Democracy's Achilles Heel

or,

How to Win an Election without Really Trying

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1. **Introduction**

Democracy is not only justified on the ethical ground that ultimately the authority of the state should come from endorsement by citizens. There are also good reasons for expecting it to deliver better economic governance and hence promote development. In principle, the discipline of accountability to the electorate should force government to function in the interests of a majority of voters rather than in elite interests. The institutional technology that makes democracy effective is elections. One well-understood potential impediment to the discipline exerted by elections is if voters are insufficiently well-informed to assess government performance (Besley, 2006). Despite these concerns there is now clear evidence for developing countries that in normal circumstances elections work. Chauvet and Collier (2009) investigate the relationship between elections and economic policies and institutions as measured by professional ratings. They find that while elections generate a policy cycle, a higher frequency of elections significantly and substantially improves both policies and institutions. However, they find one important qualification: the quality of elections is critical. Using a measure of the conduct of elections, Chauvet and Collier find that if they are of poor quality they exert no significant effect on either policy or institutions.

The most reasonable interpretation of this result is that by resorting to badly conducted elections governments evade the discipline of accountability to voters: electoral misconduct is the Achilles heel of democracy. In this paper we demonstrate the efficacy of electoral misconduct and then investigate the characteristics that make some countries prone to it. First, we introduce electoral misconduct into a simple model of politician behaviour.

2. The effect of Illicit Tactics on Incentives and Selection

The end of the Cold War made a 'fourth wave of democratization'[1] possible and most countries now have regular elections. Diamond (2002) estimates that about 86 percent of all countries hold elections. However, these elections do not automatically turn countries into liberal democracies; a large number of authoritarian regimes also hold elections. This leads to the question as to why authoritarian regimes subject themselves to elections. Schedler (2002) argues that these regimes tolerate some pluralism and competition in order to organise

[1] For a discussion see McFaul (2002).

periodic elections. These elections are designed to generate some democratic legitimacy, trying to appeal to external as well as internal actors. Thus, elections have become the norm.

Politicians make choices on both economic strategies and electoral tactics. To simplify, suppose that the choice of economic strategy is between a pro-growth policy which generates growth of g, and a policy which yields zero growth but generates rents, R, which the politician can expropriate. The pro-growth strategy is preferred by voters, who observe growth outcomes and vote accordingly, voting against an incumbent who has failed to deliver growth. The incumbent is free to choose electoral tactics. If the chosen tactics are licit, (F=0), electoral success is dependent upon the achievement of growth. If the chosen tactics are illicit, (F=1), victory is assured but their use carries a penalty, P, the value of which can be thought of as depending upon the efficacy of the legal system. In order to keep the model simple we assume P=1 if illicit tactics are used.

We posit two types of politician, honest, (H), and corrupt, (C). Both types of politician value office for its own sake, and so prefer a longer expected duration in office, D, to a shorter duration. The only differences are that honest politicians place no value on R. To simplify further, let the expected future duration in office, D, be unity if either g>0, or F=1, and otherwise zero. Similarly, let the pursuit of rents have a simple opportunity cost in terms of growth: R and g each takes the values of either zero or unity, but if one is unity the other is zero.

Hence, the decision problem facing the incumbent politician is to maximize utility, U, with respect to the choice of g and F.

$$U^H(D, P) = aD - bP$$

$$U^C(D, P, R) = aD - bP + cR.$$

In this simple system the honest politician will always choose F=0, relying upon growth to secure victory. This yields a utility of a>0, in preference to victory through F = 1 which yields a utility of a-b. The decision problem of interest is for the corrupt incumbent politician. He must compare three outcomes. One option is to replicate the behaviour of the honest politician: the return to this strategy is a. A second option is that prior to the election he chooses rents rather than growth, but then chooses F=0 in the election. As a result he loses the election but nevertheless is able to keep the rents. The return to this choice is c. The third

option is to choose rents rather than growth but then choose F=1. The return to this strategy is a-b+c. The three choices each apply over a specific range.

Iff $a>c$ & $b>c$ then the corrupt politician chooses R=0, F=0, like the honest politician.

Iff $c>a$ & $b>a$ the corrupt politician chooses R=1, F=0.

Iff ($a>c$ & $b<c$) or ($b<a<c$), then the corrupt politician chooses R=1, F=1.

