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## WHEN DO CITIZENS TAKE COSTLY ACTION AGAINST GOVERNMENT CORRUPTION? EVIDENCE FROM EXPERIMENTS IN AUSTRALIA, SINGAPORE, AND THE UNITED STATES

### **Abstract**

When do citizens take costly collective action against government corruption? When citizens act in concert, their demands are credible and not easily discounted by governments, which should be more likely to respond. In this study, we use the stag-hunt game, supplemented by Granovetter's threshold model of collective action, to investigate the conditions under which citizens coordinate to collectively act against government corruption. We use survey experiments in laboratory settings in Australia, Singapore, and the United States. The results show several conditions motivate participants to pursue collective action; using the wellspring of the theoretical argument, they clarify that information that others pursue collective action, together with clear mutual benefits as measured by rewards, are primary motivators of the individual's choice. Correspondingly, other considerations, including initial costs or final potential penalties, do not bear on the individual's choice. The findings have implications not only for the empirical literature on policy but also for policy debates on how to control it.

### **Keywords**

citizens' response, collective action, stag-hunt game, Granovetter's threshold model, experiment

“Corruption is public enemy number 1,” the President of the World Bank, Dr. Jim Yong Kim, proclaimed, as he launched the reorganization of the institution—the first in almost 20 years—to dedicate a new department for tackling corruption (World Bank press release, December 19, 2013). Do citizens respond as vehemently to corruption in their own governments? In particular, do citizens pursue costly collective action to demand government accountability for corruption? Government accountability occurs when the government monitors and enforces sanctions on its officials or agencies for contravening rules or policies (Helmke and Levitsky 2006; Brinks 2003; Cheibub and Chernykh 2009). Citizens' collective action to demand government accountability occurs when citizens rally to demand government action and recourse for its failings (Tucker 2007; Chang, Golden, and Hill 2010; Winters, Testa, and Fredrickson 2012). Such collective action is credible and not easily discounted: the concerted action surmounts free-rider problems that weaken the credibility of citizens' demands. Indeed, citizens' collective behavior—such as through strikes, protests, demonstrations, or electoral

setbacks—is a potent threat to government tenure. Not surprisingly, a growing literature points out that governments, even those of less-democratic countries, will increase monitoring and uphold or enforce sanctions on its officials or agencies—when citizens pursue collective action (Haggard and Kaufman 1997; Guo 2007; Mason and Clements 2002; Howard and Roessler 2006; Gandhi 2008).

This article asks: do citizens pursue costly collective action to demand government accountability for corruption? Or, put another way: does corruption galvanize citizens into collective action to demand government action and recourse? Corruption refers broadly to the failure of the government to exercise impartiality of authority (Andersson and Heywood 2009, 748–751; Rothstein and Teorell 2008; Kurer 2005). This conception underscores the general agreement within and across societies on what counts as corruption, and it includes “particularistic practices such as clientelism and patronage” (Linde 2012, 413; Rothstein and Teorell 2008; Kurer 2005). Studies note that the extensive literature on corruption has overlooked citizens’ collective demand for government accountability, perhaps expecting formidable coordination is required for that collective action (Tucker 2007; Chang, Golden, and Hill 2010; Anduiza, Gallego, and Munoz 2013; Manzetti and Wilson 2007). Yet, recent empirical evidence shows that citizens’ collective action against government corruption does take place; further, these actions may be highly potent, as the 2013–2014 protests in Thailand and the Ukraine, and across the Philippines, Indonesia, and South Korea in 2012–2014 show.

We provide a theoretical framework—the stag-hunt game supplemented by the threshold model—that clarifies how citizens may coordinate to pursue collective action. Using survey experiments in laboratory settings, we clarify when such coordination occurs to demand government accountability of corruption in Australia, Singapore, and the United States (US). Specifically, the stag-hunt theoretical framework captures a conflict between “considerations of mutual benefit and ... personal risk” (Skyrms 2001, 3). Thus, we consider that citizens’ collective action to demand government accountability for corruption is based on strategic interactions with other citizens, which occurs when citizens interact with each other to achieve political, social, or economic goals, subject to the constraints of preferences and behaviors and the structure of the game (Jackman and Miller 1996; Bates et al. 1998; Mason and Clements 2002; Guo 2007; Yap 2012). This strategic interaction approach is an alternative to decision-theory perspectives: the latter treat players’ behaviors as motivated primarily by their own preferences and wants. Importantly, the stag-hunt set-up—described in detail below—has two equilibria: one where all hunt stag (the payoff-dominant strategy), and another where all hunt hare (the risk-dominant strategy). When supplemented by the threshold model—where citizens join-in as increasing participation meets their minimum threshold—such coordination is highly achievable.

Informed by the stag-hunt and threshold models, we evaluate for conditions under which citizens coordinate successfully to pursue the payoff-dominant outcome, specifically the effects of: (a) information about what other citizens are doing; (b) rewards/penalties on the choice to pursue collective action; and (c) the costs of undertaking collective action. In addition, we consider that (d) participants’ choice to pursue collective action may be related to whether they gain, do not lose, or lose from the corrupt act; accordingly, we add a treatment—effects of corruption on payoffs—to assess its relation to participants’ choice.

