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The Determinants of Perception of Corruption in Guatemala, 2006–2016

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The September 2015 ousting and imprisonment of Guatemalan President Otto Pérez Molina and the subsequent election of television personality Jimmy Morales, who ran on an anticorruption platform, were interpreted as evidence of the salience of corruption as a popular concern in the country. Using the Latin American Public Opinion Project (LAPOP) from 2006 to 2016, this article analyzes the evolution in the perception of corruption in Guatemala and its determinants to assess for changes after 2015. Perception of corruption remains a secondary concern for most Guatemalans and its determinants—age; education; rightwing ideology; and retrospective economic outlook—are stable overtime. The 2015 corruption scandal had a marginal impact on an already high perception of corruption. When perception of corruption is so widespread, the explanatory power of its determinants becomes less pronounced.

Keywords: Corruption scandals, Guatemala, perception of corruption, sociotropic views

In late 2015, weeks before the presidential election, the citizens of Guatemala took to the streets to protest against a government corruption scandal uncovered by the International Commission against Impunity in Guatemala (CICIG; <https://www.cicig.org>). The scandal forced the resignation of President Otto Pérez Molina on September 2, a day before he was arrested on corruption charges. Guatemala became the first country in Latin America to send a president to jail before the end of his term. In the first-round vote on September 6, Jimmy Morales, a television personality without political experience, surprisingly made it to the runoff on an anticorruption platform. His “neither corrupt nor thief” campaign message resonated with discontent voters who overwhelmingly elected him to the presidency (67%) in the runoff on October 25.

International news outlets reported the ousting of Pérez Molina as a pivotal moment in Guatemalan history, and even in Latin America, and as evidence of a growing popular concern over government corruption. The *New York Times* claimed, “Guatemala’s middle class, long reluctant to speak out, began joining forces with peasants and indigenous groups. Eventually, the nation’s church and business leaders also took the side of the protesters to demand change” (Ahmed & Malkin, 2015). A correspondent for *The New Yorker* reckoned, “I found myself finally believing that what so many are saying is true, that Guatemala—though much still remains to be done before one can say that the country has truly changed—really will never be the same again” (Goldman, 2015).

Two years later, a new wave of protests in March 2017 against President Morales, whose family members were involved in a corruption scandal, also attracted international media attention. The Morales government effort to abolish the CICIG in 2018 further underlined the perception that there is an uphill fight against corruption in Guatemala. Though the ramifications of the scandal have continued, popular interest and street demonstrations have declined. After having thrown out a president in 2015, Guatemalans seemed less inclined to throw out a second president on corruption charges.

Using data from six Latin American Public Opinion Project (LAPOP, 2018) surveys from 2006 to 2016, this article analyzes the perception of corruption in Guatemala before and after the 2015 scandal. After discussing the determinants of corruption in emerging democracies, the article presents the methodology and the case of Guatemala. The article then tests if the determinants of perception of corruption identified in the literature apply to Guatemala and examines whether the events of 2015 changed the determinants of corruption in the country. The article finds that in countries where the perception of corruption is widespread, corruption scandals will only have a marginal impact on the perception of corruption. When the perception of corruption is so high, the variables commonly identified as explaining perception of corruption and the statistical models used to account for that perception lose explanatory power.

THE DETERMINANTS OF CORRUPTION

Corruption is a symptom of poor state management (Klitgaard, 1998; Rose-Ackerman, 1999), and “can be viewed as an umbrella concept that links together concepts of clientelism, patronage, state capture, particularism and patrimonialism” (Varraich, 2014, p. 4). Corruption distorts democratic procedures, as actors involved obtain disproportionately greater benefits (Canache & Allison, 2005). Corruption leads to lowered government legitimacy and lower legitimacy of the incumbent government in particular (Seligson, 2002, pp. 413–414). Corruption also jeopardizes the economic system, as it increases transactional costs, reduces investment incentives, and, given the instrumentality of bribes, government revenues decline (Seligson, 2002; Treisman, 2000).

Corruption is difficult to measure since, it is something that is, “by its very nature, largely hidden” (Heywood, 2015, p. 137). Most studies rely on “subjective perceptions and expertise” (Lambsdorff, 2007, p. 3), but often confound the causes and consequences

(Lambsdorff, 2007, p. 4). Perception of corruption differs from the level of corruption, but “the latter may influence the former” (Melgar, Rossi, & Smith, 2010, p. 121). Among the consequences of corruption perception in the public sphere is the distrust of institutions and erosion of political legitimacy (Canache & Allison, 2005; Davis, Camp, & Coleman, 2004; Gómez-Vilchis, 2012; Williams, 1999). Corruption is both a cause and an effect of poor government performance. This results in a “lack of confidence in government that favors corruption insofar as it transforms citizens into clients and bribers who look for private protection to gain access to decision-makers” (Della Porta, 2000, p. 205).

Economic factors might have an endogenous relationship with corruption. There is a negative correlation between the human development index and gross domestic product with corruption indexes (Treisman, 2000). Low salaries and poor monitoring provide incentives for corruption in the public sector and foster the perception of corruption (Rose-Ackerman, 2001). Structural economic characteristics also matter. For example, oil-producing countries tend to have higher corruption levels (Montinola & Jackman, 2003). Higher levels of corruption are linked to lower income levels; greater state control of the economy; weaker democratic institutions; and less integration in the world economy (Sandholtz & Koetzle, 2000).

As corruption is a cultural phenomenon partially conditioned on the social awareness and understanding of rules, societies view corruption differently (Melgar et al., 2010). Citizens in countries with higher levels of corruption express more negative assessments of the political system’s functioning, and show lower levels of trust in public officials (Anderson & Tverdova, 2003). Greater presence of women in positions of authority is associated with a lower perception of corruption (Barnes, Beaulieu, & Saxton, 2018; Schwindt-Bayer, Esarey, & Schumacher, 2018), which might be explained by women being more risk averse office holders (Schwindt-Bayer et al. 2018).