There are thus two critical values of parameters which lead to illicit tactics having economic consequences. In the range $a>c$ the critical value is b/c = 1. Below this value the corrupt politician uses the power to steal the election in order to switch economic strategy during his first term from growth to rents. Conversely, in the range $a<c$ the critical value is b/a = 1. Below this value the incumbent who sacrifices growth for rents during his first term remains in office after the election. To guard against both of these problems the penalty incurred by resort to illicit tactics must be high relative to *both* the pure delights of office and the gains from rents.

A prediction of this model is that where illicit electoral tactics were feasible and incurred only modest penalties economic policy would suffer. This is consistent with the results of Collier and Chauvet (2009) noted above.

Although the model is extremely simple it also has implications for selection effects. In the range where corrupt politicians behave as though they were honest they have no stronger incentive to become an incumbent politician than does an honest person. In range in which the corrupt plunders the treasury but does not resort to illicit electoral tactics he has a somewhat stronger incentive, while in the range in which he can have both rents and power the incentive for the corrupt to gain office is much stronger than that for the honest. These selection effects would reinforce the tendency of illicit tactics to undermine economic policy.

In the above model we have made the extreme assumption that illicit tactics guarantee electoral victory. While *in extremis* this is clearly the case, the pertinent empirical question is whether within the normal range of illicit tactics they confer a substantial electoral advantage. If the advantage is substantial, then the consequential question is how prone particular types of country are to such tactics. These are the questions to which we now turn.

3. How tempting is electoral misconduct?

Even if electoral misconduct is common, it need not constitute more than a minor blemish. For example, if all contestants resort to misconduct to a similar extent then outcomes might be largely unaffected. However, Calingaert (2006) suggests that ruling political leaders have more opportunities to rig elections than their challengers. Incumbents can rig the electoral process by interfering with voter registration, electoral campaigning, election day procedure and in the final vote count and tabulation. The recent microeconomic literature also provides strong empirical evidence that illicit tactics generally favour the incumbent (Collier and Vicente, 2008, 2009). Incumbents have access to state resources and so are better-placed to finance bribery; through state patronage they are better placed to influence the officials who count ballots; and through control of the security forces they are better placed to intimidate those voters who are unlikely to be supporters into abstention. We therefore investigate whether the resort to electoral misconduct significantly improves the chances of an incumbent being re-elected.

For our empirical analysis we collated a data set on political leaders and executive elections. Our main sources were Archigos, a new database on political leaders (Chiozza, Goemans and Gleditsch, 2009) and the Database of Political Institutions (DPI, Beck *et al* 2001) from which we obtained election data. Archigos identifies the 'effective' leader of a country, i.e. the person that *de facto* exercises power in a country. In parliamentary regimes, the prime minister is coded as the leader, in presidential systems, the president. In some instances the Archigos and DPI disagree on the question whether a country has a presidential, parliamentary or assembly system and thus have a different understanding of who the leader and when his/her election took place. We use Chauvet and Collier (2009) to resolve any discrepancies. This provides us with data on 786 elections in 155 countries during the period 1975-2004. As Table 1 shows, in 71 percent of these elections incumbents were standing for re-election. This is a relatively high proportion, because even in countries with a term limit on political leadership, there are few elections in which no incumbent was standing. For example in recent US history there were only five elections in which none of the candidates was an incumbent (1960, 1968, 1988, 2000, 2008). Another reason for the high proportion of incumbent elections is that election defeat is only one of many reasons why political leaders lose power. Often leaders leave their office due to votes of no-confidence or other legal or illegal challenges before their term has come to an end. Their successor then contests the

election as the incumbent at the end of the term in office, one example would be the resignation of Margaret Thatcher in 1990. Her successor, John Major, contested and won the 1992 elections. Thus, often leadership turnover occurs during the term and not due to elections.

--- Table 1 about here ---

So far we have considered all elections, with no concerns as to whether their quality is good. We now divide the elections into 'dirty' and 'clean' elections. Based on the concept of Chauvet and Collier (2009) of good quality elections we consider any election 'clean' if the election quality is larger than 6 on the DPI scale. This corresponds to elections in which multiple parties stand and win seats and the leader is elected in a competitive manner. In addition we discount any election as 'clean' if the DPI indicates that fraud could have had an impact of the outcome of the election. Table 1 lists the number of clean and dirty elections. About 41 percent of all elections are of bad quality and/or fraudulent and thus classified as dirty. The percentage of dirty elections among the elections in which incumbents are standing is only a little higher at 45 percent. Thus, at least superficially, there is little indication that incumbents manipulate election procedures by lowering the election quality or through fraud.

