Choosing Electoral Rules in the Presence of Corruption

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Corruption is a problem that has been shown to adversely affect a country's development. Recent studies have shown that a country's electoral system can affect its corruption level. But if that is the case, then electoral rules could be chosen to maximize opportunities for corruption. This paper uses the recent wave of democratization and the resulting writing of new constitutions, which entailed in many cases the adoption of a new electoral system, to analyze the choice of electoral rules. Results suggest that more corrupt countries are more likely to adopt a plurality system than less corrupt ones.

Keywords: corruption; electoral system; government; democracy
JEL classification: D72; D73; H11; H77

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1. Introduction

Corruption, be it at the political or bureaucratic level, has become an issue of great interest recently, as it is believed to be a major barrier against development.[1] Previous studies have found that corruption curbs growth and investment (Mauro, 2005), along with the provision of public services (Mauro, 1998), in addition to increasing inequality (Li et al., 2000). Because corruption is a reflection of institutional quality, it could also affect the choice of institutions themselves. The purpose of this paper, then, is to determine the impact of corruption on the choice of electoral system made by new democracies.

A country's electoral system has been found to affect corruption. On the one hand, Persson, Roland, and Tabellini (2003) argue that proportional representation (PR) systems with multimember districts are more prone to rent-seeking than plurality rule with small districts.[2] This is because in PR systems, voters are choosing among party lists, so that a politician's chance of reelection is based not on performance, but on his or her rank on the list. On the other hand, in majoritarian and plurality systems, voters are choosing among individual candidates, which creates an incentive for incumbents to perform well.[3] Myerson (1993), however, suggests that it is single-member district plurality systems that are more corrupt. In particular, because only one candidate can win the election, it raises the barriers to entry and makes it harder to remove a corrupt politician from office. In large district PR systems, on the other hand, competition drives corruption to zero. This is because in PR systems with large districts, where

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[1] According to the Global Corruption Barometer survey, a majority of people in 48 out of 68 countries surveyed believe that corruption has worsened over the past 3 years, with political parties being rated the most corrupt (Hutchinson et al., 2005).
[2] Empirically, Persson, Tabellini, and Trebbi (2003) and Kunicova and Rose-Ackerman (2005) find that proportional systems are more corrupt than majoritarian ones.
[3] Similarly, Persson and Tabellini (2000) argue that in majoritarian systems (which they define as plurality with several small districts), politicians must pay attention to voters in the marginal districts, leading to less public good provision than in proportional systems (defined as PR with one large district). On the other hand, since voters in these marginal districts are mobile, they are more likely to punish politicians for any wasteful spending, leading to less rents.

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many candidates can be elected, it is possible to find an honest candidate for every ideological position, so that corrupt candidates are less likely to be elected. Other authors have found support for this barriers-to-entry argument. In particular, Persson and Tabellini (2003), as well as Persson, Tabellini, and Trebbi (2003) find that the lower the district magnitude (that is, the smaller number of seats per district), the higher is corruption.

This implies that if the type of electoral system affects corruption, then electoral rules could be chosen to maximize opportunities for corruption. To put it differently, as Aghion et al. (2005) point out, because those who write constitutions have at least some knowledge of how benefits would be distributed under alternative rules, the electoral system may not be exogenous. Following this reasoning, if one system provides more opportunities for corruption, and this is known by those drafting the constitution, does it mean, then, that countries where corruption is more widespread tend to favor one electoral system over another?

Electoral rules have not changed much over time, as there are very few instances where countries with PR systems switched to majoritarian systems or vice versa. However, in the late 80s and early 90s several countries became democratic, which prompted the writing of new constitutions. Although other authors have recognized the endogeneity of constitutional rules, to the best of my knowledge no one has yet examined whether the level of corruption affects the choice of electoral rule made by new democracies. Some authors, however, have explored how electoral rules are shaped in the first place. Aghion et al. (2005) look at the choice of electoral rules in the context of minority representation in U.S. cities. They show that when the size of the minority is small, majorities adopt at-large elections. As the minority becomes larger, however, the majority switches the electoral rule to single-member districts. Boix (1999) explores the choice of electoral rules in various countries. He argues that when the voting franchise was

extended, it mostly increased the number of left-wing voters. Plurality systems persisted in countries where socialist parties were weak or dominated by the established, non-socialist parties. If the entry of left-wing voters caused the socialist party to be strong, however, then a PR system would be adopted. Aghion et al. (2004) examine the relationship between how polarized a society is, and how insulated its leaders are. When measuring insulation as the type of electoral rule (the more proportional being the less insulated), the authors find that an increase in polarization increases the likelihood that plurality will be chosen. Clearly, then, a link between the level of corruption and the type of electoral rule that is selected may in fact exist. This question is important because if constitutions in newly democratic countries are being written in a way that perpetuates corruption, then these countries are in effect undermining their own development potential.

The analysis, then, exploits the variation from countries that adopted an electoral system during the 80s and 90s to identify the effect of corruption on the choice of electoral rule. Some of these countries were dictatorships that also undertook elections, so that the electoral system was potentially unchanged once the country democratized.[4] Other countries were democracies that changed their electoral system.[5] A further subset of countries remained autocratic but adopted an electoral system. In the end, there were 50 instances where an electoral system was adopted as opposed to merely changed during the 1984 to 2004 period, with 29 of the cases resulting from democratization (see Appendix 1). As seen in Table 1, the average initial perceived level of corruption for countries that adopted a PR system, measured using the 1984 International

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[4] For example, in Brazil, from 1975 to 1985 (during the military rule), the President was elected by an electoral college, made up of the elected National Assembly and an appointed body of state representatives (Keefer 2002).
[5] For instance, New Zealand moved from plurality to a mixed system in 1993. One nondemocratic country that changed its electoral system once it democratized was Poland, which changed from plurality to PR.

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Country Risk Guide (ICRG) corruption index,[6] is 3.06, with 6 being the most corrupt. For countries that chose a mixed system, the initial level of corruption was 3.45 on average; for those that selected a plurality or majoritarian system, the average initial level of corruption was 4.11.[7] This means that countries that selected a PR system appear to have started with lower corruption levels than countries that ultimately selected other electoral systems.

Using different measures of the electoral system, this paper finds that countries that start out more corrupt are more likely to adopt a plurality system. Given that most countries in the sample with a plurality system also have single-member districts,[8] this finding possibly supports Myerson's (1993) result that plurality systems, as a result of barriers to entry, are more conducive to corruption than PR systems. Results are robust throughout different specifications.

The paper is divided as follows. Section 2 provides a description of the data, while Section 3 presents the empirical specification. Section 4 examines the results and subjects them to a variety of sensitivity tests. The last section concludes.

2. Data

2.1. Electoral System

Persson and Tabellini (2004) argue that electoral systems can differ in terms of district magnitude, electoral formula, and ballot structure. District magnitude determines the number of representatives that obtain seats; the electoral formula translates votes into seats, and the ballot

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[6] The ICRG index has been produced annually since 1982 by Political Risk Services, a private international investment risk service. It measures corruption at all levels of government and bureaucracy, and is based on the opinion of experts, and seeks to capture the extent to which "high government officials are likely to demand special payments" and "illegal payments are generally expected throughout low levels of government in the form of "bribes connected with import and export licenses, exchange controls, tax assessments, police protection, or loans."

[7] Using a broader sample of countries, Persson and Tabellini (2003) find no systematic difference in corruption levels across the different types of electoral systems. This is possibly due to the inclusion of countries that already had a particular electoral system.

