

Democracy Depraved.  
Corruption and Institutional Change 1985–2004\*

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# Democracy Depraved.

## Corruption and Institutional Change 1985 - 2004

This paper examines how political corruption is related to institutional transition. The assumption is that the choice executives make when favouring private patronage over public goods provision, has ramifications for the stability of the political system. We argue that widespread private distribution in the public sphere strengthens the incumbent position, block the opposition's access to power and alleviate popular pressure on the elite to concede democracy. Using a multinomial logit model, we estimate the probabilities of institutional change towards democracy and towards autocracy relative to no change, as functions of corruption and a set of control variables. Corroborating the above argument we find that corruption substantially reduces the likelihood of transition towards democracy and makes autocratic and inconsistent polities more persistent to change. We also estimate a Markov chain model that takes into account the reciprocal relationship between democracy and corruption. We find that democracy reduces corruption in high-income countries, but not in low- and middle-income countries. For all other income and institutional type combinations, the effect of corruption on political system seems stronger than the impact of system on levels of corruption.

## 1. Introduction

Corruption is considered as one of the hallmarks of bad governance (LaPorta et al, 1999; Keefer, 2004, Kaufmann et al 2006). Associated with poor leadership, state weakness and illegitimate rule it is common to draw the line from corruption to deteriorating state authority and factionalized politics. However, against the background of a general trend towards democratization, the anomalous stability of some of the world's most corrupt political systems casts arguments about such simple causality into doubt. Political regimes, particularly in Africa and South East Asia, notoriously known for the private appropriation of public assets for rulers and their kin, have proved themselves remarkably resistant to pressures for political liberalization (Acemoglu et al 2004). Transactions between office holders and private actors, through which collective goods are illegitimately converted into private pay-offs, seem in these cases to have advanced the agenda of political leaders who wish to maximize their own hold on power.

In this paper we address the question whether political corruption stifles the emergence of stable democracy. The large economic literature on corruption focuses on the economic distortions caused by misallocation of resources and talent. Here we concentrate on the way political corruption, as a mode of exercising state authority, interfere with the workings of the formal political institutions. In short, we make a case for how political corruption, i.e. a politically motivated distribution of material inducements, advantages, and spoils, can be utilized for the purpose of maintaining and preserving power in autocratic systems. By compensating groups for their exclusion from formal power, corruption substitutes for political concessions. As a consequence, graft combines with autocratic institutional traits in a viable equilibrium. Also in inconsistent regimes, political corruption shifts the *de facto* allocation of power in favor of the elite, thus making the system more resistant to political change. The institutional weakness of such systems leads large segments of the citizenry to reward politicians that use private, rather than public distribution, even though this is the more wasteful economic equilibrium.

We test these arguments on a global, cross-sectional time series dataset, covering the years 1985 to 2004. Using a multinomial logit model, we estimate the probability of institutional change towards democracy and towards autocracy, relative to

no change, as a function of corruption and a broad range of control variables. We find that corruption substantially reduces the likelihood of transition towards democracy. We take into account the possibly endogenous relationship between political institutions and corruption by estimating the probabilities of transitions between different combinations of institutional types and corruption levels. These ‘Markov chain’ regressions suggest that corruption makes autocratic and inconsistent polities more persistent to institutional change. We also find that democracy reduces corruption in high-income countries, but not in low- and middle-income countries. For all other income and institutional combinations, the effect of corruption on political system seems stronger than the impact of system on levels of corruption.

## 2. Theory Section

### 2.1 Political Corruption as an institution for redistribution

A standard definition of political corruption in political science is that it involves transactions between public and private sector actors through which collective goods are illegitimately converted into private pay-offs (Heidenheimer et al. 1993). Political corruption is defined by the involvement of high-level political officers, motivated by financial or political gain. It takes place at the formulation end of politics, where decisions regarding the distribution of public wealth and the rules regulating the access to wealth and power are made (Amundsen, 1999).<sup>1</sup>

It is common to approach political corruption as a principal-agent problem, where corruption is explained through institutional determinants of the citizenry’s (the principal) ability to monitor and hold the politician (i.e. the entrusted agent) accountable (Rose-Ackerman, 1978; Klitgard, 1991; Bardhan 1997). Variations in political corruption is thus explained by how different constitutional arrangements set the ability to sanction corrupt behavior and thus determine the pay-off structure for the individual politician (Rose-Ackerman 1999; Treisman 2000; Gerring and Thacker 2004; Lederman et al 2005). The principal-agent model does, however, suggest few answers as to why corruption

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<sup>1</sup> This sets political corruption apart from bureaucratic or petty corruption, which involves the public administration and takes place at the implementation end of politics.

persists. Two recent empirical studies of the causes of corruption do not find support for a negative relationship between democracy and corruption (Treisman 2000; Serra 2006). Making politicians accountable through popular elections is hence not sufficient to eradicate political corruption. This suggests that the phenomenon is more deeply entrenched into politics, and should be approached as reflecting a purposeful strategy in the exercise of public authority.

We see political corruption as a reflection of the spending decisions of political office-holders, choosing between investment in public goods benefiting all citizens, or spending on selective transfers that provide private pay-offs only to segments of the population. Where political corruption is pervasive it means that politicians favor the supply of private goods over broad institutionalized transfers to advance their political goals (Bueno de Mesquita et al 2003). Office holders might ensure political support by distributing economic benefits; rewarding followers by endorsing their illegitimate expropriation of public resources; or allowing private interests to buy tax breaks, construction contracts or export licenses. The two modes of distribution expend from the same pie: When politicians convert public resources into private pay-offs, they divert resources away from investment into socially optimal outcomes and long-term development. A corrupt system is thus clearly the more wasteful economic equilibrium. The fact that corruption still persists, across different forms of political institutions and over time, suggest that we should see corruption as more than mere ill-practice, but as an informal institution for distribution that serves political aims.

