

**THE ELASTICITY OF TRUST:
EVIDENCE FROM KUWAIT, OMAN, SWITZERLAND,
THE UNITED ARAB EMIRATES AND THE UNITED STATES[#]**

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How effective are arrangements that increase the expected returns from trusting—either reducing the cost or the likelihood of betrayal—for fostering trust in three Gulf countries (Kuwait, Oman and the United Arab Emirates) and two Western countries (Switzerland and the United States)? In experimental studies, trust proves more elastic to the likelihood or the cost of betrayal in the West than in the Gulf. In order to trust, participants in the Gulf require greater likelihoods of trustworthiness than do Westerners, and they hardly adjust when the returns from trusting increase. Risk and betrayal aversion contribute to these cross-regional differences.

Keywords: Trust, institutions, betrayal aversion, cross-cultural experiments

[#] We thank Kuwait University, Sultan Qaboos University, UAE University and the University of Zurich for the permission to conduct our research, and Samar Attar, Miriam Avins, Paul Bohnet, Edward Glaeser, Robin Hogarth, Sarah Hrdy, Magda Ismail, Alan Levy, Stephan Meier, Hilary Rantisi, Dani Rodrik Frank Vogel, three anonymous referees, and the participants of seminars at Harvard, Pompeu Fabra University (Barcelona), the University of Zurich, the Santa Fe Institute, the conference for Laboratory Experiments and the Field (University College London), the CESifo conference on Economics and Psychology (Venice), and the Economic Science Association Meetings 2005 (Montreal) for their helpful comments. Financial support from the Kuwait Fund at the Kennedy School of Government is gratefully acknowledged.

I. Introduction

How effective are arrangements that increase the expected returns from trusting—either reducing the cost or the likelihood of trust betrayal—for fostering interpersonal trust? Employing a controlled environment in laboratory experiments, we answer this question for an important region in the world little explored so far, three Persian Gulf countries (Kuwait, Oman and the United Arab Emirates), and compare it with two Western countries (Switzerland and the United States). A given institution may vary in how effectively it can promote socially desirable outcomes across the world. We analyze the economic factors that might produce trust, a variable that has been associated with economic performance, social capital and democratic stability.¹

Our research was inspired by a recent experience in executive education. We had Middle-Eastern and Western leaders play a one-shot trust game, much like the game used in this paper. We asked the participants how its rules could be changed to make the environment more conducive to trust. A Middle-Eastern participant suggested finding mechanisms assuring that trust would be rewarded. A Western participant suggested decreasing the losses involved when betrayal occurs. The findings in this paper suggest that this was not happenstance. The two participants were identifying a central element for fostering trust in their own societies.

To measure how responsive people are to changes in the expected returns from trusting in the various countries, we introduce a new methodology. The kernel of our method is to elicit subjects' minimum acceptable probabilities (MAPs) of trustworthiness that would make them just willing to trust. This gives us their degree of aversion to taking a lottery involving trust. Once we know the distribution of individual MAPs within a group, we can calculate the *elasticity of trust*, which we define as the percentage reduction in those not trusting divided by

¹ See the work building on Putnam [1993], Knack and Keefer [1997], La Porta et al. [1997], Glaeser et al. [2000].

the percentage reduction in a factor that negatively affects trust. We compute elasticities for two different negative factors. The first is the likelihood of betrayal; the second is the material cost of betrayal.

In Study 1, we focus on the elasticity of trust to the likelihood of betrayal in Kuwait, Oman, Switzerland, the United Arab Emirates (UAE), and the United States, holding fixed the material cost of betrayal. In Study 2, we vary the material cost of betrayal, and examine how much additional trust a reduction in the material losses involved in betrayal—what we might think of as “insurance” or damage payments—secures in two of our countries, Oman and the United States. Thus, we compare MAPs in a “high-cost” and a “low-cost” trust game. In Study 3, we examine why differences in the elasticities of trust might be observed across our five countries. We decompose trust-lottery aversion (TL-aversion) into two components, risk aversion and betrayal aversion. We compare people’s willingness to take risk in the trust game and in an identical odds-and-payoff situation, the “risky dictator game.” In the latter, nature rather than another person is the agent of uncertainty [Bohnet and Zeckhauser 2004]. Subjects’ MAPs in the risky dictator game reveal their risk aversion. The difference between subjects’ MAPs in the trust and the risky dictator games reflects their betrayal aversion.

