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### Explaining Variation in Levels of Corruption Between US States

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# **Explaining Variation in Levels of Corruption Between US States**

An honors thesis presented to the  
Department of Public Administration and Policy,  
University at Albany, State University of New York  
in partial fulfillment of the requirements  
for graduation with Honors in Public Policy and Management  
and  
graduation from The Honors College

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May 2020

## **Abstract**

This study seeks to build upon the limited body of research that focuses on the causes and effects of governmental corruption. With an emphasis on supplementing previous findings and expanding their scope, this study seeks to identify factors that explain variations in the level of corruption between different jurisdictions. This study uses federal conviction data from the 50 US states to measure corruption, controlling for population and government employees, the latter of which has not been done previously. To identify and quantify independent variables, this study employed various governmental, scholarly and nonprofit sources. New variables were employed while also enlisting previously studied variables. This study observes linear associations between these two sets of variables, and models them using linear and quadratic regressions. The data suggests that most previously studied variables had observed relationships with corruption that concur with the findings of previous scholars, although the strength of these relationships varied. Several previously untested variables also appear to have important relationships with corruption. When conducting regression analyses, it appears that state poverty rates and GINI indexes best explain variation in states' corruption levels. The proportion of state legislative seats held by women, high school diploma attainment (or higher) rates, and to a lesser extent, voter eligible turnout, also explained these differences.

## **Acknowledgements**

I would like to thank my research advisor, Dr. Sally Friedman, for consistently and wholeheartedly guiding and supporting me through this process. She answered the scores of questions I had through this process, guided my research and writing, and helped me strengthen the quality of this research. She is a truly invaluable teacher and mentor, one who takes serving others to heart, and I cannot thank her enough.

I would also like to thank Amie Ely and Marissa Walker of the National Association of Attorneys General for taking time out of their busy schedules to assist me in collecting data for my research.

Lastly, I would like to thank my family, but in particular my mother, father, stepfather and stepmother for all they have done to support me throughout this project and in my life thus far. To have a loving family is life's greatest gift, and I have been lucky to receive that gift.

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## **Introduction**

The idea of corruption raises images like the time of mafia rule in major American cities or the political corruption of the Watergate scandal. These images make corruption seem like a passing moment in history, but corruption is still widespread today. In 2017, federal prosecutors in Florida convicted a former US Congresswoman of 18 counts of an indictment that charged her with participating in a conspiracy surrounding a fraudulent charity. The Congresswoman and her co-conspirators were found to have solicited more than \$800,000 in charitable donations by falsely telling donors that their money would be used for educational scholarships and that the organization was a properly registered 501(c)(3) nonprofit organization. \$1,200 of this money was used for scholarships, the rest was used to benefit the perpetrators (US Department of Justice, 2017). Separately, in late 2017, a federal procurement officer was convicted of money laundering and wire fraud for orchestrating a scheme to fraudulently obtain a \$2.3 million federal contract. This officer obtained the funds using a shell company and then siphoned at least \$600,000 in checks from the company for personal use.

Corruption is not limited to the national level. In 2018, former New York State Assembly Speaker Sheldon Silver was found to have received about \$4 million in bribes and an additional \$1 million from money laundering in exchange for official acts, some of which were diverting budget funds to favorable parties (US Department of Justice, 2018). In early 2017, a police officer with the Windsor, North Carolina Police Department was found guilty of drug, firearm and bribery charges after accepting \$6,500 and firearms from federal agents posing as drug traffickers in exchange for trafficking 30 kilograms of heroin to Maryland (US Department of Justice, 2017). These examples are a very small piece of the entire picture, some of 6,417 individuals prosecuted by federal law enforcement for corruption-related crimes from 2011-2017 (US Department of Justice, 2017).



Beyond individual cases, some observers argue that the United States faces systemic corruption. That is, corruption has become ingrained in American governmental culture. In 2014, a Gallup poll found that 75% of Americans believed corruption to be widespread in the United States, which was an increase from 67% in 2007 (Gallup, 2015). Last year, the United States received its lowest Transparency International rating in eight years, ranking 23rd, which ranks countries annually according to levels of corruption (Transparency International, 2020). And in 2006, a CNN/ORC poll found that 50% of Americans agreed that most members of Congress were corrupt.

Given its ability to harm public trust, it is important to understand the conditions that promote high levels of corruption. But as the next section will indicate, the present literature on corruption is limited. With a focus on variation in US states, this study seeks to synthesize several gaps in the literature. This study addresses a lack of comparability by analyzing variables across several categories (economic, educational, etc.) using the same methodology. Limitations of scope are addressed by selecting a broad set of variables, many of which have not been previously tested. Lastly, this study addresses limited support by testing previously studied variables. I also include a wide range of explanations for corruption, incorporating two measures of the dependent variable (one not utilized before). In all, these efforts provide an important contribution to the understanding of corruption.

This paper is organized into five major sections excluding the introduction: literature review, data methods, data results, data limitations, and discussion. The literature review section outlines the ongoing debate about defining corruption and existing hypotheses about previously studied variables. The data methods section explains my choices to measure corruption and the independent variables, and the various hypotheses and limitations thereof. The data results section presents the analysis' correlational and regression findings, while the data limitations section indicates some of

the limitations of these findings. The discussion section highlights the implications of these results and their meaning for future research and policy development.

## **Literature Review**

The literature on public corruption aims to answer three fundamental questions: what causes corruption, how does corruption affect society, and what policy actions can be taken to decrease the incidence of corruption?<sup>1</sup> But before we can begin to design studies to answer such questions, we must understand how corruption itself is defined. How scholars define corruption shapes the focus, methods, and results of their research (Jain, 2001; Philp, 1997), which makes it an important item for discussion.

Intuitively, defining corruption might appear straightforward, as the term is commonly used in daily life, appearing in, for example, political rhetoric and the news media (Slattery, 2019; Surcio, 2014), yet few explicitly define it. This fact extends to some of the literature, with many authors likely assuming people have a common understanding of the term's meaning. However, in the literature, like in society at large, there is significant disagreement on what exactly constitutes corruption. The modern Oxford Dictionary has nine separate definitions of the term (Burke, 1997). The Federal Bureau of Investigation has a similarly intricate definition of the term (Federal Bureau of Investigation, 2016). Scholars are similarly divided in how they define the term, diverging on their ideological, cultural, and professional differences (Dimant & Tosato, 2017; Jain, 2001; Lessig, 2013). For example, some scholars define corruption based on its content, such as if the act was petty, like stealing paper from a government office, or grand, like taking bribes from a contractor (Jain, 2001). Other scholars attribute corruption to being an institutional attitude, such as a

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<sup>1</sup>The literature focuses primarily on corruption in public entities but some scholars' analysis includes observing unethical behavior in entities like labor unions and business organizations.

collectively lax attitude toward enforcing ethics laws (Johnston & Zimring, 2005). These differences impact what gets shaped and modeled in research.

The most frequently used definition of corruption is “the use of public office for private gain” (Heywood, 1997; Hogsdon & Jiang, 2007; Jos, 1993; Lessig, 2013). According to this definition, a local government employees’ use of information obtained in confidential briefings to guide their private investment would be considered corrupt, as this individual knowingly used their position for their own private benefit. Some scholars support this definition because its simplicity limits the ability of researchers’ ideology to shape the substance of the research. These scholars argue that more detailed definitions (for example, one that includes gifting as a corrupt act) are more likely to be influenced by researchers’ ideology, which in turn may be impacted by cultural background, introducing a lurking variable to the analysis (Hazy et al., 2016; Pellegrini, 2011)<sup>2</sup>. Economists usually subscribe to this definition and use the term “personal gain” instead of private gain, usually because their research tends to focus on cost-benefit analyses of individuals’ actions. These analyses usually observe the benefit individuals derive from corrupt acts and treat financial gain as the sole motivation of corruption (Hogsdon & Jiang, 2007; Jain, 2001). The simplicity and malleability of this definition makes it attractive to many researchers.

This common definition faces several criticisms, however. According to Hogsdon and Jiang 2007, it ignores the existence of “noble cause” corruption, which is when the act is carried out for a purpose other than private or personal gain (For example, when an individual engages in a corrupt act to expose a purported injustice occurring inside government). Hogsdon and Jiang (2007), along with Johnston (2005) and Kauffman and Vicente (2011), also contest that this definition omits

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<sup>2</sup> This argument can be demonstrated with an example. In some African countries professional gifting is accepted and even encouraged as part of the culture. A gift to an elected official, therefore, may not have the same intent to influence as may be true in the United States where such activity is more regulated.

entire sectors where corruption is relevant and damaging, such as corporate or labor corruption, both of which have federal and state statutes governing unethical behavior. It is also important to remember that the simplicity of this definition allows for uncertainty when determining what actions are corrupt. Take a situation where an elected official takes an action because they perceive it to benefit their political prospects. Some might argue this is corrupt because that individual's political fortunes provide them with private benefits. Others could say elevating oneself politically could be altruistic, as the official may support their political fortunes because they believe it to be in the public interest. Definitions of corruption rely heavily on perception, which is important to remember when considering how studies are modeled.

Some scholars contend that corruption can become “institutional”, meaning that in an organization there is a systemic and persistent incentive for members to act in ways that are contrary to the organization's purpose or that damages the trustworthiness of that institution (Lessig, 2013; Marquette & Pieffer, 2015; Morris, 2011). These scholars take the view that how widespread corruption is in an organization undoubtedly plays a role in the cost-benefit decision of an individual actor (For example, a corrupt organization lowers the possibility of law enforcement detection). Lessig 2013 contends that organizational actors with good intentions may unintentionally act in corrupt ways because of their institutional environment.

The diversity of ideas on the meaning of corruption can be demonstrated by outlining the different ways corruption is measured. Most scholars adopt one of three approaches, which can commonly be categorized as the legal, public interest, and public opinion-based approaches (Jain, 2001). The legal view is based on the rules set out in statutes and judicial opinions. These scholars rely on these public institutions to determine what actions are corrupt. Bribery, for example, is barred by federal law, which this framework would consider to be corrupt. The public interest

perspective takes the view that an act is corrupt if it harms the public interest, even if the act is not illegal. For example, this methodology may consider a dinner between lobbyists and public officials to be corrupt, as it is perceived to undermine the public interest, even though the act may not violate any laws. Finally, the public opinion approach defines corruption based on the public's general perspective. For example, if Americans believe taking campaign contributions from corporations is corrupt, scholars adhering to this framework would consider such acts to be corrupt (Johnston & Zimring, 2005). Most studies on corruption use one of these three basic methodologies to measure corruption.

Like all methodologies, these approaches have shortcomings. The legal definition is commonly criticized for its shifting meaning and the narrowness of how the courts have interpreted the constitution to protect against corruption. For example, the Supreme Court in recent decades has altered its view of *quid pro quo* corruption. In *Buckley v Valeo* (1970), the court found that corruption through an indirect *quid pro quo* action like a campaign contribution (a direct action would be explicitly stating the relationship) was not substantial enough to regulate, though in *Austin v Michigan Chamber of Commerce* (1990) the court ruled against its previous decision, allowing a state law substantially regulating these actions to remain in effect. Subsequently, in *Citizens United v FEC* (2010), the court reverted to its *Buckley* position, narrowing the scope of what could be considered criminally corrupt<sup>3</sup>.

Critics contend that these inconsistencies influence prosecutorial data, as prosecutors' activeness in pursuing corruption is likely impacted by the strength of the precedent underpinning

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<sup>3</sup> To imagine how these rulings might impact one's view of corruption, consider the following question: If an elected official takes an official action *because* an interested party will donate to his or her campaign as a result of that official action, is the elected official engaging in a *quid pro quo*? The *Buckley* and *Citizens United* courts would say no, especially if the two parties had not prior communication solidifying that relationship, but the *Austin* court would likely say yes. This evolution of law presents highlights a complication when relying on the legal definition.

their legal arguments. Also, critics say that development of criminal statutes is the result of a political, rather than a rational process, and does not reflect common sense judgement regarding what is corrupt, which some authors believe to delegitimize this approach (Briffault, 2011; Burke, 1999; Edwards, 1996; Hellman, 2013).

Critics of the public interest framework largely highlight the subjective nature of the term “public interest”, indicating that such a definition is based on one’s ideology and background. For example, in some African countries, mixing personal life with governmental duties is normalized, so scholars in those countries might not view an act in support of a family member’s business, say, as a corrupt act (Granovetter, 2004; Johnston & Zimring, 2005). This criticism is particularly relevant to cross-country corruption research, as cultural differences are most significant between nations (compared to regions within a nation).

Scholars also emphasize that there is no legitimate means of determining if “corrupt” actors undertook their actions in the interest of the public. Using the earlier example of campaign contributions, an elected official might believe the action favored by the interested party is in fact the most viable option for the public. The difficulty then becomes separating seemingly competing interests. Critics of the public opinion perspective cite similar concerns. Public opinion is similarly based on ideology and culture, and like the law public opinion is subject to (perhaps more) frequent change. The public’s view is also not necessarily an accurate measure of corruption in government. For example, Americans’ view of how corrupt Congress is decreases as their knowledge of campaign finance law increases (Bowler & Donovan, 2016). This example highlights that information asymmetries may impact the public’s perception of corruption. Some scholars also contend that public opinion can be difficult to measure (Heywood, 1997; Jain, 2001; Johnston, 2005).

Most corruption scholarship uses the public opinion approach for its data collection. These studies, usually relying on data at the international level, source their data from the leading ethics nonprofits, the most prominent of which is Transparency International (Dimant & Tosato, 2017). This organization surveys residents of various countries and compiles the data into annual reports, creating an index of corruption. The opinions used to create this index are composed of factors like the independence of the judiciary, government transparency, and election integrity. The TI index, like other international indexes, is based on each nation's perception of these factors (Transparency International, 2020). Scholars use the data in these reports to study corruption between different countries, attempting to explain why corruption is more prevalent in certain countries using different economic, educational, governmental and electoral variables<sup>4</sup>.

Those studies that do not adopt the public opinion approach usually use the legal method. Most of these researchers base their analyses on judicial and agency administrative records, and for those analyzing US data, the annual reports to Congress published by the Public Integrity Bureau (PIB) of the US Justice Department. These reports summarize data on ethics-related criminal enforcement actions taken by each of the 93 US Attorney's Offices around the country<sup>5</sup>. The reports normally provide the number of federal, state, and local officials charged, convicted, and those individuals awaiting trial in any given year and for several years prior. These reports do not include data on white-collar labor and corporate corruption or state and local enforcement actions<sup>6</sup> (Glaeser & Sacks, 2004; Kaufmann, 2005; Pellegrini, 2011).