[8] The average number of districts for the countries in the sample with a plurality system is 207.2, with an average district size of 4.4 seats, whereas for those with a PR system it is 14.9, with an average district size of 29.8.

structure determines how voters cast ballots. Such a distinction suggests three broad measures of a country's electoral system. The first one is an indicator for the country's electoral formula, which may take three broad forms. Two related types are plurality and majoritarian rule. Under the former, the candidate who wins the most votes in the district is elected. Under the latter, a candidate is elected only when he or she wins a majority of votes in the district. Another possibility is proportional representation, or PR. In this case, candidates are elected depending on the votes received by their parties. A final possibility is a mixed system, in which plurality and proportional representation are combined.

The second indicator is the effective threshold of representation, as developed by Taagepera and Shugart (1989) and Lijphart (1994). It measures the degree of proportionality in the system, or the share of votes that guarantees representation to any party with a 50 percent probability under each electoral rule. The higher the threshold, the lower the degree of proportionality, and thus the higher the barriers to entry. The third measure is the average district magnitude, defined as the average number of seats per district.

2.1.1. Electoral System

The first indicator of a country's electoral system is taken from the World Bank's Database on Political Institutions (DPI2004), as described by Keefer (2005). The database contains data on the type of electoral system from 1976 to 2004. The variable PLURALITY takes a value of 1 if legislators are elected using a winner-take-all (majoritarian) or first-past-the-post (plurality) rule and 0 if it is not. The variable is further coded NA if "there is no competition for seats in a one-party state or if legislators are appointed" and is left blank "if it is unclear whether there is competition in a one-party state." The variable PR, for its part, has a value of 1

if the country has a proportional representation system, and 0 otherwise, unless there is only one party, one candidate, the legislature is not elected, or there is no legislature, in which case the variable takes a value of NA.

From these indicators, I constructed two different measures.[9] The first distinguishes between plurality (or majoritarian) and another type of regime (PR or mixed). The resulting dependent variable then takes a value of 1 (plurality) if the variable PLURALITY in the DPI2004 is 1 and the variable PR is not equal to 1; and 0 otherwise.

The next measure further distinguishes between PR and mixed systems. The dependent variable this time takes a value of 0 if the country has a PR system (that is, if the variable PR in the DPI2004 dataset equals 1 and PLURALITY does not equal 1). If the country has a mixed system, denoted in the DPI2004 dataset as both PR and PLURALITY having a value of 1, the dependent variable also takes a value of 1. If the country has a plurality system, so that the variable PLURALITY equals 1 and PR does not equal 1, the dependent variable takes a value of 2.

2.1.2. Effective Threshold and District Magnitude

The second measure included in the analysis as the dependent variable is the effective threshold, as defined by Lijphart (1994). It is defined as the level of support that, for each type of electoral rule, guarantees parliamentary representation to any party, with a probability of at least 50 percent. The effective threshold at the district level is calculated as the average of the threshold of exclusion and the threshold of inclusion. The threshold of exclusion is the maximum

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[9] Because of inconsistencies in the DPI2004 dataset, I changed the index in the following cases, as the electoral rule given did not match that in Reynolds et al. (2005): Chile (plurality in the DPI2004 dataset, changed to PR), and Czech Republic and Guatemala (mixed in the DPI2004, changed to PR). I also coded the electoral system for Nigeria, as the DPI2004 dataset included data on district magnitude but not on the electoral system.

percentage of the vote that, under the most unfavorable conditions, such as having an opposition party gain all the remaining vote, is still insufficient to gain representation. As for the threshold of inclusion, it is the minimum percentage of votes that gives a party a seat when the rest of the parties are extremely fragmented. For instance, in the case of a single member plurality system with 4 candidates competing for a seat, the threshold of exclusion is 50 percent, while the threshold of inclusion is 25 percent, so that any candidate who gets a higher share than that wins the seat if the other 3 candidates split the vote. The effective threshold here is then 37.5.

District magnitude, however, can vary within a country. For instance, Ireland has districts with 3, 4, or 5 seats. Because I am interested in the effective threshold at the national level, I use an approximation from Lijphart (1999). In particular,

$$Effthresh = \frac{75\%}{M+1} \tag{1}$$

where M is the average district magnitude, which is taken from DPI2004. This variable is defined as the mean district magnitude in the lower chamber, measured as the weighted average of the number of representatives elected by each electoral district.

The higher the effective threshold, the higher the barriers to entry, and hence the less proportional is the electoral system. Therefore, PR systems tend to have low effective thresholds, whereas plurality systems have high thresholds. For example, a country with single-seat electoral districts such as the United States would have an effective threshold of 37.5 percent, while Ireland, with an average district magnitude of 4-seats, has an effective threshold of 15 percent.

The final measure of the dependent variable used in this paper is M, the average district magnitude, which defined as the average number of seats per district. The smaller the number of seats in a district on average, the smaller is the district, and hence the larger is the number of districts, which suggests a less proportional system.

2.1.3. Additional Measures of Dependent Variable

To ensure robustness of the results, I construct similar measures using data from Golder (2005). In particular, from the indicator ELECSYSTEM_TYPE, which differentiates between majoritarian, PR, multi-tier (where PR or majoritarian is used in several electoral tiers),[10] and mixed systems, I construct a measure distinguishing between plurality, PR, and mixed. The resulting dependent variable then takes a value of 0 if the country has a PR system, 1 if it has a mixed system, and 2 if plurality.

To calculate the effective threshold measure, which is the second form of the dependent variable, I use a measure of the average district magnitude in the lowest electoral tier as M in equation (1). The correlation between the two different measures of M from DPI2004 and Golder (2005) is 0.463. The third form of the dependent variable is then the Golder (2005) measure of M, which is defined as the average district magnitude.

2.2. Corruption

There exists no objective measure of corruption, so since Mauro (1995), a number of empirical studies have employed various subjective indices that attempt to measure the perceived levels of corruption in a country. There have been arguments, however, that such corruption perception indices are more a measure of institutional quality than actual corruption. Mocan (2004), for instance, uses the United Nation's International Crime Victim Survey (ICVS) to construct a measure of actual corruption. After controlling for institutional quality, he finds that the extent of actual corruption does not have a significant effect on perceptions of corruption. The ICVS survey, however, only asks a sample of households whether "any government official

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[10] The author notes that only Mauritius and Papua New Guinea have majoritarian multi-tier system. Because neither country is part of the sample, I regard all multi-tier systems as PR.

asked or expected a bribe for services."[11] On the other hand, the International Country Risk

Guide (ICRG) corruption index, which is the index used in this paper, is more concerned with

"actual or potential corruption in form of excessive patronage, nepotism, job reservations, favor-

for-favors, secret party funding, and suspiciously close ties between politics and business," in

addition to financial corruption. [12] Clearly the question asked by the ICVS survey does not

address these forms of corruption. Furthermore, given that such indices are used by banks and

multinationals in making investment decisions, they are important in predicting a country's

economic performance.

     The ICRG index provides an appraisal of corruption within the political system. As

mentioned in the introduction, it is based on the opinion of experts. The aim is to provide

potential investors with an assessment of the likelihood of a government overthrow or a

breakdown in law and order. The index varies from 0 to 6, with higher values denoting less

corruption. The data are provided on a monthly basis, so I construct a simple annual average,

which makes the index continuous between 0 and 6. For ease of interpretation, I reverse the

index so that high values correspond to high corruption levels.

