

# When Do Citizens Grease the Wheel? The Demand Side of Bribery\*

Aaron Erlich<sup>1</sup>, Jordan Gans-Morse<sup>2</sup>, and Simeon Nichter<sup>3</sup>

<sup>1</sup>*McGill University.*

<sup>2</sup>*Northwestern University*

<sup>3</sup>*University of California, San Diego*

*aaron.erlich@mcgill.ca*

*jordan.gans-morse@northwestern.edu*

*nichter@ucsd.edu*

May 4, 2021

## Abstract

In many countries, corruption persists not only because public officials expect bribes but also because a large percentage of citizens are willing to pay them. Little is known, however, about the factors that affect citizens' willingness to engage in bribe transactions. We develop a simple microeconomic framework to examine this issue and then test the emerging hypotheses by conducting a conjoint experiment in the high-corruption context of Ukraine. We find that citizens' propensity to bribe is particularly sensitive to the expected size of bribe payments, competition among providers of government services, the urgency of citizens' need for a service, and the extent to which public officials have the capacity to guarantee delivery of a service in exchange for bribes.

---

\*

–Paper Presented at the 2021 ASN World Convention, 5-8 May 2021  
–Do No Cite Without the Permission of the Author(s).

In many countries throughout the world, corruption is systemic to an extent that it does not represent merely a deviance from social norms. Rather, corruption is the backbone of a mode of social organization characterized by the particularistic distribution of public goods (Mungiu-Pippidi, 2006). Yet, while scholarship on corruption and anti-corruption efforts focuses predominantly on how to constrain corrupt public officials (see Gans-Morse et al. 2018 for a review), this newly emerging perspective makes clear that everyday citizens play a critical role in sustaining corruption. For example, Prasad et al. (2019) find that in many societies everyday people engage in corruption because they do not believe other means of obtaining government services exist; moreover, they perceive blurry boundary lines between what constitutes bribery and other types of informal exchanges such as gift giving, or they feel compelled to abide by moral frameworks that emphasize kinship and ethnicity rather than legality and formal rules.

Given the complex role corruption plays in many societies, mitigating its economic, political, and social consequences requires insights into the factors contributing to citizens' willingness to engage in bribery or, conversely, to abstain from corrupt transactions.<sup>1</sup> To examine these factors, this paper develops a framework for analyzing citizens' demand for corruptly provided services and then evaluates the resulting pre-registered hypotheses via a conjoint experiment conducted in Ukraine, a country where corruption is widespread.<sup>2</sup> The framework focuses on four sets of factors pertaining to the institutional context in which bribe transactions occur: (1) the expected *bribe size*; (2) *related services*, including substitutes for and complements to services requiring bribe transactions; (3) exposure to *penalties* for engaging in corruption; and (4) *transaction costs* inherent in the giving and taking of illicit payments.

While our framework draws on a robust scholarly and policy literature on how to re-

---

<sup>1</sup>Abundant evidence demonstrates the harms of corruption, including decreased levels of investment, declining trust in government, and public safety hazards such as construction projects that do not abide by regulatory codes (see, e.g., Svensson 2005, pp. 36–39; Olken and Pande 2012, pp. 491–495; Fisman and Golden 2017, ch. 4).

<sup>2</sup>All hypotheses were pre-registered with the Open Science Framework.

duce corruption, the social sensitivity of the topic has limited empirical evaluation of many hypotheses and proposals. Moreover, to the extent researchers have conducted empirical analyses, they have focused overwhelmingly on public officials rather than citizens.<sup>3</sup> We address these empirical challenges by employing a conjoint experiment conducted with a sample of 3005 Ukrainian residents recruited via Facebook. The use of conjoint analysis allows us to examine numerous hypotheses in the context of a single study, consider simultaneously these multiple factors that potentially affect citizens' decision to bribe, and analyze the relative influence of each (Hainmueller et al., 2014). We find that citizens' propensity to bribe is particularly sensitive to the expected size of bribe payments, competition among providers of government services, the urgency of citizens' need for a service, and the extent to which public officials have the capacity to guarantee delivery of a service in exchange for bribes. More broadly, the evidence shows that the factors citizens perceive to affect their willingness to engage in bribery are remarkably similar to the factors scholars and policymakers have focused on in discussions of how to reduce corruption among public officials.

Beyond institutional context, our conjoint experiment also facilitates analysis of secondary hypotheses related to identity. For example, several influential studies have suggested that women may be less prone to engage in corruption than their male counterparts (Dollar et al., 2001; Swamy et al., 2001).<sup>4</sup> However, our conjoint experiment randomizes the gender of both bribegivers and bribetakers and finds that this has no effect on respondents' expectations of the probability that a bribe transaction will take place. Randomizing ethnicity across Ukrainian and Russian names in the conjoint experiment scenarios, we also find no evidence that ethnicity or co-ethnicity affects bribe transactions in the Ukrainian context, contrary to suggestions that kinship or ethnic ties may facilitate corruption by providing

---

<sup>3</sup>Lab experiments, which have produced insightful evidence about citizens' role in corrupt transactions, are a partial exception. The external validity of such studies may, however, be limited. We discuss this literature more fully in Section 1 below.

<sup>4</sup>Though see Debski et al. (2018) for recent work challenging earlier findings on gender and corruption.

the trust needed to overcome credible commitment problems inherent in bribe transactions (Lambsdorff, 2002, p. 233).<sup>5</sup>

The study’s third contribution is to examine multiple approaches to measuring citizens’ participation in bribery. We first focus on the least sensitive approach and analyze respondents’ perspectives on the likeliness of a hypothetical citizens’ willingness to bribe in specific sets of scenarios. We then consider whether respondents answer similarly when asked about their own willingness to bribe in the same sets of scenarios. Next, to assess the external validity of our use of hypothetical vignettes, we separate the sample into subgroups by whether respondents have themselves engaged in bribery over the past year. Overall, 27 percent of the sample had offered a bribe, and a list experiment indicates that our respondents were overwhelmingly truthful in answering this question. We find that respondents with recent real-world bribery experience respond in nearly identical ways to those without such experience.

Our study shares some similarities with recent work that uses survey data to analyze correlations between citizens’ demographic traits and their willingness to give bribes or their attitudes toward corruption (see, e.g., Hunt, 2010; Hunt & Laszlo, 2005; Miller, 2006; Mocan, 2008; Truex, 2011). But while valuable, these studies, based exclusively on observational data, do not examine how specific institutional details shaping interactions between citizens and public officials affect propensity to give bribes — and it is this information that is of critical importance to designing effective anti-corruption measures. Meanwhile, conjoint experiments and survey experiments have been employed recently to examine the factors that influence whether citizens will vote for corrupt politicians (see, e.g., Banerjee et al., 2014; Boas et al., 2019; Eggers et al., 2018; Klačnja et al., 2020; Klačnja & Tucker, 2013; Weitz-Shapiro & Winters, 2017; Winters & Weitz-Shapiro, 2013), a related and important question but one that is fundamentally distinct from our study, which is the first to employ the conjoint analysis approach to examine citizens’ participation in corruption.

---

<sup>5</sup>This finding, however, is similar to studies of voting in Ukraine where ethnicity and language does not appear to affect vote choice (see, e.g., Frye, 2015).

We emphasize that our focus on citizens' willingness to pay petty bribes does not imply that grand corruption is less of a problem, nor do we in any way consider efforts to reduce corruption among public officials unimportant. Rather, our point is that undoing the highly persistent equilibria that underlie systemic corruption requires efforts to better understand the understudied factors that affect citizens' payment of bribes. Our findings point to the factors that could contribute to mitigating the demand for corruptly provided services from the side of everyday citizens.

## 1 Analytical Framework and Hypotheses

To examine the factors that influence citizens' willingness to engage in a bribe transaction, we develop a simple microeconomic analytical framework. In the framework, a citizen optimizes the purchase of two government services,  $x$  and  $y$ . Red tape, represented by  $\gamma > 0$ , makes it timely and costly to obtain a service and thereby reduces its value. Corrupt services require a bribe payment of  $b > 0$ , which leads to expedited service such that  $\gamma = 0$ .

For simplicity, we will assume that citizens only obtain service  $x$  corruptly, and, accordingly, citizens encounter no red tape when purchasing  $x$ . Service  $y$  may or may not be provided corruptly, and whether  $y$  is corruptly provided is determined exogenously. When  $y$  is a non-corrupt service, no bribe is given and so we set  $b = 0$ .

