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Do Elections Matter for Economic Performance?*

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Abstract

In mature democracies, elections discipline leaders to deliver good economic performance. Since the fall of the Soviet Union, most developing countries also hold elections, but these are often marred by illicit tactics. Using a new global data set, this article investigates whether these illicit tactics are merely blemishes or substantially undermine the economic efficacy of elections. We show that illicit tactics are widespread, and that they reduce the incentive for governments to deliver good economic performance. Our analysis also suggests that in societies with regular free and fair elections, leaders do not matter for economic growth.

I. Introduction

When ruling elites are challenged, they either respond by making concessions or by increasing repression. Common concession strategies are the redistribution of income and/or the extension of voting rights (Acemoglu and Robinson, 2000, 2001, 2006). In our article, we examine whether elections matter for economic performance. Most developing countries now hold regular elections, because the fall of the Soviet Union triggered a 'fourth wave of democratization'.[1] Autocrats conceded elections because they were faced with pressures that otherwise threatened their retention on power. The example of the popular revolutions of Eastern Europe temporarily lowered the cost of popular protest and the political opposition made elections their obvious goal. Further, with the end of the Cold War, donors were no longer locked into supporting autocrats in return for their political alignment. Instead, they could demand democratization as a condition for sustaining public finances. Even if these pressures were only temporary, once autocrats had conceded elections they had good reason to maintain them. Cancelling subsequent elections would have signalled a return

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

to less open regimes, which could potentially spark coordinated protest from citizens and donors.

However, while former autocrats were, in effect, locked in to holding elections, in many societies the introduction of elections has not been accompanied by institutional checks and balances preventing illicit electoral tactics. Elections, being events, are much easier to introduce than effective checks and balances, which are processes that, at best, can only develop over time. The standard illicit tactics of bribery, intimidation, ballot fraud and restrictions on candidacy all favour incumbents. An incumbent might well find a stolen election preferable to either of the alternatives. It is evident that an illicit victory might be preferable to an honest defeat. But it might also be preferable to the outright cancellation of elections. Illicit tactics are only ambiguously observable. Individual citizens may well be able to detect them locally, but cannot be sure that they have decisively changed the national result. Thus, for an incumbent to hold an election which is then won by illicit tactics may improve the chances of power retention relative to outright cancellation because it dilutes what would otherwise be a strong signal. In turn, in order to hold contested elections, albeit marred by illicit tactics, some degree of pluralism and competition must be tolerated, but such elections do not mark a genuine shift to democracy. As Schedler (2002) argues, they are designed to generate only the appearance of democratic legitimacy.

In this article, we treat the scope for a leader to use illicit tactics as exogenous: some leaders inherit norms and institutions which preclude their use whereas others are unrestrained. This is similar to Besley and Persson (2009), who argue that initial investments in institutions determine whether leaders are more likely to pursue a strategy of growth promotion or rent-seeking. This dichotomy of regime types is reinforced through adverse selection in politics. In Besley's (2006) model, adverse selection attracts corrupt individuals into politics if there are small penalties for embezzlement and illicit tactics. In a companion article (Collier and Hoeffler, 2009a), we endogenize the emergence of effective restraints. Where a leader has the option of resorting to illicit tactics, the choice as to whether to hold an election is of little consequence: the normal discipline of democracy is compromised.

We first present a new global data set which integrates data on changes in incumbency with data on elections classified according to the quality of their conduct. We use this to demonstrate that electoral misconduct is both widespread and highly efficacious for incumbent politicians. In section III, we turn to whether this matters materially for economic performance. We show that whereas honest elections effectively discipline the economic choices of political leaders, illicit tactics substantially reduce the incentive for politicians to deliver good economic performance. In section IV, we investigate a testable implication. The extent to which economic performance depends on the identity of the leader should depend upon whether leaders are subject to honest elections.

II. The prevalence and pay-off to electoral misconduct

Elections are a necessary but not a sufficient condition for democracy. Most autocracies hold sham elections: to be meaningful, an election has to be conducted to certain standards. Although the quality of elections is assessed by a large number of organizations, for example, by the Organization for Security and Co-operation in Europe (OSCE), The Carter

Centre and the Electoral Institute for the Sustainability of Democracy in Africa (EISA),[2] there is no agreed definition of what constitutes a 'free and fair election'. Election reports by international organizations typically focus on the following issues: (i) the openness of the elections, that is, the right to stand for office and the right to vote, (ii) independence and impartiality of Electoral Management Bodies (EMBs) and other officials, (iii) accuracy of voter registration, (iv) unhindered ballot access, (v) absence of intimidation, bribery or violence during the election campaign and voting, (vi) media access for all parties/candidates and (vii) accuracy of vote counting. If international organizations do not observe (gross) violations against these principles, an election is classified as 'free and fair'. This multiplicity of conditions can usefully be grouped into two conditions, respectively concerning whether an election is 'free' and 'fair'. A 'free' election is one in which the pre-conditions are satisfactory. For example, there are no unreasonable restrictions on who can stand, or gross bias in the capacity of political parties to organize. A 'fair' election is one in which the voting decision is not significantly influenced either by politically organized violent intimidation, or by bribery (whether of individual voters or of influential local leaders). Further, the announced vote count must reflect how people actually cast their votes, without interventions that miscount or disqualify. Examples of elections which fail to meet one or both of these conditions abound. Extreme examples of elections which are not free are the many autocratic elections in which voters have been presented with a single choice. Examples of elections which have not been fair, whether due to ballot fraud, intimidation or bribery, are given in Collier and Vicente (2012), who set out a theory of how an incumbent unencumbered by checks and balances might choose among such strategies of manipulation. Whether an election is free is therefore determined by a process that begins well in advance of the election, whereas whether it is fair depends upon conduct during an event. While both aspects are potentially important, events are inherently more newsworthy than processes and so most international political attention has *de facto* focused on fairness.

