Corruption Perceptions, Exposure, and their Interaction in the Study of Political Behavior

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Abstract

Interest in survey-based based measures of corruption has prompted growth in research on corruption's effect on political behaviors and attitudes. The two dominant measures of people's evaluations of corruption in public opinion surveys ask respondents to assess their perceptions of and exposure to corruption. I argue that existing survey measures of corruption if used independently of one another are inadequate for understanding how people evaluate corruption. I develop an original framework where I interact perceptions and exposure corruption measures using questions available in existing surveys to capture a person's corruption perception relative to exposure. The proposed framework provides new insights about expert-based corruption indices and corruption's influence on a person's probability of participating in protest campaigns. I show that distinct combinations of perceptions of corruption and exposure to corruption exhibit divergent protest patterns and that corruption drives protests among only a small subset of individuals.

Corruption researchers disagree about whether corruption has the potential to influence mass political behavior. On the one hand, many studies argue that corruption factors centrally into individual political decisions (e.g., Gingerich, 2009; Peters & Welch, 1980; Pop-Eleches, 2010; Rasmusen & Ramseyer, 1994; Tavits, 2007). Other studies, however, find that people generally care relatively little about corruption and, therefore, are unlikely to be swayed by its prevalence (e.g., Anderson & Tverdova, 2003; Johnston, 2013; Manzetti & Wilson, 2007; Rundquist, Strom, & Peters, 1977).

Both research traditions tend to rely on either survey-based measures of corruption perceptions of exposure to proxy for individual corruption evaluations. I argue, however, that existing survey questions used to measure corruption evaluations are inadequate for capturing how people evaluate corruption. I propose a new strategy for studying corruption evaluations that resolves limitations in existing survey-based measures but can be implemented using existing survey questions. In this strategy, I interact corruption perceptions with exposure to reveal how individuals respond to the corruption environment in which they live. I further show that my measure has implications for researchers' understanding of how corruption evaluations factor into political behaviors, such as protest participation. This new contextual measure of corruption highlights how corruption affects individual protest participation patterns differently and that few individuals are willing to protest only as a result of their corruption evaluations.

The most common survey-based measures of individual corruption evaluations ask respondents about their 1) perceptions of corruption, and 2) exposure to corruption. I demonstrate that neither class of questions alone captures how people evaluate corruption. Corruption perceptions questions, which ask respondents to assess the level of corruption in their countries, fail to account for the corrupt environment in which a person lives and, thus, cannot distinguish crucial differences

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across aggregate corruption contexts. On the other hand, corruption exposure questions, which ask respondents to reveal information about their experience with corruption (often bribery), do not capture the degree to which respondents are concerned about their experiences with corruption.

I resolve both limitations with the existing classes of questions by interacting perceptions measures with exposure measures, thereby accounting for environmental context and indirect reactions to experiences with corruption. In doing so, I distinguish among different kinds of corruption evaluations in survey samples, including individuals who perceive corruption to be widespread and experience corruption, individuals who perceive corruption to be widespread but have not experienced corruption, individuals who do not perceive corruption to be widespread but have experienced corruption, and individuals who do not perceive corruption to be widespread and have not experienced corruption. Distinguishing among different corruption evaluations allows me to identify how distinct communities respond to corruption.

These distinctions reveal how different corruption evaluation communities engage in protest campaigns. Researchers who study the effects of corruption perceptions on protest activity reach contradictory conclusions. Some studies show that those who believe that corruption is pervasive in their country are more likely to participate in protests (Chaisty & Whitefield, 2013). Others find that those who believe that corruption is pervasive are less likely to participate in protests because their pessimistic attitudes lead to political disaffection and subsequent self-removal from general political engagement (Davis, Camp, & Coleman, 2004; Olsson, 2014). Studies exploring the effects of corruption exposure on protest activity, however, find that those who are exposed to corruption are more likely to participate in protests. These studies suggest that exposure to corruption contributes to feelings of victimization that can propel political engagement (Gingerich, 2009; Machado, Scartascini, & Tommasi, 2011).

I leverage the new contextual strategy for measuring corruption evaluations to study the effect of corruption evaluations on protest participation. Using the two most recent waves of the Life in Transition survey, collected in 2010 and 2016, I show that while corruption perceptions and exposure, conditional on one another, influence protest participation in different ways, comparably few individuals are easily mobilized into protests as a result of their exposure to or experiences with corruption.

These findings imply that individual corruption evaluations are multidimensional, encompassing perceptions of and exposure to corruption. This relativistic framework shows that, alone, perceptions of widespread corruption or exposure to corruption are strong predictors of protest participation but only among a small subset of the population. In turn, mass mobilization efforts oriented around the issue of corruption must and often do evolve to incorporate other frames to attract more participants. In what follows, I describe existing corruption evaluation measurement strategies, suggest an interaction framework, show evidence of its usefulness, and apply it to the study of protest participation.

Corruption and Political Behavior

Corruption is typically defined as "use of public office for private gain" (Bardhan, 1997). Corruption carries vast and detrimental consequences for ac country's stability and development (see Treisman, 2007). For instance, corruption allows politicians to circumvent mechanisms of public accountability (Rose-Ackerman & Palifka, 2016). Corruption also privileges the wealthy and powerful at the expense of the average person, preventing equal access to goods and services (Rose-Ackerman, 2013). Moreover, corruption is financially taxing for individuals, contributing to extraneous expenses that they could otherwise avoid (Shleifer & Vishny, 1993).

While much is known about corruption's effect on political and economic institutions, the behavioral implications of corruption are poorly understood. For instance, a considerable body of scholarship argues that corruption has the potential to sway political behavior. Scholars argue that corruption frustrates individuals who respond by engaging in political activities. First, researchers find that people disappointed by corruption in their countries participate in elections to remove politicians believed to be corrupt (Kostadinova, 2009; Pop-Eleches, 2010; Rasmusen & Ramseyer, 1994; Tavits, 2007). Even corrupt politicians who are re-elected may still suffer at the polls (Peters & Welch, 1980). Second, people upset about corruption may protest in hopes of changing the status quo (Bratton & van de Walle, 1992; Chaisty & Whitefield, 2013; Gingerich, 2009; Inman & Andrews, 2009; Kostadinova, 2013). In some cases, corruption may even force individuals to engage in more violent and extreme political responses (Thomas & Louis, 2014).

At the same time, a wealth of evidence suggests that corruption is an insufficient driver of political behavior because corruption demobilizes individuals to the point of losing agency. For example, scholars find that corruption depresses voter turnout (Chong, De La O, Karlan, & Wantchekon, 2014; McCann & Domınguez, 1998; Stockemer, LaMontagne, & Scruggs, 2013). Others find that corruption is related to lower levels of protest participation (Davis et al., 2004; Olsson, 2014). Additionally, some studies also show that corruption has no discernible effect on protest participation (Christensen, 2016; Moseley, 2015; Pilati, 2011).

Behavioral studies of corruption often draw on questions used in surveys and survey experiments. Indeed, divergent findings concerning corruption's influence on individual political behaviors are largely driven by existing survey-based measures of corruption. In the section that follows, I describe the questions surveys use to measure corruption evaluations and illustrate the limitations of those measures.

Class	Question	Source
Perception	How widespread do you think corruption such as bribe taking is amongst politicians in [country]?	Comparative Study of Electoral Systems (Module 2)
	Is corruption widespread throughout the government in this country, or not?	Gallup World Poll
	For each of the following problems, please tell me if you think it will get better, get worse or stay the same in the next five years....Corruption	Pew Research Center
Exposure	In the last 12 months, did any government employee as you for a bribe?	AmericasBarometer
	Have you or any member of your household paid a bribe to a public official in the previous 12 months?	Transparency International Global Corruption Barometer
	During [the past year] has any government official, for instance a customs officer, police officer or inspector in your own country, asked you or expected you to pay a bribe for his services?	United Nations International Crime Victims Survey

Table 1: Classes of survey corruption questions with examples

Issues in Survey-Based Measures of Corruption Evaluations

Researchers interested in measuring individual corruption evaluations rely on two general classes of questions. First, surveys ask respondents to assess the levels of corruption in their societies, countries, or governments. I present a sample of perception questions in Table 1. These questions ask respondents to estimate the frequency of corrupt acts, the spread of corruption, and fluctuations in levels of corruption. In general, surveys use these questions to elicit information about individual concerns with aggregate levels of corruption.