We find that our participants in the Gulf region are more trust-lottery averse than Americans and Swiss. Trust is very inelastic to changes in either the likelihood or the cost of betrayal in the Gulf, while Westerners respond much more strongly to such changes. Greater trust-lottery aversion in the Gulf countries is mainly driven by greater risk aversion when compared to the US and by greater betrayal aversion when compared to Switzerland.

We believe that we are the first to collect experimental data of any kind in Islamic countries. As we are interested in comparisons between Gulf and Western countries, ideally we

would have liked to run our experiments with representative samples of the general population in each country. However, this was not feasible in the three Gulf countries.² Instead, we relied on student subjects everywhere. This offers an element of standardization across nations. We were allowed to collect some additional demographic information in two of the Gulf countries. This will provide us with some evidence that the role of students as exemplars did not vary across cultures in a way that would confound the cross-nation comparisons. The current wisdom using student subjects in cross-cultural experiments is that the results underestimate general cross-cultural differences, because students are more alike than are general populations [e.g., Henrich et al. 2004]. Our paper is organized as follows. Part II provides a conceptual framework. Part III explains the experimental design, and Part IV presents the results. Part V concludes.

II. Theory and Implications

Cross-cluster differences in the societal, political, legal and economic environments suggest that Emiratis, Kuwaitis and Omanis are more averse to accepting a lottery on trust and less likely to respond to changes in the expected returns from trusting than are Americans and Swiss. In the Gulf region, trust is mainly produced by mechanisms that virtually *eliminate the risk of betrayal*, while in the West, trust is mainly produced by *decreasing the cost of betrayal*. Contracts are the prime responses to the lottery of trust in the West. Damages for betrayal are part of nearly all contractual arrangements. Such legal arrangements foster trust between strangers, and allow for trust between groups.

In contrast, group-based societal organization is the main factor producing trust in the Gulf region, and the Arab world more generally. The recent Arab Human Development Reports

² To the best of our knowledge, so far not even Western surveys have been allowed to be conducted in any of the three countries (or any other Gulf country, for that matter). Our experiments represent five case studies. We do not claim that they are conclusive about behavior in either the Gulf region or the Western world.

[AHDR, UNDP 2002-2004], which are among the few sources that provide comparable data on Arab countries and were written by Arab scholars, stress: “Clannism (al-‘asabiya), in all its forms, (tribal, clan-based, communal, and ethnic) tightly shackles its followers through the power of the authoritarian patriarchal system. This phenomenon ... represents a two-way street in which obedience and loyalty are offered in return for protection, sponsorship, and a share of the spoils.” [AHDR 2004, p. 145] Group-based societal organization can substantially reduce the social uncertainty involved in trust. Within groups, repeated interactions are likely, information on reputation spreads quickly, monitoring is comparatively cheap, social sanctions help maintain commitments, and loyalty brings high levels of reliability. Disloyalty is often punished by expulsion.³

In the Gulf, damages play a much smaller role than in the West. Specifically, there is no recovery for lost profits or other damages that are based on a counter-factual premise or speculation about events that did not occur [Vogel 1987]. Earning returns based on chance is strongly discouraged. Al-Suwailem, an Islamic economist,⁴ explains Islamic Law: “...prohibition of *gharar* is established on the general principle that a decision maker shall not rely on pure chance to achieve desired outcomes. The approach is suitable not only for personal decisions, but also for interactions with others. It is a principle that governs general human behavior under risk.” [2000, p. 9] Moreover, in trust relationships the benefit of the doubt is typically given to the agent, not the principal [Vogel 1987].

³ The *Economist* [April 9, 2005, p. 37] describes a recent case in Qatar where “its rulers have just stripped some 5,000 Qataris of their citizenship, apparently because they belong to a clan deemed disloyal.” Cultural theorists characterize Kuwait, Oman, and the United Arab Emirates as “collectivist” and Switzerland and the United States as “individualist” countries [e.g., Triandis 1995; Hofstede 2001]. They predict greater “uncertainty avoidance” and a stronger distinction between “in-group” and “out-group” members in the former than the latter. See also Greif [1994].

⁴ See Kuran [2004] for a discussion of Islamic Economics and its relevance for institutional design.