Citizens' utility over the two services  $x$  and  $y$ , which have equal shares, is represented with a standard constant elasticity of substitution utility function:

$$U(x, y) = (x^\rho + (1 - \gamma)y^\rho)^{\frac{1}{\rho}} \quad (1)$$

where  $\rho = \frac{(\sigma-1)}{\sigma}$  and  $\sigma$  is the elasticity of substitution.

The official costs of purchasing services  $x$  and  $y$  are  $p_x$  and  $p_y$ , respectively; bribe payments for each are  $b_x > 0$  and  $b_y \geq 0$ . There are transaction costs specific to the exchange of bribes, discussed in detail below. These costs are represented in the budget constraint below by  $\tau_x$  and  $\tau_y$ . Finally, we incorporate a penalty function  $P(x, y) = P(b_x x + b_y y)$  into the budget

constraint, where the disutility from punishment, such as fines faced by citizens whose corrupt activities are exposed, is increasing in bribe payments for a given service.<sup>6</sup> For income  $M$ , the citizen's optimization problem is therefore:

$$\max_{x,y} U(x,y) \quad \text{s.t.} \quad (p_x + \tau_x b_x)x + (p_y + \tau_y b_y)y + P(b_x x + b_y y) \leq M \quad (2)$$

Solving the optimization problem produces the demand function for service  $x$ :

$$x^* = \frac{M}{(p_x + b_x(\tau_x + P)) \left[ 1 + \left( \frac{p_x + b_x(\tau_x + P)}{p_y + b_y(\tau_y + P)} \right)^{\frac{\rho}{1-\rho}} (1 - \gamma)^{\frac{1}{1-\rho}} \right]} \quad (3)$$

The framework facilitates analysis of four sets of factors: (1) the expected *bribe size*: as  $b_x$  increases,  $x^*$  decreases; (2) *related services*: as  $\tau_y$ ,  $b_y$ , or  $\gamma$  decrease for substitutes to services provide corruptly,  $x^*$  decreases; as  $\tau_y$  or  $b_y$  increase for complements to services provided corruptly,  $x^*$  decreases;<sup>7</sup> (3) exposure to *penalties* when engaging in corruption: as  $P$  increases,  $x^*$  decreases; and (4) the *transaction costs* inherent in the giving and taking of illicit payments: as  $\tau_x$  increases,  $x^*$  decreases.

### 1.1 Bribe Size

The effects of bribe size ( $b_x$ ) on citizens' willingness to engage in a bribe transaction are straightforward. As in textbook microeconomics, for any given price there are some citizens willing to bribe, and as the price rises the quantity of citizens participating in corruption falls. While it would be surprising to find that citizens' readiness to engage in corruption is not sensitive to price, the novelty of the conjoint experiment below is that it allows us to isolate the effects of this price sensitivity from the effects of other factors influencing the willingness to bribe and to consider the magnitude of effects related to price changes relative to the effects of these other factors.

---

<sup>6</sup>We do not distinguish between the size of the penalty and the probability of being caught, so  $P$  can be considered an expected cost that incorporates both considerations.

<sup>7</sup>For  $0 < \rho < 1$ ,  $x$  and  $y$  are substitutes; for  $\rho < 0$ ,  $x$  and  $y$  are complements.

## 1.2 Related Services

As with any market for goods and services, we would expect citizen demand for corruptly provided government services to be sensitive to the accessibility and price for substitutes. Just as demand for coffee declines as the price of tea decreases, leading some tea drinkers to become coffee drinkers, willingness to engage in a bribe transaction should decline as alternatives to such transactions become more appealing. Two obvious alternatives to bribing a given public official are obtaining the service without expediting its delivery through bribery or obtaining the service from a different, potentially non-corrupt official.

Our *competing services hypothesis* proposes that as the number of public officials providing the same service increases, citizens' willingness to engage in a bribe transaction will decline. In the context of the framework above, as similar or identical services become available with a lower bribe cost ( $b_y < b_x$ ) or from fully honest public officials ( $b_y = 0$ ), then the demand for the corruptly provided service  $x$  should decline.<sup>8</sup> The idea that competition among bureaucrats providing the same public services can constrain public officials' extortion of citizens and firms has long been a staple of economic analyses of corruption (Rose-Ackerman 1978, ch. 7-8; Klitgaard 1988, p. 87; Shleifer and Vishny 1993, pp. 606–607; Bliss and Di Tella 1997; Rose-Ackerman and Palifka 2016, pp. 192-197). In theory, competition forces bureaucrats to recognize that citizens can obtain the service elsewhere and bid each other's bribe requests downward, under some sets of circumstances eliminating bribery entirely. Evaluating the effects of bureaucratic competition is, however, challenging, and to date empirical evidence comes primarily from laboratory experiments. Ryvkin and Serra (2018), for example, find that replacing monopolistic service provision with competitive provision in a laboratory corruption game significantly reduces the extortionary bribes requested by subjects in the role of bureaucrats. But in related work, Ryvkin and Serra (2019) also find that these results may be contingent on the costs to citizens of identifying and switching to

---

<sup>8</sup>For the *competing services hypothesis* and *red tape hypothesis*, we assume  $0 < \rho < 1$  such that  $x$  and  $y$  are substitutes; for the *multiple officials hypothesis*, we assume  $\rho < 0$  such that  $x$  and  $y$  are complements.

other service providers, and that with some levels of search costs increased competition can have the adverse effect of increasing bureaucrats' demands for bribes. Whereas these studies focus primarily on the effects of competition on bureaucrats' decision making, our analyses below allow us to evaluate whether citizens consider competition among service providers to be salient to the choice of offering bribes.

Our *red tape hypothesis* proposes that as bureaucratic obstacles to obtaining a service without bribing decrease, citizens' willingness to engage in a bribe transaction will decline. In the context of the analytical framework, waiting longer to obtain a service  $y$  without paying a bribe can be thought of as a substitute to expediting service  $x$  with a bribe. As the wait times resulting from red tape ( $\gamma$ ) when obtaining a non-corruptly provided service decrease, then the demand for the corruptly provided service  $x$  should decline. Theories of corruption frequently emphasize that corrupt public officials create regulations with the explicit aim of encouraging firms or citizens to pay bribes in order to receive expedited services (e.g., Shleifer & Vishny, 1993, p. 601). Cross-national analyses such as Djankov et al. (2002) and Gerring and Thacker (2005) offer support for such theories, finding that countries with lower levels of regulatory burdens on average have lower levels of perceived corruption. At a more micro-level, Hunt (2005) shows that in Peru bribe rates are higher at public agencies with longer wait times. Treisman (2007, p. 237), however, points out that without confirmation of the causal direction of these associations — regulatory burden may be endogenous to corruption, rather than a root cause of corruption — it is difficult to confirm that reducing red tape would curtail corruption. Our analyses below provide the opportunity to directly assess sensitivity to wait times from the perspective of citizens in the context of considering whether to bribe.

In addition to the role of substitutes, our framework facilitates analysis of complements to engaging in a bribe transaction. Just as demand for fuel declines as people buy fewer cars, willingness to engage in a bribe transaction should decline as it becomes more costly or difficult to obtain public services without which the service a citizen is bribing for loses



value. In this vein, our *multiple officials hypothesis* proposes that as the number of public officials required to approve or distribute a public service increases, citizens' willingness to engage in a bribe transaction will decline. In our analytical framework, if  $y$  is a complement rather than a substitute to  $x$ , then an increase in  $\tau_y$  or  $b_y$  should lead to a decline in demand for the corruptly provided service  $x$ . This hypothesis follows classic work on the industrial organization of corruption such as Shleifer and Vishny (1993, 605-606) that examines how bribery can complicate public service provision for complementary goods. Many types of economic activity, for example, require multiple permits. Even if a firm or citizen bribes to acquire one permit, a project cannot proceed without acquiring permission from other officials or agencies. Particularly in bureaucracies where corruption takes place in an uncoordinated, decentralized manner, public officials may "overcharge" to the point that firms are driven out of business or citizens, depending on the nature of the service, simply avoid the activity in question (see also Lambert-Mogiliansky et al. 2007; Rose-Ackerman and Palifka 2016, pp. 191-192). Empirically, Olken and Barron (2009) show in the context of long-haul truckers offering bribes at checkpoints in Indonesia that the prices of bribes set by corrupt officials are, in fact, sensitive to market structure. But ours is the first study to consider whether everyday citizens take into account factors such as the number of officials needed for approval or provision of a service when deciding whether to bribe.

### 1.3 Penalties

The third set of factors we consider are those that affect the penalties a citizen may incur when engaging in corruption. In the context of the analytical framework introduced above, the following three hypotheses are based on the logic that as either the probability of incurring costs, or the size of the costs of penalties resulting from bribing to obtain a service, increase (both of which are represented by a rise in  $P$ ), the demand for the corruptly provided service  $x$  will decline.