I highlight a limitation with perceptions measures in Figure 1. In it, I present a non-random but representative sample of 10 countries. I differentiate between *a prior* expectations about the presence of systemic corruption as suggested by Transparency International's expert-based indices. Experts believe that Sierra Leone, Libya, Mexico, Bangladesh, and Russia face systemic corruption, while the United States, Chile, Germany, Iceland, and Japan are not threatened by systemic corruption. On the x-axis, I show the percent of Gallup World Poll respondents from 2018 who believe that
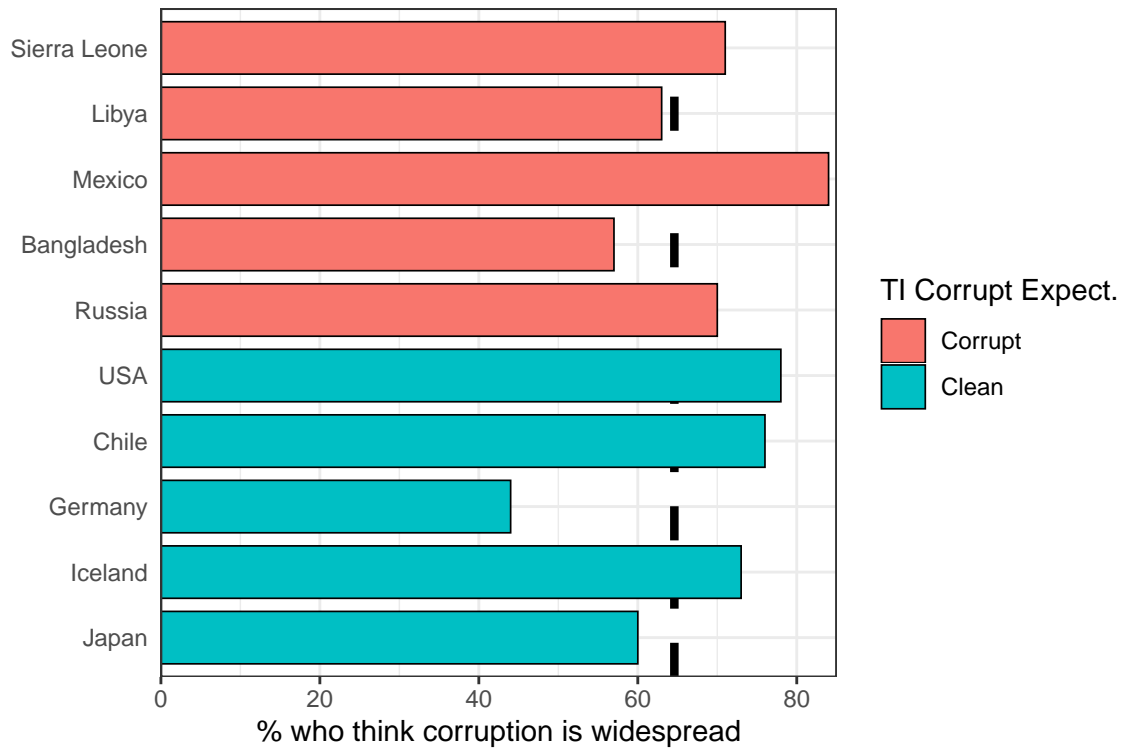
Figure 1: Perceiving corruption across countries

corruption is widespread in their governments. The striking lack of variation across the included

countries and, indeed, expert evaluations reflects the lack of information communicated through

perception-based measures about contextual factors in respondent environments. For example, a

higher percentage of respondents in the United States, Chile, and Iceland view their governments

as corrupt relative to respondents in Libya, Bangladesh, and Russia, countries generally associated

with high levels of corruption.

As indicated in Figure 1, perceptions questions suffer from two issues, both of which concern the

inability of perceptions questions to account for respondent context. First, individual perceptions

might reflect partisanship as much as it reflects corruption. In countries where corruption is non-

systemic, partisanship may exacerbate perceptions of corruption. In a survey experiment, Anduiza,

Gallego, and Munoz (2013) show that people interpret corruption scandals through a partisan

filter. When respondents share a partisan identity with an individual implicated in a corruption scandal, they are more likely to tolerate the corrupt practice than those who subscribe to a rival party. As such, corruption assessments may be clouded by partisanship, leading to corruption overestimation under unpopular leaders.

Second, in countries facing systemic corruption, corruption may be emblematic of cultural practices and social norms, which can lead to underestimated corruption levels. For example, corruption is so endemic to Nigeria that Nigerians refer to corruption as "the Nigerian factor" (Smith, 2006). Indeed, countries with systemic corruption often differentiate corruption from other informal exchanges in language. One variation of corruption, the informal and reciprocal exchange of favors, is referred to by Russians separately as *blat*, Chinese *guanxi*, Arabs as *wasta*, and Cubans as *sociolismo*. Though differences exist among these terms (Ledeneva, 2008), they tend to refer to some version of the cultural practice of exchanges in favors. Corruption often evolves into a societal norm because it represents an efficient way for people to attain goods and services from a laggard government (Nye, 1967).

Researchers worried about the inability of perceptions measures to provide contextual information about corruption have turned to corruption exposure measures.[1] I present representative exposure questions in Table 1. The included questions vary in terms of their directness. Direct questions ask respondents about their personal experiences with bribery, while indirect questions ask respondents about their own and their household's experiences with bribery. The central benefit of corruption exposure questions is their ability to provide information about actual corruption experiences among people rather than their abstract beliefs about corruption.

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[1]Corruption exposure is often also referred to as corruption victimization (Gingerich, 2009; Seligson, 2006) or corruption experience (Rose & Mishler, 2010).
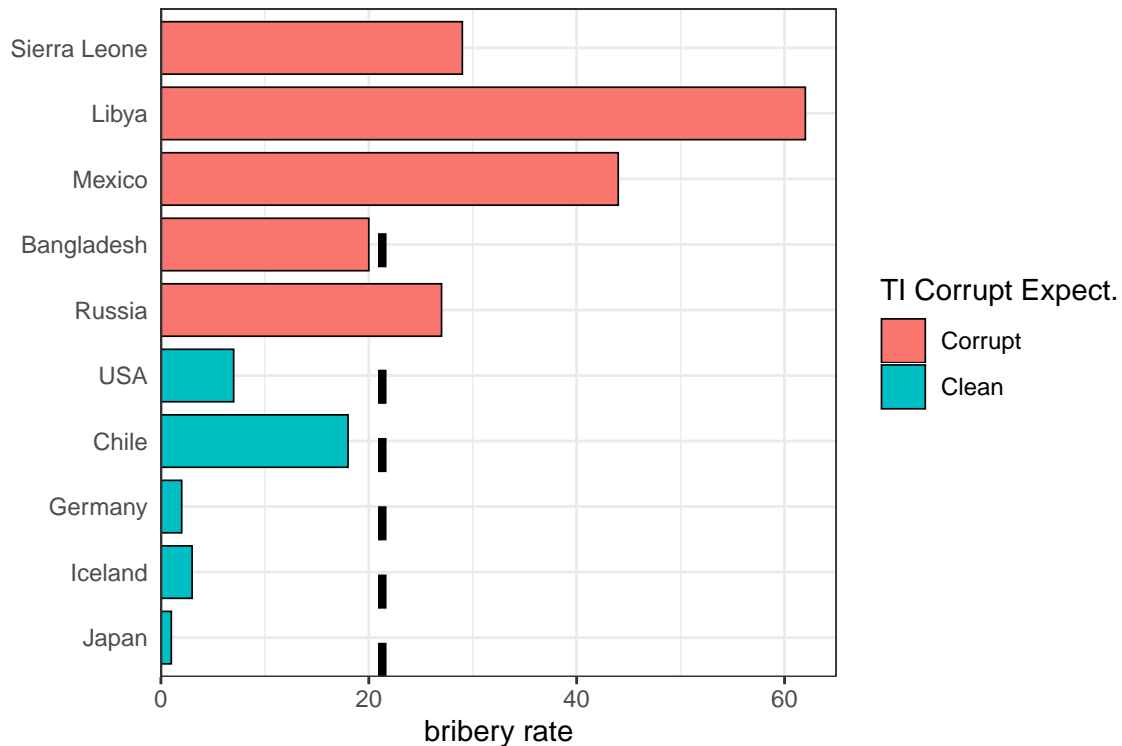
Figure 2: Experiencing corruption across countries