## 2.2 Political Corruption and Institutional change

The formal political institutions of a state are means of allocating current power and regulating future access to power between groups in politics. We perceive of political systems as placed along a continuum, with pure autocracies at one endpoint and a pure democracies at the other. Autocratic systems are characterized by the monopolization of power in the hands of the small elite, with few or no constraints on their policy-making capabilities from competing branches of government or from political channels of popular influence. Democratic systems are characterized by diffuse authority, where the executive branch of government is balanced by an elected parliament and an independent judiciary, and where open elections allow actors alternate in power. In between these end-points lie inconsistent regimes that combine autocratic and democratic traits. These

are often characterized by a discrepancy between the level of political mobilization and the institutional expression of this (cf. Gurr 1974; Gates et al 2006). When examining the impact of the executive's spending choices on political stability, we build on work that sees conflict over institutions as a conflict over patterns of redistribution between the elites and the citizenry (e.g. Boix, 2003; Acemoglu and Robinson 2006). Conflict over distribution of the economic assets of society is central to political change along this continuum.

### *Autocratic political systems*

In autocratic systems a small elite is able to rule without political consent from the majority. The formal institutional arrangements monopolizes power in the executive's hands, and close off channels of political influence for competing groups. The higher the degree of political exclusion, the more stable are the autocratic political institutions, since maintaining the system of governance overlap with the interest of the ones with the institutional means to alter it (Gates et al 2006). Decisions over the distribution of assets are taken to satisfy the interest of the incumbent and his cronies.

Commonly, autocrats rely on political oppression to create compliance to such narrowly based policies (cf. Acemoglu and Robinson 2006; Boix, 2003). However, even though autocratic leaders are able to thwart broad political opposition through repression, few autocrats are able to rule without some cooperation from key segments of the society - particularly from groups controlling important economic assets, such as land owners and owners of firms, and the military. Ghandi and Przeworski (2006) suggest that autocrats can secure economic cooperation from such pivotal groups either through political concessions or through sharing the rents. We assume that wealth sharing is the less costly for the autocrat, since political concessions necessitates institutional frameworks that would imply more permanent transfer of power away from the autocrat (cf. Acemoglu and Robinson 2006).

Political corruption in autocratic systems compensates certain groups for their exclusion from formal sources of political influence. By offering immediate and specific pay-offs incumbents are able to retain allegiance and promise of support through economic inducements. Such targeted transfers co-opt segments of the opposition and

placate pivotal groups (Le Billon, 2003; Snyder, 1992).<sup>2</sup> This assimilation also works where groups controlling wealth are allowed to use this power to buy political decisions that secure them comparative advantages such as export licenses or government contracts (Nye, 1967; Huntington, 1968). Autocrats that pursue such informal networks provide their rule with a semblance of societal foundation, which might be sufficient to fend off some claims for political change. This suggests that there is an element of a consensual equilibrium in corrupt, autocratic systems where the government maintains power by means of placating segments of the opposition through selective transfers (cf. Jackson and Rosberg 1984; Bratton and van de Walle 1997; Charap and Harm; 1999). In this paper we test the merits of this strategy, examining the impact of private distribution on the stability of autocratic systems

Political corruption still redistributes resources away from the median voter, and should not ease the popular demand for democratization. However, a likely consequence of corruption is that citizens lose a key ally in the pursuit of more open political systems: the economically more powerful segments of the society. Acemoglu et al (2004) argue that when relying on selective transfers, rulers exploit the fragility of social cooperation. Corruption vests the interest of some groups in the continuation of the regime, and this strategy of ‘divide and rule’ intensifies collective action problems in organizing large interest groups able to subvert the current system. In an autocratic system where the opposition is deprived of institutional channels to voice and aggregate their preferences, the problem with mobilizing and coordinating groups for collective action might be the most critical barrier to political change (Acemoglu and Robinson 2006). Political corruption might thus be highly efficient in defusing opposition to the regime also outside the immediate range of clients.

To sum up, political corruption alleviates pressures for political reforms, and vests the interests of key segment among the population in the continuation of the current rule. Corruption thus ensures that the exclusionary aspects of the autocratic politics ensue and that the incumbent retains primacy, thus increasing his *de facto* power.

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<sup>2</sup> The potential for political cooptation has particularly been discussed in relation to rentier economies. Resource rents are argued to be an impediment to political liberalization and democratic consolidation, as it allows rulers the financial means to relieve pressure for democratization by buying political support (See Wantchekon 1999; Ross 2001; Jensen & Wantchekon 2004; Smith 2004). A key aspect of this mechanism is elite discretion over the management of public resources.

### *Inconsistent political systems*

Inconsistent regimes combine autocratic and democratic traits, and are commonly characterized by a discrepancy between the level of political mobilization among the citizenry and the institutionalized expression of such popular influence. The incumbent in such systems faces constraints on his power, either from competing branches of government or from the franchised. The *de jure* allocation of power in the formal institutions is not sufficiently concentrated to allow the government to set policies unilaterally, nor is it sufficiently diffuse to ensure that the democratic procedures for aggregating individual preferences to socially optimal outcomes are not subverted. The bargaining over the allocation of political power and resources are hence expected to be particularly intense, and inconsistent political systems are inherently unstable (Huntington 1968; Gurr 1974; Gates et al. 2006).

We suggest that political corruption will affect the *de facto* distribution of power in inconsistent regimes so as to increase the leverage of the incumbency vis-à-vis other political actors. The consequence might be to render the system less susceptible to political change. This argument hinges on two assumptions: first, that political corruption in weakly institutionalized politics translates into an incumbency advantage; and second, that segments among the citizenry might reward the corrupt politicians, because the credibility of political promises for future institutionalized distribution is undermined by the weakness of the formal institutions, whereas corruption offers immediate and specific pay-offs.

In inconsistent regimes the opposition has access to some formal channels of political power, either through popular elections or through parliaments. But corrupt practices sidestep these formal political channels and rest on the discretionary power of the office holder. They thus create new informal institutions for the negotiation of rights and privileges, where the incumbent has two major advantages. First, the incumbent has an informational advantage relative to political opponents, since such private allocation evades transparency and accountability. Second, the incumbent's discretion over public revenue implies that political opponents will encounter a commitment problem if they try to rally support by promising such private rewards. Since corruption involves private, and hence exclusive pay-offs, the political opposition can only promise such benefits to groups upon taking office, i.e. in a probabilistic manner (Bueno de Mesquita et al 2003). Political corruption in such semi-democratic systems might hence not only secure the



incumbent a powerful alliance, as discussed above, but might also favor the incumbent vis-à-vis political opponents (Bueno de Mesquita et al., 2003; Wantchekon, 2002).