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<sup>4</sup> For international corruption studies, relying on people's perceptions is a necessity. Most countries do not have strong public record systems, which makes empirical data collection difficult. Also, the laws of different states vary substantially, as does the level of enforcement and law enforcement resources. These factors make international conviction record comparison difficult, leaving public opinion as the only viable alternative.

<sup>5</sup> There are no "corruption" statutes in US law, rather these reports encompass those individuals who committed a bribery, campaign finance or other white-collar crime in the context of their public duties.

<sup>6</sup> As states operate independently, there is no comprehensive source for state or local initiated judicial or administrative ethics enforcement actions.

Data from these reports is normally aggregated to the state level. Researchers then analyze these statistics in comparison to other variables, normally using standard, multiple, logarithmic or another modified regression analysis method (Glaeser & Sacks, 2004; Pellegrini, 2011). Many scholars contend that this method provides raw, actionable data to researchers. Yet some scholars contend that the quality of these records are dubious, claiming that such records may include convictions not directly related to corruption and that the records may not be accurately conveyed, as the PIB collects this data by administering a survey to the US Attorney's Offices (Cortis & Mylio, 2013). The vast majority of legal-method scholars, though, contend that the data is reliable.

Scholars who adopt the public opinion approach also face significant lurking variables in their datasets. While many researchers seek to control for variables that might impact their analyses (such as democracy, investment, and election year), there are some variables that are more difficult to control for. For example, many developing countries have populations that live in remote areas, and these groups may not be represented in surveying efforts. Also, differences in corruption perception might depend on cultural factors. Controlling for a qualitative variable like culture would be quite difficult, given the practical difficulties in collecting such data. Finally, comparing corruption index data over time is problematic, as people's opinions are subject to change, especially as new information about their governments are published. For these reasons, it seems that using the legal measurement methodology, which this study adopts, is a stronger measurement tool for analyzing corruption.

In pursuit of an answer to the questions of what causes corruption and how it affects society, scholars have enlisted a myriad of variables. Generally, these variables can be categorized as



economic, political, and social variables<sup>7</sup>. Scholars have chosen these variables because they reflect societal conditions that may or may not be conducive to corruption (Dimant & Tosato, 2017).

Observing these relationships in turn allows scholars to provide policymakers with guidance on policies that might decrease corruption—such as increased financial disclosures of public officials. Scholars who test these variables vary in their methodology, enlisting different data sources (states, territories, countries) and methods (primarily the public opinion and legal approaches) to analyze corruption.

Studies of economic variables are the most frequent of the three categories, usually being undertaken by economists and sometimes by political scientists. The studies mainly observe how the strength of an economy relates the level of corruption. Scholars primarily employ the change in real GDP to measure this, although they sometimes use median and average household incomes. (Jain, 2001; Mauro, 1995). Some scholars contend that corruption is helpful to the economy, incentivizing bureaucrats to operate more efficiently, as they are financially incentivized to work and respond to private needs more quickly (Wei, 1999). Others indicate that more corruption decreases economic investment in a jurisdiction's economy (resulting from decreased investor confidences) and hinders government economic development initiatives. Scholars' data tends to support the latter position, though there are still scholars that contend that the former position is the case, especially for countries with especially high levels of corruption. In highly corrupt countries, some studies have found that real GDP and the GINI index have a quadratic relationship with corruption, with corruption increasing as these variables increase until a certain level and then

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<sup>7</sup> These variables are reorganized as economic, educational, governmental and electoral variables for the purposes of this study. This study focuses primarily on economic and political variables, making the traditional three variable type breakdown less well suited for this study.

<sup>8</sup> Investors may have less confidence in a corrupt government because it is less likely to pay off its debts or fairly administer government programs.

decreasing (Dimant & Tosato, 2017; Jain, 2001). In this study I employ the most common hypothesis, that an increasingly strong economy is associated with a lower level of corruption.

The literature studies economic variables beyond the strength of the economy. Some economics scholars have conducted studies that focus on how economic incentives might affect corruption. These studies have focused on indicators like government employee salaries, and they usually find that increasing salaries reduces the benefit from corrupt acts, thereby reducing corruption (Johnson et al., 2008; Rose-Ackerman, 1978). Many studies were dedicated to observing how the GINI index and the poverty rate relate to corruption. Generally, they found that corruption had a direct relationship with both of these variables (Gründler & Potrafke, 2019). Scholars believe this relationship exists because high corruption is associated with educational inequity, poor quality social programs, and a biased tax system (Dimant & Tosato, 2017). Some scholars, however, have found the relationship to be quadratic, with corruption increasing inequality to a zenith and then decreasing corruption. Most data supporting this finding has been at the international level (Sulemana & Kpienbaareh, 2018).

Studies involving political (and policy) variables are quite diverse in the measurement tools they enlist and the types of variables they observe. Like the economic variables, scholars testing political variables employ both legal and public opinion measurement tools. These studies include variables like voter turnout, government employee salaries, the complexity of a jurisdiction's regulatory system, the level of press and public access to government records, and electoral competitiveness, to name a few<sup>9</sup>. Some factors have shown consistent findings throughout the literature, such as the size and complexity of government, each of which have not been found to be

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<sup>9</sup> The literature generally finds that voter turnout, government employee salaries, government transparency and electoral competitiveness are negatively related to corruption.

significantly related to corruption (Johnson et al., 2013). Studies that test voter turnout are more plentiful, but only a portion of those have provided statistically significant results (Dimant & Tosato, 2017). However, most of these political factors have provided inconclusive results or have not been tested widely enough to draw inferences.

Studies of social variables encompass anything from analyzing education levels to the percentage of women in government, to the level of racial or ethnic diversity in a population. These studies are almost always undertaken by political scientists, and their authors use both the legal and public opinion methods of corruption measurement. A limited number of studies have found that an increase in the proportion of women to men serving in government (legislatures, agencies, etc.) decreases corruption. Similarly, a limited number of studies have found that increased racial diversity leads to an increase in corruption (Dimant & Tosato, 2017; Jain, 2001). Aside from the education level variable (usually measured by high school or college degree attainment), which scholars have consistently found to decrease corruption (Li et al., 2000), the trend remains—these studies provide interesting but inconsistent evidence.

## **Data and Methods**

Because of the limited number of studies conducted and the inconsistent nature of findings, this study employs a broad set of independent and dependent variables, going further than prior research. This study is based on annual corruption conviction data from 2011-2017 for all 50 US states<sup>10</sup>. States were preferable to countries because there are fewer opportunities for lurking variables like cultural and legal differences to impact this study's results (Glaeser & Saks, 2004). These years represent the most recent data that is not affected by pending trial results or changes in

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<sup>10</sup> There are some exceptions, such as elections data, which was only available for Presidential and midterm elections (2012, 2014, and 2016).

federal enforcement resulting from *Citizens United v FEC (2010)*. The measurement of corruption is based on the number of individuals who were convicted of one or more federal crimes that were related to public corruption<sup>11</sup>.

The data collected originates from the US Department's (DOJ) "Annual Report to Congress on the Activities and Operations of the Public Integrity Section." The Public Integrity Section was created in the 1970s to organize and oversee federal corruption prosecutorial efforts and is required by federal law to create this annual report for Congress. Individuals prosecuted vary from being postal workers to agency executives to members of Congress. Most of this data constitutes civil service officials. Conviction data is provided by US Attorney District, of which there are 94 (US Department of Justice, 2017). Convictions by district (which makeup different areas of a state or the entire state) were added for each state to become 50 different state totals. Thus for New York, with 4 US Attorney districts, convictions from each district were added to get a total for New York.

After being combined, the state totals were then controlled for population<sup>12</sup> and the number of government employees<sup>13</sup> in each state, creating two separate measures of corruption. These measures are reported as the number of convictions per 100,000 state residents and per 100,000 government employees (federal, state and local), respectively. This was calculated by dividing the number of convictions by either the total population or government employees in a state, and multiplying that number by 100,000. The data for state populations was derived from the US Census Bureau's 2010 Decennial Census, whereas the data for governmental employees was

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<sup>11</sup> Such crimes are diverse, ranging from campaign finance violations to bribery to mail fraud. Who is convicted varies as well. These reports account for convicted elected officials, agency executives, civil service employees and accomplices in the private sector. It is also worth noting that there are no "corruption" criminal statutes. Instead, prosecutors use other criminal statutes and apply them to different scenarios.

<sup>12</sup> Previous studies, such as Glaser and Saks (2006) and Apergis, Dincer and Payne (2010), have controlled for population in a similar manner.

<sup>13</sup> This term is defined broadly to include employees of public corporations, public authorities, and part-time employees.

derived using the US Census Bureau's Annual Census of Governments and the Council on State Government's Annual Book of the States Reports. Many previous studies have used the population-controlled metric (Dimant & Tosato, 2017; Glaeser & Sacks, 2004). There are no known studies that controlled for government employees<sup>14</sup>.

Despite the advantages, these DOJ reports do have some limitations that are worth mentioning. These reports do not include state and local prosecutions of corruption. Most states have ethics-relevant statutes, and state Attorney Generals and District Attorneys (sometimes called County Attorneys) usually have specialized bureaus dedicated to investigating and prosecuting corruption. Federal prosecutors, though, have the capacity to charge and convict state and local officials of federal crimes, and they have more actively done so in recent decades (Henning, 2003). Some scholars have found that the DOJ annual reports are susceptible to inaccuracy, as the reports are based on a survey distributed to the 94 US Attorney's Offices. These scholars contend that DOJ staff make reporting errors and may even fail to submit the survey to the D.C. headquarters of the DOJ, where the Public Integrity Bureau is headquartered (Cortis & Miylo, 2013).

The data provided in the DOJ Public Integrity Bureau reports are the strongest assessment of corruption prevalence available. It is the data used most often in the literature (Cortis & Miylo, 2013), and previous studies have found that results using this data show similar correlations to the findings of corruption theory (Apergis, Dincer, & Payne, 2010). This metric controls for differences in national, state, and local laws. Also, to some extent, this metric controls for differences in enforcement discretion, as US Attorneys ultimately answer to the President of the United States, compared to state Attorneys General or local District Attorneys, who tend to be independently

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<sup>14</sup> Controlling for government employees is an important measure because the population of employees does not always directly relate to population. In states near Washington D.C., for example, there are more federal employees than in other states with a similar population.

elected officials. There are also differences in the judiciary such as procedural and legal practice rules might impact state and local prosecution decisions and results. As a legal measurement of corruption, these reports are insulated from the deficiencies of the public opinion and public interest-based measurements. Finally, these reports control for differences in prosecutorial resources.

The selection of independent variables for analysis was based on the inquiries of previous scholars, on governmental policies advocated for by so-called good government organizations (For example, low individual contribution limits for state offices) and on the public's surveyed beliefs on the cause(s) of corruption (which usually focused on campaign finance). This study tests the underlying hypotheses for each of these variables. The intention of this analysis is to augment the value of the literature by strengthening and expanding it, thereby providing policymakers a more effective resource to consult when considering policies that may reduce corruption (For example, evidence showing that legislative term limits decreases corruption may be useful to policymakers). The exhaustive list of variables tested, the sources of these variable's data, the relevant variable hypotheses and the reasoning for adopting these hypotheses can be found in Figure 1.

