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Gender and Corruption: Insights from an Experimental Analysis[*]

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Abstract

In recent years, a substantial body of work has emerged in the social sciences exploring differences in the behavior of men and women in various contexts. This paper contributes to this literature by investigating gender differences in attitudes towards corruption. It departs from the previous literature on gender and corruption by using experimental methodology. Attitudes towards corruption play a critical role in the persistence of corruption. Based on experimental data collected in Australia (Melbourne), India (Delhi), Indonesia (Jakarta) and Singapore, we show that while women in Australia are less tolerant of corruption than men in Australia, there are no significant gender differences in attitudes towards corruption in India, Indonesia and Singapore. Hence, our findings suggest that the gender differences found in the previous studies may not be nearly as universal as stated and may be more culture-specific. We also explore behavioral differences by gender across countries and find that there are larger variations in women's attitudes towards corruption than in men's across the countries in our sample.

JEL Classification: C91, J16, K42, O12.
Keywords: Gender, Corruption, Experiments, Punishment, Multicultural Analysis

1.   Introduction

In recent years, a substantial body of work has emerged in the social sciences exploring differences in the behavior of men and women in various contexts. This paper contributes to this literature by investigating gender differences in attitudes towards corruption.

Due to the negative impact of corruption on economic development, eliminating corruption is a major concern for many countries. Two recent empirical papers have examined the relationship between gender and corruption. Dollar et al. (2001) use country-level data for a sample of more than 100 countries and find that the greater the representation of women in parliament, the lower the country's level of perceived corruption. This finding is consistent with the findings of Swamy et al. (2001), who use both micro-level survey-data from a range of countries and country-level data. They also find that on average women are less tolerant of corruption than men.[1]

This paper departs from these two papers by using experimental methodology, which allows us to explore individuals' attitudes towards corruption.[2] One issue with drawing conclusions on the basis of surveys is that actual behavior (especially when confronted with non-trivial amounts of money) may be quite different from survey responses. Experiments differ from surveys and perception indices in that the participants in the experiments receive actual monetary payments, the amounts of which depend on the decisions they make during the experiments. Hence, we explore whether

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[1] Their micro-level data is based on surveys that ask respondents about the acceptability of various dishonest or illegal behaviors. From the micro-level data, they find that a larger proportion of women than men believe that illegal or dishonest behavior are never justifiable. These results are consistent with those of Glover et al. (1997) and Reiss and Mitra (1998), who find that gender affects whether an individual regards certain workplace behavior as unacceptable.

[2] In the experimental literature, behavioral differences between men and women have been studied using public goods, ultimatum, dictator, and trust games. The results have been mixed, with some studies suggesting that women are more socially oriented, others finding that men are more socially oriented, and still others finding that there are no significant gender differences. See, for example, Andreoni and Vesterlund (2001), Bolton and Katoc (1995), Brown-Kruse and Hummels (1993), Nowell and Tinker (1994), Cadsby and Maynes (1998), Eckel and Grossman (1998 and 2000), Solnick (2001), etc.

the gender differences reported in the previous studies on corruption are also evident in an experimental setting.[3]

Gender differences may be the result of both biological and social differences, i.e., differences in social roles of men and women. An individual's social role and presence in the public domain may play an important role in that individual's exposure to corruption. Hence, if women and men differ in their social roles, one may also expect them to differ in their attitudes towards corruption. Higher levels of exposure to corruption in daily life may promote a tolerance and acceptance of corruption that is reflected in norms of behavior. Moreover, women may be more victimized by (and, hence, less tolerant of) corruption in countries where their presence in the public domain is lower.[4]

To investigate whether there are consistent gender differences across countries, we conducted experiments in four countries: Australia (Melbourne), India (Delhi), Indonesia (Jakarta), and Singapore. Two of the countries in our sample are consistently ranked among the least corrupt countries in the world (Australia and Singapore, with scores of 8.8 and 9.4 out of 10 respectively), and two of them are consistently ranked among the most corrupt (India and Indonesia, with scores of 2.8 and 1.9 respectively).[5]

Our results show that the gender differences found in the previous studies, which are largely based on data from Western countries, are also evident in the experimental data from Australia. That is, Australian men are more likely to engage in and more tolerant of corruption than Australian women. However, we find no systematic gender

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[3] There is a growing literature that analyses corruption using experimental methodology. See Abbink (2005) for a survey. However, except for Frank and Schultz (2000), none of these papers explore the relationship between gender and corruption. Frank and Schultz (2000) analyze whether economists behave in a more self-interested way than other people. They find that economics students are significantly more corrupt than others, with male economists being the most corrupt and male non-economists the least.

[4] Although all of the participants in our experiments were upper-level undergraduate or graduate students, their expectations and attitudes would nevertheless be influenced by the differing roles of men and women in their societies.