In Figure 2, I now use the same sample of countries from above to highlight corruption exposure variation across expected corruption levels and countries. On the x-axis, I use Transparency International's Global Corruption Barometer to identify the percentage of survey respondents across the included countries who have or whose household members have paid a bribe in the 12 months leading up to the survey. Unlike the perceptions measure, the exposure measure corresponds to expected corruption levels.

While corruption exposure questions are contextually informative, they also suffer from limitations. First, corruption exposure questions may suffer from under-reporting, given the sensitive and illegal nature of the bribery. Focus groups, however, suggest under-reporting is unlikely to be systematic (Seligson, 2006), and observational studies indicate that exposure questions reflect *a priori* expectations (Charron, 2016). Second and more concerning in the measurement of corruption

evaluations is the inability for researchers to understand whether survey respondents who experience corruption care about having experienced corruption. The "grease the wheels hypothesis" maintains that corruption may be a beneficial practice to improve efficiency in countries with ineffective bureaucratic institutions (Dreher & Gassebner, 2013; Meon & Weill, 2010), suggesting that not everyone who experiences corruption is likely to be angered by it.

Whereas corruption perceptions measures fail to distinguish between context, corruption exposure measures do not provide information about a person's response to experiencing corruption. In light of these limitations in corruption perceptions and exposure survey-based corruption evaluation measures, I propose a straightforward solution that interacts perceptions with exposure measures to gauge how respondents perceive corruption given their exposure to it. I develop a framework for comparing perceptions and exposure measures in the next section.

Interactions To Understand Corruption Evaluations in Surveys

Given the above limitations in existing survey-based approaches to studying corruption evaluations, I propose an alternative framework. I argue in favor of statistically interacting perceptions with exposure measures. This new framework has the potential to address the lack of perception measures to capture environmental context and exposure measures to identify a person's reflection on their experience with corruption. The additional benefits of the strategy are that it offers 1) a multidimensional assessment of corruption evaluations, and 2) a straightforward and replicable design that can be achieved using already-available survey data for different regions around the world.

I argue that a relationship exists between corruption perceptions and exposure measures. Whereas corruption perceptions questions fail to capture context, corruption exposure measures cannot

address the degree to which a survey respondent cares about their experiences with corruption. I maintain that each corruption measure can address the other's limitations. In other words, I assume that although perceptions measures cannot inform researchers about the respondent's corrupt environment, exposure measures provide information about the corrupt environment. At the same time, although exposure measures offer little indication about a person's reaction to their experiences with corruption, perceptions measures present details about how a person feels about corruption that may be tied to his or her experiences.

In turn, my proposed strategy for addressing existing measure limitations is to interact answers to perceptions and exposure questions in surveys, thereby treating them as complementary measures. Interactions in statistical analyses illustrate how the effect of one variable, X, on another variable, Y, is conditional on a third variable, Z. In causal inference, the term "moderation" also refers to this conditional relationship. For the purposes of this study, interactions represent a useful lens through which researchers can understand how the effect of corruption perceptions on a behavioral outcome are conditional on a person's exposure to corruption. This framework entails that an individual's general evaluation of corruption is the result of their perception of corruption around them *conditional on* their experiences with corruption.

Corruption evaluations require individuals to consider their experiences and perceptions. In the field of contentious politics, research on relative deprivation provides a relevant avenue for improving our understanding of the enclosed approach to studying corruption evaluations. In his seminal study of political violence, Gurr (1970) defines relative deprivation as an actor's "perception of the discrepancy between their value expectations and their value capabilities." That is, relative deprivation constitutes the difference in what an individual believes they should be able to achieve and what they can achieve. Gurr's central contribution is that deprivation alone does not drive mass

rebellion. He contends that people evaluate how deprived they are relative to their expectations and use this assessment to form their impressions on whether or not rebellion is worthwhile. The likelihood of rebellion increases as the mismatch between expectations and reality widens.

Treating evaluations of corruption as an expression of relative deprivation is supported in political psychology research, which finds evidence that corruption may contribute to a person's deprivation. Scholars find that corruption damages mental health (Van Deurzen, 2017), subjective well-being (Tavits, 2008), and life satisfaction (Wu & Zhu, 2016). Corruption may also contribute to higher suicide rates (Yamamura, Andrés, & Katsaiti, 2012). The effects of corruption on these psychological outcomes are particularly adverse among individuals who are religious and have lower incomes (Van Deurzen, 2017). It may be the case that corruption's detrimental psychological effects operate through corruption's lowering of institutional trust (Ciziceno & Travaglino, 2019; Tay, Herian, & Diener, 2014). In light of the relationship between corruption and variants of psychological deprivation, I treat corruption as an institution that, in part, contributes to a person's sense of relative deprivation.

In turn, work in contentious politics and political psychology suggest the theoretical viability of comparing corruption perceptions with exposure. Moreover, interacting perceptions and exposure variables provides additional benefits to researchers. First, the interaction strategy moves scholars beyond unidimensional interpretations of corruption evaluations. Although corruption measures are often uni-dimensional, corruption scholars generally agree that multidimensionality is present in peoples' evaluations of corruption (Andersson, 2016; Bukovansky, 2006; Rose & Mishler, 2010; Seligson, 2006; Von Alemann, 2004). Despite calls for multidimensional corruption measurements, most surveys continue to address corruption unidimensionally. The approach detailed here, however, provides two dimensions to interpreting corruption evaluations built upon a person's

perception of and exposure to corruption.

Second, the approach is straightforward enough to be implemented with other surveys in other regional contexts. Because of the approach's capacity to travel, scholars can use it to replicate studies given different units of study and survey instruments. An incomplete list of surveys that include both perception and exposure questions includes the Life in Transitions Survey, the Latin American Public Opinion Project (LAPOP) and the AmericasBarometer, the Asian Barometer, and the AfroBarometer. These surveys allow researchers to test the interactive effect between perceptions and exposure on behavioral and attitudinal outcomes in Eastern Europe and Central Asia, parts of Western Europe, Latin America, North America, East Asia, and Africa. Therefore, survey questionnaires that ask both classes of questions cover much of the world, allowing scholars to replicate findings across regional contexts.

In the section that follows, I highlight the empirical benefits of interacting corruption perceptions with exposure measures. The results demonstrate that interaction models offer new ways to think about corruption evaluations. In particular, the results portray that expert expectations of corruption correspond to differentiated corruption evaluations, something not shown when using perceptions and exposure measures independently.