As discussed above, a number of country studies indicate that incumbents are more likely to win elections. The initial cross-country evidence supports this finding. Table 2 shows out of the 512 elections in which incumbents stood, in 333 of them (65 percent), the incumbent won. Incumbents have a much higher chance of winning dirty elections (78 percent) than clean ones (56 percent).

--- Table 2 about here ---

We now turn to regression analysis to examine the probability of incumbent victory. Our model choice is informed by the large empirical literature on (economic) voting. Most of the research is limited to single country, dominated by studies on US presidential and congressional elections[2]. There are only a few studies using a cross-section of countries and these are limited to wealthy, industrialised countries (Duch and Stevenson, 2006). Research of US presidential elections suggests that elections in which the incumbent is not standing are much more difficult to forecast (Sidman, Mark and Lebo 2008). Although economic

[2] For a recent overview of US presidential election forecasting see Campbell and Lewis-Beck (2008).

performance is a strong predictor in US presidential elections, voters do not seem to attribute economic success to the White House party successor candidate. Examining incumbent and non-incumbent elections, Norpoth (2000) finds that economic growth only predicts voting in incumbent elections, in non-incumbent elections economic growth is insignificant.

While we base our model choice on this research, we depart from the existing literature by using a global panel of countries. This invariably limits our choice of explanatory variables, for example we do not have approval ratings for a large sample of countries. Our explanatory variables include some structural characteristics about the society, an indicator for the recent wave of democratization, a measure of economic performance, some characteristics of the incumbent and a measure of illicit tactics. The results are presented in Table 3. Since the end of the Cold War, referred to here as the 'democracy wave', incumbents have been less likely to win elections. Incumbents in Sub-Saharan African countries are more likely to win than leaders in other countries.

--- Table 3 about here ---

As suggested in the literature on economic voting[3] higher economic growth makes an incumbent win more likely. It also confirms the results by Bueno de Mesquita *et al* (2003). In their models of political leadership they find evidence that the provision of public goods, proxied by growth, extends the duration of a leader's stay in power. We measure economic growth in the previous two years: traditionally election forecasters have used performance indicators much closer to the elections, for example growth in the 6 months prior to the elections, but we do not have this information for the entire sample of countries. We also control for income per capita but do not find any effect on incumbent wins.

The structure of society matters for incumbent chances. The incumbent is helped if the age-structure of the society is skewed towards youth, as proxied by population growth. This is superficially curious in that youth is conventionally regarded as likely to be rebellious. On these results it appears to be atypically deferential to (or more easily manipulated by) authority. The other aspect of social structure that is significant is the proportion of pupils enrolled in secondary education. The higher is the proportion the more likely is the

[3] See for example Duch and Stevenson (2008) and Lewis-Beck and Paldam (2000).

incumbent to win. This is a puzzling result. We examined whether it proxies the education level of the adult population, but found that measure to be insignificant. In most low-income societies secondary education for children predominantly benefits the middle classes. We find no equivalent effect for other public goods that are shared more widely, such as the enrolment rate in primary education and the avoidance of infant mortality. Hence, one interpretation is that the incumbent improves his chances by providing those public goods that particularly benefit the middle classes.

In addition to these economic and societal characteristics we also include information on the incumbent. Age of the incumbent was a significant determinant in gubernatorial defeats in the study by Besley and Case (1995). Older governors were less likely to be elected. In our cross country study the age of the incumbent is not significant. We also account for the manner in which office was taken in the first place. Incumbents who came to power through legal processes are no more likely to be re-elected than the ones who took office in an irregular manner, for example through coups or being imposed by foreign governments.