Prior studies have consistently found that sociodemographic, ideological, and endogenous determinants influence the perception of corruption. Women are less likely to justify a bribe (Torgler & Valev, 2006), and to perceive higher levels of corruption (Melgar et al., 2010, p. 123). Age does not affect the perception of corruption (Melgar et al., 2010, p. 124), though a study of six Latin American nations found that younger people perceive more corruption (Canache & Allison, 2005).

Income and education affect the perception of corruption differently. In higher income countries, education and income are inversely correlated with the perception of corruption, while in lower-income countries, those with higher levels of education and higher income tend to perceive more corruption than the rest (Birdsall, Kenny, & Diofasi, 2018, p. 301). Overall, though, the study reports that, more than sociodemographic traits, the best determinant of perception of corruption is to have knowledge of bribes paid to government officials (Birdsall, et al., 2018). Others have reported that socioeconomic status has a negative effect on the perception of corruption in Latin America, with those in the lower classes perceiving more corruption than the rest (Canache & Allison, 2005, p. 99).

Political preferences also affect the perception of corruption, “supporters of a party are notably more positive in their perceptions when ‘their’ party holds office” (Rose, 2018, p. 173). Those that are more interested in politics perceive less corruption (Canache & Allison, 2005, p. 99). In a comparative study of Latin America, Davis et al. (2004) report

that polarized party systems influence the perception of corruption. Since citizens who sympathize with the left tend to believe more strongly in the state than those on the right, the latter might perceive more corruption among public officials than those on the left, especially under a leftwing government.

People who are better off and have more positive views about the way the economy is going tend to have better overall assessments of how institutions function (Blais & Gélinau, 2007; Melgar et al., 2010, p. 125). Those with better sociotropic perceptions also display higher levels of trust in institutions (Morris & Klesner, 2010, p. 7). To the contrary, people who are economically deprived are more doubtful of their country elites (Chang & Kerr, 2017, p. 75), and should, consequently, have higher perception of corruption.

People might perceive corruption, but if they belong to high patronage networks, they might be more tolerant of corruption (Chang & Kerr, 2017). Thus, changes in perception of corruption levels will not necessarily lead to changes in attitudes, preferences, or behavior. People might support corrupt politicians for lack of information (Winters & Weitz-Shapiro, 2013) or because they marginally benefit from corrupt practices (Chang & Kerr, 2017).

Endogenous factors, too, influence the perception of corruption. People can perceive levels of corruption that are not necessarily analogous to the reality (Seligson, 2006). In fact, in countries in which a major effort to reduce corruption has been successful, the antigraft campaign may “produce an increase in the perception of corruption precisely at the time when actual corruption is declining” (Seligson, 2006, p. 390). By placing corruption in the realm of moral transgression, the uncovering of political scandals by the mass media leads to public condemnation against those involved (Thompson, 2000). Thus, in countries where governments or civil society actors focus on combating corruption—or when a corruption scandal has been salient—there might be a resulting increase in the perception of corruption triggered by the centrality of corruption as a government or societal priority.

Not surprisingly, corruption scandals increase the perception of corruption (Weyland, 1998); lead voters to punish incumbents (Costas-Pérez, Solé-Ollé, & Sorribas-Navarro, 2012); and, even after the effect of the scandal has withered, have permanent negative effect of the levels of trust (Solé-Ollé & Sorribas-Navarro, 2018). In countries where the perception of corruption is widespread, the effect of corruption scandals will inevitably be more limited. When the overall perception of corruption is very high, the determinants that normally explain perception of corruption will lose explanatory power and corruption scandals—even huge ones, like the ousting of a president—will only have a marginal impact on the perception of corruption. When most people already believe that the country is corrupt, no scandal—however big—can have a noticeable effect. New corruption scandals will not change anyone’s already deeply rooted perception of corruption.

To analyze the determinants of perception of corruption in Guatemala, four hypotheses are formulated. First, based on the evidence that points to higher perception of corruption among the more educated in lesser developed countries, it is expected that those who are better off perceive more corruption. Second, those who identify with the right on the left-right ideological scale will perceive more corruption than the rest. Third, those with a positive economic outlook will perceive less corruption than the rest. Fourth, after the 2015 corruption scandal, the perception of corruption will increase uniformly across all sociodemographic groups.

THE CASE OF GUATEMALA

Guatemala has had a long history of authoritarianism and high levels of corruption. Starting with the first transition to democracy in 1944, democratically elected presidents Juan José Arévalo and Jacobo Árbenz pushed for agrarian reform; labor rights; established the nation's first Congress; and promoted freedom of speech and freedom of the press (Schlesinger & Kinzer, 2005, p. 37). In 1954, a U.S.-backed coup started a 30-year authoritarian period. When free elections were organized, Christian Democratic Party Vinicio Cerezo (1986–1991) led the return to democracy. After a failed attempt to close congress, President Jorge Serrano (1991–1993) was removed from office. Under Álvaro Arzú (1996–2000), a peace agreement between the state and the guerrillas was signed in 1996. Rightwing President Alfonso Portillo (2000–2004) was sentenced in 2014 to five years and 10 months in prison by a New York court for accepting \$2.5 million in bribes and laundering funds through U.S. banks (Pierson, Ax, Menchú, & Cameron-Moore, 2015).

In a 2007 agreement under conservative President Oscar Berger (2004–2008), Guatemala and the United Nations created the International Commission against Impunity in Guatemala (CICIG), a unique judicial watchdog serving as a mechanism to consolidate democratic institutions. With an unprecedented mandate to promote accountability and strengthen the rule of law, CICIG works with the Attorney General's Office and other national security entities by means of capacity building that enhances criminal investigation efforts. Initially set up to help domestic institutions investigate and dismantle illegal groups and clandestine security structures (WOLA, 2015), CICIG's focus switched to corruption, given that this "was a common denominator in most cases" it investigated (Taylor, 2017). In 2008, moderate social-democratic President Álvaro Colom moved forward with the peace process and expanded social programs. In 2012, rightwing former military officer Otto Pérez Molina, who campaigned on an anticorruption and tough-on-crime platform, won the runoff election.