Selected Variables for Analysis				
Variable	Source	Data Year(s)	Hypothesis	Reasoning for Hypothesis
Unemployment Rate	US Census Bureau American Community Survey	2011-2017	Positive Relationship	A high unemployment rate signifies a weak economy, which is associated with high corruption that decreases investment in a community and weakens the governments ability to promote economic development.
Median Household Income	US Census Bureau American Community Survey	2011-2017	Negative Relationship	Low household incomes signify a weak economy, which is associated with high corruption that decreases investment in a community and weakens the governments ability to promote economic development.
State Legislators Salaries	Council on State Governments Book of the States	2011-2017	Negative Relationship	The more money state legislators are paid, the less likely they are to obtain outside employment (which can create conflicts of interest) and are less likely to accept monetary bribes.
State and Local Employee Compensation	Council on State Governments Book of the States	2011-2017	Negative Relationship	The more money state and local employees are paid, the less likely they are to obtain outside employment (which can create conflicts of interest) and are less likely to accept monetary bribes.
Fortune 500 Headquarters	Fortune Magazine	2015	Positive Relationship	The more large corporations that are subject to a state's laws, the more likely it is that these corporations will try to illegally influence the decisions of state employees and elected officials.
GINI Index	US Census Bureau American Community Survey	2011-2017	Positive Relationship	Greater economic disparities concentrate political power in specific communities, thereby reducing the influence of the public interest in governmental decision-making. Such a situation also discourages civic engagement as the general population is in an increasingly poor financial situation and has less time to engage with government.
Poverty Rate	US Census Bureau American Community Survey	2011-2017	Positive Relationship	Greater economic disparities concentrate political power in specific communities, thereby reducing the influence of the public interest in governmental decision-making. Such a situation also discourages civic engagement as the general population is in an increasingly poor financial situation and has less time to engage with government.
GDP Growth Rate	US Department of Commerce Bureau of Economic Analysis	2011-2015	Negative Relationship	A low GDP growth rate signifies a weak economy, which is associated with high corruption that decreases investment in a community and weakens the governments ability to promote economic development.
Bachelor's Degree Attainment	US Census Bureau American Community Survey	2011-2017	Negative Relationship	Strong bachelor's degree attainment indicates a more educated population, which is more civily engaged and has an increased capacity to support elected officials whose actions support the public interest.
High School Diploma Attainment	US Census Bureau American Community Survey	2011-2017	Negative Relationship	Strong high school diploma attainment indicates a more educated population, which is more civily engaged and has an increased capacity to support elected officials whose actions support the public interest.
Primary and Secondary Per Pupil Spending	US Census Bureau American Community Survey	2011-2017	Negative Relationship	Increased lower education spending indicates a more educated population, which is more civily engaged and has an increased capacity to support elected officials whose actions support the public interest.
Proportion of State Legislative Seats Held by Women	National Conference of State Legislatures	2011-2017	Negative Relationship	A high proportion of state legislative seats held by women indicates that a legislature has many new members, who are less connected to established political forces and are therefore less likely to oppose various ethics reforms. Such members are also less involved in any existing cultures of corruption.
Percent of State Revenue from Sales Tax	Tax Foundation	2015	Positive Relationship	An high revenue dependency on sales tax benefits the wealthy and disadvantages the poor, indicating that a government's priorities favor specific groups and not the public interest, which is a bellwether of corruption.
Percent of State and Local Revenue from Sales Tax	Tax Foundation	2015	Positive Relationship	An high revenue dependency on sales tax benefits the wealthy and disadvantages the poor, indicating that a government's priorities favor specific groups and not the public interest, which is a bellwether of corruption.
Independently Elected State Attorney General	Council on State Governments Book of the States	2017	Negative Relationship	An independently elected state Attorney General is less likely to be influenced by the Governor, making him or her more insulated from the political environment. This in theory allows the Attorney General to then investigate and prosecute without considering political implications.
State Legislative Term Limits	Council on State Governments Book of the States	2017	Negative Relationship	Term limiting legislators decreases the probability that these officials will be entrenched in cultures of corruption. This enables elected officials to avoid ethical misgivings and support legislation that reduces corruption.
Gubernatorial Term Limits	Council on State Governments Book of the States	2017	Negative Relationship	Term limiting Governors decreases the probability that these officials will be entrenched in cultures of corruption. This enables elected officials to avoid ethical misgivings and support legislation that reduces corruption.
State Government Transparency Index	Center for Public Integrity	2015	Negative Relationship	Increased transparency reduces the opportunity for elected and appointed officials to engage in unethical actions.
Voter Turnout Measured by VEP	Ballotpedia	2012, 2014, 2016	Negative Relationship	Increased voter turnout increases the cost that elected officials face when engaging in corrupt acts or opposing ethics reforms. It also increases the likelihood that elected officials will better represent the needs of constituents.
Voter Turnout Measured by VAP	Ballotpedia	2012, 2014, 2016	Negative Relationship	Increased voter turnout increases the cost that elected officials face when engaging in corrupt acts or opposing ethics reforms. It also increases the likelihood that elected officials will better represent the needs of constituents.
Aggregate Campaign Contributions by State	Center for Responsive Politics	2012, 2014, 2016	Positive Relationship	High levels of campaign contributions indicates an indirect quid pro quo between the contributor and the candidate, which causes the candidate to engage in unethical acts or fail to represent the needs of constituents.
US Senate Campaign Independent Expenditures	Center for Responsive Politics	2012, 2014, 2016	Positive Relationship	High levels of independent expenditures indicates there is significant interest in a given election, which increases the probability that interest groups will attempt to influence candidates and cause the candidate to engage in unethical acts or fail to represent the needs of constituents.
Campaign Funding Through Small Contributions	Center for Responsive Politics	2012	Negative Relationship	Increased funding of campaigns through small-dollar donors decreases the effect of large, potentially influential donors who may attempt to influence the candidate and cause the candidate to engage in unethical acts or fail to represent the needs of constituents.
One Party Control of State Government	Ballotpedia	2011-2016	Negative Relationship	Unified control of state government forces a single political party to be accountable for corruption in government, thereby incentivizing strengthening ethics laws and other preventative measures. One-party control also increases the ability of state government to respond to instances of corruption.
Public Campaign Financing for State Legislative Offices	Council on State Governments Book of the States	2017	Negative Relationship	States with public campaign financing systems tend to reduce the influence of large donation individuals and organizations, which reduces the probability that elected officials will be influenced by interest groups and wealthy individuals, reducing the probability that these officials will act unethically or fail to represent the needs of their constituents.
Individual Contribution Limits for Legislative Offices	Ballotpedia	2015-2016	Positive Relationship	Increasing the individual contribution limits for state legislative offices increases the probability that large influential donors will attempt to influence the candidate and cause the candidate to engage in unethical acts or fail to represent the needs of constituents.

Figure 1: Selected variables for analysis, their data sources, hypotheses, and reasoning for hypotheses by category. Economic variables are listed first, followed by education, government and electoral variables. Each category is divided by a border.

How the economy and corruption interact is crucial to understanding and preventing corruption. Several studies in the literature dedicated themselves to observing how economic variables relate to corruption. These studies were relatively consistent in their finding that favorable economic circumstances are negatively related to corruption. Scholars believe this is attributable to the fact that less corruption increases investor confidence in a jurisdiction, which brings new capital

to a local economy. Some scholars also note that government economic development funds are less likely to be misused in jurisdictions with less corruption (Dimant & Tosato, 2017; Johnson et al., 2010; Gründler & Potrafke, 2019). This study takes a hypothesis that agrees with this literature, assuming that economic fortunes and corruption have a negative relationship, utilizing several previously used and underused variables<sup>15</sup> to test this assertion.

Economic disparities affect entire societies, which implies that they may also affect corruption. Scholars have dedicated entire projects to studying how economic disparities affect the prevalence of corruption. Poverty rates and GINI indexes are the most commonly used measures in the literature (Dincer & Gunlap, 2008; Gupta et al., 2002; Sonora, 2019), and they are employed in this study as well. Because most studies on economic disparities were undertaken using an international opinions-based dataset, studying these data using US states is valuable. Previous studies usually found a positive relationship between these variables, although there were fewer studies focusing on poverty than on wealth disparity. Scholars believe this relationship exists because high poverty and wealth inequality are indicators of poor social service programs and unequal educational opportunities, which are indicators of high corruption. These facts indicate high corruption because jurisdictions with poor social service programs and significant educational inequities usually have misplaced public priorities, which either leads to corruption or is corrupt in and of itself (Dimant & Tosato, 2017). This study's hypothesis concurs with these scholars, with the added caveat that these inequity variables are also associated with low civic engagement (measured by voter turnout and small donor campaign financing), which this study also believes to be also

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<sup>15</sup> Underused variables include Fortune 500 Company Headquarters, State Legislator Salaries, and State and Local Employee Salaries. The more standard variables are Unemployment Rate, GDP Growth Rate and Median Household Income.



connected to high corruption levels as decreased civic engagement reduces the likelihood that public priorities reflect the need of society.

Educational attainment was the most consistently supported variable with respect to its purported negative relationship with corruption (Dimant & Tosato, 2017; Glaeser & Saks, 2004; Grannovetter, 2004; Jain, 2001). Because scholars used different measurements of educational attainment and the literature overall is relatively new, there is value in studying these variables. The literature tended to use either Bachelor's degree attainment or High School Diploma attainment when measuring educational attainment (Dimant & Tosato, 2017). This study uses both of these measurements, in addition to per pupil spending on primary and secondary public schools. Scholars believe that the relationship between education attainment and corruption is negative because individuals who have more education are more likely to be civically involved and be less tolerant of government digressions from the public interest (Dimant & Tosato, 2017; Uslander & Rothstein, 2016). This study's hypothesis concurs with this view.

The governmental variables considered are much broader in what they measure than the variables discussed thus far. This group of variables is made up of a set of good government policy proposals and governmental characteristics that may impact corruption. The only variables in this category that were previously tested are the proportion of state legislative seats held by women and governmental dependencies on sales tax. Those scholars that did study these variables found negative and positive relationships with corruption, respectively. Scholars attribute women in the legislature's negative relationship with corruption to a difference in behavior, citing psychological studies claiming women are more public spirited and trustworthy than men (Dollar et al., 1999). Scholars argue that sales tax dependency is positively related to corruption because sales-tax dependent systems benefit wealthy residents at the expense of non-wealthy residents, which

indicates the government is not favoring the interests of the general public (Cheol and Mikesell, 2018). This study accepts the relationship hypotheses for both of these variables, although it rejects the reasoning supporting the women in government variable in favor of more plausible reasoning. Instead, I believe that increased female participation in elected office reduces corruption because female elected officials are more likely have come from outside the world of politics, increasing the likelihood that they will be detached from any cultures of corruption and increasing the probability that they will be willing to support public spirited ethics reforms.

The good government policy proposals, as previously mentioned, have been covered by no known corruption studies<sup>16</sup>. Some examples of these variables are public campaign financing for state offices and state legislative term limits. These public campaign financing systems are believed to reduce corruption because they limit the ability of groups that do not represent the public interest to influence elected officials and skew government policy. Legislative term limits are believed to reduce corruption because it reduces the likelihood that officials are ingrained in cultures of corruption and increases accountability to voters by removing significant incumbency advantages. Political science scholars have attested to these policies' ability to increase transparency, accountability, and citizen access to government (Holmberg & Rothstein, 2014). I therefore expect the relationship between corruption and implementing each of these reforms to be negative, as each of these policies is expected to heighten the influence of the public interest in government decision-making and increases the cost of unethical actions.

Like the variables in the governmental category, many variables in the electoral category are untested or undertested. The only variables in this category that were previously tested are voter

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<sup>16</sup> Note that those good government variables that were related to elections were tested in the electoral variables category, while the rest were tested in the governmental category.

turnout and divided or unified state government. The literature tends to support the claim that voter turnout and corruption are negatively related, and divided government is positively related to corruption (Dimant & Tosato, 2017). Scholars disagree on the reason why turnout is negatively related to corruption, with some claiming high turnout is a voter response to high corruption among government officials and others claiming that existing high voter turnout deters corruption (Costas-Perez, 2014; Glaeser & Saks, 2004). Those scholars who have tested the impact of divided government believe this relationship is similar to how racial diversity affects corruption, with divisions making reaction to corruption more difficult and decreasing the cost of corrupt acts thereby increasing corruption (Dimant & Tosato, 2017). This study adopts the hypothesis that high voter turnout deters corruption by holding elected officials accountable for their personal and official actions, while also concurring with the literature's hypothesis on divided government.

As previously mentioned, many electoral variables studied in this project (campaign expenditures, small dollar donations<sup>17</sup>, etc.) have not been previously tested as to their effect on levels of corruption. These variables were chosen for analysis because the public has been found to consider, for example, high-dollar campaign contributions to be indicative of government corruption (Avkiran, Kanol, & Oliver, 2015; Bowler & Donovan, 2015). Overall, I expect those variables that are indicative of pervasive financial activity (Aggregate contributions, independent expenditures, etc.) to have a positive relationship with corruption, and those that reduce the influence of large donors (public campaign financing, small donor financing and lower individual contribution limits) to have a negative relationship with corruption. Many onlookers, including members of the Supreme Court (Briffault, 2011), have testified to the corrosive nature of excessive

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<sup>17</sup> Note that complete data for this variable was not readily available from any source, the proportions of Congressional campaign funding derived from small donations was collected from the Center for Responsive Politics' campaign finance database, which is created using data from FEC reports. This data was then sorted by the state the representative serves and then the proportions were averaged by state.

money in campaigns and its ability to corrupt. Given this fact, one would expect those variables that reduce the impact of money in campaigns to decrease the prevalence of corruption, and for variables that indicate excessive money in campaigns to increase corruption.

Once the data was collected, each of the variables were tested for a basic linear association with the two measurements of corruption<sup>18</sup>. Two forms of multiple regression analysis were used, intra and inter categorical. That is to say, for example, multiple regressions were conducted with all economic variables as independent variables to explain varying levels of corruption and which variables in the chosen category best explain variations in corruption<sup>19</sup>. The inter category analysis included different combinations of variables from each of the four categories. This culminated into 4 intra category models and 8 inter category models, not including the modified quadratic and logarithmic models. Every model used both measurements of corruption, and all the intra variable models were tested using logarithmic regressions<sup>20</sup>.

## **Results**

The raw and controlled corruption data highlight interesting trends worth noting. First, the number of convictions between states can vary widely. In 2011, for example, Alabama had 23 convictions, while Connecticut, a state with a similar population, had 0 convictions. For comparison, the average, uncontrolled number of corruption convictions per state from 2011-2017 was 18.3. But interestingly, As shown in Figure 2, the average number of convictions each year did not vary significantly. The adjusted data was similarly invariant, although the both showed a trend

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<sup>18</sup> For those variables that had multiple years of data, each year was tested for a basic linear association. Then, multiyear data was averaged into a single figure for each state.

<sup>19</sup> Note that the good government policy questions were only tested for a basic linear association, as their data was categorical.

<sup>20</sup> Variables that had previously been found to have quadratic relationships with corruption were also tested using a modified quadratic regression model.

of decreasing convictions from 2011-2014 and an increase from 2015-2017<sup>21</sup>. As shown in Figure 3, the unadjusted conviction dataset has a much higher variance and range when compared to the two controlled measures of federal convictions. It appears different layers of the data have drastically different variances, with the differences between individual states each year being significant and differences in average convictions each year being much smaller.

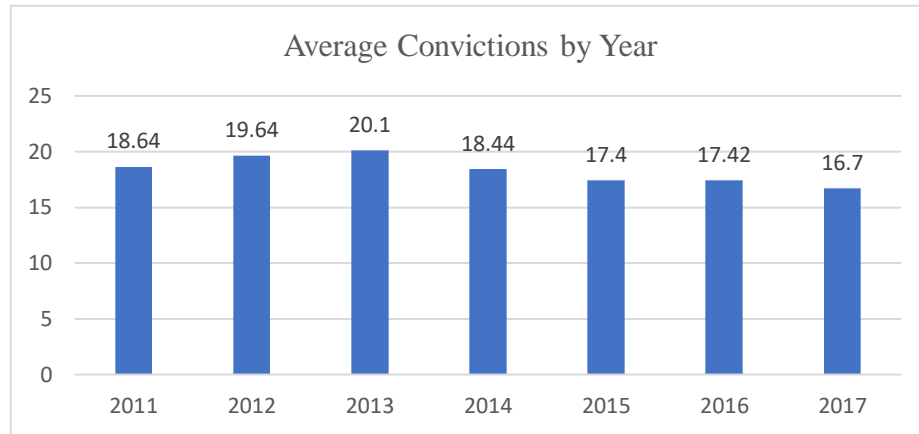


Figure 2: Average Convictions for all States by Year

	Convictions	Convictions (Pop)	Convictions (Gov)
Mean	18.33428571	0.313899058	4.115095165
Standard Error	2.975276747	0.033407354	0.407426212
Median	10.21428571	0.25871239	3.442480822
Mode	2.857142857	#N/A	#N/A
Standard Deviation	21.03838364	0.236225666	2.880938377
Sample Variance	442.613586	0.055802565	8.299805931
Range	99.85714286	1.306643199	15.02459555
Minimum	0.285714286	0.021703061	0.29127769
Maximum	100.1428571	1.328346259	15.31587324
Sum	916.7142857	15.6949529	205.7547583
Count	50	50	50

Figure 3: Summary Statistics for 2011-2017 Average Federal Corruption Convictions, Population-Adjusted Convictions, and Government Employee-Adjusted Convictions

<sup>21</sup> For the government employee and population adjusted data, see appendix A charts 1-2.

