

Why Low Levels of Democracy Promote Corruption and High Levels Diminish It

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Democracy, or responsive government, should in theory also mean less corrupt government. In principle, government officials should more often use public office for the public good, rather than for private gain, the more democratic the country is. Yet, recent research has shown not a negative linear relationship between democracy and corruption, but rather an inverted curvilinear one. Studies have demonstrated that while very high levels of democracy reduce corruption, low to modest levels of democracy actually increase corruption.¹ What explains the inverted curvilinear relationship between democracy and corruption? This question is important to answer not only for theoretical reasons, but also for practical ones. Corruption has been shown to undercut regime legitimacy, foster political and economic inequality, and increase economic inefficiencies.² It is important to understand how regime types and regime change contribute to these negative outcomes.

This paper offers a theoretical framework, tested empirically, to account for the inverted curvilinear relationship between democracy and corruption. By disaggregating both democracy and corruption, we are able to understand the mechanisms underpinning the curvilinear relationship. This is a radical departure from earlier investigations, which have not disaggregated either of these complex concepts and thus have left the mechanisms underlying the curvilinear relationship relatively unexplored.

Theoretically, other studies identify conditions in democratic regimes that cultivate or hinder corruption, always conceptualizing democracy and corruption broadly, such as “political democracy in a liberal sense” and “quality of government,” respectively.³ Empirically, there is also a lack of disaggregation: most scholars rely on composite indices of democracy and

corruption rather than indicators of individual democratic institutions or practices and measures of specific types of corruption.⁴ A different set of studies does disaggregate democracy, but each examines only one or two components of democracy and does not seek to explain the overall curvilinear relationship.⁵ Moreover, this research emphasizes how certain democracy components expand accountability of officials to the public and each other and thus increase the costs of engaging in corruption. The problem is that this addresses only the decrease, not the increase, found in the curvilinear relationship between democracy and corruption. By examining particular democracy components rather than a comprehensive group of them, the literature thus offers only a partial account for why democracy eventually curbs corruption, but no explanation for why an initial shift from autocracy to democracy seems to foster it. In brief, we lack research that unpacks democracy in order to understand the mechanisms underpinning the curvilinear relationship between democracy and corruption.

These weaknesses have left us with competing explanations populating the field. Focusing on “state administrative capacity,” Bäck and Hadenius argue that the infusion of freedom accompanying democratization initially increases corruption because authoritarian controls “from above” dissolve without comprehensive democratic checks on officials’ behavior “from below,” such as electoral participation and public access to information.⁶ Charron and Lapuente contend that the curvilinearity stems from an interaction effect between GDP per capita, which drives citizens’ demand for quality of government—the specific outcome they consider—and democracy, which drives the supply of leaders willing to enact non-corruption reforms. Their conclusion is that we should expect democracy to decrease corruption but only in rich countries.⁷ Related to this puzzle of curvilinearity, Keefer explains that young democracies

exhibit more corruption than old democracies because political candidates in the former rely on clientelism to compensate for their inability to make credible pre-electoral promises.⁸

This paper tests competing explanations, but it also moves beyond them by revealing the mechanisms underlying the inverted curvilinear relationship. Our theoretical framework describes how specific components of democracy influence the calculations of different individuals—executives, legislators, judges, and public servants—about the costs and benefits of corruption and thus help determine corruption levels in countries. Though a large body of work has examined the decision to engage in corruption as a cost-benefit calculation,⁹ one innovation of this paper is to use a cost-benefit framework to explain how democracy components increase and then decrease corruption levels.

Our argument is, first, that a small increase in democracy reduces the transactions costs and increases the benefits of corruption. Specifically, the existence of some freedom of association and expression reduces corruption transaction costs, and the introduction of elections increases the benefit of political officials securing funding to shore up political support. Second, only at high levels of democracy do democratic accountability relationships—such as free and fair elections and judicial and legislative constraints—flourish, increasing the costs and risks of corruption sufficiently that corruption becomes unappealing.

We use the Varieties of Democracy (V-Dem) dataset to disaggregate the concepts of democracy and corruption empirically and time-series, cross-sectional regression analysis to test hypotheses about the disaggregated relationships.¹⁰ The analysis corroborates nearly all of our expectations. We find that, collectively, freedom of expression, freedom of association, the presence of elections, combined with whether they are free and fair, and judicial and legislative constraints on the executive drive the curvilinear relationship between democracy and

corruption. Freedom of expression and freedom of association exhibit a curvilinear relationship with all forms of corruption and judicial and legislative constraints have a negative relationship with executive corruption. By contrast, the introduction of elections and the quality of elections act jointly, but each in a linear fashion. The mere introduction of elections (regardless of nature and quality) increases most forms of corruption, thus accounting for the upward sloping segment of the inverted curve. Then, once the quality of elections begins to improve, most forms of corruption decreases, resulting in the downward-sloping segment of the curve.

The paper proceeds by first laying out the theoretical framework and our hypotheses and then our data and methods. We turn next to confirming that the curvilinear relationship found by other scholars is evident with the V-Dem data and testing alternative explanations and our hypotheses. Our conclusion reviews our findings and considers their implications.

Theoretical Framework

We theorize that components of democracy and levels of corruption are connected through individuals' calculations about the costs and benefits of engaging in corruption. The emergence or strengthening of specific components of democracy affects the costs or benefits of corrupt acts. The individuals' positions in government determine the type of corruption—executive, legislative, judicial, or public sector.¹¹ These cost-benefit dynamics across different types of corruption, in turn, affect the total level of corruption in a country.

We employ the standard definition of corruption—the use of public office for private gain. This includes executives (heads of government and state and cabinet ministers), legislators, judges, and bureaucrats stealing, embezzling or misappropriating public funds or other state resources for personal or family use and granting favors in exchange for bribes, kickbacks or

other material inducements. Note that our definition excludes electoral irregularities, such as vote-buying and ballot-stuffing, which do not necessarily involve public officials.¹² In short, we examine executive, legislative, judicial, and public sector corruption.

We consider six components of democracy: freedom of expression, freedom of association, judicial constraints on the executive, legislative constraints on the executive, the existence of elections, and the quality of elections.

These components of democracy affect three costs and benefits of engaging in the different types corruption: accountability costs, transaction costs, and political support benefits. Below we introduce these costs and benefits and provide a brief overview of how specific components of democracy affect them and subsequently result in the inverted curvilinear relationship. Then, in the next subsection, we hone in on each component of democracy explaining how, depending on its strength, it increases or decreases accountability costs, transactions costs and/or political support benefits for certain government officials, and thus affects the level of particular types of corruption. From this logic we derive our hypotheses.

Accountability Costs, Transactions Costs, Political Support Benefits

Accountability costs refer to the “punishments” that democratic institutions mete out to government officials who engage in corruption. Accountability comes in three forms: vertical, horizontal, and societal.¹³ Vertical accountability derives from competitive and fair elections, which allow citizens to reward and punish leaders for their actions in office.¹⁴ Horizontal accountability is facilitated by legislative and judicial constraints on the executive in the form of self-confident, independent, and capacitated legislatures and high courts with the power to monitor and sanction the executive.¹⁵ Societal accountability exists when freedom of expression

and freedom of association promote an active and free media and civil society, which facilitate both informed selection by elections and checks and balances between institutions.¹⁶

As the democratic components that further accountability become more effective, the costs of engaging in corruption increase: illicit behavior is more likely to be discovered and punished and thus the level of corruption decreases. This cannot, however, account for the greater amount of corruption at low to middle levels of democracy relative to no democracy. Studies of corruption that focus exclusively on accountability mechanisms for reducing corruption thus cannot explain the curvilinear relationship.