But if political corruption is private predation on public resources, would not the citizenry revolt against such practices and instead reward the politicians that compete by promising public transfers that satisfy the median voter? This is the more likely scenario only where the formal institutions allows politicians the ability to credibly commit to sticking with their promises. In weakly institutionalized systems, the citizenry know that politicians could more easily renege on such promises of institutionalized transfers. This makes it politically rewarding for the elite to resort to private distribution that yields immediate and specific pay-offs to its clients, even though it might be the less socially optimal outcome in the long run (cf. Englebert 2000). This might trap inconsistent regimes in an equilibrium where a number of individuals derive so significant economic benefits from their association with their patrons that their incentives to press for more accountable political institutions are small (Keefer and Vlancy, 2004; Keefer 2005). In weakly institutionalized politics the ruler's reliance on private distribution will thus crowd out more accountable political actors. Political corruption therefore persists and stifles the emergence of more democratic institutions.

Inconsistent regimes might also be destabilized by the elites, and revert to more autocratic rule. This could be the consequence of the increased pressures for redistribution that follows from the increased bargaining power of the citizenry in such semi-democratic systems (cf. Boix, 2003). However, political corruption is likely to work to compensate the economic elites for the increased pressure for redistribution, and facilitate the elite's redistribution to themselves. This could make the redistributive consequences of the system more tolerable for the elites, and render the inconsistent regimes more resistant to pressure from elites to restrict popular influence and move towards more autocratic rule.

### *Democratic political systems*

Political corruption always implies a redistribution of resources away from the median voter. There should be strong incentives for the citizenry to monitor and sanction corrupt behavior. Whether this is successful, depends both on the formal institutions, and on whether they have a sufficiently strong societal and institutional base from which to engage in politics. The above argument suggested that segments of the

citizenry might still prefer private distribution in a situation where politicians cannot be held accountable to their promises, even though this is not the socially optimal equilibrium. In democratic systems, where scheduled and free elections, checks on the executive authority, and open executive recruitment help bind politicians to their promises, private transfers should be far less politically rewarding. Political corruption should thus be rare in consolidated democracies.

If democracies are destabilized, it is not by the citizenry's quest for more egalitarian political institutions, but by economic elites that resist the increased pressures for redistribution that accompanies democratic rule. Boix (2003) suggests that the cost of tolerating a mass democracy is highest for those holding immobile assets, such as land. The process of economic development is a shift from highly immobile, fixed assets to progressively more mobile capital. Hence, the economic elites in the poor democracies, faced with no exit options for their capital, in the face of increased taxation, have the strongest incentives to attempt to revert the democratic systems. This suggests that the effect of political corruption in democracies might be conditioned by the level of economic development. Among the poor democracies, the presence of political corruption indicates that the economic elites use political offices to redistribute to themselves.<sup>3</sup> To the extent that this reduces the cost of tolerating mass democracy for the elites, political corruption renders these systems more stable. Among the rich democracies, where capital is more mobile, the redistributive pressures through taxation will be lower, and there are weaker incentives for the elites to compensate themselves through corruption. Hence, we expect low-income democracies to be more stable with political corruption than without.

#### *The empirical implications of the argument*

The empirical implications of the argument are derived and tested at different levels. First, we have argued that political corruption stifles democratization in both autocratic and inconsistent political systems. Thus, on an aggregate level we expect the amount of political corruption to be inversely related to the probability of transitions towards democracy. Second, while we expect both autocratic and inconsistent regimes to

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<sup>3</sup> We credit Jan Teorell for suggesting this point.

be more stable with corruption than without, we expect this effect of corruption to be particularly profound in inconsistent regimes. In such systems, the internal inconsistency of the formal institutions renders the regimes inherently unstable without the force of corruption. Third, we expect the effect of corruption in democratic systems to be conditioned by the level of income. In low-income countries, capital is relatively immobile and the citizenry possess few resources to monitor the performance of elected leaders. We expect political corruption to stabilize the system as it means that the elite is compensated for the increased pressures for economic redistribution in democratic systems. Fourth, we expect there to be an element of two-way causality in the relationship between corruption and type of political system. In all systems, corruption redistributes resources away from the median voter. When citizens possess sufficient institutional and societal resources to reduce corruption, they will work to do so. This is most likely to happen in high-income consistent democracies.

### 3 Research Design

To test these empirical implications, we need an empirical model that relates the probabilities of change toward democracy, change toward autocracy, and no change to each other, and specifies these probabilities as functions of corruption and the other explanatory variables of interest. The model should capture relatively fine-grained changes along a measure of democracy, and allow the transition probabilities to be dependent on the initial type of institution.

We use a new measure of democracy developed in Gates et al. (2006), called the Scalar Index of Polities (SIP). The SIP index is based on a three-dimensional conception of democracy – political systems may vary in democraticness in terms of the nature of the recruitment of the executive (e.g. open elections vs. hereditary designation), the extent to which the executive is constrained by other institutions, and the extent of popular participation (cf. Eckstein 1973; Gurr 1974). The data are based on a combination of the Polity index of democracy (Jagers & Gurr, 1995) and the Polyarchy index of Vanhanen (2000). Each of the dimensions are measured on a scale ranging from 0 to 1. Executives that are non-elected according to the Polity project score 0 on the executive dimension, elected executives score 1. We normalize the XCONST indicator to range from 0 to 1. Polities with executives that completely dominant alternative

institutions as captured by Polity's XCONST indicator score 0, whereas polities with parliaments that are at a par with the executive score 1. Finally, the participation component is a log-transformation of a variant of Vanhanen's Polyarchy index, rescaled to range from 0 to 1. Vanhanen codes two indicators: 'Participation' and 'Competition', and combines them by calculating their product. Participation is the percentage of the population that voted in the most recent election. Competition is the percentage of the valid vote won by all parties except the plurality winner or winning electoral alliance.<sup>4</sup>

To model what determines the direction of change, however, it is convenient to condense democracy to one dimension. Our uni-dimensional index is the average of the three sub-indicators for executive recruitment, constraints, and participation. The SIP measure ranges from 0 (a perfect autocracy) to 1 (a perfect democracy). In the estimations, we center the SIP variable by subtracting the mean ( $\mu=0.37$ ) from the score to minimize collinearity problems.