     One advantage of the ICRG index over other available indices is the fact that it is

available starting in 1984 and for a large sample of countries. It is also highly correlated to other

indices that have been used in the literature, such as Transparency International and Business

International (see Treisman, 2000, for more details), which suggests that they are consistent

despite being a subjective rating.

     One problem, however, is that using the time-varying country-specific corruption

indicator would create an endogeneity problem, as the electoral system adopted could affect

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[11] http://www.unicri.it/icvs
[12] http://www.icrgonline.com/page.aspx?page=icrgmethods

subsequent corruption. As mentioned in the introduction, Persson, Tabellini, and Trebbi (2003), among others, have found that PR systems are more corrupt. Furthermore, the concern of this paper is to determine the impact of the corruption level on the choice of electoral system. This means that I am interested in how corrupt a country was at the time of selection, not afterwards. Therefore, the first available year of the corruption indicator is used to explain the type of government subsequently chosen. This then allows me to examine the effect of a country's initial corruption level on the choice of electoral rule.

2.3. Controls

As mentioned in the introduction, the choice of electoral rule depends on the degree of polarization. Aghion et al. (2004) argue that the more polarized a society is, the more insulated will be the electoral rule chosen. The authors find empirical support for this theory, as greater ethnolinguistic fractionalization increases the likelihood that plurality will be chosen. A time-invariant indicator of ethnolinguistic fractionalization in 1985, taken from Roeder (2001), is then used to measure the degree of polarization in each country.

I further include controls for the log of population and the initial log of real GDP per capita, as in Aghion et al. (2005) and Blais and Massicotte (1997). Both are taken from the World Bank's World Development Indicators. Larger countries are predicted to be more likely to adopt plurality, especially those with small district sizes, as such a system makes it easier for constituents to be reached during campaigns. As for real GDP per capita, its impact on the choice of electoral rules is unclear. In fact, Blais and Massicotte (1997) find that the level of economic development has no impact on the electoral system chosen. However, since higher economic

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development is associated with democratization, I follow Aghion et al. (2004, 2005) and include the initial log of real GDP per capita as a control variable.

Furthermore, as in Aghion et al. (2004), dummies for a country's colonial origin are also included. In particular, former colonies are distinguished for having a British or French colonial origin. Foreign powers oftentimes imposed their own institutions upon their colonies, increasing the likelihood that the colony would merely continue using the same system after independence. Former British colonies, for instance, have been found to be more likely to adopt plurality rule (Taagepera and Shugart, 1989; Persson and Tabellini, 2004). Only British and French colonial origin are included because the two controlled the largest number of countries for the longest period of time, and tended to introduce institutions in them (Blais and Massicotte, 1997).

Alternatively, controls for legislative origin are included to explain the choice of electoral system. More specifically, indicators are included for British and Socialist legal origin.[13] Socialist legal origin denotes countries that emerged from Soviet influence, and they mostly adopted a PR or mixed system. Some of them started out with a plurality system, whereas others had no electoral system. The effect of British legal origin, or common law origin, is hypothesized to be similar to that of British colonial origin.

I also experiment with adding dummies for continental location (Asia, Africa, and Latin America and Caribbean) to account for the fact that some electoral rules are more common in one region than in another.

Summary statistics, by electoral rule, are presented in Table 1. As mentioned in the introduction, it is seen that initial corruption is highest in countries that adopt a plurality system.

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[13] Aghion et al. (2004) also include other legal origin (such as Scandinavian), but no country in the sample belonged to this category.

In addition, plurality systems have the lowest log of GDP per capita, while no country with British colonial or legal origin adopted a mixed system.

3. Empirical Specification

Countries that changed the electoral system during the period under consideration fall into two categories: those that moved from autocracy to democracy and those that adopted an electoral system without changing the regime. In the baseline case, the electoral system takes a value of 1 if plurality and 0 if PR or mixed. The estimated model is then a probit, with the probability that a country i will select plurality given by

$$y_i^* = \beta_1 CORRUPTION_i + \beta_2 CONTROL_i + \varepsilon_i \tag{2}$$

where

$$y_i = \begin{cases} 0 & \text{if } y_i^* = \text{PR/mixed} \\ 1 & \text{if } y_i^* = \text{plurality} \end{cases} \tag{3}$$

and X_i is a vector of country i's characteristics. These characteristics include the 1984 ICRG corruption perception index, the ethnolinguistic fractionalization index, log of population, initial log of real GDP per capita, either colonial or legal origin, and the regional dummies.

In the next instance, the electoral system is further distinguished between PR, mixed, and plurality. There are two possible ways of estimating the relationship between corruption and the electoral system in this case. If one believes the different types of systems belong to unordered categories, the model can be estimated using a multinomial logit (MNL). The probability that a country i will select electoral rule j is then given by:

$$\text{Prob}\left(ELECSYS_i = j\right) = \frac{\exp\left(\beta_j' X_i\right)}{\sum_{k=0}^{n} \exp\left(\beta_k' X_i\right)} \tag{4}$$

where X_i is a vector of country i's characteristics, which are as described above. Assuming $\beta_0 = 0$, to solve the indeterminacy in the model, equation (4) can be normalized into

$$\text{Prob}\left(ELECSYS_{it} = j\right) = \frac{\exp\left(\beta'_j X_i\right)}{1 + \sum_{k=1}^{n} \exp\left(\beta'_k X_i\right)} \tag{5}$$

$$\text{Prob}\left(ELECSYS_{it} = 0\right) = \frac{1}{\sum_{k=1}^{n} \exp\left(\beta'_k X_i\right)} \tag{6}$$

A restriction of the MNL model is that it requires that the relative probabilities for any two alternatives are unchanged if another alternative is added or if the characteristics of the third alternative are changed. This independence from irrelevant alternatives (IIA) assumption can be tested using the McFadden-Hausman test (see, Wooldridge, 2002, for instance). Tests for IIA are performed in all cases and the assumption is always found to hold.

The different electoral rules categories can also be considered as ordered. This is because they can be ranked from lowest (PR) to highest (plurality) barriers to entry. To take this ranking into account, I also estimate an ordered probit model of the same form as (3), only this time

$$y_i = \begin{cases} 0 & \text{if } y_i^* = \text{PR} \\ 1 & \text{if } y_i^* = \text{mixed} \\ 2 & \text{if } y_i^* = \text{plurality} \end{cases} \tag{7}$$

Because coefficients on ordered probit models are difficult to interpret, in that the sign on the coefficients does not always determine the effect of the regressors on the intermediate category (in this case mixed),[14] I also report the marginal effects of changes in the regressors, evaluated at the mean of the respective explanatory variables. The marginal effects then provide

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[14] Note that in ordered probit, the sign of the coefficient will be the same as the effect on the highest category of the dependent variable (in this case plurality), but the opposite of the effect on the lowest category (in this case PR). The direction of the marginal effect on the remaining category (mixed) cannot be inferred from the coefficient. See Wooldridge (2002).

the response probability $P(y = j|x)$, where x is the vector of control variables and the corruption index.

Next, the electoral system is measured using the effective threshold. The higher the effective threshold, the less proportional is the electoral system and thus the greater the barriers to entry. The estimated equation is:

$$EFFTHRESH_i = \beta_1 + \beta_2 CORRUPT_i + \beta_2 CONTROL_i + \varepsilon_i \tag{4}$$

where $EFFTHRESH_i$ is the effective threshold in country i, measured as indicated in equation (1);[15] $CORRUPT_i$ is the 1984 ICRG corruption perception index; $CONTROL_i$ is the same vector of control variables as above; and ε_i is the error term.