It is important to understand the details that make up the larger measure of corruption. When observing individual states from 2011-2017, Texas, California, Florida, Georgia, and New York have the highest number of convictions, while New Hampshire, North Dakota, Wyoming, Vermont and Utah have the least. When accounting for population differences, Montana, Louisiana, South Dakota, Maryland and Oklahoma have the highest incidence of corruption, while New Hampshire, Utah, Colorado, Oregon and Minnesota have the lowest. The details of these rankings are shown in Figure 4. Interestingly, when controlling for government employees, the ranks have slight differences. The employee adjusted ranks are Montana, Louisiana, Maryland, South Dakota and Georgia as the most corrupt, with the least corrupt being the same as the population ranking. More government employees in a state decreases the corruption statistic, which is the case of Virginia and Maryland, states where many Washington D.C. employees reside. A common assumption of scholars is that government employment levels correlate directly with population. While this is generally correct, and is supported by this data, it is also shown to not be universally applicable, as shown with the cases of Virginia and Maryland. This study uses both measurements in all analyses to minimize the impact of this discrepancy.

Corruption Rank	Conviction Averages		Employee Adjusted Average		Population Adjusted Average	
1	Texas	100.14	Montana	15.32	Montana	1.33
2	California	72.43	Louisiana	11.78	Louisiana	0.86
3	Florida	59.00	Maryland	8.99	South Dakota	0.75
4	Georgia	51.14	South Dakota	8.37	Maryland	0.75
5	New York	48.29	Georgia	7.38	Oklahoma	0.56
6	Virginia	44.57	Oklahoma	7.13	Virginia	0.56
7	Maryland	43.29	Kentucky	7.05	Georgia	0.53
8	Pennsylvania	42.14	Virginia	6.23	Kentucky	0.52
9	Illinois	39.43	West Virginia	6.05	West Virginia	0.47
10	Louisiana	39.14	Arizona	6.04	Mississippi	0.43
11	New Jersey	27.14	Tennessee	5.65	Alabama	0.41
12	Tennessee	24.00	Texas	5.61	Alaska	0.40
13	Arizona	23.57	Rhode Island	5.36	Texas	0.40
14	Kentucky	22.57	Alabama	5.33	Tennessee	0.38
15	Ohio	21.57	Mississippi	5.32	Arizona	0.37
16	Oklahoma	21.14	Pennsylvania	5.29	Arkansas	0.37
17	Michigan	20.86	Florida	5.22	Rhode Island	0.35
18	Alabama	19.71	Arkansas	4.86	Pennsylvania	0.33
19	Massachusetts	17.71	Illinois	4.61	Florida	0.31
20	Indiana	17.00	Indiana	4.51	New Jersey	0.31
21	Missouri	15.29	New Jersey	4.44	Illinois	0.31
22	Montana	13.14	Massachusetts	4.06	New Mexico	0.29
23	Mississippi	12.71	Alaska	3.58	Wyoming	0.28
24	North Carolina	12.43	Missouri	3.57	Massachusetts	0.27
25	Arkansas	10.71	New Mexico	3.50	Indiana	0.26
26	Wisconsin	9.71	Michigan	3.39	Missouri	0.26
27	West Virginia	8.71	New York	3.35	Vermont	0.25
28	Washington	7.86	California	3.06	New York	0.25
29	South Dakota	6.14	Delaware	2.97	Nebraska	0.23
30	New Mexico	6.00	Idaho	2.80	Maine	0.22
31	Connecticut	5.14	Ohio	2.73	Michigan	0.21
32	South Carolina	4.86	Maine	2.66	Delaware	0.21
33	Iowa	4.71	Vermont	2.62	Idaho	0.20
34	Minnesota	4.43	Nebraska	2.55	California	0.19
35	Nebraska	4.14	Wisconsin	2.39	Ohio	0.19
36	Kansas	3.86	Wyoming	2.27	Wisconsin	0.17
37	Rhode Island	3.71	Connecticut	2.11	Hawaii	0.17
38	Colorado	3.43	Nevada	2.06	Iowa	0.15
39	Idaho	3.14	Hawaii	1.88	North Dakota	0.15
40	Nevada	3.00	Iowa	1.88	Connecticut	0.14
41	Alaska	2.86	Washington	1.67	Kansas	0.14
42	Maine	2.86	North Carolina	1.62	North Carolina	0.13
43	Oregon	2.86	South Carolina	1.50	Washington	0.12
44	Hawaii	2.29	Kansas	1.46	Nevada	0.11
45	Delaware	1.86	North Dakota	1.44	South Carolina	0.11
46	Utah	1.57	Minnesota	1.18	Minnesota	0.08
47	Vermont	1.57	Oregon	1.05	Oregon	0.07
48	Wyoming	1.57	Colorado	0.88	Colorado	0.07
49	North Dakota	1.00	Utah	0.68	Utah	0.06
50	New Hampshire	0.29	New Hampshire	0.29	New Hampshire	0.02

Figure 4: 2011-2017 Conviction Rates by State

Figure 5 reports the linear associations between the selected independent variables and corruption, measured by both the population and government employee adjusted indexes. For those variables that measured multiple years, the correlation for each individual year was averaged. The full, unaltered list of correlations can be found in Appendix A, table 3. Most variables showed consistency with respect to their relationship with corruption, however some variables' average

correlations differed significantly from the individual correlations by year. For example, the US Senate Independent Expenditures variable showed a positive correlation of about .30 in 2012, but in 2014 the correlation was about -.20. Examples like these indicate that the exhaustive list may provide additional insight into these variables' relationship with corruption.



Associations			
Independent Variable	Dependent Variable	Correlation Index	Year(s)
Unemployment Rate	Corruption (Gov)	0.087297552	2011-2017
Unemployment Rate	Corruption (Pop)	1.976E-05	2011-2017
Adjusted Median Household Income	Corruption (Gov)	-0.160674062	2011-2017
Adjusted Median Household Income	Corruption (Pop)	-0.12720474	2011-2017
Growth Rate	Corruption (Gov)	-0.127443539	2011-2015
Growth Rate	Corruption (Pop)	-0.142997399	2011-2015
State Legislator Salaries	Corruption (Gov)	-0.014763425	2011-2017
State Legislator Salaries	Corruption (Pop)	-0.064153522	2011-2017
Gov't Employee Salaries	Corruption (Gov)	-0.167459009	2011-2017
Gov't Employee Salaries	Corruption (Pop)	-0.135380413	2011-2017
Number of Fortune 500 Comp	Corruption (Gov)	0.06917537	2015
Number of Fortune 500 Comp	Corruption (Pop)	-0.017307496	2015
Bachelors Degree or Higher	Corruption (Gov)	-0.185519519	2011-2017
Bachelors Degree or Higher	Corruption (Pop)	-0.163939567	2011-2017
High School Diploma or Higher	Corruption (Gov)	-0.265035876	2011-2017
High School Diploma or Higher	Corruption (Pop)	-0.185329974	2011-2017
Per Pupil Spending	Corruption (Gov)	-0.028054676	2011-2017
Per Pupil Spending	Corruption (Pop)	-0.071376076	2011-2017
Gini Index	Corruption (Gov)	0.223019237	2011-2017
Gini Index	Corruption (Pop)	0.123073254	2011-2017
Poverty Rate	Corruption (Gov)	0.271122372	2011-2017
Poverty Rate	Corruption (Pop)	0.199857746	2011-2017
Independent AG	Corruption (Gov)	0.182257426	2017
Independent AG	Corruption (Pop)	0.239158382	2017
Legislative Term Limits	Corruption (Gov)	0.274343504	2017
Legislative Term Limits	Corruption (Pop)	0.30844626	2017
Governor Term Limits	Corruption (Gov)	0.228358897	2017
Governor Term Limits	Corruption (Pop)	0.33309617	2017
Single Party Control	Corruption (Gov)	-0.043098337	even years 2012-2016
Single Party Control	Corruption (Pop)	0.046984829	even years 2012-2016
Public Campaign Financing	Corruption (Gov)	0.178918429	2017
Public Campaign Financing	Corruption (Pop)	-0.03950104	2017
Women in the Legislature	Corruption (Gov)	-0.241029896	2011-2017
Women in the Legislature	Corruption (Pop)	-0.230194638	2011-2017
State and Local Revenue from Sales Tax	Corruption (Gov)	-0.137738577	2014
State and Local Revenue from Sales Tax	Corruption (Pop)	-0.178670527	2014
State Revenue from Sales Tax	Corruption (Gov)	-0.128598108	2014
State Revenue from Sales Tax	Corruption (Pop)	-0.181271874	2014
Transparency Index	Corruption (Gov)	0.113387326	2015
Transparency Index	Corruption (Pop)	0.133714409	2015
Voter Turnout VEP	Corruption (Gov)	-0.159648494	even years 2012-2016
Voter Turnout VEP	Corruption (Pop)	-0.128449884	even years 2012-2016
Voter Turnout VAP	Corruption (Gov)	-0.129757093	even years 2012-2016
Voter Turnout VAP	Corruption (Pop)	-0.112246242	even years 2012-2016
Gerrymandered Congressional Districts	Corruption (Gov)	-0.361884016	2017
Gerrymandered Congressional Districts	Corruption (Pop)	-0.365808344	2017
Aggregate Contributions	Corruption (Gov)	0.01287873	even years 2012-2016
Aggregate Contributions	Corruption (Pop)	-0.033668719	even years 2012-2016
Small Dollar Donations	Corruption (Gov)	-0.221593568	2012
Small Dollar Donations	Corruption (Pop)	-0.203777721	2012
Individual Contribution Limit	Corruption (Gov)	0.036615237	2015-2016
Individual Contribution Limit	Corruption (Pop)	0.022615636	2015-2016
Senate Race Independent Expenditures	Corruption (Gov)	-0.003098325	even years 2012-2016
Senate Race Independent Expenditures	Corruption (Pop)	-0.032101135	even years 2012-2016

Figure 5: Correlations Between Selected Variables and Corruption

Variables in the economic category showed mixed results. Unemployment rate, the number of Fortune 500 headquarters in a state and state legislators' salaries appear to have no relationship with corruption, with correlation indexes having an absolute value of less than 0.05. In contrast, a state's median household income, average government employee salaries<sup>22</sup>, and state GDP growth rate appeared to have negative relationships with corruption, with average correlation indexes of about -.145, -.155 and -.135, respectively. For example, states with lower adjusted median household incomes, like Louisiana and Montana, had higher levels of corruption, while states with higher median household incomes, like Colorado and Oregon, had lower levels of corruption. Both the state GINI index and state poverty rate appear to have a positive impact on corruption, with average correlation indexes of about .17 and .235, respectively. It appears that most hypotheses about the role of economic variables at the state level are confirmed.

Variables in the education category appeared to be relatively consistent. Per pupil spending for primary and secondary students appeared to have no relationship with corruption, having an average correlation index of less than -.05. Bachelor's degree and high school diploma attainment, however, appeared to have negative relationships, with average correlation indexes of about -.175 and -.23, respectively. For example, states with high bachelor's degree attainment, like Connecticut and North Dakota, had lower levels of corruption, while states with lower bachelor's degree attainments, like Mississippi and Arkansas, had higher levels of corruption. These results indicate that the hypotheses about educational variables are confirmed. These differences also imply that high school diploma attainment may be a better predictor of corruption than bachelor's degree attainment.

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<sup>22</sup> This variable and the median household income were both adjusted for a state's cost of living.

Like the economic category, the governmental category showed mixed results. Aside from single party control of state government and states with public campaign financing systems for state offices, each variable appeared to have a relationship with corruption. An independently elected state Attorney General<sup>23</sup>, state legislative term limits, gubernatorial term limits and the Center for Public Integrity's state government transparency index all appeared to have positive relationships with corruption, with average correlation indexes of about .21, .29, .27 and .12, respectively<sup>24</sup>. These results are contrary to the predicted hypotheses, implying these policies may not directly reduce corruption<sup>25</sup>. Those variables that had a negative impact on corruption were the proportion of state legislative seats held by women, the proportion of state revenue deriving from sales tax, and the proportion of state and local revenue deriving from sales tax, with average correlation indexes of about -.235, -.15 and -.16, respectively. Only the women in state legislatures variable matched the initial hypothesis, indicating that sales tax dependency may not be as strong an indicator of corruption as some previous scholars believe (Liu & Mikesell, 2018).

Lastly, the voting and electoral category showed mixed results. There results were not mixed in that results showed both positive and negative relationships with corruption but because they both challenge and confirm the findings of previous scholars. Aggregate campaign contributions for federal elections in a state, state individual campaign contribution limits, and independent expenditures in US Senate races showed no relationship with corruption, having average correlation indexes with an absolute value of less than .05. Those voting and electoral variables that did show a relationship with corruption showed a negative one, and they were voter turnout measured by voter

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<sup>23</sup> This variable's significance may be limited as the independent variable showed little variation between the states—most states in the United States have independently elected state Attorneys General.

<sup>24</sup> It should be noted that for the five variables mentioned in this category thus far, only the status of the variable in the year 2017 (2015 in the case of the transparency index) was observed.

<sup>25</sup> It is possible that because federal conviction records are mostly made up of civil service-level offenders, changes to the incentives and behaviors of elected officials at the state level have a minimal impact on the overall statistic.

eligible turnout, voter turnout measured by voter age turnout, the extent of gerrymandering in a state's congressional districts and the proportion of federal legislators' financing coming from small campaign contributions<sup>26</sup>. The average correlation indexes for these variables were about -.145, -.12, -.36 and -.21, respectively. Each of these indexes matches the initial hypotheses, with the exception of the gerrymandering variables. These results indicate that certain electoral policies may help to reduce corruption.