Interacting Perception with Exposure Measures Works

Interacting perception and exposure measures have implications for how scholars understand corruption evaluations and corruption itself. This section shows how different strategies for measuring corruption evaluations correspond to divergent expert expectations about corruption. I find that countries with worse corruption perceptions and higher bribery rates correspond to more corrupt expectations among experts but that the relationships are nonlinear. I also find that

the conditional effects of bribery rates on corruption perceptions, achieved through an interaction, relate to different expert expectations of corruption levels: 1) countries with low bribery rates and low belief in widespread corruption are thought to be more corrupt than countries with high bribery and low belief in widespread corruption, and 2) experts believe that countries with high bribery rates are corrupt only when people in those countries grow more impatient with corruption.

My measure of *corruption expectations* relies on Transparency International's Corruption Perceptions Index, which provides expert-based corruption scores by country and year.[2] I measure *corruption perceptions* with Gallup World Poll data on the percent of individuals in each country by year who believe that corruption is widespread in their governments.[3] I then measure *corruption exposure* with Transparency International's Global Corruption Barometer, which asks individuals about their or their household's experiences with bribery in different settings. The barometer then reports the aggregated percent of people who experienced bribery in each country by year.[4]

I estimate three models. The first two models estimate the nonlinear effect of corruption perceptions and exposure on expert assessments in pooled linear regression:

$$\text{ExpertExpectation}_{it} = \alpha_{it} + \beta_1 \text{Perception}_{it} + \beta_2 \text{Perception}^2_{it} + \epsilon_{it} \tag{1}$$

$$\text{ExpertExpectation}_{it} = \alpha_{it} + \beta_1 \text{Exposure}_{it} + \beta_2 \text{Exposure}^2_{it} + \epsilon_{it} \tag{2}$$

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[2]For the years 2012–2018, I divide the assigned Transparency International scores by 10 so that they are comparable with the values in the years before 2012.

[3]The Gallup World Poll question that I use asks respondents the following question: "Is corruption widespread throughout the government in this country, or not?" Respondents have the option of answering "yes" or "no."

[4]Global Corruption Barometer survey respondents are asked the following question: "In the past 12 months, have you or anyone living in your household been requested a bribe from someone in the following institution/ organization?" Respondents are asked about their experiences with bribery in the following institutions: educational system, legal system, judiciary, medical services, police, registry and permit services, telephone service providers, electricity providers, water service providers, gas providers, tax revenue services, and customs. Respondents may answer "yes" or "no" regarding whether they or a household member experienced corruption in each institution.
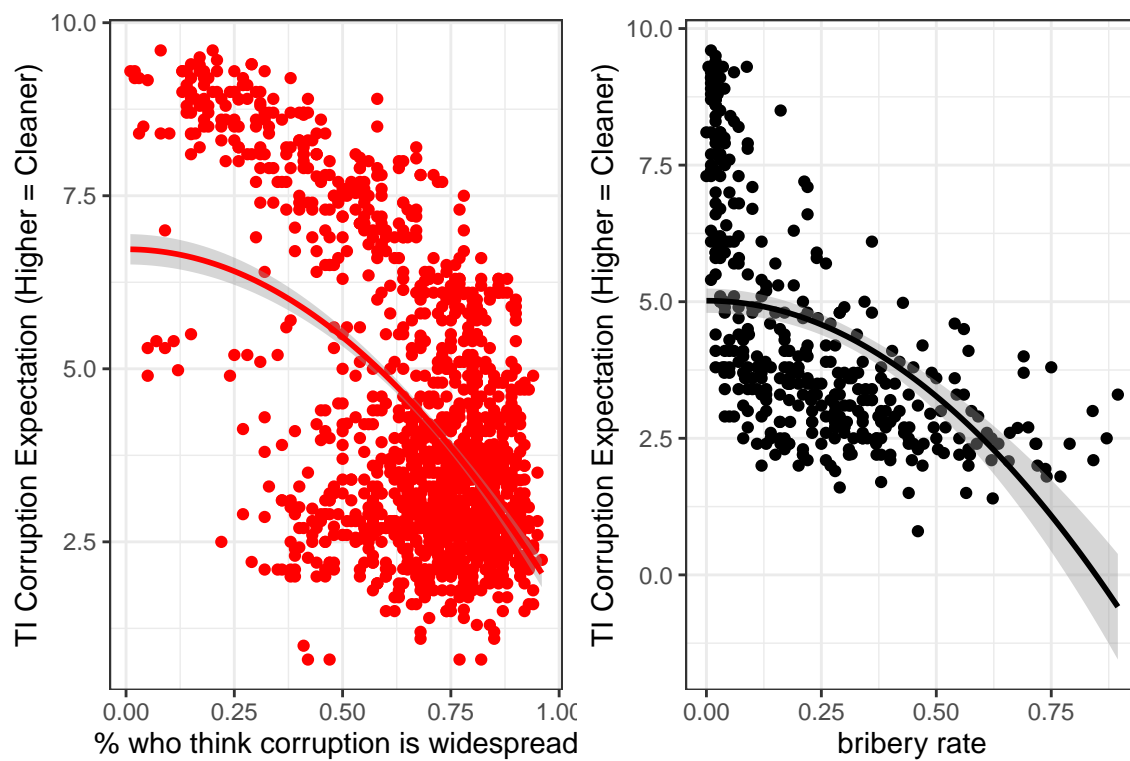
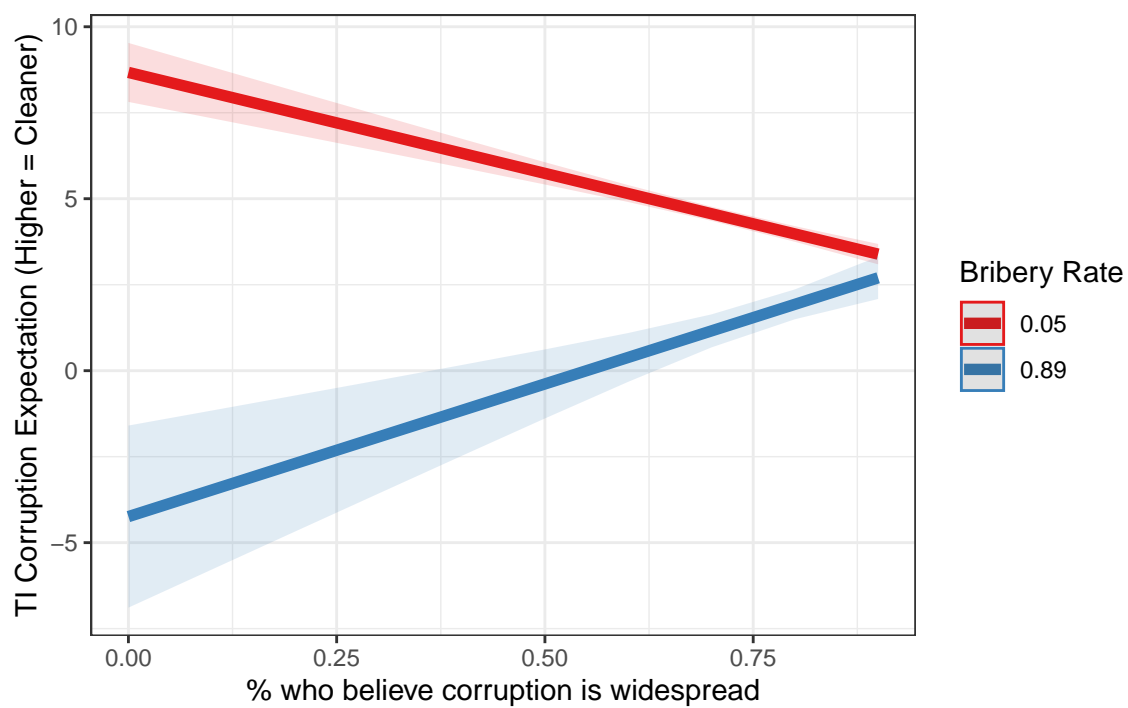Figure 3: Predicting corruption expectations with perception or exposure

Figure 4: Predicting corruption expectations with perception×exposure

The third model estimates a pooled interaction model:

$$\text{ExpertExpectation}_{it} = \alpha_{it} + \beta_1\text{Perception}_{it} + \beta_2\text{Exposure}_{it} + \beta_3\text{Perception}_{it} \times \text{Exposure}_{it} + \epsilon_{it} \quad (3)$$

First, I show how perceptions and exposure relate to expert corruption expectations in Figure 3. Quadratic lines with 95 percent confidence intervals provide information about trends in the data. The left panel visualizes the relationship between perceptions and expert expectations. The right panel visualizes the relationship between bribery exposure rates and expert expectations. Both panels reflect a negative relationship between perceptions and expectations as well as exposure and expectations. In short, as the belief that corruption is widespread grows in a country or as bribery rates grow in a country, experts are more likely to declare that country as corrupt. The figures also reflect non-linearity in the relationships: the slopes are more gradual at lower levels of corruption perceptions and lower rates of bribery. Non-linearity in the relationships suggests that expert expectations about corruption do not neatly correspond to either mass corruption perceptions or corruption exposure rates.