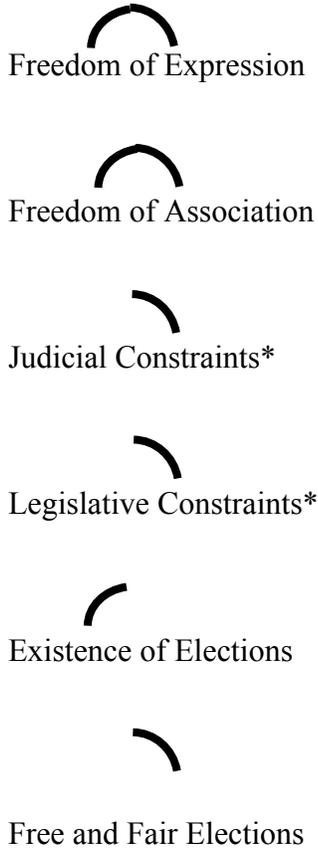
By including transaction costs and political support benefits of corruption, our framework accounts for the greater amount of corruption at low to middle levels of democracy. When democratic components are introduced, but are not strong enough to ensure effective accountability, they can increase corruption by reducing the transaction costs of engaging in illicit activities. The transaction costs of corrupt exchanges are the expenses in time and effort (and sometimes material goods) in identifying a potential illicit opportunity, determining who might be able and willing to engage in it, and communicating with that person to plan and complete the exchange.¹⁷ When low levels of freedom of expression and freedom of association exist, it is easier, compared to when they are absent, to identify co-conspirators and hatch and carry out corruption exchanges, as we describe below. As these and other democratic components become strong, a well-organized corruption network is then offset by accountability mechanisms that raise the non-transaction costs of engaging in corruption, such as the long-term costs of losing support or credibility. Whereas the literature has examined the relationship between democracy and corruption through the cost of losing office,¹⁸ it has focused little attention on how changes in regime type shift the transaction costs of corruption.

The introduction of certain democratic components can also increase the political support benefits of corruption. A political support benefit is the advantage of maintaining one's government position obtained by strengthening the backing of those already loyal and discouraging the threatening actions of the potentially disloyal. The introduction of a democratic component can increase the risk that government officials will lose office and thus encourage them to engage in corruption to shore up political support in the hopes of remaining in office. As we describe below, the introduction of elections, regardless of how free and fair they are, seems to have this effect.

Democratic Components

We shift our focus now to the specific democratic components, explaining how, depending on their strength, they affect accountability and transaction costs and political support benefits to particular government officials and thus the levels of different types of corruption in countries. Collectively these levels account for the overall level of corruption in countries. Table 1 depicts each component's expected influence on corruption—with the component on the X-axis and the type(s) of corruption on the Y-axis. We expect that collectively the six relationships generate the inverted curvilinear relationship between democracy and corruption.

Table 1: Relationship between Corruption and Components of Democracy



*Expected influence on *executive* corruption only
Axes not shown. Lines depict stylized relationship, not anticipated slopes.

Freedom of expression and freedom of association, when absent, produce low accountability costs and high transactions costs of engaging in all types of corruption; when weak, produce moderate transaction costs without effectively increasing the accountability costs; and at their strongest, produce high accountability costs and moderate transaction costs. Thus each forms an inverted curvilinear relationship with corruption, as depicted above.

When freedom of expression and freedom of association are introduced, but are weak, co-conspirators can more readily identify each other and collaborate than when these freedoms are absent and, consequently, speaking openly to and meeting with people can result in punishment.¹⁹ The introduction of these freedoms allows co-conspirators to develop and execute corruption schemes more easily. In addition, limited openness and interaction among people allows for the emergence of some information about government contracts or anticipated government programs, for example, but in the absence of robust, unbiased transparency. This makes it easier to identify potential illicit exchanges by revealing opportunities for rent-seeking.²⁰ These lowered transaction costs facilitate corruption by government executives, legislators, judges, and bureaucrats, who may collaborate in schemes or work individually with members of the public.

Further, when freedom of expression and freedom of association are weak, they cannot ensure accountability. Whereas corrupt exchanges are covert affairs among relatively small numbers of people and thus are facilitated by even low levels of freedom of expression and association, the institutions that ensure accountability—media and civil society—by definition must be very overt and public and thus require high levels of freedom of expression and association in order to succeed. These effects were apparent, for example, following the increase of freedom of expression and freedom of association as part of democratic transition in Zambia in 1990. With some freedom of expression and association, Zambian government officials at multiple levels were able to organize a “*dramatis personae* and network of ‘looters,’” creating a “plunder of the nation’s wealth by the politically connected”, and accountability mechanisms were not yet strong enough to deter the officials involved from these illicit exchanges.²¹

As freedom of expression and freedom of association increase, a well-organized corruption network is offset by greater difficulty identifying opportunities for rent-seeking and strengthened vertical and societal accountability mechanisms. While significant freedom of expression and freedom of association facilitates communicating and organizing with co-conspirators in corruption, the high level of openness and interaction among people makes it more difficult to capitalize on opportunities for rent-seeking.²² Everyone has or can obtain information about government contracts and programs, for example, so those “in the know” are no longer only potential co-conspirators, but more generally much of society. Also, access to information, through the media and civil society, creates societal accountability and facilitates vertical accountability. Media freedom and media access provide citizens with information about corrupt acts and viable avenues for reporting and punishing corruption.²³ This positive impact of freedom of expression was evident, for example, in the 2004 elections in Brazil. Information disseminated by the media about corruption prior to the election resulted in a reduction in support for corrupt incumbents.²⁴

Information can be passed from person to person or through civil society when freedom of expression and freedom of association are high, and freedom of association also provides greater potential for facilitating collective action in reaction to knowledge about corruption. The importance of freedom of association is underscored, for example, by the 2011 anti-corruption movement in India. People organized hunger strikes and sit-ins, which propelled anti-corruption reformers into office and anti-corruption legislation onto the floor of parliament.

The societal accountability that high levels of these freedoms produce, and the vertical accountability that they contribute to, hold different officials accountable. Societal accountability discourages corruption among government executives, legislators, judges, and

bureaucrats, and vertical accountability deters those who are elected from engaging in corruption.

From this analysis of how these two freedoms produce high transaction costs and low accountability costs when they are low, produce low transaction costs and low accountability costs when they are weak, and produce low transaction costs and high accountability costs when they are strong, we derive our first two hypotheses:

H1: There is a curvilinear relationship between freedom of expression and all types of corruption.

H2: There is a curvilinear relationship between the freedom of association and all types of corruption.

Legislative and judicial constraints on the executive reduce executive corruption through increased horizontal accountability and increased transaction costs. These negative relationships are depicted in Table 1. The judiciary constrains the executive when its higher and lower courts are independent and it can ensure that the executive complies with the constitution and the courts' decisions. The legislature constrains the executive when legislators can question, investigate, and challenge the executive. When these practices exist, the judiciary and legislature acts as internal monitors to help ensure that members of the executive do not abuse their offices.²⁵ These constraints also tend to increase the transaction costs of executive corruption that involves collusion between the executive and government officials outside the executive.²⁶ By definition, the constraints indicate adherence to the constitution by the judiciary and a legislature

that challenges the executive, so it would be more difficult for the executive to convince judges and legislators to collaborate in corruption. The level of executive corruption falls as legislative and judicial constraints on the executive effectively act as a deterrent to corruption. The importance of judicial constraints was evident in Uruguay, for example. Uruguay implemented effective judicial constraints on the executive in the mid-1980s and witnessed a drop in corruption. Judges enjoy a high degree of independence and follow the law in meting out punishment to those officials engaged in corruption.²⁷

Based on our theoretical framework, we hypothesize that

H3: There is a negative relationship between judicial constraints on the executive and executive corruption.

H4: There is a negative relationship between legislative constraints on the executive and executive corruption.

The introduction of elections, regardless of how free and fair, increases the political support benefits for a variety of officials and thus facilitates all types of corruption, as Table 1 shows. The introduction of elections increases the threat that political leaders will lose office. Even when election “results” are controlled from above, the advent of elections brings to the forefront the violability of the leadership and thus can serve as rallying points for the disgruntled, who can initiate coups or revolutions or use their governmental authority to punish other officials who are foes.²⁸ When leaders’ control of elections is imperfect, they can suffer actual electoral defeat.²⁹ The advent of elections, therefore, motivates government officials to engage in illicit

activities to raise funds for garnering political support. Before the introduction of elections, officials, of course, need to obtain political support, and they may use corruption to help them secure it. However, the introduction of elections increases the threat of losing office and therefore leaders' motivation to engage corruption. Officials have an increased incentive to transfer public funds and state resources and to grant favors to potential and current supporters in order to help them maintain their positions.³⁰

The increase in the political support benefit is most apt for officials whose positions are newly subject to elections but the uncertainty of a new selection process for some officials can encourage even non-elected ones to shore up their political support. Unelected officials subordinate to elected ones or even unelected officials associated with the ruling regime will be less confident about maintaining their positions and therefore motivated to engage in corruption to ensure their political support and avoid losing them.

