Article

Comparative Political Studies
2015, Vol. 48(6) 691–727

DOI: 10.1177/0010414014555443
cps.sagepub.com
SAGE

Elections, Information, and Policy Responsiveness in Autocratic Regimes

Michael K. Miller[1]

Abstract

The responsiveness of policy to election results is a central component of democracy. Do the outcomes of autocratic elections also affect policy choice? Even when the threat of turnover is low, I argue that autocratic elections influence policy by allowing citizens to signal dissatisfaction with the regime. Supplementing existing work, this study explains how this opposition is communicated credibly and then shows that ruling parties use this information to calibrate policy concessions. In the first cross-country analysis of autocratic election outcomes and policy choice, I find that negative electoral shocks to ruling parties predict increases in education and social welfare spending and decreases in military spending following elections. In contrast, there is no policy effect leading up to elections, in response to violent contestation, or in resource-rich regimes, illustrating a potential mechanism for the resource curse.

Keywords

autocratic institutions, elections, clientelism, policy choice

[1]George Washington University, DC, USA

Corresponding Author:
Michael K. Miller, Assistant Professor, Department of Political Science, George Washington University, Monroe Hall 440, 2115 G St. NW, Washington, DC 20052, USA.
Email: mkm2@gwu.edu

Introduction

On December 4, 2011, Russian voters sent a surprising rebuke to the ruling United Russia party, with many observers interpreting the party's loss of 17% of the Duma as a powerful signal of its fading legitimacy. Although such electoral swings are common in modern autocracies, we know little about their sources and implications. What motivates citizens to defy the ruling party at the ballot box and what information does this signal to the regime? Most importantly, what are the political consequences? Do the outcomes of autocratic elections influence the policies that ruling parties subsequently choose?

In democracy, policy is responsive to election outcomes because leaders who depart from citizen preferences are more likely to be replaced. This maintains policy congruence both through actual turnover and the strong incentives for elected leaders to respond to policy demands. In autocracies, however, elections are often heavily manipulated and leader turnover is much less common (Gandhi & Lust-Okar, 2009; Schedler, 2002, 2013). As a result, existing studies tend to minimize the policy significance of autocratic elections and the inputs provided by voters (Blaydes, 2011; Gandhi & Lust-Okar, 2009; Lust-Okar, 2006). Lust-Okar (2006), for instance, claims that patronage "trumps by far any role of elections as arenas for contests over the executive or critical policies" (p. 459).

I challenge this view, arguing that autocratic elections influence policy not by generating turnover, but by allowing citizens to signal dissatisfaction with the regime. Autocrats often struggle to ascertain the level of citizen opposition, a quandary that Wintrobe (1998) calls the "Dictator's Dilemma." As a result, election outcomes are closely watched by regimes and frequently produce major surprises and political upheavals when autocrats discover themselves to be less popular than they believed. Besides triggering democratic transitions (Cox, 2009; Pop-Eleches & Robertson, 2009), this electoral information enables autocratic leaders to make policy concessions that prevent revolt and other political challenges.

This article adds to a growing literature on information revelation in autocratic elections (Cox, 2009; Fearon, 2011; Magaloni, 2006; Malesky & Schuler, 2011), which has been limited in two respects. First, current work has failed to specify the micro-foundations for how and why voters reveal information. This article demonstrates how ruling parties *credibly* ascertain citizen opposition, based on an empirical pattern observed in virtually every electoral autocracy. The key is that voters are offered a tradeoff—voting against the regime triggers policy concessions at the national level, but reduced patronage at the individual or local level. Although these dual effects

have been documented in case-study work, it has not been explained theoretically why rewards and punishments are mixed in this way. I argue that this tension is central to credible information revelation. By offering policy shifts at the expense of patronage, ruling parties determine how much voters are willing to "pay" for policy. Using a formal model, I show that this leads to the truthful revelation of voter preferences, even with a secret ballot and without the possibility of the ruling party's defeat.

A second advance over existing work is empirically connecting autocratic elections to policy choice. After reviewing supportive case-study evidence, I use error correction models (ECMs) to identify the policy impact of 269 autocratic elections in 86 countries from 1975 to 2004. I find that falling vote totals for the ruling party predict policy concessions following the elections, namely increases in education and social welfare spending and decreases in military spending. The results are robust to controlling for fraud, country fixed effects, and changes in the level of democracy. To establish causality, I show that there is no relationship between spending and regime popularity prior to elections. This is the first cross-national evidence that autocratic election outcomes have a substantive effect on policy.

In contrast, no effect is found for more contentious forms of opposition, such as riots, protests, and electoral violence. Further, leaders in resource-rich states are less responsive to poor electoral outcomes as they can cheaply disperse patronage to satisfy their citizens. By demonstrating that natural resource wealth insulates regimes from popular demands, this finding illustrates a potential mechanism for the resource curse (Jensen & Wantchekon, 2004; Ross, 1999, 2001).

The following section critically reviews the literature on autocratic elections. The section titled "The Logic of Autocratic Elections" presents a theory connecting autocratic elections, information, and policy choice. It also summarizes a formal model, which is detailed in the appendix. Section "Information-Gathering in Autocratic Elections" outlines three types of electoral information with several supporting examples, including a case study of Singapore. This is followed by the empirical results.

Theories on Autocratic Elections

As with other "hybrid" regime types, *electoral authoritarian* (EA) regimes adopt many of the formal institutions of democracy, but manipulate electoral contestation in favor of the ruling party (Diamond, 2002; Geddes, 2006; Levitsky & Way, 2010; Schedler, 2006, 2013). Semi-competitive elections have become a near-universal feature of autocracies, with 93 countries holding at least one multiparty election under autocracy between 1975 and 2004.

This diffusion has led researchers to investigate the effect of elections on regime duration and democratization (Brownlee, 2009; Hadenius & Teorell, 2007; Lindberg, 2009; Miller, 2013a), as well as the strategic purposes of adopting various democratic elements.[1]

Numerous explanations have been given for the spread of autocratic elections (Gandhi & Lust-Okar, 2009; Geddes, 2006; Hermet, Rose, & Rouquié, 1978). Most obviously, they may be pure facades providing a veneer of international legitimacy (Levitsky & Way, 2010; Schedler, 2002). However, many regimes adopted elections while facing minimal outside pressure and the practice began decades prior to organized democracy promotion (Miller, 2013a).

The recent literature has focused attention on two purposes. First, overwhelming electoral victories display strength, currying popular resignation and preventing elite challenges (Blaydes, 2011; Geddes, 2006; Magaloni, 2006). Dominant parties cultivate a "public image of *invincibility* . . . [to] discourage potential divisions within the ruling party" (Magaloni, 2006, p. 9). To magnify this image, Simpser (2013) finds that ruling parties commit electoral fraud even when their victories are all but certain. Second, elections are occasions to distribute patronage to voters and potential opponents (Blaydes, 2011; Lust-Okar, 2006). Local representatives appeal to the central regime for government favors and citizens elect the legislators able to funnel the most spending to their district. In this way, elections also help to monitor and coopt local politicians (Blaydes, 2011).