We want to make use of most of the information available in a continuous measure of democracy, and choose a low threshold for coding a change to a country's institutions as either democratization or autocratization. We set this threshold to 0.03 on our democracy scale (which ranges from 0 to 1). Modeling the entire transition matrix between the 33 intervals formed by subdividing the (0,1) index into similar-size segments would be infeasible. Nor is it necessary, since our interest is mainly in whether there was a democratization, an autocratization or no change. We model this as two types of transition: an observation is included as a democratization if the score  $D_t$  at  $t$  is at least 0.03 higher than the score  $D_{t-1}$  at  $t-1$ . Likewise, we code an autocratization if  $D_t \leq D_{t-1} - 0.03$ . In any other case, we code the observation as no change. To compensate for the lack of flexibility in this model relative to the full Markov Chain model, we code a set of covariates modeling the status at  $t-1$  that reflects our a priori knowledge about these transitions:

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<sup>4</sup> We modify Vanhanen's composite measure (Participation \* Competition) slightly. If the percentage of the valid vote won by the plurality winner is less than 70%, we use the Participation component without modification. If the percentage is higher than 70%, we multiply participation by [competition/30%]. This allows us to remove an artificial distinction between proportional representation and majoritarian systems in Vanhanen's original index.

We enter the Democracy index at  $t-1$  and its square term as explanatory variables to model the instability of inconsistent regimes (the midrange of the democracy index). We also know that further democratization is impossible when the country has reached the upper end of the scale and autocratization is impossible at the lower end. We model this by coding indicator variables for whether  $D_{t-1} < 0.06$  (lower end) and  $D_{t-1} > 0.90$  (upper end).

The dependent variable is then whether the present value of the SIP index has changed by a value of more than 0.03 from the previous year, either upwards (democratization) or downwards (autocratization). Around three percent of the country years in the dataset are coded as autocratizations, and four percent are democratizations. These changes are analyzed against the background of an empirical model (developed in Gates et al., 2003) of how changes to political system occur in the absence of civil war. Previous studies (Sanhueza, 1999; Gates et al., 2006) show that political systems that mix democratic and autocratic features are considerably more likely to change than consistent democracies or autocracies. The model accounts for this by including information on the initial political system as a central explanatory variable. The model also includes other variables that have been shown to affect the probability of changes to a political system, such as income levels (Przeworski et al., 2000; Epstein et al., 2006), growth levels and neighborhood and global democracy levels (Gleditsch, 2002).

#### *The Multinomial Logit Model*

We start out with estimating a multinomial logit model (see Greene, 1997: 914--917; StataCorp 2005: 210--211). The multinomial model for the three outcomes ( $j=1$ : autocratization,  $j=2$ : no change,  $j=3$ : democratization) is then:

$$p(Y_i = j) = \frac{e^{\beta_j' x_i}}{\sum_{k=1}^3 e^{\beta_k' x_i}}$$

To identify the model, we set 'no change' as the base outcome and estimate an 'autocratization' and a 'democratization' equation. The probabilities of the three outcomes are given by:

$$p(Y = 1) = \frac{e^{\beta_1'x_i}}{1 + e^{\beta_1'x_i} + e^{\beta_3'x_i}}$$

$$p(Y = 2) = \frac{1}{1 + e^{\beta_1'x_i} + e^{\beta_3'x_i}}$$

$$p(Y = 3) = \frac{e^{\beta_3'x_i}}{1 + e^{\beta_1'x_i} + e^{\beta_3'x_i}}$$

The b estimates also has a direct interpretation in terms of relative probabilities:

$$\frac{p(Y = 1)}{p(Y = 2)} = e^{\beta_1'x_i}$$

and:

$$\frac{p(Y = 3)}{p(Y = 2)} = e^{\beta_3'x_i}$$

The estimates  $b_1$  reported below, then, are interpreted as the impact of the explanatory variable on the probability of democratization relative to no change. The  $b_2$  estimates approximate the probability of autocratization relative to no change.

#### *Explanatory Variables in Transition Model*

Political corruption: The data on political corruption are taken from the International Country Risk Guide (ICRG 2006).<sup>5</sup> No objective data on the extent of corruption exist, and the ICRG annual index of perceived corruption builds on assessments by country experts. While such assessments are by definition “subjective”, different cross-national ratings of corruption tend to be highly correlated with each

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<sup>5</sup> For more information about the data and coding see [www.icrgonline.com](http://www.icrgonline.com). The data is available from [www.countrydata.com](http://www.countrydata.com).

other, across time and with cross-national polls of businessmen's and inhabitants' perception of corruption (Treisman 2000). Furthermore, these assessments have proved to be significant predictors of different aspects of countries' economic performance and citizens' political behavior (ibid; Mauro 1995). The original ICRG corruption index covers 143 countries over the years 1984 to 2006, and has substantially better coverage than other risk ratings such as Transparency International. The corruption index ranges from 0 to 6, where higher numbers indicate that corruption is more widespread. The rating takes into account financial corruption in the form of demands for special payments and bribes, but is "primarily concerned with actual corruption in the form of excessive patronage, nepotism, job reservations or favour-for-favour, secret party funding and suspiciously close ties between politics and business" (ICRG, 2006). The corruption index hence does not primarily measure petty corruption, but the degree to which the process of redistribution is driven by patron-client interests and whether there are widespread practices of private, non-marked accumulation impeding on the domain of public power. The variable was centered and lagged by one year.

Initial SIP democracy score: When used as an explanatory variable, the SIP democracy variable was centered around its mean before estimation and lagged by one year. The lag is necessary to relate the probability of change to the SIP score at time  $t$  to the 'initial' democracy level at  $t-1$ . The centering reduces collinearity problems when squaring the variable.

Initial SIP democracy score squared: The 'initial democracy' variable is squared to model the higher instability of regimes in the intermediate range of the democracy index (cf. Gates et al., 2006; Epstein et al., 2006).

Lagged Upper end: A dummy variable that denotes whether the SIP index last year was higher than .90. The variable accounts for the fact that changes toward democracy are virtually impossible over this level.

Lagged Lower end: A dummy variable that denotes whether the SIP index last year was lower than .06. The variable accounts for the fact that changes toward autocracy are very unlikely under this level.

Lagged SIP 'world pull': The difference between average democracy in the world and the democracy level of the country under observation. If the world is more democratic than the country, the 'world pull' is positive. If the world is less democratic, the 'world pull' is negative. If countries tend to adapt the political systems of their

surroundings, this variable will have a positive estimate in the democratization equation and a negative estimate in the autocratization equation. The variable is lagged by one year.