Our *detection hypothesis* proposes that as the risk of law enforcement detecting corruption increases, citizens' willingness to engage in bribe transactions will decrease. That a higher

risk of penalties should deter illicit behavior is a straightforward axiom of economic analyses of criminal behavior (Becker, 1968). Laboratory experiments confirm that subjects become less willing to offer bribes in corruption games as the penalties for corruption rise (Abbink et al., 2002), though increasing the probability of corruption being detected in such games has produced mixed results (Banuri & Eckel, 2015; Serra, 2012). Meanwhile, field experiments and natural experiments focused on audits of public officials indicate that illicit activities such as embezzlement decline significantly in response to anti-corruption audits (Avis et al., 2018; Bobonis et al., 2016; Olken, 2007). We here turn attention to the effects of the risk of bribery being detected on the decision faced by citizens, rather than public officials, when considering whether to engage in a bribe transaction. As with the above hypothesis about bribe size, it would be surprising to find that citizens' decision-making process is not sensitive to the risk of punishment, but the novelty of the conjoint analyses is that it again allows us to consider not just whether citizens account for the risks of corrupt activities being exposed, but how influential these considerations are in the overall calculation of bribery while accounting for the numerous other factors that affect such decisions.

Beyond the risks of law enforcement detecting a bribe transaction, a number of more subtle factors can affect citizens' assessments of the probability of getting caught, the expected size of the penalty, or both. As Lambsdorff (2002, pp. 223–225) discusses, initiating a bribe transaction is particularly fraught with risk, given the difficulty of determining whether the other party to the transaction is corruptible. From this perspective, corrupt officials who make little effort to hide spending levels that exceed official salaries may be signalling to prospective bribegivers their receptiveness to corrupt transactions. And, empirically, Hunt and Laszlo (2005) confirm based on survey evidence from Peru that public officials more frequently are first movers in bribe transactions. In line with these considerations, our *first mover hypothesis* proposes that when public officials refrain from angling for bribes, citizens' will perceive the potential bribe transaction to be more risky and, accordingly, willingness to offer bribes will decrease.

Another factor affecting the probability that corrupt activity will be detected concerns citizens' expectations about the behavior of other citizens. As Corbacho et al. (2016) emphasize, corruption often is a "self-fulfilling prophecy" (see also Persson et al. 2013; Fisman and Golden 2017, pp. 4–12). When citizens believe that many of their peers are corrupt, they recognize that it will be tougher for law enforcement to identify and punish one additional transgression. They also realize that public officials are likely to be habituated to taking bribes and therefore the risk of coming across an honest bureaucrat is lower. Empirically, Corbacho et al. (2016) show in a survey experiment with Costa Ricans that providing information indicating that an increasing number of citizens are offering bribes in turn increases respondents' willingness to pay bribes, a finding that has also emerged in laboratory corruption games (Köbis et al., 2015). Building on these earlier works, our *collective action hypothesis* proposes that when citizens do not expect other citizens to give bribes, then demand for corruptly provided services will decrease.

Finally, a critical factor influencing the extent to which penalties may be a deterrent to corrupt behavior is the degree of need for a service. Fisman and Golden (2017, pp. 147–148) cite the example of a citizen arriving to a hospital with a medical emergency and deciding whether or not to pay the bribe requested by the triage nurse. Under such circumstances, the deterrence of prospective penalties presumably would be minimal. In the very different context of truck drivers paying bribes to pass through highway checkpoints in Indonesia, Olken and Barron (2009) show that as drivers get closer to their final destination and have already sunk significant resources into passing through earlier checkpoints, the bribe price requested by officials increases, evidence that public officials are keenly aware how the urgency with which a good or service is needed can influence citizens' propensity to pay. In line with these observations, our *need for service hypothesis* proposes that as the need for a service declines, citizens' willingness to offer bribes will decrease.

## 1.4 Transaction Costs

In addition to the search costs of identifying potentially corruptible partners noted above, bribe transactions suffer from enforcement and credible commitment problems, given that a citizen who has paid a bribe cannot take a public official to court or file a formal complaint should the official fail to provide a service (Lambsdorff, 2002, pp. 226–227). These problems may be particularly prominent in disorganized or fragmented bureaucracies, in which lower-level officials conduct bribe-taking operations without direction from high-level officials and without collusion or coordination among each other (Rose-Ackerman, 1978, pp. 183–186). In the context of the analytical framework introduced above, the final three hypotheses presented in this section pertain to increases in the transaction costs  $\tau_x$ , which should lead demand for a corruptly provide service  $x$  to decline.

Our *bribe enforcement hypothesis* proposes that as the risk of public officials taking bribes and then failing to expedite services increases, citizens’ willingness to engage in bribe transactions will decline. The issue of enforcing bribe transactions overlaps with issues introduced in hypotheses above, as enforcement problems could arise from needing the approval of multiple officials. But more broadly, scholars such as Lambsdorff and Teksoz (2005, p. 149) have suggested that one approach to curtailing corruption should involve reforms that “aggravate the enforcement of corrupt deals,” such as conflict of interest policies that undermine long-term relationships of the type discussed below. Our conjoint analyses facilitates the unpacking of these issues to determine whether citizens’ willingness to bribe is sensitive specifically to bribe enforcement issues, even taking into account related factors such as the need for multiple approvals or the types of relationships between citizens and public officials.

Given the difficulty of using formal institutions to enforce illicit deals, informal mechanisms take on outside importance for bribe transactions. One key mechanism is reputation based on past interactions (Rose-Ackerman 1999, pp. 97-102; Lambsdorff 2002, p. 230). Having not been deceived in past transactions may give citizens considering offering a bribe confidence that credible commitment problems will not arise. A related yet distinct mecha-

nism relies on expectations of future interactions. Ongoing relationships and repeated transactions create disincentives for opportunism, as the loss of long-term profits from multiple future exchanges had the relationship been sustained may outweigh the short-term profits from renegeing on a deal (Rose-Ackerman 1999, pp. 103-104; Lambsdorff 2002, 231). With these mechanisms in mind, our *past interaction hypothesis* proposes that when citizens have not previously sought services from a public official, their willingness to engage in a bribe transaction will decline; our *future interaction hypothesis* proposes that when citizens do not expect to continue seeking services from a public official, their willingness to engage in a bribe transaction will decline. The recognition that embedded social relationships may facilitate bribery underlies longstanding anti-corruption proposals to rotate public officials across locations or functions with the aim of preventing the formation of corrupt networks (Klitgaard 1988, p. 89). Yet with the exception of Abbink’s (2004) laboratory study, which found that in the context of laboratory corruption games staff rotation reduces bribe transactions by nearly half, little empirical evidence about the effectiveness of such policies exists. The conjoint analyses below allow for empirical examination of the role that potentially collusive relationships play in facilitating bribery.

Table 1 provides an overview of our hypotheses, all of which were pre-registered prior to data collection.

## 1.5 Identity

Although our primary analyses focus on the institutional context shaping citizens’ demand for corruptly provided services, our conjoint analysis also affords the opportunity to consider the role of identity in influencing the likeliness of bribe transactions. Since the influential works by Dollar et al. (2001) and Swamy et al. (2001) showing that countries with a higher ratio of female politicians or high-level public officials have lower levels of perceived corruption, debate has ensued over whether increasing women’s role in the public sphere could serve as a viable anti-corruption policy. However, as noted by Swamy et al. (2001), robust policy recommendations depend on a better understanding of why women appear less will-

## Table 1: Overview of Hypotheses

Citizens' willingness to engage in bribe transactions will decline as:

---

### 1. Bribe Size

1. *Bribe size hypothesis*: ... the expected bribe size increases.

### 2. Related Services

- 2.1. *Competing services hypothesis*: ... the number of public officials providing the same service increases.
- 2.2. *Red tape hypothesis*: ... bureaucratic obstacles to obtaining a service without bribing decrease.
- 2.3. *Multiple officials hypothesis*: ... the number of officials required to approve or distribute a public service increases.

### 3. Penalties

- 3.1. *Detection hypothesis*: ... the risk of law enforcement detecting corruption increases.
- 3.2. *First-mover hypothesis*: ... public officials refrain from angling for bribes.
- 3.3. *Collective action hypothesis*: ... expectations that other members of society give bribes decrease.
- 3.4. *Need for service hypothesis*: ... the need for a service decreases.