The effects of these conditions are evaluated through survey experiments in laboratory settings for Australia, Singapore, and the US, and the value of comparisons across these

countries is discussed in the next section. Experiments are useful: they fill in for the lack of variation, controls, or substantive overlap that exists empirically to analytically separate simultaneity and interrelationships (Azfar and Nelson 2007; Olken 2007; Ostrom, Gardner, and Walker 1994; Duch, May, and Armstrong 2010; Yap 2013). Experiments, then, are particularly relevant to corruption studies such as this, where the “treatment” may be controlled to evaluate its effect on participant’s response whereas in real world observations, citizens’ response may be inextricable from treatment.

The results from the experiments clarify some of the conditions under which participants choose collective action that is predicted under the stag-hunt and threshold set-ups. Central to the threshold model, information that other participants choose to pursue collective action led individuals to choose similarly. Relatedly, participants’ choice to pursue collective action are based on or motivated by mutual benefits (rewards). These two conditions—information of others’ choice and clear benefits—correspondingly mean that initial costs outlay as well as final possible penalties should not matter to the participants’ choice. This hypothesis is supported by the results. Unrelated to the stag-hunt or threshold models, participants demand accountability if they lose through corrupt government action, and they also make demands for accountability when they do not gain from corruption.

This article makes three contributions to the literature. First, it provides a theoretical model—the stag-hunt supplemented by the threshold model—to undergird the study of citizens’ collective action to demand government accountability of corruption. In doing so, it addresses the neglect in the literature on corruption of citizens’ role, so that citizens may be treated as an important complement to anti-corruption efforts that also facilitates empirical evaluation and theory-building. Second, the model is tested using experiments. The consistent results of participants’ choice to pursue collective action across Australia, Singapore, and the US as predicted—notwithstanding the clear contrasts between US–Australia and Singapore in particular—underline the robustness of the findings across several contexts. Third, the specific findings showing the conditions under which participants pursue collective action—when informed that other participants choose collective action, and when there are clear rewards, and, importantly, when they lose but also when they do not win—provide vital information to enrich theoretical and empirical study of citizens’ demands of government accountability. In particular, by the theoretical model here, information and clear rewards supersede costs of participation or additional penalties from participating; these carry substantial implications for policymaking and policy reforms, as well as political and social stability.

In the following, we discuss the contrasts between the countries to clarify the benefits of experiments there before providing the theoretical framework regarding citizens’ collective action to lay out the treatments used and hypotheses for testing. We then go on to describe the experiment and procedures, present the results, and conclude with a discussion of the findings.

#### THE COUNTRIES FOR EXPERIMENT: AUSTRALIA, SINGAPORE, AND THE US

The experiments are held in laboratory-settings in Australia, Singapore, and the US. The institutional structures in place to combat corruption vary across the countries: Singapore has a national unit, the Corruption Practices Investigation Bureau, founded in 1952 to

fight corruption. Australia has no federal unit to combat corruption, notwithstanding efforts towards a national anti-corruption plan as recently as 2011–12. Instead, the federal government advocates a national plan to complement and support anti-corruption agencies in the individual states to control corruption (Commonwealth Ombudsman Annual Report 2011–12). In the US, anticorruption investigations fall under the jurisdiction of the US Department of Justice and its agencies, which include the Federal Bureau of Investigation; there is, then, no dedicated agency at the federal or state levels to combat corruption. Notwithstanding these institutional variations, corruption across all three countries is relatively low. Thus, for instance, Transparency International (TI) lists Singapore as ranking 7 in 2014 (score 84 of 100), 5 in 2013 (score 86), and 5 in 2012 (score 87); Australia ranks 11 in 2014 (score 80), which is a slip from 9 in 2013 (score 81), and that is also a slip from 7 in 2012 (score 85); and the US ranks 17 in 2014 (score 74), rising from 19 in 2013 (score 73), that was steady from 19 in 2012 (score 73).

Still, there are at least four reasons why the countries make for interesting comparisons:<sup>1</sup> First, the US and Australia rank highly as individualist countries on the collectivism–individualism scale which ranges from 1–120, with scores of 91 and 90 respectively, while Singapore lies on the collectivist end of the scale with a score of 20 (Hofstede, Hofstede, and Minkov 2010). Generally speaking, scores on the individualist end of the spectrum indicate disinclination to engage in collective action, as opposed to scores on the collectivist end. Second, contradicting this first impulse, countries such as the US and Australia that are high on the individualism scale are more likely to emphasize individual ability and achievement through consistent rules; this may translate into a greater likelihood to question and challenge inconsistent, unfair, or dishonest procedures. On the other end of the scale, collectivist countries such as Singapore encourage conformity and preservation of the group or social order; this may mean less willingness to disrupt or challenge the existing order (Gorodnichenko and Roland 2011). Third, western countries do not have norms of reciprocity for gift-giving between officials and citizens, which contrasts to countries in East and Southeast Asia where such norms exist (Chang and Chu 2006). The lack of such norms may translate into a greater willingness for citizens in the US and Australia to question or challenge possible “buy-offs,” while the existence of the norms may lead to a disinclination for citizens in Singapore to question or challenge similar buy-offs (Cameron et al. 2009). Fourth, the US and Australia are mature democracies with histories of political activism, participation, and successful mobilization, which may encourage citizens’ pursuit of collective action for government accountability of corruption; Singapore, on the other hand, has witnessed a one-party dominant government since independence in 1965 that has overseen a history of public order, which may discourage citizens from pursuing collective action that potentially disrupts that order. These contexts underline that US and Australia contrast against Singapore; consequently, if the results are consistent across the three countries, they signify that findings are robust across several contexts. Practically, the common use of the English language across the three countries—despite the contrasts in individualist–collectivist orientation, valuation of social order, norms, and participation–mobilization—minimizes experimenter effects from language (Akkermans, Harzing, and Witteloostuijn 2010; Cameron et al. 2009).