Political support for incumbents manifests itself, most broadly, in inaction: for example, in not initiating insurgencies, not carrying out coups, and not using one's executive, legislative, or judicial authority to remove someone from power.³¹ Because we are arguing that the introduction of elections promotes corruption regardless of the quality of those elections, we conceptualize political support more broadly than simply expressed through the act of voting (or voting buying).³² When government officials can control the electoral outcomes, for example, their concern is not buying votes but preventing insurgencies, coups, and use of governmental authority to remove them that the introduction of elections can encourage. The use of state resources for political support was evident in the late 1980s and early 1990s in Mozambique as the country transitioned from a civil war peace agreement to its first multiparty elections in 1994. Government officials in the incumbent party FRELIMO gave money intended for loans to rural

residents instead to urban military veterans and party officials who might challenge the party's pro-peace and pro-market reform positions.

Following from this logic, we propose a fifth hypothesis,

H5: There is a positive relationship between holding elections and all types of corruption.

The inclusion of the political support benefits underscores, as our empirical results show, that it is not just bureaucrats, but also top government officials, who contribute to the increase in corruption. By contrast, Bäck and Hadenius attribute the increase to the weakening of authoritarian controls from above,³³ but their explanation accounts for only an increase in bureaucratic corruption. By considering the value of corruption to political support, our framework also accounts for why top government leaders engage in more corruption when elections are introduced.

When elections not only exist, but are increasingly free and fair, the vertical accountability mechanism works more effectively, counteracting the political support benefit of corruption. Consequently, all types of corruption drop, as Table 1 depicts. In free and fair elections, voters are better able than in noncompetitive, manipulated elections to hold corrupt officials accountable for their actions by removing them from office and not re-electing corrupt officials.³⁴ Those who have been engaging in illicit activities to shore up their positions are held accountable for doing so. Because of these costs, elected executives, legislators, and judges tend to eschew corrupt practices in order to remain in office and more readily punish their peers or bureaucrats who engage in corrupt activities.³⁵ For these reasons, we include a sixth, and final, hypothesis,

H6: There is a negative relationship between the quality of elections and corruption.

Data and Methods

To test our hypotheses regarding the relationship between democracy and corruption, we use the V-Dem dataset, which has data for 173 countries from 1900 to 2012.³⁶ This provides a longer time-series and greater number of disaggregated data points to study this relationship than datasets used in earlier corruption studies. The indices we create and use are comprised of nearly all V-Dem expert-coded indicators with a small number of basic factual indicators, such as which offices are elected, provided by V-Dem research assistants. For each expert-coded indicator, V-Dem enlists a minimum of five experts per country-year with documented expertise in the particular area. A customized measurement model using Bayesian ordinal item response theory aggregates these responses into one indicator-country-year observation. The measurement model weights each coder by a reliability parameter, determined by the coder's level of agreement with other country coders.³⁷

Dependent Variable

The dependent variable to test H1, H2, H5, and H6 is *Corruption Index*, which is the V-Dem political corruption index, formed by combining six V-Dem indicators—executive bribery, executive embezzlement, public sector bribery, public sector embezzlement, legislative corruption, and judicial corruption.³⁸ An extensive discussion regarding the validity of the V-Dem political corruption index can be found in the V-Dem working paper “Strategies of Validation: Assessing the Varieties of Democracy Corruption Data.”³⁹ More details about this

index and the other variables used in this paper can be found in the appendix at the end of the paper and the V-Dem Codebook.⁴⁰ Summary statistics for all variables appear in Table 1 of the supplemental appendix.

To test H3 and H4, our hypotheses about the linear effects of judicial and legislative constraints on the executive, we use executive corruption as the DV. *Executive Corruption* is a lower-level index formed by combining executive bribery and executive embezzlement using Bayesian factor analysis.

Independent Variables

To validate that the curvilinear relationship found by other studies using different data is replicated using the V-Dem dataset, we measure democracy using V-Dem's *Electoral Democracy* index.⁴¹

To test H1 and H2, we employ two V-Dem indices. *Freedom of Expression* is an index formed by taking the point estimates from a Bayesian factor analysis model of the indicators for print/broadcast censorship effort, internet censorship effort, harassment of journalists, media bias, media self-censorship, the level of critical discourse in print/broadcast media, the balance in perspectives in print/broadcast media, freedom of discussion for men/women, and freedom of academic and cultural expression. This operationalization of freedom of expression captures the concepts of independent sources of information, information availability, and openness of communications and thus allows us to test our theoretical idea about low levels of independent information and open communication facilitating corruption schemes and high levels hampering rent-seeking and enabling punishment of corrupt officials and bureaucrats. *Freedom of Association* is an index formed by taking the point estimates from a Bayesian factor analysis

model of the indicators for bans on parties, barriers to parties, opposition party autonomy, the multiparty character of elections, civil society organization (CSO) entry and exit, and CSO repression. This index takes into account the organizational costs of forming parties and CSOs and any ongoing barriers to operation, which allows us to test our theoretical idea that low levels of independent association can facilitate the organization of corruption schemes and high levels can enable punishment of those engaging in corruption.

To test H3 and H4, we use two more indices from V-Dem. *Judicial Constraints on Executive* is an index formed by taking the point estimates from a Bayesian factor analysis model of the indicators for executive respect for the constitution, executive compliance with the judiciary, executive compliance with the high court, high court independence, and lower court independence. *Legislative Constraints on Executive* is an index formed by taking the point estimates from a Bayesian factor analysis model of the indicators for legislature questions officials in practice, executive oversight, legislature investigates in practice, and legislative opposition parties. Each of these indices captures multiple mechanisms of horizontal accountability that might limit corruption, as described in our theoretical framework.

For H5 and H6, we analyze two variables tapping into different aspects of the theory. The variable *Electoral Regime* is a binary indicator for whether or not a country has introduced elections, and provides an independent variable for H5. *Free and Fair Elections* is an index formed by taking the point estimates from a principal components factor analysis model of the indicators for election management body (EMB) autonomy, EMB capacity, voter registry, government election intimidation, electoral violence, other voting irregularities, and whether or not the election was generally free and fair. Departing from the higher-level free and fair elections index produced in V-Dem, we exclude vote-buying, as other scholars have considered

vote-buying to be an alternative measure of corruption or have considered it to be one specific form of corruption.⁴² *Free and Fair Elections* allows us to measure the ideas in our theoretical framework about how high quality elections enable voters to punish corrupt officials and deter officials from engaging in illicit activities.

Control Variables

We consider a broad set of control variables known to affect the relationship between democracy and corruption. As an overview of all control variables, we provide a diagram, Figure 1, in the supplemental appendix.

We control for three time-invariant factors with country-fixed effects.⁴³ British colonial heritage and Protestantism are often found to be associated with higher levels of democracy and lower levels of corruption.⁴⁴ By contrast, ethnic heterogeneity is typically correlated with lower levels of democracy and higher levels of corruption.⁴⁵ To control for possible global co-trending of democracy and corruption, we also control for year-fixed effects.

We consider two political control variables, which are both time-variant. In all of our regressions, we control for the number of years a country has been a democracy (*Stock of Democracy*). This allows us to separate the effect of accountability levels from the effect, simply, of becoming more experienced with democracy, as countries more experienced with democracy may be better able to utilize democratic accountability mechanisms. State capacity is a potential confounder because it could affect both corruption levels and the potential for democracy in a society.⁴⁶ To control for *State Capacity*, we use the Hanson and Sigman state capacity index, the most expansive dataset on state capacity available.⁴⁷ The coverage of this dataset is nonetheless limited, so we do not include state capacity in our main analyses.

However, Table 2 of the supplemental appendix includes robustness checks with state capacity included.⁴⁸

Finally, we include three economic controls, all of which are time-variant. Income (*GDP per Capita*), income equality (*GINI Coefficient*), and *Trade Openness* have each been shown to have a positive relationship with level of democracy and a negative one with corruption.⁴⁹ As with the state capacity data, data on GDP per capita, inequality, and trade openness are not available for the expansive number of countries and years for which we have V-Dem data. However, we run our analyses in Table 2 of the supplemental appendix with all three of these economic control variables included.

