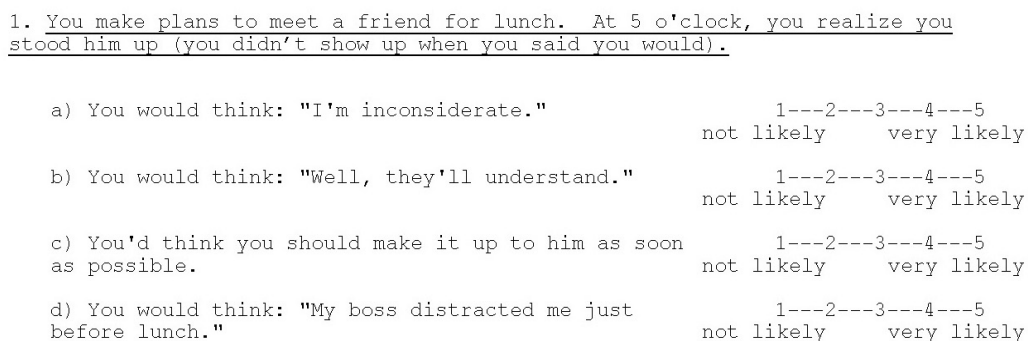


Figure 1: TOSCA-3 questions.

According to the psychology literature, shame is due to beliefs about others beliefs [Tracy et. al, 2007] that one has violated some norm or standard of behavior. Whatever shame Bob might feel

from taking the private option after Alice announces her belief that he will act ungenerously, I tried to leveraged that shame further by the apparent scientific validity of that belief.

Bob scored his own test to preserve his anonymity. The score was a weighted average of test answers based on the hypothesis that generosity is correlated with guilt sensitivity. The score was heavily weighted by the answer of an added question – whether the subject contributed to Doctors Without Borders (DWB) in the last year. The score was designed to camouflage the relationship between the numerical values of the answers and our prediction for the subjects level of contribution, so as to make it less likely that the subject would try to game the test (e.g., answer yes to the DWB question and be confident that we believed that he would contribute generously when observed) and hence obviate the need to prove his generosity by giving \$5 publicly.

3.2 Establishing Norms of Generosity

On average, subjects estimated that the generous type would contribute more than \$6 and the ungenerous \$0. Bob’s estimate was intended to credibly establish the type space: ‘generous’ and ‘ungenerous’, with respect to which Bob could signal his own type (e.g., contribute more than the ungenerous type so as to decrease the probability of being thought ungenerous). The accuracy of the prediction did not matter for the experiment. What mattered was that Bob credibly committed himself to a high and therefore costly (above \$2) standard of generosity in front of Alice and the experimenter. In fact, Alice, who may take a low estimate personally, was there in part to bias Bob’s estimate upwards.

3.3 The Choice Between Observable (Public) and Unobservable (Private) Contributions

The public option of contributing \$5 was restricted. Therefore, it was (monetarily) dominated by the private option, where the subject could contribute \$0-\$10. However, unlike the private option, it permitted the subject to make evident to observers that he was not the ‘ungenerous’ type. Hence, it may not be dominated if non-monetary payoffs are taken into account.

3.4 Treatment

Alice only asked, “Is your score below 438?” instead of the actual score because that could be used to identify Bob with his contribution, via his test which he put in the same envelope, thus undermining the unobservedness of the private option. His score could only be above that number if he contributed to DWB within the previous year. If he answered “yes”, Alice read out to him, “According to our past experience, you are not likely to contribute more

than \$2, if you choose the private option⁶.” This announcement of the expectation of low contribution levels was designed to induce shame – conditional on the private option being taken. It played the same role as the drug firm representative’s remark "One hand was the other" in “Fishy Gifts” [Ong, 2008a], where reciprocation was shameful.

Prior subjects were a cheap way to increase the number of observers to two (including the experimenter), which should increase the degree of shame. By having a prior subject make the announcement from a script, I could further minimize experimenter demand effects. By allowing the announcer to vary, I could exploit randomization and avoid announcer fixed effects. See below for a discussion of across subject correlation and experimenter demand effects.

3.5 Limitations and Possible Problems with the Experiment

Excluded Subjects 7 subjects were excluded. Four were excluded because two walked in on the choices of the other two, possibly jeopardizing the assumption of independence between subjects. Two other subjects were excluded because they arrived together, and I made a snap judgment that excluding one could change the remaining subjects attitude and hence reactions. Another subject was excluded because she being a non-student, University of California in her 60s, was very different from all the rest.

Possible Experimenter Demand Effects I was testing for the effect of observers beliefs on subjects behavior. Shame, which would normally be a confound in other experiments was what was being tested for here. Though it is in principle possible here as in other experiments that experimenter demand drove the results, there are several facts which make the possibility less likely.