Lagged SIP ‘neighborhood pull’: The difference between average democracy in the country’s immediate neighborhood and the democracy level of the country under observation. A neighborhood consists of all contiguous countries with either a common border or less than 150 nautical miles of water between them. The variable is lagged by one year.

Lagged GDP per capita: The logarithm with base 2 of constant-dollar GDP per capita. The variable is lagged by one year. We use the logarithm with base 2 to ease interpretation of the results.

Lagged GDP growth: Growth in constant-dollar GDP per capita. The variable is measured as difference in log values. A 0.01 units growth in our measure corresponds to a 1% growth rate. The variable is lagged by one year.

## 4 Results

### *The impact of corruption on the level of democracy*

We report the results of a model designed to test our main argument that corruption stifles the emergence of stable democracy in Table 1.<sup>6</sup> The upper panel in the Table shows the estimated  $b_1$  coefficients for the autocratization equation. The lower panel shows the corresponding  $b_2$  estimates for the democratization equation. The two columns report different model specifications. The results clearly support our main argument; that corruption reduces the probability of democratic transitions. If anything, political corruption tends to increase the probability of an institutional transition towards more autocratic rule.

Before discussing these findings in more detail, we will go through the results for the control variables in the model. Model 1 presents the estimates for a model including all control variables introduced above. Model 2 is a trimmed model, where we have

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<sup>6</sup> Due to limitation in the time series of some of the control variables, the data in this model at this point of time only covers the years 1985- 2000.



removed some insignificant variables. We will primarily refer to the results of this latter model.

*Table 1 Determinants of changes to the SIP democracy index, 1985-2000*

Equation	Variables	Model 1	Model 2	
<i>Autocratization</i>	Constant	-2.95*** (.39)	-2.58*** (.25)	
	Democracy score (c,l)	4.68** (1.86)	2.89*** (.92)	
	Democracy score squared (c,l)	-8.08*** (2.42)	-8.057*** (2.40)	
	Corruption (c,l)	.19 (.14)	.18 (.13)	
	World pull toward democracy (l)	2.42 (1.78)		
	Neighborhood pull toward democracy (l)	-.55 (.63)		
	Log <sub>2</sub> (GDP per capita (c, l)	-.14* (.081)	-.17** (.075)	
	Growth in GDP per capita (l)	-.074*** (.020)	-.073*** (.016)	
	Lower end of democracy index (l)	-1.22 (1.19)	-1.22 (1.19)	
	<i>Democratization</i>	Constant	-2.17*** (.27)	-1.99*** (.19)
		Democracy score (c,l)	1.66 (1.17)	.73 (.51)
Democracy score squared (c,l)		-3.49** (1.56)	-3.71** (1.55)	
Corruption (c,l)		-.29*** (.10)	-.28*** (.11)	
World pull toward democracy (l)		1.08 (1.23)		
Neighborhood pull toward democracy (l)		2.43*** (.45)	2.47*** (.41)	
Log <sub>2</sub> (GDP per capita (c, l)		.00028 (.062)		
Growth in GDP per capita (l)		-.042*** (.014)	-.041** (.016)	
Upper end of democracy index (l)		-3.40*** (1.09)	-3.38*** (1.15)	
		$LJ_{\text{model}}N$	-535.141713	-537.851713
		$ll_0$	-639.94	-639.94
	$LJ_{\text{model}}$	-535.14	-537.85	

Note: \*\*\*:  $p$ -value < 0.01. \*\*:  $p$  < 0.05. \*  $p$  < 0.10 (two-sided tests). (c) denotes that the variable is centered, i.e. the mean is subtracted from each score. (l) means the variable is lagged by one year. Figures in parentheses are estimated standard errors, using the Huber-White sandwich estimator clustering on country ID.

The constant term is -2.95 in the autocratization equation and -2.17 in the democratization equation. This means that the probability of a change toward autocracy

for the baseline country-year – a country with value 0 for all variables is  $\exp(-2.95)=0.052$  relative to the probability of no change.<sup>7</sup> In other words, for the baseline country-year, no change is nineteen times more likely than autocratization. The corresponding ‘risk’ of democratization relative to no change is  $\exp(-2.17)=0.11$ . Using the formulae presented above, we estimate the probability of autocratization in a given year to be 6% for the baseline country-year. The corresponding probabilities of democratization and no change are 11% and 83%.

The estimates for the ‘world pull’ variable are positive and not significant in both equations in Model 1. Countries do not seem to move toward the global average SIP score. Hence, we omit this variable in Model 2. The estimates for the ‘neighborhood pull’ variable are in the expected direction, but significant only in the democratization equation. In Model 2, we retain this variable only in that equation. The estimate of +2.47 in the democratization equation implies that a semi-democracy with SIP score of 0.5 is nine times more likely to move toward democracy if all neighbors are democracies with the highest possible SIP score than if they all were autocracies.

As reported in Przeworski et al. (2000), we find log GDP per capita to decrease the risk of change toward autocracy, but not to affect the probability of change toward democracy.<sup>8</sup> The estimate  $-0.17$  in the autocratization equation implies that doubling GDP per capita decreases log relative risk with 0.17, or by 16%. We find growth in GDP per capita to decrease the risk of change toward autocracy. An increase in growth of one percentage point decreases the risk by 7%. At the same time, growth decreases the probability of change toward democracy by 4%.

The estimated coefficients for the lagged democracy variable have a positive sign in both equations, and those for the squared lagged democracy variable are negative and significant. Together they imply an inverted-U relationship between level of democracy and the probability of change in either direction (relative to no change). The estimated risk of change toward either democracy or autocracy relative to no change are plotted as

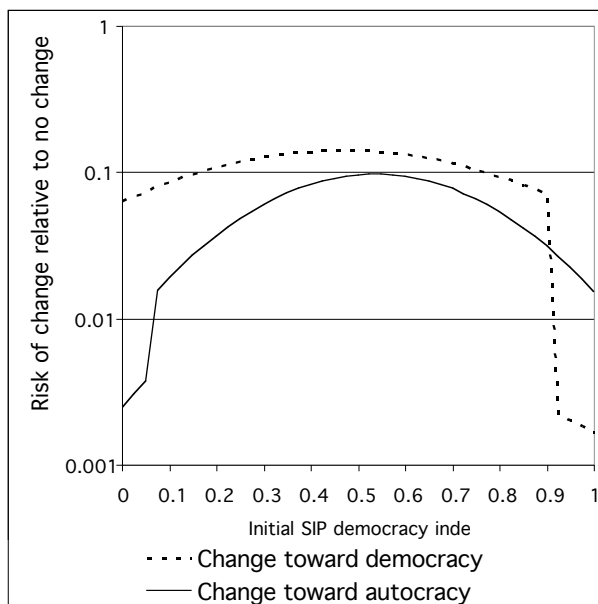
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<sup>7</sup> The baseline country-year has mean democracy score, mean  $\log_2(\text{GDP per capita})$ , zero economic growth, is located in a neighborhood and world with democracy score equal to the mean, and has the average level of corruption.