To measure a person's TL-aversion and the elasticity of trust, we employ a binary-choice trust game (TG) [e.g., Camerer and Weigelt 1988] where the first mover, the principal, must choose between a *Sure* thing and a decision to *Trust*. *Sure* results in the outcome S for both players. The *Trust* move leads to a risky outcome that can either be G (good) or B (bad) in monetary payoffs for the principal. The preference ordering of the principal based on monetary values is $G > S > B$. The payoffs for the second mover (the agent) are H when the principal gets G, C when the principal gets B. The agent's preference ordering is $C > H > S$. In this sequential game, the unique Nash equilibrium predicts that principals will always choose *Sure*. Various behavioral propensities predict outcomes away from this equilibrium.

We elicit principals' *minimum acceptable probabilities (MAPs)* of getting the *good* outcome that just leads them to select *Trust* rather than *Sure*. This gives us their TL-aversion. We use an incentive compatible mechanism to ensure that rational principals reveal their preferences truthfully. The less a principal likes the *Trust* move, the higher should be her MAP. To see our procedure's theoretical justification, consider an individual with von Neumann-Morgenstern preferences choosing between *Sure* and *Trust*. She attaches utilities to the three outcomes; denote them as U_S , U_G and U_B . Her MAP will satisfy the equation

$$(1) \quad U_S = \text{MAP}(U_G) + (1-\text{MAP})U_B .$$

Solving for MAP, we have

$$(2) \quad \text{MAP} = (U_S - U_B)/(U_G - U_B).$$

Based on the cross-cluster differences identified above, we expect a principal's dislike of taking the risk involved in trusting to be greater in Gulf than Western countries. Let K be the cost of taking that risk. We expect greater trust-lottery aversion in the Gulf countries, or

$$(3) \quad K^{\text{Gulf}} > K^{\text{West}} .$$

Posit that U_S is the same in the two clusters, given that U_G and U_B are normalized to 1 and 0. Thus K would diminish the outcome whenever the trust lottery was accepted, i.e., for both U_G and U_B . This leads us to rewrite equation (2) as

$$(4) \quad \text{MAP} = [U_S - U_B + K]/[U_G - U_B].$$

Let subscripts indicate the type of game played and superscripts the cluster. Given (3) and (4), it is evident that due to greater trust-lottery aversion, i.e., greater K ,

$$(5) \quad \text{MAP}_{\text{TG}}^{\text{Gulf}} > \text{MAP}_{\text{TG}}^{\text{West}}.$$

Equation (5) represents our central prediction.

Hypothesis 1: Emiratis, Kuwaitis and Omanis are more averse to taking a lottery on trust than are Americans and Swiss.

Given the baseline trust rates we elicit, we then explore how people respond to changes in the expected material cost of betrayal. We expect:

Hypothesis 2: Gulf region residents respond less to changes in the expected returns from trusting than do Westerners, whether these changes are due to changes in probabilities or in material payoffs.

Trust-lottery aversion may be produced by an aversion to risk [e.g., Arrow 1971; Pratt 1964], an aversion to betrayal [Bohnet and Zeckhauser 2004], or a combination of the two. Betrayal aversion comes into play when the agent of uncertainty is another person rather than nature.⁵ We examine how risk and betrayal aversion as contributors to TL-aversion compare across clusters but the institutional differences observed between the Western and the Gulf countries do not allow us to make any predictions.

⁵ Betrayal aversion is in line with theoretical models [e.g., Rabin 1993], experimental results [for reviews, see Fehr and Schmidt 2002; Camerer 2003] and neuroscientific evidence on reciprocity [e.g., Kosfeld et al. 2005].

III. Design

736 subjects across the five countries participated in our experiments, 304 in Study 1, 142 in Study 2 and 290 in Study 3. The experiments were conducted with students at Kuwait University in Kuwait, Sultan Qaboos University in Oman, the University of Zurich in Switzerland, UAE University in the United Arab Emirates, and students from various universities in the greater Boston area in the United States. Participants' average age and self-reported wealth levels on a scale from 1 (poor) to 6 (wealthy) were, respectively, 21 and 4.1 in Kuwait, 21 and 3.7 in Oman, 23 and 4.0 in Switzerland and 24 and 3.5 in the United States.⁶ We ran a total of 28 experimental sessions with 22 to 36 subjects participating in each.