While most of the selected variables appeared to have the hypothesized relationships with corruption, the form and shape of these relationships can differ. For example, high school diploma attainment, the percentage of state legislative seats held by women, and the state poverty rate all appeared to have notable relationships with corruption (that were negative, negative and positive, respectively). The scatterplots for these variables (Figures 6, 7, and 8), however, indicate that these linear relationships take different forms. The educational attainment variable seems to have had less variation in states' high school diploma attainment rates (a range of about 12%) than the proportion of women in state legislatures (a range of about 26%). These differences remind us that changes in each of the independent variables associated with changes in corruption are not necessarily of the same amount<sup>27</sup>. Furthermore, a similar correlation index does not necessarily associate with the same change in the corruption.

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<sup>26</sup> It should be noticed that most electoral variables' data was used only during midterm or Presidential election years, as data was only available for those years.

<sup>27</sup> For example, a 1% change in HS Graduation attainment may be associated with a larger change in corruption than say a 1% change in women holding state legislative seats.

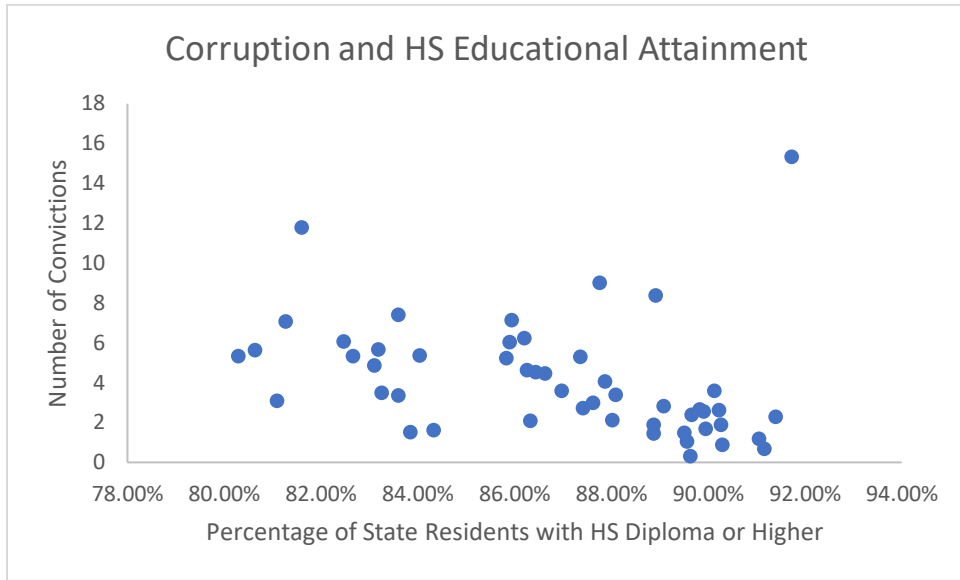


Figure 6: Corruption (adjusted for government employees) compared to HS Diploma (and Higher) Attainment

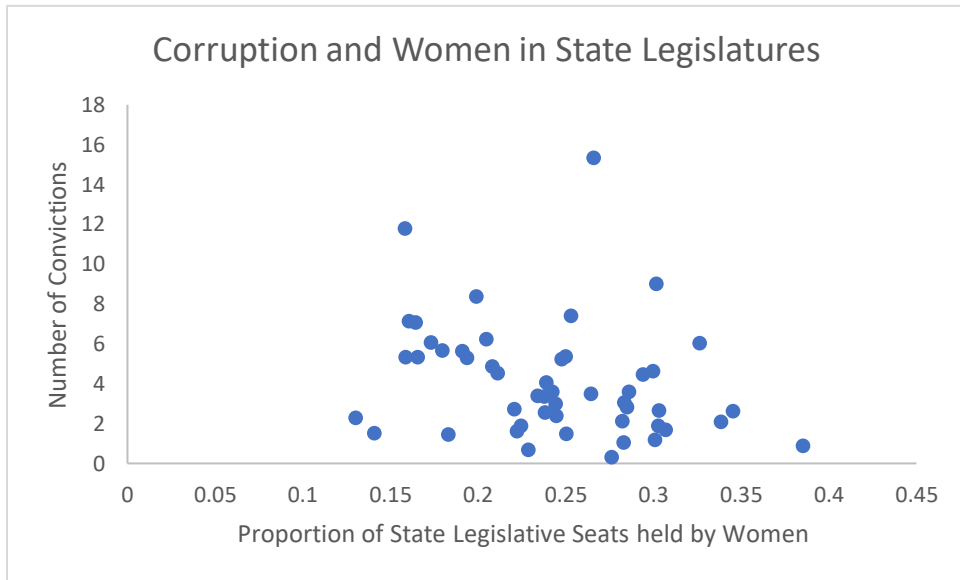
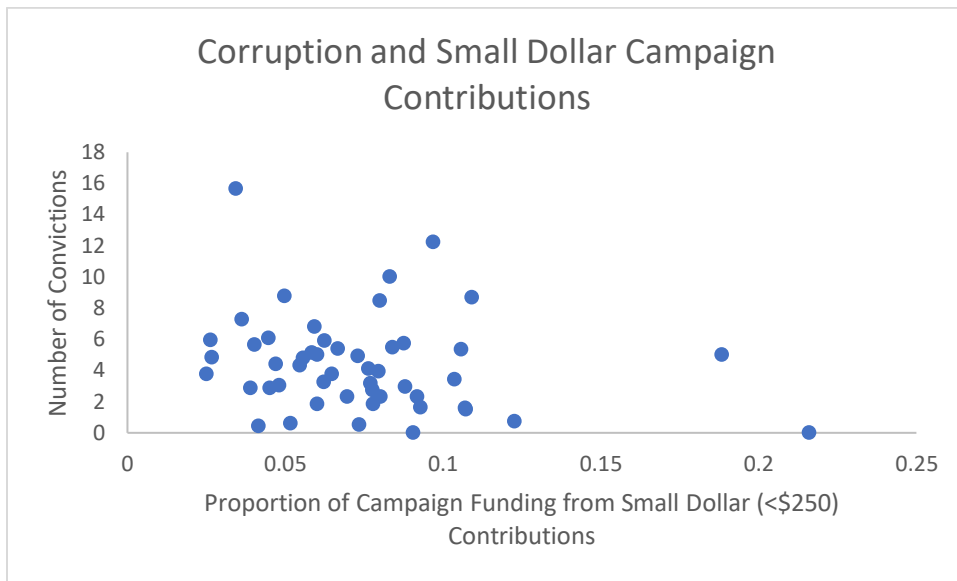


Figure 7: Corruption (controlled for government employees) compared to the proportion of Women Occupying State Legislative Seats



*Figure 8: Corruption (controlled for government employees) compared to the proportion of Congressional and US Senate Campaign funding from Small Dollar Contributions in 2012*

The data just reported were correlations, the following are summaries and tables of the various regression models. Figure 9 reports the coefficient, R-squared, and statistical significances for each of the 8 population-adjusted inter category models, while Figure 10 reports the same information for the government employee-adjusted inter category models. Those variables whose coefficient's p-value was below 0.10 are noted accordingly. It appears that the government employee-adjusted measure of corruption was more closely related to the selected variables, and that a state's GINI index and poverty rate are the best determinants of the state's federal corruption convictions. Also, notwithstanding the differences between the models, each explains less than 25% of the variance in corruption. This does not, however, preclude the results of this study from being instructive, as corruption is a difficult variable to explain.

<b>Dependent Variable: Corruption Convictions (per hundred thousand state residents)</b>								
<b>Independent Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>	<b>Model 8</b>
Median Household Income	0.000	--	--	--	--	--	--	--
State and Local Employee Compensation	--	0.000	--	--	--	--	0.000	0.000
GDP Growth Rate	--	--	-2.178	-2.377	-2.143	-2.703	--	--
Bachelor's Degree Attainment	-0.690	-0.389	-0.686	--	--	0.682	0.464	0.334
High School Diploma Attainment	--	--	--	-0.362	0.354	--	--	--
GINI Index	1.853	1.981	2.382	1.696	--	--	--	--
Poverty Rate	--	--	--	--	2.276	2.711	1.946	1.851
Proportion of Women in State Legislatures	-0.534	-0.320	-0.607	-0.840	-0.569	-0.738	-0.637	--
State Sales Tax Dependency	-0.323	-0.346	-0.296	-0.244	-0.300	-0.266	-0.324	-0.336
Voter Eligible Turnout	-0.159	-0.283	-0.164	-0.238	-0.137	-0.129	-0.307	-0.295
Financing from Small Campaign Contributions	-0.398	-0.426	-0.212	-0.195	-0.472	-0.362	--	-0.811
R-Squared	0.133	0.145	0.15	0.139	0.164	0.171	0.146	0.144

\*, \*\*, and \*\*\* indicate that the coefficients are statistically significant at the 0.10, 0.05, and 0.01 level, respectively.

Figure 9: Inter category multiple regression models of the determinants of population-adjusted corruption

<b>Dependent Variable: Corruption Convictions (per hundred thousand government employees)</b>								
<b>Independent Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>	<b>Model 8</b>
Median Household Income	0.000	--	--	--	--	--	--	--
State and Local Employee Compensation	--	0.000	--	--	--	--	0.000	0.000
GDP Growth Rate	--	--	-27.040	-30.655	-26.184	-32.776	--	--
Bachelor's Degree Attainment	-10.358	-7.130	-11.038	--	--	12.627	9.555	8.258
High School Diploma Attainment	--	--	--	-9.674	-8.051	--	--	--
GINI Index	42.074*	44.256*	49.193**	34.489	--	--	--	--
Poverty Rate	--	--	--	--	27.934	44.926**	36.120*	35.034*
Proportion of Women in State Legislatures	-3.703	-1.146	-4.853	-8.260	-4.297	-7.398	-6.993	--
State Sales Tax Dependency	-3.036	-3.319	-2.679	-1.859	-2.559	-2.054	-2.739	-2.817
Voter Eligible Turnout	-1.978	-3.342	-1.774	-2.376	-0.300	-1.739	-3.920	-3.283
Financing from Small Campaign Contributions	-5.106	-5.349	-2.666	-2.097	-5.787	-6.281	--	-11.053
R-Squared	0.182	0.196	0.2	0.182	0.195	0.209	0.18	0.183

\*, \*\*, and \*\*\* indicate that the coefficients are statistically significant at the 0.10, 0.05, and 0.01 level, respectively.

Figure 10: Inter category multiple regression models of the determinants of government employee-adjusted corruption

GDP growth rate showed a consistent and strong negative relationship with corruption, although the coefficients for this variable were not statistically significant. For example, in model 4, GDP growth rate had a coefficient of -2.377. Also, it appears that those models that incorporated GDP growth rate (models 5 and 6, for example) were more successful at explaining corruption, than those that included median household income or state and local government employee compensation. Median household income and state and local government employee compensation

consistently showed no predictive relationship with corruption, having a coefficient of zero in every inter category model the variables were used.

The economic disparity variables proved to have the strongest predictive relationships with corruption. Both of these variables showed consistently positive relationships with corruption, and in the most successful models these variables' coefficients had p-values below 0.05 in multiple models. In the most successful model, model 6 (which had an R-squared of .209), the state poverty rate variable had a coefficient of 44.926, which indicates that for every 1% increase in a state's poverty rate, there is an associated increase of 0.45 convictions per 100,000 government employees. Similarly, GINI Index had a coefficient of 49.193 in the second most successful model, model 3 (which had an R-squared of 0.20). This coefficient indicated that for every 1% increase in a state's GINI Index, there is an associated increase of 0.49 convictions per 100,000 government employees.

Educational variables showed slightly inconsistent relationships with corruption, sometimes showing positive relationships but usually showing negative relationships. When observing the population-adjusted corruption models, some showed bachelor's degree attainment having a positive relationship with corruption (For example, model 6 with a coefficient of 0.682) while others showed a negative relationship with corruption (For example, model 3 with a coefficient of -.686). Notably, every model that included the poverty rate with bachelor's degree attainment showed this positive relationship for the bachelor's degree variable. Thus the relationship between poverty and education attainment may be impacting this seemingly positive relationship. When observing the models using the government employee-adjusted measure of corruption, however, the two education variables more consistently showed a negative relationship with corruption. None of the coefficients of the education variables were statistically significant.



Governmental variables showed consistency with respect to their relationships with corruption. Every one of these variables showed a consistent, negative relationship with corruption, though the strength of this relationship varied. For example, in model 1, the proportion of state women occupying legislative seats had a coefficient of -0.534, while the coefficient for sales tax dependency was -0.323. The sales tax dependency variable, which consistently showed a negative relationship, was unexpected, given the literature's support for a positive relationship. None of the coefficients for these governmental variables were statistically significant.

The electoral variables tested in this model also showed a consistent linear relationship with corruption. Both voter eligible turnout and financing from small campaign contributions showed negative relationships with corruption in each model they were part of. Financing from small campaign contributions had a stronger negative relationship with corruption than did voter eligible turnout in all models except for one. Interestingly, financing from small campaign contributions had the largest coefficient in the model that did not include the women in state legislatures variable. Like the educational and governmental variables, none of these coefficients were statistically significant.

Of all the independent variables tested using intra category linear regressions, three showed statistical significance, each at the 0.1 level: a state's poverty rate, high school diploma attainment (or higher), and the proportion of state legislative seats occupied by women<sup>28</sup>. These variables showed negative, positive and negative relationships with corruption, respectively. When observing economic variables in the intra category models, unemployment, GINI Index and GDP growth rate showed positive and negative relationships with corruption, respectively. When observing education variables in the intra category models, both bachelor's degree and high school diploma attainment

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<sup>28</sup> The results for all intra category regressions are provided in Appendix A, tables 4-8.

variables showed a negative relationship with corruption. Of governmental variables, state sales tax dependency showed a positive relationship with corruption, while state and local sales tax dependency showed a negative relationship with corruption. Lastly, in the electoral category, small contributions and voter eligible turnout showed negative relationships with corruption, while voter age turnout showed a positive relationship with corruption.

When using the population-adjusted measure of corruption, only the proportion of women in a state's legislature had a statistically significant coefficient, with a  $p$ -value of 0.068. In this model, each 1% increase in the proportion of women occupying seats in a state's legislature is associated with a decrease of 0.012 corruption convictions per 100,000 people<sup>29</sup>. It should also be noted that voter eligible turnout (VEP<sub>30</sub>), which had a negative relationship with corruption, was close to showing statistical significance at the 0.10 level. When comparing the variable to the population-adjusted corruption measure, the variable's coefficient had a  $p$ -value of 0.115.