Although a large number of in-depth election studies are available, there has been very little attempt to develop quantitative measures of election quality that could be used in statistical analysis. Kelley (2012) provides information on the quality of elections, where her assessment is based on the US State Department Reports of Human Rights Practices. To our knowledge, the only database with information on whether an election is 'free and fair' is the Cingranelli and Richards (2008).[3] It is a dummy variable and no information on the definition and the measurement of this variable is provided. The recently generated database on elections, the Institutions and Elections Project (IAEP), does not provide any assessment of the conduct of the elections.[4] In developing such a measure, our approach is to use empirical proxies for 'free' and 'fair'. To measure whether elections are free we use an ordinal measurement of the competitiveness of elections from the Database of Political Institutions (DPI, Beck *et al.*, 2001). The electoral rules measure provides information on

[2] Election reports are also made available by the following organisations/databases: European Union Election Assistance and Observation, International Republican Institute, National Democratic Institute, Inter-Parliamentary Union Recent Elections Database, Freedom House Database of World Freedom Country Reports, Asian Network for Free Elections, African Elections Database, MENA Election Guide, Robert Schuman Foundation, European Forum for Democracy and Solidarity and UC San Diego Latin American Election Statistics.

[3] http://ciri.binghamton.edu/.

[4] http://www2.binghamton.edu/political-science/institutions-and-elections-project.html (accessed: 29 July 2011).

TABLE 1

How many elections are contested by incumbents?

	Uncompetitive/fraudulent election	*Free and fair election*	*Total*
Incumbent did not stand	73	155	228 (29%)
Incumbent election	251	307	558 (71%)
Total	324 (41%)	462 (59%)	786

whether it was a multiparty election and how many mandates were won by the largest party. To measure whether elections are fair, we also adopt from the DPI a separate measure of electoral fraud. It is a dummy variable which takes a value of one if 'vote fraud or candidate intimidation [were] serious enough to affect the outcome of elections'. However, as the authors acknowledge, their assessment is based on reported fraud and thus 'there may have been instances of fraud/violence that were not reported, thus resulting in false negatives'.[5] We use these two DPI measures both separately and in combination as dummy variables of election quality. For robustness checks we use the free and fair election variable from the CIRI database and the data on election quality by Kelley (2012).

The elections data must then be matched against data on the candidates – notably whether one of the candidates was the incumbent – and the election result. For our analysis, we collated a data set on political leaders and executive elections. Most countries hold elections to determine their leaders; Diamond (2002) suggests that at the beginning of the millennium 86% of all national leaders were elected. Our main source was Archigos, a new database on political leaders (Chiozza, Goemans and Gleditsch, 2009). Archigos identifies the 'effective' leader of a country, that is, 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 databases disagree on the question whether a country has a presidential, parliamentary or assembly system and thus have a different understanding of who the leader is 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% 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 were incumbents (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 election. Thus, often leadership turnover occurs during the term and not due to elections.

[5] DPI Codebook available on http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/0,,contentMDK:20649465~pagePK:64214825~piPK:64214943~theSitePK:469382,00.html.

TABLE 2

How many elections are won by incumbents?

	Uncompetitive/fraudulent election	*Free and fair election*	*Total*
Incumbent loses	48	132	180 (32%)
Incumbent wins	203	175	378 (68%)
Total	251 (45%)	307 (55%)	558

Clearly, a satisfactory electoral process is both ‘free’ and ‘fair’. We define a ‘free’ election as one which is contested by multiple parties which receive seats, with the leader being elected in a competitive manner. This corresponds to a score greater than six on the DPI scale. We define a ‘fair’ election as one in which, on the DPI assessment of the conduct of the election, fraud did not have an impact on the outcome. ‘Free and fair’ elections are thus defined as those which meet both the criterion of sufficient political competition, and that of sufficiently honest conduct. Table 1 lists the number of ‘free and fair’ and flawed electoral contests so defined. About 41 per cent of all elections are classified as flawed.

A priori, the most likely perpetrators of flawed elections are incumbents. 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, procedure on election day and in the final vote count and tabulation. 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. While these arguments suggest that illicit tactics favour incumbents, the percentage of flawed elections among the elections in which incumbents are standing is 45%, only a little higher than the average for all elections, 41%. Thus, at least superficially, there is little indication either that incumbents disproportionately manipulate elections, or (reversing causality), that where manipulation is feasible incumbents are more inclined to stand for re-election. To explore the issue more thoroughly, we therefore test whether the resort to electoral misconduct substantially improves the chances of an incumbent being re-elected.