<sup>8</sup> The result in the autocratization equation is not significant here, but is significant when analyzing a longer time series (see Gates et al., 2003).

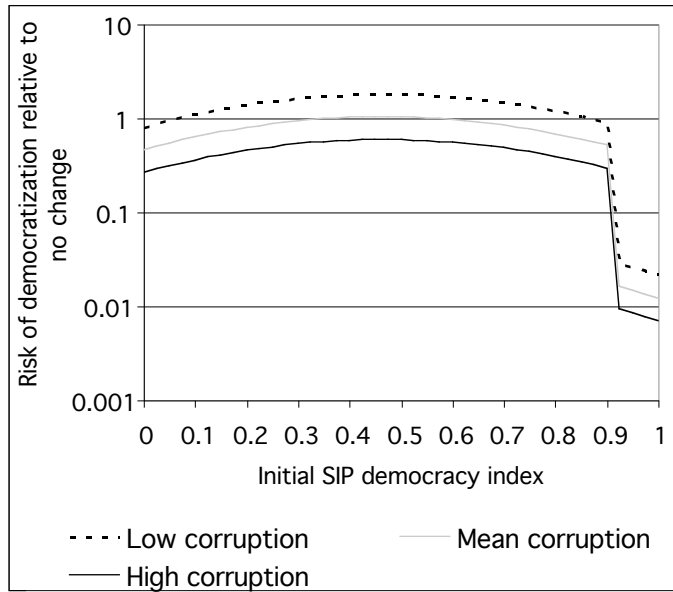
a function of initial democracy score in Figure 1. The risk of change is estimated to be highest at the middle of the democracy index – just as in Sanhueza (1999) and Gates et al. (2006) we find inconsistent regimes to be most unstable. This pattern is particularly strong for changes toward autocracy. A regime with democracy score of 0.5 is around five times more likely to move toward autocracy as one with democracy score of 0.95.

Figure 1. Relative risk of change toward democracy or autocracy relative to no change, by initial SIP



As for the main explanatory variables of interest the empirical results are consistent with the theoretical argument advanced above. The results clearly support our main theoretical argument – corruption reduces the probability of change toward democracy. Corruption does not necessarily lead to a change toward autocracy – the estimate for the corruption variable in the autocratization equation is positive but not clearly defined, with a  $p$ -value of .14. In the democratization equation the variable is clearly significant. The variable also has considerable substantive importance: An increase in corruption levels by one unit reduces the relative risk of change toward democracy by 25%. Comparing two countries at each extreme ends of the corruption scale, the non-corrupt is five times more likely to move toward democracy than the corrupt country. Figure 2 shows the impact of corruption on the probability of democratization, given initial democracy score. The figure is based on the estimates in Model 2.

Figure 2. Probability of change toward democracy relative to no change, by initial SIP score and corruption level



*The reciprocal relationship between corruption and political institutions*

We noted above that corruption might not be exogenous to political institutions. To set up a model that takes this reciprocal relationship into account, we divided the democracy index into three categories and the corruption index into two. We define countries as non-democratic if they have SIP score less than or equal to .15, as democratic if the score is higher than .80, and as inconsistent if they fall in-between. We define countries as low-corruption if their score is less than 4, and corrupt if higher or equal to 4.

To explore the reciprocal relationship between regime type and corruption, we divided the country-years into the six categories formed by taking both variables into account. The six-state transition matrix for the 1985–2004 period is reported in Table 2. The observed transition frequencies are reported in the upper panel and the transition probabilities in the lower. Table 2 confirms the endogenous relationship between corruption and political systems. It indicates that democratic institutions affect corruption levels. Among the 556 low-corruption democratic country-years, 517 or 93.0% remained low-corruption. The corresponding relative frequencies are 79.4% for low-corruption inconsistent regimes, and 82.1% for the corresponding autocracies. Consistent democracies are clearly better able to avoid the emergence of corruption.

They are also better at curbing corruption. 3.6% of the high-corruption democratic country-years saw a change to less corruption. The corresponding figures for autocracies and inconsistent systems are 2.4% and 3.3%, respectively.<sup>9</sup>

*Table 2 Observed transition matrix for states of corruption and institutional types, 1985-2004*

Transition frequencies	<i>State at t</i>							Sum
	High-corruption Autocracy	High-corruption inconsistent	High-corruption democracy	Low-corruption Autocracy	Low-corruption inconsistent	Low-corruption democracy		
<i>State at t-1</i>								
CorrAuto	302	22	6	8	1	0	339	
CorrInco	9	512	14	0	18	0	553	
CorrDemo	3	6	441	0	1	17	468	
NoncoAuto	9	0	0	92	10	1	112	
NoncoInco	0	20	1	1	131	12	165	
NoncoDemo	0	1	37	0	1	517	556	
Sum	323	561	499	101	162	547	2193	

Transition probabilities	<i>State at t</i>						
	Corr Auto	Corr Inco	Corr Demo	Nonco Auto	Nonco Inco	Nonco Demo	
<i>State at t-1</i>							
CorrAuto	0.891	0.065	0.018	0.024	0.003	0.000	
CorrInco	0.016	0.926	0.025	0.000	0.033	0.000	
CorrDemo	0.006	0.013	0.942	0.000	0.002	0.036	
NoncoAuto	0.080	0.000	0.000	0.821	0.089	0.009	
NoncoInco	0.000	0.121	0.006	0.006	0.794	0.073	
NoncoDemo	0.000	0.002	0.067	0.000	0.002	0.930	
Observed distribution							

Table 2 confirms the indication in Table 1 that there is a clear impact of corruption on the stability of institutions as hypothesized. Among the 556 low-corruption democratic country-years at  $t-1$ , only two (0.4%) changed into inconsistent regimes, and none into autocracy. Among the 468 high-corruption democratic country-years, 7 (1.5%) transitioned into inconsistent regime and 3 (0.6%) into autocracy. Most transitions for this

<sup>9</sup> The transition matrix shows that corruption is a threat to many democracies, however. 37 country-years saw a transition from low-corruption to high-corruption democracy, and only 17 a transition in the other direction. Table 6 shows that this is mainly driven by low-income democracies.

category are into low-corruption democracy. These frequencies may be too low to represent a statistically significant pattern, but the direction is clear: Corruption seems to destabilize democratic institutions.