### 4. Transaction Costs

- 4.1. *Bribe enforceability hypothesis*: ... the risk of public officials taking bribes yet failing to expedite services increases.
  - 4.2. *Past interactions hypothesis*: ... citizens seek services from public officials with whom they have not previously interacted.
  - 4.3. *Future interactions hypothesis*: ... citizens seek services from public officials with whom they do not expect to interact again.
- 

ing to engage in corruption. If due to innate biological or psychological differences across genders, then increasing women's role in the public sphere might curtail corruption. But if apparent gender differences result from distinct social networks and socialization experiences, then women's propensity to engage in corruption may come to resemble that of their male counterparts as they play a greater role in governing. Meanwhile, laboratory experiments have produced mixed results on gender and corruption (Alatas et al., 2009; Frank et al., 2011), while studies such as Debski et al. (2018) have provided evidence that earlier findings regarding the association between gender and corruption may have been spurious, the result

of broader cultural differences across countries that account both for the role of women in society and for national corruption levels. Our conjoint analysis contributes to this literature by assessing whether citizens perceive the gender of potential bribegivers or bribetakers to affect the likeliness of a bribe transaction taking place.

A second potentially influential factor related to identity in many contexts concerns ethnicity. Lambsdorff (2002, p. 233), for example, suggests that kinship or ethnic ties can help build the reputational trust or repeated interactions that are needed to overcome the credible commitment problems discussed above. For similar reasons, extensive evidence suggests that corrupt patronage networks often form along ethnic lines (NEED CITES). In our conjoint analysis we consider whether markers of ethnic identity — Ukrainian or Russian names — affect the likeliness of bribe transactions occurring.

## 2 Research Design

To examine these hypotheses, we employ a conjoint experiment in the high-corruption context of Ukraine. We presented participants with two scenarios, one focused on obtaining a driver’s license and one focused on receiving treatment for a health problem, in which a citizen is confronted with the possibility of paying a bribe to expedite a service. We use a paired conjoint design, in which respondents are shown side-by-side profiles and asked to choose between them, as this design has been shown to perform best with respect to external validity (Hainmueller et al., 2015).

We focus on driver’s licenses and healthcare, both because these are scenarios in which corruption is widespread in Ukraine and because these have been the subject of earlier studies on corruption (e.g. Bertrand et al., 2007; Ryvkin & Serra, 2018).<sup>9</sup> For the driver’s license scenario, we employed the following vignette: “[Citizen Name] is tired of taking public

---

<sup>9</sup>In a 2015 national poll conducted by the Kiev International Institute of Sociology, 66% of Ukrainians considered the State Auto Inspectorate to be “very corrupt,” tied with the judicial system for the most corrupt institution in the country. Healthcare was the fifth most corrupt institutional sphere, rated by 58.0% of respondents as “very corrupt,” just behind the police and prosecutors office. See Kiev International Institute of Sociology, “Corruption in Ukraine: Comparative Analysis of National Surveys,” 2015, p. 33, available online at <http://kiis.com.ua/>.

**Table 2: Attributes for Driver’s License Corruption Scenario**

Hypothesis	Attribute	Values
Bribe Size	Typical bribe size	250 UAH, 500 UAH, 1000 UAH, 2000 UAH, 4000 UAH, 8000 UAH
Competing Services	Are there other nearby driving schools to obtain a license?	No other schools; Yes, 5 other schools; Yes, 10 other schools
Red Tape	Wait time without bribe	1 month, 4 months, 8 months
Multiple Officials	Receiving license requires more than one instructor?	No, Yes
Detection	Probability police will catch bribe payment	1% chance, 10% chance, 20% chance
First-Mover	Instructor hinted at bribe?	No, Yes
Collective Action	Percent of other students giving bribes at this school	0%, 25%, 50%
Need for Service	Commute to work using public transportation	10 minutes, 1 hour, 2 hours
Bribe Enforceability	If pay bribe, is instructor certain to speed up license?	Not certain; Yes, certain
Past Interactions	Have used same instructor in the past?	No, never; Yes, several times already
Future Interactions	Will use same instructor again?	No, never; Yes, several times more

transportation to work and wants a driver’s license. When [he/she] goes to the driving school, the instructor, [Instructor Name], informs [him/her] that there will be a considerable wait time to receive a license. Please read the additional information below about scenario A and scenario B and then indicate in which scenario – A or B – [Citizen Name] would be more likely to pay a bribe in order to receive a license more quickly.” The parallel healthcare vignette reads as follows: “[Citizen Name] has hurt [his/her] leg and needs a doctor. [He/she] goes to a public clinic. The doctor, [Doctor Name], informs [him/her] that there will be a considerable wait in order to receive treatment. Please read the additional information below about Scenario A and Scenario B and then indicate in which scenario – A or B – [Citizen Name] would be more likely to pay a bribe in order to receive treatment more quickly.” Names were randomized both by gender and by Ukrainian versus Russian ethnicity.<sup>10</sup>

<sup>10</sup>We selected from lists of most popular Ukrainian and Russian names and then validated these by asking respondents in a pre-test to rate each name on a scale of 1 to 7, where 1 represents “definitely Ukrainian” and 7 represents “definitely Russian.”



**Table 3: Attributes for Healthcare Corruption Scenario**

Hypothesis	Attribute	Values
Bribe Size	Typical bribe size	250 UAH, 500 UAH, 1000 UAH, 2000 UAH, 4000 UAH, 8000 UAH
Competing Services	Are there other nearby clinics to obtain a treatment?	No other clinics; Yes, 5 other clinics; Yes, 10 other clinics
Red Tape	Wait time without bribe	1 day, 1 month, 4 months
Multiple Officials	Receiving treatment requires more than one doctor?	No, Yes
Detection	Probability police will catch bribe payment	1% chance, 10% chance, 20% chance
First-Mover	Doctor hinted at bribe?	No, Yes
Collective Action	Percent of other students giving bribes at this clinic	0%, 25%, 50%
Need for Service	Seriousness of injury	Can walk; Can walk with crutches; Needs wheelchair
Bribe Enforceability	If pay bribe, is doctor certain to speed up treatment?	Not certain; Yes, certain
Past Interactions	Have used same doctor in the past?	No, never; Yes, several times already
Future Interactions	Will use same doctor again?	No, never; Yes, several times more

Respondents were then presented with 11 attributes operationalizing the hypotheses introduced above. Table 2 and 3 display the randomized attribute values. Figure 1 provides an example of the conjoint tables shown to respondents. Each respondent was shown four pairs of profiles, for a total of eight total profiles per scenario. We randomized the order of attributes in the conjoint tables at the respondent level, as well as the order in which respondents were presented with the driver’s license and healthcare scenarios, in order to mitigate potential order effects.

Our primary outcome variable is a binary question based on respondents’ determination of which of the profiles in the paired sets would be more likely to lead to a bribe transaction. The advantage of this approach is that it forces respondents to make a choice, which can sharpen respondents’ concentration. We additionally consider two other outcome variables. First, for each of the profiles in a pair, respondents were asked: “On a [7-point] scale from ‘definitely no’ to ‘definitely yes,’ how likely would [Citizen Name] be to pay a bribe to the

Figure 1: Screenshot of Conjoint Design

Уявіть, будь ласка, таку ситуацію. **Таїсія Діденко** травмувала ногу. Їй необхідний лікар. Вона прийшла до державної поліклініки. Її прийняв лікар **Тимофій Сердюк**. Він повідомив, що зачекати треба буде досить довго. Будь ласка, прочитайте додаткову інформацію про сценарії А та Б нижче. **Потім вкажіть в якому з цих двох сценаріїв Таїсія Діденко з більшою ймовірністю дасть хабар лікарю за швидший прийом.**

	Сценарій А	Сценарій Б
Час очікування без хабаря	1 місяць	4 місяці
Чи є інші поліклініки для лікування поруч	Так, 5 інших поліклінік	Жодної
Серйозність травми	Може пересуватись	Може пересуватись з милиціями
Відсоток пацієнтів, які дають хабарі у цій поліклініці	50%	5%
Типовий розмір хабаря	250 грн	4000 грн
Чи буде звертатися ще раз до того ж лікаря?	Так, ще кілька разів	Ні, ніколи
Чи необхідний для лікування ще один лікар?	Так	Так
Чи звертався(лась) до того ж лікаря в минулому?	Ні, ніколи	Так, вже кілька разів
Шанс бути спійманим поліцією на хабарі	Шанс 1%	Шанс 20%
Чи натякнув лікар на хабар?	Ні	Ні
Чи точно хабар прискорить лікування?	Ні, не точно	Ні, не точно

Сценарій А    Сценарій Б

В якому з цих двох сценаріїв Таїсія Діденко з більшою ймовірністю дасть хабар?

instructor [doctor] to receive the license [treatment] more quickly?” Second, we posed the question: “Using the same scale, if you were in [Citizen Name’s] position, how likely would you be to pay a bribe to the instructor [doctor] to receive the license [treatment] more quickly?” The former is a standard robustness check employed in conjoint experiments, but for our study it serves an additional purpose by facilitating comparisons to the respondents’ estimates of their own willingness to offer bribes with their estimates of the willingness of hypothetical citizens.<sup>11</sup>

<sup>11</sup>We did not present respondents with a forced choice about which profile would be more likely to incentivize them to give a bribe, as we were concerned that respondents could be put off by a design that did not allow the option of refusing to engage in a bribe transaction.