Our cross-country evidence suggests that incumbents are more likely to win elections. Table 2 shows that out of the 558 elections in which incumbents stood, in 378 of them (68%), the incumbent won. Again, this could be either because incumbency offers advantages, or because where incumbents expect to win they are more inclined to stand. Incumbents have a much higher chance of winning flawed elections (81%) than those which are free and fair (57%).

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 a single country, dominated by studies on US presidential and congressional elections.[6] There are only a few studies using a cross-section of countries and these are either limited to wealthy, industrialized countries (Duch and Stevenson, 2006) or only include a few developing countries (Brender and Drazen, 2008). Research

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

on 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 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, the effect of 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 inevitably limits our choice of explanatory variables: for example, we do not have approval ratings for a large sample of countries. We start with a general model, our explanatory variables including 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. We subsequently refine this base model, testing for potential selection bias, decomposing economic performance and investigating a range of other explanatory variables.

Our results are presented in Table 3. We start with a logit model in column (1). 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 regions.

While our model includes controls for the structure of the society and the economy, several of these variables are insignificant in determining the incumbent's chances of winning the election, notably population growth, education measures and natural resource rents as a share of GDP. 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. However, 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.

Unsurprisingly, our measure of 'free and fair' elections has a negative effect on incumbent wins, that is, 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 (2).[7] The dropped variables are neither individually nor jointly significant. Illicit tactics appear to have effects that are both highly significant and substantial, although we should note that at this stage we have not allowed for selection effects. At the mean of the other variables, an incumbent increases the prospect of victory from 62% to 84% by using illicit tactics. This difference in the probability of victory has magnified implications for the expected duration in office, which is arguably the most pertinent metric of incentives facing leaders. Consider the decision problem facing an incumbent autocrat who converts

[7] 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, primary school enrolment rates, total years of education, the proportion of the population living in urban areas, the number of checks and balances and whether there is proportional representation.

TABLE 3

How do incumbents win elections?

	(1)	(2)	(3)	(4) *Flawed election*	(5) *Free and fair election*	(6)	(7)	(8)	(9)
Sun-Saharan Africa	1.275	1.173	1.187	0.703	1.702	1.053	1.107	1.310	1.312
	(3.11)*	(3.56)*	(3.62)*	(1.83)*	(2.48)*	(2.34)*	(2.30)*	(3.22)*	(3.31)*
GDP growth	0.073	0.068	0.078	0.072	0.091	0.088	0.099	0.039	0.045
	(2.82)*	(2.77)*	(2.93)*	(1.82)*	(2.28)*	(2.58)*	(2.73)*	(1.44)	(1.70)*
Ln GDP per capita	0.153	0.185	0.420	0.321	0.396	0.275	0.392	0.251	0.426
	(1.49)	(2.05)*	(3.90)*	(1.71)*	(3.08)*	(2.33)*	(2.86)*	(2.56)*	(3.63)*
Free and fair election	−1.001	−1.174	−0.651						
	(3.84)*	(4.48)*	(2.18)*						
Press freedom			−0.965	−1.397	−0.611		−0.710		−0.672
			(4.53)*	(4.91)*	(2.08)*		(2.25)*		(2.93)*
Free and fair election (CIRI)						−2.235	−1.534		
							(5.54)*	(2.90)*	
Good quality election (Kelley)								−2.560	−2.207
								(6.89)*	(5.22)*
Democracy wave	−0.264								
	(1.22)								
Population growth	0.057								
	(0.44)								
Secondary enrolment	−0.077								
	(0.98)								
Natural resource rents	0.011								
	(0.84)								

(*continued*)

TABLE 3

(*Continued*)

	(1)	(2)	(3)	(4) *Flawed election*	(5) *Free and fair election*	(6)	(7)	(8)	(9)
Age	−0.005								
	(0.54)								
Illegal entry	0.018								
	(0.04)								
Observations	528	536	483	206	277	343	339	501	474
(Pseudo)R^2	0.08	0.08	0.12	0.16	0.06	0.13	0.14	0.16	0.179
Log-likelihood	−309.1	−313.0	−270.1	−88.4	−178.3	−184.6	−180.0	−268.54	−247.17

Notes: Logit regressions. Dependent variable: incumbent election outcome (zero if incumbent lost, one if incumbent won), growth measured as the average growth rate of per capita income over the past two years. Column (4) uses only 'flawed election' observations. Column (5) uses only 'free and fair' election observations. Robustness checks using CIRI data in columns (6) and (7). Robust z statistics in parentheses; *significant at 10%.

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 6.4 years. If he adopts illicit election tactics, his remaining duration is a much healthier 15.8 years.[8]

As suggested in the literature on economic voting[9] higher economic growth also makes an incumbent win more likely. This is consistent with 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: commonly, election forecasters have used performance indicators much closer to the elections, for example, growth in the six months prior to the elections, but we do not have this information for the entire sample of countries and there is little justification for assuming such myopia on the part of the electorate. We also control for income per capita and find a weak positive effect on incumbent wins. Potentially, illicit tactics in elections are merely correlated with a deeper problem of public corruption which is the true root cause of the phenomenon. Corruption is by its nature difficult to measure, but there are now some indices available. When we include three different corruption indices in our regressions, none is close to significance and the significance of the other variables is unaffected.