Because many of these control variables come from sparser datasets the effect of democracy components on corruption often disappears when we include control variables. However, when we use the same sample, but without the control variables, the lack of significant findings persists, which tells us that the reduction in observations is driving the loss of significance, and not the inclusion of controls. This is evident in Table 2 of the supplemental appendix.

Modeling Strategy

These robustness checks and our main regressions, described below, all include two lags of the dependent variable,⁵⁰ year- and country- fixed effects,⁵¹ and clustered standard errors at the country level. Short-run (one-year lagged) effects of democracy components on corruption appear substantively insignificant, even if statistically significant. As corruption is a sticky phenomenon, the effect of democracy on corruption levels should be expected to be felt primarily over a long-term period. To capture this idea and depict the long-run effects visually,

we calculate the long-run effects by aggregating the effect of the independent variable in question over time.

The Curvilinear Relationship

Prior to testing our hypotheses, we validate the presence of a curvilinear relationship between democracy and corruption in the V-Dem data. Prior research has provided evidence of three curvilinear relationships. Scholars have found an inverted U-shaped curve, where corruption levels are low in the most authoritarian and the most democratic states; an inverted J-shaped curve, where corruption levels are the lowest in the most democratic states; or an S-shaped curve, where there is an initial drop in corruption with liberalization in the most authoritarian countries.⁵² It is important to note that J- and U-shaped relationships are statistically identical—both have a significant squared term. The only difference is whether the y-intercept is located close to the right-most expected value, where x is at its maximum. The theoretical and substantive differences between the J- and U-shaped curves are minimal: what is key is that the relationship is non-monotonic. The previous finding of an S-shaped curve by one scholar is problematic substantively as there is no compelling theory, including our own, as to why we would expect an S curve.

The V-Dem data show a strong inverted J-shaped relationship between corruption and democracy (Figure 1, scatterplot with a quadratic fit). Corruption increases as democracy increases from 0 to approximately 0.5 (on a scale of 0 to 1), what would be a hybrid regime displaying some weak components of democracy. From 0.5 to 1, increases in democracy are associated with decreases in corruption. In Table 2 we take further steps to test the robustness of this relationship and find that it remains. First, we introduce controls for serial dependence and

potential backwards causality by introduction lagged dependent variables and lagged democracy variables, as well as controlling for possible global co-trending of democracy and corruption by introducing year-fixed effects (Model 1). Next, to further reduce threats to inference from omitted variable bias, we exclusively restrict attention to within-country variation by also incorporating country-fixed effects (Model 2). The relationship also remains largely unchanged when outliers are removed, as demonstrated in Table 3 in the supplemental appendix.

Figure 1: Scatter Plot of Democracy and Corruption

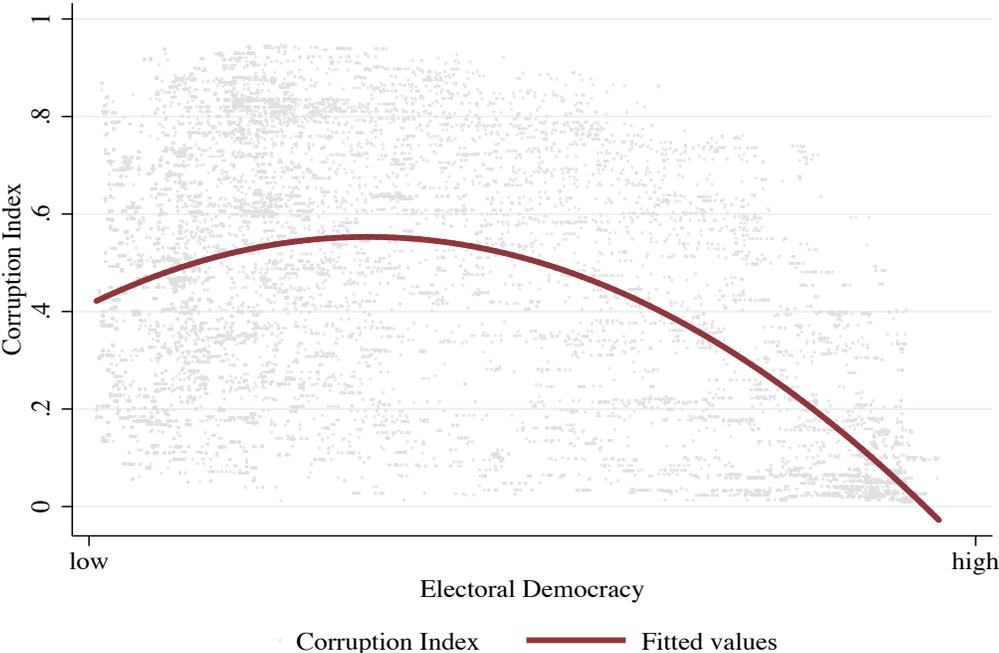


Table 2: Relationship between Corruption and Electoral Democracy

	(1) Corr. Index	(2) Corr. Index	(3) Corr. Index	(4) Corr. Index	(5) Exec. Corr.
Corruption Index, Lagged (1 Year)	1.0513*** (0.0149)	1.0344*** (0.0148)	1.0365*** (0.0168)	1.0366*** (0.0168)	
Corruption Index, Lagged (2 Years)	-0.0615*** (0.0149)	-0.0628*** (0.0151)	-0.0812*** (0.0160)	-0.0810*** (0.0160)	
Executive Corruption, Lagged (1 Year)					1.0449*** (0.0166)
Executive Corruption, Lagged (2 Years)					-0.0974*** (0.0162)
Electoral Democracy Lagged (1 Year)	0.0144*** (0.0031)	0.0327*** (0.0055)	0.0136* (0.0080)	0.0147* (0.0080)	0.0210** (0.0099)
Electoral Democracy ^2	-0.0230*** (0.0036)	-0.0344*** (0.0059)	-0.0257*** (0.0088)	-0.0275*** (0.0092)	-0.0385*** (0.0120)
Stock of Democracy, Lagged (1 Year)			0.0016*** (0.0005)	0.0016*** (0.0005)	0.0025*** (0.0007)
GDP Per Capita, Lagged (1 Year)			-0.0002 (0.0001)	-0.0003 (0.0004)	-0.0009* (0.0005)
GDP Per Capita x Electoral Democracy				0.0002 (0.0004)	0.0009 (0.0005)
<i>R</i> ²	0.9882	0.9538	0.9324	0.9324	0.9117
<i>No. Countries</i>	173	173	154	154	154
<i>Avg. Years per Country</i>	91.4	91.4	66.3	66.3	66.3
<i>No. Observations</i>	15818	15818	10208	10208	10208

Entries are regression coefficients, with standard errors clustered on countries, in parentheses. Country- and year-fixed effects included in regressions but omitted from the table.

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

We do not find evidence of an S-curve. Using a third-order functional form, Sung finds an S-shaped relationship between democracy and corruption, in that there are negative coefficients on the linear, squared, and cubic terms.⁵³ When we use a cubic functional form, we find a positive linear, negative squared, and positive cubic terms. These results are available in Table 4 of the supplemental appendix.

In sum, the V-Dem data generate a curve similar to most of the literature, which has found either an inverted J- or U- curve. We consistently find an inverted J-curve, which again is nearly identical statistically to the inverted U-curve.

Alternative Explanations

Before testing our own explanation for this puzzling curve, we test alternative explanations using V-Dem data. First we control for *Stock of Democracy* and *GDP per Capita* (Model 3, Table 2 above). The results challenge the notion, implied by Keefer and also Treisman, that the curvilinear relationship between democracy and corruption might be driven by the relationship between a country's experience with democracy and its level of corruption.⁵⁴ As can be seen, even after controlling for *Stock of Democracy*, the curvilinear relationship still holds.

In Model 4, we also test Charron and Laupente's argument that the curvilinear relationship is produced by an interaction effect between GDP and (electoral) democracy.⁵⁵ Though they are considering the broader outcome variable of "quality of government," rather than corruption, it is nonetheless compelling to note the statistically insignificant coefficient on the *GDP per Capita*Electoral Democracy* interaction term.