The preceding discussion of the countries in which the experiments are held suggests that the results from the experiments may differ because of the contrasts between Singapore on the one hand, and US and Australia on the other. If the results differ, they inform

future work on the need to contextualize citizens' pursuit of collective action based on country characteristics, such as individualism–collectivism orientation, government transparency, or consistency versus social conformity, the relevance of gift-giving norms, and the relevance of political activism or mobilization versus public order. However, if they are consistent, they suggest that citizens' collective action is robust across several contexts. Next, we describe the stag-hunt game that informs the treatments and hypotheses for testing in the experiments.

#### STAG-HUNT AND THRESHOLD MODELS, AND RELEVANT TREATMENTS AND HYPOTHESES

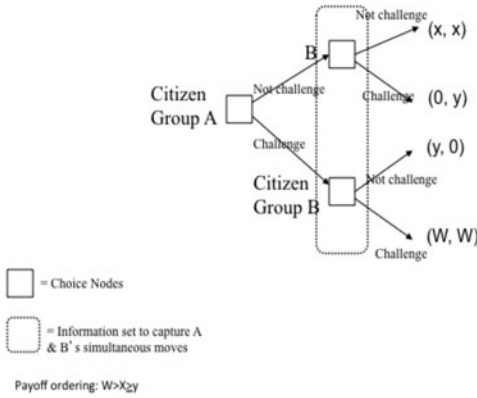
Do citizens overcome coordination and collective action problems to demand government accountability and responsiveness? Recent protests in East and Southeast Asia indicate that they do. Theoretically, we draw on studies of strategic interaction—in particular, the stag-hunt game—to undergird and instruct the set-up of the research. With this approach, we clarify conditions under which citizens strategically interact with other citizens to make concerted demands for government accountability. These conditions form the bases of the treatments and the hypotheses for evaluation. In the following, we specify citizens' preferences to map the equilibria outcomes under the stag-hunt before describing the treatments and hypotheses.

What are citizens' preferences? Most citizens prefer to stamp out corruption, given that corruption inflicts social, political, and economic costs that reduce citizens' payoffs (Tucker 2007; Chang, Golden, and Hill 2010; Anduiza, Gallego, and Munoz 2013; Yap 2013). However, making demands for punishment involves time, effort and resources: it is costly. In particular, withdrawing or threatening to withdraw support from the government—such as through protests, demonstrations, or electoral overthrow—so that government penalizes officers or representatives for corruption is costly. What are citizens' choices? Citizens may choose to demand punishment, or not demand punishment. If they demand punishment in concert, then their demand is credible and complements and motivates government action on corruption. If they fail to act in concert, then their demand is weakened and may be discounted.

What are the likely outcomes from strategic interaction, given these preferences and choices? One model regarding how citizens behave in such interactions is the stag-hunt, which shows a conflict between “considerations of mutual benefit and ... personal risk” (Skyrms 2001, 3). With the stag-hunt game, there are two equilibrium outcomes: the risk-dominant strategy where citizens fail to make demands, and the payoff-dominant strategy where the citizens' demands are credible. The main obstacle to the payoff-dominant strategy is coordination, not a conflict.

Briefly, the stag-hunt game is one where two or more sets of players choose between hunting hare or stag. A successful hare hunt is independent of the other player's actions while a successful stag hunt depends on the other players to cooperate to hunt stag. The payoff from successfully hunting stag is significantly higher than hunting hare. Consequently, there are two equilibria in the stag-hunt game: one where all hunt hare (the risk-dominant strategy), and another where all hunt stag (the payoff-dominant strategy). Under the stag-hunt set-up, each player knows that if she fails to join in, the other players are unlikely to be successful; given the payoffs of a successful hunt, the main obstacle to

**FIGURE 1 Strategic interaction between citizens: Stag-hunt model**



Stag-Hunt Set-up

		A	
		Stag	Hare
B	Stag	W, W (eg., 2, 2)	0, y (eg., 0, 1)
	Hare	y, 0 (eg., 1, 0)	X, X (eg., 1, 1)

Two equilibria (B; A):  
 (W, W) = payoff-dominant equilibrium  
 (X, X) = risk-dominant equilibrium

achieving the payoff-dominant equilibrium is coordination. Figure 1 depicts the standard stag-hunt set-up with the two equilibria.