Our measure of 'clean' elections has a negative effect on incumbent wins, i.e. when the elections are competitive and there are no illicit tactics incumbents have a lower chance of winning. In order to evaluate the importance of illicit tactics we drop the insignificant variables one by one and arrive at the core model in column 4 [4]. Illicit tactics have effects that are both highly significant and substantial. At the mean of the other variables an incumbent increases the prospect of victory from 58 percent to 82 percent if he uses illicit tactics. This difference in the probability of victory has magnified implications for the expected duration in office, which is perhaps the more pertinent metric of incentives facing leaders. Consider the decision problem facing an incumbent autocrat who converts to democracy, with an immediate election followed by the prospect of further elections every four years. If he subjects himself to clean elections his expected remaining duration in office is typically 5.5 years. If he adopts dirty elections his remaining duration is a much healthier 14.5 years.[5]

[4] We also examined a number of other variables but none of the following had significant coefficients: levels and changes in infant mortality, government expenditure, military expenditure, total years of education, the proportion of the population living in urban areas, the number of checks and balances, natural resource rents as a percentage of GDP and whether there is proportional representation.

[5] We have truncated the calculation at a horizon of 32 years to allow for mortality.

We now turn to the question whether the effect of the other variables dependent upon illicit tactics. We reran our base model in column 4 on two samples, one limited to ‘dirty’ elections, the other to ‘clean’ elections. We found little evidence that our economic and societal variables had differential effects on the outcome of the elections. However, the incentives for good economic policy are relatively weaker. Consider an incumbent approaching an election who has the choice between policies which deliver zero growth and five percent growth. We may presume that the zero growth policies have offsetting attractions for the incumbent (graft), though not for the society. In the context of a clean election the expect duration in office will be 4.4 years with zero growth and 7.1 years with five percent growth. Thus, if the leader delivers high economic growth the expected time in office can be extended by 60 percent. In the context of a dirty election, although zero growth still comes at the expense of a shorter expected duration in office, the comparable figures are now 14.5 years and 17.2 years. Promoting growth extends the expected time in power by the same absolute amount but this is proportionately far smaller, only 19 percent. In the model of Section 2 we adopted a stylized simplifying assumption that illicit tactics assured victory, hence eliminating the need for growth. While the empirical results show, unsurprisingly, that this is too extreme , they are disturbingly close to it. If the presidential utility function has as its arguments both the time in office and graft, illicit electoral tactics may come close to sating the desire for time in office, promoting graft into being relatively more desirable.

We find some evidence that freedom of the press may act as a control mechanism on incumbents in dirty elections. First, we add a measure of press freedom to our base model in column (5). This variable takes three values, one if press freedom is severely limited, two if there is some freedom and three if the press is free. Although the inclusion of this variable reduces our sample size we find that all our previous results are confirmed. Press freedom makes it more difficult for incumbents to win elections. We investigate the impact of press freedom further by running this specification for the elections that are ‘dirty’ (column 6) and ‘clean’ (column 7). Press freedom has no impact on the outcome in clean elections but makes it less likely for incumbents to win dirty elections. This effect is substantial, the incumbent has a 91 percent chance of winning a dirty election if there is no press freedom but this is reduced to 41 percent if there is press freedom.

Our model suggests that illicit tactics matter in two ways: they benefit dishonest politicians, thus few honest politicians compete in these elections, and economic voting becomes less important. An implication is that in conditions in which illicit tactics are routinely used it is likely to matter whether the incumbent is corrupt of honest, whereas where only illicit tactics can be used both honest and corrupt politicians might adopt growth-promoting policies. This hypothesis clearly relates to that of Jones and Olken (2005), who find that exogenous changes in leadership due to death in office matter for growth. Jones and Olken find that the economic growth rate before their deaths was not the same as after their deaths.

--- Table 4 about here ---

We re-examine their claim in Table 4, column 1. As in their analysis we regress annual growth rates from 1950 until 2000 on a dummy indicating the five years prior to the leader's death and a dummy indicating the five years after the leader's death. The regression also includes time and regional dummies. The regression uses all available observations, i.e. in addition to the 126 leaders who died in office it also includes observations when no leader died in office. Using a Wald test we can reject the hypothesis that economic growth was the same before and after the leader's death. Thus, we confirm Jones and Olken's result that 'leaders matter'. We now turn to the question whether 'leaders matter' in regimes that have regular, clean elections. According to our theory clean elections discourage corrupt politicians and encourage economic voting. We now create two different dummy variables for leader's deaths. The first dummy takes a value of one if the leader died in a regime without regular clean elections. The other one takes a value of one if the leader died in a liberal democracy. We then test whether growth was significantly different for autocratic and democratic leaders who died in office. For the 109 leaders who died in undemocratic regimes, the previous result stands: growth rates are different before and after the leaders' deaths. For the 17 deaths that happened in democratic regimes this is not the case. Growth rates before and after the leader's death are not significantly different from each other. If a leader dies in a democracy this has no impact economic performance, leaders only 'matter' in non-democratic regimes. While this result is consistent with the hypothesis that clean elections reduce the importance of individuals, it is not a very powerful test. There are only 17 observations of leaders who die in office while subject to clean elections and so the lack of statistical significance may simply be due to the small size of sample.