[5] See Table A1.

differences in the three Asian countries included in our study. Thus, gender differences in attitudes towards corruption appear not to be as robust as suggested by the previous evidence and may be culture-specific.

We also investigate whether cross-country variation in behavior is similar for men and women. Cross-country variation may reflect the differing levels of exposure to corruption in the different countries.[6] Women may react differently to this exposure than men since there may be a larger variation in the social roles of women than in the social roles of men across countries. The results do reveal that there is a larger variation in the behavior of women across the four countries we study than in the behavior of men.

The paper proceeds as follows. We discuss the experimental design in Section 2. The results are presented in Section 3. We conclude by discussing the implications of our results and avenues for future research in Section 4.

2.   Experimental Design and Procedure

In our experiment, corruption is defined as a situation where two people can act to increase their own payoff at the expense of a third person. The transaction that takes place between the two people is assumed to be illegal. Hence, the third person, the victim, is allowed to punish them at a cost.

More specifically, the experiment is based on a three-person, sequential-move game. The first player in the game is called the firm and is given the option to initiate a corrupt act by offering a bribe to a government official in order to increase his/her own payoff at the expense of society. The second player, whom we call the official, can either reject or accept the bribe. The third player represents society and is called the

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[6] See Cameron et al. (2005) for a detailed discussion of how attitudes towards corruption vary across the four countries considered in this study.

citizen. This player can respond to the act of corruption by choosing to punish both the firm and the official. The punishment is costly to the citizen, and imposes a monetary sanction on the firm and the official.[7]

This set-up allows us to examine two types of attitudes towards corruption: the incentive to engage in a corrupt act from which one reaps benefits and the incentive to incur a cost to punish a corrupt act that decreases one's payoff. This distinction enables us to examine whether individuals behave differently depending on whether they directly benefit from a corrupt act.

Figure 1 contains an extensive-form representation of the game, where all of the payoffs are denoted in experimental dollars. We constrain the amount of the bribe that the firm can offer to $B \in [4, 8]$. It costs the firm two experimental dollars to offer a bribe and the firm incurs this cost regardless of whether the bribe is accepted. If a bribe is offered, then the official decides whether to accept it. If the official accepts the bribe, then the payoffs of the firm and the official increase by 3B. The payoff of the citizen decreases by the amount of the bribe, B. Hence, the net benefit to the firm from paying the bribe is $3B - 2$. This may, for example, represent the benefit the firm gets from avoiding a regulation. We assume that the official's payoff also increases by 3B even though the amount of bribe paid by the firm is B. This is due to an assumption of difference in the marginal utilities of income. Since the income earned in the public service is likely to be lower than that earned in private firms, the same amount of money can be assumed to have a lower marginal utility value to the firm than to the official.[8]

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[7] We chose to use emotive terms such as "bribe" and "punishment" in the instructions since our aim was to simulate a real-life corrupt transaction. Cooper and Kagel (2003) consider the role of loaded language in signaling games and suggest that the use of a meaningful context might better capture behavior in field settings than the use of neutral language. On the other hand, Abbink and Hennig-Schmidt (2002) find that the use of words like "bribe" do not make a difference in the corruption game that they study.

[8] The choices of multipliers have the additional advantage of helping us prevent negative total payoffs.

If a bribe has been offered and accepted, the citizen, who moves last after observing the choices made by the firm and the official, is given a chance to punish the firm and the official for the corrupt transaction. The citizen can choose an amount P in punishment. Such punishment is costly for the citizen and reduces the citizen's payoff by the amount of the punishment, P. If the citizen chooses to punish, then the payoffs of the firm and the official are reduced by three times the amount of the punishment chosen by the citizen.

In the subgame perfect equilibrium of this game, a payoff-maximizing citizen does not punish. Knowing this, the official accepts the bribe and the firm offers the bribe. Moreover, the firm offers the maximum amount of bribe it can since its payoff is increasing in the amount it offers.

We have deliberately chosen to conduct a one-shot game because in a one-shot game the punishment has no economic benefit to the citizen. The decision to punish is not affected by the anticipation of possible future economic gains. This implies that if we observe any punishment by the citizens, we can infer that it is motivated by either negative reciprocity or moral considerations. Hence, with a one-shot game, a comparison of the citizens' willingness to punish across different countries reveals the differences in the tolerance levels for corrupt acts in those countries.

The one-shot nature of the game also helps us avoid issues associated with repeated games, such as signaling, reputation formation and serial correlation in decisions. Each subject in our database participated in the experiment only once and played only one role.[9] The subjects playing the three roles were grouped anonymously in the experiment to avoid conscious or unconscious signaling.