I now interact the perceptions and exposure measures and present how the interaction effect relates to expert expectations of corruption in Figure 4. The results shown in the figure differentiate between two groups of countries: countries where people experience little bribery (in red) and countries where people experience a lot of bribery (in blue). Indeed, each group of countries corresponds to different expert expectations about corruption levels. As countries where bribery is infrequent grow more predisposed to believing that corruption in their country is widespread, experts are more willing to view those countries as corruption. Alternatively, in countries where bribery is frequent, as the belief that corruption is widespread grows, experts become more willing to treat those countries as clean. In addition, at all perception levels, experts tend to view countries

with high bribery rates as less corrupt. In general, these results mean that *a prior* expectations about corruption in a country differ depending on the conditional effects of corruption exposure on mass perceptions.

These analyses have implications for the study of corruption evaluations. Not only do perceptions and exposure measures matter, but their interactive effect reveals unexplored areas about how people reflect upon the idea of corruption. In the next section, I build on these ideas and demonstrate that interacting perceptions and exposure measures has additional implications for our knowledge of protest participation.

Corruption Evaluations and Protest Participation

Extant research provides little guidance about whether corruption evaluations drive protest participation. Of course, there are countless examples of protest movements whose central themes are related to government corruption. For example, Romanians responded with mass demonstrations following attempts by their government to reduce corruption penalties. In Russia, Alexei Navalny's campaign against elite corruption spurred numerous protests. And Brazilian protesters flooded streets, protesting government corruption in the days leading up to their country's hosting of the Olympic Games.

Despite anecdotal evidence of corruption encouraging protest campaigns, findings about the role of corruption in mobilizing protesters are mixed. As with general corruption evaluations research, scholars studying corruption's effect on protest participation conceptualize people's evaluation of corruption according to two criteria: corruption perceptions and corruption exposure.

Research on corruption perceptions and protest participation identify contradictory outcomes.

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Conventional thought holds that dire perceptions of corruption translate into greater political activism (Bratton & van de Walle, 1992) such as increased voter turnout (Kostadinova, 2009). In explaining protest participation, certain studies show similar empirical support for the argument that heightened corruption perceptions mobilize protesters (Chaisty & Whitefield, 2013; Inman & Andrews, 2009) potentially because perceptions of widespread corruption reveal the antagonistic relationships between citizens and their governments (Collins & Gambrel, 2017). Corruption perceptions may also mobilize participation in strikes and occupations of buildings (Kostadinova, 2013). A hypothesis follows:

H_1: *Individuals who perceive corruption to be common are more likely to participate in protests.*

Other scholars, however, find that higher perceived levels of corruption discourage mass political participation in general and protest participation specifically. These studies argue that when individuals perceive high levels of corruption, they demobilize from political activities, such as voting (Chong et al., 2014; McCann & Domınguez, 1998; Stockemer et al., 2013) and protest participation (Davis et al., 2004; Olsson, 2014). Indeed, Thomas and Louis (2014) show that under depressed levels of protest participation, high levels of perceived corruption may lead individuals away from formal political participation and toward violent and more extreme responses.[5]

While perception-based studies disagree about corruption's role in mobilizing protesters, exposure studies consistently show that exposure to corruption encourages protest participation. Gingerich (2009) uses survey data from Bolivia to study the effects of corruption exposure frequency and corruption perpetrator institutional affiliations on protest activity. He finds that while low levels of exposure to corruption do not drive protest, higher levels of exposure mobilize protest activity.

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[5]Some studies also show that corruption has no discernible effect on protest participation (Christensen, 2016; Moseley, 2015; Pilati, 2011).

High levels of exposure to corruption violate expected social norms, leading individuals to feel victimized and become more prone to engaging in protest activity. Other studies find additional support for the positive effect of corruption exposure on protest participation (Machado et al., 2011; Monyake, 2016). An exposure hypothesis follows:

H_2: Individuals who are exposed to corruption are more likely to participate in protests.

Given the lack of existing theoretical expectations about how interacting exposure with perceptions influences protest participation, I remain ambivalent about the conditional relationship among these variables other than to suggest that the expectations should differ from the above two hypotheses such that the interaction between perceptions and exposure provide a meaningful contribution to the study of protest participation. In the subsequent sections, I describe the data and present results.

Cross-National Survey Data to Test the Influence of Corruption Evaluations Measures on Protest Participation

I use the European Bank for Reconstruction and Development's Life in Transition (LITS) survey data to evaluate the effect of different corruption intolerance groups on protest participation. LITS is a collection of repeated cross-sectional country-wide surveys implemented in post-Soviet countries, Sweden, the United Kingdom, Germany, France, Italy, Greece, Cyprus, and Turkey. Although three survey waves are available (2006, 2010, and 2016), I use the two most recent waves, which are the only ones that ask comparable and relevant questions about corruption exposure.

Adult survey respondents (at least 18 years of age) are selected using a multi-stage random probability stratified clustered sampling strategy, stratified according to geography and whether

respondents live in urban or rural communities.[6] Surveys are conducted face-to-face and contain responses from at least 1,000 respondents per country in the second wave and 1,500 respondents per country in the third survey wave.

I use a subset of the surveys that only includes data from countries with a history of communist rule. Responses from Uzbekistan are excluded because political sensitivity prevented interviewers from asking certain, relevant political questions about protest behavior to Uzbek respondents. In Figure 5, I also provide a map of the included countries. The subset of the data used in the analysis includes 65,139 survey respondents of the original approximately 90,000 respondents. This subset excludes missing observations (unless otherwise noted) and countries without communist legacies. A full list of 28 included countries and the number of respondents associated with each country and in each survey wave is available in Appendix A.

By only including countries with histories of communism, I account for two potential problems. First, LITS coverage of countries without communist histories is comparably limited. In the second and third LITS waves, the only included non-postcommunist countries are Sweden, the United Kingdom, Germany, France, Italy, Greece, Cyprus, and Turkey. Moreover, data for Cyprus and Turkey are only available for the last wave. In total, LITS only has data on 7,697 respondents in non-postcommunist countries compared to 65,139 respondents in postcommunist countries across the last two waves. Therefore, excluding these countries makes sense given the general focus of LITS data on those living in postcommunist countries.

Second, the amount of corruption exposure in non-postcommunist countries is systematically different from corruption exposure in postcommunist countries. Of the 13,215 non-postcommunist respondents, just 340 had been exposed to corruption (2.6 percent of respondents). Of the 65,139

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[6]In the third wave of LITS, respondents are also stratified by metropolitan in addition to urban and rural areas.