### 3 Implementation

Ukraine, which ranks 126th of 198 countries on the 2019 Transparency International Corruption Perception Index, is a fitting context for our study. According to the 2016 Transparency International Global Corruption Barometer, the most recent year in which data were collected in Ukraine, 38% of Ukrainians report having paid a bribe in the last 12 months.<sup>12</sup> There are two key advantages to conducting the study in a context with widespread corruption. First, we enhance external validity given that many of our subjects have either direct familiarity with the types of scenarios employed in the conjoint experiment, or indirect information from family members and friends who have encountered bribe requests. Second, the extensiveness of corruption in Ukraine makes the topic far from taboo. Ukrainians openly and regularly discuss corruption, mitigating risks to inference from social desirability bias. As we show below, a list experiment produces nearly the same estimates for bribe giving in our sample as a direct survey question.

Subjects were recruited via Facebook advertisements between August 21 and October 6, 2020. To incentivize participation, we informed prospective respondents they would be entered into a lottery to win an Apple Watch. Per our pre-registered stopping rule, we collected data from 3005 participants. Respondents were given a choice to complete the survey in Ukrainian or Russian; 64% chose Ukrainian. While we make no claims regarding the representativeness of the sample, the sample does include a wide range of demographic groups. 52% of the sample is male. The median age of respondents is 49; the mean, 48. Notably, respondents were not limited to the largest urban areas: 15% are from Kyiv, 33% from a major city other than Kyiv, 33% from smaller cities, and 19% from village or rural area. 85% of respondents self-identify as ethnic Ukrainian.<sup>13</sup>

Respondents who clicked through from Facebook ads were redirected to a survey instru-

---

<sup>12</sup>See [www.transparency.org/cpi](http://www.transparency.org/cpi) and [www.transparency.org/research/gcb/overview](http://www.transparency.org/research/gcb/overview).

<sup>13</sup>Overall, relative to Ukraine as a whole, the sample is slightly older, slightly more male, and composed of a disproportionate ratio of ethnic Ukrainians (NEED CITE).

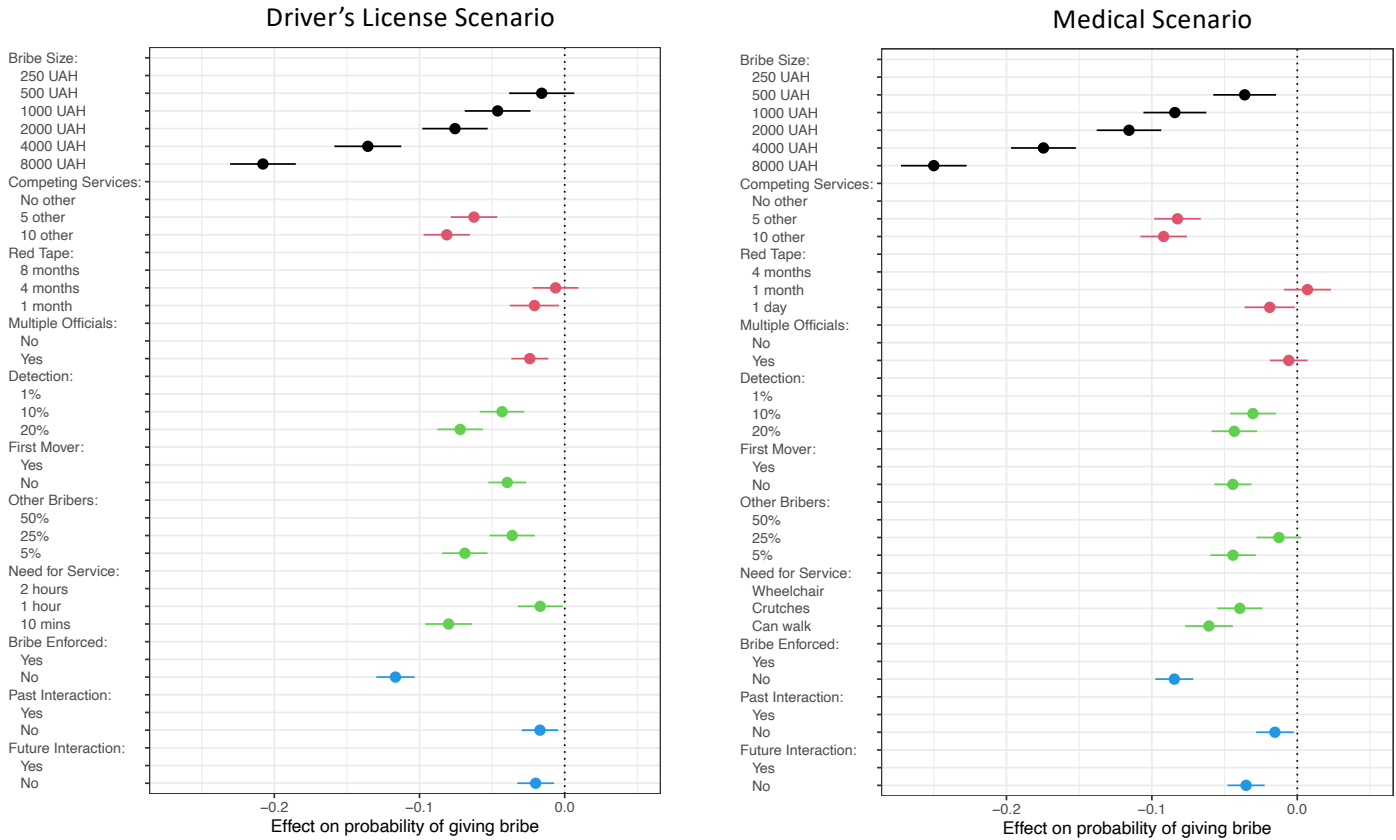
ment on the Qualtrics platform. Median time to complete the survey was 22 minutes. To assess attentiveness, we employed two screeners, one before and one after the conjoint experiment questions. For both screeners, 60% of respondents answered correctly. As we discuss in the section on robustness below, results are nearly identical across more and less attentive subjects.

## 4 Results

Following Hainmueller et al. (2014), we estimate average marginal component effects (AMCEs). These represent the average difference in the probability of offering a bribe when comparing two different attribute values — for example, a bribe size of 250 UAH versus 500 UAH, or probability of detection of 1% versus 10% — where the average is taken over all possible combinations of the other attributes in the corruption scenarios.

Figure 2 presents our primary results, which are based on OLS regressions on sets of indicator variables for each level of each attribute, omitting the reference categories, with standard errors clustered at the respondent level. Circles represent point estimates; lines represent 95% confidence intervals for the AMCE of each attribute value on the probability of giving a bribe. Attribute levels without point estimates serve as reference categories. For example, for the driver’s license scenario, the probability of a bribe being offered is approximately 20 percentage points lower when the expected bribe size is 8000 UAH (more than \$300 USD at the time of the study) than when the bribe size is 250 UAH (less than \$10 USD). With respect to interpretation, results can also be considered with respect to the effects of changes in bribe price. For the driver’s license scenario, the probability of a bribe being given when there are 10 competing driver schools is about 8 percentage points lower than when there is a single monopoly on the service. This is an equivalent effect to the bribe price increasing from 250 UAH to 1000 UAH. For ease of interpretation we color code the categories of each set of hypotheses. Results for the bribe size hypothesis are denoted

**Figure 2: Effects of Institutional Context on Probability of Giving Bribe**



Note: This plot shows estimates of the effects of the randomly assigned institutional attribute values on the probability of a bribe being offered. Estimates are based on OLS regressions with standard errors clustered at the respondent level. See text for additional details. Bars represent 95% confidence intervals. The points without horizontal bars denote the attribute value that is the reference category for each attribute.

in black. Results for the hypotheses concerning related services are in red; for penalties, in green; and for transaction costs, in blue.