When observing the government-controlled corruption measure with the selected variables, high school diploma attainment, a state's poverty rate, and the proportion of state legislative seats occupied by women had statistically significant coefficients. Each was significant at the .10 level, with the  $p$ -values being 0.074, 0.082, and 0.073, respectively. In this model, each 1% increase in the proportion of residents with a High School diploma or more education was associated with a decrease of 0.25 corruption convictions per 100,000 government employees. Each 1% increase in the poverty rate was associated with an increase of 0.34 corruption convictions per 100,000 government employees. Each 1% increase in the proportion of state legislative seats occupied by

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<sup>29</sup> This may seem insignificant, but when accounting for population or government employees, the potential effect is significant. Say a state has 10 million residents. According to this equation, if residents elected just 1% more women to the state legislature, there will be an average of 1.2 fewer convictions in that state.

<sup>30</sup> VEP is the population of people who are registered to vote and, if applicable, enrolled in a political party. VAP is the population of voters who qualify to vote but may or may not be registered.

women, was associated with a decrease of 0.20 corruption convictions per 100,000 government employees.

The three variables whose coefficients were statistically significant using a linear regression with a government employee-adjusted corruption measurement were also significant when testing using a logarithmic regression with a government employee-adjusted measurement of corruption. The p-values for the three variables, a state's poverty rate, high school diploma attainment (or higher), and the proportion of state legislative seats occupied by women were 0.092, 0.087 and 0.06, respectively. The proportion of state legislative seats occupied by women also showed statistical significance at the 0.10 level when using the population controlled corruption measure, with its p-value being 0.060. No variables tested for quadratic relationships showed to be statistically significant.

### **Data Limitations**

While this study raises interesting and important questions with regards to the study of corruption, its results must be considered in context of its limitations. First, as has been stated in several instances, these data observe correlations. Statistical significance in this study does not imply that variables cause one another to change, although such causation is possible. Rather, they show that a relationship exists between the variables.

There are important limitations of the conviction records used for this study. These records do not include information on state and local corruption convictions, which exists throughout the United States (Henning, 2003; Murphy, 2019). Some scholars have also made claims that these annual reports do not include all federal prosecutor activity due to errors in reporting (Cortis & Miylo, 2013). Also, because the DOJ reports aggregate convictions, there is no way to determine

how serious the conviction was. We can assume, though, that because of limited time and personnel, US Attorneys would only prosecute cases that were in some way significant. Only having aggregate data also raises the possibility that some states' corruption measures, particularly those with few convictions, were skewed by individual decisions, creating the illusion that a culture of corruption exists. It is also possible that the outcomes of active or pending cases in 2017 (of which there were 521) might impact the measure.

There are also limitations related to the independent variables. It should be noted that most data for this study was derived from surveys—the Decennial Census, the American Community Survey, Council on State Governments data, and others, which are subject to error. The census data in particular (as it is about 10 years old) may be subject to error. The US Census Bureau, however, does conduct smaller annual population surveys that are intended to serve as a bellwether for population changes in between the Decennial Census. When using the most recent of this data from 2019, there were no differences in the statistical significance of the variables, although p-values, coefficients and other indicators did change slightly. Likewise, the data used to calculate the number of government employees may also be subject to error, as it also dates from 2010. Also, some variables' correlation indexes may have been impacted by their low variances, like the GINI Index.

The impact of lurking variables and reverse causation should also be noted. Some scholars in the literature noted that their findings may have differed depending on whether corruption is an independent or dependent variable (Choudhury, 2018; Heywood, 1997). For example, voter turnout may be a reaction to high corruption or a cause of low corruption. Even a variable like the proportion of state legislative seats held by women may itself be impacted by the prevalence of corruption. Also, variables like educational attainment and poverty may be impacted by other

explanatory variables, like the median household income or GDP growth rate. This possibility is highlighted by Figure 11, which shows the correlations between the independent variables used in this study. Some variables, like the educational indicators and the state poverty rate, are highly correlated, which may have skewed the results. Lastly, it should be noted that previous scholars have found that the extent a population is urbanized reflects its corruption level (Dimant and Tosato, 2017), but this was not controlled for.

Correlations Between Independent Variables											
	Median Household Income	SL Compensation	GDP Growth Rate	Bachelors Degree	HS Diploma	GINI	Poverty Rate	Women in Legislature	Sales Dependency	VEP	Small Contributions
Median Household Income	1										
State and Local Employee Compensation	0.927937852	1									
GDP Growth Rate	-0.154677857	-0.11810342	1								
Bachelor's Degree Attainment	0.673945989	0.60959333	0.066233306	1							
High School Diploma Attainment	0.292506883	0.171530559	-0.23089998	0.449092528	1						
GINI Index	-0.126275703	0.053273501	0.275490032	0.021943905	-0.725172309	1					
Poverty Rate	-0.659112768	-0.507474703	0.187294071	-0.727287136	-0.76986246	0.540567617	1				
Proportion of Women in State Legislatures	0.505803689	0.524358918	-0.019607915	0.551202562	0.442276052	-0.177537946	-0.433211117	1			
State Sales Tax Dependency	-0.25962114	-0.23595938	0.125624241	-0.357510054	-0.264784294	0.148560488	0.321531801	-0.145701451	1		
Voter Eligible Turnout	0.1457025	0.130733578	-0.068669602	0.472571264	0.598425342	-0.271286705	-0.483146742	0.419685542	-0.352992095	1	
Financing from Small Campaign Contributions	0.18360718	0.190479132	0.065651785	0.333342834	0.471369665	-0.271956566	-0.313119416	0.506650107	-0.112901776	0.471506999	1

Figure 11: Correlations Between Independent Variables

## Discussion

The results of this study raise important questions and provide insight into the causes and effects of corruption. Overall, the results suggest that those policies that decrease the incidence of poverty and wealth disparities, increase high school graduation rates, promote female participation in elected state legislative office, and, to a lesser extent, increase voter turnout, will have the effect of decreasing corruption. These results thus have several implications for policymakers. These results also imply that using a government employee-controlled measure of corruption may be a more accurate measure of corruption than using population.

The education variable, as was asserted by much of the literature (Dimant & Tosato, 2017), appears to be negatively related to the level of corruption. The interesting caveat of this result,

however, is which educational indicator showed this relationship. Neither bachelor's degree attainment (or higher) nor primary and secondary spending per pupil showed a statistically significant relationship with corruption, although high school diploma attainment (or higher) did. The variances between this variable and the high school diploma variable were quite similar, eliminating that mathematical explanation for the difference. This leaves open the question of why high school diploma attainment is more strongly related to corruption levels. It is possible that high school diploma attainment more accurately reflects the education of the entirety of a state's population, whereas bachelor's degree attainment reflects the education of only a segment of the population (less than half of state residents usually have bachelor's degrees). These results also invoke the possibility that people may only need a high school education to understand government enough to make educated voting decisions and to avoid ethical dilemmas when employed by or engaging with a public entity. It is also possible that because low high school graduation rates indicate that high poverty rates exist, it is poor economic opportunity in a state that explains this difference<sup>31</sup>.

The women in state legislatures variable, discussed least in the literature, was the highest performing intra category variable in terms of its regression equation strength and correlation index. Considering that this variable is unlikely to be influenced by reverse causation (which variables in the other categories may be susceptible to), these results are notable. Previous studies found attributed this relationship to a purported fact that women are inherently "more trust-worthy and public spirited" than men, which these authors claim is supported by behavioral studies (Dollar et al., 1999). It should be noted that this position has not been taken by many scholars and has not been tested directly through interviewing or surveying female government officials. It is also

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<sup>31</sup> Bachelor's degree attainment was only highly correlated with the GINI Index, while high school diploma attainment was highly correlated with both the GINI Index and poverty rates.

possible that this trend is explained by women's permeation of many employment sectors in recent decades. Because many female elected officials and employees are new, they may be less likely to be entrenched in institutional corruption and subsequently end up being prosecuted by federal law enforcement. This outsider perspective may also induce states with more female legislators to adopt stronger anti-corruption laws, deterring potential corrupt acts (whether they be state or federal violations).

This study found strong support for the claim that an increase in a state's poverty rate and GINI index result in an increase in the level of that state's level of corruption. Much of the literature attested to the positive relationship between each of these variables and corruption (Dimant & Tosato, 2017), although there is some disagreement on which variable is independent (Dincer & Gunlap, 2008). The cause of this association may be that high poverty rates are associated with other variables that affect corruption, such as (low) education attainment. It is also possible that high poverty indicates an economic situation where people are more willing to accept corruption in government (or have less time to monitor government activity) because they are occupied providing for themselves and their families. And as the literature mentions, it is also possible that high poverty is in fact an effect of corruption in government that results in mismanagement of finances, causing social assistance programs to decline.

Voter turnout measured by VEP appeared to remedy corruption, similar to the findings of the literature (Choudhury, 2018; Costas-Perez, 2014). Interestingly, though, was that voter turnout measured by VAP showed weaker results, with its strongest regression coefficient's *p*-value being around 0.20. This may indicate that if a baseline proportion of the population is engaged in government affairs, that will be enough to ensure elected officials make decisions according to public needs and that they do not incentivize corruption by support interest groups in place of the

public interest or engage in corrupt acts themselves. It is also conceivable that educational attainment, which is widely considered to be positively associated with high voter turnout, influenced this connection.

The results of this study highlight several types of policies that appear to reduce the level of corruption in a jurisdiction. This study shows that differences in the level of corruption are unlikely to be entirely attributable to individuals' ethical choices. Factors like education levels, economic health, wealth distribution and civic engagement can all impact corruption levels. Generally, this study shows that a healthy society (with less wealth disparities and poverty) will have less corruption. This means that societies that have minimal economic and educational inequities and strong civic engagement are those that will have the lowest levels of corruption. Policymakers, then, should focus on ameliorating disparities, possibly by expanding educational and economic opportunities to individuals and communities that are that currently face social, economic, and in some cases political, barriers.

Considering the results of the women in legislatures variable, some electoral reforms may also be desirable. If this study's explanation of this relationship is correct, then it is not that women themselves are the reason for this difference, but that women are more likely to be newly elected officials, unconnected to any cultures of corruption. These individuals would be more likely to support ethical reforms<sup>32</sup>. Policies that would reduce corruption, then, would eliminate barriers for women and other groups that are underrepresented in elected office. For example, some states have allowed for elected officials to be provided with childcare services. Another policy would be to moderately compensate candidates for elected office, which would allow people with limited

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<sup>32</sup> Some studies have found that US state legislators have different attitudes towards corruption depending on their representative region (Welch & Peters, 1977). It seems likely that one's prior involvement in public life would have some impact on this attitude as well.



incomes to participate in public life. These forms of policies would likely incorporate new views into policymaking discussions, leading to policies that would discourage unethical behavior.

Despite the progress made by this study, there are still various variables that need to be tested, retested and expanded upon. There should be future inquiry into how the racial and ethnic diversity of a community affects government corruption. Previous studies had found that increased diversity leads to political fragmentation, which strengthens the opportunity for bad actors to successfully engage in corruption without recourse (Dimant & Tosato, 2017). This study's preliminary findings on campaign finance variables should also be further developed in future research. Campaign finance can be more easily controlled by policymakers than say, wealth disparities, so if these electoral reforms were found to significantly reduce corruption, they would be powerful policy tools.

Based upon the results and experiences of conducting this study, I would make three recommendations for future research. First, future researchers should prioritize collecting experimental data wherever possible, as the literature is almost entirely based on observational data. The variables that were found to be viable in this study could conceivably be tested in a controlled setting<sup>33</sup>. Second, scholars should continue to confirm or disconfirm existing studies' findings, thereby building the strength of the literature<sup>34</sup>. If the findings of corruption studies are to be valuable to policymakers, there must be a robust body of evidence supporting theoretical assertions. Lastly, future studies should be liberal in the variables they choose to test. Corruption is amorphous, meaning it does not belong to any one industry, sector of society, or field of study. Testing new

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<sup>33</sup> For example, similar men and women could be placed in hypothetical ethical scenarios that are associated with corruption, such as whether they would be willing to take a bribe.

<sup>34</sup> These studies would also benefit from observing corruption levels and chosen variables over time, which may be useful in dissecting whether reverse causation is occurring in some comparisons.

variables will help to broaden the instructiveness of scholars' findings and inform the existing views of this developing field of inquiry. If these recommendations are incorporated into future studies, I believe scholars will be better equipped to fully understand corruption and make high-quality recommendations to reduce its ubiquity.