Figure 5: Map of Included Countries

postcommunist respondents, 11,670 had been exposed to corruption (18 percent of respondents). These systematic differences are tied to institutional, cultural, and historical factors that cannot be controlled for adequately with existing survey data and warrant limiting analyses to non-postcommunist countries. In particular, post-communist countries share legacies that affect political institutions, cultural patterns, and political attitudes (Mishler & Rose, 2001; Pop-Eleches, 2007; Pop-Eleches & Tucker, 2017). At the same time, these post-communist countries vary in the variables central to this study: perceptions of corruption (Linde, 2012), exposure to corruption (Diaby & Sylwester, 2015), and protest behavior (D'Anieri, 2006).

Variables

I describe variable coding decisions below, present descriptive statistics for the categorical variables in Table 2, and present descriptive statistics for the continuous variables in Table 3. In the following section, I explain the measurement strategies for each of the variables.

Measuring Protest Participation

I construct the binary dependent variable, *protest participation*, by referring to LITS questions that ask about whether or not survey respondents had previously participated in a protest or in a strike. I include strikes, because in many of the authoritarian contexts in which surveys were collected, strikes serve as an alternative option for citizens wishing to publicly air their grievances with the regime. For instance, in Russia, long haul truckers staged a massive, nationwide strike against a government-imposed road tax. Although the truck drivers largely avoided criticizing Vladimir Putin, they framed their strike around the issue of corruption. Referring to the road taxes, one man said, "We want to know where the money is going... we don't need a corrupt system," highlighting how the truckers used a strike as an indirect avenue for criticizing corruption

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Table 2: Descriptive Statistics for Categorical Variables

Variable	N	Values	N by Value
Protest Participation	65139	Did not participate in protest	59217
		Participated in protest	5922
Urban	65139	Does not live in urban area	28094
		Lives in urban area	37045
Female	65139	Male	27504
		Female	37635
Survey Year	65139	2010 survey wave	37927
		2016 survey wave	27212

Table 3: Descriptive Statistics for Continuous Variables

Variable	N	Mean	SD	25th Percentile	50th Percentile	75th Percentile
Corruption Perceptions	65139	8.40	8.31	0	8	13
Corruption Exposure	65139	0.26	0.66	0	0	0
Civic Activity	65139	0.19	0.62	0	0	0
Age	65139	47.2	17.38	32	46	60
Education	65139	4.28	1.4	3	4	5
Life Satisfaction	65139	3.15	1.1	2	3	4
Political Satisfaction	65139	2.51	1.13	2	2	3
Executive Trust	65139	2.98	1.35	2	3	4
Wealth	65139	4.44	1.67	3	5	5

Note: Civic activity is a zero-inflated variable with most respondents not participating in any activities.

in government (Filipov, 2017).

I use two LITS questions to measure protest participation. In both survey waves and across all countries, respondents were asked nearly identical or identical forms of the following questions and given the same answer choices:

How likely are you to attend a lawful demonstration? [Have done, might do, or would never do]

How likely are you to participate in a strike? [Have done, might do, or would never do]

I recode those who answered "Have done" in response to either question as 1 and 0 otherwise. About 9 percent of included respondents had participated in any lawful demonstration or a strike.

This represents a conservative estimate of protest participation, as more respondents may have only participated in unlawful demonstrations. Careful question wording is necessary, however, in countries with political repression and censorship. At the very least, these questions present an opportunity for conservative tests of the specified hypotheses.

Measuring Corruption

Perceptions

Scholars show mixed findings about the influence of *perception* of widespread corruption on protest participation. I test this expectation, which constitutes my first hypothesis, by developing a perceptions measure. This measure relies on an LITS survey question that asks individuals about their perceptions about the level of corruption in the different contexts: road police, obtaining official documents, civil courts, public education, medical treatment, unemployment benefits, and social security. The question asks respondents the following:

> In your opinion, how often do people like you have to make unofficial payments or gifts in these situations? [Never, seldom, sometimes, usually, or always]

I assign quantitative values to the question's 5-point scale, wherein "never" is coded as 0 and "always" is coded as 4. I also code missing responses as 0. I then sum each respondent's perception answers to derive a corruption perceptions scale. On average, respondents have a value of 8, a relatively clean appraisal of corruption in their countries with a maximum value of 40 and minimum of 0.

Exposure

Unlike corruption perceptions, scholars find that *exposure* to corruption raises the likelihood of

protest participation. I test this second hypothesis by referring to a survey question that asks respondents to state whether they or a household member had made an unofficial payment or provided a gift to representatives of any of the following sectors: road police, obtaining official documents, civil courts, public education, medical treatment, unemployment benefits, and social security. The question asks:

> Did you or any member of your household make an unofficial payment or gift when using these services over the last past 12 months? [Yes, no]

Again, I assign values to the question's answers scale, where "yes" is coded as 1, "no" and missing responses are coded as 0. I then sum each respondent's exposure answers to create a corruption exposure scale. On average, respondents have a value of 0.26, a value less than 1. The maximum value is 8 (corruption experienced in all scenarios) and the minimum value recorded is 0.

While this comparably lower figure may be a result of under-reporting by survey respondents who are fearful or uncomfortable with disclosing their participation in corrupt activities, I do not believe this issue to be the case here for a couple of reasons. First, rather than ask individuals a direct question about whether they had paid a bribe, as many surveys do, the LITS asks individuals an indirect question about whether a government employee asked them for a bribe. Because of this indirect question wording, the survey language does not implicate respondents in any criminal behavior but still affords researchers an understanding of levels of exposure to corruption. Second, corruption researchers find that survey questions asking about exposure tend to provide more accurate portrayals of individual experiences with corruption (Gingerich, 2009; Seligson, 2006). As such, this question should provide responses consistent with reality.

Control Variables

I also include a number of controls that I distinguish according to two thematic groups. The first group of controls reflects respondents' sociopolitical attitudes. In this group, I measure political satisfaction, executive trust, civic activism, and life satisfaction. In the second group, I include the following demographic controls: education, gender, life in an urban environment, age, wealth, and the wave of the survey in which the respondent took part. In the estimation strategy section, I also discuss my strategy for capturing differences across countries.

Sociopolitical Controls

I include four sociopolitical control variables: political satisfaction, executive trust, civic activism, and life satisfaction. Putnam, Leonardi, and Nanetti (1994) reveal how poor institutions undermine political engagement. In turn, the first variable, *political satisfaction*, accounts for how a person's belief about quality of governance in their country affects their protest participation. The LITS question used to measure political satisfaction asks the extent to which respondents agree with the statement that, "The political situation in [their] country is better today than around 4 years ago." Measured on a five-point scale, the variable's higher values are indicative of greater satisfaction with their country's politics, while lower values indicate dissatisfaction.

I include the second variable, *executive trust*, to capture the possible negative relationship between trust in the presidency and protest behavior (Braun & Hutter, 2016). That is, those who trust the presidency should be less likely to protest. The question I use to measure executive trust asks, "To what extent do you trust the Presidency?" Respondents can provide an answer on a five-point scale ranging from complete distrust (1) to complete trust (5).

Next, I control for *civic activism*. Prior activism affects how people perceive and participate in

future protests (Finkel & Muller, 1998; McAdam, 1986; Smyth, 2018). I use a set of questions about participation in any of the following civil society groups: religious organizations; sport and recreational organizations; cultural or educational organizations; labor unions; environmental organizations; professional associations; charities; or youth associations. In the 2016 survey wave, respondents are also asked about participation in women's groups and farming cooperatives. The question asks people to state whether they are active, passive, or non-participants in any of the above organizations or groups. I code those who are active participants in each civil society organization as 1 and all others as 0. I collapse civic group participation into a summated index.

The last sociopolitical control variable that I include is *life satisfaction*. Prior research identifies that those who have higher life satisfaction are more likely to participate in protests, along with other political activities, such as voting (Flavin & Keane, 2012). My measure of an individual's life satisfaction relies on a question that asks people to use a five-point scale to rate their satisfaction with their life with higher values corresponding to greater life satisfaction.