The final equation estimates the effect of initial corruption on the subsequent choice of district magnitude. The estimated equation is:

$$DISTRICT_i = \beta_1 + \beta_2 CORRUPT_i + \beta_2 CONTROL_i + \varepsilon_i \tag{5}$$

where $DISTRICT_i$ is the average district size in country i and the other terms are as described above.

4. Results

4.1 Autocratic and Democratizing Countries that Adopted an Electoral System

Baseline probit regressions estimating how likely a country is to adopt a plurality system versus PR/mixed are shown in Table 2. Columns 1 and 2 include colonial origin dummies as controls, whereas columns 3 and 4 add legal origin dummies instead. The results indicate that more corrupt countries are in fact more likely to have plurality systems, regardless of the set of

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[15] Data to calculate the effective threshold (and hence the average district magnitude) is not available for Vietnam and Uzbekistan.

controls. Both French and British colonial origin are found to increase the likelihood of adopting plurality, though not when regional dummies are included. The effect of real GDP per capita is similarly only significant in column 3, where it is found that higher levels reduce the likelihood of adopting plurality. The same is found regarding socialist legal origin, though again, it is only significant in one specification.

Table 3 distinguishes electoral systems between plurality, PR, and mixed, and estimates the regressions using a multinomial logit. The results, however, are unchanged. More corrupt countries still seem more likely to adopt a plurality system over PR, regardless of specification. They are also more likely to adopt a mixed system. Greater ethnolinguistic fractionalization decreases the log odds of adopting a mixed system over PR, but it is significant in only one specification. British colonial origin reduces the likelihood of a mixed system, as does British legal origin. Furthermore, Socialist legal origin increases the log odds of adopting a mixed system, while French colonial origin increases the probability of selecting plurality rule. Finally, the log of population also increases the likelihood of a mixed system, as well as plurality, though only in one specification.

Table 4 takes advantage of the fact the relationship between corruption and the electoral system can be estimated as an ordered probit model. As mentioned in section 3, this is because the electoral rule can be ranked from lowest (PR) to highest (plurality) barriers to entry. As before, columns 1 and 2 include colonial origin dummies as controls, whereas columns 3 and 4 have legal origin dummies. The results, however, are unchanged. More corrupt countries still seem more likely to adopt a plurality system regardless of specification, perhaps because the barriers to entry argument outweighs the benefits of greater transparency.

As discussed in section 3, because coefficients on ordered probit models are difficult to interpret, in that the sign of the coefficients cannot determine the sign of the intermediate category (in this case mixed), the bottom panel of Table 4 reports marginal effects of changes in the regressors, evaluated at the mean of the respective explanatory variables. They indicate that higher corruption reduces the probability of adopting a PR or a mixed system, and raises that of selecting a plurality rule. As before, French colonial origin increases the likelihood of adopting plurality, while British legal origin and the log of GDP per capita reduce the probability of plurality, though only in one specification. Furthermore, the effect of country size, measured as the log of population, is significant in two specifications, indicating that larger countries are in fact more likely to adopt plurality, as was predicted.

Another way of measuring the type of electoral system is with the effective threshold, which measures how many votes a party needs to secure representation. The higher the effective threshold, the more votes are needed and hence the higher are the barriers to entry. Table 5, then, presents the results. Columns 1 and 2 include colonial origin dummies, whereas columns 3 and 4 add legal origin dummies as controls. Here it is found that greater corruption increases the effective threshold, and is strongly significant across all specifications. This supports previous results, as an increase in the effective threshold translates into a decrease in the degree of proportionality or a movement towards plurality. This time, the effect of the log of real GDP per capita is significant across nearly all specifications, suggesting that countries with higher income are more likely to have a more proportional system. Socialist legal origin is found to reduce the degree of proportionality, but only in one specification.

Table 6 presents the results of estimating the effect of corruption on the choice of district magnitude. Once again, columns 1 and 2 include colonial origin dummies as controls, whereas

columns 3 and 4 add legal origin dummies instead. In no specification, however, is the impact of corruption significant. Higher log of real GDP per capita increase average district size, but only in column 3. Similarly, British colonial origin is associated with smaller district sizes, though only in column 1.

4.2. Democratizing Countries that Adopted an Electoral System

Including countries that did not democratize during the period may create a bias in the results, as it is not clear what motivated these countries to suddenly adopt an electoral rule. Restricting attention, then, only to countries that democratized during this period, and hence selected an electoral system for that reason, circumvents this problem, so long as the decision to democratize is exogenous. There is no obvious reason, however, as to why the decision to democratize should depend on the level of corruption. Furthermore, using a similar sample of countries and data, Tavares (forthcoming) undertakes different tests to determine whether there are systematic differences in the determinants of corruption between countries that reformed and those that did not reform. She finds no statistical difference between the two groups, thus providing evidence that democratizations are in fact exogenous and hence can be used as a quasi-experiment to determine the impact of corruption on the choice of electoral rules.

Table 7 then presents the ordered probit estimates when the dependent variable distinguishes between plurality, PR and mixed.[16] Columns 1 and 2 include colonial origin dummies as controls, whereas columns 3 include the legal origin dummies. [17] The results, however, are unchanged. More corrupt countries still seem more likely to adopt a plurality system regardless of specification. The marginal effect of an increase in corruption is to reduce

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[16] I do not present MNL results in this case because the model would not converge.
[17] No results are presented with both the legal origin dummies and the regional dummies because the model would not converge.

the probability of a PR or a mixed system, but to raise the likelihood of selecting plurality. The log of real GDP per capita decrease the probability of adopting plurality, meaning that more economically developed countries adopt more proportional systems, whereas British colonial origin, as well as British legal origin, increases the likelihood of adopting plurality.

These conclusions are also unchanged when the dependent variable is measured as the effective threshold, as indicated in Table 8. Here higher corruption is still found to be associated with less proportionality. Furthermore, the log of real GDP per capita is still negatively correlated with the effective threshold. In addition, being a former British or French colony translates into a higher effective threshold.

Examining the effect of corruption on district magnitude, Table 9 shows that the impact of corruption is still insignificant. On the other hand, both socialist legal origin and country size, as measured by the log of population, are associated with larger district sizes.

4.3. Sensitivity Analysis

As further robustness checks, in Tables 10, 11, and 12, the dependent variable is constructed using data from Golder (2005), rather than DPI2004 . Table 10 presents the ordered probit results, classifying the electoral system as PR, mixed, or plurality.[18] Table 11 uses the effective threshold, while Table 12 estimates the effect of corruption on average district size. The results are unchanged in that higher initial corruption is still associated with choosing plurality systems in all cases. In Table 10, columns 1-4 examine the sample with both autocratic and countries that democratized during the period; columns 5 and 6 restrict the sample solely to countries that democratized.[19] Furthermore, columns 1, 2, and 5 include colonial dummies,

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[18] Again, no results are shown for the MNL regressions because the models would not converge.
[19] No results are reported in the smaller sample with regional dummies because the models would not converge.

whereas columns 3, 4, and 6 add legal origin dummies as controls. Results again indicate that the higher the initial level of corruption, the greater the likelihood of adopting a plurality system. French colonial origin is also associated with a higher probability of selecting plurality, as is country size and socialist legal origin. When the sample is restricted to countries that democratized, it is also found that British colonial origin increases the probability of adopting plurality. Ethnolinguistic fractionalization seems now to reduce the likelihood of plurality rule, but it is robust only in two specifications.