Finally, in Model 5, we examine the implication of Bäck and Hadenius' argument that public sector corruption drives the relationship between democracy and corruption.⁵⁶ Even when excluding public sector corruption from the dependent variable and focusing on only corruption in the executive, *Executive Corruption*, the effect holds.

Testing the Hypotheses

Unable to account for the inverted J-curve relationship between corruption and democracy with existing explanations, we turn to our hypotheses. First, our theoretical framework predicts that the inverted J-shaped relationship should be present when considering the effect of *Freedom of Expression* and *Freedom of Association* on corruption (H1 and H2,

respectively). We find strong support for both of these hypotheses. In both Model 1 and Model 2 of Table 3, there is a significant and positive coefficient on the linear term and a significant and negative coefficient on the squared term. We also find an inverted J-shaped relationship when we disaggregate corruption and examine the impact of each of these freedoms on executive, legislative, judicial, and public corruption. These results are presented in Tables 7-10 of the supplemental appendix.

Table 3: Freedom of Expression, Freedom of Association, and Corruption

	(1)	(2)	(3)
Corruption Index, Lagged (1 Year)	1.0345*** (0.0149)	1.0347*** (0.0150)	1.0022*** (0.0183)
Corruption Index, Lagged (2 Years)	-0.0615*** (0.0152)	-0.0611*** (0.0151)	-0.0776*** (0.0155)
Freedom of Expression, Lagged (1 Year)	0.0217*** (0.0061)		0.0243* (0.0132)
Freedom of Expression ²	-0.0230*** (0.0063)		-0.00567* (0.0132)
Media Freedom, Whitten-Woodring and Van Belle			-0.0057*** (0.0019)
Freedom of Association, Lagged (1 Year)		0.0262*** (0.0059)	
Freedom of Association ²		-0.0256*** (0.0062)	
<i>R</i> ²	0.9534	0.9538	0.9044
<i>No. Countries</i>	173	173	168
<i>Avg. Years per Country</i>	89.7	91.4	51.2
<i>No. Observations</i>	15521	15818	8604

Entries are regression coefficients, with standard errors clustered on countries, in parentheses. Country- and year-fixed effects included in regressions but omitted from the table.

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

It is reasonable to be cautious when interpreting our findings on *Freedom of Expression*. As Montinola and Jackman point out, any positive relationship between democracy and corruption “may reflect the increase in information and reporting of corruption that typically accompanies democratization.”⁵⁷ As the V-Dem *Freedom of Expression* index includes several

indicators that pertain to the availability of information in the media, one might be concerned that this index is serving as a proxy indicator for the attention the issue of corruption is getting in the media. Accordingly, we acknowledge that the results regarding freedom of expression presented in Table 3 may demonstrate a curvilinear relationship between freedom of expression and corruption, or alternatively, may demonstrate simply that there is a curvilinear relationship between media attention on corruption and expert coder ratings of corruption. However, there are two reasons we believe the results on freedom of expression support our hypothesis. First, the concern that Montinola and Jackman point to implies a positive, linear relationship between media attention on corruption and coder perceptions, and what we find is a curvilinear relationship implying that after a certain threshold freedom of expression does hurt corruption.⁵⁸ Second, when we include a measure of media freedom from outside the V-Dem dataset, *Media Freedom* from Whitten-Woodring and Van Belle, as a control variable capturing specifically changes in media scrutiny, the relationship between freedom of expression and corruption holds (Model 3).

In Table 4, we turn to our tests of H3 and H4 examining the relationships between judicial and legislative constraints, respectively, and corruption. In these models, we control for *Electoral Democracy* and its squared term, so as to isolate the horizontal accountability mechanism from the vertical accountability mechanism. Model 1 shows that *Judicial Constraints on Executive* negatively impacts executive corruption, supporting H3, though the effect is marginally significant. In support of H4, Model 2 shows that *Legislative Constraints on Executive* significantly reduces executive corruption. Tables 11-13 in the Appendix shows these results are robust to using other forms of corruption as the outcome variable, though we maintain that executive corruption is the more theoretically grounded choice.

Table 4: Judicial and Legislative Constraints on the Executive and Executive Corruption

	(1)	(2)
Executive Corruption, Lagged (1 Year)	1.0309*** (0.0155)	1.0152*** (0.0168)
Executive Corruption, Lagged (2 Years)	-0.0664*** (0.0157)	-0.0698*** (0.0161)
Electoral Democracy, Lagged (1 Year)	0.0435*** (0.0077)	0.0377*** (0.0113)
Electoral Democracy ²	-0.0445*** (0.0080)	-0.0449*** (0.0114)
Judicial Constraints on Executive, Lagged (1 Year)	-0.0101* (0.0053)	
Legislative Constraints on Executive, Lagged (1 Year)		-0.0105** (0.0051)
R^2	0.9539	0.9354
No. Countries	173	172
Avg. Years per Country	94.4	74.6
No. Observations	15818	12830

Entries are regression coefficients, with standard errors clustered on countries, in parentheses. Country- and year-fixed effects included in regressions but omitted from the table.

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

Finally, we test our hypotheses regarding the effect of electoral mechanisms, H5 and H6. We start in Model 1 in Table 5 by testing H5, the idea that there is a direct positive effect of elections on corruption. We find that electoral regimes, without any other pieces of democracy included, are more corrupt, corroborating H5. In Model 2 in Table 5, we test H6 by allowing the *Electoral Regime* variable to hold a linear relationship with corruption and then adding only the linear *Free and Fair Elections* term. The result still holds. In line with H5, the mere introduction of elections as compared to closed authoritarian regimes is *positively* related to corruption. This, we argue, is one of the key explanations for the upward bend of the inverted J-shaped relationship between electoral democracy and corruption. Then, controlling for whether elections are held, and in line with H6, election quality is *negatively* related to corruption, consistent with the corruption-purifying effect of vertical accountability. This helps account for the downward

bend of the inverted J. Further confirming H5 and H6, our results are generally consistent when we disaggregate corruption.⁵⁹ These results appear in Tables 14-17 of the supplemental index.

Table 5: Explaining the Relationship between Corruption and Electoral Democracy

	(1)	(2)
Corruption Index, Lagged (1 Year)	1.0365*** (0.0149)	1.0346*** (0.0148)
Corruption Index, Lagged (2 Years)	-0.0615*** (0.0151)	-0.0621*** (0.0151)
Electoral Regime, Lagged (1 Year)	0.0031*** (0.0010)	0.0051*** (0.0013)
Reduced Free and Fair Elections, Lagged (1 Year)		-0.0072** (0.0028)
R^2	0.9537	0.9537
<i>No. Countries</i>	173	173
<i>Avg. Years per Country</i>	91.4	91.4
<i>No. Observations</i>	15818	15812

Entries are regression coefficients, with standard errors clustered on countries, in parentheses. Country- and year-fixed effects included in regressions but omitted from the table.

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

All the findings from our hypothesis testing remain consistent when the additional controls are included. This is evident from Table 2 in the supplemental appendix.

We note that it is rare to see the same data source for both dependent and independent variables. The norm to avoid this practice is not unfounded. One might be concerned about a correlation in measurement error biasing the results of analysis. However, we emphasize four justifications. First, practically speaking, V-Dem's coverage is unparalleled, so we cannot run the analysis with any other data. Second, the V-Dem measurement model is designed to improve cross-country comparability through bridging, lateral coding, and the use of anchoring vignettes. As cross-country differences are a likely primary driver of correlated measurement error, reducing these differences makes the V-Dem data less likely to be plagued by this threat. Third, it may not actually mitigate the issue to substitute in other expert survey data, as other experts may be subject to the same biases as V-Dem experts are, if not more so. For example, if we are

concerned that the normative premium placed on democracy in the international community would bias coders to rate corruption in democratic countries lower, we do not necessarily think that V-Dem coders would be more subject to this bias than others. In fact, we suspect the opposite because most V-Dem coders study governance and politics and live in the countries they code; whereas other datasets on corruption and democracy rely heavily on foreigners, often businesspeople, rather than political experts.