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[9] One standard response in cases such as these is to have random re-matching of subjects. Kandori (1992) states that it is not clear whether random re-matchings do actually succeed in eliminating supergame effects. However, Duffy and Ochs (2005) consider an experiment with an indefinitely repeated 2-player prisoner's dilemma game and find that contrary to Kandori's theoretical conjecture, a cooperative norm

The experiments were run at the University of Melbourne, the Delhi School of Economics, the University of Indonesia in Jakarta, and the National University of Singapore using third year undergraduate or postgraduate students. In order to minimize the experimenter effects, we made sure that one of the authors (the same one) was present in all the countries where we ran the experiment.[10]

All the sessions were run as non-computerized experiments. At the beginning of each session subjects were asked to come to a large lecture theatre. Each session consisted of at least 30 subjects. These subjects, on entering the room, were randomly designated as either firms, officials or citizens. Each group was located far apart from the others in a recognizable cluster. Thus, each group could see the members of the other groups, but individual subjects were unaware of which three specific subjects constituted a particular firm-official-citizen trio.

At the beginning of each session, each subject received a copy of the game's instructions, which were then read out loud to them. They were also given a number of examples explaining how the payoffs would be calculated for specific bribe and punishment amounts. Then, the subjects playing the role of a firm were asked to decide whether or not to offer a bribe. If they chose to offer a bribe, they also had to choose an amount. After they made their decisions, the record sheets with the bribe amounts were collected by the experimenter and distributed to the corresponding officials. After the officials made their decisions, the record sheets of both the firms and the government officials were given to the corresponding citizens. Hence, the citizens learned whether a bribe was offered and whether it was accepted. The game ended after the citizens decided whether to punish by choosing a punishment amount. All the subjects were then

does not emerge in the treatments where players are matched randomly. In the current paper we decided to adopt a conservative stance and have players participate in pure one-shot games to avoid any repeated game effects.

[10] Roth et al. (1991) and Cardenas and Carpenter (2005) discuss the methodological issues arising in multi-site experiments.

asked to fill out a demographic survey, which included questions on age, gender, income, education stream, employment history, and frequency of exposure to corruption. Those in the role of the citizen were also asked to explain the motivation for their decisions.[11]

Each experiment lasted about an hour. At the end of each session, the decisions made by all of the subjects were entered into a spreadsheet which generated their payoffs. The payoffs were converted into cash using an appropriate conversion rate, taking into consideration purchasing power parity across the countries where the experiment was conducted.[12] These conversion rates were public information. To guarantee parity in the payoffs to the different type of players (firm, official and citizen), we used a different conversion rate for each type.[13]

3.   Results

Given our experimental design, we are interested in exploring two issues. In Section 3.1, we start by investigating whether, controlling for culture (i.e., within each country), women are less tolerant towards corruption than men. We then control for gender in Section 3.2 and investigate whether there are larger cross-country variations in the attitudes of women towards corruption than in the attitudes of men.

A total of 1326 subjects participated in the experiments. Of these, 596 (45%) were men. The number of participants in Australia, India, Indonesia and Singapore were 642, 309, 180 and 195 respectively.

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[11] The instruction, record and survey sheets are available from the authors upon request.
[12] The conversion rates in each country were based on 1) the standard hourly wage paid for a student research assistant in each country, and 2) a typical basket of goods bought by students in each country. This is similar to the procedure used by other researchers who have conducted cross-cultural studies (e.g., Carpenter and Cardenas, 2004 and Cardenas and Carpenter, 2005).
[13] In Australia, the conversion rates were 3 experimental currency = 1 real currency for the firms, 2 experimental currency = 1 real currency for the officials and 1.5 experimental currency = 1 real currency for the citizens. Each subject made on average AU$20. This amount is approximately equivalent to US$15. In India subjects were paid an average of US$11, in Singapore US$13, and in Indonesia US$9.

We report results based on t-tests and multivariate regression analysis, where we estimated binary probit models for the bribe, acceptance and punishment rates, and ordinary least square models for the bribe and punishment amounts. The regression results control for treatment effects as well as other variables not accounted for in the t-tests, such as field of study (whether it is economics) and the percentage of each Australian subject's life that has been spent outside of Australia.[14] Of the variables we collected information on in the surveys, these were found to be the only ones that were consistently significant determinants of subject behavior.[15] In the regressions for the officials' and citizens' behavior, we also control for the bribe amount.

The reported results are based on two different treatments that were conducted. In the Indian experiments and a subset of the Australian sessions, the citizens' punishment range was restricted to $P \in [2, 8]$.[16] We refer to this treatment as "Treatment 1." In the other countries and the remaining Australian sessions, the punishment range was extended to $P \in [2, 12]$.[17] This is "Treatment 2." The t-tests below make comparisons within treatment and the regression results include a control for treatment. The variation in treatment design enabled us to examine the effectiveness of the punishment regime. We discuss the treatment effects in detail in Cameron et al (2005). Since the focus of the current paper is gender differences and since gender

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[14] The last variable controls for the high number of foreign students that study in Australian universities. The majority of these students come from Asia. We find this variable to be insignificant in explaining behavior in most of the regressions. This is possibly because those who choose to study in Australia are more westernized than their counterparts and/or quickly absorb the social norms of the new environment.