4. Proneness to electoral misconduct

Electoral misconduct is thus the Achilles heel of democracy. By substantially increasing the prospect of incumbent victory it weakens the discipline that elections otherwise exert. Recall that this is not only unethical it is detrimental to economic development. We therefore turn to the underlying issue of what determines whether elections are clean or dirty?

We can now use the data on all elections, irrespective of whether an incumbent stood. This allows us to examine a maximum of 786 elections. There is very little quantitative literature on the quality of elections. The study by Jones (2004) uses data from 50 democracies and examines what determines the number of candidates in presidential elections. He finds that if an incumbent is standing there are fewer candidates taking part in the election, i.e. incumbent elections are less competitive. This question is related to our analysis because our definition of 'clean' elections is mainly based on how competitive leadership elections are. Our results on what determines clean elections are shown in Table 4. In column 1 we include all elections on which we have data, whether or not an incumbent is standing. Seven characteristics are significantly associated with the probability that elections are clean.

--- Table 5 about here ---

Three of these concern socio-economic structure. The larger the population of the country the higher is the chance that the election is clean. This is consistent with the argument that in a populous country there is both greater need to evolve from personal power to institutions, and that there are scale economies in state institutions (Collier and Venables, 2009). A second characteristic is per capita income. Of course, the level of per capita income might proxy a very wide range of deeper characteristics. Both variables have substantial effects, doubling the population being approximately equivalent to increasing income by 50 percent. The final socio-economic variable of importance is the proportion of natural resource rents in GDP. The higher is the proportion the less likely is the election to be clean. While this variable is also to an extent endogenous, there is now powerful evidence for a 'resource curse' due, in part, to the corrosive effect that resource rents have on the functioning of democracy. Collier and Hoeffler (2009) find that whereas in the absence of resource rents democracies grow more rapidly than autocracies, if resource rents are large as a share of GDP the relative performance of the two polities is reversed. Decomposing democracy into electoral competition and checks and balances, they find that resource rents introduce distinctive

effects to both: electoral competition reduces growth whereas checks and balances increase it. These effects are consistent with the present result that resource rents have a corrosive effect on the conduct of elections. The effect is large: if natural resource rents are reduced from their mean value to zero the chance of a clean election triples.

The next group of significant variables are various proxies for checks and balances on power. We find that three such variables are sufficiently uncorrelated to be introduced together, each retaining substantial effects. One of these is the number of veto points, the sample mean being three veto points. A second proxy for checks and balances is press freedom, measured on a three point scale. The final proxy is a dummy for whether there is a constitutional term limit on the tenure of an incumbent. Each of these three variables has similar effects. Thus, one additional veto point is approximately equivalent to the introduction of a term limit, or to the move from partial to full press freedom.

The final variable of significance is a proxy for international pressure. This is a dummy variable for the period since the fall of the Soviet Union. The variable is less significant that the other variables but even so its effect is quite substantial, being approximately equivalent to a doubling of per capita GDP or a quadrupling of population.

To get a sense of the magnitude of the effects we can think of stylized characterizations of Africa and India prior to the fall of the Soviet Union. The typical African society has no veto points, no term limits, no press freedom, a population of 10 million, a mean level of per capita income of $840, and resource rents of nine percent of GDP. With these characteristics, the chance of a clean election predicted by the regression is only 0.3 percent. In contrast, India had a population of around one billion, around 3 percent of GDP in natural resource rents, 4 veto points, and a relatively free press. Its predicted chances of a clean election are 64 percent. Onto these initial positions, now introduce the international democratizing wave consequent upon the fall of the Soviet Union. In ‘Africa’ the chance of a clean election increases from 0.3 percent to 0.6 percent, while in ‘India’ it increases from 64 percent to 71 percent.