In addition to the effects of the economy and illicit tactics, we find some evidence that freedom of the press may act as a control mechanism on incumbents. First, we add a measure of press freedom to our core model in column (3). 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 unaffected. Press freedom makes it more difficult for incumbents to win elections. This effect is substantial: with no press freedom the likelihood of winning the election is 92% while it is only 63% with full press freedom.[10] We investigate the impact of press freedom further by running this specification for the elections that are 'flawed' and 'free and fair'. Press freedom has a far larger impact on the outcome in flawed elections than in free and fair elections, the point estimate of the coefficient being about double that for free and fair elections. Further, press freedom makes it considerably less likely for incumbents to win flawed elections. The incumbent has a 95% chance of winning a flawed election if there is no press freedom but this is reduced to 54% if there is press freedom.

These preliminary results may potentially be spurious for a variety of reasons. We begin with issues of data quality. In order to check for robustness, we used an alternative data source on whether elections are free and fair, drawing on the Cingranelli and Richards data set on human rights (CIRI) which directly uses the concept 'free and fair' rather than constructing it from two distinct assessments as we have done. The sample size is greatly reduced, but we replicate the main results in columns (6) and (7). The effect of the CIRI variable indicating 'free and fair' elections is even stronger than in our core model. If the

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

[9] See, for example, Duch and Stevenson (2008), Lewis-Beck and Paldam (2000) and Leigh (2009).

[10] As a robustness check, we created a dummy variable for press freedom and the results were qualitatively similar to the ones obtained by using the ordinal press freedom data.

TABLE 4

How do incumbents win elections? Further investigation

	(1)	(2)	(3)	(4)	(5)
Sub-Saharan Africa	0.206	0.149	0.145	0.143	0.175
	(3.57)*	(3.33)*	(2.89)*	(3.03)*	(3.44)***
GDP growth	0.012	0.012	0.011	0.110	0.008
	(2.87)*	(3.23)*	(2.72)*	(3.06)*	(1.95)*
Ln GDP per capita	0.037	0.028	0.022	0.037	0.026
	(0.186)*	(1.88)*	(1.43)	(2.36)	(1.64)*
Free and fair election	−0.233	−0.161			
	(4.57)*	(3.15)*			
Free election			−1.150		
			(3.39)*		
Fraudulent election			0.004		
			(0.07)		
Unfree election				0.238	
				(4.86)*	
Unfair election				0.220 *	
				(3.01)*	
Unfree and unfair election				0.036	
				(0.46)	
Unfree election (Kelley)					0.186
					(2.01)**
Unfair election (Kelley)					0.090 *
					(1.72)*
Unfree and unfair election (Kelley)					0.237
					(4.21)***
Observations	536	536	496	496	493
(Pseudo)R^2	0.09	0.25	0.25	0.27	0.28

Notes: Linear Probability Models. Columns (2)–(5) include country dummies. ‘Free and fair election’ takes a value of zero if the election is free (competitive) and fair (free of fraud). ‘Free election’ takes a value of zero if the election is free but possibly fraudulent. ‘Fraudulent election’ takes a value of one if the election was fraudulent but possibly also uncompetitive. ‘Unfree election’ takes a value of one if the election is uncompetitive, ‘unfair election’ takes a value of one if the election was fraudulent, ‘Unfree and unfair elections’ takes a value of one if the election was uncompetitive as well as fraudulent. Column (5) uses data from Kelley (2012) on cheating prior to the elections (unfree) and cheating on the election day (unfair). Robust t statistics in parentheses; *significant at 10%; **significant at 5%; ***significant at 1%.

elections are ‘free and fair’, the chance of an incumbent winning is about 59% but if he or she employs illicit tactics this chance increases to 93%. Using the data by Kelley (2012), we code her ‘acceptable’ elections as ‘free and fair’ and again confirm our main results in columns (8) and (9).

A further potential concern with our results is that logits can be biased in short panels (Greene, 2012). We re-estimate our core model [Table 3, column (2)] as a linear probability model (LPM) and present the results in Table 4. One disadvantage of this method is that predicted values can fall outside the zero/one boundaries. However, we find that the LPM does provide a reasonable fit: we predicted the outcome of the elections and found that only six out of the 536 election results were forecast out of range.

A further potential concern is that unobserved country-specific effects are driving the results. The standard way to address this objection is to introduce fixed effects by means of a dummy variable for each country. However, in a logit model this results in inconsistent parameter estimates due to the Neyman–Scott incidental parameter problem (Neyman and Scott, 1948). As a partial solution, we estimate an LPM while including a selection of country dummies. The selection of the country dummies is achieved by applying the automated selection process following Johansen and Nielsen (2009) and Doornik (2009).[11] We report the results in column (2). The results are qualitatively similar and support the results obtained in the previous estimations: elections that are not 'free and fair' considerably advantage incumbents.

So far, we have investigated the efficacy of flawed elections using the double criterion of 'free and fair'. We now investigate the two components separately. In column (3), we repeat the regression of column (2) with country dummies, but now entering our proxies for 'free' and 'fair' as distinct variables. There is some overlap between the two variables: some elections are coded as 'free' but not 'fair' and *vice versa*. Their correlation coefficient is $\rho = -0.14$. While the predominant international attention on electoral quality focuses on conduct during the election (whether the election is fair), in this regression all the statistical power is coming from the prior conditions (whether the election is free). This might appear to imply the implausible result that electoral fraud is unimportant.