In Oman, Kuwait, Switzerland and the United States we ran mixed-sex sessions. In the UAE, this was not possible since higher education is sex segregated; experiments there were conducted for female and male subjects separately. To get a sense for how this might affect behavior, we added an all-male and an all-female session to our mixed-sex session in Kuwait, a nation with substantial components of both single-sex and mixed-sex higher education.⁷ Subjects were identified by code numbers, anonymous to other players, randomly assigned to the role of principal or agent, and randomly matched (single-blind). Table I provides an overview of the participants in our experiments.

Table I about here

The payoffs in our baseline experiments (Study 1) were $S = 10$ points, $G = 15$ points, $B_1 = 8$ points, $H = 15$ points, and $C_1 = 22$ points. This yields a p_1 , the value of p that makes the

⁶ We collected this information in a short post-experimental questionnaire. We were not allowed to collect demographic information in the UAE. However, as the sessions there were segregated by sex, we can control for a person's sex in all our analyses.

⁷ We believe that there are no analogous single-sex comparison groups in the West. Had we run the experiments with men or women only, we would either have been confronted with selection effects at single-sex colleges in the West, or have made sex more salient relative to the norm in standard Western subject pools.

lottery actuarially fair, of 0.29. In Study 2, we compared our base line trust game, the low-cost TG, with a high-cost TG, where the cost of betrayal was made higher. For that game, we decreased the principal's payoffs to $B_2 = 6$ points and increased the agent's payoffs to $C_2 = 24$ points, but kept everything else identical.⁸ This produces $p_2' = 0.44$. In Study 3, we employed the baseline payoffs again but used the risky dictator game.

The payoffs were presented to subjects in a matrix form with neutral terminology, and no discussion of breakeven probabilities. Payoffs were given in points. Each point was converted to respectively 0.25 Kuwaiti Dinar, 0.2 Omani Rial, 1 Swiss frank, 1 UAE dirham, or 1 USA dollar at the end of the experiment. Subjects earned a 10-point show up fee and received on average an additional 13 points for an experiment that took approximately 30-60 minutes. To ensure the equivalence of experimental procedures across countries, we followed Roth et al. [1991] on designs for multinational experiments.⁹

The experiments were run as follows: In the trust games (Studies 1 and 2), we asked principals what minimum percentage of trustworthy behavior (MAP) they would require to trust. The neutral language description was: "How large would the probability of being paired with a Person Y who chose option 1 have to be for you to pick B over A?" We used the strategy method for agents: Before they knew their principal's decision, we asked them whether or not they would reward trust if trust were offered. Specifically, we asked: "Which option, 1 or 2, do you choose in case B?" If a principal's MAP exceeded the percentage of trustworthy agents in a

⁸ Note that this change in payoffs increased the principal's cost of betrayal and the agent's "temptation to betray" [Camerer 2003]. We increased the agent's payoffs as we wanted to keep efficiency gains constant.

⁹ We controlled for currency, language and experimenter effects to the best of our ability. To produce parity in rewards across the five nations, we used the most direct measure of opportunity cost of time we could find as a guideline, the hourly wage of an undergraduate research assistant. We had the instructions translated (and back-translated) from English to Arabic. The experiments were conducted by the first two authors. They first ran experiments in the US before conducting sessions in other countries. We did not find any evidence for experimenter effects in the US. The first author ran the experiments in Switzerland and the UAE, and the second author ran the experiments in Kuwait and Oman. The instructions are available from the authors upon request.

given session, p^* , both principal and agent earned the sure payoff. If a principal's MAP was equal to or lower than p^* , the two payoffs were decided by the agent's choice. Principals were informed on the whole procedure, including that agents' decisions would be used to calculate p^* , the likelihood of trustworthiness for the entire group. Agents were not informed that principals were asked to state their MAP of trustworthiness or that we would calculate a p^* , since we did not want our elicitation procedure to affect agents' decisions. Principals knew that agents were not aware of how p^* would be calculated.¹⁰

In the risky dictator game (Study 3), the principal becomes the "dictator;" the agent is a mere "recipient," with no active role to play, as in the standard dictator game [Kahneman et al. 1986]. We asked principals to indicate their minimum acceptable probability (MAP) of earning G such that they would take the gamble rather than the sure outcome: "How large would the probability of receiving option 1 have to be for you to pick B over A?" They were informed that p^* had been predetermined and was in an envelope visibly posted to the blackboard. The average likelihood of trustworthiness from the trust games (Study 1) in a given country served as p^* for the risky dictator games, which were conducted after the trust games. If principals' MAPs were higher than the predetermined probability, p^* , they were taken to reject the chance outcome. They were then paid the sure payoff. If their MAP was lower than or equal to p^* , we conducted the lottery by drawing a ball from an urn containing p^* *good* and $(1-p^*)$ *bad* balls. This determined whether principals received the B or the G payment; the corresponding C or H payment went to their recipient.