The most celebrated accomplishments by CICIG came in 2015, when an investigation exposed multiple corruption schemes, implicating officials in all three branches of government. In one case, 30 government officials were charged for organizing a customs fraud scheme (CICIG, 2015). On August 25, 2015, the Supreme Court unanimously approved a motion by the attorney general to impeach the President. The result of the two-week long protests led to the resignation of Pérez Molina on September 2, and his arrest a day later (Goldman, 2015). Prior to Pérez Molina's ousting, the corruption scheme had already led to the resignation of Vice President Roxana Baldetti (Malkin, 2017). In the first-round presidential election vote on September 6, Jimmy Morales, a former television personality with no prior political experience, surprisingly made it to the runoff on an anticorruption platform. His "neither corrupt nor thief" message resonated well with discontent voters. He was elected with 67% support in the runoff on October 25 (Alper et al., 2015).

On October 5, 2017, Guatemala's attorney general and CICIG accused the mayor of Guatemala City of corruption, "adding him to a long list of influential politicians under investigation for suspected wrongdoing" (Menchú & Tait, 2017, p. 1). Álvaro Arzú, on his second term as City Mayor after serving as President of Guatemala (1996–2000), is the third president indicted on corruption charges. In 2018, President Morales was involved in another scandal when his political party was investigated for campaign finance irregularities. As a reaction,

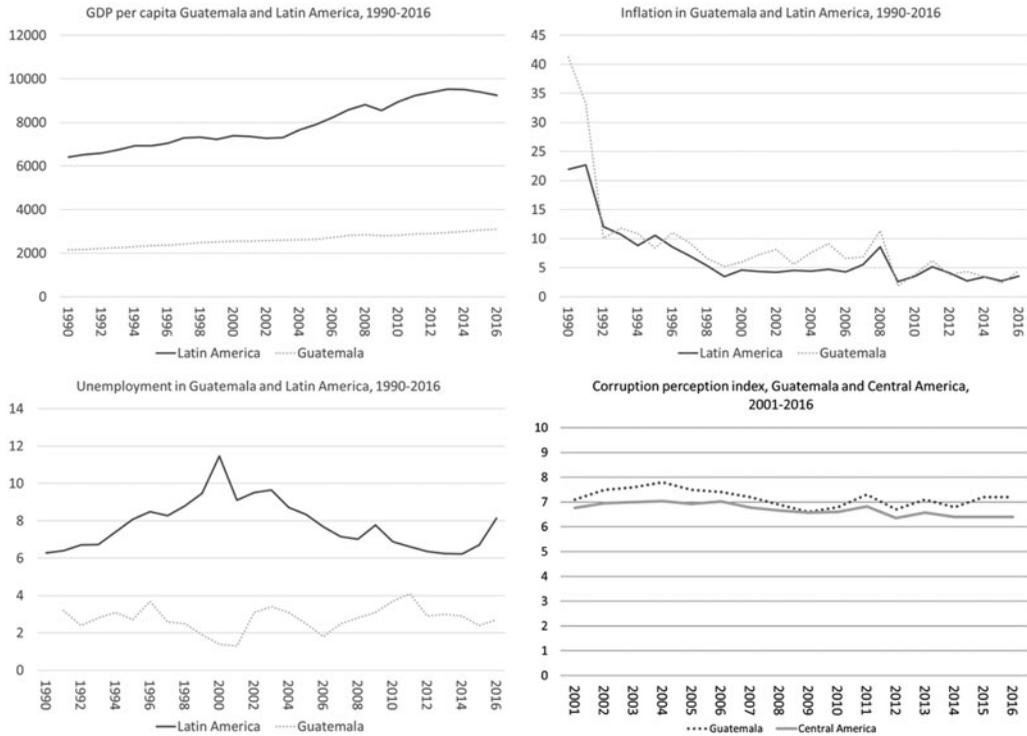


FIGURE 1. Corruption perception indicators in Guatemala and Latin America, 1990–2016. *Sources:* Authors, with data from World Development Indicators (World Bank, 2018) and the Corruption Perception Index (CPI) (Transparency International, 2018). CPI data are shown in inverted scale, with 10 being the highest level of corruption.

Morales called for the expulsion of the CICIG Commissioner, which prompted the United States and other countries to issue a joint statement saying that the CICIG had “played a vital role in the fight against impunity” in Guatemala (Partlow, 2017). Before this, Morales’s oldest son and his brother Sammy Morales, were investigated for the misappropriation of funds and the pursuance of unlawful contracts at the National Property Registry (Pallister, 2017, p. 477). In his last year in office, Morales has attempted to shut down the CIGIC, and he has announced that the CIGIC mandate will not be renewed after it expires in September 2019.

Guatemala is one of the least developed countries in Latin America. As Figure 1 shows, the level of development in Guatemala (GDP per capita in constant US\$ 2011 prices) has been systematically lower than the average for Latin America, though inflation figures in Guatemala resemble those of the rest of the region. Official unemployment figures for Guatemala are better than for the rest of Latin America. Guatemala is among the most corrupt countries in Central America, a region that traditionally scores badly in CPI rankings.

Previous studies on corruption in Guatemala report that popular perceptions of corruption correlate well with expert perceptions of corruption (Morris, 2008, p. 395). After the press and civil society played a key role in bringing down Pérez Molina, an expert report

concluded: “scandals do not alter victimization levels and often fail to even affect the prevailing perceptions of corruption—they merely confirm those perceptions beyond doubt. In doing so, they may spark very intense indignation and, eventually, tip citizens towards action” (Casas-Zamora & Carter, 2017, p. 17). Still, despite the fact that Guatemala ranked 136th of 176 countries in 2016 in the CPI index, the 2015 crisis “was resolved within the constitutional rules—a fact worth noting in a country that has had its share of military coups and self-coups” (Pallister, 2017, p. 484).