To investigate the relative importance of 'free' and 'fair', we rerun the regression with the dummy variables re-defined [column (4)]. Taking elections which were 'free and fair' as our default (299 elections), we now introduce dummies for elections that were 'unfree but fair' (of which we have 132), 'unfair but free' (of which we have 32) and 'neither free nor fair' (of which we have 33). We test whether the coefficients on the 'unfree' and 'unfair' dummies are significantly different from each other and reject that hypothesis. This suggests that each type of electoral manipulation taken individually significantly advantages incumbents to approximately the same degree. Both the resort to unfair conduct in a free election and the resort to prior restrictions on contestation in elections which are then properly conducted ('fair'), are effective strategies. Somewhat paradoxically, the potentially lethal combination of elections which are 'neither free nor fair' does not show up as significantly advantaging incumbents. A likely explanation for this relatively infrequent type of election is that incumbents only resort to this degree of overkill when they need to offset an unusually high degree of electoral unpopularity. Hence, our proposed integrating measure is not only consistent with the current operational practice of electoral certification, but appears to be warranted by the evidence on incumbent advantage. Kelley (2012) codes information on cheating prior to the election and cheating on election day. We use these measures to assess the relative importance of the elections being 'free' (no cheating prior to the election) and 'fair' (no cheating on the election day). As before, we generate dummies for elections that were 'unfree' but 'fair', 'unfair but 'free' and 'unfree and unfair'. When we include these

[11] The country dummies that are chosen through the automated selection process are: Azerbaijan, Bolivia, Bulgaria, Dominican Republic, Egypt, El Salvador, Estonia, The Gambia, Hungary, India, Ireland, Israel, Italy, Kyrgyz Republic, Malaysia, Moldova, Nepal, Norway, Pakistan, Sweden, Syrian Arab Republic, Thailand and Yemen.

TABLE 5

Heckman selection model

	(1)	(2)
Incumbent win		
Sub-Saharan Africa	0.223	0.215
	(3.38)*	(3.67)*
GDP growth	0.012	0.012
	(2.78)*	(2.78)*
Ln GDP per capita	0.038	0.038
	(2.26)*	(2.27)*
Clean election	−0.228	−0.228
	(4.48)*	(4.47)*
Incumbent standing		
Sub-Saharan Africa	1.084	1.108
	(7.23)*	(6.40)*
Illegal entry	−1.250	−1.675
	(10.54)*	(12.45)*
Inverse Mills ratio	0.039	0.037
	(0.38)	(0.42)
Number of observations	765	684
Number of censored observations	229	148
Number of uncensored observations	536	536

Notes: Heckman regressions, dependent variable second stage: incumbent election outcome (zero if incumbent lost, one if incumbent won), dependent variable first stage: incumbent standing (zero if incumbent did not stand, one if incumbent stood). First column includes all observations, second column excludes 81 elections in which the incumbent could not stand for re-election due to term limit rules. Robust z statistics in parentheses; *significant at 10%.

dummy variables in column (5), we find that all three variables significantly increase the chances of winning the election

We now turn to arguably the most serious concern, namely selectivity bias. Incumbents who decide to run for re-election might not constitute a random sample: potentially, the decision to run for a further term is endogenous to the prospects of success. We use a Heckman model to control for this potential selection bias, the results being reported in Table 5. Our sample includes 786 elections, in 228 of which the incumbent did not stand for re-election. We thus run a first-step regression in which we determine whether an incumbent stands and as a second step, we run our core model, examining the chances of an incumbent winning the election. It proved to be difficult to find explanatory variables for the selection equation. We found that leaders who came to power in an illegal manner were less likely to stand for re-election. Age of the leader was not significant. In the first column of Table 5, we use all elections for which we have data for the explanatory variables (765 elections). The inverse Mills ratio is insignificant. However, 81 leaders could not contest the elections because laws on term limits prohibited them from running for office for a further time. As for this group there is no choice, we therefore repeat the analysis by excluding these 81 elections in column (2). Again, the inverse Mills ratio is not significant. The results from our Heckman models suggest that our core results are unlikely to be seriously biased due to selection effects. However, we acknowledge that this evidence is weak due to the fact that our identification rests on one variable, the manner in which the incumbent gained power.

To what extent can the above associations be interpreted as genuinely causal? There are a variety of potential problems of endogeneity. For example, while economic growth is correlated with subsequent electoral success, this may be because governments which deliver economic growth tend also to deliver a range of other benefits that are valued by voters, but which we do not observe. While we acknowledge this limitation, economic performance appears to be sufficiently salient to citizen concerns that a direct effect is plausible. Similarly, the misconduct of elections may be correlated with other, unobserved, strategies that incumbents use to win elections. One possibility is that illicit election tactics are more frequently used in corrupt countries. However, we found no evidence that incumbents are more likely to win in more corrupt states. We included different measures of corruption in our core model and found them to be insignificant, while all other results were qualitatively similar.[12] These findings suggest that illicit election tactics are distinct from corruption. It seems that misconduct of elections is not merely proxying these other strategies but is itself crucial. Electoral misconduct directly and necessarily weakens the accountability of the ruler to the voter: *that is what it is meant to do*.