¹⁰ Note that a principal cannot affect the probability she receives in the lottery, since it in no way relates to the answer that she provides. Given our procedure, truth-telling by a principal is as good as anything else. It is strictly dominant if, as seems reasonable, people subjectively assign positive probability to values of p^* in the immediate neighborhood of their MAP, and if they obey the Substitution Axiom of von Neumann-Morgenstern utility. (Absent the positive probability assumption, it is merely weakly dominant.) Our procedure is closely related to the (strictly dominant) Becker-DeGroot-Marshak elicitation procedure. The major difference is that we do not generate p^* randomly from a uniform distribution, but rather observe it empirically.

Before subjects made their decision, they had to complete a quiz testing their understanding. Only after all subjects understood the problem and could calculate their earnings for different values of hypothetical MAPs and p^* did we proceed with the experimental decision. After subjects had made their decisions, and had given us the demographic information we were allowed to collect, we informed everyone on the details of the experimental procedure and the results. Subjects presented their code number to collect a sealed envelope with their earnings.

IV. Results

This section focuses on the behavior of principals, since our major interest is why and when people trust, not on how trustworthy people are. However, we also look briefly at agents' responses. Notwithstanding our subjects' very different societal backgrounds, there were relatively small cross-country differences in agents' degrees of trustworthiness in these games. In our baseline trust game, 43 percent of the agents chose to reward trust in Kuwait (N = 39), 31 percent in Oman (N = 29), 32 percent in the United Arab Emirates (N = 28), 28 percent in Switzerland (N = 25) and 29 percent in the United States (N = 31).¹¹

Our main interest here is the decision to trust. Table II summarizes principals' willingness to trust in the five countries in the baseline trust game.

Table II about here

Result 1: People in the Gulf countries are generally more TL-averse than Westerners.

Overall, the mean MAPs for the Omanis, Emiratis and Kuwaitis exceed those for the Swiss and Americans. The difference is significant¹² between Omanis/Emiratis and

¹¹ None of the differences between these percentages is significant (e.g., χ^2 -test $p = 0.21$ when comparing Kuwait and Switzerland, the two extremes). Calculating weighted averages for each cluster gives us a trustworthiness rate of 37 percent in the three Gulf and 29 percent in the two Western countries (χ^2 -test $p = 0.32$).

¹² We run Mann-Whitney U tests for differences in means. All p-values reported are based on this test, unless noted otherwise. A difference is reported as significant if $p < 0.05$.

Americans/Swiss, but not between Kuwaitis and Westerners. An interesting sex difference emerged. Men's MAPs are significantly higher in each of the three Gulf countries than in each of the two Western countries. Women's MAPs are significantly higher in the United Arab Emirates than in Switzerland and the United States, but not in Oman or Kuwait.

Table III reports a simple regression with MAP as the dependent variable. In Columns 1 and 2 we group the countries by cluster (Gulf = 1) and control for sex (woman = 1), the sex composition of our sessions (mixed = 1), and the possible interaction variables. Principals in the Gulf countries have higher MAPs than do Western principals. The differences are predominantly driven by men. Columns 3 to 5 include each country separately. The United States is our reference group. These regressions show that MAPs do not differ between Switzerland and the United States, and that the cross-cluster difference in MAPs is due to both sexes in the Emirates and Oman, but only men in Kuwait. Kuwaiti women have MAPs significantly below those of Kuwaiti men, and on a par with their Western counterparts. Hypothesis 1 is confirmed for ten of the twelve possible comparisons (three Gulf countries times two Western countries times two sexes). The sex difference, particularly in Kuwait, remains to be explained.¹³

Table III about here

Result 2: People in the Gulf countries are less responsive to changes in the likelihood of betrayal than are Westerners.

Figure I shows the percentage of principals willing to trust for given likelihoods of trustworthiness in the West and in the Gulf countries.