Demographic Controls

I include four demographic control variables. With the first, I control for *education*, because studies identify a positive relationship between higher levels of education and protest participation (R. Dalton, Van Sickle, & Weldon, 2010), and support for protest actions(Hall, Rodeghier, & Useem, 1986). I use the survey's original coding of education, which I treat as a continuous variable that takes on values from 1 (no education) to 8 (graduate degree). Next, I control for gender by assigning 1 to those identified as *female* and 0 otherwise. My decision to control for gender is guided by prior findings in the literature on protest behavior that indicate gender differences in protest participation, with women being less inclined participants (e.g., R. J. Dalton, 2013; Schlozman, Burns, & Verba, 1994).

Third, I assign a 1 to those who live in *urban* areas (capital city metropolitan areas or in large cities) and 0 to those living in more rural areas or smaller cities. Geography represents an important factor in predicting protest behavior. Urban areas are major population centers that provide symbolic elements and resources that provide opportunities for protest actions. As such, urban dwellers are more likely to participate in protests (Salmenkari, 2009; Slater, 2010). I then control for the effect of *age*, which tends to have a negative effect on protest participation. That is, protest participants tend to be younger rather than older (Hoffman & Jamal, 2012; Schussman & Soule, 2005).

I then include a control for *wealth*, more of which may either deplete protest participation (Lipsky, 1968) or encourage it (Schussman & Soule, 2005). I measure wealth using a survey question that asks respondents to place themselves on a 10-point scale that corresponds to wealth percentiles, where 1 point indicates that they are among the poorest 10 percent of the population and 10 points indicate that they are among the 10 percent richest in the population. Finally, I also include a dummy for the *survey year* to control for any differences that may have taken place in the six-year gap between the surveys.

Estimation Strategy

My baseline modeling strategy estimates the following fixed-effects logit model:

$$\log \left[\frac{P(y_{it} = 1)}{1 - P(y_{it} = 1)} \right] = \alpha_i + \lambda_t + X_{it}\beta + \epsilon_{it}$$

where y_{ij} is vector of binary protest responses for each individual, α_i is a vector containing country fixed effects, λ_t represents the survey year dummy, X_{it} is a matrix containing corruption evaluation measures and controls, and ϵ_{it} refers to random error term. In X_{it}, I also interact corruption perceptions with exposure to test the conditional effects of these variables on protest participation.

Results and Discussion

I present the results in two sections. I first test the literature's two hypotheses about the effects of corruption perceptions on protest participation (H_1) and of corruption exposure on protest participation (H_2). My findings support both hypotheses, showing a positive effect of corruption perceptions on protest participation as well as a positive effect of corruption exposure on protest participation. In short, I find that perceiving corruption to be widespread and having exposure to corruption encourage people to participate in protests.

Although the findings indicate little distinction between the effects of perceptions and exposure, I do find considerable distinctions in protest participation patterns among different conditional combinations of corruption perceptions and exposure. In particular, results show that corruption perceptions raise protest participation among those sensitive to corruption yet dampen protest participation among those exposed to corruption. At the same time, however, a higher corruption exposure-low corruption perception combination is associated with higher protest participation probabilities. In other words, protest participation patterns vary considerably depending on a person's experience and perception of corruption. I now present these findings in detail.

Testing Perceptions and Exposure Hypotheses

In Figure 6, I present predicted probabilities associated with the corruption perception and corruption exposure measures to test the first two hypotheses. I first find support for H_1 that those who perceive corruption are more likely to protest. Controlling for sociopolitical and demographic variables, I find that those who believe that corruption is an infrequent event have less than a 6 percent probability of participating in protests, while those who believe that corruption is especially frequent have over a 10 percent probability of protest participation. As individuals grow more
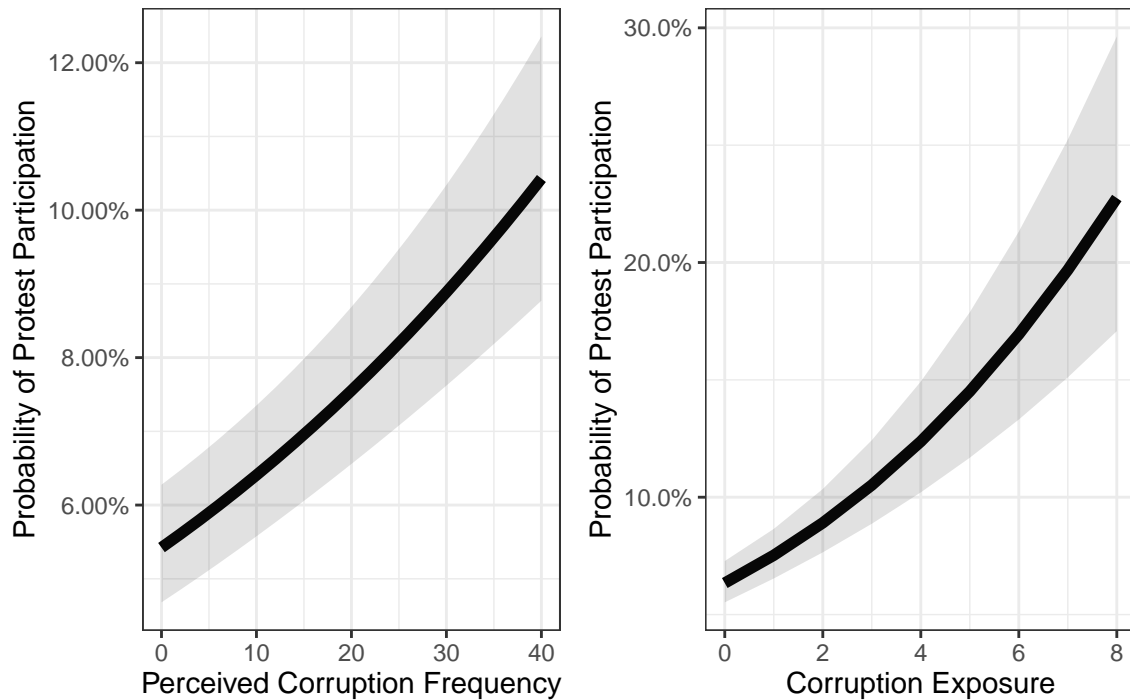
Figure 6: Independent effects of corruption perceptions and exposure on protest participation

sensitive to corruption, their probability of protest participation rises as well. According to these

results, dire perceptions of high levels of corruption may attract protesters rather than deter them.

I also find support for H_2 that exposure to corruption contributes positively to protest participation.

When individuals do not experience corruption, they have less than a 5 percent probability of

protesting. On the other hand, those experiencing corruption very frequently greater than a 20

percent probability of participating in protest activities. Indeed, as exposure to corruption becomes

more prevalent, the probability that people will participate in protests rises rather dramatically.

As such, exposed people are more driven toward protest participation. This result supports the

literature's prior findings of a positive relationship between exposure and protest activity.

This section shows that corruption perceptions and corruption exposure have comparable effects on

protest participation likelihood. In the next section, I use differences that exist between corruption

perceptions and exposure to derive corruption intolerance group measures. I use these measures to analyze the likelihoods of protest participation. The results in the next section show that these corruption intolerance groups highlight the importance of a holistic approach toward corruption measurement in the context of studying attitudinal effects on protest participation.

Testing Conditional Effects of Corruption Measures on Protest Participation

Having tested hypotheses borne out of the existing literature, I now test the conditional effects of corruption measures on protest participation by interacting perceptions and exposure measures. I present the main findings in Figure 7. The figures shows that different conditions in corruption exposure influence the effect of corruption perceptions on protest participation in distinct ways. I highlight these differential effects in this section.