III. Do illicit tactics reduce the incentive for good economic performance?

The above analysis establishes a reasonable case that illicit tactics substantially increase the expected duration of office for incumbents. We now turn to their implications for the incentive for incumbents to deliver good economic performance. The literature on economic voting focuses on developed countries and finds strong evidence that governments are re-elected on the strength of their economic policies. The result by Leigh (2009) suggests that a wealthier and more educated electorate is more likely to reward incumbents for their economic policies. Furthermore, the electorate distinguishes between ‘luck’ and ‘competence’. Economic growth may simply be due to a booming world economy (‘luck’) rather than to the leader’s economic policy choices (‘competence’). In richer countries, voters are more likely to distinguish between ‘luck’ and ‘competence’ and support incumbents when they have delivered economic growth. Thus, in developed countries elections provide an incentive to deliver good economic outcomes. We now extend this analysis to our global sample.

There is already some evidence that elections also discipline the economic choices of governments in developing countries. Chauvet and Collier (2009) investigate the relationship between elections and government economic choices in developing countries, but proxy choices not by the growth rate but by economic policies. They find that controlling for the policy cycle that elections generate, regular elections have structural effects, significantly and substantially improving the overall level of policies. However, this benign effect is conditional upon the proper conduct of elections. Using a measure of electoral conduct close to that which we have adopted, they find that badly-conducted elections exert no significant policy discipline.

[12] We used corruption data from the World Bank, Transparency International and the International Country Risk Guide. Results are available on request.

TABLE 6

Competence or good luck?

	(1)	(2)
Sub-Saharan Africa	1.164	1.147
	(3.51)*	(3.34)*
ln GDP per capita	0.187	0.193
	(2.08)*	(1.20)*
Clean election	−1.001	−1.148
	(3.84)*	(4.43)*
Regional growth	0.030	0.011
	(0.74)	(0.27)
Difference to regional growth	0.090	0.087
	(3.14)*	(2.84)*
Regional growth * high income dummy		0.253
		(1.87)*
Difference to regional growth * high income dummy		0.047
		(0.57)
High income dummy		−0.542
		(0.34)
Observations	536	536
PseudoR^2	0.08	0.09
Log-likelihood	−312.14	−310.43

Notes: Logit regressions, dependent variable: incumbent election outcome (zero if incumbent lost, one if incumbent won). Robust z statistics in parentheses; *significant at 10%.

We first test whether voters are meaningfully evaluating government economic performance, and so potentially exerting some discipline upon policy. For this, we decompose economic performance into that part which is exogenous to political leadership and that part which is potentially attributable to choices made by the incumbent. If the electorate is well-informed, only the latter should influence the chance of re-election. Following Leigh (2009), we proxy the exogenous component of growth by the growth rate of the region. The component of economic performance potentially attributable to leadership is then the difference between this and the growth rate of the country. As shown in Table 6, column (1), the regional average growth rate is insignificant in the regression, while the difference between the country and the region's growth rate is positive and significant. Leaders are more likely to win elections if their country grows more rapidly that the rest of the region. This can be interpreted as evidence that the electorate is able to distinguish between good leadership and simply 'luck', which is consistent with the results by Leigh (2009).

As our focus is on illicit tactics, which are rare in advanced economies, we investigate whether the apparent ability of voters to distinguish between good policy and good luck is driven only by high-income countries. We therefore distinguish between high-income countries and developing countries in column (2). The coefficient on the difference between the national and the regional growth rate changes little, and remains significant, while that on the interaction term of this growth differential and a high income dummy is insignificant.

We therefore conclude that the ability of voters correctly to interpret economic performance is not confined to high-income countries.

Having established that the economic performance that a government delivers affects the chances of incumbent re-election, we now investigate whether the resort to illicit tactics weakens the incentive to deliver good economic performance. In absolute terms, resort to illicit tactics does not significantly weaken the contribution of good economic performance to the prospects of incumbent victory. This can be seen from Table 3, columns (4) and (5), where the model of column (3) is rerun in turn on the 'flawed' elections and the free and fair elections. The coefficient on economic growth remains significant in the flawed elections regression, and although it is lower than for the free and fair elections the difference is not significant. However, while the resort to illicit tactics does not reduce the *absolute* efficacy of good economic performance, it considerably reduces its relative efficacy. Consider an incumbent approaching an election who has the choice between policies which deliver zero growth and 5% growth. We may presume that the zero growth policies have offsetting attractions for the incumbent (graft), though not for the society. Applying the coefficients from columns (4) and (5) of Table 3, in the context of a free and fair election, the expected duration in office will be 8.8 years with zero growth and 12.2 years with 5% growth. Thus, if the leader delivers high economic growth, the expected time in office can be extended by 40%. In the context of a flawed election, although zero growth still comes at the expense of a shorter expected duration in office, the comparable figures are now 12.2 years and 15.1 years. Promoting growth extends the expected time in power by nearly the same absolute amount but this is proportionately far smaller, only 23%. 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.

IV. Do clean elections discipline leaders?

So far, we have presented evidence that illicit tactics substantially increase the chances of an incumbent winning an election and that they reduce the incentive for leaders to deliver good economic performance. The proposition that free and fair elections discipline incumbents to good economic performance whereas flawed elections relax this discipline has a testable implication for the relationship between changes in leadership and economic performance. In a celebrated study based on a large panel data set, Jones and Olken (2005) found that exogenous changes in leadership significantly affect economic growth: leaders matter. We now revisit these results. Potentially, those changes in which both an incumbent and his successor are subject to the discipline of free and fair elections should reduce the potential for changes in economic performance when the leader changes. The major changes in performance attributable to leadership change may occur where leaders are not subject to electoral discipline.