[15] We collected information on age, gender, field of study, work experience, income, exposure to corruption and time spent in developed countries.

[16] Due to resource constraints, we do not have data for all treatments from all the countries.

[17] These values were chosen to guarantee two things. First, we wanted to ensure that no one obtained a negative payoff. Second, we wanted to make sure that the average earning was high enough to offset the participants' opportunity cost of time (Davis and Holt, 1993).

differences do not vary across the treatments, we do not discuss the treatments effects here.[18]

3.1   Are women less tolerant of corruption than men?

As stated above, both Dollar et al. (2001) and Swamy et al. (2001) find that women are less tolerant of corruption than men. Within the design of our experiment, this is equivalent to asking whether female participants in the four countries where we ran our experiment had a lower propensity to pay bribes, a lower propensity to accept bribes, and a higher propensity to punish bribery than the male participants.

Table 1 presents the results of t-tests for differences in the means of the behavior of the male and female participants in the three roles. Panel A pools the data and shows that overall the male participants have a higher propensity to bribe than the female participants ($p = 0.04$), but that there are no other statistically significant gender differences in behavior. However, if we break the data down by individual countries (Panels B-E), we observe that the difference in the bribe rates is driven by Australia ($p = 0.02$). In Australia, 92% of male participants offered bribes compared with 80% of female participants. In none of the other countries do we see significant gender differences in the propensities to offer bribes. Further, in Australia, the male subjects also had higher acceptance rates and lower punishment rates than the female subjects. The bribe was accepted 91.59% of the time when it was offered to a male participant in Australia while it was accepted 80% of the time when it was offered to a female participant. This difference is statistically significant according to a test of difference of means ($p = 0.02$). The Australian male participants in the role of the citizen chose to

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[18] Cameron et al. (2005) also presents and discusses results from a further, third treatment. In both Treatments 1 and 2, the bribe is welfare-enhancing, in that the total payoff gains to the firm and the official *exceed* the payoff loss to the citizen. In Treatment 3, the payoffs are altered so that the combined gains to the firm and the official are *less* than the payoff loss to the citizen. Hence, the bribe is welfare-reducing. Since the gender differences are similar across all three treatments, we chose not to discuss Treatment 3 in this paper for ease of exposition.

punish 49.15% of the time while the Australian female participants chose to punish 62.63% of the time. This difference is significant at the 10% level.

In India, Indonesia and Singapore, we find no significant differences in the behavior of the male and female participants in the three roles. The point estimates also do not vary systematically by gender. For example, in India men bribe more often, but also punish more often.

The regression results presented in Table 2 confirm the results from the t-tests.[19] Panel A pools all the data across all the countries. Overall, men offer bribes with a higher frequency (significant at the 5% level) and punish corrupt acts by higher amounts (significant at the 10% level). In Panel B, the effect of gender is allowed to differ by country. For example, the coefficient on the variable "Male-Australia" captures the difference between men and women in Australia. The results show that in Australia men bribe approximately 8 percentage points more often, accept bribes approximately 8 percentage points more often, and punish bribery about 14 percentage points less often than women. However, if the Australian men do punish, then they do so by a larger amount than women. In the other countries, there are no significant gender differences in the bribe, acceptance, and punishment rates. The only significant differences we find are in the bribe and punishment amounts. Specifically, the Indian male subjects, when they bribe, offer larger bribes than the Indian female subjects, and the Indonesian male subjects, when they punish, offer higher punishment amounts than the Indonesian female subjects.

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[19] We also estimated ordered probit models for positive bribe and punishment amounts. These recognize that the dependent variable is not continuous. The results were very similar to the reported results from the estimation of ordinary least squares models.

3.2   Does the cross-country variation in attitudes towards corruption differ by gender?

Our finding in the previous section is that the differences between men and women do not necessarily lead to statistically significant behavioral differences in terms of corruption. Another way to think of the impact of social roles is to observe how it affects the behavior of one gender across countries. To do this, we start by discussing the variations in the attitudes of men. Table 3A, Panels (i)-(iv) compare the means of behavior across the Australian, Indian, Indonesian and Singaporean male subjects. These pairwise country comparisons show that there are no significant differences in the propensities to bribe, the bribe amounts, and the propensities to accept. Hence, in terms of the incentives to engage in corrupt behavior, the male subjects in all four countries display similar tendencies.