DATA AND METHODOLOGY

Corruption is normally measured on a perception and a victimization dimension (Seligson, 2006). Victimization surveys exclude the importance of corruption happening in higher offices of government. By considering only those who have firsthand experiences with bribery, the sample is biased, thus making it impossible to determine if those individuals involved acted voluntarily in the transaction of benefits (Canache & Allison, 2005; Seligson, 2006). Perception studies rely on the subjectivity of the respondents. Even though a country can experience few events of corruption, respondents can perceive high levels of corruption due to a myriad of factors (Seligson, 2006).

The perception of corruption is assessed using the LAPOP surveys. Although LAPOP has been conducting polls in Guatemala since 1992, six surveys representative of the adult population of the country ($N = 7541$) conducted between 2006 and 2016 are used. Our dependent variable is the perception of corruption.

When asked about priorities for government action, 70% of Guatemalans mention crime; poverty; economy; or unemployment. As shown in Table 1, only an average of 3.8% of respondents has mentioned corruption in the six polls conducted from 2006 to 2016. There was a noticeable increase to 6.2% in 2016, after the Pérez Molina scandal. Since the question asks people to select among different priorities, corruption is displaced by more immediate and urgent concerns.

Thus, the article uses an alternative way to assess the perception of corruption in Guatemala. LAPOP asks a question on perception of corruption among public officials or politicians. For the 2006–2014 surveys, the question was: “Taking into account your experience or what you have heard, corruption among public officials is: (1) very common, (2) common, (3) uncommon, and (4) very uncommon.” In the 2016 survey, the wording of the question changed to: “Thinking of politicians in Guatemala, how many of them do you believe are involved in corruption: (1) none, (2) less than half of them, (3) half, (4) more than half, and (5) all.” Table 2 shows the distribution of results for each survey using the entire sample. As the perception of corruption was already high, and despite the change in the possible answers to the question, the increase in the perception of corruption after 2015 was not drastic. After all, a widespread majority of Guatemalans already believed that their country had high levels of corruption among public officials.

The change in the wording in the 2016 LAPOP survey presents a challenge for an appropriate intertemporal comparison. To control for the effect of different ways of coding the answers, the models on the perception of corruption ran with alternative coding for our

TABLE 1.
Perception of Corruption as the Top National Problem, Guatemala, 2006–2016.

<i>Year</i>	<i>Mention corruption</i>	<i>Total (N)</i>
2006	3.4	100 (1498)
2008	3.2	100 (1538)
2010	3.8	100 (1494)
2012	3.0	100 (1509)
2014	3.0	100 (1506)
2016	6.2	100 (1546)
Total	3.8	100 (9111)

Source: Authors, based on LAPOP surveys from 2006 to 2016.

TABLE 2.
Perception of Corruption Among Public Officials in Guatemala, 2006–2016.

<i>Year</i>	<i>Very uncommon</i>	<i>Uncommon</i>		<i>Common</i>	<i>Very common</i>	<i>DK-NA</i>	<i>Total</i>
2006	1.3	6.6		29.8	46.6	15.7	100.0
2008	3.6	11.7		17.9	56.2	10.6	100.0
2010	4.3	14.0		25.0	47.3	9.4	100.0
2012	5.5	16.2		31.4	34.1	12.8	100.0
2014	3.6	17.3		37.1	35.5	6.5	100.0
	None	Less than half	Half of them	More than half	All		
2016	2.2	8.5	22.1	30.9	32.0	4.3	100.0

Source: Authors, based on LAPOP surveys from 2006 to 2016 (LAPOP, 2018).

dependent variable. For all the models, the answers were recorded as a 1 or 0, perceiving or not perceiving corruption. “None” and “less than half” were coded as 0; and “common”; “very common”; “more than half”; and “all” were coded as 1. The option “half of them” was coded in different ways. For the first series of models, in Table 4, “half of them” was coded as 1. The models were also run coding that alternative as perception of no corruption (or equal to 0) and as a missing value to verify the robustness of the results—those models are shown in Tables A1 and A2. As a result, the percentage of those who perceived corruption in 2016 were 85%, 62.9%, or 85.5% depending on the different coding strategies. Overall, as Table 3 shows, the percentage of those that are classified as perceiving corruption is similar for the entire period regardless of the coding criteria used for relevant questions in the 2016 survey. As discussed below, the results are consistent across models. The second binomial regression models in Table 5 show the results for the three different coding strategies on perception of corruption among public officials. The results are also consistent across models.

Though there is always a problem when surveys change the wording of the question and the number of possible answers, the fact that LAPOP is the most reliable national survey conducted in Guatemala over time with publicly available datasets justifies the use of those questions as the most appropriate way to measure the evolution in perception of corruption given the data constraints. The fact that all the ways in which the models were run provide comparable results makes us confident about the robustness of the findings.

For the first hypothesis, the independent variable of interest is education as a proxy of income and socioeconomic levels. The answers were recoded so that 0 equals no years of

TABLE 3.
Descriptive Statistics for the Dependent and Independent Variables.

<i>Variable</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Perception of corruption (1 = Positive; 0 = Negative) ¹	7541	0.83	0.38	0	1
Perception of corruption (1 =Positive; 0 = Negative) ²	7541	0.79	0.41	0	1
Perception of corruption (1 = Positive; 0= Negative) ³	7238	0.82	0.39	0	1
Sex (Women = 1; Men =0)	7541	0.48	0.50	0	1
Age	7541	0.38	0.15	0.18	0.99
Region (Urban = 1; Rural = 0)	7541	0.50	0.50	0	1
Education (0–18 years of education)	7541	0.33	0.21	0	1
Political ideology: None	7541	0.17	0.38	0	1
Political ideology: Left	7541	0.18	0.38	0	1
Political ideology: Center	7541	0.42	0.49	0	1
Political ideology: Right	7541	0.23	0.42	0	1
Left-to-right ideology (10-point scale) ⁴	6232	0.48	0.27	0	1
Sociotropic retrospective (0 = Negative; 1 = Positive)	7541	0.24	0.30	0	1
Egotropic retrospective (0 = Negative; 1 = Positive)	7541	0.37	0.33	0	1
Dummy presidential approval (1 = Approves)	7541	0.26	0.44	0	1
Dummy 2016 (2016 = 1; All other years = 0)	7541	0.18	0.38	0	1

Source: Authors, based on the Latin American Public Opinion Surveys from 2006 to 2016.