The investigation of the importance of leadership is based on a simple panel growth regression. Jones and Olken concentrate their analysis on exogenous changes in leadership, finding that the economic growth rates were significantly different before and after leader deaths. Only deaths due to ill-health or accidents are coded as exogenous; assassinations are excluded from this definition. We re-examine their findings in row (1) of Table 7. As in

TABLE 7

Leaders only matter if there are no clean elections

	Number of leader deaths	*Likelihood ratio test statistic*	*Critical value P = 0.05*	*Critical value P = 0.1*
All leader deaths	57	69.2	75.6	71.0
Leader deaths ‘flawed’ elections	44	61.3	60.5	56.4
Leader deaths ‘free and fair’ elections	13	8.7	22.4	19.8

Notes: The table presents the results from likelihood ratio tests (LRT). Based on a simple growth regression, we test the null hypothesis that growth is the same before and after the leader’s death. Annual growth rates are regressed on a number of regional dummies and includes dummies for the five years before and after each leader’s death. The regression includes observations from all countries, irrespective of whether or not they experienced a leader death ($n = 5,668$). We ran an unrestricted model and a restricted model in which we restricted the dummies to be equal to each other before and after the leader’s death. The regressions were estimated by OLS and the LRT statistic = $2(L_{UR} - L_R)$ was obtained, where L_{UR} is the log-likelihood from the unrestricted model and L_R the log-likelihood from the restricted model. This statistic is distributed as a χ^2-statistic where the degrees of freedom are equal to the number of restrictions (in our case equal to the number of leader deaths). We use the LRT because it allows for the possibility that the model is misspecified. We would like to thank Ben Jones and Ben Olken for making their data set available to us.

their analysis, we regress annual growth rates from 1950 until 2000 on dummy variables indicating the five years before and after each leader’s death. The regression also includes time and regional dummies and uses all available observations, that is, in addition to the 57 leaders who died in office it also includes observations when no leader died in office. Using a likelihood ratio test we cannot reject the hypothesis that economic growth was the same before and after the leader’s death. However, as the critical values indicate, this non-rejection of the null is marginal at conventional levels: ‘leaders almost matter’.

Jones and Olken find that growth rates increase after autocrats’ deaths but that there seems to be no change in the growth rate associated with democratic leaders’ deaths. They define autocracy as any system with a polity score below zero (data are from the polity data set, Jaggers and Gurr, 1995). However, despite the powerfully differentiated language of ‘autocracy’ and ‘democracy’, the polity scoring system is a 21-point scale which Jones and Olken divide in the middle of its possible range. While the averages for the two categories will indeed reflect substantial practical differences in political accountability, the chosen dividing line is essentially arbitrary. We make a cleaner distinction between regime types: distinguishing between leaders according to whether they were subject to the effective discipline of free and fair elections. In row (2) of Table 7, we focus on 44 leader deaths that occurred in polities not subject to free and fair elections. Here, we decisively reject the hypothesis that the growth rates before and after the leaders’ deaths are the same, that is, in regimes in which leaders are *de facto* not accountable to voters, ’leaders indeed matter’. The variation in performance among such leaders then itself potentially becomes explicable in terms of the degree of accountability to cronies, as analyzed by Besley and Kudamatsu (2008).

In row (3), we repeat the analysis for those leader deaths that occurred in conditions where leaders were subject to free and fair elections, that is, where the leader’s death occurred between two free and fair elections. Now, we cannot reject the hypothesis that growth rates before and after the leader’s death are the same: leader deaths are a long way from being significant. In short, if a leader dies in a polity in which they are genuinely accountable to voters the death has no discernible impact on economic performance; leaders only ‘matter’ in the absence of such accountability. However, we have two concerns when interpreting this result. First, political systems characterized by regular free and fair elections tend to have competitive selection processes for their leadership candidates. This competition tends to produce better quality, and perhaps more homogeneous, politicians (Besley, 2006, section 1.6; Besley and Reynal-Querol, 2011). In our regression, we are not able to distinguish between selection and discipline as the mechanisms by which free and fair elections affect leader performance. We do not have any information on the quality of politicians to allow us to assess the selection effect.

Second, we are concerned about the small size of the sample. There are only 13 observations of leaders who die in office while subject to free and fair elections, so that the lack of statistical significance may be due in part to the small size of sample.

V. Conclusion and implications

Elections are, potentially, the technology by which government is held to account by citizens, in the process imposing discipline on economic policy. In this article, we have shown that illicit electoral tactics are highly attractive for incumbents. The strategy of using illicit electoral tactics trumps strategies confined to licit tactics, more than doubling the expected duration in office at the means of other variables. Additionally, illicit tactics reduce the incentives for the incumbent to attend to economic performance. Our results suggest that incumbents standing in free and fair elections are penalized if they do not deliver economic growth: their time in office is about 40% shorter compared to incumbents promoting economic growth. Incumbents standing in flawed elections face a much smaller penalty: economic stagnation shortens their time in office by only 23%.