Similar patterns apply to the two other regime types: Among the 165 low-corruption inconsistent regimes, 13 (7.9%) change into consistent democracy, and only one (0.6%) into autocracy. The corresponding figures for the 553 high-corruption inconsistent regimes are 14 (2.5%) transitions into democracy and 9 (1.6%) into autocracy. Corruption thus renders inconsistent regimes clearly more stable, and, when such systems change, they are more likely to become more autocratic when corruption is present. Inconsistent regimes are also less able to reduce corruption: Only 18 country-years (3.3%) saw a transition from high-corruption inconsistent to low-corruption inconsistent regime. This is less than the 3.6% rate for high-corruption democracies.

For autocracies, first note that high-corruption autocracies are much more stable than low-corruption autocracies – 89.1% stability as compared to 82.1%. This supports our argument that corruption reinforces the power concentration in autocratic systems and hence renders them more stable. When high-corruption autocracies change, they seem to change more often directly into democracy than is the case for low-corruption autocracies. However, this democracy has invariably been of the corrupt sort. Another observation that will be useful later is that no high-corruption system changes into a low-corruption system of a different type. In the upper-right and lower-left quarters of Table 2, there are observations almost only on the diagonal. This mainly reflects that both corruption and regime type change but infrequently, and the likelihood of observing both change within the same year is very low.

To what extent are the results presented in Tables 2 driven by explanatory variables that explain both corruption and democratization? To study this, we need to analyze how these transition probabilities depend on our control variables. The estimated transition probabilities in Table 3 were obtained by fitting a multinomial logit model with the six corruption and institution states at time  $t$  as the outcome variable and the states at  $t-1$  as explanatory variables. Each cell reports the estimated transition probability and the 95% confidence interval for the probability (in parentheses). The probabilities and CI's were obtained using Clarify (King, Tomz, and Wittenberg, 2000).

The estimated coefficients are reported in Appendix Table A-1. We noted above

that some off-diagonal observed frequencies were 0 or near 0. Such empty cells pose estimation problems for the multinomial logit model. To obtain well-defined estimates, we constrained 12 parameters associated with empty or near-empty cells to have a relatively large negative value (-5). The constraints scheme is also reported in Table A-1.

*Table 3 Estimated transition probability matrices for states of corruption and institutional types, no control variables, 1985-2004*

<i>No control variables</i>	High-corruption autocracy	High-corruption inconsistent	High-corruption democracy	Low-corruption autocracy	Low-corruption inconsistent	Low-corruption democracy
HiCoAuto	0.877 (.838, .908)	0.067 (.044, .098)	0.019 (.008, .039)	0.025 (.012, .046)	0.006 (.0056, .0061)	0.001 (.0056, .0061)
HiCoInco	0.017 (.008, .030)	0.924 (.900, .943)	0.026 (.014, .042)	0.0001 (.0000, .0002)	0.034 (.021, .051)	0.000 (.0000, .0002)
HiCoDemo	0.010 (.003, .022)	0.014 (.006, .028)	0.940 (.913, .959)	0.0001 (.0000, .0002)	0.0001 (.0000, .0002)	0.03 (.022, .058)
LoCoAuto	0.083 (.040, .147)	0.001 (.0003, .001)	0.001 (.0003, .001)	0.811 (.724, .875)	0.091 (.047, .155)	0.01 (.002, .057)
LoCoInco	0.009 (.001, .042)	0.122 (.077, .176)	0.0001 (.0000, .0003)	0.010 (.001, .044)	0.784 (.709, .844)	0.07 (.043, .122)
LoCoDemo	0.031 (.0002, .014)	0.0000 (.0000, .0001)	0.068 (.049, .093)	0.0000 (.0000, .0001)	0.003 (.0003, .015)	0.92 (.901, .948)

The confidence intervals allow testing more formally the empirical implications from our theoretical argument while taking the endogeneity of the relationship into account. The two first implications were that political corruption should stifle democratization in both autocratic and inconsistent political systems, but more strongly in the latter regime type. Table 3 shows that high-corruption autocracies and inconsistent regimes are more stable than low-corruption ones, but that the difference is clearly significant only for the inconsistent regimes. Low-corruption inconsistent regimes are more likely to change into democracy than high-corruption ones. This difference is significant at the 0.05 level.

The final implication was that consistent democracies are better able to reduce corruption levels than the two other types. Table 3 does not support this contention – there is little difference between the extent to which high-corruption democracies changes into low-corruption ones and the corresponding probabilities for the other types. We noted, however, that average income should affect this relationship. In Table

4, we take income into account.

*Table 4 Estimated transition probability matrices for states of corruption and institutional types, by gdp per capita and growth, 1985-2004*