1. The announcement was only about the beliefs of the experimenter and not about the experimenters preferences. Hence, experimenter demand could only come from the existence of the announcement as opposed to it’s content. However, the possibility of the announcement was constant across the control and treatment groups, and thus, would not be a good candidate for the driver of the treatment effect. What was unique to the treatment group, the actual announcement, was pre-determined by the results of pilot experiments – a factor exogenous to the current experiment. It’s difficult to see how that difference could induce experimenter demand effects.
2. The difference in the TOSCA-3 scores for shame aversion between those who chose public (49) and private (45) in the treatment groups further suggests that subjects had been sorted by shame. See Figure 2 below. A probit test for finding the probability of

⁶This estimate was gleaned from past pilot experiments with other designs.

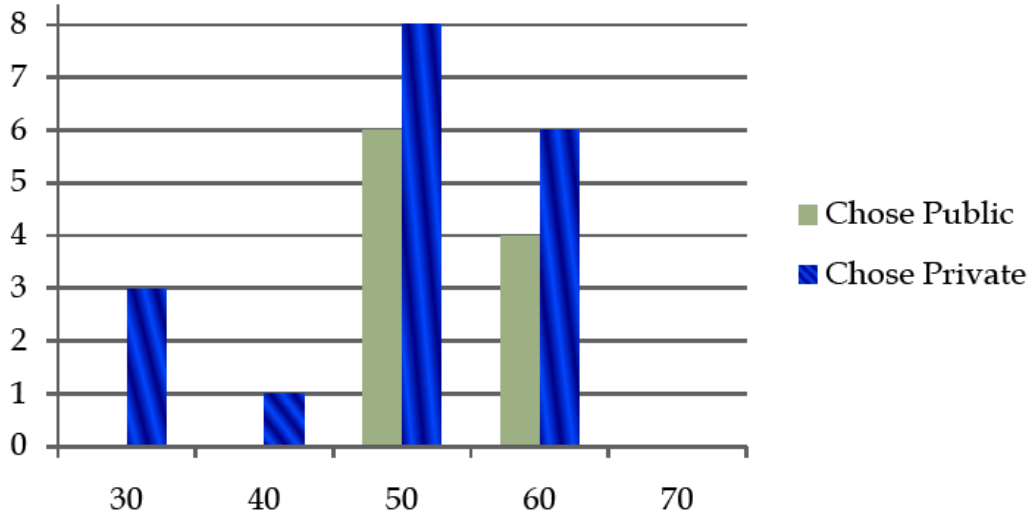


Figure 1: Figure 2: TOSCA-3 Shame Aversion Score for Treatment Group

choosing public based upon shame sensitivity showed a p-value of 0.3. There was no comparable change with the TOSCA-3 score for guilt aversion. It was constant at 62 in the treatment group for both those who chose to contribute publicly and those who chose to contribute privately ⁷. Since the TOSCA-3 test was administered before the announcement, its score could not have been affected by the announcement.

Unclear Instructions Some of the instructions were less than clear. For example, the subject was not told what would happen if there were not 3 other subjects who made private contributions. No one asked and I did not explain how or why a psychological test would be used to predict a subject’s level of generosity. I did not try to dispel these ambiguities due to time or budget constraints or because I didn’t want the subject to think too much about the experiment, or because I believed that opaqueness could prevent the subject from being strategic in their choice. In any case, confusion should lead to greater randomness or to suspicion of the legitimacy of the experiment and therefore, less contribution in public. Both should bias the level of significance downwards.

Possible Correlation Across Subjects There is the possibility that Bob’s choice was not entirely independent of Alice’s since Alice read out the prediction to Bob. However, the monetary payoffs of Bob’s choices were fully revealed – the game was full information except for beliefs. Therefore, Alice could only have communicated new information about her beliefs about Bob in her actions. The effect of this belief, i.e., shame, was what was being tested

⁷Guilt aversion in the treatment group was significantly higher than the control group (57) for reasons that I cannot explain.

for. For that purpose, it didn't matter that Alice had been a prior subject. Thus, though the prior subject read out the prediction for the current subject, the independence assumption necessary for the Fisher's Exact-Boschloo test still applies.

Possible Day Effect In my inexperience, I did not randomize subject assignments, but made the choice of treatment or control on the day of the experiment, before the subject arrived. Most experiments were done on Wednesdays. 52% of these were treatments. 62% of Thursdays' and 67% of Fridays' experiments were treatments. None of the 5 experiments that were done on one Tuesday were treatments. However, the average TOSCA-3 shame aversion scores of treatment and control groups were the same: 46, showing that with regards to the relevant characteristics, there was no systematic bias. The data is available upon request.