If incumbents do not want to stand in ‘free and fair’ elections, they can restrict openness and/or they can interfere with the conduct of the elections. Our results suggest that both openness and fairness are significant variables in determining the outcome of an election. This finding has implications for policy. International attention is usually focused on the conduct of elections (whether the elections are fair) but attention should also be given to the preconditions of elections (whether the elections are free).

An implication of our analysis is that the misconduct of elections can be expected to subvert the discipline otherwise exerted on governments to achieve good economic performance. This is a testable hypothesis: if it is correct, whether changes of leadership matter for economic performance should depend upon whether leaders are subject to the discipline of free and fair elections. We revisited the celebrated result of Jones and Olken (2005) that exogenous changes of leadership significantly change economic performance. Dividing the sample according to whether leaders were subject to free and fair elections, we found that for those that were, we could not reject the hypothesis that changes of leadership had no significant effects. In contrast, in those polities where leaders either did not face elections or were able to use illicit tactics, changes of leadership had large and significant effects.

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Appendix

Variable descriptions and data sources

Age

This variable measures the age of the political leader. *Source*: Archigos (Chiozza *et al.*, 2009).

Free and fair elections

Is a dummy variable taking a value of one if the election is 'free and fair' and zero otherwise. Our definition of free and fair is based on two variables from DPI (Beck *et al.,* 2001): competitiveness of the elections and election fraud. DPI provides a measure of the competitiveness of elections on a scale of one to seven. If the country has elections but only one candidate contests the elections the competitiveness is scored as three, elections in which one party stands but allows the choice between several candidates are scored four etc up to seven which denotes multiparty elections in which the winning party got less than 75% of the votes. A further (dummy) variable describes whether vote fraud or candidate intimidation were serious enough to affect the outcome of elections. We define 'free and fair' elections when the election competitiveness score was at the maximum seven and no election fraud was observed. However, DPI reports more observations on competitiveness than on fraud and for missing fraud observations, we used solely the coding on competitiveness to determine whether the election was 'free and fair'. For the regressions in Table 4, where we use more detailed information on the 'freeness' and 'fairness' of the elections we can only use information on 496 elections:

Fair election			
Free election	0	1	Total
0	132	33	165
1	299	32	331
Total	431	65	496

For the regressions in Table 7, we researched the relevant elections from 1950–74 and judged whether the elections were ‘free and fair’.

Democracy wave

Dummy variable, takes a value of one for the years 1990 and after.

Free and fair elections: robustness check

We used the variable on ‘Electoral self-determination’ from the Cingranelli and Richards database to code ‘free and fair elections’. If citizens had the right to self-determination through free and fair elections in both law and practice (score of two), we defined this election as ‘free and fair’. *Source*: Cingranelli and Richards, Version 12.07.08.

Using data from Kelley (2012), we coded all ‘acceptable’ elections as ‘free and fair’ elections (variable SA1). Information on cheating prior to the elections (variable SR11) was coded as ‘unfree’ and information on cheating on the election day (variable SR21) was coded as ‘unfair’. The data are provided in the database on Quality of Elections Data (QED) and can be obtained from http://sites.duke.edu/kelley/data/Free Speech.

ln GDP(t – 1)

The logarithm of per capita income measured in the previous year. *Source*: World Bank (2009).

Illegal entry

Dummy variable indicating whether the leader came to power in an irregular manner. *Source*: Archigos (Chiozza *et al.*, 2009).

Incumbent standing

This dummy variable takes a value of one if the incumbent is contesting the election and zero otherwise. Own research.

Population growth

This variable measures the growth in the total population. *Source*: World Bank (2009).

Press freedom

This variable takes the value one if there is no press freedom, two if the press is partly free and three if the press is free. *Source*: http://www.freedomhouse.org.

Resource rents

We use the same definition as in Collier and Hoeffler (2009b). Based on data from the World Bank’s adjusted savings project, we calculated the rents for each commodity by subtracting the cost from the commodity price. We then multiplied the rents per unit by the amount extracted and summed across the different commodities. We then calculated the share of rents in GDP. As the rents are provided in current US dollars, we used the WDI 2008 GDP in current dollars to calculate this share. Natural resources for which rent data were available are: oil, gas, coal, lignite, bauxite, copper, iron, lead, nickel, phosphate, tin, zinc, silver and gold. Data are available from the World Bank through their 'Adjusted net savings' project.

Secondary enrolment rates

Secondary enrolment rates are measured as gross rates, that is, they are calculated by expressing the number of students enrolled in secondary levels of education, regardless of age, as a percentage of the population of official school age for the secondary level. *Source*: World Bank (2009)

Sub-Saharan Africa

Dummy variable, takes a value of one for countries in Sub-Saharan Africa and zero otherwise. For the purpose of this dummy we treat South Africa as outside Sub-Saharan Africa.

Term limits

Our term limits dummy takes a value of one if there are formal restraints on an executive's term and zero otherwise. These formal restraints mean that the executive's term is constitutionally limited and only limits on immediate re-election are counted. Prime ministers are always coded as 'no term limits'. *Source*: Variable MULTIPL from DPI (Beck *et al.*, 2001). Note that we have coded term limits one when MULTIPL equals zero and *vice versa* to allow for a more intuitive interpretation.