	High-corruption autocracy	High-corruption inconsistent	High-corruption democracy	Low-corruption autocracy	Low-corruption inconsistent	Low-corruption democracy
<b><i>Low-income</i></b>						
HiCoAuto	0.832 (.767, .888)	0.104 (.063, .156)	0.022 (.008, .049)	0.035 (.015, .070)	0.005 (.003, .008)	0.000 (.0008, .003)
HiCoInco	0.012 (.005, .025)	0.947 (.922, .966)	0.017 (.008, .031)	0.0001 (.0000, .0003)	0.023 (.012, .039)	0.000 (.0000, .0000)
HiCoDemo	0.013 (.004, .036)	0.027 (.010, .060)	0.947 (.906, .971)	0.0001 (.0000, .0003)	0.0001 (.0000, .0002)	0.010 (.005, .024)
LoCoAuto	0.097 (.046, .177)	0.001 (.0000, .0003)	0.0005 (.0002, .001)	0.803 (.699, .887)	0.098 (.045, .186)	0.000 (.0001, .0004)
LoCoInco	0.012 (.001, .049)	0.207 (.121, .310)	0.0001 (.0000, .0003)	0.016 (.0012, .067)	0.742 (.622, .837)	0.020 (.007, .052)
LoCoDemo	0.016 (.001, .083)	0.0002 (.0000, .0007)	0.241 (.131, .378)	0.0001 (.0000, .0007)	0.012 (.0008, .056)	0.730 (.584, .847)
Steady-state distribution						
<b><i>Middle-income</i></b>						
HiCoAuto	0.860 (.807, .903)	0.070 (.041, .108)	0.030 (.012, .064)	0.029 (.011, .059)	0.006 (.005, .007)	0.000 (.005, .007)
HiCoInco	0.018 (.009, .033)	0.905 (.871, .932)	0.034 (.018, .055)	0.0001 (.0001, .0002)	0.043 (.026, .068)	0.000 (.0001, .0002)
HiCoDemo	0.010 (.003, .022)	0.013 (.005, .028)	0.946 (.921, .964)	0.0001 (.0000, .0002)	0.0001 (.0000, .0002)	0.030 (.019, .050)
LoCoAuto	0.115 (.055, .209)	0.0007 (.0003, .001)	0.001 (.0004, .001)	0.735 (.608, .842)	0.148 (.071, .256)	0.000 (.0004, .001)
LoCoInco	0.010 (.0008, .040)	0.112 (.068, .169)	0.0001 (.0000, .0003)	0.010 (.0001, .044)	0.804 (.728, .860)	0.060 (.032, .114)
LoCoDemo	0.005 (.0000, .023)	0.0000 (.0000, .0002)	0.105 (.073, .147)	0.0000 (.0000, .0002)	0.005 (.0004, .022)	0.880 (.839, .920)
Steady-state distribution						
<b><i>High-income</i></b>						
HiCoAuto	0.855 (.748, .925)	0.046 (.017, .094)	0.042 (.013, .105)	0.0246 (.005, .076)	0.008 (.004, .014)	0.020 (.011, .047)
HiCoInco	0.027 (.010, .060)	0.815 (.703, .897)	0.070 (.026, .153)	0.001 (.0000, .0004)	0.086 (.039, .167)	0.000 (.0003, .0018)
HiCoDemo	0.007 (.002, .019)	0.006 (.002, .015)	0.898 (.837, .938)	0.0000 (.0000, .0001)	0.001 (.0004, .003)	0.080 (.051, .149)
LoCoAuto	0.008 (.0005, .034)	0.0005 (.0002, .001)	0.001 (.0004, .0031)	0.629 (.328, .852)	0.228 (.069, .481)	0.000 (.001, .010)
LoCoInco	0.008 (.0005, .034)	0.052 (.022, .100)	0.0001 (.0000, .0003)	0.006 (.0003, .031)	0.751 (.600, .873)	0.180 (.079, .343)
LoCoDemo	0.001 (.0001, .007)	0.0000 (.0000, .0000)	0.039 (.025, .058)	0.0000 (.0000, .0000)	0.002 (.0001, .008)	0.950 (.939, .972)
Steady-state distribution						



The Table is divided into three sets of transition probabilities. They show the estimated transition probabilities and associated 95% confidence intervals for three different income levels: 1) low-income countries, with average income at 12.5% of the world average (240 USD, about the level of Niger or Madagascar in the year 2000); 2) middle-income countries, with average incomes (about USD 1800, the level of El Salvador or Lithuania); and 3) high-income countries, with average income 8 times the world average (about USD 15,000, the level of Kuwait or Israel).

At all income levels, high-corruption autocracies and inconsistent regimes are more stable than low-corruption ones. For middle-income high-corruption countries, for instance, the estimated probabilities of remaining in the same state next year are 0.86 and 0.91, respectively. The corresponding probabilities for low-corruption autocracies and inconsistent regimes are 0.74 and 0.80. The difference is significant only for low- and middle-income inconsistent systems. Thus, even when controlling for income, corruption seems to have a cementing effect on inconsistent political institutions, as well as somewhat stabilizing autocratic polities.

Table 4 also shows that high-corruption democracies are significantly more stable than low-corruption ones except in the high-income group. Thus, for low- and middle-income countries the causal direction seems to be from corruption to regime type, and not primarily the other way around. For high-income countries, most democratic regimes are able to curb corruption. Development seems necessary both for democracies to avoid the emergence of corruption *and* to reduce the amount of corruption. In high-income countries, the estimated probability that a low-corruption democracy moves to a high-corruption one is 3.9%, and the risk that a high-corruption democracy moves to a low-corruption one is 8.9%. The corresponding estimated probabilities for low-income democracies are 24.1% and 1.2%.

## 5 Conclusion

This paper has examined the relationship between corruption and change in political institution. We have argued that a government's choice of favoring private patronage over public good provision will have detectable consequences for the stability of the political system across all institutional types.

Using a multinomial logit model, with data from 1985 to 2000, we find that the level of political corruption is inversely related to the probability of transitions towards democracy. This lends support to our argument that widespread private distribution in the public sphere strengthens the position of the incumbent, and reduces the likelihood that the opposition will be able to mobilize successfully for a liberalization of the political system. While much of previous research has tended to focus on political oppression to explain the persistence of non-democratic rule, this finding suggest that there might also be some elements of a consensual equilibrium where the government placate pivotal segments of the population through private rewards.

The results from the Markov chain models suggest that inconsistent regimes, in particular, are more stable with political corruption than without. In spite of democratic elements in the formal institutions of the state, inconsistent regimes with high levels of political corruption are remarkably resistant to pressure for democratization. Political corruption seems to trap these regimes in an equilibrium, where a number of individuals derive so significant economic benefits from their association with their patrons that their incentives to press for more accountable political institutions are small.

On an aggregate level political corruption also seem to stabilize democracies, but this effect seems to be driven by the impact of political corruption in the low-income countries. We have tentatively argued that corruption might stabilize low-income democracies, because it allows the landholding elite to redistribute to themselves. This alleviates the redistributive pressure posed by mass democracy on the economic elites, and thus reduces their incentives to circumvent the consolidation of democratic institutions. Political corruption seems thus to be an important determinant for the political trajectory in low-income democracies. In high-income democracies, on the other hand, the causal relationship seems to be the reverse. High-income democracies seem to be able to curb corruption. For all other combinations of income and institutional types, the effect of corruption on the political system seems stronger than the other way around.

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