However, by imagining voters as the passive recipients of patronage and manipulation, these explanations overlook how elections communicate opposition and popular demands. Autocratic elections feature considerable volatility—in EA regimes since 1975, a one-standard-deviation shift in the ruling party's seat share in each legislative election is about 21%. Moreover, these electoral swings often come as major surprises. Examples include Chile in 1988-1989, Mexico in 1988 and 2000, Singapore in 1991, Morocco in 2007, and Russia in 2011. Perhaps the most dramatic example is the Polish election of 1989. The incumbent Communist government expected to be competitive, if not win a large legislative majority, but failed to win a single one of the 261 openly contested seats.

Electoral surprises can also be highly consequential, having triggered several democratic transitions by signaling a popular demand for democracy (Cox, 2009; Pop-Eleches & Robertson, 2009). The 1988 plebiscite in Chile, for instance, convinced military leaders to accede to democracy despite President Augusto Pinochet's overwhelming grip on government institutions. A similar outcome occurred in Ecuador in 1979.[2] In other cases, poor electoral showings convinced regimes to de-liberalize to non-electoral

authoritarianism, as in Brazil in 1965 and Burma in 1990. Even the Bolsheviks held multiparty elections in 1917 shortly after seizing power in Russia. After unexpectedly placing second, they quickly dissolved the assembly and abandoned competitive elections. As I show later, dominant parties also regularly adjust policies based on election outcomes.

Information Revelation in Autocratic Elections

To make sense of why autocratic election outcomes matter, a growing literature argues that they reveal information. Gathering credible information is a critical problem in autocracies (Cox, 2009; Tullock, 1987; Wintrobe, 1998). Protests (Lorentzen, 2013) and free media (Egorov, Guriev, & Sonin, 2009) can reveal information, but are inherently difficult to control. Secret police and mass parties can aggregate information, but present severe credibility problems and independent threats (Congleton, 2001; Tullock, 1987). Several studies argue that autocratic legislatures facilitate information-sharing (Boix & Svolik, 2013; Gandhi, 2008; Gandhi & Przeworski, 2006), but the focus is instead on elite cooptation.

For a more comprehensive picture of their political strength, autocrats can analyze variation in vote support sub-nationally and across time to learn about citizen opposition (Ames, 1970; Case, 2006; Fearon, 2011; Herron, 2011; Magaloni, 2006), the behavior and competence of local leaders (Blaydes, 2011; Malesky & Schuler, 2011), and the strength of rivals such as the military (Cox, 2009; Geddes, 2006). As Brownlee (2007) states, autocratic elections "provide information about rulers, their critics, and the support competing factions command in the wider population" (p. 9). Sovietologists even noted the informational value of totalitarian elections, in which voters signaled their disaffection by ruining ballots (Karklins, 1986).

This article addresses two current limitations of this literature. First, existing work has failed to provide the micro-foundations for information revelation. The implicit logic is that voters are communicating their demands through their votes, but how is this information credible? If opposition is risk-free, why isn't it more widespread and why would regimes take these signals seriously? Conversely, if voters are rewarded for regime support, why do they ever register opposition? The next section details the logic of autocratic voting that explains how citizens credibly reveal their preferences and why dictators respond to these signals.

Second, I argue that information on citizen opposition is used by regimes to determine optimal policy concessions. Despite supportive case-study evidence, there exists no cross-country empirical analysis of autocratic elections

and policy responsiveness. This article fills this gap by showing that poor electoral showings by ruling parties predict policy concessions.[3]

The Logic of Autocratic Elections

No durable regime can rule by repression alone. To hold onto power, autocrats must satisfy a supporting group of elites and some segment of the masses. Although the threat of citizen revolt is a bedrock assumption of many studies of autocracy (Acemoglu & Robinson, 2006; Gandhi & Przeworski, 2006), about 60% of violent turnovers in autocracies are initiated by military actors, with a further 9% by other government actors (Goemans, Gleditsch, & Chiozza, 2009). As a result, much of the recent literature on autocratic institutions has focused on how rulers maintain their elite coalitions (Congleton, 2001; Geddes, 2006; Magaloni, 2006).

Autocrats with limited resources need to continually shift their favors between elites and the masses based on potential threats (Bueno de Mesquita, Smith, Siverson, & Morrow, 2003; Desai, Olofsgård, & Yousef, 2009; Gandhi, 2008; Magaloni, 2006), a balance that Magaloni and Kricheli (2010) term the "guns vs. votes" tradeoff. To complicate matters, the "masses" are really a collection of intersecting groups, often with opposing interests. Generally, groups revolt when they are sufficiently dissatisfied with the existing regime that the expected benefits and costs of opposition outweigh the status quo. It is thus highly valuable for autocrats to know how disaffected particular groups are. Armed with this knowledge, they can engage in strategic concessions to preempt violent popular revolt (Acemoglu & Robinson, 2006; Bohlken, 2010; Desai et al., 2009) or the coalescence of elite opposition (Greene, 2007; Magaloni, 2006).

Elections are an ideal method for gathering this information. Greater opposition at the ballot box communicates dissatisfaction with current policy. Local variation can also reveal threats from particular groups. Upon encountering these signals, autocrats can then implement strategic policy concessions in the form of general public goods or appeals to specific groups. In this way, the demands of citizens and the elite coalition can be precisely balanced.

Although several case studies concur that EA regimes respond to electoral opposition with policy concessions (Case, 2006; Eisenstadt, 2004; Magaloni, 2006), the problem of information credibility has not been satisfactorily addressed. If citizens gain policy concessions through their votes, why don't they always signal maximal dissatisfaction? In turn, how can these signals communicate any credible information?

I argue that this credibility problem is solved by the strategic tradeoff between two types of government responses. The first is what I refer to as

"policy," decisions that affect all citizens or broad cross-sections of a country. Included under this blanket term are political rights, taxes, general public goods, social protections, trade policy, and budget priorities like military versus education spending. When elections reveal a loss of support, regimes choose to concede on these general policy items to reduce citizen opposition.

The second type of government response involves targeted punishments and rewards at the individual or local level. Most obviously, these may be direct payoffs to government supporters, or alternatively punishments of opponents. Where individual targeting is not feasible, regimes instead target local areas with restrictions of government services, fewer economic opportunities, or outright repression. The favoring of precincts, towns, and regions according to electoral support is a near-universal feature of EA regimes. Case-study work has demonstrated this in Mexico (Magaloni, 2006), Egypt (Blaydes, 2011), Jordan (Lust-Okar, 2006), Singapore (Leong, 2000), Taiwan (Wang & Kurzman, 2007), and Napoleon III's France (Zeldin, 1958). In Egypt under the NDP, for instance, Blaydes (2011) finds that districts supportive of the opposition Muslim Brotherhood were less likely to subsequently receive public connections to sewer and water lines.