Studies note that achieving the payoff-dominant outcome requires “little” in terms of strategic assessments or observation of others’ actions (Skyrms 2001, 2008); however, in practice, while coordination on the payoff-dominant equilibrium is possible, coordination failure is also common (Dubois, Willinger, and Van Nguyen 2012). Consequently, we supplement the standard stag-hunt with the threshold model to evaluate how information of others’ choices influences coordination on the payoff-dominant equilibrium. Further, to ensure that the results for strategic interactions are robust, we extricate potentially confounding effects of costs and rewards/penalties. Specifically, costs and rewards/penalties are aligned with stag-hunt considerations of personal risk versus mutual benefit. Thus, the addition of the individual into the pool of stag-hunters improves the odds of a successful stag-hunt, i.e., rewards. At the same time, however, a player who forgoes hunting hare to hunt stag takes a personal risk, since other players may not join in and the player may go empty handed—with no stag and no hare, loss or penalties. Adding these parameters of costs and rewards/penalties, then, enhance the robustness of findings by further isolating their effects in considerations of strategic choice.

Thus, the stag-hunt supplemented by the threshold model is used to inform our theoretical expectations on how individuals interact strategically to achieve the

payoff-dominant outcome, with the effects of strategic versus individual choice further purged of potentially confounding concerns of costs and rewards/penalties. In total, then, we assess for four considerations: the costs of undertaking action; clear rewards; penalties; and expectation that others will also participate. The four considerations map into four treatments used in the experiments, listed as (1) to (4); further, we add an additional treatment (5) to assess the relation of payoffs to participants' choices:

1. Information of others' choices: for the experiment, participants are informed that a majority is expected to make demands or less than a majority is expected to do so. The control is no mention of what others are expected to do.
2. Information of rewards from demand: participants are informed of potential rewards following successful coordination for collective action. These are varied so that participants are told there may be rewards for demanding government action and recourse; the control is no mention of rewards.
3. Information of penalties from demand: participants are informed of potential penalties following failed coordination for collective action. These are varied so that participants may be penalized for demanding government action and recourse; the control is no mention of penalties.
4. Costs of play: the costs for joining collective action to demand government action and recourse. The control is no mention of costs, with the treatment being some costs.
5. Original payoffs following corrupt action: participants' payoffs are varied so that their payoffs are affected—increased or decreased—from the corrupt act. The control is no effect on payoffs.

It may be useful to note here that while the first four treatments tie specifically to the strategic interaction aspect of the stag-hunt set-up, treatment (1) distinctly captures the strategic interaction element of the stag-hunt. Treatment (1) underlines the relevance of information of other participants' choices that may influence the individual's own choice. In particular, the treatment captures coordination possibilities in two ways: first, by the stag-hunt game, information of other participants' choices is helpful to an individual who prefers to coordinate for achieving the payoff-dominant outcome: in particular, individuals who prefer higher payoffs "learn" to find each other "quickly" to successfully achieve the payoff-dominant equilibrium (Skyrms 2008, 25). Second, it also captures possible coordination via a threshold model, which contends that an individual facing a binary decision may adopt a threshold for the decision, so that s/he acts when the number or proportion of others who do so exceed the stipulated threshold but not otherwise (Granovetter 1978).<sup>2</sup> Relatedly, treatments (2) and (3) separately assess stag-hunt considerations of personal risk versus mutual benefit. Treatment (4) stipulates a small cost for pursuing collective action that corresponds to the participant giving up on catching the hare in order to join in the stag-hunt. Finally, the addition of treatment (5) captures the effect of payoffs on choice to pursue collective action. Participant's choices may be related to the payoffs as a result of government corruption, specifically whether they benefited, did not benefit, or lost from the corrupt action. Conventional understanding suggests that those who benefit from the corrupt action are less likely to demand government accountability; at the same time, some studies suggest that even those who lose are not likely to pursue government accountability because it is difficult for these groups to turn the tables (Weingast 1997; McMillan and Zoido 2004; Tucker 2007).



In sum, the standard stag-hunt model has two equilibria, so that while coordination on the payoff-dominant equilibrium is possible, coordination failure is also common. In this study, we augment the stag-hunt game with Granovetter's threshold model to clarify the effect of strategic considerations of others' choices on the individual's choice. We also extricate the strategic choice from individual choice with additional parameters of costs and rewards/penalties that spring from the stag-hunt trade-off between personal risk and mutual benefit.

What do we expect to find? Using the stag-hunt and Granovetter's threshold model to undergird and instruct the set-up, we expect the following: so long as participants expect others to choose to pursue collective action and there is mutual benefit, then notwithstanding initial low costs or final penalties, participants choose to pursue collective action towards achievement of the mutual benefit based on clear rewards. Accordingly, we develop the following hypotheses for evaluation, adding hypothesis 3 to assess the effects of payoffs from the corrupt act on participants' choice to pursue collective action:

Hypothesis 1: Participants choose collective action when informed that other participants are expected to choose collective action

Hypothesis 2: Given expectation that others choose collective action, participants are motivated by clear rewards and not deterred by initial costs of play or potential final penalties from failure to coordinate.

Hypothesis 3: Participants who benefit from corrupt action are less likely to choose collective action than those who did not benefit from government corruption.

Next, we describe the experiment and procedures.