I differentiate among three levels of corruption exposure: no exposure, medium exposure (4 bribery experiences), and high exposure (8 bribery experiences). I then show how these three different levels influence the effect of corruption perceptions on an individual's probability of participating in a protest. First, I find that individuals with no corruption exposure have the lowest probability of protest participation in comparison with other categories so long as all individuals in those exposure categories believe that corruption is infrequent. The probability of protest participation for those with no corruption exposure and a perception that corruption is infrequent have approximately a 5 percent probability of joining a protest. In comparison, those with medium levels of exposure and believe that corruption is infrequent have a 15 percent probability of protest participation. Lastly, those with high exposure to corruption but lax corruption perceptions have a 35 percent probability of participating in protests. This first finding shows that at low levels of perceived corruption, higher levels of exposure are associated with higher probabilities of protest participation.
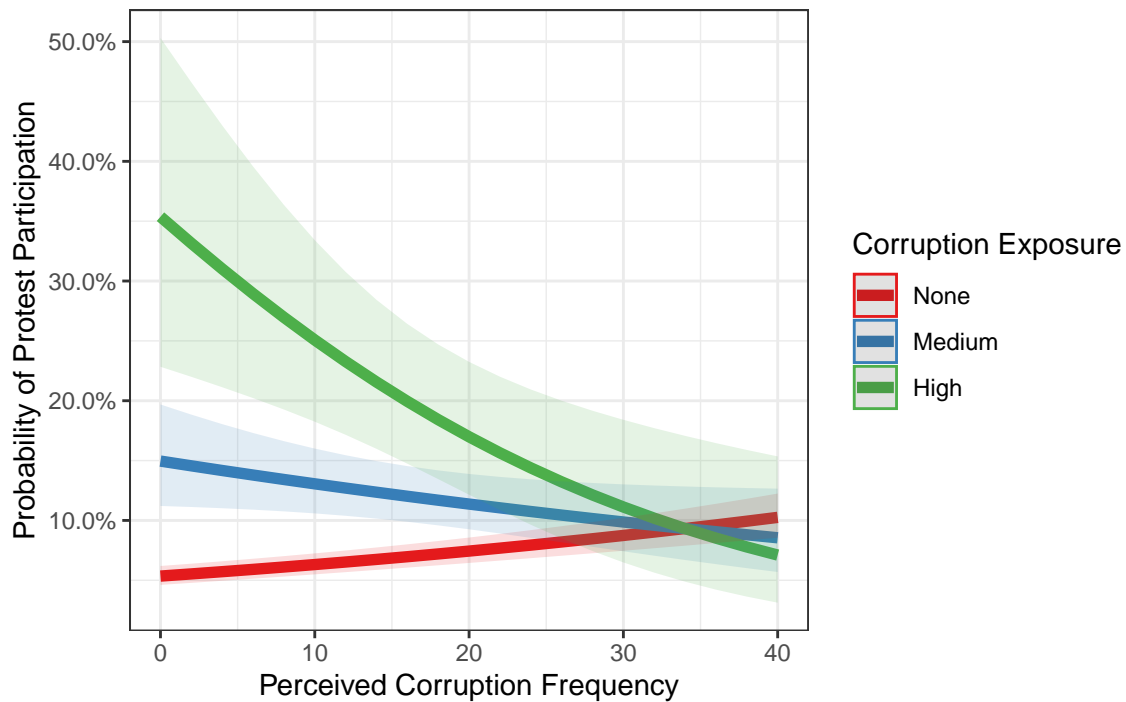
31

Figure 7: Conditional effects of exposure on perceptions in predicting protest participation

Second, however, individuals with no corruption exposure who believe that corruption is frequent have a higher probability of protest participation relative to others though these differences are rather small. No exposure but dire perceptions of corruption are associated with slightly greater than a 10 percent probability of protest participation. Medium and high levels of exposure combined with high perceived corruption have less than a 10 percent probability of protest participation. In other words, the incongruity of low corruption exposure but high corruption perceptions can encourage protest participation.

Third, only the lack of exposure to corruption contributes to higher protest participation as perceived corruption grows. Among medium and high levels of corruption exposure, worsening perceptions of corruption reduce the probability that an individual participates in a protest. Among highly exposed individuals, especially worsened perceptions of corruption reduce the probability

of protest participation by over 25 percent. Among individuals exposed to medium levels of corruption, extreme corruption perceptions reduce the probability of protest participation by over 5 percent. Alternatively, those who do not experience corruption see a growth in their protest participation probabilities by about 5 percent as they become less tolerant of corruption.

In disentangling how people think about corruption, these findings illustrate how corruption evaluations affect protest participation in ways that transcend prior studies. First, the findings show how different levels of exposure explain distinctive effects between perceptions and patterns of protest participation. Second, these findings suggest that corruption may contribute to relative deprivation but only insofar as individuals are either exposed to or have dire perceptions of corruption (but not both simultaneously). Those who are the most likely to participate in protests are people who have internalized their experiences with corruption such that even though they are exposed to corruption frequently, they do not perceive corruption to be a frequent occurrence. In contrast, only those who have not experienced corruption grow more likely to participate in protests as their perceptions of corruption worsen.

Given the divisions among these groups, my findings highlight the difficulties of using corruption to mobilize protesters. Scholars suggest that prior protest mobilization predicts future mobilization (Finkel & Muller, 1998; McAdam, 1986; Smyth, 2018). If this were the case, only a minority of survey respondents are reliable protest participants. Because a mere 18 percent of respondents experienced corruption of any kind and only about 5 percent experienced corruption more than once, protest mobilization based on corruption exposure is difficult. Moreover, individuals who have not experienced corruption must perceive corruption to be rather high in order to be potential targets for protest mobilization. These findings suggest the presence of a large barrier to mobilizing protesters around the frame of corruption.

Conclusion

In extant corruption evaluations research, scholars rely on either corruption perceptions or corruption exposure measures in surveys. I have demonstrated that corruption perceptions measures are limited in their ability to provide information about a respondent's context. I have also shown that corruption exposure measures fail to identify whether respondents care about their exposure to corruption. I have proposed a straightforward solution that studies the conditional effects of exposure on perceptions to derive improved corruption evaluations in surveys. I tested this approach on the outcome of protest participation and showed that there exist crucial differences across different kinds of conditions in exposure and perceptions. These findings generally suggest, however, that corruption's strength in predicting protest participation is reserved for a small subset of the general population.

The central implication of such findings is that protests framed around the issue of corruption are unlikely to endure. Therefore, protest campaign endurance necessitates broader frames that speak to larger populations. Indeed, many protest campaigns already internalize this message. Many such campaigns that begin as a grassroots anti-corruption effort evolve into revolutions destined to depose leaders. Observers have observed the evolution of anti-corruption protests into full-fledged revolutions during Egypt's 2011 revolution, Ukraine's 2014 revolution, and even the American revolution. Corruption certainly matters to large segments of many populations but not so much that it leads to visible political activity.

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Appendix

A. Life in Transition Survey Data Coverage for Baseline Estimations

	LITS II (2010)	LITS III (2016)
Poland	1484	1415
Hungary	934	1321
Czech Republic	949	1450
Slovakia	876	1400
Albania	954	1401
Montenegro	900	1277
Macedonia	1017	1313
Croatia	936	1399
Serbia	1424	1270
Bosnia and Herzegovina	1032	1381
Kosovo	1002	1356
Slovenia	905	1356
Bulgaria	898	1323
Moldova	827	1427
Romania	1007	1323
Russia	1280	1319
Estonia	860	1309
Latvia	856	1311
Lithuania	920	1384
Ukraine	1421	1433
Belarus	674	1262
Armenia	804	1432
Georgia	856	1298
Azerbaijan	878	1140
Tajikistan	954	1431
Kyrgyzstan	932	1385
Kazakhstan	844	1332
Mongolia	788	1479

Table 4: Country-Year Coverage