Table 11 measures the electoral system using the effective threshold. Columns 1-4 include both autocratic and democratic countries, while columns 5-8 examines only countries that democratized. In addition, columns 1, 2, 5, and 6 include colonial dummies, whereas columns 3, 4, 7, and 8 add legal origin dummies as controls. The effect of initial corruption is unchanged, in that higher corruption levels lead to higher effective thresholds, and hence less proportional systems. Larger countries are also associated with less proportional systems, though this result is not as robust when the sample size is restricted in columns 5-6. Furthermore, Socialist legal origin also increases the effective threshold, though only when regional dummies are included.

Finally, Table 12 presents the estimates of the effect of initial corruption on subsequent district magnitude. As in Table 11, columns 1-4 include both autocratic and democratic countries, while columns 5-8 examines only countries that democratized. Also, columns 1, 2, 5, and 6 include colonial dummies, whereas columns 3, 4, 7, and 8 add legal origin dummies as controls. Once again, corruption is found to have impact on the size of districts. In fact, the only significant variable is the log of population, which results in smaller district sizes. Its effect, however, is mostly insignificant when the sample size is reduced.

Overall, the results do suggest that there is a relationship between the degree of corruption in a country and the choice of electoral rules. Countries where corruption is more widespread appear more likely to choose a plurality system than PR or mixed, despite the fact that under plurality rule, politicians are directly held accountable to voters, while under PR systems, they are less accountable. This could suggest that these countries are selecting their electoral system so as to combat corruption. However, as Aghion et al. (2004) and Myerson (1993) argue, plurality systems are also more insulated, so more corrupt regimes may prefer to keep the barriers to entry high so as to reduce competition, rather than having it harder to be held accountable. This means that their motives for selecting plurality could also be to maximize opportunities for corruption.

The results provide no definite answer as to the motive. However, as seen on Table 1, which shows the corruption perception index by electoral system in 2001, countries with a plurality system remained the most corrupt on average. In fact, corruption on average seemed to have remained the same in countries with plurality rule, while in countries with a PR system it decreased. This provides some suggestion that the reason why countries where corruption was more widespread selected a plurality system was because it allowed them to continue enjoying rents from corruption.

5. Conclusion

Recent studies have begun to address the issue of how the choice of electoral system influences the degree of perceived corruption in a country. But if the type of electoral system affects corruption, then electoral rules could be strategically chosen to maximize opportunities for corruption. This paper, then, asked whether more corrupt countries are more likely to adopt

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proportional or plurality systems. Proportional systems have been found to be more corrupt, as it is harder to punish politicians. However, plurality systems and small district magnitudes have higher barriers to entry, which allows for corruption profits, something not possible under proportional representation. It is hence theoretically unclear what type of electoral rule countries that are more corrupt would adopt.

Using the recent wave of democratization and the adoption of electoral systems to analyze the choice of electoral rules, this paper found that more corrupt countries are more likely to adopt a plurality system than less corrupt ones, which supports the barriers-to-entry argument. These findings were robust to various specifications and the use of a different dataset on electoral systems. Corruption, however, seems to have no effect on the size of districts. It is clear, then, that how corrupt a country is at the time it is selecting its electoral rules does in fact affect what system is ultimately adopted, meaning that electoral rules are endogenous. Given the adverse effects corruption has on a country's development, taking it into account when examining the choice of institutions is important in helping devise more effective development strategies.

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Table 1: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max
		PR						**Mixed**		
Initial Corruption	18	3.056	0.924	2	5	11	3.455	0.820	2	4
Final Corruption	18	2.589	1.021	0.600	4	9	3.444	1.014	2	5
ELF	18	0.497	0.231	0.107	0.897	11	0.437	0.247	0.064	0.871
Log of Population	18	15.507	1.119	12.996	17.443	11	16.004	1.244	14.931	18.792
Log of GDP per capita	18	0.359	1.156	-1.912	2.080	11	0.103	0.919	-1.062	1.504
British Colonial Origin	18	0.056	0.236	0	1	11	0	0	0	0
French Colonial Origin	18	0.056	0.236	0	1	11	0.182	0.405	0	1
British Legal Origin	18	0.167	0.383	0	1	11	0	0	0	0
Socialist Legal Origin	18	0.389	0.502	0	1	11	0.818	0.405	0	1
		Plurality								
Initial Corruption	21	4.111	1.050	2	6					
Final Corruption	17	4.112	0.652	3	5					
ELF	21	0.544	0.301	0.011	0.922					
Log of Population	21	16.620	1.338	14.093	18.713					
Log of GDP per capita	21	-0.675	0.928	-2.270	1.200					
British Colonial Origin	21	0.286	0.463	0	1					
French Colonial Origin	21	0.333	0.483	0	1					
British Legal Origin	21	0.286	0.463	0	1					
Socialist Legal Origin	21	0.286	0.463	0	1					

Note: ELF denotes ethnolinguistic fractionalization. Initial corruption is the ICRG corruption perception index from 1984, while final corruption is the ICRG corruption perception index from 2001.

Table 2: Baseline Results

	(1)	(2)	(3)	(4)
Corruption	0.668***	0.570**	0.744***	0.984***
	(0.239)	(0.235)	(0.269)	(0.376)
ELF	-0.263	0.411	-0.425	0.734
	(0.845)	(1.180)	(1.008)	(1.199)
Log Population	0.178	0.241	0.184	0.308
	(0.187)	(0.219)	(0.186)	(0.260)
Log GDP per capita	-0.216	0.017	-0.423*	-0.071
	(0.272)	(0.320)	(0.229)	(0.299)
British Colonial Origin	1.398*	1.176		
	(0.793)	(0.807)		
French Colonial Origin	1.309**	1.263*		
	(0.607)	(0.656)		
British Legal Origin			-0.538	-1.391
			(0.675)	(0.887)
Socialist Legal Origin			-0.684	-2.078**
			(0.583)	(0.857)
Regional dummies?		Yes		Yes
Observations	50	50	50	50
Log Likelihood	-21.0226	-19.0240	-23.7683	-19.1034
Pseudo-R squared	0.3820	0.4407	0.3012	0.4384
% correctly predicted	80.00	86.00	80.00	84.00
Marginal Effects				
Corruption	0.261	0.214	0.290	0.370
ELF	-0.103	0.154	-0.166	0.277
Log Population	0.069	0.090	0.072	0.116
Log GDP per capita	-0.084	0.006	-0.165	-0.027
British Colonial Origin	0.498	0.442		
French Colonial Origin	0.481	0.472		
British Legal Origin			-0.197	-0.395
Socialist Legal Origin			-0.259	-0.651

Note: Heteroskedasticity-consistent standard errors are in parenthesis. * denotes significance at the 10% level; ** at the 5 % level; and *** at the 1 % level. Regional dummies are for Latin America and Caribbean, Asia, and Africa. ELF denotes ethnolinguistic fractionalization in 1985. Columns are probit regressions measuring the probability of having a plurality system over PR or mixed in 2002.