Defying the regime at the ballot box thus gains general policy concessions, but at a personal cost of lost patronage or increased repression. Because of this tradeoff, opposition voters credibly communicate the intensity of their political demands. For instance, preference outliers were the most likely to vote against Mexico's ruling PRI (Greene, 2007; Magaloni, 2006). The logic is similar to protest signaling—citizens willing to risk punishment through public protest make the strength of their opposition very clear. As a result, ruling parties can interpret vote losses as reliable signals of opposition and react with policy concessions. Note that ballot-stuffing and other forms of electoral fraud do not nullify this information-gathering as long as the regime itself sees the true vote tally.

This theory helps to connect and flesh out the two most prominent explanations of autocratic elections. First, it clarifies why strong regime victories signal a low likelihood of successful challenge, as they convey information about the weakness of citizen opposition. Second, the theory provides a central role for patronage in autocratic elections. In particular, patronage can serve two purposes. The general *level* of payoffs reduces average opposition and thereby substitutes for policy concessions. The *distribution* of payoffs makes opposition costly and, as a consequence, informative.

A Formal Model

The appendix presents a formal model of autocratic elections that validates this argument. Although simple in structure, it confirms that offering citizens

a tradeoff between individual benefits and policy concessions allows the ruling party to credibly determine voters' preferences and in turn the optimal balance of policy.

Two sets of actors are involved. On one side is the ruling party or leader, referred to as the *dictator*. On the other side are groups of voters, representing either electoral districts or citizen types spread across the electorate. The dictator chooses a policy on a one-dimensional space, as well as targeted payoffs to each group. Although the dictator is motivated to balance the demands of the elite coalition (defined by a policy ideal point) and citizens, he or she does not know the location of the group ideal points.

To gather information, the dictator holds an election, in which each group sends a signal of its support. Lower vote support communicates greater opposition to the regime and thus a greater demand for policy concessions. However, each group is then motivated to exaggerate its dissatisfaction to gain more concessions. To make the electoral signaling credible, payoffs to the group are simultaneously decreased. As the appendix shows, the proper payoff function incentivizes all groups to reveal their true preferences. This holds true taking into account the free-rider problem and regardless of voters' beliefs about each other's preferences. Moreover, since the dictator only needs group vote totals, the model works without violation of the secret ballot.

The model leads to two main hypotheses for policy choice.[4] First, reduced vote support signals greater citizen dissatisfaction, leading the dictator to shift policy.

Hypothesis 1: Declining vote totals for the dictator will predict policy concessions.

The following section provides examples of such policy concessions. This is further tested using election results to predict changes in three types of government spending.

Second, the model also distinguishes regimes by their costs in dispersing patronage. Resource-rich autocracies, for instance, have ready access to abundant rents and can thus cheaply disperse patronage to mollify their citizens (Greene, 2007, 2010). As policy concessions and overall payoffs serve as substitutes in reducing citizen dissatisfaction, we should expect these regimes to rely less on policy compromise.

Hypothesis 2: The degree of policy responsiveness will be lower when the dictator's cost of dispersing patronage is lower.

I confirm below that policy responsiveness is absent in autocratic regimes with high levels of natural resource wealth.

Information-Gathering in Autocratic Elections

We now turn to case-study evidence showing that autocratic elections reveal information that ruling parties use to adjust policy. Election outcomes can communicate at least three types of information. Most simply, autocrats can ascertain their overall popular support, leading to policy concessions of general interest. Second, they can determine how their support varies across groups and regions. Lastly, they can scrutinize the success of particular opposition parties to identify new issues of public concern. I find evidence of all three in the illustrative case of Singapore.

General Support

The most straightforward electoral signal is the general level of support for the ruling party (Case, 2006; Eisenstadt, 2004; Magaloni, 2006), which in turn allows ruling parties to calibrate their spending priorities. For instance, Case (2006) argues that autocratic elections in Singapore and Taiwan served "to provide feedback, registering fluctuations in support so that governments might adjust their policy course but never leave office" (p. 96). However, this article is the first to test such an electoral mechanism cross-nationally.

Group Support

EA regimes also employ elections to ascertain the geographic distribution of votes, which can indicate where elite rivals are located and how citizen support varies by features like ethnicity, age, and income (Ames, 1970; Herron, 2011; Magaloni, 2006). In autocratic Poland and Mexico, for example, elections allowed rulers to "acquire information about incumbent and opposition popularity across segments of the population" (Eisenstadt, 2004, p. 36). Pravda (1978) concurs that Polish elections under Communism allowed for "the grouping of regions and cities according to levels of political acceptance" (p. 192). Schmitter (1978) identifies the same phenomenon in Portugal's highly uncompetitive elections from 1933 to 1974.

This type of information-gathering was even evident in arguably the first identifiable EA regime, France under Napoleon III (1848-1870). We find all the familiar elements of modern electoral autocracies: universal male suffrage in uncompetitive elections, a nearly powerless legislature, a mass party structure (with government-appointed mayors in each town), and an extensive use of patronage to reward loyalists for pro-government votes (Zeldin, 1958). This system allowed for the sophisticated analysis of variation in vote support. In the 1857 election, for instance, "The ministers were less impressed

by the huge total majority than by the strength of the republicans in the towns and the danger it boded for the future" (Zeldin, 1958, p. 75). Napoleon III himself commented, "We must reflect seriously about the results of the last elections, but it all consists in finding the means to reduce the number of discontented in Paris and Lyons" (quoted in Zeldin, 1958, p. 77). Hence, as far back as the 1850s, autocrats were using semi-competitive elections to draw inferences about opposition threats and potential responses.

Opposition Innovation

Although it has recently become the norm, not all electoral autocracies have allowed multiparty competition. Many autocracies have countenanced either no alternative at all (North Korea, the Soviet Union), a choice of multiple candidates from a single party (Tanzania in 1965, Cameroon in 1985), opposition only from independents (Vietnam, China), or opposition from regime-controlled alternative parties (Senegal under Leopold Senghor, Egypt in 1976).[5] As such systems are often sufficient to gauge variation in ruling party support,[6] why do autocracies allow multiparty competition? I argue that opposition parties serve three types of information-gathering functions.

First, the popularity of specific parties can indicate the direction of citizen policy preferences. For instance, Mexico's ruling PRI "tacked back-and-forth between the left and the right over time" based on electoral gains by the populist PRD or conservative PAN (Greene, 2007, p. 73). After a sharp rise in support for pro-business "NDP-independents" in 2000, Egypt's ruling NDP incorporated them into the party's General Secretariat and adjusted economic policy to reflect the growing power of modernized business interests (Brownlee, 2007, p. 134).