It is only when we consider the incentives to punish corrupt behavior that we see some significant differences in the behavior of male subjects in the four countries. Specifically, the Indonesian male subjects have the highest rate of punishment followed by the Australian male subjects (76.47% and 50% respectively). This difference is significant at the 10% level. The Singaporean male subjects punished in 39.13% of the cases. Although their rate of punishment is not statistically significantly different from that of the Australian male subjects (p = 0.46), it is significantly less than that of the Indonesian male subjects (p = 0.02). The Indian male subjects have the lowest punishment rate of all (27.27%). This is significantly less than the punishment rate of the Australian male subjects (p = 0.06).

The regression results presented in Table 2, Panel C confirm the results from the t-tests.[20] We test for equality of coefficients across the four countries for each gender. As shown in the table, the tests indicate that we are unable to reject the hypothesis that male behavior in each of the countries is the same, except in the case of punishment rates ($p = 0.08$). In the case of punishment rates, the regression results show that, once we control for field of study (whether it is economics), the percentage of each Australian subject's life that has been spent outside of Australia, and treatment effects, the punishment behavior of the male subjects in Australia is not significantly different from that in any of the other countries. However, since the male subjects in Indonesia have significantly higher rates of punishment than those in India and Singapore, we get the result that the coefficients in this case are not equal to each other.[21]

In contrast, the t-tests reported in Table 3B and regression results reported in Table 2, Panel C reveal differences in female behavior across the four countries in all categories of comparison. Testing for equality of regression coefficients, we find that at the 5% level, female behavior varies across the four countries in the case of bribe rates, bribe amounts, and punishment rates. In the case of acceptance rates and punishment amounts, we are only narrowly unable to reject a hypothesis of equality of coefficients at the 10% level (with p-values of 0.12 and 0.11 respectively). Moreover, unreported pairwise tests of the regression coefficients show that the acceptance rate in Singapore is significantly higher than that in each of the other three countries.

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[20] These results are the same as those presented in Table 2, Panel B. However, they are configured (by interacting both the male and female dummies with the country dummies) to enable an easier interpretation of within-gender cross-country differences.

[21] The pairwise regression tests give p-values of 0.058 and 0.028 respectively. The high rate of punishment we observe among the Indonesian male subjects is an unexpected outcome given the high level of corruption in this country. One possible explanation for this outcome is the recent institutional changes that have occurred in Indonesia. Since the introduction of democracy in Indonesia in 1998 and the relaxation of media restrictions, corruption has received a lot more negative media attention. This may have resulted in a hardening of attitudes against corruption. See Cameron et al. (2005) for a more detailed discussion of the cultural differences we find.

The magnitude of the cross-country variation in female behavior is quite large. For instance, the regression results show that the female bribe rate in Australia is 16.6 percentage points lower than that in Indonesia and 17.2 percentage points lower than that in Singapore (p = 0.02 and p = 0.007 respectively). Similarly, the female acceptance rate in Singapore is 19.7 percentage points higher than that in Australia, 15.2 percentage points higher than that in India, and 12.9 percentage points higher than that in Indonesia (p = 0.016, p = 0.089, and p = 0.089 respectively).[22]

In summary, we find less variation in the attitudes of men towards corruption than in the attitudes of women across the four countries. When we compare the behavior of the male subjects, we find significant differences only in the propensity to punish corrupt behavior. In contrast, when we compare the behavior of the female subjects, we find significant differences both in the propensity to engage in corrupt behavior (in the bribe rate and amount) and the propensity to punish corrupt behavior. Overall the Australian female subjects seem to have the lowest level of tolerance of corrupt behavior.

4.   Discussion

Our goal in this paper was to examine whether there are gender differences in attitudes towards corruption. We explored two issues. First, we investigated whether women are less likely to offer bribes and more likely to punish corrupt behavior. We find this to be the case in only one of the four countries studied – Australia. We do not find significant gender differences in India, Indonesia or Singapore.

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[22] As explained in Cameron et al (2005), one possible explanation for the relatively higher tolerance of corruption we find in Singapore is the top-down policy approach that has been adopted in this country. Such an approach could have had the effect of eradicating corruption at a faster rate than it takes to fundamentally change society's social norms.

The results for the only Western country in our study are similar to those found in the existing literature. In both Dollar et al (2001) and Swamy et al. (2001), the Western countries make up a large part of their sample.[23,24] Our findings suggest that the gender differences found in these previous studies may be culture-specific. This is important because the gender differences found in the previous studies on corruption have prompted policy makers in many developing countries to recommend higher rates of female participation in the political and economic institutions. Our results indicate that, although there may be other valid reasons for advocating policy measures that promote female political involvement, some caution needs to be taken in asserting that increased female participation will lower corruption in all countries.[25] Further work is needed to understand the reasons for the variations in gender differences in attitudes towards corruption across countries and to establish in which countries gender differences do exist. It is possible that countries with different cultural backgrounds display gender differences to different degrees.