The above results were based on a sample that did not distinguish between whether incumbents were running or not in the election. We now investigate whether the presence of an incumbent makes a difference. In Table 4, column 2, we introduce a dummy variable for whether the incumbent is standing in the election. The variable is not significant, but negative

and the coefficient is quite large: not having an incumbent standing increases the chance of a clean election by approximately the same as by doubling of per capita income. We therefore investigate whether the effects of the other variables differ depending upon whether an incumbent is standing. Splitting the sample in this way creates a minor problem. In none of the elections that are clean and in which no incumbent is standing is there a term limit, so that it is not possible to analyse the effect of term limits in the sub-sample of non-incumbent elections. We thus drop term limits from the model and present the results in column (3). Our results are very similar to the previous model in which term limits were included. We now split the sample, column 4 reporting the results for dirty elections and column 5 for clean elections. While differences may simply be due to the larger sample size for those elections in which incumbents are standing, there are marked differences between the two regressions.

In particular, when incumbents are standing international pressure makes it more likely to have clean elections while the presence of natural resources makes it less likely. Neither variable is significant when we only consider elections in which the incumbent is not standing (column 5). The implication that natural resource revenues help incumbents to win elections is consistent with the theory proposed by Robinson et al. (2006) whereby the incumbent uses the revenues to finance public sector employment patronage and beneficiaries rationally vote for him in order to retain their jobs. A key point in their argument is that while opposing candidates may say that they will retain beneficiaries on the public payroll, such statements lack credibility. Our result that once the incumbent is not standing resource rents lose their efficacy is consistent with this thesis: in effect, in the context of personalized power networks beneficiaries of previous patronage have little basis for trusting any successor. A further indicator that incumbents manipulate elections is provided by the last regression (column 6). Here we include a dummy variable measuring whether the incumbent gained office in a legal manner. The negative and significant coefficient indicates that leaders who entered office in an illegal manner are less likely subsequently to stand in competitive elections free from fraud.

5. Conclusion and Implications

An autocrat maintains personal power, sustained by a selectariat which he rewards with patronage. Elections are the technology by which democracy destroys this system of power. In this paper we have shown that where incumbent leaders are able to corrupt the electoral

process they are able to retain autocratic power despite having to face periodic elections. The strategy of using illicit electoral tactics trumps strategies confined to licit tactics, nearly tripling the expected duration in office at the means of other variables. Additionally, illicit tactics free the incumbent from the need to attend to economic performance and hence from the need to reform economic policy.

If illicit tactics are so attractive for incumbents, they will be adopted unless there are restraints upon them. We found some evidence that conventional checks and balances, notably veto points, press freedom and term limits, are all potent checks on illicit tactics. International pressure also appears to be effective, at least as proxied by the fall of the Soviet Union. However, disturbingly, we found that there are structural characteristics which expose a society to the risk of illicit tactics. Specifically, low-income countries with small populations and large rents from natural resources have a very low chance of clean elections unless they already have a range of checks and balances. Since checks and balances are processes which take time to establish whereas elections are simply events, this may explain why the introduction of ‘instant democracy’ to Africa during the 1990s has had only limited success in establishing accountable and legitimate governance.

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Tables

Table 1: How many Elections are Contested by Incumbents?

	Dirty Elections	Clean Elections	Total
incumbent did not stand	73	155	228 (29%)
Incumbent election	251	307	558 (71%)
Total	324 (41%)	462 (59%)	786

Table 2: How many Elections are Won by Incumbents?

	Dirty Election	Clean Election	Total
Incumbent loses	48	132	180 (43%)
Incumbent wins	203	175	378 (57%)
Total	251 (19%)	307 (81%)	558