Second, opposition parties are motivated to find new issues of public concern, an innovative function that can warn ruling parties of potential cleavages. As Huntington (1968) explains,

> the minor parties play a significant role as bellwethers or warning devices, the rise and fall in their votes indicating to the dominant party the directions in which it must move to maintain its dominant position either by assimilating new groups or by innovating policies. (p. 147)

For instance, after legalizing opposition parties in 1977, Egyptian President Anwar Sadat reacted with "constant policy innovations by which the President sought to stay a step ahead of his opponents" (Hinnebusch, 1985, p. 71). Opposition elements became sources of pressure for "articulating ideals and interests unrepresented in the dominant party" (Hinnebusch, 1985, p. 221). In

Malaysia, the government performed poorly in a 1999 election following the Asian financial crisis and opposition claims that policies favored business elites. In response, Prime Minister Mahathir Mohamad forced a pro-business finance minister from office, canceled several government-funded mega-projects, and started enforcing corruption rules (Case, 2006, pp. 107-108).

Third, opening a single-party regime to competition is seen by many autocrats as a way to reinvigorate sclerotic party bureaucracies. According to Coulon (1990), Senegal's President Abdou Diouf opted to legalize opposition parties in 1981 to "incite the Socialist party to renew itself in order to keep its dominant position" (p. 425) and to open up "the lines of communication between the government and the civil service on the one hand and the citizens on the other" (p. 428). Liberalization measures in Napoleon III's France in 1860 resulted from a similar impulse. Zeldin (1958) quotes a key government figure arguing in favor of the reforms: "A government not subject to control or to criticism is like a ship without ballast. The absence of contradiction blinds a government and sometimes leads it astray" (p. 127).

Illustrative Case: Singapore

In many ways, Singapore represents a least-likely case for this article's theory. Despite allowing multiparty competition since independence, the ruling PAP has not been seriously challenged in decades, never losing more than 6 of 87 legislative seats since 1963 (and not more than 4 seats prior to 2011). Moreover, the PAP's leaders emphasize a technocratic policy-making style above public pressures (Mutalib, 2003; Worthington, 2003). A common metaphor is that Singaporean elections are like a report card on the previous 5 years of government rule. If these years were prosperous, the voters accede to another 5 years, during which the government rules in the manner it thinks best.

Even so, the PAP is not immune to public demands. Worthington (2003) affirms that "the government has found the flexibility to change policy in response to feedback on large scale general public dissatisfaction" (p. 48). The government gathers extensive policy input through open media, constituency meetings, and institutions like the Feedback Unit, which has allowed it to "establish a profile of the electorate . . . [to] galvanise public support for its policies and programs . . . and neutralise pockets of political opposition" (Mutalib, 2003, p. 275).

Elections are another central source of public input. In a 2009 survey, 85% of Singaporeans agreed that voting was "the most meaningful way in which to tell the government how the country should be run."[7] To make this information credible, Singapore's rulers openly acknowledge the use of patronage

to punish opposition strongholds. Precincts that elect opposition legislators are routinely denied upgrades to public housing (Leong, 2000; Mauzy & Milne, 2002, p. 94; Worthington, 2003, p. 43; Yeo, 2002, pp. 220-221), the source of housing for more than 80% of Singaporeans. A 2006 news story on the PAP's official website announced a promise by Senior Minister Goh Chok Tong that districts would "lose out on upgrading by not voting the PAP in the coming General Elections." As Prime Minister, Goh warned that opposition strongholds "will become slums" (quoted in Case, 2006, p. 106).

The regime reacts to signs of erosion in electoral support by innovating and adapting policies. In the 1984 election, the opposition criticized a controversial plan, called the Graduate Mother Scheme, designed to encourage procreation by well-educated women. The plan was "pinpointed as responsible for the PAP's decline in the popular vote" by Prime Minister Lee Kuan Yew and was quickly withdrawn the following year (Mauzy & Milne, 2002, p. 150). In 1997, the PAP pivoted to make housing improvement a focus of its legislative campaign following an enthusiastic response in a local election (Leong, 2000).

Perhaps the best test is to see how the PAP adjusted policy following its disappointing electoral performance in 1991, when it saw its popular vote total drop to 60%, its worst showing since 1963. Despite losing only four legislative seats, this outcome "sent shock waves through the PAP" (Worthington, 2003, p. 41), with party leaders "focused on policies and the process of policy-making to identify the causes of PAP's disappointment" (Leong, 2000, p. 200). Several political observers pointed to a deterioration in support among poorer voters and the Chinese majority. Indeed, the three new seats lost were all in Chinese working-class districts, leading the Deputy Prime Minister to comment that the Chinese majority "felt neglected by the government and sent 'the PAP an important signal'" (Mauzy & Milne, 2002, p. 151). Chua Beng Huat, a scholar in Singapore, claims that this led the PAP to increase its representation of Chinese ministers.[8] In addition, in 1992, the PAP founded the Chinese Development Assistance Council, a redistributive community development and social services organization specifically aimed at Chinese citizens (Worthington, 2003, p. 49).[9] In total, social welfare spending (defined below) rose from 0.46% to 0.65% of GDP between 1991 and 1993.

Autocratic Elections and Policy Choice

Spending Indicators

We now turn to more systematic evidence that vote losses for ruling parties predict policy concessions. To test this, I look at post-electoral shifts in

education, social welfare, and military spending in a global sample of EA regimes from 1975 to 2004. To test Hypothesis 2, I also show that policy responsiveness is absent in resource-rich regimes.[10] Results referenced but not shown in the article are available in an online appendix.

Testing public spending carries several empirical advantages. Spending is clearly measurable, comparable across time and country, and changeable over a short time period. Further, existing studies of public opinion and the policy impact of democracy provide clear expectations for the spending categories favored by average citizens. Specifically, increases in education and social welfare spending constitute general policy concessions, whereas increases in military spending indicate greater attention to satisfying elites.[11] These choices closely follow those in Gandhi (2008), which argues that autocratic legislatures correlate with policy concessions.[12]

A potential concern is that these spending measures could be tracking institutionalized patronage, the flip side of the regime's electoral response. However, the payoffs most often employed by ruling parties are unlikely to go on the books as military or education spending. Patronage sometimes flows through anti-poverty programs (Magaloni, 2006), but social welfare spending is primarily made up of social security and pensions with wide coverage. More importantly, this article's theory and existing evidence posit that patronage and vote support move together. Thus, if popular spending measures are tracking patronage, they should *increase* with the regime's vote gains, the opposite relationship to what I find. The results provide clear evidence that rewards are not the sole consequences of regime support in elections. Rather, there are dual effects of targeted rewards and reduced policy concessions.

Empirical Approach

To test how electoral outcomes affect shifts in spending, I use an ECM, a standard empirical approach for predicting government spending (De Boef & Keele, 2008; Gandhi, 2008). ECMs predict changes in a variable of interest from changes in the independent variables and lagged levels of all variables. The general form of the ECM is the following:

$$\Delta Y_{it} = \alpha Y_{it\text{-}1} + \beta \Delta X_{it} + \gamma X_{\text{it-}1} + \nu_i + \varepsilon_{it}, \quad (1)$$

where subscript i denotes countries and t denotes time. Y_{it} is a spending measure, X_{it} is a set of independent variables, the v_i are country fixed effects, and ε is an error term.