Figure I about here

At the extremes of very low and very high likelihoods of trustworthiness, trust behavior

¹³ Note that Kuwaiti men and women do not differ at all in terms of age or wealth.

between the two groups of countries converges, as would be expected. Excluding these extremes, people in the two Western countries are roughly twice as likely to trust as people in the three Gulf countries. To measure how responsive people are to changes in the likelihood of betrayal, we compute the elasticity of trust. That elasticity tells how the percentage of those not trusting diminishes in response to a percentage reduction in those not trustworthy. Let t be the fraction of trusting principals, and w the fraction of trustworthy agents. Our elasticity concept looks at the curve $t = f(w)$. The elasticity measure at each point is thus $[dt/(1-t)]/[dw/(1-w)]$. Since our data was limited, we computed this elasticity looking only at decile intervals. Thus, we measure the elasticity at each 10-percent increase of trustworthiness from 0 to 90 percent.¹⁴ To get an overall elasticity measure, ε , we average these ten numbers.

Table IV presents the elasticity of trust in response to the likelihood of trustworthiness in the five countries. The elasticity of trust is smallest in the United Arab Emirates and largest in Switzerland. Hypothesis 2 is supported for responsiveness to the likelihood of trustworthiness.

Table IV about here

Result 3: Omanis are less responsive to changes in the material cost of betrayal than Americans.

We compare willingness to trust in the low-cost TG with willingness to trust in the high-cost TG in the two nations where both games were conducted, namely Oman and the United States. Table V presents principals' MAPs for the two games in the two countries. Americans request significantly higher MAPs in the high-cost than in the low-cost trust game. The difference is significant for women and marginally significant for men ($p < 0.1$). Omanis' MAPs do not differ in the two conditions. Since we only use two cost levels, we cannot compute actual elasticities. However, the non-response by Omanis and the Americans' significant adjustment to

¹⁴ We exclude 100 percent as everyone is willing to trust if trustworthiness is guaranteed. Thus, the elasticity in the final decile interval is always 1.

changes in the cost of betrayal show that our American subjects' trust decisions are more responsive to the cost of betrayal than are those of the Omani subjects, supporting Hypothesis 2.

Table V about here

The trustworthiness rates in the high-cost trust games are again very similar in the two countries: 36 percent are trustworthy in the US (N = 36) and 37 percent in Oman (N = 35). They do not differ from the trustworthiness rates in the low-cost trust games in the respective countries.

Result 4: Greater trust lottery aversion in the Gulf is due to greater risk and greater betrayal aversion. The relative importance of these factors for TL-aversion depends on the Western comparison group. Generally, people in the Gulf countries are more risk averse than Americans (but not than Swiss) and more betrayal averse than Swiss (but not than Americans).

Table VI presents principals' MAPs in the risky dictator game in the five countries. In the risky dictator game, Emiratis, Kuwaitis and Omanis request significantly higher MAPs than Americans but not than the Swiss. Compared to the value of p that makes a risk neutral principal indifferent between the sure and the risky option, namely $p' = .29$, all principals but Americans are significantly risk averse.

Table VI about here

The gender pattern for risk decisions is similar to that for the trust game. Men tend to be more risk averse than women in the Gulf countries, but less risk averse than women in the Western countries. Cross-regional differences are again mainly driven by men, while Gulf and Western women behave more similarly. When repeating the regression presented in Table III for the risky dictator game, the results confirm the non-parametric estimates: Omani, Emirati and

Kuwaiti principals are more risk averse than Americans but not than the Swiss (results not shown).

Comparing principals' MAPs in the risky dictator game with MAPs in the baseline trust game (Table II) gives us a measure of subjects' betrayal aversion. We find differences of 0.16 in Kuwait, 0.26 in Oman, 0.33 in the UAE, 0.11 in Switzerland and 0.22 in the United States. This suggests that betrayal aversion exists in all countries (though it is only marginally significant in Switzerland with $p < 0.1$). A regression on MAPs including both the risky dictator and the trust game, which controls for interactions between the trust game and the countries, shows that Emiratis and Omanis are significantly more betrayal averse than Swiss but not than Americans (results not shown).