#### EXPERIMENT DESIGN AND PROCEDURES

The experiment is designed to elicit participants' responses to government corruption, specifically to learn whether they coordinate successfully to collectively demand government action and recourse for corruption. Our working definition of government corruption refers to the failure of government to exercise impartiality of authority (Andersson and Heywood 2009, 748–751; Rothstein and Teorell 2008; Kurer 2005). To depict this conception of government corruption, we show a video portraying a government official tasked with distributing vouchers across six groups, who proceeds to violate the principle of distributional impartiality that should typify the officiating of public policy (Rothstein and Teorell 2008; Kurer 2005). Participants are randomly assigned to one of the six groups receiving vouchers, and watch the video to find out their allocation. A post-test questionnaire includes—among socio-demographic questions—queries regarding whether the participant accepts the voucher-distribution, or if s/he challenges the distribution by requesting a review. Reviews may cost the participant, and whether the review goes ahead depends on other participants' response. If the review proceeds, participants may be rewarded with additional vouchers; if the review fails to proceed, participants may lose some of the vouchers received. The participant's choice to challenge the distribution, then, mirrors citizens' demand for government action and recourse, which occurs when citizens rally to demand government monitoring and enforcing sanctions on its officials or agencies for contravening rules or policies. This basic design to evaluate participants' choice in the post-test questionnaire is enhanced with an open-ended question of why the participant chose or did not choose to demand a review, that may round up



either (a) the operationalization of government corruption as the failure of distributional impartiality; or (b) the cost/rewards/penalties of participation. In the following, we detail the experimental design and the treatments to clarify their relation to the stag-hunt.

To evince true, sincere responses, we assign “value” to the vouchers that are tied to salient, real-world situations, i.e., vouchers are “as-if” redeemable for real-world policy responses (Camerer and Hogarth 1999; Morton and Williams 2010). For the US and Australia, the real-world situation captured is tertiary subsidy caps, where the vouchers “capture” a test-program to delay the imposition of a new policy—per public demands—that caps education subsidies for tertiary students.<sup>3</sup> The vouchers each capture a time-delay of three months; thus, receiving one voucher translates into three-month delay before the education-subsidy caps apply to the participant; two vouchers translate into a six-month delay, and so on. In Singapore, the vouchers may be “used” towards internship interviews on a Career Day Fair held by multinational corporations (MNCs) and international agencies such as Google, Apple, and the Asian Development Bank at the university; this ties to the competitive employment market that university graduates in Singapore face as a result of the government’s foreign talent policy.<sup>4</sup> In this instance, one voucher means that a participant may choose to use the voucher towards one interview at an MNC or international agency, two means two interviews at selected MNCs or international agencies, and so on. The vouchers are not real, nor redeemable for payment. Nevertheless, participants’ responses to the open-ended question—why did the participant demand government review of the official’s conduct—revealed that participants valued the vouchers. Specifically, among participants’ reasons for not demanding review, their open-ended answers fell largely into one of two responses: fear of losing more vouchers if the review failed to proceed, or not demanding review because they did not suffer a loss. These reasons constituted more than 70 percent of those who chose not to demand review, to add confidence that valuation of the vouchers motivated participants’ responses.<sup>5</sup>

The treatment of cost of participation (treatment 1) is administered as follows: participants are advised that they may complete the questionnaire distributed at the outset where—among other socioeconomic questions—they indicate if they accept the voucher distribution or challenge it. To challenge the distribution, participants need to submit a demand for government review, and there may be costs to requesting the review. That cost is specified as one voucher for some participants; for others (the control), there is no cost specified.

The treatments of rewards/penalties (treatment 2) and information of others’ choices (treatment 3) are captured as follows: participants are advised that whether the review proceeds depends on whether other participants also demand a review. If the review proceeds, the government will enforce sanctions against any official misconduct ascertained and participants may be compensated for challenging the distribution; if the review fails to proceed, participants may be penalized for challenging the distribution. Participants in the reward/penalty treatment are treated as follows: some are advised that the rewards are three vouchers, those in the control groups are not told specifically what the rewards/penalties are, while those in the penalty group are advised that they will lose three vouchers for challenging the distribution through their demand for review.

The treatment of payoffs from the corrupt act (treatment 4) is captured through the distribution of vouchers across six groups, to which participants are assigned. Participants

are told that vouchers are distributed evenly until there are not enough vouchers to be so distributed, whereupon a lottery is used to distribute the remaining. The inclusion of a lottery component to the voucher distribution evaluates how participants who receive legitimate bonus payoffs respond to government corruption: by choosing collective action or otherwise. The vouchers are then distributed unevenly, so that on conclusion of the distribution, groups 2 and 4 have payoffs reduced from corrupt act (three vouchers each); groups 1 and 5 are the control group whose payoffs are unaffected by the corrupt act (four vouchers each); group 3 has one more due to a legitimate lottery (five vouchers); while group 6 has seven vouchers.

The experiment lasts no more than 15 minutes and proceeds as follows. Participants are placed in a lecture room, given an information sheet and a post-test questionnaire at the beginning of the session, and read the following statement: participants will watch a video showing a video of an individual portraying a government official distributing vouchers across six groups that are “as-if” redeemable for real-world policy responses. Each participant is randomly assigned to one of these six groups; a number on the top right-hand corner of the questionnaire shows the group to which each participant is assigned. Each participant receives the same number of vouchers as the corresponding group in the video: thus, for instance, participants assigned to group 2 receive the same number of vouchers as Group 2 in the video. The vouchers are to be distributed evenly over the six groups; when there are less than 6 to distribute, the remaining is distributed via a lottery. Participants are advised that they may challenge the distribution, which occurs with a demand to review the official’s conduct, by indicating that demand on the post-test questionnaire. Whether the review is conducted may depend on how many other participants demand a review; this and other important information, including as costs, and rewards-or-penalties associated with requesting a review, are clearly outlined in the post-test questionnaire.