Several findings are apparent. First, citizens' willingness to bribe is particularly sensitive to bribe size, the availability of competing services, and the enforceability of bribe transactions. By contrast, there is less support for some frequently proposed anti-corruption policies, such as programs to reduce red tape and bureaucratic obstacles. Second, the results across the two scenarios — obtaining a driver's license and obtaining medical care — are overwhelmingly similar. Third, overall, there is support for the vast majority of hypotheses, indicating that citizens' assessment of the factors affecting willingness to engage in a bribe transaction converges strikingly well with the expectations of theoretical models and

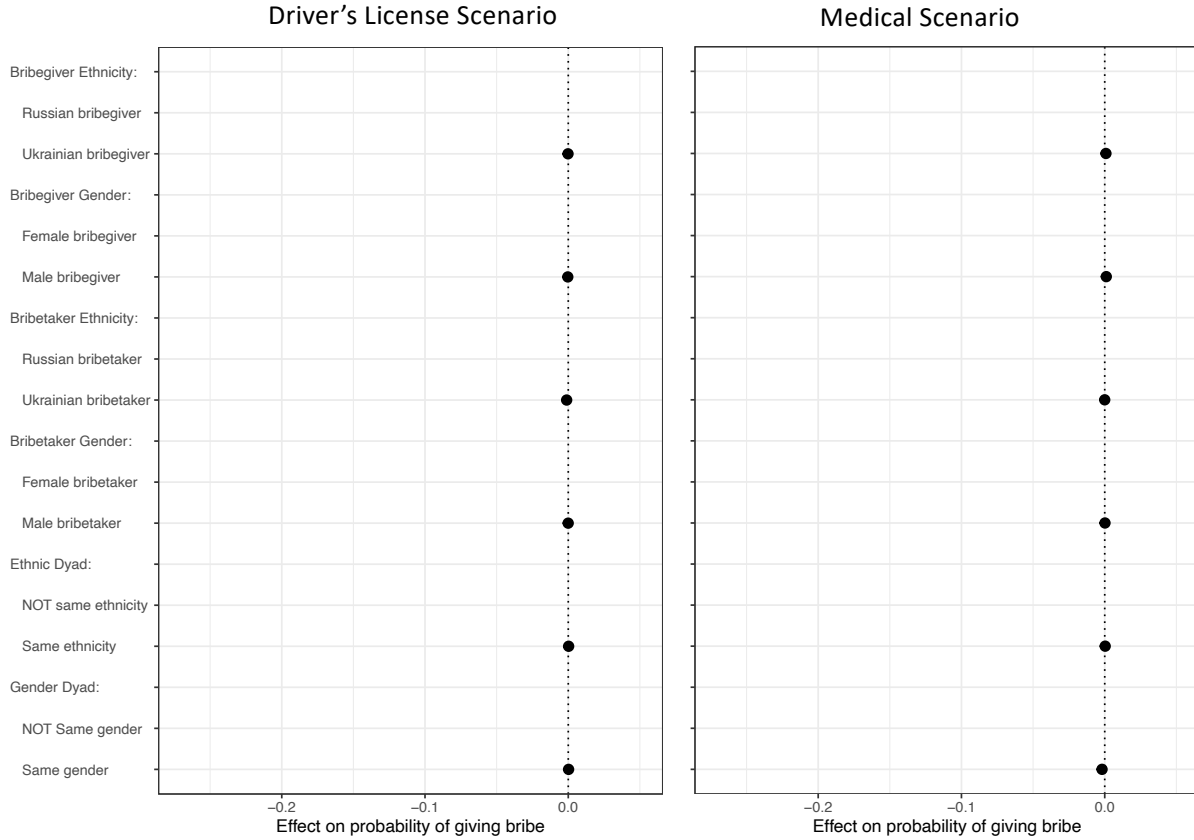
policy literature on corruption, despite the fact that much of this literature is focused more on the incentives facing public officials' bribetaking activities rather than citizens' potential bribegiving activities.

We next consider the effects of gender and ethnicity on willingness to give bribes. Figure 3 shows respondents' assessments of the difference in willingness to engage in bribe transactions for female versus male bribegivers and bribetakers, as well as for ethnic Ukrainian versus ethnic Russian bribegivers and bribetakers. We also consider the possible impact of gender or ethnic dyads (e.g., an ethnically Russian citizen and Russian public official). For all analyses concerning the gender and ethnicity variables, there are no effects. Point estimates are precisely estimated and centered around zero. While the results concerning ethnicity arguably are not surprising in the Ukrainian context, the lack of effect for gender runs counter to existing literature suggesting that women are less likely to engage in corruption. In our sample, this perception is not supported in the Ukrainian context either for women seeking public services or for female officials providing public services.

In the third part of our analysis we focus again on institutional features of the potential bribe transaction scenario, comparing the respondents' assessments of their own willingness to bribe with their assessments of a hypothetical citizens' willingness to bribe. Recall that in addition to the forced choice question, respondents were asked to rate how likely it would be for a bribe to be given for each profile on a 7-point scale, where 1 represents "absolutely no" and 7 represents "absolutely yes." For the driver's license scenario, the mean outcome for the hypothetical citizen was near the midpoint of the scale – 4.59. By contrast, respondents evaluated their own likeliness nearer to the bottom of the scale with a mean rating of 2.77. Results were similar for the healthcare scenario, although overall respondents expressed greater willingness to give bribes to receive medical care. The mean rating concerning the hypothetical citizen was 4.61; for respondents themselves, 3.15.

Figure 4 shows these results for the driver's license scenario. Effects for these analyses can be interpreted as the change on the 7-point scale resulting from a shift in attribute

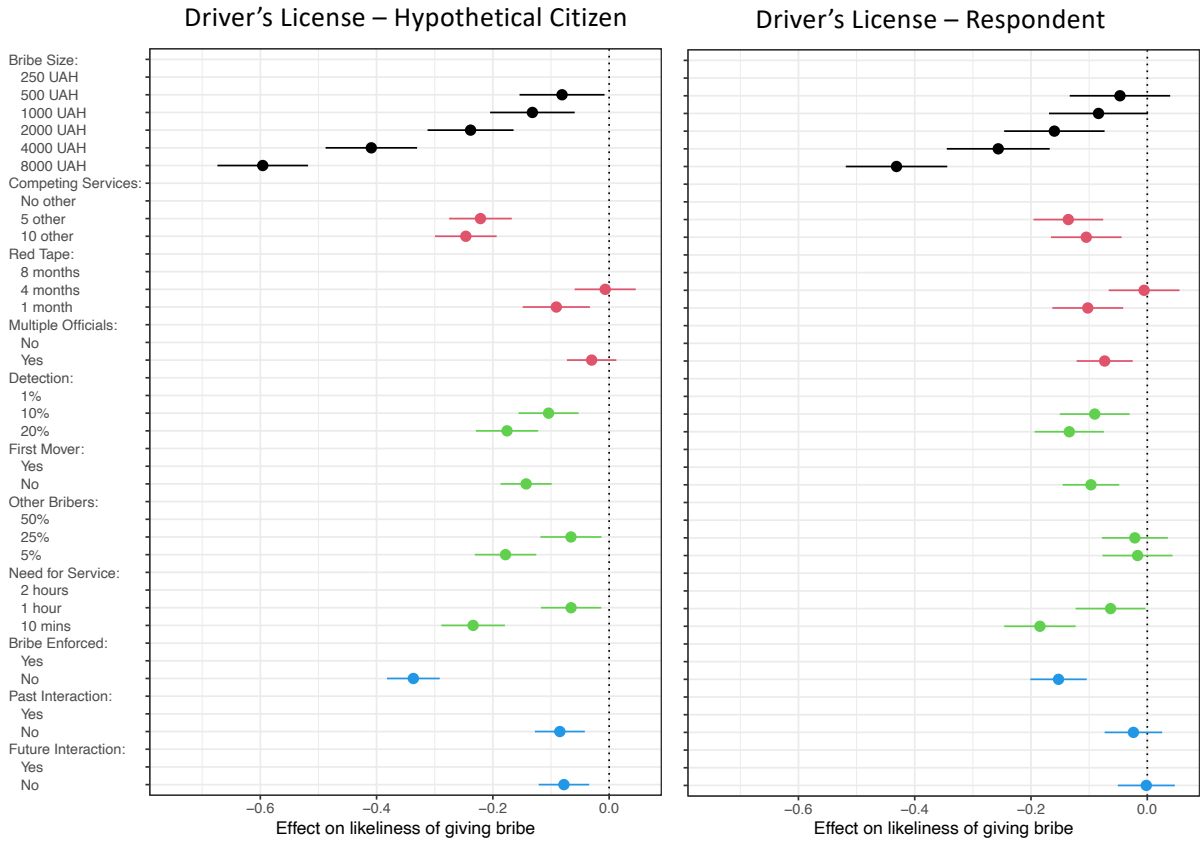
**Figure 3: Effects of Gender and Ethnicity on Probability of Giving Bribe**



Note: This plot shows estimates of the effects of the randomly assigned institutional attribute values on the probability of a bribe being offered. Estimates are based on OLS regressions with standard errors clustered at the respondent level. See text for additional details. Bars represent 95% confidence intervals. The points without horizontal bars denote the attribute value that is the reference category for each attribute.

values. Results in the left panel of Figure 4 are overwhelmingly similar to the results in Figure 2 based on the forced choice question, providing evidence of the robustness of our findings. They are also similar to the findings regarding respondents' assessments of their own willingness, though these are slightly less robust. In particular, results concerning the past and future interaction hypotheses and the collective action hypothesis — the extent to which expectations about others' bribegiving activity affects one's willingness to bribe — are not statistically significant in the right panel of Figure 4. The same observations hold true for the comparison of assessments about the willingness of hypothetical citizens to give bribes and respondents' assessments of their own willingness in the healthcare scenario, as shown in Figure 5.