Table 3: How do Incumbents Win Elections?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Core model		Dirty Elections only	Clean Elections only
Democracy wave	-0.506	-0.506	-0.547	-0.552	-0.727	-0.596	-0.682
	(1.97)**	(1.97)**	(2.45)**	(2.47)**	(2.91)***	(1.36)	(2.37)**
Sub-Saharan Africa	1.251	1.250	1.209	1.227	1.222	0.930	1.392
	(3.23)***	(3.20)***	(3.14)***	(3.19)***	(3.22)***	(1.87)*	(2.07)**
Secondary Enrolment rates	0.015	0.015	0.015	0.015	0.022	0.027	0.017
	(2.36)**	(2.36)**	(3.17)***	(3.15)***	(4.02)***	(2.31)**	(2.96)***
Growth	0.077	0.077	0.078	0.078	0.090	0.083	0.105
	(2.93)***	(2.93)***	(3.01)***	(3.03)***	(3.39)***	(2.17)**	(2.42)**
Population growth	0.209	0.209	0.202	0.194	0.190	0.292	0.198
	(1.56)	(1.58)	(1.52)	(1.47)	(1.46)	(1.49)	(1.09)
Clean election	-1.188	-1.185	-1.182	-1.189	-0.647		
	(4.36)***	(4.44)***	(4.36)***	(4.36)***	(2.12)**		
Age	-0.006	-0.006	-0.005				
	(0.65)	(0.66)	(0.54)				
ln GDP(t-1)	0.036	0.036					
	(0.28)	(0.29)					
Illegal Entry	-0.013						
	(0.04)						
Press freedom					-0.780	-1.351	-0.336
					(3.86)***	(4.71)***	(1.21)
Constant	0.281	0.273	0.495	0.209	1.327	1.936	-0.231
	(0.28)	(0.28)	(0.70)	(0.51)	(2.63)***	(1.93)*	(0.31)
Observations	527	527	530	530	477	205	272
PseudoR2	0.10	0.10	0.10	0.10	0.13	0.19	0.06
Log Likelihood	-299.11	-299.11	-300.14	-300.27	-261.73	-83.32	-173.90

Logit regressions, dependent variable: Incumbent election outcome (0 if incumbent lost, 1 if incumbent won), growth measures as the average growth rate of per capita income over the past two years.
Robust z statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 4: Leaders only Matter if there are no Clean Elections

	(1)	(2)
5 years before leader's death	-0.006	-0.005
	(1.92)*	(1.58)
5 years after leader's death	0.004	0.005
	(1.58)	(1.82)*
5 years before leader's death in democracy		-0.009
		(1.80)*
5 years after leader's death in democracy		-0.002
		(0.33)
Wald test p-value	0.018	0.021
Wald test p-value democratic		0.328
Number of leader deaths	126	109 undemocratic 17 democratic
Observations	5668	5668
R-squared	0.06	0.06

Note: The dependent variable is annual growth in per capita income. In column (1) all leaders' deaths are examined. Column (2) distinguishes between leaders in undemocratic regimes and in democracies. The Wald test compares the estimates for the period before and after the leader's death. We would like to thank Ben Jones and Ben Olken for making their dataset available to us.

Table 5: What Determines Clean Elections?

	(1)	(2)	(3)	(4)	(5)	(6)
				incumbent standing	Incumbent not standing	Incumbent standing
Democracy wave	0.544	0.568	0.592	0.672	0.384	0.689
	(1.91)*	(1.94)*	(2.05)**	(1.80)*	(0.86)	(1.88)*
Ln Population	0.263	0.274	0.282	0.213	0.259	0.198
	(2.63)***	(2.74)***	(2.70)***	(1.49)	(1.81)*	(1.35)
Ln GDP(t-1)	0.539	0.522	0.550	0.626	0.343	0.563
	(3.56)***	(3.53)***	(3.84)***	(3.15)***	(1.90)*	(2.83)***
Natural Resource Rents	-0.060	-0.059	-0.063	-0.096	0.014	-0.095
	(2.84)***	(2.80)***	(3.31)***	(3.05)***	(0.39)	(3.09)***
Checks	1.079	1.083	1.107	1.265	0.921	1.253
	(7.36)***	(7.30)***	(7.56)***	(6.39)***	(4.25)***	(6.14)***
Press freedom	1.066	1.048	1.040	0.996	1.391	0.902
	(4.20)***	(4.13)***	(4.11)***	(3.04)***	(3.34)***	(2.82)***
Finite term rule	1.207	1.131				
	(2.64)***	(2.47)**				
Incumbent standing		-0.436	-0.429			
		(1.22)	(1.20)			
Illegal entry						-1.098
						(1.66)*
Constant	-14.076	-13.765	-13.094	-13.193	-11.620	-12.194
	(6.93)***	(6.84)***	(6.49)***	(4.98)***	(3.84)***	(4.53)***
Observations	621	621	627	439	188	439
PseudoR2	0.57	0.57	0.57	0.65	0.38	0.66
Log Likelihood	-174.49	-173.37	-176.70	-102.77	-69.28	-101.36

Logit regressions, dependent variable: ‘clean’ elections (0 if ‘dirty’, 1 if ‘clean’)
Robust z statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%