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## Appendix A

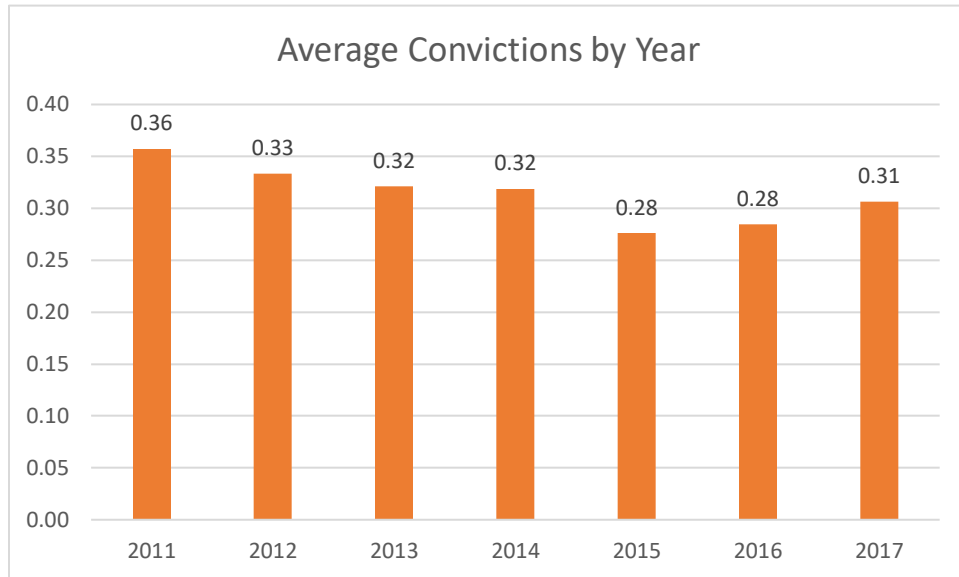


Table 1: Average Convictions by Year (adjusted for population)

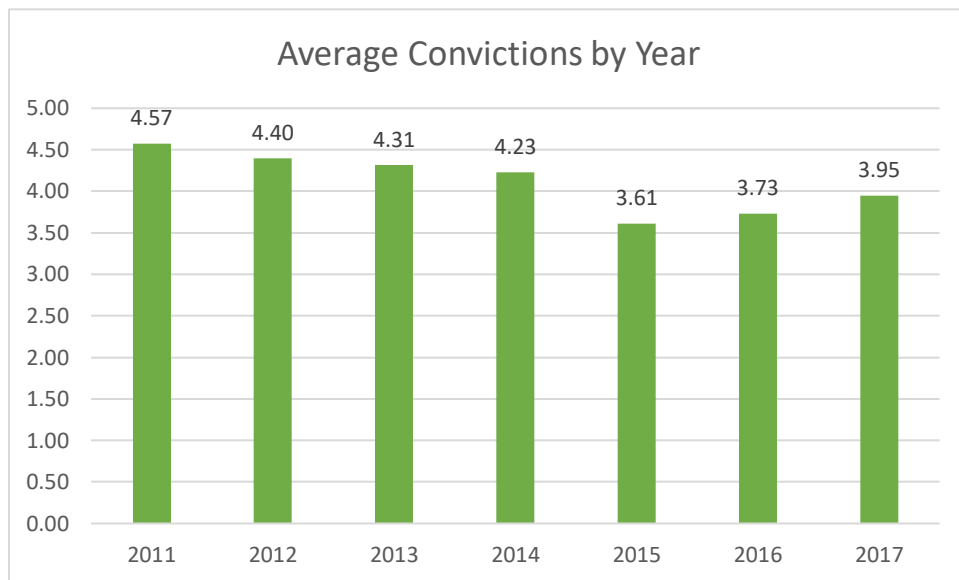


Table 2: Average Convictions by Year (adjusted for government employees)

Table 3: Associations Between Selected Variables and Corruption by Year

Associations			
Independent Variable	Dependent Variable	Correlation Index	Data Year
U-Rate	Corruption (per pop)	-0.223352673	2011
U-Rate	Corruption (per pop)	-0.143592673	2012
U-Rate	Corruption (per pop)	0.187748293	2013
U-Rate	Corruption (per pop)	0.06505328	2014
U-Rate	Corruption (per pop)	0.152721331	2015
U-Rate	Corruption (per pop)	0.080619135	2016
U-Rate	Corruption (per pop)	-0.119058345	2017
U-Rate	Corruption (per gov't)	-0.059108555	2011
U-Rate	Corruption (per gov't)	0.020636646	2012
U-Rate	Corruption (per gov't)	0.273803521	2013
U-Rate	Corruption (per gov't)	0.131894258	2014
U-Rate	Corruption (per gov't)	0.21884913	2015
U-Rate	Corruption (per gov't)	0.09442153	2016
U-Rate	Corruption (per gov't)	-0.069413667	2017
Median Household Income	Corruption (per pop)	-0.050268986	2011
Median Household Income	Corruption (per pop)	-0.236756137	2012
Median Household Income	Corruption (per pop)	-0.157352669	2013
Median Household Income	Corruption (per pop)	-0.149891572	2014
Median Household Income	Corruption (per pop)	-0.052017488	2015
Median Household Income	Corruption (per pop)	-0.164067741	2016
Median Household Income	Corruption (per pop)	-0.080078589	2017
Median Household Income	Corruption (per gov't)	-0.097428024	2011
Median Household Income	Corruption (per gov't)	-0.282554988	2012
Median Household Income	Corruption (per gov't)	-0.170043253	2013
Median Household Income	Corruption (per gov't)	-0.16241944	2014
Median Household Income	Corruption (per gov't)	-0.11133728	2015
Median Household Income	Corruption (per gov't)	-0.199541628	2016
Median Household Income	Corruption (per gov't)	-0.101393823	2017
GDP Growth Rate	Corruption (per pop)	-0.104941216	2011
GDP Growth Rate	Corruption (per pop)	-0.144498904	2012
GDP Growth Rate	Corruption (per pop)	-0.336193754	2013
GDP Growth Rate	Corruption (per pop)	-0.097118063	2014
GDP Growth Rate	Corruption (per pop)	-0.032235061	2015
GDP Growth Rate	Corruption (per gov't)	-0.144939711	2011
GDP Growth Rate	Corruption (per gov't)	-0.160879099	2012
GDP Growth Rate	Corruption (per gov't)	-0.296379811	2013
GDP Growth Rate	Corruption (per gov't)	-0.071711925	2014
GDP Growth Rate	Corruption (per gov't)	0.03669285	2015
State Legislator Salaries	Corruption (per pop)	-0.150805076	2011
State Legislator Salaries	Corruption (per pop)	-0.047554046	2012
State Legislator Salaries	Corruption (per pop)	0.017329176	2013
State Legislator Salaries	Corruption (per pop)	-0.12097104	2014
State Legislator Salaries	Corruption (per pop)	0.033925946	2015
State Legislator Salaries	Corruption (per pop)	-0.10468788	2016
State Legislator Salaries	Corruption (per pop)	-0.076311735	2017
State Legislator Salaries	Corruption (per gov't)	-0.089848409	2011
State Legislator Salaries	Corruption (per gov't)	0.018657782	2012
State Legislator Salaries	Corruption (per gov't)	0.073539883	2013
State Legislator Salaries	Corruption (per gov't)	-0.092502176	2014
State Legislator Salaries	Corruption (per gov't)	0.0937375	2015
State Legislator Salaries	Corruption (per gov't)	-0.074574731	2016
State Legislator Salaries	Corruption (per gov't)	-0.032353828	2017
Gov't Employee Salaries	Corruption (per pop)	-0.136746676	2011
Gov't Employee Salaries	Corruption (per pop)	-0.171708574	2012
Gov't Employee Salaries	Corruption (per pop)	-0.113419545	2013
Gov't Employee Salaries	Corruption (per pop)	-0.113419545	2014
Gov't Employee Salaries	Corruption (per pop)	-0.114299654	2015
Gov't Employee Salaries	Corruption (per pop)	-0.163366149	2016
Gov't Employee Salaries	Corruption (per pop)	-0.134702748	2017
Gov't Employee Salaries	Corruption (per gov't)	-0.131464753	2011
Gov't Employee Salaries	Corruption (per gov't)	-0.3035167	2012
Gov't Employee Salaries	Corruption (per gov't)	-0.147531499	2013
Gov't Employee Salaries	Corruption (per gov't)	-0.114723879	2014
Gov't Employee Salaries	Corruption (per gov't)	-0.13793141	2015
Gov't Employee Salaries	Corruption (per gov't)	-0.190117732	2016
Gov't Employee Salaries	Corruption (per gov't)	-0.146927093	2017
Number of Fortune 500 Companies	Corruption (per pop)	-0.017307496	2015
Number of Fortune 500 Companies	Corruption (per gov't)	0.06917537	2015

Bachelors Degree or Higher	Corruption (per pop)	-0.081453523	2011
Bachelors Degree or Higher	Corruption (per pop)	-0.355838014	2012
Bachelors Degree or Higher	Corruption (per pop)	-0.162674913	2013
Bachelors Degree or Higher	Corruption (per pop)	-0.151218116	2014
Bachelors Degree or Higher	Corruption (per pop)	-0.190430675	2015
Bachelors Degree or Higher	Corruption (per pop)	-0.103958057	2016
Bachelors Degree or Higher	Corruption (per pop)	-0.102003668	2017
Bachelors Degree or Higher	Corruption (per gov't)	-0.096936018	2100
Bachelors Degree or Higher	Corruption (per gov't)	-0.392811853	2012
Bachelors Degree or Higher	Corruption (per gov't)	-0.165412314	2013
Bachelors Degree or Higher	Corruption (per gov't)	-0.179307862	2014
Bachelors Degree or Higher	Corruption (per gov't)	-0.219380604	2015
Bachelors Degree or Higher	Corruption (per gov't)	-0.124893603	2016
Bachelors Degree or Higher	Corruption (per gov't)	-0.119894378	2017
High School Diploma or Higher	Corruption (per pop)	-0.108166268	2011
High School Diploma or Higher	Corruption (per pop)	-0.392444403	2012
High School Diploma or Higher	Corruption (per pop)	-0.391064973	2013
High School Diploma or Higher	Corruption (per pop)	-0.147038518	2014
High School Diploma or Higher	Corruption (per pop)	-0.233919453	2015
High School Diploma or Higher	Corruption (per pop)	-0.020204248	2016
High School Diploma or Higher	Corruption (per pop)	-0.004471954	2017
High School Diploma or Higher	Corruption (per gov't)	-0.257803373	2011
High School Diploma or Higher	Corruption (per gov't)	-0.453313492	2012
High School Diploma or Higher	Corruption (per gov't)	-0.463228745	2013
High School Diploma or Higher	Corruption (per gov't)	-0.198628723	2014
High School Diploma or Higher	Corruption (per gov't)	-0.343485479	2015
High School Diploma or Higher	Corruption (per gov't)	-0.07873983	2016
High School Diploma or Higher	Corruption (per gov't)	-0.06005149	2017
Per Pupil Spending	Corruption (per gov't)	0.128607876	2011
Per Pupil Spending	Corruption (per gov't)	-0.019303329	2012
Per Pupil Spending	Corruption (per gov't)	0.015481425	2013
Per Pupil Spending	Corruption (per gov't)	-0.068964184	2014
Per Pupil Spending	Corruption (per gov't)	-0.037743538	2015
Per Pupil Spending	Corruption (per gov't)	-0.094156238	2016
Per Pupil Spending	Corruption (per gov't)	-0.120304744	2017
Per Pupil Spending	Corruption (per pop)	0.064222218	2011
Per Pupil Spending	Corruption (per pop)	-0.104015991	2012
Per Pupil Spending	Corruption (per pop)	-0.026433098	2013
Per Pupil Spending	Corruption (per pop)	-0.08919671	2014
Per Pupil Spending	Corruption (per pop)	-0.090433457	2015
Per Pupil Spending	Corruption (per pop)	-0.121777545	2016
Per Pupil Spending	Corruption (per pop)	-0.131997952	2017
Gini Index	Corruption (per pop)	-0.097932668	2011
Gini Index	Corruption (per pop)	0.083509879	2012
Gini Index	Corruption (per pop)	0.277399675	2013
Gini Index	Corruption (per pop)	0.098111841	2014
Gini Index	Corruption (per pop)	0.276743958	2015
Gini Index	Corruption (per pop)	0.15011126	2016
Gini Index	Corruption (per pop)	0.073568836	2017
Gini Index	Corruption (per gov't)	0.071237391	2011
Gini Index	Corruption (per gov't)	0.211667983	2012
Gini Index	Corruption (per gov't)	0.37492572	2013
Gini Index	Corruption (per gov't)	0.153482069	2014
Gini Index	Corruption (per gov't)	0.406640925	2015
Gini Index	Corruption (per gov't)	0.216410581	2016
Gini Index	Corruption (per gov't)	0.126769994	2017
Poverty Rate	Corruption (per pop)	0.052468516	2011
Poverty Rate	Corruption (per pop)	0.210375904	2012
Poverty Rate	Corruption (per pop)	0.211763306	2013
Poverty Rate	Corruption (per pop)	0.260740857	2014
Poverty Rate	Corruption (per pop)	0.334332032	2015
Poverty Rate	Corruption (per pop)	0.199227795	2016
Poverty Rate	Corruption (per pop)	0.13009581	2017
Poverty Rate	Corruption (per gov't)	0.173910745	2011
Poverty Rate	Corruption (per gov't)	0.315546165	2012
Poverty Rate	Corruption (per gov't)	0.262545374	2013
Poverty Rate	Corruption (per gov't)	0.306094682	2014
Poverty Rate	Corruption (per gov't)	0.417130852	2015
Poverty Rate	Corruption (per gov't)	0.248390673	2016
Poverty Rate	Corruption (per gov't)	0.174238116	2017