Skepticism about the Privacy of the Private Option If subjects did not regard the private option as actually unobserved, then, contrary to my actual results, there should not have been any significant treatment effect on the probability with which subjects chose the private option. That may explain why those who gave privately in the treatment group also gave on average \$2.3 instead of \$1.5, the amount given privately in the control group (p-value=0.15). A number of the subjects in the control group gave privately \$5 or more, suggesting that either they believed that they were being monitored or they were rebelling and thought it was worthwhile to raise the average contribution level even if they could not be identified.

Miscellaneous Possible Problems

1. If subjects did not think that their contribution would actually go to DWB, then contrary to my results, they would only have chosen the private option and contributed nothing.
2. There could have been shame in the private option even when subjects were untreated. This shame would not explain the change in behavior when subjects were treated.
3. The public contribution could be due to a self-image preference. However, the subjects in the control group, those who were not treated with the announcement of observers' beliefs, did not mind taking the private option and making a low contribution. *Presumably*, subjects self image is independent of an announcement of observers' beliefs about what a subject will do when unobserved.
4. "Score your test" in 7) of Instructions and Consent should have read "evaluate your score" in the instructions and consent. The subject could have thought that the anonymity could be broken, which could bias the way they write the TOSCA-3.

4 Conclusion

The results of the above experiments suggest that the shame spillovers from scandals can sort people out of fiduciary-like positions according to their shame sensitivity. If shame sensitivity also correlates with trustworthiness, then, not only would scandals damage the field, the damage to the reputation of the field would select for people who would further damage the field. President Obama's shaming of Wall Street employees [Stolberg and Labaton, 2009][Segal, 2009] could therefore have exactly the opposite effect from what he intended.

But, even without a scandal, fiduciary positions should attract the least trustworthy people because they have the most to gain or least to lose from betraying trust. According to Raymond W. McDaniel of Moody's [McDonald, 2008]:

"The real problem is not that the market . . . underweight[s] ratings quality but rather that in some sectors, it actually penalizes quality. . . . It turns out that ratings quality has surprisingly few friends: issuers want high ratings; investors don't want ratings downgrades; short-sighted bankers labor short-sightedly to game the ratings agencies." McDaniel then tells his board: "Unchecked, competition on this basis can place the entire financial system at risk." Furthermore, though Moody's has "erected safeguards to keep teams from too easily solving the market share problem by lowering standards. This does NOT solve the problem."

Given this problem of adverse selection into fiduciary professions, how is it possible that fiduciary professions function at all? What institutional measures exist to counteract the adverse selection to fiduciary fields? In [Ong 2008b], I model how institutional arrangements in fiduciary professions, like pro-bono work, can save the reputation of a field by sorting people who might exploit trust out of the field.

4.1 Appendix A: Instructions and Consent

This experiment will proceed as follows:

1. You will be asked to take a standard psychological test of 17 questions that we will use to estimate your likely level of generosity to Doctors Without Borders (DWB), an organization which brings western doctors to parts of the world where medical care is urgently needed but not available.

2. To preserve anonymity, you will score your own test using an Excel spreadsheet. Write down your score on the piece of paper provided, but do not show it to us. Then close the spreadsheet without saving.

3. Before another UCD student, you will be asked to state an estimate of how much,
a. a generous type of UCD student would give of the \$10 that they earn to DWB.

b. an ungenerous type of UCD student would give of the \$10 that they earn to DWB.

4. After you make your estimate, you will be paid \$10 and asked to sign for it. *After you sign for it, the money is yours.*

5. Then, you will be given the opportunity to donate \$5 when you hand in the test, or any amount you think appropriate anonymously in room 109. If you take the anonymous option, please put the test and the money in the envelope provided. A receipt from Doctors Without Borders for the cumulative amount of money will be posted on the web at the end of the experiment in a few weeks.

6. Before you contribute, we may or may not score your test and inform you of how much you are likely to contribute should you choose the anonymous option. If we score your test, the previous participant will read you the prediction.

7. **This test is anonymous.** There is nothing to identify you with your contribution or your test score. For the purpose of the experiment, we will only record your major. For the purpose of paying you, we will keep a receipt of your guess and the fact that we paid you. You will be asked to stay until the next participant makes their choice. That way, you can also be sure that the box remains unopened, thus preserving your anonymity. We would not open the box until at least 3 participants have taken the anonymous option.

I understand these instructions and would like to participate in the experiment

Name _____

Signature _____ Date _____

4.2 Appendix B: Experimental Subject's Predictions

Circle your estimate of the average contribution of generous people.

\$0
\$1
\$2
\$3
\$4
\$5
\$6
\$7
\$8
\$9
\$10

Circle your estimate of the average contribution of not generous people.

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