The second issue we investigated is whether cross-country variation in behavior is similar for men and women. The behavior of the male subjects was shown to be quite similar in all four countries. In contrast, the cross-country variation in female behavior is quite striking. One possible explanation for these results is that women's attitudes may be influenced to a greater degree by their cultural surrounds. Further, these results may reflect the differences in the social roles of men and women, or the larger variations in women's social roles across countries than in men's. Both of these factors

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[23] Swamy et al. (2001) present some results disaggregated to the country level. Interestingly, scrutiny of these results reveals that there are no gender differences in tolerance of corruption in the three Asian nations in their sample (China, India and South Korea). This is also true of Nigeria, the only African nation in their sample other than South Africa.

[24] Most of the previous experimental studies that have examined behavioral gender differences have been based on data from the Western nations, with the majority being from the U.S.

[25] See Duflo (2005) for a discussion of the various reasons for reserving positions for groups that are perceived as being disadvantaged.

could cause the cross-country variation in attitudes towards corruption to differ by gender. These are all issues worthy of further research.

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Figure 1: The Game Tree

FIRM

Don't offer bribe   Offer bribe (B)

F: 60
O: 30
C: 40

OFFICIAL

Reject bribe   Accept bribe

F: 60-2
O: 30
C: 40

CITIZEN

Don't punish   Punish (P)

F: 60 + 3B - 2   F: 60 + 3B - 2
O: 30 + 3B   O: 30 + 3B - 3P
C: 40 - B   C: 40 - B - P
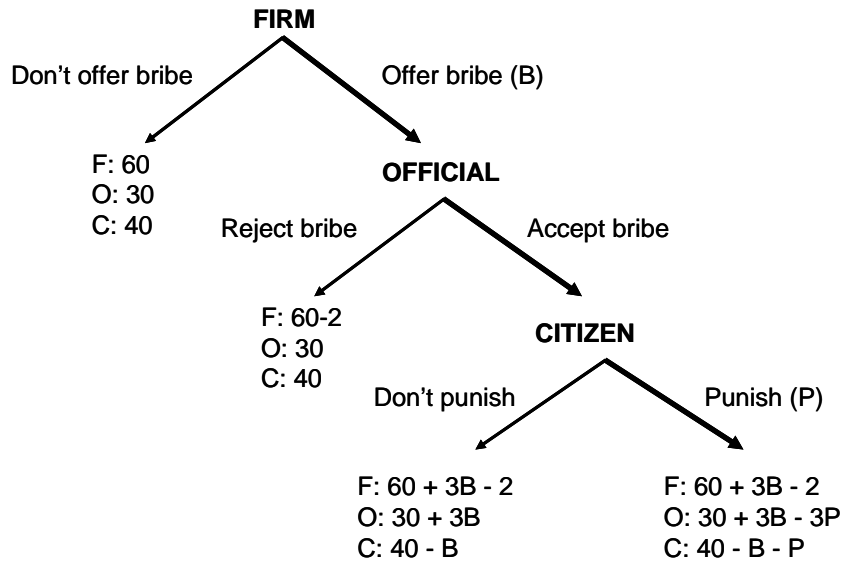
Table 1: Gender Differences

A. All Countries, Treatments 1 and 2

	Male	Female	p-value
% firms bribing	90.52	83.98	0.04
Bribe Amount (if >0)	7.59	7.55	0.63
% officials accepting	88.64	84.21	0.21
% citizens punishing	44.06	51.85	0.16
Punishment Amount (if >0)	6.05	5.37	0.24

B. Australia, Treatments 1 and 2

	Male	Female	p-value
% firms bribing	91.59	80.37	0.02
Bribe Amount (if >0)	7.63	7.72	0.42
% officials accepting	92.13	80.00	0.02
% citizens punishing	49.15	62.63	0.10
Punishment Amount (if >0)	6.48	5.34	0.12

C. India, Treatment 1

	Male	Female	p-value
% firms bribing	95.92	92.59	0.48
Bribe Amount (if >0)	7.57	7.18	0.10
% officials accepting	89.74	89.66	0.99
% citizens punishing	27.27	20.93	0.50
Punishment Amount (if >0)	3.25	4.33	0.30

D. Indonesia, Treatment 2

	Male	Female	p-value
% firms bribing	78.13	82.14	0.70
Bribe Amount (if >0)	7.40	7.61	0.47
% officials accepting	77.27	76.92	0.98
% citizens punishing	76.47	70.00	0.67
Punishment Amount (if >0)	7.00	4.29	0.12

E. Singapore, Treatment 2

	Male	Female	p-value
% firms bribing	91.30	83.33	0.38
Bribe Amount (if >0)	7.67	7.60	0.77
% officials accepting	84.62	93.33	0.30
% citizens punishing	39.13	48.15	0.53
Punishment Amount (if >0)	7.00	7.38	0.82