Nonetheless, we include models that use measures for our independent variables from data sources outside of V-Dem in Table 5 of the supplemental appendix. The results for democracy overall are generally robust to the substitution of the variables for non-V-Dem data, as is the negative, linear, significant relationship between the quality of elections and corruption. The results for freedom of association, freedom of expression, judicial constraints on executive, and legislative constraints on executive are not robust when substituting non-V-Dem data, but this is likely due to the smaller sample size. Reductions in sample size range from approximately 40 percent to more than 90 percent.

Fourth, to directly deal with this concern in our analysis, we attempt to correct for this potential endogeneity bias by leveraging a special feature of the V-Dem data: the fact that, in most countries, different country-experts responded to different “surveys,” i.e. thematically grouped sets of questions. To the extent that the indicators tapping into corruption appear in other such surveys than the indicators tapping into the constructs measuring our six hypotheses, we can accordingly eliminate country experts responding to questions on both sides of the equation. When we do so, we find that our results, with the exception of the relationship between judicial constraints and corruption, are robust. These tests appear at the end of the supplemental appendix in Table 6.

Conclusion

By disaggregating democracy and corruption theoretically and empirically, this paper explains a puzzling phenomenon: high levels of democracy diminish corruption but low levels actually increase it. We theorize that specific components of democracy influence individuals' calculations about the transaction and accountability costs and political support benefits of corruption and thus help determine, collectively, the levels of different types of corruption and overall corruption in countries. Consistent with our theoretical framework, we find that freedom of expression and freedom of association each exhibit an inverted curvilinear relationship with corruption—both overall corruption and four different types. The introduction of elections and the quality of elections each act in a linear fashion—positively and negatively with corruption, respectively—but jointly form a curvilinear relationship with both overall corruption and many of its types. Judicial and legislative constraints exhibit a negative linear relationship with executive corruption.

This research has important theoretical and policy implications. Theoretically, our findings underscore that it is not low levels of “democracy,” but rather specific democratic components that fuel corruption—namely the introduction of elections in the absence of ensuring they are free and fair, and low levels of freedom of expression and freedom of association. For policymakers, this is a hopeful finding in the sense that democratization does not have to result in greater corruption. Potentially through ordering of the introduction of democratic components and the strengthening of some components early in the democratization process, a proliferation of illicit activity can be avoided. The fact that even weak judicial and legislative constraints are associated with a decline in corruption is particularly promising. Finally, we should not lose sight

of the reassuring finding that corruption levels are quite low once all democratic components are strong. In short, democracy works.

Appendix

List of Variables

Dependent Variables

Corruption Index: This is an index created from indicators of executive bribery, executive embezzlement, public sector bribery, public sector embezzlement, legislative corruption, and judicial corruption using Bayesian factor analysis. This index was rescaled to vary between 0 and 1 and to imply that higher values mean greater corruption. Source: V-Dem, (v2x_corr)

Executive Corruption: This index is formed by taking the average of the point estimates from a Bayesian factor analysis model of indicators for executive bribery and executive embezzlement. This index was rescaled to vary between 0 and 1 and to imply that higher values mean greater corruption. Source: V-Dem, (v2x_execorr)

Judicial Corruption: This indicator measures the frequency that individuals make undocumented extra payments or give bribes to judges to obtain a favourable judicial decision or affect the speed of the process. This indicator was rescaled to vary between 0 and 1 and to imply that higher values mean greater corruption. Source: V-Dem, (v2juccorr)

Legislative Corruption: This indicator measures the frequency that legislators abuse their positions for financial gain through a variety of techniques. This indicator was rescaled to vary

between 0 and 1 and to imply that higher values mean greater corruption. Source: V-Dem, (v2lgcrrpt)

Public Sector Corruption: This index is formed by taking the average of the point estimates from a Bayesian factor analysis model of indicators for public sector bribery and public sector embezzlement. This index was rescaled to vary between 0 and 1 and to imply that higher values mean greater corruption. Source: V-Dem, (v2x_pubcorr)

Independent Variables

Electoral Democracy: This index of democracy takes into account the extent of freedom of association, suffrage, clean elections, the election of the executive, and freedom of expression using V-Dem data. Source: V-Dem, (v2x_polyarchy)

Electoral Regime: A country-year is coded as 1 if regularly scheduled national elections are on course and 0 if either the national election of the executive or parliament has been interrupted or it is prior to the first election in a country's history. Source: V-Dem, (v2x_elecreg)

Freedom of Association: The index is formed by taking the point estimates from a Bayesian factor analysis model of the indicators for bans on parties, barriers to parties, opposition party autonomy, the multiparty character of elections, civil society organization (CSO) entry and exit, and CSO repression. Source: V-Dem, (v2x_frassoc_thick)

Freedom of Expression: This index is formed by taking the point estimates from a Bayesian factor analysis model of the indicators for print/broadcast censorship effort, internet censorship effort, harassment of journalists, media bias, media self-censorship, the level of critical discourse in print/broadcast media, the balance in perspectives in print/broadcast media, freedom of discussion for men/women, and freedom of academic and cultural expression. Source: V-Dem, (v2x_freexp_thick)

Judicial Constraints on Executive: This index is formed by taking the point estimates from a Bayesian factor analysis model of the indicators for executive respect for the constitution, executive compliance with the judiciary, executive compliance with the high court, high court independence, and lower court independence. Source: V-Dem, (v2x_jucon)

Legislative Constraints on Executive: This index is formed by taking the point estimates from a Bayesian factor analysis model of the indicators for legislature questions officials in practice, executive oversight, legislature investigates in practice, and legislative opposition parties. Source: V-Dem, (v2xlg_legcon)

Free and Fair Elections: This index is formed by taking the point estimates from a principal components factor analysis model of the indicators for election management body (EMB) autonomy, EMB capacity, voter registry, government election intimidation, electoral violence, other voting irregularities, and whether or not the election was generally free and fair. Departing from the higher-level free and fair elections index produced in V-Dem, we exclude vote-buying. Source: V-Dem, (v2xel_frefair with v2elvotbuy removed)

Control Variables

GDP per Capita: The natural log of gross domestic production divided by the population size.

Source: Agnus Maddison, "Statistics on World Population, GDP and Per Capita GDP, 1-2008

AD," University of Groningen, 2010,

http://www.ggdc.net/maddison/Historical_Statistics/vertical-file_02-2010.xls. (e_migdppcln)

GINI Coefficient: A measure of income inequality. Source: UNU-Wider, "World Income

Inequality Database, Version 2.0c," Helsinki, 2008. (e_peginiwi)

Media Freedom: This variable is scored, in paraphrased language, as follows: (0) Not possible to criticize the government or government officials; (1) Social, legal, or economic costs related to such criticisms; (2) Such criticisms are common. The original scale was reversed, and the original categories "0" (No effective media) and "8" (*Missing data or social/political disruption makes it impossible to code*) were set to missing. Source: Jenifer Whitten-Woodring and Douglas A. Van Belle, "The Correlates of Media Freedom: An Introduction of the Global Media Freedom Dataset," *Political Science Research and Methods* (2015), 1-10. (e_mefree)

State Capacity: This variable is produced using Bayesian latent variables analysis on 24 different indicators of state capacity. Source: Jonathan K. Hanson and Rachel Sigman, "Leviathan's Latent Dimensions: Measuring State Capacity for Comparative Political Research," Unpublished Manuscript, 2013.

Stock of Democracy: For this variable the value time t+1 is equal to the sum of the value of *Electoral Democracy* at time t+1 and time t, minus 10 percent of depreciation at time t.

Trade Openness: Exports plus imports divided by real GDP per capita. Source: Katherine Barbier, Omar M. G. Keshk, and Brian M. Pollins, "Trading Data: Evaluating Our Assumptions and Coding Rules," *Conflict Management and Peace Science*, 26, no. 5 (2009), 471-491.
Maddison.

Note: Where applicable, names of variables as they appear in the V-Dem dataset are given at the end of each entry.