Independent AG	Corruption (per pop)	0.239158382	2017
Independent AG	Corruption (per gov't)	0.182257426	2017
Legislative Term Limits	Corruption (per gov't)	0.274343504	2017
Legislative Term Limits	Corruption (per pop)	0.30844626	2017
Governor Term Limits	Corruption (per gov't)	0.228358897	2017
Governor Term Limits	Corruption (per pop)	0.33309617	2017
One Party State Control	Corruption (per pop)	0.30744496	2012
One Party State Control	Corruption (per pop)	-0.089087081	2014
One Party State Control	Corruption (per pop)	-0.077403394	2016
One Party State Control	Corruption (per gov't)	0.218071425	2012
One Party State Control	Corruption (per gov't)	-0.036369648	2014
One Party State Control	Corruption (per gov't)	-0.310996787	2016
Public Campaign Financing	Corruption (per gov't)	0.178918429	2017
Public Campaign Financing	Corruption (per pop)	-0.03950104	2017
Women in the Legislature	Corruption (per pop)	-0.357915291	2011
Women in the Legislature	Corruption (per pop)	-0.416718566	2012
Women in the Legislature	Corruption (per pop)	-0.382804861	2013
Women in the Legislature	Corruption (per pop)	-0.075553021	2014
Women in the Legislature	Corruption (per pop)	-0.225556123	2015
Women in the Legislature	Corruption (per pop)	-0.007572543	2016
Women in the Legislature	Corruption (per pop)	-0.145242059	2017
Women in the Legislature	Corruption (per gov't)	-0.326094808	2011
Women in the Legislature	Corruption (per gov't)	-0.396553342	2012
Women in the Legislature	Corruption (per gov't)	-0.430815442	2013
Women in the Legislature	Corruption (per gov't)	-0.083907889	2014
Women in the Legislature	Corruption (per gov't)	-0.256561642	2015
Women in the Legislature	Corruption (per gov't)	-0.035036814	2016
Women in the Legislature	Corruption (per gov't)	-0.158239337	2017
State and Local Revenue from Sales Tax	Corruption (per gov't)	-0.137738577	2014
State and Local Revenue from Sales Tax	Corruption (per pop)	-0.178670527	2014
State Revenue from Sales Tax	Corruption (per gov't)	-0.128598108	2014
State Revenue from Sales Tax	Corruption (per pop)	-0.181271874	2014
Transparency Index	Corruption (per pop)	0.133714409	2015
Transparency Index	Corruption (per gov't)	0.113387326	2015
Voter Turnout VEP	Corruption (per pop)	-0.320324203	2012
Voter Turnout VEP	Corruption (per pop)	-0.088262297	2014
Voter Turnout VEP	Corruption (per pop)	0.023236847	2016
Voter Turnout VEP	Corruption (per gov't)	-0.350040504	2012
Voter Turnout VEP	Corruption (per gov't)	-0.137227153	2014
Voter Turnout VEP	Corruption (per gov't)	0.008322175	2016
Voter Turnout VAP	Corruption (per pop)	-0.248357964	2012
Voter Turnout VAP	Corruption (per pop)	-0.048248893	2014
Voter Turnout VAP	Corruption (per pop)	-0.040131869	2016
Voter Turnout VAP	Corruption (per gov't)	-0.305430952	2012
Voter Turnout VAP	Corruption (per gov't)	-0.102536198	2014
Voter Turnout VAP	Corruption (per gov't)	0.018695872	2016
Gerrymandering 1	Corruption (per pop)	-0.338210073	2017
Gerrymandering 1	Corruption (per gov't)	-0.337711317	2017
Gerrymandering 2	Corruption (per pop)	-0.367266035	2017
Gerrymandering 2	Corruption (per gov't)	-0.363627062	2017
Gerrymandering 3	Corruption (per pop)	-0.474480627	2017
Gerrymandering 3	Corruption (per gov't)	-0.482180734	2017
Gerrymandering 4	Corruption (per pop)	-0.283276639	2017
Gerrymandering 4	Corruption (per gov't)	-0.26401695	2017
Aggregate Campaign Contributions	Corruption (per pop)	-0.043478655	2012
Aggregate Campaign Contributions	Corruption (per pop)	-0.026519616	2014
Aggregate Campaign Contributions	Corruption (per pop)	-0.031007886	2016
Aggregate Campaign Contributions	Corruption (per gov't)	0.033865757	2012
Aggregate Campaign Contributions	Corruption (per gov't)	0.003247796	2014
Aggregate Campaign Contributions	Corruption (per gov't)	0.001522637	2016
Small Dollar Campaign Donations	Corruption (per pop)	-0.203777721	2012
Small Dollar Campaign Donations	Corruption (per gov't)	-0.221593568	2012
Individual Campaign Contribution Limit	Corruption (per pop)	0.111903444	2015
Individual Campaign Contribution Limit	Corruption (per pop)	-0.015477877	2016
Individual Campaign Contribution Limit	Corruption (per gov't)	0.136789355	2015
Individual Campaign Contribution Limit	Corruption (per gov't)	-0.005657566	2016
Individual Contribution Limit (adjusted)	Corruption (per pop)	0.107375874	2015
Individual Contribution Limit (adjusted)	Corruption (per pop)	-0.062144602	2016
Individual Contribution Limit (adjusted)	Corruption (per gov't)	0.124535797	2015
Individual Contribution Limit (adjusted)	Corruption (per gov't)	-0.051305323	2016
Senate Race Independent Expenditures	Corruption (per pop)	0.261184939	2012
Senate Race Independent Expenditures	Corruption (per pop)	-0.215178148	2014
Senate Race Independent Expenditures	Corruption (per pop)	-0.142310196	2016
Senate Race Independent Expenditures	Corruption (per gov't)	0.299571372	2012
Senate Race Independent Expenditures	Corruption (per gov't)	-0.21627535	2014
Senate Race Independent Expenditures	Corruption (per gov't)	-0.092590998	2016

Table 4: Intra Category Linear Regressions for Selected Variables using Population-Adjusted Measure of Corruption

Regression Statistics for Population Adjusted Corruption					
	Coefficients	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.435	1.864	0.069	-0.035	0.904
Unemployment Rate	1.458	0.547	0.587	-3.916	6.831
Median Household Income	0.000	0.582	0.564	0.000	0.000
State Legislator Salaries	0.000	0.102	0.919	0.000	0.000
State and Local Gov't Compensation	0.000	-1.019	0.314	0.000	0.000
State GDP Growth Rate	-2.133	-0.933	0.356	-6.743	2.476
Intercept	1.505	1.600	0.116	-0.388	3.399
Bachelor's Degree or Higher	-0.757	-0.883	0.382	-2.483	0.968
High School Diploma or Higher	-1.179	-1.005	0.320	-3.540	1.183
Primary and Secondary Per Pupil Spending	0.000	0.400	0.691	0.000	0.000
Intercept	-0.147	-0.170	0.866	-1.885	1.592
GINI Index	0.382	0.186	0.853	-3.749	4.513
Poverty Rate	1.968	1.553	0.127	-0.581	4.517
Intercept	0.571	1.273	0.210	-0.333	1.476
Women in the State's Legislature	-1.145	-1.871	0.068	-2.378	0.088
Proportion of State and Local Revenue from Sales Tax	0.422	0.644	0.523	-0.899	1.743
Proportion of State Revenue from Sales Tax	-0.477	-0.972	0.336	-1.465	0.511
Government Transparency Index	0.001	0.149	0.882	-0.013	0.015
Intercept	0.533	1.690	0.098	-0.103	1.169
Voting Eligible Turnout	-2.437	-1.610	0.115	-5.489	0.615
Voting Age Turnout	2.394	1.422	0.162	-1.000	5.787
Overall Campaign Contributions	0.000	0.657	0.515	0.000	0.000
Campaign Funding Through Small Contributions	-1.058	-0.971	0.337	-3.257	1.140
Individual Contribution Limits for Legislative Offices	0.000	-0.502	0.618	0.000	0.000
Independent Expenditures for Senate Campaigns	0.000	-1.029	0.309	0.000	0.000

Note: Highlighted Yellow if p < 0.1

Table 5: Intra Category Linear Regressions for Selected Variables using Government Employee-Adjusted Measure of Corruption

Regression Statistics for Government Employee Adjusted Corruption					
	Coefficients	t Stat	P-value	Lower 95%	Upper 95%
Intercept	4.509	1.603	0.116	-1.158	10.176
Unemployment Rate	34.967	1.087	0.283	-29.850	99.784
Median Household Income	0.000	0.442	0.660	0.000	0.000
State Legislator Salaries	0.000	0.437	0.664	0.000	0.000
State and Local Gov't Compensation	0.000	-1.012	0.317	0.000	0.000
State GDP Growth Rate	-21.191	-0.768	0.447	-76.796	34.413
Intercept	27.897	2.505	0.016	5.484	50.310
Bachelor's Degree or Higher	-6.447	-0.635	0.528	-26.873	13.978
High School Diploma or Higher	-25.425	-1.831	0.074	-53.380	2.530
Primary and Secondary Per Pupil Spending	0.000	0.125	0.901	0.000	0.000
Intercept	-9.851	-0.973	0.336	-30.217	10.516
GINI Index	21.978	0.914	0.366	-26.422	70.379
Poverty Rate	26.426	1.780	0.082	-3.442	56.294
Intercept	6.443	1.168	0.249	-4.663	17.549
Women in the State's Legislature	-13.798	-1.835	0.073	-28.941	1.345
Proportion of State and Local Revenue from Sales Tax	4.575	0.568	0.573	-11.648	20.798
Proportion of State Revenue from Sales Tax	-3.952	-0.656	0.515	-16.087	8.183
Government Transparency Index	0.018	0.211	0.834	-0.157	0.194
Intercept	8.129	2.100	0.042	0.324	15.935
Voting Eligible Turnout	-24.398	-1.314	0.196	-61.844	13.047
Voting Age Turnout	20.524	0.994	0.326	-21.111	62.160
Overall Campaign Contributions	0.000	0.751	0.456	0.000	0.000
Campaign Funding Through Small Contributions	-13.352	-0.998	0.324	-40.321	13.617
Individual Contribution Limits for Legislative Offices	0.000	-0.650	0.519	-0.001	0.000
Independent Expenditures for Senate Campaigns	0.000	-0.574	0.569	0.000	0.000

Note: Highlighted Yellow if p < 0.1

Table 6: Intra Category Quadratic Regressions for Selected Variables using both Measures of Corruption

Quadratic Regression Statistics for Population Adjusted Corruption					
	Coefficients	t Stat	P-value	Lower 95%	Upper 95%
Intercept	1.324	0.145	0.886	-17.188	19.837
Unemployment Rate	-1991.142	-1.077	0.288	-5727.119	1744.834
Median Household Income	0.000	0.265	0.792	0.000	0.000
State Legislator Salaries	0.000	0.230	0.819	0.000	0.000
State and Local Gov't Compensation	0.000	0.378	0.708	0.000	0.000
State GDP Growth Rate	-18.015	-0.287	0.776	-144.912	108.883
Intercept	-5.732	-0.394	0.695	-34.974	23.510
GINI Index	-23.940	-0.350	0.728	-161.709	113.828

Note: Highlighted Yellow if p < 0.1

Quadratic Regression Statistics for Government Employee Adjusted Corruption					
	Coefficients	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.361	0.039	0.969	-18.535	19.257
Unemployment Rate	-1984.428	-1.066	0.293	-5750.389	1781.533
Median Household Income	0.000	0.259	0.797	0.000	0.000
State Legislator Salaries	0.000	0.196	0.846	0.000	0.000
State and Local Gov't Compensation	0.000	0.362	0.720	0.000	0.000
State GDP Growth Rate	-495.796	-0.656	0.516	-2025.608	1034.017
Intercept	-136.334	-0.798	0.429	-480.237	207.570
Gini Index	-564.397	-0.701	0.487	-2184.653	1055.859

Note: Highlighted Yellow if p < 0.1

Table 7: Intra Category Logarithmic Regressions for Selected Variables using Population-Adjusted Measure of Corruption

Logarithmic Regression Statistics for Population Adjusted Corruption					
	Coefficients	t Stat	P-value	Lower 95%	Upper 95%
Intercept	2.280	1.701	0.096	-0.422	4.982
Unemployment Rate	0.275	0.688	0.495	-0.529	1.079
Median Household Income	0.620	0.678	0.501	-1.222	2.462
State Legislator Salaries	-0.006	-0.287	0.775	-0.052	0.039
State and Local Gov't Compensation	-0.975	-1.091	0.281	-2.776	0.826
State GDP Growth Rate	-0.036	-0.370	0.713	-0.233	0.160
Intercept	1.505	1.600	0.116	-0.388	3.399
Bachelor's Degree or Higher	-0.757	-0.883	0.382	-2.483	0.968
High School Diploma or Higher	-1.179	-1.005	0.320	-3.540	1.183
Primary and Secondary Per Pupil Spending	0.000	0.400	0.691	0.000	0.000
Intercept	1.002	1.621	0.112	-0.242	2.245
Poverty Rate	0.622	1.471	0.148	-0.229	1.474
GINI Index	0.472	0.215	0.831	-3.942	4.886
Intercept	-0.903	-0.434	0.666	-5.095	3.288
Women in the State's Legislature	-0.631	-1.929	0.060	-1.291	0.028
Proportion of State and Local Revenue from Sales Tax	0.029	0.159	0.874	-0.343	0.401
Proportion of State Revenue from Sales Tax	-0.111	-0.532	0.597	-0.530	0.308
Government Transparency Index	0.494	0.435	0.666	-1.796	2.785
Intercept	0.053	0.093	0.926	-1.089	1.195
Voting Eligible Turnout	-1.903	-1.108	0.274	-5.364	1.559
Voting Age Turnout	1.574	0.942	0.351	-1.795	4.943
Overall Campaign Contributions	-0.016	-0.190	0.851	-0.188	0.155
Campaign Funding Through Small Contributions	-0.173	-0.834	0.409	-0.591	0.245
Independent Expenditures for Senate Campaigns	0.021	0.568	0.573	-0.054	0.096

Note: Highlighted Yellow if p < 0.1

Table 8: Intra Category Logarithmic Regressions for Government Employee-Adjusted Corruption

Logarithmic Regression Statistics for Government Employee Adjusted Corruption					
	Coefficients	t Stat	P-value	Lower 95%	Upper 95%
Intercept	32.905	2.060	0.045	0.714	65.095
Unemployment Rate	5.741	1.208	0.234	-3.838	15.320
Median Household Income	5.644	0.518	0.607	-16.296	27.584
State Legislator Salaries	-0.015	-0.057	0.955	-0.553	0.523
State and Local Gov't Compensation	-10.648	-1.000	0.323	-32.100	10.804
State GDP Growth Rate	-1.118	-0.963	0.341	-3.459	1.223
Intercept	-6.539	-0.351	0.727	-44.041	30.964
Bachelor's Degree or Higher	-5.361	-0.765	0.448	-19.470	8.749
High School Diploma or Higher	-49.074	-1.750	0.087	-105.530	7.382
Primary and Secondary Per Pupil Spending	1.181	0.287	0.776	-7.115	9.477
Intercept	19.387	2.679	0.010	4.831	33.943
Poverty Rate	8.522	1.720	0.092	-1.445	18.490
GINI Index	23.893	0.930	0.357	-27.773	75.558
Intercept	-13.782	-0.531	0.598	-66.066	38.502
Women in the State's Legislature	-7.715	-1.932	0.060	-15.757	0.327
Proportion of State and Local Revenue from Sales Tax	1.172	0.558	0.580	-3.057	5.401
Proportion of State Revenue from Sales Tax	-0.465	-0.283	0.779	-3.783	2.852
Government Transparency Index	7.749	0.544	0.589	-20.958	36.456
Intercept	-4.127	-0.601	0.551	-17.954	9.701
Voting Eligible Turnout	-22.796	-1.096	0.279	-64.708	19.116
Voting Age Turnout	17.088	0.844	0.403	-23.701	57.876
Overall Campaign Contributions	0.342	0.332	0.742	-1.736	2.420
Campaign Funding Through Small Contributions	-2.382	-0.948	0.348	-7.448	2.684
Independent Expenditures for Senate Campaigns	0.282	0.624	0.536	-0.629	1.193

Note: Highlighted Yellow if p < 0.1