Next, we discuss the results from the experiment.

## RESULTS AND FINDINGS

We are interested in the conditions that lead citizens to engage in collective action and demand government accountability of corruption. What do we expect to find? By the theoretical framework, we expect the individual’s choice is calibrated to expectations of other actors’ choices, so that information that others choose to demand government accountability lead the individual to make a similar demand. If the results support the stag-hunt set-up, then respondents across the different countries are likely to demand government accountability through a review of the government official’s conduct if given information that others choose to participate, so that the mutual benefits of participating (i.e., rewards) are clear. Thus, participants are expected to choose to collective action to demand government accountability, notwithstanding initial costs to participate or potential penalties from the failure to coordinate.

Our first task is to evaluate the experiment design, specifically, whether participants are responding to the experiment per our working definition of government corruption: the failure of government to exercise impartiality of authority. [Table 1](#) tabulates the results of participant’s self-reported reasons for demanding government review, based on an open-question on the survey-questionnaire. The results show that, of those who

**TABLE 1** Distribution of Participants' Reasons for Demanding versus Not Demanding Review (self-reported)

	Australia	Singapore	United States
Reasons for not demanding review			
Risk losing more	23	17	29
No loss, so not demanding	29	24	39
Frequency	52/71	41/43	68/81
(proportion of total not submit)	(73.2%)	(95.3%)	(84.0%)
Reasons for demanding review			
Unfair, need review	50	46	65
Group 6 got more, need review	26	10	19
Frequency	76/116	56/61	84/119
(proportion of total submit)	(65.5%)	(91.8%)	(70.6%)

do not demand review, a majority across the three countries based that choice on their lack of loss from the corrupt action. Among those who choose to demand review, the overwhelming reasons are the unfairness of the distribution or the pointed reference to Group 6, which received vouchers that designated for other groups. These results corroborate that the experiment design meets the task of evaluating participants' response to government corruption, defined as failure of impartiality of authority.

Table 2 reports the numeric outcomes from the experiments for the three countries. In total, there are 54 treatment groups in each country, comprising the following: costs (control, some costs), rewards/penalties (control, reward, penalty), payoffs from corrupt action (loss, no loss, gain), and information about other participants' choice (control, less than 50%, about 50%). Not surprisingly, given the number of treatment groups, not all the treatments show statistically significant difference in proportions, underscored by the results in Table 2. On the positive side, the consistency of the findings across the countries—as evident from the proportions test across countries—means that the data may be pooled for further analysis.

What do the numbers mean? Across the three countries, the results show participants generally chose to demand government accountability through a review of the official's conduct in the distribution of vouchers, with more than a majority among groups that lose (2 and 4) but also those who do not gain (1 and 5). The results are strong for Australia and Singapore, with more than 60 percent from those groups demanding that government review the official's conduct; in the US, more than 60 percent of the groups that lose (2 and 4) demand review, but that falls to more than 50 percent for the other groups. For Australia, among those who gain, the proportions fall by about 20 percent, and this includes group 3—which got an additional voucher through lottery—as well as group 6, the group that received several additional vouchers through the uneven distribution. In Singapore, a minority of those in group 6 demand review, while the other group that gained—group 3, which got the additional lottery voucher—made robust demands for government review (62.5 percent). In the case of the US, those who did not lose as well as those who gained were more likely—55 percent and above—to demand review.

It is also useful to note that there are differences within countries that lead participants to demand review. In Australia, those who gain (3 and 6) are statistically different from

TABLE 2 Participants' Choices by Group Number and Payoffs

Group No (Number of vouchers)	Australia		Singapore		United States	
	Demand review	Not demand review	Demand review	Not demand review	Demand review	Not demand review
Group 1 (4 vouchers)	25	9	9	8	15	13
Group 2 (3 vouchers)	18	9	14	6	20	8
Group 3 (5 vouchers)	13	14	10	6	22	15
Group 4 (3 vouchers)	25	8	10	5	20	12
Group 5 (4 vouchers)	19	11	12	6	21	16
Group 6 (7 vouchers)	16	20	6	12	21	17
Subtotal	116	71	61	43	119	81
Total		187		104		200
Proportion review (2 & 4, lose)		71.7 %		68.6 %		66.7 %
Proportion review (1 & 5, no loss)		68.8 %		60.0 %		55.4 %
Proportion review (3, no loss)		48.2%		62.5 %		59.5 %
Proportion review (6, gain)		44.4 %		33.3 %		55.3 %
Proportions test		Australia–Singapore		Singapore–US		US–Australia
Those who lose, 2 & 4 (probability)		0.32 (0.75)		−0.19 (0.85)		−0.59 (0.56)
Those who do not lose, 1 & 5 (probability)		−0.87 (0.81)		0.44 (0.33)		−1.57 (0.12)
Those who gain, 3 (probability)		−0.90 (0.37)		0.89 (0.38)		0.89 (0.38)
Those who gain, 6 (probability)		0.77 (0.44)		1.54 (0.13)		0.92 (0.36)