An advantage of ECM analysis is that it can distinguish direct, immediate effects of changes in the independent variables from longer term effects. Coefficients on ΔX_{it} indicate the former and coefficients on X_{it} indicate the latter (De Boef & Keele, 2008).[13] The only alteration to the basic ECM framework in the current article is that changes are calculated over two years rather than one to allow sufficient time for electoral results to translate into spending changes. Hence, if an election occurs in year t, the dependent variable is spending change from year t (the last budget decided by the previous legislature) to year $t + 2$. All other change variables are calculated similarly. To minimize multi-collinearity, the level variables (including lagged spending) are from year $t + 1$.[14]

The main explanatory variable of interest is the electoral shift in the ruling party's share of legislative seats (*Electoral Change*). As larger values indicate rising regime strength, its coefficient is expected to be negative for education and social welfare spending and positive for military spending. I also test whether the effect varies by a country's natural resource wealth. As shown in the online appendix, results are substantively identical using shifts in government *vote* shares, both in legislative and presidential elections.[15]

Model types. The main results use ordinary least squares (OLS) with robust standard errors clustered by country.[16] Several alternatives are tested as robustness checks. First, given budget constraints, different types of spending may be jointly determined, making independently run regressions unbiased but inefficient. To address this concern, I run a seemingly unrelated regression (SUR) analysis that allows the residuals from multiple equations to be correlated.

Second, the models are tested using panel-corrected standard errors (PCSEs) with an AR(1) correction for serial correlation, as recommended by N. Beck and Katz (1995). PCSEs account for both heteroskedasticity and contemporaneous correlations across units.[17] Because of sample size, the SUR and PCSE analyses are only run for education and military spending.

Lastly, to demonstrate the causal effect of electoral shocks, I run identical ECMs predicting spending shifts in the years prior to elections and in periods beginning 2 years after elections. If rulers gauge their support through non-electoral means, or the results are otherwise caused by omitted variables, spending decisions should anticipate the electoral outcomes. In fact, electoral outcomes relate to spending changes only in the periods immediately following elections, implying that they genuinely reveal information.

Electoral fraud. A critical empirical concern that must be addressed is the impact of electoral fraud. Although undoubtedly a factor in many of these

elections, there is extensive precedent for using autocratic election results to empirically analyze topics like patronage distribution (Blaydes, 2011; Magaloni, 2006), political cleavages (Ames, 1970; Malesky & Schuler, 2011), and sources of party dominance (Greene, 2010; Schedler, 2013). If fraud makes *Electoral Change* a noisy measure of actual voting, this will bias the results away from significance. However, a great deal of electoral volatility is still evident. *Electoral Change* has a standard deviation of 21% of legislative seats, and hence is picking up significant shifts in voting. Further, I control in each of the models for allegations of fraud by international election monitors (Hyde & Marinov, 2012). This variable does not approach significance in any model, nor does omitting the cases with fraud allegations affect the main results.

Data and Sample

The sample consists of all legislative elections and shifts in legislative seat shares that occurred within EA regimes from 1975 to 2004. An EA regime is any autocracy (as coded by Hadenius & Teorell, 2007) that allows multiple parties to compete in legislative elections, according to the Database of Political Institutions (DPI) (T. Beck, Clarke, Groff, Keefer, & Walsh, 2001; Keefer, 2010).[18] The sample omits EA regimes that democratized within 2 years of the election, which ensures that all spending figures are taken from continuing EA regimes.[19]

DPI codes for the government's share of legislative seats (*Electoral Control*), which includes party fronts and allied parties. The main explanatory variable, *Electoral Change*, equals the shift in *Electoral Control* in the election. To maximize coverage, I include all years in which *Electoral Control* changes, often due to special elections. The total is 269 cases across 86 countries, 203 of which correspond to full legislative elections. A small number of cases are lost in the military and education models because of missing data; a much larger number are lost for social welfare.

The spending variables are coded as a percentage of GDP. *Education Spending* is total public expenditures on primary, secondary, and tertiary education (UNESCO Institute for Statistics, 2007). *Social Welfare Spending* is all expenditures on social security and welfare (which does not include education, health, or housing), taken from Easterly's (2001) coding of IMF Government Finance Statistics data. *Military Spending* is total expenditures on the military (Norris, 2008; World Bank, 2011).

Control variables. I initially show the results including only country fixed effects and the necessary elements of the ECM. Further models all include the following controls:

- *Electoral Control*, the ruling party's share of legislative seats. The coefficient indicates the long-term effect of ruling party strength on spending and is expected to have the same sign as *Electoral Change*.
- The lagged level of spending, as required by the ECM framework.[20]
- *Legislative Turnover*, a dummy variable coded by Hyde and Marinov (2012). In 45 of 269 cases, countries experience legislative turnover, but do not democratize. This can occur if the incumbents maintain power because of control of the executive (e.g., Albania 1991, Russia 1995) or a new party maintains dictatorial rule (e.g., Zambia 1991, Ukraine 1994). The variable tests whether changed legislative control influences spending beyond the shift in seat shares.
- *Electoral Fraud*, a dummy variable for whether international election monitors reported fraud (Hyde & Marinov, 2012).
- *GDP/capita* (natural-logged, in real 2000 dollars, from K. S. Gleditsch, 2002) accounts for economic development. Also included is the change in *GDP/capita*, a measure of economic growth, which should simultaneously affect vote support and spending constraints.
- The level and change in *Resource Dependence*, total resource revenues from oil, gas, coal, and metals as a percentage of GDP (Haber & Menaldo, 2011). Expectations are unclear. Resource-rich countries can spend more on public goods, but have less need to do so because they can distribute more patronage.[21]
- To account for time trends, the models include linear and quadratic terms for *Year*.

Further control variables, all included as both levels and changes, are specific to each type of spending. The education models account for the percentage of the population under 15 (*Youth %*, from World Bank, 2011). To account for the size of the non-working population, the social welfare models control for the percentage of the population below 15 or above 64 (*Dependents %*, from World Bank, 2011). The military models control for whether the country's executive is a military officer (*Military Leader*, from T. Beck et al., 2001; Keefer, 2010) and whether the country is involved in an interstate or civil war (*War*, from N. P. Gleditsch, Wallensteen, Eriksson, Sollenberg, & Strand, 2002; Sarkees & Wayman, 2010).[22] Both are expected to be positive for military spending.

The online appendix shows that the results are robust to controlling for the level and change in two further variables: electoral turnout (International Institute for Democracy and Electoral Assistance, 2012) and *Polity*, a 21-point measure of democracy (Marshall & Jaggers, 2010). The latter tests the alternative hypothesis that election outcomes and spending are both products of shifts in a country's democratic character. However, *Polity* is non-significant in all models.

Results

As a preface, Figure 1 displays the means of each spending type based on electoral proximity, with 0 indicating an election year. Each series shows virtually no change in spending as elections approach.[23] The online appendix further shows ECMs (with the standard controls) that find no direct relationship between electoral proximity and spending change. Hence, closeness to an election is not sufficient for ruling parties to alter spending. Rather, parties react to the *outcomes* of elections.