Assuming that risk and betrayal aversion are additive factors, for most groups TL-aversion is comprised of both risk and betrayal aversion. The one notable exception is American men, who are not risk averse but are significantly betrayal averse. The cross-cluster difference in TL-aversion seems mainly driven by cross-cluster differences in risk aversion when we compare the three Gulf countries to the United States but to differences in betrayal aversion when we compare the Gulf countries to Switzerland.

V. Conclusions

Our findings contribute to the debate about the effectiveness of institutional interventions in different parts of the world. We analyze the economic factors that might produce trust, and examine how people respond to changes in the expected returns from trusting. To measure responsiveness, we introduce a new concept, the elasticity of trust. As expected, we find trust to be much less elastic to the likelihood of betrayal in Kuwait, Oman and the United Arab Emirates than in Switzerland and the United States, and less elastic to the material cost of betrayal in

Oman than in the United States (the only two countries studied). Emiratis, Kuwaitis and Omanis look for a guarantee or near guarantee of trustworthiness. To foster trust in the Gulf countries, offering damages that compensate for betrayed trust has little effect. To enhance trust, the risk of betrayal inherent in a decision to trust must be virtually eliminated.

These findings accord with the general theme in the literature that Gulf countries tend to produce trust by invoking loyalty based on group-based societal organization, which decreases the likelihood of betrayal. In Western countries, by contrast, formal contracts and compensation mechanisms, which decrease the material cost of betrayal, play a major role in fostering trust.

Differences in trust-lottery aversion and the elasticity of trust across groups or nations help us understand differences in negotiation and conflict resolution styles. For some groups, conflicts due to breaches of trust are resolved if all parties are compensated for their resulting losses. For others, broken promises, violations of obligations and contractual transgressions impose substantial costs of the type that are not easily compensated, indeed may not be repairable. This helps to explain why some groups and countries are less likely than others to engage in business and contractual arrangements with strangers. Kuran [2004] argues that this is one of the important factors contributing to the lack of competitiveness in the Arab world.

TABLE I: Numbers of Participants in the Different Subject Pools

	Mixed	All Men	All Women
STUDY 1: Low cost TG			
Kuwait	24	26	28
Oman	58		
United Arab Emirates		28	28
Switzerland	50		
United States	62		
STUDY 2: High cost TG			
Oman	70		
United States	72		
STUDY 3: RDG			
Kuwait	32	28	20
Oman	44		
United Arab Emirates		30	30
Switzerland	48		
United States	58		

TABLE II: MAPs in Baseline Trust Game in All Countries: **Mean**, *Median*, [N]

	All	Men	Women
Kuwait ¹⁵	0.61 <i>0.70</i> [39]	0.74 <i>0.80</i> [15]	0.53 <i>0.50</i> [24]
Oman	0.72 <i>0.80</i> [29]	0.72 <i>0.70</i> [12]	0.73 <i>0.80</i> [16]
United Arab Emirates	0.81 <i>0.80</i> [28]	0.77 <i>0.80</i> [14]	0.86 <i>0.95</i> [14]
Switzerland	0.51 <i>0.55</i> [25]	0.46 <i>0.48</i> [18]	0.62 <i>0.60</i> [7]
United States	0.54 <i>0.50</i> [31]	0.50 <i>0.50</i> [19]	0.61 <i>0.72</i> [12]

¹⁵ There are no significant differences in same-sex and mixed-sex sessions for either men or women. Men's behavior varies not at all; women are slightly though not significantly more willing to trust in same-sex than in mixed-sex sessions.

TABLE III: Determinants of MAPs in the Low-cost Trust Game

	MAPs (1)	MAPs (2)	MAPs (3)	MAPs (4)	MAPs (5)
Gulf countries	0.175** (0.041)	0.249** (0.075)			
Kuwait			0.065 (0.056)	0.063 (0.057)	0.243** (0.079)
Oman			0.179** (0.060)	0.176** (0.062)	0.217* (0.084)
Switzerland			0.036 (0.063)	0.035 (0.063)	0.034 (0.075)
UAE			0.269** (0.061)	0.268** (0.062)	0.270** (0.080)
Women		0.095 (0.123)		0.009 (0.040)	0.116 (0.084)
Mixed session		-0.018 (0.079)			
Gulf countries*Women		-0.183 [^] (0.105)			
Women*Mixed session		0.039 (0.103)			
Kuwait*Women					-0.332** (0.113)
Oman*Women					-0.105 (0.121)
Switzerland*Women					0.037 (0.132)
UAE*Women					-0.027 (0.120)
Constant	0.527** (0.032)	0.500** (0.089)	0.543** (0.042)	0.539** (0.045)	0.498** (0.052)
Observations	152	151	152	151	151
R-squared	0.11	0.15	0.18	0.18	0.25