**TABLE 3 Pooled Logit Regression of Demand for Review (fixed effects)**

Dependent Variable:	Coefficient (standard errors)
Demand government review of voucher distribution (demand = 1; not demand = 0)	
Payoff reduced from corruption (1 = reduced; 0 = all else)	0.55** (0.25)
Payoff increased from corruption (1 = increased; 0 = all else)	-0.84*** (0.27)
Told 50% of other participants expected to demand (1 = told 50% will demand review; 0 = all else)	0.70*** (0.26)
Not told if other participants make demand (1 = no mention of other participants' choices; 0 = all else)	0.15 (0.35)
Cost (1 = low costs; 0 = no mention)	-0.04 (0.44)
Rewards (1 = rewards; 0 = all else)	0.76** (0.32)
Penalty (1 = penalty; 0 = all else)	0.14 (0.27)
Gender (Female = 1; 0 = all else)	-0.29 (0.22)
Age (Categories)	-0.08 (0.13)
Marital status (Categories)	0.07 (0.27)
Years in School (Categories)	0.11 (0.13)
Income (Categories)	0.01 (0.05)
Satisfied with the government? (Scale, 1 = highly dissatisfied; 5 = highly satisfied)	-0.19* (0.11)
LR Chi2 (probability)	54.30*** (0.001)
N	427

\* $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

those who lose (2 and 4) as well as those who do not gain (1 and 5). In Singapore, only those who gain from the corrupt government action (6) is statistically different from the others; thus, for Singapore, those who gain legitimately (3) are still more likely to demand that government review the official's conduct and impose sanctions where relevant. In the US, the consistent majority demanding review means that the groups are not statistically different from one another; this includes those who gain from the corrupt action (6). Still, across all groups and all countries, the numbers demanding review are not small—the smallest, in Singapore, is 33.3 percent, which is one-third of the participants in the group. These high numbers may speak to the fact that—notwithstanding variances—these are countries that rank among the top 20 of more than 170 countries tracked by TI to be perceived as successfully combating corruption.

On the other hand, difference in proportions tests reports that the results from the three countries are not statistically different from each other. Thus, for instance, the proportion

demanding review from those in group 6 in Singapore (33.3 percent) is not statistically different than that of group 6 in the US (55.3 percent). This provides for pooling of the data across the three countries for more robust results.

Table 3 reports the results of pooled logit test with fixed effects to evaluate the effects of the four treatments, with controls for characteristics such as gender, income, marital status, age, and satisfaction with the government that were adopted for the survey-experiment. In general, the results support the hypotheses on successful coordination based on the stag-hunt game supplemented by the threshold model. Specifically, they show participants responded positively to information that other participants are expected to demand review, so that expectation that other participants are likely to demand review leads a participant to also choose to make the demand. Relatedly, rewards motivate participants to choose to demand review. Also, based on the model, costs are not statistically relevant in explaining participants' choice; further, penalties show no significant statistical effect on participants' choice. Importantly, those who lose from corrupt action are more likely to demand review, while gains from corrupt action are negatively related to participants' choice to demand review. Of the control variables, the variable measuring satisfaction with the government (5-point scale, with 1 capturing highly dissatisfied and highly satisfied) is statistically significant and is inversely related to participants' choice to demand review. These results underscore that citizens' collective action is robust across several contexts

To summarize, the results of the experimental analyses report that consistently high numbers of respondents demand government accountability of corruption. Within countries, those who gain are generally different from those who lose as well as those who do not gain. Across countries, several conditions influence participants' choice to pursue collective action to demand for government accountability, particularly low costs, rewards, being informed that other participants demand review, and losing from corrupt action. These results underline that participants are willing to pursue costly collective action to demand government accountability for corruption, that is, corruption galvanizes participants to pursue collective action.

## CONCLUSION

Citizens' collective action against government corruption captures a "political will" to demand government action and recourse for its failings that may undergird efforts to tackle corruption (Grey and Kaufmann 1998, 9). Such collective action is not easily discounted—the concerted action surmounts free-rider problems that weaken the credibility of citizens' demands—so that citizens' collective behavior is a potent threat to government tenure. Given the significance, it is surprising that the study of corruption has overlooked citizens' pursuit of collective action against corruption.

In this article, we provide a theoretical framework comprising the stag-hunt game supplemented by the threshold model to show that such coordination is achievable; further, using experimental study, we clarify conditions under which citizens act in concert to demand government accountability of corruption across three countries: Australia, Singapore, and the United States. The countries provide for interesting comparisons, particularly because of the contrasts between Singapore on the one hand, and US and Australia on the other. If the results differ, they inform future work on the need to contextualize

citizens' pursuit of collective action based on country characteristics, such as individualism–collectivism orientation, government transparency or consistency versus social-conformity, the relevance of gift-giving norms, and the relevance of political-activism or mobilization versus public order. However, if they are consistent, they suggest that citizens' collective action is robust across several contexts.