Tables 1 to 3 present the results for education, social welfare, and military spending, respectively. In each, Model 1 is the stripped-down model without controls. Model 2 is the benchmark model, estimating the ECM using OLS with robust standard errors clustered by country. For education and military spending, the base model is tested using a SUR setup (Model 3) and PCSEs (Model 4). The final model in each table divides the effect of *Electoral Change* by resource dependence.

In each model of Table 1, *Electoral Change* has a large and significantly negative coefficient, verifying that falling regime support predicts higher education spending. Model 2 implies that a government loss of 20% of the legislature increases education spending by about 0.26% of GDP.[24] The results are unchanged using either a SUR setup[25] or PCSEs. Few other variables predict changes in education spending. *Electoral Control* has an insignificant negative coefficient, indicating a long-term negative effect of ruling party strength. *Youth %* has a positive long-term effect, but a negative immediate effect because year-to-year increases are due to newborns. Wealthier countries spend more on education, but resource dependence has no effect.

Table 2 presents results for social welfare spending. Despite a sample limited to 67 elections, the results are significant and robust. As with education, *Electoral Change* has a strong negative effect on social welfare spending. Model 2 implies that a government loss of 20% of the legislature increases social welfare spending by 0.29% of GDP.[26] *Electoral Control* is also negative. The only other borderline significant finding is that resource dependence increases social spending (long-term).

The results for military spending in Table 3 are supportive, but more mixed. In each model, the coefficient on *Electoral Change* has the expected positive sign and is substantively quite large.[27] According to Model 2, a government gain of 20% of the legislature increases military spending by 1.65% of GDP.[28] However, the coefficient is only significant in the SUR and PCSE models, as is the coefficient on *Electoral Control*. Among other variables, the installation of a military leader predicts a large increase in military spending. *Resource Dependence* and *Legislative Turnover* are negatively related, but the effects are inconsistently significant.

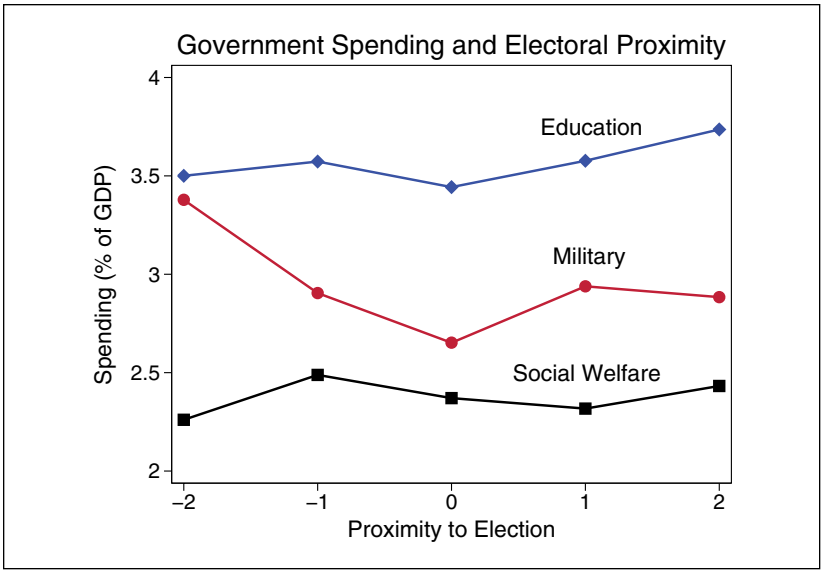

Figure 1. The figure shows the means of education, military, and social welfare spending (as % of GDP) by proximity to an election.
The value 0 indicates an election year and −1 indicates one year prior to an election. The sample is all electoral authoritarian regimes from 1975 to 2004. As seen, there is no relationship between spending and electoral proximity. (N = 864).

In total, the empirical results provide strong support for Hypothesis 1. Across the 10 models, all 10 coefficients on *Electoral Change* are in the predicted direction, 8 are significant at the .05 level, and 6 are significant at the .01 level. This indicates a robust relationship between *Electoral Change* and spending behavior.

As for other variables, *Electoral Control* has the same sign as *Electoral Change* in all 10 models, suggesting that ruling party dominance exerts both a short-and long-term effect on policy. Wealthier countries spend more on education and insignificantly less on the military. Income growth is insignificantly positive for spending in every model. Surprisingly, *Resource Dependence* does not have a discernible effect on spending.

An alternative interpretation of the results is that the opposition garners actual decision-making power through electoral gains, which is then leveraged to shift spending. If this were true, the opposition gaining control of the legislature should yield a particularly strong effect. However, *Legislative Turnover* presents mixed and mostly null results. This is consistent with the existing literature, which argues that autocratic legislatures serve mainly as

Table 1. Error Correction Models Predicting Education Spending.

	OLS		SUR	PCSE	OLS
DV = Δ Education spending	(1)	(2)	(3)	(4)	(5)
Electoral change	−1.324**	−1.306**	−1.307***	−1.290**	
	(−3.10)	(−2.80)	(−3.56)	(−3.13)	
Electoral change × Non-resource state					−1.558***
					(−3.57)
Electoral change × Resource state					−0.201
					(−0.36)
Electoral control	−0.911	−0.668	−0.667	−0.641	−0.643
	(−1.63)	(−1.11)	(−1.25)	(−1.47)	(−1.11)
Education spending	0.135	0.089	0.089	0.102	0.092
	(1.36)	(1.05)	(1.53)	(0.84)	(1.06)
Legislative turnover		−0.242	−0.241	−0.264*	−0.241
		(−1.40)	(−1.83)	(−2.51)	(−1.42)
Electoral fraud		−0.033	−0.031	−0.031	0.003
		(−0.19)	(−0.15)	(−0.24)	(0.02)
Δ Youth %		−0.281*	−0.282*	−0.247	−0.256*
		(−2.28)	(−2.42)	(−1.76)	(−1.99)
Youth %		0.039	0.041	0.027	0.039
		(1.38)	(1.18)	(0.81)	(1.40)
Δ GDP/capita (ln)		0.218	0.242	0.323	0.238
		(0.37)	(0.41)	(0.69)	(0.39)
GDP/capita (ln)		1.273	1.271**	1.212*	1.216
		(1.74)	(3.10)	(2.40)	(1.64)
Δ Resource dependence		−0.003	−0.003	0.003	−0.012
		(−0.20)	(−0.16)	(0.20)	(−0.75)
Resource dependence		−0.005	−0.005	0.006	0.000
		(−0.23)	(−0.23)	(0.24)	(0.02)
Year		−8.752*	−8.641*	−0.015	−8.518*
		(−2.07)	(−2.11)	(−1.27)	(−2.02)
Year^2		0.002*	0.002*	0.000	0.002*
		(2.07)	(2.11)	(0.91)	(2.02)
Country fixed effects?	Y	Y	Y	Y	Y
n	237	236	230	236	236
Countries	76	76	72	76	76
R^2	.386	.449	.421	.433	.466

The error correction models predict changes in education spending following elections, based on changes in ruling party support. The sample includes all electoral authoritarian regimes from 1975 to 2004. Electoral gains by the ruling party lead to decreases in education spending, but only in non-resource-dependent states. *t* statistics (based on robust standard errors clustered by country) are shown in parentheses. OLS = ordinary least squares; SUR = seemingly unrelated regression; PCSE = panel-corrected standard errors. *p < .05. **p < .01. ***p < .001.