Notes: For the 2016 poll: ¹coding the category “half of them” as perceiving corruption; ²coding it as not perceiving corruption; ³coding it as missing values; ⁴excludes those who do not identify on the left-right scale.

Source: Authors, based on the Latin American Public Opinion Surveys from 2006 to 2016.

schooling and 1 equals university degree completed. For the second hypothesis, the article uses ideological self-identification. The values none and 1–10 in the scale were recoded into “none”; left (values 1–3); center (values 4–6); and right (values 7–10). During the period, 83% of Guatemalans identified on the ideological scale. The models were tested with different ways to group left, center, and right, but the results were consistent. The article shows the model with self-classification on the left-right scale as a continuous variable—excluding those who do not identify on the scale—to show the consistency of the findings of the model.

For the third hypothesis, the article uses economic outlook. The variables were coded following Nadeau and Gélinau (2017). These variables include sociotropic and egotropic retrospective outlooks (0 = Negative; 0.5 = Neutral; and 1 = Positive). For the fourth variable, different ways to measure the effect of the 2015 corruption crisis were used. A first model adds time (measured by survey year) as a continuous variable. A second model uses a dummy variable, where 2016 is equal to 1 and the pooled surveys from 2006 to 2014 are equal to 0. A third and fourth model measure time as a factor variable, using 2006 and 2016 as the base categories, respectively. Since the presidents of Guatemala were rightwing Oscar Berger (2004–2008); leftwing Álvaro Colom (2008–2012); Otto Pérez Molina (2008–2015, forced to resign); and antiestablishment populist turned rightist Jimmy Morales (2016–2020), the ideology of the president is mentioned for each poll year.

As control variables, the models use sex (women = 1); age (18–91 years old); region of residence (urban = 1); and a dummy for presidential approval (approves = 1). The questionnaire, methodology, and data sets of each survey are publicly available on the LAPOP Website. Table 3 provides a summary of statistics, while formulas 1 and 2 summarize the binomial regression model.

$$\text{Perception of Corruption} = f(\text{education, political ideology, economic outlook, time}) \quad (1)$$

$$\begin{aligned} \text{Perception of Corruption} = & b_0 + b_1\text{Sex} + b_2\text{Age} + b_3\text{Region} + b_4\text{Education} \\ & + b_5\text{Political Ideology} + b_6 \text{ Sociotropic Retrospective} \\ & + b_9 \text{Egotropic Retrospective} + b_{10} \text{Dummy Approval} + b_{10} \text{Time} + e \end{aligned} \quad (2)$$

TABLE 4.
Binomial Logit Regression Model on Perception of Corruption Among Public Officials, 2006–2014 & 2016.

Variables	2006–2014 (Pooled model)	2016 Coding “half of them” as 1	2016 Coding “half of them” as 0	2016 Coding “half of them” as missing
Women	−0.148** (0.0671)	−0.0508 (0.182)	0.101 (0.120)	−0.0101 (0.186)
Age	1.468*** (0.246)	1.674** (0.700)	0.962** (0.440)	1.675** (0.709)
Urban	0.103 (0.0716)	0.210 (0.188)	0.0826 (0.123)	0.209 (0.193)
Education	1.892*** (0.192)	1.559*** (0.516)	1.181*** (0.328)	1.722*** (0.522)
Ideology: Left	−0.604*** (0.113)	0.714* (0.422)	0.217 (0.299)	0.589 (0.431)
Ideology: Center	−0.233** (0.0969)	0.430 (0.405)	−0.0665 (0.292)	0.234 (0.415)
Ideology: Right	−0.311*** (0.109)	0.359 (0.402)	0.0696 (0.293)	0.246 (0.411)
Sociotropic retrospective	−0.237** (0.120)	−0.771** (0.302)	−0.460** (0.216)	−0.761** (0.307)
Egotropic retrospective	0.0734 (0.114)	−0.399 (0.273)	0.00385 (0.183)	−0.367 (0.278)
Dummy approval	−0.0602 (0.0761)	−0.254 (0.196)	−0.485*** (0.132)	−0.400** (0.202)
Year: 2008	−0.710*** (0.130)			
Year: 2010	−0.992*** (0.126)			
Year: 2012	−1.138*** (0.125)			
Year: 2014	−1.001*** (0.124)			
Constant	1.507*** (0.176)	0.832 (0.576)	−0.0154 (0.396)	0.614 (0.581)
Nagelkerke R ²	0.074	0.057	0.046	0.073
N	6194	1347	1347	1044

Sources: Authors, based on LAPOP Surveys from 2006 to 2016 (LAPOP, 2018).

Notes: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$ (two-tailed tests). Entries are unstandardized logistic regression coefficients, with standard errors in parenthesis.

TABLE 5.
Binomial logit regression model on perception of corruption among public officials.