Figure 4: Comparison of Hypothetical Citizen Versus Respondent

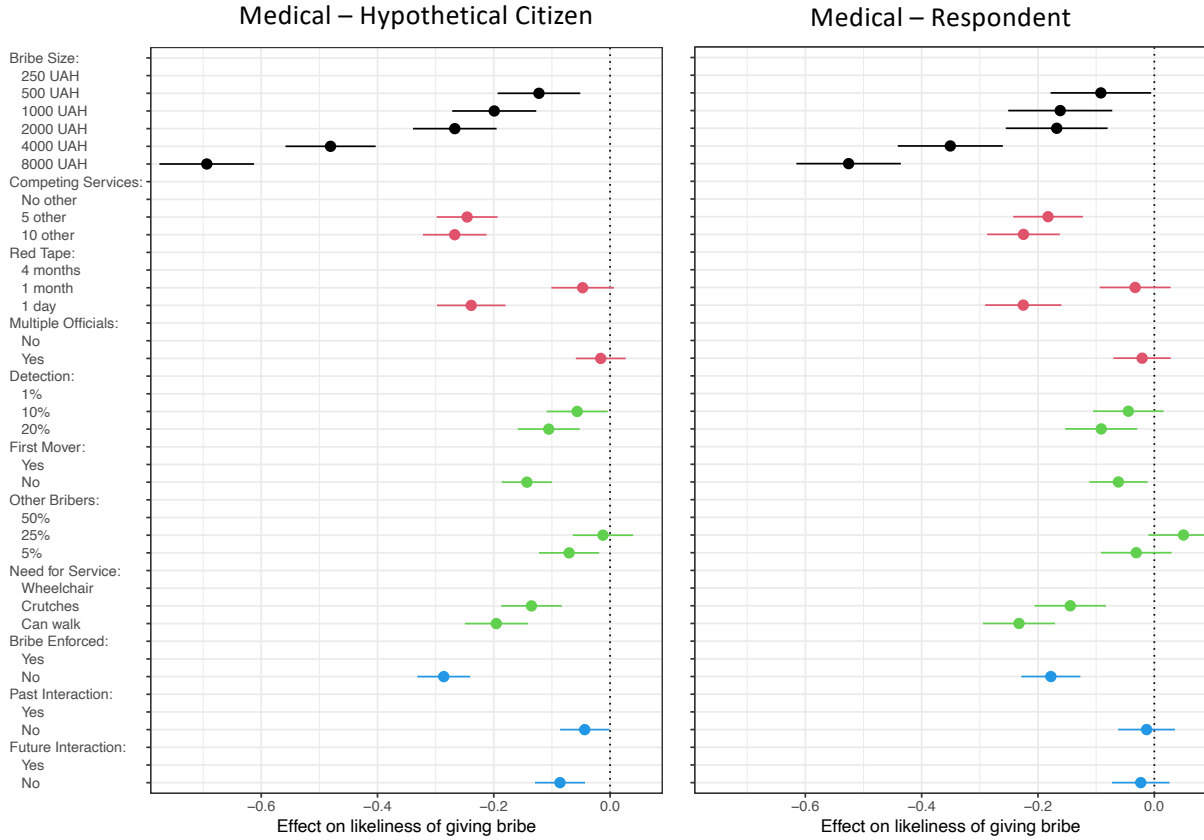


Note: This plot shows estimates of the effects of the randomly assigned institutional attribute values on the likeliness of a bribe being offered on a 1 to 7 scale, where 1 represents “absolutely no” and 7 represents “absolutely yes.” Estimates are based on OLS regressions with standard errors clustered at the respondent level. See text for additional details. Bars represent 95% confidence intervals. The points without horizontal bars denote the attribute value that is the reference category for each attribute.

In the final step of our analysis, we compare the results based on citizens with real-world bribe experience to results for other respondents. Of respondents in the sample who had sought services from public officials in the past 12 months, 26.5% reported having given a bribe. A list experiment produced a *lower* estimate of 17.2% (with a 95% confidence interval of 6.4% to 28.0%), suggesting that social desirability concerns do not inhibit respondents in the Ukrainian context from answering truthfully to corruption-focused questions. Given that individuals with experience giving bribes may offer the most externally valid results, we repeat our above analyses with this sub-sample. With few exceptions, there are not statistically significant differences between the results based on bribers and the results based on non-bribers [figures to be added to future drafts].



Figure 5: Comparison of Hypothetical Citizen Versus Respondent



Note: This plot shows estimates of the effects of the randomly assigned institutional attribute values on the likeliness of a bribe being offered on a 1 to 7 scale, where 1 represents “absolutely no” and 7 represents “absolutely yes.” Estimates are based on OLS regressions with standard errors clustered at the respondent level. See text for additional details. Bars represent 95% confidence intervals. The points without horizontal bars denote the attribute value that is the reference category for each attribute.

## 5 Robustness Checks

[These analyses are preliminary] We show in the online appendix that results are robust when we separately consider attentive and inattentive subjects, as measured by passing the screener questions. We also consider robustness when we exclude subjects who finished the survey abnormally quickly. Finally, we show that results are robust when including respondent fixed effects.

## 6 Discussion

This paper develops an analytical framework to examine citizens’ demand for corruptly provided services. We then employ a conjoint experiment in Ukraine to evaluate hypotheses

related to the expected bribe size, substitutes for and complements to services requiring bribe transactions, penalties for engaging in corruption, and transaction costs resulting from illicit exchanges. We find that citizens' propensity to bribe is particularly sensitive to the expected size of bribe payments, competition among providers of government services, the urgency of citizens' need for a service, and the extent to which public officials have the capacity to guarantee delivery of a service in exchange for bribes. Overall, citizens' evaluations of the factors that affect willingness to engage in bribe transactions fit strikingly well with hypotheses based on theoretical models of corruption or policy prescriptions, despite the fact that these have been more focused on constraining corrupt public officials than on limiting bribe giving by everyday citizens. By contrast, we find no evidence that gender or ethnicity influence citizens' propensity to bribe.

Beyond drawing attention to the citizens' demand side of bribery, the paper also offers insights into different approaches to analyzing corruption by comparing results based on hypothetical citizens and results concerning respondents' assessments of their own willingness to bribe. Broadly speaking, results from both approaches are similar, though estimates for the responses about respondents' own willingness are less precise.

The findings point to the potential importance of policies such as creating competition among providers of public services. Less support emerges for the effectiveness of reducing red tape as an anti-corruption measure. Several caveats, however, are in order. First, we don't offer respondents the option to not seek the service at all. It is possible that some factors that reduce citizens' willingness to bribe — such as the lack of enforcement of bribe agreements — not only reduce bribe transactions but also force citizens or firms to avoid such services entirely. This issue could be a potentially productive line for future research. Second, while understanding how citizens themselves think about the choice to give bribes is unquestionably valuable, in the real world citizens may be unlikely to have the degree of information about the institutional context that is provided in the conjoint experiment.

Additional research incorporating the role of incomplete or uncertain information into the bribe giving decision process would undoubtedly offer important insights.

Corruption persists not only because public officials take bribes, but because citizens and firms give them. Better understanding of this demand side of bribery will be essential if corruption is to be successfully curtailed.