Table 2. Error Correction Models Predicting Social Welfare Spending.

	OLS		
DV = Δ Social welfare spending	(1)	(2)	(3)
Electoral change	−1.909*	−1.430**	
	(−2.57)	(−3.17)	
Electoral change × Non-resource state			−1.420**
			(−2.96)
Electoral change × Resource state			−0.267
			(−0.08)
Electoral control	−2.039*	−1.177	−1.051
	(−2.32)	(−1.71)	(−1.38)
Social welfare spending	0.116	0.203	0.205
	(0.42)	(0.69)	(0.69)
Legislative turnover		0.414	0.438
		(0.67)	(0.66)
Electoral fraud		−0.093	−0.149
		(−0.09)	(−0.16)
Δ Dependents %		−0.142	−0.151
		(−0.68)	(−0.65)
Dependents %		0.038	0.048
		(0.29)	(0.32)
Δ GDP/capita (ln)		1.075	1.275
		(0.48)	(0.51)
GDP/capita (ln)		−0.610	−0.757
		(−0.52)	(−0.70)
Δ Resource dependence		−0.002	0.003
		(−0.03)	(0.04)
Resource dependence		0.072	0.069
		(1.86)	(1.83)
Year		48.060	50.660
		(1.09)	(1.03)
Year^2		−0.012	−0.013
		(−1.09)	(−1.03)
Country fixed effects?	Y	Y	Y
n	67	67	67
Countries	24	24	24
R^2	.369	.489	.490

The error correction models predict changes in social welfare spending following elections, based on changes in ruling party support. The sample includes all electoral authoritarian regimes from 1975 to 2004. Electoral gains by the ruling party lead to significant decreases in social welfare spending, but only in non-resource-dependent states. *t* statistics (based on robust standard errors clustered by country) are shown in parentheses. OLS = ordinary least squares.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 3. Error Correction Models Predicting Military Spending.

	OLS		SUR	PCSE	OLS
DV = Δ Military spending	(1)	(2)	(3)	(4)	(5)
Electoral change	8.288	8.236	7.808*	8.815**	
	(1.18)	(1.32)	(2.30)	(2.73)	
Electoral change × Non-resource state					9.059
					(1.29)
Electoral change × Resource state					5.191
					(0.76)
Electoral control	11.466	11.360	12.924**	12.080*	11.050
	(1.54)	(1.48)	(2.72)	(2.38)	(1.51)
Military spending	1.440***	1.354***	1.336***	1.360	1.360***
	(6.53)	(8.58)	(8.31)	(1.52)	(8.18)
Legislative turnover		−1.750	−1.885	−1.735*	−1.722
		(−1.07)	(−1.55)	(−2.08)	(−1.05)
Electoral fraud		−0.074	−1.083	−0.060	−0.169
		(−0.09)	(−0.57)	(−0.14)	(−0.20)
Δ War		1.414	1.888	1.398	1.317
		(0.41)	(1.19)	(0.70)	(0.37)
War		4.226	5.117***	4.421*	4.236
		(1.52)	(3.47)	(2.25)	(1.53)
Δ Military leader		10.100	15.190***	10.070	10.030
		(1.33)	(5.27)	(1.93)	(1.33)
Military leader		−4.072	−5.841**	−4.119	−4.145
		(−1.17)	(−2.65)	(−1.60)	(−1.18)
Δ GDP/capita (ln)		4.730	7.586	5.071	4.692
		(1.13)	(1.39)	(1.91)	(1.09)
GDP/capita (ln)		−2.867	−3.451	−3.081	−2.875
		(−0.97)	(−0.96)	(−1.38)	(−0.97)
Δ Resource dependence		−0.437	−0.539**	−0.401	−0.422
		(−1.22)	(−2.98)	(−1.70)	(−1.28)
Resource dependence		−0.379	−0.412*	−0.368*	−0.398
		(−1.37)	(−2.06)	(−2.48)	(−1.31)
Year		−67.590	−69.198	−63.190*	−70.020
		(−1.83)	(−1.85)	(−2.11)	(−1.74)
Year^2		0.017	0.017	0.016*	0.018
		(1.83)	(1.85)	(2.11)	(1.74)
Country fixed effects?	Y	Y	Y	Y	Y
n	263	263	230	263	263
Countries	84	84	72	84	84
R^2	.498	.575	.606	.575	.576

The error correction models predict changes in military spending following elections, based on changes in ruling party support. The sample includes all electoral authoritarian regimes from 1975-2004. Electoral gains by the ruling party lead to increases in military spending. *t* statistics (based on robust standard errors clustered by country) are shown in parentheses. OLS = ordinary least squares; SUR = seemingly unrelated regression; PCSE = panel-corrected standard errors.

* $p < .05$. ** $p < .01$. *** $p < .001$.

sources of bargaining and rhetoric rather than as constraints on the executive (Blaydes, 2011; Lust-Okar, 2006; Malesky & Schuler, 2010).

In additional tests, I find no evidence that more contentious forms of political action—such as protests, strikes, and riots—affect spending levels.[29] Thus, EA regimes channel popular demands through relatively safe electoral procedures rather than potentially violent forms of mass contestation. Besides the reduced danger, this may be because protestors and rioters are not necessarily representative citizens, whereas elections provide a broad picture of citizen sentiment.

Policy responsiveness and resource dependence. I now test the prediction that natural resource wealth, by facilitating the use of patronage, reduces policy responsiveness. I interact *Electoral Change* with *Resource State*, a dummy variable for whether natural resource revenues exceed 5% of GDP (Haber & Menaldo, 2011).[30] This captures the policy responsiveness specific to resource-rich states. I compare this to the coefficient on *Electoral Change* × *Non-Resource State*, which is predicted to be larger in magnitude.

The results, shown in the final models of Tables 1 to 3 and pictured in Figure 2, provide strong support for Hypothesis 2. For education and social welfare, *Electoral Change* × *Non-Resource State* has a highly significant negative effect on spending. In comparison, the coefficient on *Electoral Change* × *Resource State* is a fraction of the size and does not approach significance. For military spending, the electoral effect is about half the magnitude in resource-rich states. Hence, significant policy responsiveness is limited to autocratic states low in resource wealth.