Table 2: Multivariate Regression Results

A. Pooled Regression Results

	Bribe (0/1)		Bribe Amount (>0)		Accept (0/1)		Punish (0/1)		Punishment Amount (>0)	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	M. Effect[*]	p-value	Coeff	p-value	M. Effect[*]	p-value	M. Effect[*]	p-value	Coeff	p-value
India	0.059	0.32	-0.456	0.03 *	0.012	0.86	-0.277	0.01 △	-2.154	0.05 *
Indonesia	0.073	0.08 #	-0.254	0.23	0.025	0.68	0.045	0.72	-1.068	0.30
Singapore	0.105	0.00 △	-0.096	0.64	0.100	0.06 #	-0.224	0.04 *	0.665	0.53
Male	0.063	0.04 *	0.089	0.35	0.035	0.31	-0.062	0.29	1.008	0.08 #
Econ major	0.026	0.42	0.200	0.05 *	0.082	0.03 *	-0.159	0.01 △	-0.380	0.58
% life out of Australia	0.148	0.01 △	-0.119	0.55	0.092	0.14	-0.060	0.56	-0.730	0.42
Treatment 1	0.148	0.00 △	0.031	0.82	0.090	0.08 #	-0.105	0.20	-0.741	0.32
Bribe amount					-0.007	0.71	-0.035	0.27	0.191	0.55
const			7.641	0.00 △					4.797	0.05 *
R-squared	0.102		0.012		0.056		0.102		0.046	
N	440		383		384		332		161	

[*] We report marginal effects for the probits. * (#, △) denotes statistical significance at the 5% (10%, 1%) level.

B. Pooled Data, Gender-Country Interaction (Australian Female Subjects are the reference category.)

	Bribe (0/1)		Bribe Amount (>0)		Accept (0/1)		Punish (0/1)		Punishment Amount (>0)	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	M. Effect*	p-value	Coeff	p-value	M. Effect*	p-value	M. Effect*	p-value	Coeff	p-value
India	0.074	0.26	-0.725	0.00 △	0.036	0.61	-0.367	0.00 △	-0.95	0.50
Indonesia	0.105	0.02 *	-0.179	0.49	0.051	0.44	-0.047	0.76	-1.85	0.12
Singapore	0.110	0.01 △	-0.181	0.45	0.135	0.02 *	-0.237	0.07 #	1.33	0.28
Male-Aust	0.083	0.02 *	-0.044	0.74	0.084	0.06 #	-0.143	0.08 #	1.34	0.09 #
Male-India	0.048	0.44	0.472	0.01 △	-0.024	0.73	0.073	0.54	-0.95	0.54
Male-Indonesia	-0.030	0.68	-0.203	0.43	-0.008	0.92	0.070	0.69	2.74	0.04 *
Male-Singapore	0.060	0.33	0.110	0.66	-0.121	0.30	-0.101	0.48	0.497	0.74
Econ major	0.027	0.39	0.198	0.05 *	0.083	0.03 *	-0.160	0.01 △	-0.364	0.59
% life out of Australia	0.152	0.01 △	-0.135	0.50	0.078	0.21	-0.063	0.54	-0.793	0.38
Treatment 1	0.145	0.00 △	0.040	0.76	0.077	0.13	-0.101	0.22	-0.777	0.29
Bribe amount					-0.007	0.72	-0.035	0.28	0.192	0.55
const			7.719	0.00 △					4.728	0.06 #
R-squared	0.110		0.022		0.069		0.108		0.055	
N	440		383		384		332		161	

* We report marginal effects for the probits. * (#, △) denotes statistical significance at the 5% (10%, 1%) level.

C. Pooled Data, Gender-Country Interaction (Australian Male Subjects are the reference category.)

	Bribe (0/1)			Bribe Amount (>0)			Accept (0/1)			Punish (0/1)			Punishment Amount (>0)		
	1	**2**		**3**	**4**		**5**	**6**		**7**	**8**		**9**	**10**	
	M. Effect*	p-value		Coeff	p-value		M. Effect*	p-value		M. Effect*	p-value		Coeff	p-value	
Female-Australia (α_1)	-0.117	0.02	*	0.044	0.74		-0.112	0.06	#	0.145	0.08	#	-1.34	0.09	#
Female-India (α_2)	-0.011	0.89		-0.681	0.00	△	-0.067	0.46		-0.237	0.06	#	-2.30	0.13	
Female-Indonesia (α_3)	0.049	0.38		-0.135	0.60		-0.044	0.64		0.098	0.53		-3.19	0.02	*
Female-Singapore (α_4)	0.055	0.28		-0.137	0.55		0.085	0.24		-0.102	0.47		-0.019	0.99	
Male-India (β_1)	0.040	0.59		-0.209	0.36		-0.036	0.69		-0.172	0.17		-3.244	0.02	*
Male-Indonesia (β_2)	0.029	0.62		-0.338	0.18		-0.054	0.59		0.166	0.31		-0.452	0.74	
Male-Singapore (β_3)	0.089	0.08	#	-0.027	0.92		0.016	0.85		-0.196	0.17		-0.507	0.74	
Econ major	0.027	0.39		0.198	0.05	*	0.083	0.03	*	-0.160	0.01	△	-0.364	0.59	
% life out of Australia	0.152	0.01	△	-0.135	0.50		0.078	0.21		-0.063	0.54		-0.793	0.38	
Treatment 1	0.145	0.00	△	0.040	0.76		0.077	0.13		-0.101	0.22		-0.777	0.29	
Bribe amount							-0.007	0.72		-0.035	0.28		0.192	0.55	
Const				7.719	0.00	△							4.728	0.06	#
<u>Tests</u>:															
Female: ($\alpha_1=\alpha_2=\alpha_3=\alpha_4$)		0.04	*		0.02	*		0.12			0.01	△		0.11	
Male: ($\beta_1=\beta_2=\beta_3$)		0.35			0.48			0.86			0.08	#		0.14	
R-squared	0.110			0.022			0.069			0.108			0.055		
N	440			383			384			332			161		