Table 3: Plurality vs. Mixed vs. PR, Multinomial Logit Results

	(1)		(2)		(3)		(4)	
	Mixed	Plurality	Mixed	Plurality	Mixed	Plurality	Mixed	Plurality
Corruption	1.309***	2.126***	0.950*	1.652**	0.796	1.778***	1.507**	2.476**
	(0.506)	(0.739)	(0.549)	(0.657)	(0.617)	(0.666)	(0.769)	(1.164)
ELF	-4.963*	-4.448	-1.738	-0.387	-0.736	-1.250	-3.164	0.119
	(2.824)	(2.844)	(4.171)	(3.853)	(2.877)	(2.052)	(4.977)	(3.595)
Log Population	0.579	0.707	1.103	1.452	0.667*	0.706*	1.295	1.673
	(0.387)	(0.458)	(0.794)	(0.966)	(0.388)	(0.409)	(1.134)	(1.288)
Log GDP per capita	-0.457	-0.673	0.333	0.530	-0.599	-0.937**	0.621	0.456
	(0.545)	(0.715)	(0.921)	(1.047)	(0.494)	(0.476)	(1.129)	(0.929)
British Colonial Origin	-33.68***	1.844	-35.98***	0.307				
	(1.554)	(1.999)	(1.487)	(1.872)				
French Colonial Origin	2.491	4.115**	2.051	3.520*				
	(1.629)	(1.834)	(1.492)	(1.834)				
British Legal Origin					-36.89***	-2.228	-46.96***	-4.672*
					(1.368)	(1.509)	(2.206)	(2.560)
Socialist Legal Origin					1.970**	-0.344	38.313*	16.288
					(0.936)	(1.365)	(21.110)	(10.267)
Regional dummies?			Yes				Yes	
Observations	50		50		50		50	
Log Likelihood	-35.3914		-29.4404		-36.3752		-25.8930	
Pseudo-R squared	0.3355		0.4473		0.3171		0.5139	
% correctly predicted	68.00		76.00		68.00		78.00	

Note: Robust standard errors are adjusted for clustering on country. Reference category is PR. * denotes significance at the 10% level; ** at the 5 % level; and *** at the 1 % level. Regional dummies are for Latin America and Caribbean, Asia, and Africa. ELF denotes ethnolinguistic fractionalization. All regressions include year fixed effects.

Table 4: Plurality vs. PR vs. Mixed, Ordered Probit Results

	(1)	(2)	(3)	(4)
Corruption	0.753***	0.619***	0.685***	0.884***
	(0.224)	(0.218)	(0.198)	(0.252)
ELF	-1.260	-0.627	-0.613	-1.008
	(0.905)	(1.112)	(0.869)	(1.210)
Log Population	0.223	0.303*	0.234	0.341*
	(0.141)	(0.174)	(0.143)	(0.199)
Log GDP per capita	-0.246	0.040	-0.468**	0.008
	(0.231)	(0.296)	(0.201)	(0.293)
British Colonial Origin	1.188	0.978		
	(0.893)	(0.941)		
French Colonial Origin	1.489**	1.397**		
	(0.591)	(0.639)		
British Legal Origin			-0.609	-1.430*
			(0.656)	(0.738)
Socialist Legal Origin			-0.118	-1.234
			(0.506)	(0.763)
Regional dummies?		Yes		Yes
Observations	50	50	50	50
Log Likelihood	-37.7706	-33.6305	-41.5619	-34.2578
Pseudo-R squared	0.2909	0.3686	0.2197	0.3568
% correctly predicted	64.00	68.00	60.00	68.00
Marginal effects				
PR				
Corruption	-0.237	-0.204	-0.235	-0.286
ELF	0.397	0.207	0.210	0.327
Log Population	-0.070	-0.100	-0.080	-0.111
Log GDP per capita	0.077	-0.013	0.161	-0.003
British Colonial Origin	-0.258	-0.244		
French Colonial Origin	-0.319	-0.327		
British Legal Origin			0.225	0.518
Socialist Legal Origin			0.041	0.401
Mixed				
Corruption	-0.058	-0.024	-0.031	-0.043
ELF	0.097	0.025	0.028	0.049
Log Population	-0.017	-0.012	-0.011	-0.017
Log GDP per capita	0.019	-0.002	0.021	0.000
British Colonial Origin	-0.178	-0.131		
French Colonial Origin	-0.209	-0.188		
British Legal Origin			-0.006	-0.123
Socialist Legal Origin			0.005	0.024
Plurality				
Corruption	0.295	0.229	0.266	0.329
ELF	-0.495	-0.232	-0.238	-0.376
Log Population	0.088	0.112	0.091	0.127
Log GDP per capita	-0.096	0.015	-0.182	0.003
British Colonial Origin	0.436	0.375		
French Colonial Origin	0.528	0.515		
British Legal Origin			-0.219	-0.394
Socialist Legal Origin			-0.046	-0.425

Note: Heteroskedasticity-consistent standard errors are in parenthesis. * denotes significance at the 10% level; ** at the 5 % level; and *** at the 1 % level. Regional dummies are for Latin America and Caribbean, Asia, and Africa. ELF denotes ethnolinguistic fractionalization in 1985. Columns are ordered probit regressions. Dependent variable is 0 if the electoral system in 2002 was PR; 1 if mixed; and 2 if plurality.

Table 5: Effective Threshold Results

	(1)	(2)	(3)	(4)
Corruption	4.561**	3.411	4.872***	3.515*
	(1.749)	(2.208)	(1.646)	(1.982)
ELF	-2.077	0.015	2.211	-0.635
	(8.624)	(9.375)	(8.268)	(8.409)
Log Population	1.087	1.271	1.791	2.635
	(1.760)	(1.452)	(1.923)	(1.647)
Log GDP per capita	-5.777**	-4.077	-6.212***	-4.051*
	(2.365)	(2.650)	(2.247)	(2.334)
British Colonial Origin	2.987	2.599		
	(6.052)	(7.858)		
French Colonial Origin	-2.385	-3.864		
	(5.927)	(7.327)		
French Legal Origin			-2.907	0.446
			(5.512)	(6.756)
Socialist Legal Origin			3.392	18.071**
			(4.649)	(6.763)
Regional dummies?		Yes		Yes
Observations	48	48	48	48
R-squared	0.3823	0.4526	0.3886	0.5295
Log Likelihood	-187.9325	-185.0341	-187.6889	-181.4000

Note: Heteroskedasticity-consistent standard errors are in parenthesis. * denotes significance at the 10% level; ** at the 5 % level; and *** at the 1 % level. Regional dummies are for Latin America and Caribbean, Asia, and Africa. ELF denotes ethnolinguistic fractionalization in 1985.

Table 6: Average District Magnitude Results

	(1)	(2)	(3)	(4)
Corruption	-2.706	0.953	-4.055	0.451
	(4.545)	(4.423)	(4.587)	(4.711)
ELF	14.553	6.579	12.591	2.829
	(15.362)	(21.365)	(13.036)	(16.075)
Log Population	6.554	6.199	5.808	4.741
	(5.997)	(4.663)	(5.859)	(5.183)
Log GDP per capita	9.734	7.093	9.477*	7.545
	(6.199)	(7.381)	(5.554)	(7.493)
British Colonial Origin	-18.976*	-20.178		
	(10.380)	(12.145)		
French Colonial Origin	-3.669	-0.638		
	(8.642)	(11.038)		
French Legal Origin			11.104	-0.056
			(14.446)	(14.058)
Socialist Legal Origin			17.703	-3.856
			(11.465)	(7.291)
Regional dummies?		Yes		Yes
Observations	48	48	48	48
R-squared	0.1288	0.2971	0.1507	0.2664
Log Likelihood	-234.1615	-229.0075	-233.5495	-230.0359

Note: Heteroskedasticity-consistent standard errors are in parenthesis. * denotes significance at the 10% level; ** at the 5 % level; and *** at the 1 % level. Regional dummies are for Latin America and Caribbean, Asia, and Africa. ELF denotes ethnolinguistic fractionalization in 1985.