<i>Variables</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
Women	-0.109* (0.0625)	-0.128** (0.0624)	-0.122* (0.0630)	-0.122* (0.0630)	-0.114* (0.0677)
Age	1.339*** (0.230)	1.241*** (0.228)	1.475*** (0.232)	1.475*** (0.232)	1.249*** (0.249)
Urban	0.128* (0.0661)	0.144** (0.0661)	0.122* (0.0669)	0.122* (0.0669)	0.109 (0.0716)
Education	1.823*** (0.177)	1.696*** (0.176)	1.843*** (0.180)	1.843*** (0.180)	1.760*** (0.189)
Ideology: Left	-0.465*** (0.108)	-0.636*** (0.106)	-0.485*** (0.108)	-0.485*** (0.108)	
Ideology: Center	-0.215** (0.0933)	-0.296*** (0.0925)	-0.220** (0.0942)	-0.220** (0.0942)	
Ideology: Right	-0.242** (0.103)	-0.369*** (0.103)	-0.299*** (0.104)	-0.299*** (0.104)	
Left-to-right ideology					0.294** (0.126)
Sociotropic retrospective	-0.390*** (0.110)	-0.301*** (0.110)	-0.309*** (0.111)	-0.309*** (0.111)	-0.274** (0.120)
Egotropic retrospective	0.0178 (0.104)	0.0140 (0.104)	-0.00654 (0.105)	-0.00654 (0.105)	0.0538 (0.113)
Dummy approval	-0.142** (0.0702)	-0.168** (0.0700)	-0.106 (0.0710)	-0.106 (0.0710)	-0.149* (0.0765)
Y2006, rightwing president				0.508*** (0.140)	
Y2008, leftwing president			-0.708*** (0.130)	-0.199 (0.122)	
Y2010, leftwing president			-0.986*** (0.126)	-0.478*** (0.117)	
Y2012, rightwing president			-1.142*** (0.125)	-0.634*** (0.115)	
Y2014, leftwing president			-1.025*** (0.124)	-0.517*** (0.113)	
Y2016, rightwing president			-0.508*** (0.140)		
Dummy 2016		0.355*** (0.0981)			0.348*** (0.100)
Year	-0.0481*** (0.00974)				
Constant	97.52*** (19.58)	0.899*** (0.147)	1.532*** (0.171)	1.024*** (0.180)	0.348*** (0.100)
Nagelkerke R2	0.049	0.046	0.071	0.071	0.059
N	7238	7238	7238	7238	5941

Those who respond “Half of them” [public officials are corrupt] are coded as 1.

Source: Authors, based on LAPOP Surveys from 2006 to 2016 (LAPOP, 2018).

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ (two-tailed tests). Entries are unstandardized logistic regression coefficients, with standard errors in parenthesis.

INFERENCE ANALYSIS

To explore the determinants of perception of corruption among public officials after the 2015 crisis—and given the change in the wording of the LAPOP question and in the possible answers—a pooled model is used for the LAPOP surveys from 2006 to 2014 (time is represented by a factor variable with 2006 as the base category); and separate models for the 2016 poll, using each of the different coding strategies for those who respond “half of them” to the question of, in their view, how many public officials are corrupt. [Table 4](#) shows those results.

Education has a positive effect in the pooled model and in the three models for the 2016 poll. Consistently, those with higher levels of education perceive more corruption. Respondents who identify with the left, center, and right on the ideological scale are less likely to perceive corruption than those who do not identify in the pooled model, but not in 2016. After the 2015 scandal, there were no differences in the perception of corruption among those who identify on the ideological scale and the rest. This is probably the result of the fact that levels of perception of corruption among those who identify ideologically were already very high before 2015. After the political scandal that resulted in the resignation of President Pérez Molina, the perception of corruption among those who identify on the ideological scale became almost universal—with those who do not identify still displaying lower levels in perception of corruption.

Those with a positive sociotropic retrospective were less likely to perceive corruption before and after the 2015 scandal, regardless of the coding used. In the 2006–2014 model, Guatemalans were likely to perceive corruption in every poll after 2006. Thus, the slow progress made in lowering the perception of corruption in Guatemala achieved after 2006 was lost after the 2015 scandal.

Regardless of how the dependent variable on the perception of corruption is coded, older Guatemalans, those with higher levels of education, and those with a more negative economic outlook are more likely to perceive corruption. In two of the four models, those who approve of the president are less likely to perceive corruption.

[Table 5](#) shows a binominal logistic regression model on the effect of the independent variables—sociodemographic; political ideology; economic variables; and time—on the perception of corruption among public officials in Guatemala from 2006 to 2016. Since the question changed in 2015, and given the results reported in the models on [Table 4](#), the models were estimated with the option “half of them” (public officials are corrupt) as perceiving corruption. Models with alternative coding for the option “half of them” are shown in the [Appendix \(Tables A1 and A2\)](#).

Education has a positive effect on perception of corruption from 2006 to 2016, regardless of how the dependent variable is coded in the 2016 LAPOP survey. Political identification with the left, center, and right has a negative effect on the perception of corruption—when compared to those who do not identify ideologically—regardless of the coding used for the 2016 poll. Those who identify with the left are the least likely to perceive corruption. Since an overwhelming majority of Guatemalans identify on the ideological scale, the differences in the magnitude of the coefficients is relevant. Those in the left are more likely to perceive corruption than those in the right. In model 5, that excludes those who do not identify

ideologically, the effect of ideology is the same: those that are closer to the right are more likely to perceive corruption than those who identify with the left.

Those with positive sociotropic retrospective views are less likely to perceive corruption but the effect of egotropic retrospective views is not significant. Thus, the view people have about how the country has fared in the recent past matters more than the assessment of their own personal situation. The results are similar regardless of the coding used for the 2016 survey.

The effect of time offers interesting results. When comparing 2016 with all previous polls, people were more likely to perceive corruption in the year after the corruption scandal that toppled the President. When using 2006 as the reference category, people were less likely to perceive corruption in every subsequent poll, except in 2016, again pointing to an increase in the perception of corruption among public officials after the 2015 scandal. When using 2016 as the reference category, people were less likely to perceive corruption in every previous poll, except that of 2006. The results are consistent regardless of the coding used for the 2016 survey.

The evidence is strongly consistent with three hypotheses and partly consistent with the other hypothesis. Those with higher levels of education are more likely to perceive corruption while those with a positive economic outlook are less likely to do so. The effect of 2015 is significant when comparing the 2016 poll to every previous year except 2006. Since the perception of corruption in Guatemala is so widespread—with more than 80% perceiving corruption among public officials to be common or very common—observing an increase year to year is significant. Those who identify with the right are less likely to perceive corruption than those who identify with the center or left, but they are less likely to perceive corruption than those who do not identify on the left-right scale.