* We report marginal effects for the probits. * (#, △) denotes statistical significance at the 5% (10%, 1%) level.

Table 3A: Differences Between Males Across Countries

(i)	Australia (Treatment 1)	India (Treatment 1)	p-value
% of firms bribing	96.15	95.92	0.95
Bribe amount (if >0)	7.60	7.57	0.89
% of officials accepting	96.30	89.74	0.21
% of citizens punishing	48.48	27.27	0.06
Punishment amount (if >0)	6.00	3.25	0.01
(ii)	Australia (Treatment 2)	Indonesia (Treatment 2)	p-value
% of firms bribing	87.27	78.13	0.27
Bribe amount (if >0)	7.67	7.40	0.22
% of officials accepting	85.71	77.27	0.42
% of citizens punishing	50.00	76.47	0.09
Punishment amount (if >0)	7.08	7.00	0.97
(iii)	Australia (Treatment 2)	Singapore (Treatment 2)	p-value
% of firms bribing	87.27	91.30	0.62
Bribe amount (if >0)	7.67	7.67	1.00
% of officials accepting	85.71	84.62	0.91
% of citizens punishing	50.00	39.13	0.46
Punishment amount (if >0)	7.08	7.00	0.97
(iv)	Indonesia (Treatment 2)	Singapore (Treatment 2)	p-value
% of firms bribing	78.13	91.30	0.20
Bribe amount (if >0)	7.40	7.67	0.38
% of officials accepting	77.27	84.62	0.53
% of citizens punishing	76.47	39.13	0.02
Punishment amount (if >0)	7.00	7.00	1.00

Table 3B: Differences Between Females Across Countries

(i)	Australia (Treatment 1)	India (Treatment 1)	p-value
% of firms bribing	95.12	92.59	0.62
Bribe amount (if >0)	7.82	7.18	0.01
% of officials accepting	82.86	89.66	0.35
% of citizens punishing	56.25	20.93	0.00
Punishment amount (if >0)	5.04	4.33	0.47
(ii)	Australia (Treatment 2)	Indonesia (Treatment 2)	p-value
% of firms bribing	71.21	82.14	0.27
Bribe amount (if >0)	7.64	7.61	0.88
% of officials accepting	78.33	76.92	0.89
% of citizens punishing	68.63	70.00	0.91
Punishment amount (if >0)	5.57	4.29	0.28
(iii)	Australia (Treatment 2)	Singapore (Treatment 2)	p-value
% of firms bribing	71.21	83.33	0.15
Bribe amount (if >0)	7.64	7.60	0.83
% of officials accepting	78.33	93.33	0.07
% of citizens punishing	68.63	48.15	0.08
Punishment amount (if >0)	5.57	7.38	0.13
(iv)	Indonesia (Treatment 2)	Singapore (Treatment 2)	p-value
% of firms bribing	82.14	83.33	0.90
Bribe amount (if >0)	7.61	7.60	0.97
% of officials accepting	76.92	93.33	0.08
% of citizens punishing	70.00	48.15	0.14
Punishment amount (if >0)	4.29	7.38	0.04

APPENDIX

Table A1: The 2003 Corruptions Perceptions Index

RANK	COUNTRY	SCORE
1.	Finland	9.7
2.	Iceland	9.6
3.	Denmark New Zealand	9.5
5.	**Singapore**	**9.4**
…		
7.	Netherlands	8.9
8.	**Australia**	**8.8**
…		
11.	United Kingdom	8.7
…		
18.	USA	7.5
25	Portugal	6.6
35	Italy	5.3
50	Greece	4.3
…		
83.	**India** Malawi Romania	**2.8**
86.	Russia Mozambique	2.7
…		
122.	**Indonesia** Kenya	**1.9**
…		
133.	Bangladesh	1.3
	Source: Transparency International	