Table 7: Democratic Sample, Plurality vs. PR vs. Mixed, Ordered Probit Results

	(1)	(2)	(3)
Corruption	0.545**	0.573*	0.483**
	(0.231)	(0.313)	(0.209)
ELF	-1.400	-1.367	-0.666
	(1.266)	(1.412)	(1.247)
Log Population	0.179	0.218	0.230
	(0.193)	(0.199)	(0.177)
Log GDP per capita	-0.529*	-0.454	-0.651**
	(0.282)	(0.448)	(0.284)
British Colonial Origin	8.822***	9.596***	
	(0.837)	(1.217)	
French Colonial Origin	1.247	1.532	
	(0.793)	(1.001)	
British Legal Origin			9.228***
			(0.650)
Socialist Legal Origin			0.643
			(0.527)
Regional dummies?		Yes	
Observations	29	29	29
Log Likelihood	-19.3870	-17.1910	-19.5347
Pseudo R2	0.3753	0.4461	0.3706
% correctly predicted	79.31	75.86	72.41
Marginal Effects			
PR			
Corruption	-0.112	-0.120	-0.067
ELF	0.287	0.287	0.092
Log Population	-0.037	-0.046	-0.032
Log GDP per capita	0.109	0.095	0.091
British Colonial Origin	-0.405	-0.444	
French Colonial Origin	-0.133	-0.147	
British Legal Origin			-0.429
Socialist Legal Origin			-0.092
Mixed			
Corruption	-0.104	-0.098	-0.123
ELF	0.266	0.234	0.169
Log Population	-0.034	-0.037	-0.058
Log GDP per capita	0.101	0.078	0.166
British Colonial Origin	-0.447	-0.457	
French Colonial Origin	-0.302	-0.380	
British Legal Origin			-0.437
Socialist Legal Origin			-0.157
Plurality			
Corruption	0.216	0.219	0.190
ELF	-0.554	-0.522	-0.262
Log Population	0.071	0.083	0.090
Log GDP per capita	-0.209	-0.173	-0.256
British Colonial Origin	0.852	0.902	
French Colonial Origin	0.435	0.527	
British Legal Origin			0.866
Socialist Legal Origin			0.249

Note: Heteroskedasticity-consistent standard errors are in parenthesis. * denotes significance at the 10% level; ** at the 5 % level; and *** at the 1 % level. Regional dummies are for Latin America and Caribbean, Asia, and Africa. ELF denotes ethnolinguistic fractionalization in 1985. Columns are ordered probit regressions. Dependent variable is 0 if the electoral system in 2002 was PR; 1 if mixed; and 2 if plurality.

Table 8: Democratic Sample, Effective Threshold

	(1)	(2)	(3)	(4)
Corruption	3.664**	1.867	3.708**	4.501*
	(1.705)	(2.691)	(1.739)	(2.278)
ELF	-1.931	-2.254	-1.278	-7.095
	(6.550)	(7.069)	(6.583)	(8.965)
Log Population	0.359	-0.292	-1.127	-1.046
	(1.951)	(1.270)	(1.536)	(1.411)
Log GDP per capita	-5.321*	-0.063	-4.845	1.256
	(2.760)	(2.713)	(2.867)	(2.665)
British Colonial Origin	13.128*	14.886		
	(6.603)	(16.059)		
French Colonial Origin	14.297***	15.716		
	(4.948)	(10.755)		
French Legal Origin			7.915	2.546
			(6.112)	(9.541)
Socialist Legal Origin			-8.661	-0.028
			(5.232)	(9.608)
Regional dummies?		Yes		Yes
Observations	29	29	29	29
R-squared	0.5982	0.7824	0.5837	0.7398
Log Likelihood	-106.1496	-97.2560	-106.6617	-99.8474

Note: Heteroskedasticity-consistent standard errors are in parenthesis. * denotes significance at the 10% level; ** at the 5 % level; and *** at the 1 % level. Regional dummies are for Latin America and Caribbean, Asia, and Africa. ELF denotes ethnolinguistic fractionalization in 1985.

Table 9: Democratic Sample, Average District Magnitude

	(1)	(2)	(3)	(4)
Corruption	-2.867	-5.322	-2.060	-0.270
	(6.350)	(11.957)	(6.379)	(8.661)
ELF	-5.794	14.699	6.988	12.412
	(23.536)	(25.098)	(18.342)	(18.063)
Log Population	9.428	13.584**	16.675***	18.201***
	(7.965)	(5.478)	(4.890)	(3.866)
Log GDP per capita	9.778	-7.642	3.345	-8.394
	(8.391)	(12.575)	(6.781)	(10.738)
British Colonial Origin	-19.822	1.043		
	(18.817)	(38.071)		
French Colonial Origin	-16.565	9.502		
	(11.475)	(24.342)		
French Legal Origin			-20.579	-12.504
			(16.863)	(18.011)
Socialist Legal Origin			50.333***	61.443***
			(15.895)	(20.855)
Regional dummies?		Yes		Yes
Observations	29	29	29	29
R-squared	0.1543	0.4260	0.3890	0.4873
Log Likelihood	-145.5868	-139.9664	-140.8723	-138.3300

Note: Heteroskedasticity-consistent standard errors are in parenthesis. * denotes significance at the 10% level; ** at the 5 % level; and *** at the 1 % level. Regional dummies are for Latin America and Caribbean, Asia, and Africa. ELF denotes ethnolinguistic fractionalization in 1985.

Table 10: Golder Dataset, Plurality vs. PR and Mixed, Ordered Probit Results

	(1)	(2)	(3)	(4)	(5)	(6)
	Autocratic and Democratic countries				Democratic Countries	
Corruption	0.440**	0.558***	0.659***	0.762***	0.678***	0.842***
	(0.210)	(0.212)	(0.213)	(0.221)	(0.217)	(0.284)
ELF	-0.867	-1.519	-1.269	-1.993**	-1.225	-2.656**
	(0.877)	(0.995)	(0.837)	(0.931)	(0.819)	(1.132)
Log Population	0.278*	0.270*	0.238	0.335**	0.227	0.086
	(0.146)	(0.151)	(0.154)	(0.152)	(0.153)	(0.165)
Log GDP per capita	-0.222	-0.137	-0.362	-0.190	-0.335	-0.148
	(0.286)	(0.322)	(0.285)	(0.338)	(0.291)	(0.383)
British Colonial Origin	0.571	0.135			2.990**	
	(0.699)	(0.626)			(1.329)	
French Colonial Origin	9.874***	8.579***			10.811***	
	(0.648)	(0.795)			(0.946)	
British Legal Origin			0.857	0.409		1.650
			(0.711)	(0.875)		(1.299)
Socialist Legal Origin			0.483	1.582**		-0.212
			(0.433)	(0.756)		(0.442)
Regional dummies?		Yes		Yes		
Observations	39	39	39	39	30	30
Log Likelihood	-25.6695	-24.5377	-27.1847	-24.9395	-17.3753	-20.9991
Pseudo R2	0.3164	0.3466	0.2761	0.3359	0.4274	0.3079
% correctly predicted	62.50	62.50	62.50	65	77.42	67.74
Marginal Effects						
PR						
Corruption	-0.164	-0.208	-0.262	-0.304	-0.283	-0.330
ELF	0.323	0.566	0.505	0.795	1.020	1.041
Log Population	-0.103	-0.101	-0.095	-0.133	-0.063	-0.034
Log GDP per capita	0.083	0.051	0.144	0.076	-0.067	0.058
British Colonial Origin	-0.192	-0.049			-0.309	
French Colonial Origin	-0.553	-0.528			-0.469	
British Legal Origin			-0.327	-0.161		-0.460
Socialist Legal Origin			-0.191	-0.568		0.083
Mixed						
Corruption	0.091	0.134	0.193	0.247	0.094	0.196
ELF	-0.180	-0.364	-0.372	-0.647	-0.337	-0.617
Log Population	0.058	0.065	0.070	0.109	0.021	0.020
Log GDP per capita	-0.046	-0.033	-0.106	-0.062	0.022	-0.034
British Colonial Origin	0.071	0.030			-0.556	
French Colonial Origin	-0.414	-0.445			-0.503	
British Legal Origin			0.192	0.123		-0.013
Socialist Legal Origin			0.136	0.390		-0.049
Plurality						
Corruption	0.073	0.074	0.069	0.057	0.190	0.134
ELF	-0.143	-0.202	-0.133	-0.148	-0.683	-0.424
Log Population	0.046	0.036	0.025	0.025	0.042	0.014
Log GDP per capita	-0.037	-0.018	-0.038	-0.014	0.045	-0.024
British Colonial Origin	0.121	0.019			0.865	
French Colonial Origin	0.967	0.973			0.973	
British Legal Origin			0.135	0.038		0.473
Socialist Legal Origin			0.055	0.178		-0.034