The results from the experimental analyses show a high number of participants demand government accountability of corruption. They also reveal that several conditions motivate participants to pursue collective action, including clear rewards, and losses or no-gains from the corrupt action. But perhaps most importantly, information that other participants demand government accountability is statistically significant in motivating individuals to also do so. The effect of information corroborates conditions under the stag-hunt as well as the threshold models for collective action.

Outside of a theoretical framework, these results signify that collective action against government corruption is achievable, and that several conditions—including information about others' actions, rewards but not penalties, low initial costs, and whether the participant benefitted versus did not benefit from corrupt action—influence citizens' choice to pursue collective action. Within the theoretical framework of the stag-hunt and the threshold models, the results highlight the central role of information regarding other participants' choice to pursue collective action that led individuals to choose similarly, as well as the related condition—mutual benefits (rewards)—that motivate participants to choose to pursue collective action. Given information and rewards, initial cost outlay and final possible penalties are unlikely to bear on participants' choices. The experiment results bear these out. These results highlight the way information – in particular, improving and enhancing information – can undergird successful collective action.

This article addresses the neglect in the literature on corruption regarding citizens' role, so that citizens may be treated as an important complement to anti-corruption efforts that also facilitates empirical evaluation and theory-building. Further, the consistent findings across contrasting countries—that information regarding other participants' choice to pursue collective action is key, as are mutual benefits for collective action—fill a huge gap in policy understanding with implications for domestic and international policymaking, policy reforms, and political and social stability. Future work may extend across more countries, or focus on elaborating the differences between gainers, losers, and those who do not gain, including the propensity for those who gain legitimately to pursue collective action. In all these cases, the findings promise to elucidate not only how citizens' demands may be harnessed to complement existing efforts to control corruption, but also inform the process of institution-building and -strengthening in democratizing countries.

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## NOTES

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1. We thank the anonymous reviewers for pointing out the need to emphasize the comparative study, particularly pitching the US and Australia on the one hand and Singapore on the other. Further, we thank one of the anonymous reviewers for the specific suggestions of differences to emphasize.

2. We thank an anonymous referee for the suggestion to include Granovetter's threshold model to help predict the collective action outcome.

3. Specifically, the governments of the state of Kansas and Australia have, respectively, cut aid and subsidies to higher education, or reviewed existing policies with a view towards such cuts. Thus, in Kansas, US, the Republican-dominated legislature, under the leadership of Republican Governor Sam Brownback, has made significant cuts to education across public- and tertiary-levels, eliciting a constitutional challenge on public education funding. See, for instance, Scott Rothschild, 'Higher Education Funding Still at Pre-recession Levels: Kansas One of Few States Last year to Keep Cutting' *LJWorld.com*. [www2.ljworld.com/news/2014/may/01/higher-education-funding-still-pre-recession-level/](http://www2.ljworld.com/news/2014/may/01/higher-education-funding-still-pre-recession-level/) (accessed May 11, 2014) and David Sciarra and Wade Henderson, 'What's the Matter with Kansas' Schools, *New York Times*, Jan. 7, 2014, [www.nytimes.com/2014/01/08/opinion/whats-the-matter-with-kansas-schools.html](http://www.nytimes.com/2014/01/08/opinion/whats-the-matter-with-kansas-schools.html) (accessed May 11, 2014). In Australia, the Liberal Coalition government put to review government subsidies to higher education following their victory at the polls in September 2013, prompting speculation and restiveness regarding higher education policy. See, for instance, 'Policy Directions in Higher Education', *The Scan*, December 15, 2013, <http://the-scan.com/2013/12/15/policy-directions-in-higher-education/> (accessed May 11, 2014) and 'University Funding Review Recommends Students Could Pay Extra Fee to Help Provide More Places', ABC News, [www.abc.net.au/news/2014-04-14/university-students-to-pay-extra-fee-after-government-review/5387182](http://www.abc.net.au/news/2014-04-14/university-students-to-pay-extra-fee-after-government-review/5387182) (accessed May 11, 2014).

4. The Singapore government's encouraging migration policy for foreign workers to take up residence and citizenship in the country has led to a highly competitive employment market that is an underlying source of some political and social tensions in the country. See, for instance, Shamim Adam, "Singapore Companies Brace for Labor Curbs After Protest: Economy," *Bloomberg News*, February 21, 2013, [www.bloomberg.com/news/articles/2013-02-21/singapore-companies-brace-for-labor-curbs-after-protest-economy](http://www.bloomberg.com/news/articles/2013-02-21/singapore-companies-brace-for-labor-curbs-after-protest-economy) (accessed January 25, 2017) and "Singapore to tighten rules on hiring of foreigners," *Fox News World*, September 23, 2013, [www.foxnews.com/world/2013/09/23/singapore-to-tighten-rules-on-hiring-foreigners.html](http://www.foxnews.com/world/2013/09/23/singapore-to-tighten-rules-on-hiring-foreigners.html) (accessed January 25, 2017).

5. It may be useful to note that studies continue to debate the utility of financial incentives in experiments, particularly where "house-money," which refers to prior gains or losses, is available. Specifically, studies suggest that prior gains or losses in house-money may confound behaviors. The experiment in this study has potential "house-money" effects. See, Camerer and Hogarth 1999, Ackert et al. 2006, Schwartz 2015.

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