Notes

¹ Early research found a negative linear relationship, but more recent advanced analysis has since consistently demonstrated an inverted curvilinear relationship. Early research includes Arthur A. Goldsmith, "Slapping the Grasping Hand: Correlates of Political Corruption in Emerging Markets," *American Journal of Economics and Sociology*, 58, no. 4 (October 1999), 865-83; Wayne Sandholtz and William Koetzle, "Accounting for Corruption: Economic Structure, Democracy, and Trade," *International Studies Quarterly*, 44 (March 2000), 31-50; Daniel Treisman, "The Causes of Corruption: A Cross-National Study," *Journal of Public Economics*, 76, no. 3 (June 2000), 399-457. More recent research includes Gabriella R. Montinola and Robert W. Jackman, "Sources of Corruption: A Cross-Country Study," *British Journal of Political Science*, 32 (January 2002), 147-70; Hung-En Sung, "Democracy and Political Corruption: A Cross-National Comparison," *Crime, Law, and Social Change*, 41, no. 2 (February 2004), 179-93; Hanna Bäck and Axel Hadenius, "Democracy and State Capacity: Exploring a J-Shaped Relationship," *Governance: An International Journal of Policy Administration and Institutions*, 21, no. 1 (January 2008), 1-24; Nicholas Charron and Victor Lapuente, "Does Democracy Produce Quality of Government?" *European Journal of Political Research*, 49, no. 4 (June 2010), 443-70.

² Miller, Grødeland, and Koshechkina, *A Culture of Corruption?* 11–13; Luis Roniger, "Political Clientelism, Democracy, and Market Economy," *Comparative Politics* 36, no. 3 (2004): 353–75, here 354; Susan Rose-Ackerman, *Corruption and Government: Causes, Consequences, and Reform* (Cambridge: Cambridge University Press, 1999), 2, 3, 12, 14, 16, 26; Eric M. Uslaner,

Corruption, Inequality, and the Rule of Law: The Bulging Pocket Makes the Easy Life

(Cambridge: Cambridge University Press, 2008), 17.

³ Bäck and Hadenius. Charron and Lapuente.

⁴ Ibid.

⁵ For example, Alícia Adserá, Carles Boix, and Mark Payne, "Are You Being Served? Political Accountability and Quality of Government," *Journal of Law Economics & Organization*, 19, no. 2 (October 2003), 445-90; Aymo Brunetti and Beatrice Weder. "A Free Press Is Bad News for Corruption," *Journal of Public Economics*, 87, no. 7-8 (August 2003), 1801-24.

⁶ Bäck and Hadenius.

⁷ Charron and Lapuente.

⁸ Philip Keefer, "Clientelism, Credibility, and the Policy Choices of Young Democracies," *American Journal of Political Science*, 51, no. 4 (October 2007), 804-21. Montinola and Jackman question whether this relationship actually exists, worrying that it merely "may reflect the increase in information and reporting of corruption that typically accompanies democratization." We test for this possibility and find it not to be true in our results section. Montinola and Jackman.

⁹ For example, Gary S. Becker and George J. Stigler, "Law Enforcement, Malfeasance, and Compensation of Enforcers," *The Journal of Legal Studies*, 3, no. 1 (January 1974), 1-18; Robert E. Klitgaard, *Controlling Corruption* (Berkeley: University of California Press, 1988); Carolien Van Rijckeghem and Beatrice Weder, "Bureaucratic Corruption and the Rate of Temptation: Do Wages in the Civil Service Affect Corruption, and by How Much?" *Journal of Development Economics*, 65, no. 2 (August 2001), 307-31.

¹⁰ Michael Coppedge, John Gerring, Staffan I. Lindberg, Svend-Erik Skaaning, Jan Teorell, David Altman, Michael Bernhard, M. Steven Fish, Adam Glynn, Allen Hicken, Carl Henrik Knutsen, Kelly McMann, Pamela Paxton, Daniel Pemstein, Jeffrey Staton, Brigitte Zimmerman, Frida Andersson, Valeriya Mechkova, and Farhad Miri, "V-Dem Dataset V6.2," Gothenburg: University of Gothenburg, Varieties of Democracy (V-dem) Project, <https://www.v-dem.net/en/data/data-version-6-2/>.

¹¹ When different types of officials, for example a legislator and a judge, participate in a single corrupt act this can be considered more than one type of corruption.

¹² Our theoretical conceptualization of corruption is slightly different than some others used in the literature examining democracy and corruption, such as Back and Hadenius' focus on bureaucratic corruption, or Charron and Lapuente's focus on the quality of government. Also see Keefer for more on the curvilinear relationship between democracy and clientelism.

¹³ Staffan I. Lindberg, Anna Lührmann, and Valeriya Mechkova, "From De-Jure to De-Facto: Mapping Dimensions and Sequences of Accountability," *World Development Report*, No. 112920, World Bank, 2017.

¹⁴ For example, Robert Dahl, *Polyarchy: Participation and Opposition* (New Haven: Yale University Press, 1971).

¹⁵ For example, Guillermo O'Donnell, "Horizontal Accountability in New Democracies," *Journal of Democracy*, 9 (July 1998), 112-26; Terry Karl and Philippe Schmitter, "Modes of Transition in Latin-America, Southern and Eastern- Europe," *International Social Science Journal*, 43, no. 2 (May 1991), 269-84; Michael Laver and Kenneth A. Shepsle, "Understanding Government

Survival: Empirical Exploration or Analytical Models?" *British Journal of Political Science*, 29 (April 1999), 395.

¹⁶ For example, Catalina Smulovitz and Enrique Peruzzotti, "Societal Accountability in Latin America," *Journal of Democracy*, 11, no. 4 (October 2000), 147-58; Andreas Schedler, "Conceptualizing Accountability," in Andreas Schedler, Larry Diamond and Marc F. Plattner, eds., *The Self-Restraining State: Power and Accountability in New Democracies* (Boulder, Colorado: Lynne Rienner Publishers, 1999), 13-28.

¹⁷ This builds on Coase's work. R. H. Coase, "The Problem of Social Cost" *Journal of Law and Economics*, 3 (October 1960), 1-44.

¹⁸ For example Alessandro Pellegata, "Constraining Political Corruption: An Empirical Analysis of the Impact of Democracy," *Democratization*, 20, no. 7 (December 2013), 1195-218.

¹⁹ Note that the idea is not that a highly repressive regime is actively preventing corrupt exchanges but rather that by denying freedom of expression and association it has the side effect of increasing the transaction costs of illicit exchanges.

²⁰ Mehmet Bac, "Corruption, Connections and Transparency: Does a Better Screen Imply a Better Scene?" *Public Choice*, 107, no. 1/2 (April 2001), 87-96; James R. Hollyer, B. Peter Rosendorff, and James Raymond Vreeland, "Democracy and Transparency," *The Journal of Politics*, 73, no. 4 (October 2011), 1191-205.

²¹ M.L.M. Mbaio, "Prevention and Combating of Corruption in Zambia," *Comparative and International Law Journal of Southern Africa*, 44, no. 2 (July 2011), 255-74.

²² Adserá, Boix, and Payne; Ivar Kolstad and Arne Wiig, "Natural Resources, Corruption and Trust: A Complex Relationship," *U4*, no. 14 (December 2011); Brunetti and Weder.

²³ Adserá, Boix, and Payne; Daniel Lederman, Norman V. Loayza, and Rodrigo R. Soares, "Accountability and Corruption: Political Institutions Matter," *Economics and Politics*, 17, no. 1 (March 2005), 1-35; Sandholtz and Koetzle.

²⁴ Claudio Ferraz and Frederico Finan, "Exposing Corrupt Politicians: The Effects of Brazil's Publicly Released Audits on Electoral Outcomes," *The Quarterly Journal of Economics*, 123, no. 2 (May 2008), 703-45.

²⁵ Susan Rose-Ackerman, "Democracy and 'Grand' Corruption," *International Social Science Journal*, 48, no. 149 (1996), 365-80.

²⁶ Ibid. Kolstad and Wiig.

The constraints and the separation of powers would limit collusion in corruption between the executive and members of the other branches. By definition, the constraints indicate adherence to the constitution by the judiciary and executive and a legislature that challenges the executive. The independence of the branches from each other would also discourage collusion.