Note: Heteroskedasticity-consistent standard errors are in parenthesis. * denotes significance at the 10% level; ** at the 5 % level; and *** at the 1 % level. Regional dummies are for Latin America and Caribbean, Asia, and Africa. ELF denotes ethnolinguistic fractionalization in 1985. Dependent variable is 0 if the electoral system in 2002 was PR; 1 if mixed; and 2 if plurality.

Table 11: Golder Dataset, Effective Threshold

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Autocratic and Democratic Countries				Democratic Countries			
Corruption	5.159***	5.552**	5.032***	6.086***	5.369*	6.309	4.855*	5.598*
	(1.736)	(2.271)	(1.778)	(2.121)	(2.880)	(4.559)	(2.696)	(3.082)
ELF	-7.374	-10.701	-6.235	-7.795	-19.029*	-23.569	-16.319	-17.047
	(8.076)	(12.525)	(8.114)	(10.538)	(10.373)	(18.369)	(9.896)	(12.679)
Log Population	3.152*	2.999	3.332**	4.584***	3.130	2.526	2.553	3.872*
	(1.640)	(1.770)	(1.499)	(1.332)	(2.071)	(2.185)	(2.084)	(2.175)
Log GDP per capita	0.690	1.554	0.475	3.161	1.980	3.527	1.842	3.748
	(3.419)	(3.893)	(3.300)	(3.605)	(4.112)	(5.493)	(4.512)	(5.467)
British Colonial Origin	-3.055	-5.302			11.073	-1.963		
	(6.645)	(6.411)			(11.213)	(18.112)		
French Colonial Origin	-0.175	-3.055			2.467	-7.758		
	(6.334)	(8.673)			(7.163)	(18.041)		
French Legal Origin			-2.632	0.520			4.557	0.856
			(5.601)	(8.156)			(9.828)	(7.539)
Socialist Legal Origin			1.627	28.820***			-3.615	20.538*
			(5.191)	(10.329)			(5.799)	(10.909)
Regional dummies?		Yes		Yes		Yes		Yes
Observations	39	39	39	39	30	30	30	30
R-squared	0.2788	0.2928	0.2823	0.4064	0.2896	0.3233	0.2761	0.3531
Log Likelihood	-154.4682	-154.0864	-154.3713	-150.6717	-118.9083	-118.1796	-119.1911	-117.5042

Note: Heteroskedasticity-consistent standard errors are in parenthesis. * denotes significance at the 10% level; ** at the 5 % level; and *** at the 1 % level. Regional dummies are for Latin America and Caribbean, Asia, and Africa. ELF denotes ethnolinguistic fractionalization in 1985.

Table 12: Golder Dataset, Average District Magnitude

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Autocratic and Democratic Countries				Democratic Countries			
Corruption	-8.005	-5.136	-6.749	-7.001	-9.210	-13.665	-9.759	-10.940
	(4.822)	(5.680)	(4.593)	(5.341)	(8.155)	(12.863)	(7.529)	(8.785)
ELF	6.905	-4.562	9.037	1.928	4.432	24.793	11.264	12.890
	(12.670)	(14.817)	(11.405)	(14.114)	(14.520)	(25.478)	(14.899)	(19.740)
Log Population	-4.918*	-5.082*	-3.901*	-5.399**	-5.837	-3.758	-3.589	-5.610*
	(2.785)	(2.538)	(2.169)	(2.571)	(3.690)	(2.921)	(2.619)	(3.183)
Log GDP per capita	-6.033	-8.152	-4.958	-8.069	-8.990	-13.549	-10.100	-13.424
	(5.597)	(8.091)	(6.044)	(8.543)	(7.502)	(12.679)	(8.406)	(12.144)
British Colonial Origin	-3.937	-7.211			0.309	53.894		
	(10.581)	(10.293)			(20.114)	(39.296)		
French Colonial Origin	-6.867	-16.694			-10.492	33.282		
	(13.078)	(21.096)			(18.341)	(45.388)		
French Legal Origin			12.174	2.792			8.197	14.893
			(9.702)	(13.624)			(14.872)	(11.544)
Socialist Legal Origin			14.686	-19.152			18.242	-18.967
			(10.471)	(12.472)			(12.559)	(15.698)
Regional dummies?		Yes		Yes		Yes		Yes
Observations	39	39	39	39	30	30	30	30
R-squared	0.1233	0.2127	0.1642	0.2192	0.1398	0.2306	0.1828	0.2238
Log Likelihood	-186.2584	-184.1599	-185.3257	-183.9986	-145.1761	-143.5020	-144.4059	-143.6349

Note: Heteroskedasticity-consistent standard errors are in parenthesis. * denotes significance at the 10% level; ** at the 5 % level; and *** at the 1 % level. Regional dummies are for Latin America and Caribbean, Asia, and Africa. ELF denotes ethnolinguistic fractionalization in 1985.

Appendix Table 1: Countries Without Electoral System in 1984

Albania*	Haiti*	Slovak Republic*
Argentina*	Jordan	Slovenia*
Armenia*	Kazakhstan	Sri Lanka
Azerbaijan	Kyrgyz Republic	Sudan
Bangladesh*	Latvia*	Suriname
Bulgaria*	Lebanon	Syria
Burkina Faso	Liberia	Tajikistan
Chile*	Lithuania*	Tanzania*
Croatia*	Macedonia*	Togo*
Czech Republic*	Madagascar*	Turkmenistan
Estonia*	Moldova*	Uganda
Ethiopia*	Mozambique*	Ukraine*
Gabon	Namibia	Uruguay*
Georgia*	Nicaragua*	Uzbekistan
Ghana*	Nigeria*	Vietnam
Guatemala*	Philippines*	Yemen, Rep.
Guinea	Russian Federation*	

Note: * denotes countries that democratized as well. All countries started with no electoral system only to adopt one during the period 1984-2004. Sample of countries is based on the DPI2004 dataset.