Predicted probabilities were computed to provide a visual distribution of the effect of the independent variables of interest on the perception of corruption. The predicted probabilities replicate the binomial logit regression models in [Table 4](#). In [Figure 2](#), the graphs on the left show the results for the pooled 2006–2014 model and the figures on the right show the results for the three different coding of the dependent variable in the 2016 LAPOP survey.

Respondents with higher levels of education are more likely to perceive corruption among public officials in all the models. Those who identify on the ideological scale are also less likely to perceive corruption than are the rest in the 2006–2014 period. However, in the 2016 poll, there is no difference between those who identify and the rest. As the overall perception of corruption increased, those who identify no longer had differences in their perception of corruption than those who do not identify on the ideological scale. Respondents with a positive outlook are less likely to perceive corruption among public officials or politicians in the pooled model for 2006–2014 and, in an even more pronounced slope, in all the 2016 models.

CONCLUSION

The article has analyzed the determinants in the perception of corruption in Guatemala from 2006 to 2016. The perception of corruption increased after the 2015 scandal, but not when compared to the levels observed in 2006. Since an overwhelming majority of Guatemalans already perceived high levels of corruption, the post-2015 increase had a marginal impact.

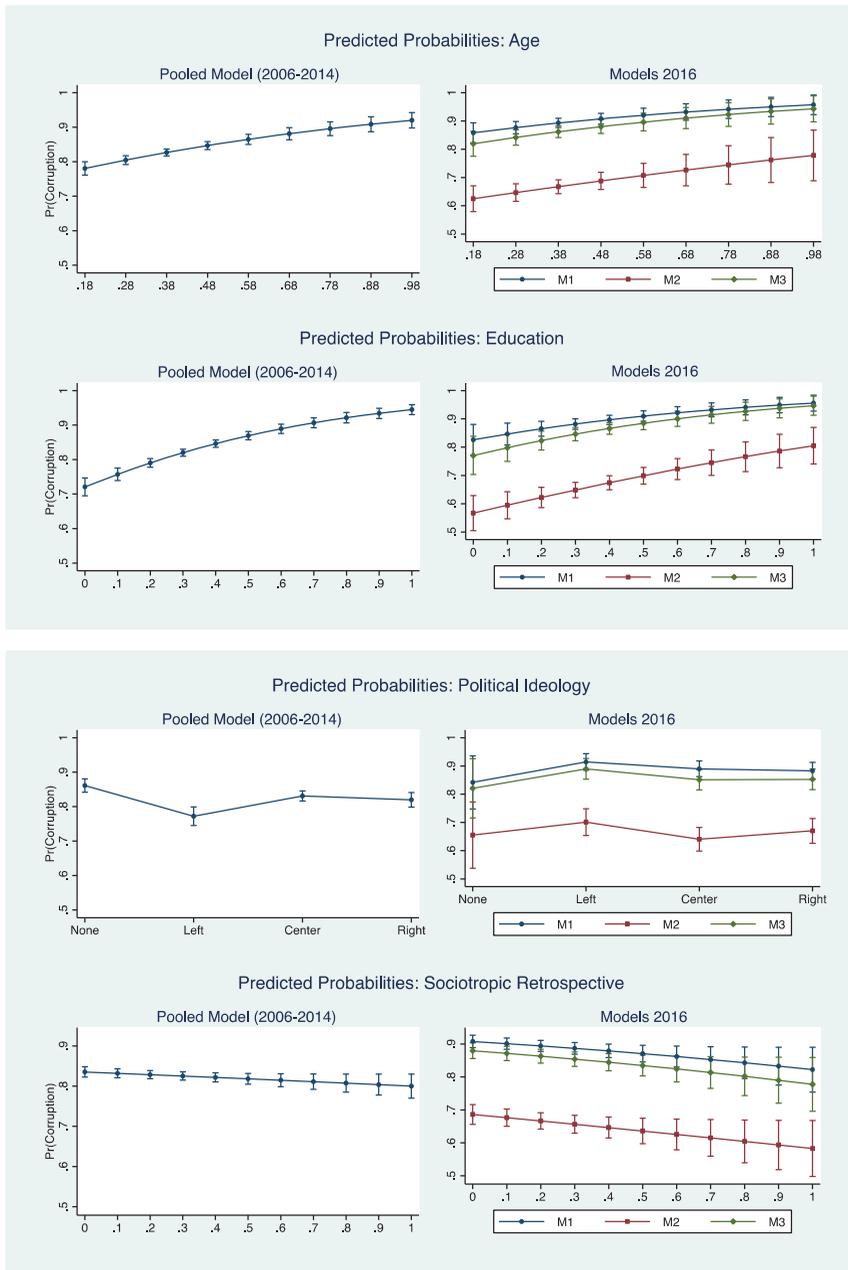


FIGURE 2. Predicted probabilities on the effect of perceiving corruption among public officials by selected indicators.* *Notes:* *95% confidence intervals. M1 = Model 1 (those who answer “half of them” [public officials being corrupt] are coded as 1, or perceiving corruption); M2 = Model 2 (Option “half of them” is coded as 0, or not perceiving corruption); M3 = Model 3 (Option “half of them” is coded as missing values). *Sources:* Authors, based on LAPOP Surveys from 2006 to 2016 (LAPOP, 2018).

As elsewhere in underdeveloped countries, the wealthier perceive more corruption. Those who identify politically perceive less corruption, but after 2015, there is no difference between the small minority that does not identify on the ideological scale and those who do. After 2015, everyone perceived higher levels of corruption, but the more educated and those with a positive retrospective outlook are more likely to perceive lower levels of corruption.