## References

- Abbink, K. (2004). Staff rotation as an anti-corruption policy: An experimental study. *European Journal of Political Economy*, 20(4), 887–906.
- Abbink, K., Irlenbusch, B., & Renner, E. (2002). An experimental bribery game. *Journal of Law, economics, and organization*, 18(2), 428–454.
- Alatas, V., Cameron, L., Chaudhuri, A., Erkal, N., & Gangadharan, L. (2009). Gender, culture, and corruption: Insights from an experimental analysis. *Southern Economic Journal*, 75(3), 663–680.
- Avis, E., Ferraz, C., & Finan, F. (2018). Do government audits reduce corruption? Estimating the impacts of exposing corrupt politicians. *Journal of Political Economy*, 126(5), 1912–1964.
- Banerjee, A., Green, D. P., McManus, J., & Pande, R. (2014). Are poor voters indifferent to whether elected leaders are criminal or corrupt? A vignette experiment in rural India. *Political Communication*, 31(3), 391–407.
- Banuri, S., & Eckel, C. (2015). Cracking down on bribery. *Social Choice and Welfare*, 45(3), 579–600.
- Becker, G. S. (1968). Crime and punishment: An economic approach. 76(2), 169–217.
- Bertrand, M., Djankov, S., Hanna, R., & Mullainathan, S. (2007). Obtaining a driver’s license in India: an experimental approach to studying corruption. *The Quarterly Journal of Economics*, 122(4), 1639–1676.
- Bliss, C., & Di Tella, R. (1997). Does competition kill corruption? *Journal of political economy*, 105(5), 1001–1023.
- Boas, T. C., Hidalgo, F. D., & Melo, M. A. (2019). Norms versus action: Why voters fail to sanction malfeasance in Brazil. *American Journal of Political Science*, 63(2), 385–400.
- Bobonis, G. J., Cámara Fuertes, L. R., & Schwabe, R. (2016). Monitoring corruptible politicians. *American Economic Review*, 106(8), 2371–2405.
- Corbacho, A., Gingerich, D. W., Oliveros, V., & Ruiz-Vega, M. (2016). Corruption as a self-fulfilling prophecy: Evidence from a survey experiment in Costa Rica. *American Journal of Political Science*, 60(4), 1077–1092.
- Debski, J., Jetter, M., Möhle, S., & Stadelmann, D. (2018). Gender and corruption: The neglected role of culture. *European Journal of Political Economy*, 55, 526–537.
- Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2002). The regulation of entry. *The quarterly Journal of economics*, 117(1), 1–37.
- Dollar, D., Fisman, R., & Gatti, R. (2001). Are women really the “fairer” sex? Corruption and women in government. *Journal of Economic Behavior & Organization*, 46(4), 423–429.
- Eggers, A. C., Vivyan, N., & Wagner, M. (2018). Corruption, accountability, and gender: Do female politicians face higher standards in public life? *The Journal of Politics*, 80(1), 321–326.
- Fisman, R., & Golden, M. A. (2017). *Corruption: What everyone needs to know*. Oxford University Press.

- Frank, B., Lambsdorff, J. G., & Boehm, F. (2011). Gender and corruption: Lessons from laboratory corruption experiments. *The European Journal of Development Research*, 23(1), 59–71.
- Frye, T. (2015). What Do Voters in Ukraine Want?: A Survey Experiment on Candidate Ethnicity, Language, and Policy Orientation. *Problems of Post-Communism*, 62(5), 247–257.
- Gans-Morse, J., Borges, M., Makarin, A., Mannah-Blankson, T., Nickow, A., & Zhang, D. (2018). Reducing bureaucratic corruption: Interdisciplinary perspectives on what works. *World Development*, 105, 171–188.
- Gerring, J., & Thacker, S. C. (2005). Do neoliberal policies deter political corruption? *International Organization*, 59(1), 233–254.
- Hainmueller, J., Hangartner, D., & Yamamoto, T. (2015). Validating vignette and conjoint survey experiments against real-world behavior. *Proceedings of the National Academy of Sciences*, 112(8), 2395–2400.
- Hainmueller, J., Hopkins, D. J., & Yamamoto, T. (2014). Causal inference in conjoint analysis: Understanding multidimensional choices via stated preference experiments. *Political analysis*, 22(1), 1–30.
- Hunt, J. (2005). Why are some public officials more corrupt than others?
- Hunt, J. (2010). Bribery in health care in Uganda. *Journal of health economics*, 29(5), 699–707.
- Hunt, J., & Laszlo, S. (2005). Bribery: Who Pays, Who Refuses, What Are the Payoffs? [National Bureau of Economic Research Working Paper 11635].
- Klašnja, M., Lupu, N., & Tucker, J. A. (2020). When do voters sanction corrupt politicians? *Journal of Experimental Political Science*, 1, 11.
- Klašnja, M., & Tucker, J. A. (2013). The economy, corruption, and the vote: Evidence from experiments in Sweden and Moldova. *Electoral Studies*, 32(3), 536–543.
- Klitgaard, R. (1988). *Controlling corruption*. University of California Press.
- Köbis, N. C., Van Prooijen, J.-W., Righetti, F., & Van Lange, P. (2015). “Who doesn’t?” The impact of descriptive norms on corruption. *PloS one*, 10(6), e0131830.
- Lambert-Mogiliansky, A., Majumdar, M., & Radner, R. (2007). Strategic analysis of petty corruption: Entrepreneurs and bureaucrats. *Journal of Development Economics*, 83(2), 351–367.
- Lambsdorff, J. G. (2002). Making corrupt deals: Contracting in the shadow of the law. *Journal of Economic Behavior & Organization*, 48(3), 221–241.
- Lambsdorff, J. G., & Teksoz, S. U. (2005). Corrupt relational contracting. In J. G. Lambsdorff, M. Taube, & M. Schramm (Eds.), *The new institutional economics of corruption* (pp. 138–151). New York, NY: Routledge.
- Miller, W. L. (2006). Corruption and corruptibility. *World Development*, 34(2), 371–380.
- Mocan, N. (2008). What determines corruption? International evidence from microdata. *Economic Inquiry*, 46(4), 493–510.
- Mungiu-Pippidi, A. (2006). Corruption: Diagnosis and treatment. *Journal of democracy*, 17(3), 86–99.
- Olken, B. A. (2007). Monitoring corruption: Evidence from a field experiment in Indonesia. *Journal of political Economy*, 115(2), 200–249.

- Olken, B. A., & Barron, P. (2009). The simple economics of extortion: Evidence from trucking in Aceh. *Journal of Political Economy*, 117(3), 417–452.
- Olken, B. A., & Pande, R. (2012). Corruption in developing countries. *Annual Review of Economics*, 4(1), 479–509.
- Persson, A., Rothstein, B., & Teorell, J. (2013). Why anticorruption reforms fail – systemic corruption as a collective action problem. *Governance*, 26(3), 449–471.
- Prasad, M., da Silva, M. B. M., & Nickow, A. (2019). Approaches to Corruption: A Synthesis of the Scholarship. *Studies in Comparative International Development*, 54(1), 96–132.
- Rose-Ackerman, S. (1978). *Corruption: A Study in Political Economy*. New York, NY: Academic Press.
- Rose-Ackerman, S. (1990). *Corruption and government: Causes, consequences, and reform* (First edition). Cambridge University Press.
- Rose-Ackerman, S., & Palifka, B. J. (2016). *Corruption and government: Causes, consequences, and reform* (Second edition). Cambridge University Press.
- Ryvkin, D., & Serra, D. (2018). Corruption and competition among bureaucrats: An experimental study. *Journal of Economic Behavior & Organization*.
- Ryvkin, D., & Serra, D. (2019). Is more competition always better? an experimental study of extortionary corruption. *Economic Inquiry*, 57(1), 50–72.
- Serra, D. (2012). Combining top-down and bottom-up accountability: Evidence from a bribery experiment. *The journal of law, economics, & organization*, 28(3), 569–587.
- Shleifer, A., & Vishny, R. W. (1993). Corruption. *The quarterly journal of economics*, 108(3), 599–617.
- Svensson, J. (2005). Eight questions about corruption. *Journal of economic perspectives*, 19(3), 19–42.
- Swamy, A., Knack, S., Lee, Y., & Azfar, O. (2001). Gender and corruption. *Journal of development economics*, 64(1), 25–55.
- Treisman, D. (2007). What have we learned about the causes of corruption from ten years of cross-national empirical research? *Annual Review of Political Science*, 10, 211–244.
- Truex, R. (2011). Corruption, attitudes, and education: Survey evidence from Nepal. *World Development*, 39(7), 1133–1142.
- Weitz-Shapiro, R., & Winters, M. S. (2017). Can citizens discern? Information credibility, political sophistication, and the punishment of corruption in Brazil. *The Journal of Politics*, 79(1), 60–74.
- Winters, M. S., & Weitz-Shapiro, R. (2013). Lacking information or condoning corruption: When do voters support corrupt politicians? *Comparative Politics*, 45(4), 418–436.