Standard errors in parentheses, [^] significant at 10%; * significant at 5%; ** significant at 1%

TABLE IV: Elasticity of Trust to the Likelihood of Trustworthiness

Elasticity of Trust	
Kuwait	0.81
Oman	0.57
UAE	0.21
Switzerland	1.17
USA	1.03

TABLE V: MAPs in Low-cost and High-cost TGs in Oman and the US: **Mean**, *Median*, [N]

	All Low-cost	All High-cost	Men High-cost	Women High-cost
Oman	0.72 <i>0.80</i> [29]	0.71 <i>0.75</i> [35]	0.72 <i>0.75</i> [23]	0.68 <i>0.78</i> [12]
United States	0.54 <i>0.50</i> [31]	0.69 <i>0.75</i> [36]	0.60 <i>0.70</i> [16]	0.77 <i>0.80</i> [18]

TABLE VI: MAPs in Risky Dictator Game in All Countries: **Mean**, *Median*, [N]

	All	Men	Women
Kuwait	0.44 <i>0.42</i> [40]	0.46 <i>0.43</i> [25]	0.40 <i>0.27</i> [15]
Oman	0.47 <i>0.45</i> [22]	0.49 <i>0.48</i> [8]	0.43 <i>0.40</i> [13]
United Arab Emirates	0.48 <i>0.48</i> [30]	0.51 <i>0.50</i> [15]	0.46 <i>0.45</i> [15]
Switzerland	0.40 <i>0.42</i> [24]	0.33 <i>0.30</i> [13]	0.48 <i>0.50</i> [11]
United States	0.32 <i>0.29</i> [29]	0.28 <i>0.29</i> [16]	0.38 <i>0.35</i> [13]

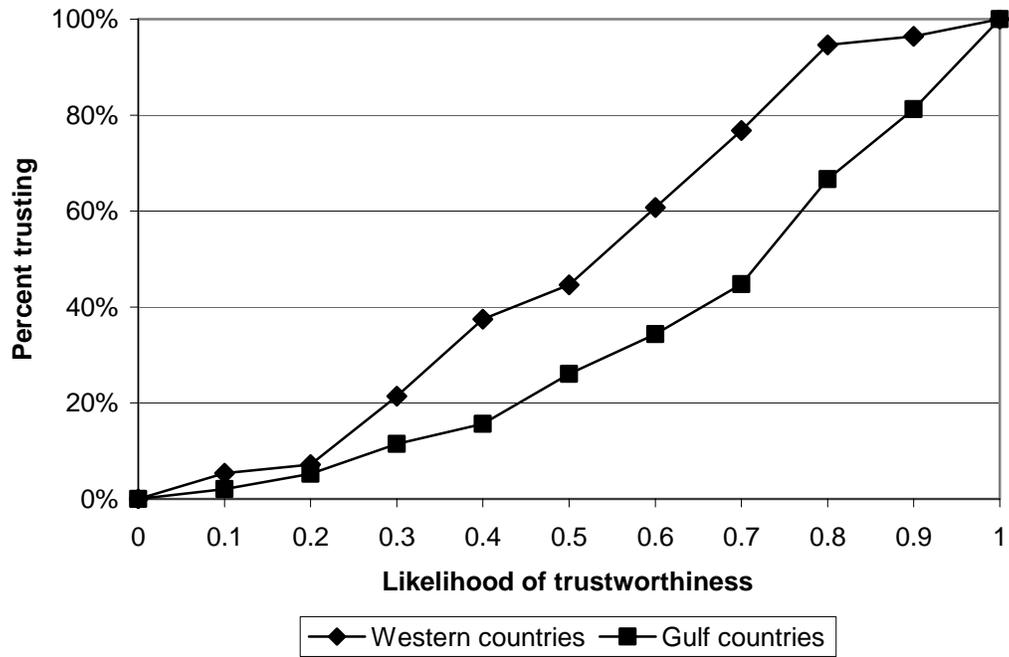


FIGURE I: Cumulative Distribution of Willingness to Trust in the West and in the Gulf

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