The findings on the determinants of corruption in Guatemala and the effect of the 2015 crisis have important implications for the understanding of perception of corruption in lesser developed countries, especially in Latin America. In countries where the perception of corruption is high, the effect of a political corruption scandal will be stronger among those that were less likely to see corruption as a problem before. As high levels of perception of corruption continue to increase, studies on the determinants of that perception will need to move beyond what explains high perceptions—after all, if everyone perceives high levels of corruption, the perception of corruption becomes a constant—to what explains variance overtime in perception. As some countries—like Guatemala—seem to be losing the fight to curb corruption, understanding the way people perceive anticorruption efforts—rather than just their overall perception of corruption levels—might help anticorruption forces better direct their initiatives.

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APPENDIX

TABLE A1
Binomial Logit Regression Model (Those Who Respond “Half of Them” Are Coded as 0).

<i>Variables</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
Women	−0.0737 (0.0582)	−0.0759 (0.0579)	−0.0701 (0.0583)	−0.0701 (0.0583)	−0.0536 (0.0623)
Age	1.229*** (0.213)	1.109*** (0.211)	1.308*** (0.214)	1.308*** (0.214)	1.114*** (0.228)
Urban	0.119* (0.0613)	0.121** (0.0610)	0.103* (0.0616)	0.103* (0.0616)	0.0882 (0.0655)
Education	1.563*** (0.163)	1.547*** (0.162)	1.671*** (0.165)	1.671*** (0.165)	1.637*** (0.173)
Ideology: Left	−0.427*** (0.103)	−0.546*** (0.101)	−0.408*** (0.103)	−0.408*** (0.103)	
Ideology: Center	−0.233** (0.0904)	−0.310*** (0.0893)	−0.237*** (0.0909)	−0.237*** (0.0909)	
Ideology: Right	−0.294*** (0.0988)	−0.332*** (0.0984)	−0.262*** (0.0995)	−0.262*** (0.0995)	
Left-to-right ideology					0.241** (0.113)
Sociotropic retrospective	−0.345*** (0.103)	−0.286*** (0.103)	−0.295*** (0.104)	−0.295*** (0.104)	−0.271** (0.111)
Egotropic retrospective	0.00493 (0.0957)	0.0492 (0.0957)	0.0332 (0.0961)	0.0332 (0.0961)	0.0884 (0.103)
Dummy approval	−0.174*** (0.0649)	−0.221*** (0.0646)	−0.169*** (0.0654)	−0.169*** (0.0654)	−0.226*** (0.0698)
Year: 2006				1.650*** (0.122)	
Year: 2008			−0.697*** (0.130)	0.953*** (0.101)	
Year: 2010			−0.978*** (0.125)	0.671*** (0.0940)	
Year: 2012			−1.128*** (0.125)	0.521*** (0.0914)	
Year: 2014			−1.016*** (0.123)	0.634*** (0.0900)	
Year: 2016			−1.650*** (0.122)		
Dummy 2016		−0.797*** (0.0699)			−0.800*** (0.0713)
Year	−0.125*** (0.00916)				
Constant	251.7*** (18.42)	0.956*** (0.139)	1.602*** (0.164)	−0.0473 (0.160)	0.429*** (0.138)
Nagelkerke R^2	0.076	0.062	0.084	0.084	0.059
<i>N</i>	7541	7541	7541	7541	6232

Sources: Authors, based on LAPOP Surveys from 2006 to 2016 (LAPOP, 2018).

Notes: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$ (two-tailed tests). Entries are unstandardized logistic regression coefficients, with standard errors in parenthesis.

TABLE A2
Binomial Logit Regression Model (Those Who Respond “Half of Them” Are Coded as Missing Values).

<i>Variables</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
Women	-0.109* (0.0625)	-0.128** (0.0624)	-0.122* (0.0630)	-0.122* (0.0630)	-0.114* (0.0677)
Age	1.339*** (0.230)	1.241*** (0.228)	1.475*** (0.232)	1.475*** (0.232)	1.249*** (0.249)
Urban	0.128* (0.0661)	0.144** (0.0661)	0.122* (0.0669)	0.122* (0.0669)	0.109 (0.0716)
Education	1.823*** (0.177)	1.696*** (0.176)	1.843*** (0.180)	1.843*** (0.180)	1.760*** (0.189)
Ideology: Left	-0.465*** (0.108)	-0.636*** (0.106)	-0.485*** (0.108)	-0.485*** (0.108)	
Ideology: Center	-0.215** (0.0933)	-0.296*** (0.0925)	-0.220** (0.0942)	-0.220** (0.0942)	
Ideology: Right	-0.242** (0.103)	-0.369*** (0.103)	-0.299*** (0.104)	-0.299*** (0.104)	
Left-to-right ideology					0.294** (0.126)
Sociotropic retrospective	-0.390*** (0.110)	-0.301*** (0.110)	-0.309*** (0.111)	-0.309*** (0.111)	-0.274** (0.120)
Egotropic retrospective	0.0178 (0.104)	0.0140 (0.104)	-0.00654 (0.105)	-0.00654 (0.105)	0.0538 (0.113)
Dummy approval	-0.142** (0.0702)	-0.168** (0.0700)	-0.106 (0.0710)	-0.106 (0.0710)	-0.149* (0.0765)
Year: 2006				0.508*** (0.140)	
Year: 2008			-0.708*** (0.130)	-0.199 (0.122)	
Year: 2010			-0.986*** (0.126)	-0.478*** (0.117)	
Year: 2012			-1.142*** (0.125)	-0.634*** (0.115)	
Year: 2014			-1.025*** (0.124)	-0.517*** (0.113)	
Year: 2016			-0.508*** (0.140)		
Dummy 2016		0.355*** (0.0981)			0.348*** (0.100)
Year	-0.0481*** (0.00974)				
Constant	97.52*** (19.58)	0.899*** (0.147)	1.532*** (0.171)	1.024*** (0.180)	0.348*** (0.100)
Nagelkerke R^2	0.049	0.046	0.071	0.071	0.059
<i>N</i>	7238	7238	7238	7238	5941

Sources: Authors, based on LAPOP Surveys from 2006 to 2016 LAPOP, 2018.

Notes: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$ (two-tailed tests). Entries are unstandardized logistic regression coefficients, with standard errors in parenthesis.