²⁷ "Anticorruption Laws: Uruguay," 2013, Legalink, http://www.legalink.ch/xms/files/CROSS_BORDER_QUESTIONNAIRES/CORRUPTION/Uruguay_Anticorruption_Laws_LEGALINK2013_HUGHES_AND_HUGHES.pdf

²⁸ On revolutions, see Phillip Kuntz and Mark R Thompson, "More Than Just the Final Straw: Stolen Elections as Revolutionary Triggers," *Comparative Politics*, 41, no. 3 (April 2009), 253-72; Joshua A. Tucker, "Enough! Electoral Fraud, Collective Action Problems, and Post-Communist Colored Revolutions," *Perspectives on Politics*, 5, no. 03 (September 2007), 535-51.

²⁹ Political support benefits are relevant regardless of the quality of the elections, and thus the concept is not equivalent to vertical accountability, which exists only when elections are high

quality. Loss of office through revolution, coup, or ouster by other government authorities during the electoral season are not examples of accountability because officials do not lose power through the elections themselves.

³⁰ We consider maintaining one's office a private gain. A government position typically provides income and status, and, in some contexts, it facilitates personal enrichment schemes too. Using the resources of one's public office to maintain one's position in that office would be a corrupt act, as laws separating campaigning and holding public office, in many countries, acknowledge.

³¹ Joseph Hanlon, "Do Donors Promote Corruption?: The Case of Mozambique," *Third World Quarterly*, 25, no. 4 (2004), 747-763.

³² As noted above, our focus is not electoral corruption and thus our understanding of political support is broader than vote-buying.

³³ Bäck and Hadenius.

³⁴ Robert J. Barro, "The Control of Politicians: An Economic Model," *Public Choice*, 14, no. 1 (March 1973), 19-42; John Ferejohn, "Incumbent Performance and Electoral Control," no. 1-3 (January 1986), 5-25; Kolstad and Wiig.

³⁵ Adserá, Boix, and Payne; Sandholtz and Koetzle.

³⁶ Version 6.2. Michael Coppedge, John Gerring, Staffan I. Lindberg, Svend-Erik Skaaning, Jan Teorell, David Altman, Michael Bernhard, M. Steven Fish, Adam Glynn, Allen Hicken, Carl Henrik Knutsen, Kelly McMann, Pamela Paxton, Daniel Pemstein, Jeffrey Staton, Brigitte Zimmerman, Frida Andersson, Valeriya Mechkova, and Farhad Miri. "V-Dem Codebook V6.2."

Gothenburg: University of Gothenburg. Varieties of Democracy (V-dem) Project, <https://www.v-dem.net/en/reference/version-6-mar-2016/>.

³⁷ Ibid. Daniel Pemstein, Kyle L. Marquardt, Farhard Miri, Eitan Tzelgov, and Yi-ting Wang, "The V-Dem Measurement Model: Latent Variable Analysis for Cross-National and Cross-Temporal Expert-Coded Data," Working Paper No. 21 (Gothenburg: University of Gothenburg. Varieties of Democracy Institute, 2015).

³⁸ As legislative corruption data are missing for countries lacking legislatures, we take the average of public sector corruption, executive corruption, and judicial corruption to create the corruption index in these cases. For details about these V-Dem indicators, see Kelly McMann, Daniel Pemstein, Brigitte Seim, Jan Teorell, and Staffan I. Lindberg, "Strategies of Validation: Assessing the Varieties of Democracy Corruption Data," Working Paper No. 23 (Gothenburg: University of Gothenburg. Varieties of Democracy Institute, 2016).

³⁹ Ibid.

⁴⁰ Coppedge et al., "V-Dem Codebook V6.2".

⁴¹ For more discussion about the V-Dem democracy indices, see Jan Teorell, Michael Coppedge, Svend-Erik Skaaning, and Staffan I. Lindberg, "Measuring Electoral Democracy with V-Dem Data: Introducing a New Polyarchy Index," Working Paper No. 25 (Gothenburg: University of Gothenburg. Varieties of Democracy Institute, 2016).

⁴² See, respectively, Keefer; Carolien van Ham and Staffan I Lindberg, "Choosing from the Menu of Manipulation Explaining Incumbents' Choices of Electoral Manipulation Tactics," Working Paper No. 30 (Gothenburg: University of Gothenburg. Varieties of Democracy Institute, 2016).

⁴³ Protestantism and ethnic heterogeneity are time-invariant in most datasets, including in V-Dem, though they are not time-invariant theoretically.

⁴⁴ John Gerring and Strom C. Thacker, "Do Neoliberal Policies Deter Political Corruption?" *International Organization*, 59, no. 1 (January 2005), 233-54; Seymour Martin Lipset and Gabriel Salman Lenz, "Corruption, Culture, and Markets," in Samuel P. Huntington and Lawrence E. Harrison, eds., *Culture Matters: How Values Shape Human Progress* (New York: Basic Books, 2000), 112-124; Daniel Treisman, "The Causes of Corruption: A Cross-National Study," in Erik Berglöf and G  rard Roland, eds., *The Economics of Transition: The Fifth Nobel Symposium in Economics* (New York: Palgrave Macmillan, 2007), 360-423.

⁴⁵ Samuel P. Huntington, "Modernization and Corruption," in Arnold J. Heidenheimer and Michael Johnston, eds., *Political Corruption: Concepts & Contexts* (New Brunswick, N.J.: Transaction Publishers, 2002), 253-264; Elmer E. Cornwell, Jr, "Bosses, Machines, and Ethnic Groups," *Annals of the American Academy of Political and Social Science*, 353 (May 1964), 27-39; Herbert Kitschelt and Steven Wilkinson, "Citizen-Politician Linkages: An Introduction," in Herbert Kitschelt and Steven Wilkinson, eds., *Patrons, Clients, and Policies: Patterns of Democratic Accountability and Political Competition* (Cambridge: Cambridge University Press, 2007), 1-49.

⁴⁶ Klitgaard; Susan Rose-Ackerman, *Corruption and Government: Causes, Consequences, and Reform* (Cambridge: Cambridge University Press, 1999).

⁴⁷ Jonathan K. Hanson and Rachel Sigman, "Leviathan's Latent Dimensions: Measuring State Capacity for Comparative Political Research," Unpublished Manuscript, 2013.

⁴⁸ We would like to control for the effect of trust, which has been shown to affect both democracy and corruption levels in societies. However, there are not adequate time-series, cross-national data on trust available for inclusion in our analysis. Christian Bjørnskov and Martin Paldam, "Corruption Trends," in Johan Graf Lambsdorff, Markus Taube, and Matthias Schramm, eds., *The New Institutional Economics of Corruption* (London: Routledge, 2005), 59-75; Stephen D. Morris and Joseph L. Klesner, "Corruption and Trust: Theoretical Considerations and Evidence from Mexico," *Comparative Political Studies*, 43, no. 10 (2010), 1258-1285.

⁴⁹ Alberto Ales and Rafael Di Tella, "Rents, Competition, and Corruption," *The American Economic Review*, 89, no. 4 (September 1999), 982-93; Gerring and Thacker; Wayne Sandholtz and Mark M. Gray, "International Integration and National Corruption," *International Organization*, 57, no. 4 (October 2003), 761-800; Sandholtz and Koetzle.

⁵⁰ A Lagrange test reveals that only with two lags of the DV do we purge the serial autocorrelation from the analysis.

⁵¹ Table 18 in the Appendix includes a full set of regressions using time trends (year, year², year³) rather than year fixed effects, and the results are consistent. Though we use fixed effects in combination with a lagged dependent variable, the risk of Nickell bias is low, as $T \gg 20$ in our sample (Beck, Nathaniel, and Jonathan N. Katz. 2011. "Modeling Dynamics in Time-Series--Cross-Section Political Economy Data." *Annual Review of Political Science* 14:331-352).

⁵² For example, see, respectively, Montinola and Jackman; Bäck and Hadenius; Sung.

⁵³ Sung.

⁵⁴ Treisman; Keefer.

⁵⁵ Charron and Lapuente.

⁵⁶ Bäck and Hadenius.

⁵⁷ Montinola and Jackman.

⁵⁸ Ibid.

⁵⁹ *Electoral Regime* has a positive linear relationship with executive, judicial, and public sector corruption, and *Free and Fair Elections* has a negative linear relationship with executive, judicial, and public sector corruption. Neither elections variable significantly explains variation in legislative corruption levels. This is our only unexpected result, and it requires further research.