This finding helps to illuminate why natural resource dependence has negative consequences for both economic growth (Ross, 1999) and democracy (Greene, 2007; Jensen & Wantchekon, 2004; Ross, 2001; but see Haber & Menaldo, 2011). Instead of directly affecting policy, resource wealth conditions whether autocratic leaders respond to opposition at the ballot box. This complements a key mechanism for the resource curse, which Ross (2001) calls the "rentier effect," that posits autocrats use resource revenues "to relieve social pressures that might otherwise lead to demands for greater accountability" (p. 332). By promoting unconstrained and unresponsive political institutions, resources limit democratic development. By insulating governments from popular demands, resources also reduce the need to coopt citizens through growth-promoting policies like education spending, with long-term negative consequences for human and economic development.

Pre-and post-election tests. To demonstrate that election outcomes cause the spending shifts, I now turn to predictions of policy change over the 2 years

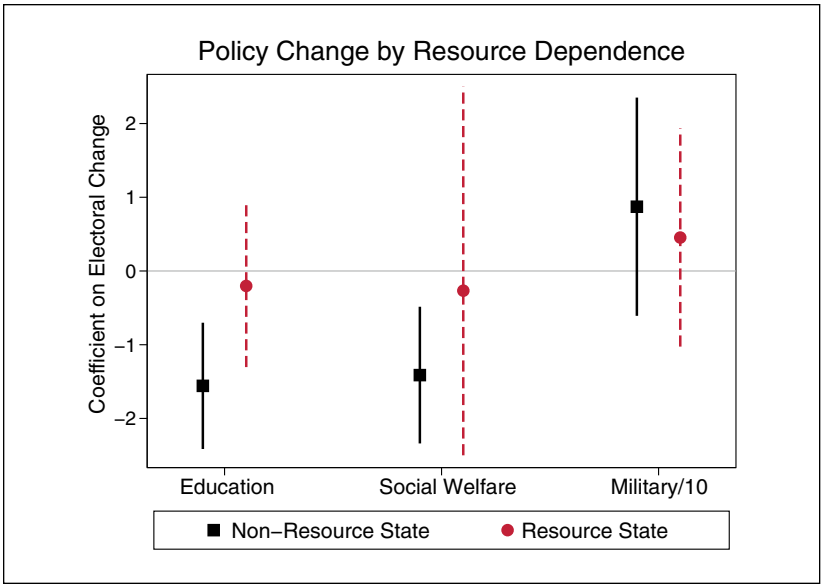

Figure 2. The figure displays the coefficients on *Electoral Change* (with 95% confidence intervals) depending on whether or not the country is highly resource-dependent (*Resource State*).
The significantly negative relationship between ruling party support and education and social welfare spending is limited to non-resource states, implying that resource dependence reduces policy responsiveness. For ease of comparison, the coefficients predicting military spending are divided by 10 and the standard error for social welfare in non-resource states is capped.

prior to elections. If regimes gauge changes in popular support independently of elections or omitted variables are generating the association, then we should find policy shifts that anticipate electoral shocks. If, however, the effect only holds following elections, this is evidence that elections are playing a causal role. I also look at later post-election policy shifts.

To be precise, suppose an election occurs in year t. The Pre-Election models predict spending changes from $t - 2$ to t, the Election models (the main models discussed above) from t to $t + 2$, and the Post-Election models from $t + 2$ to $t + 4$. The models are ECMs equivalent to Model 2 in Tables 1 to 3, with the years for all variables except *Electoral Change* adjusted appropriately.

Figure 3 visually summarizes the nine models, showing the coefficients (with 95% confidence intervals) for *Electoral Change*. Again, *Electoral Change* is significantly negative for education and social welfare spending

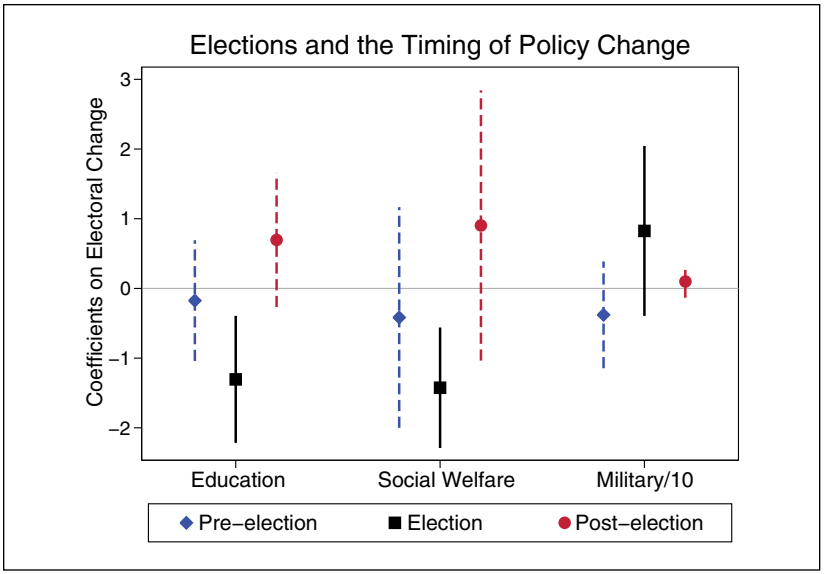

Figure 3. The figure displays the coefficients on *Electoral Change* (with 95% confidence intervals) from nine ECM regressions predicting 2-year changes in spending prior to the election, immediately following the election, and post-election.

Electoral shifts favoring the ruling party predict lower education and social welfare spending, but only immediately following the election. This suggests that electoral shocks have a causal effect on spending patterns. ECM = error correction model.

and insignificantly positive for military spending in the 2 years immediately following the election. However, no effect is found for spending in the Pre-Election tests. Hence, voter opposition leads to policy change only in the aftermath of elections and their revelation of information. An interesting finding is that the Post-election effects are opposite in sign to the Election effects for education and social welfare, although smaller and insignificant. This suggests that some of the policy concessions are gradually seized back.

Conclusion

Contrary to much conventional wisdom, autocratic elections matter for policy. The outcomes of even heavily manipulated elections provide invaluable information on a regime's level of opposition. To ensure that citizen demands are credible, autocratic rulers offer a balanced combination of patronage and policy change. As a result, falling vote totals for ruling parties predict policy

concessions on government spending. As predicted, this policy responsiveness is absent in resource-rich autocracies.

Although this is not the only role played by elections, this article reinterprets electoral and policy behavior in the majority of the world's autocracies. The findings have a range of implications for the politics of autocratic elections, transitions to and from EA, and the political effects of natural resource dependence. In particular, they imply that researchers should treat autocratic elections not merely as facades but as arenas for substantive contestation and communication.

A final question is what this article suggests about the desirability of encouraging autocratic elections, a major plank of democracy promotion strategy for decades (Carothers, 1999; Levitsky & Way, 2010). Lust-Okar's (2006) findings on elections and patronage lead her to seriously questions this approach, as "such elections are more likely to help sustain the authoritarian regime than they are to promote democracy" (p. 468). This paper's findings point in two directions. On one hand, elections help to facilitate policy concessions on matters of public interest. On the other hand, consistent with Lust-Okar's perspective, elections serve as tools of autocratic control and resilience. How these effects balance out, and what they imply for democratization, are open questions for both scholars and democracy promoters.

Appendix

A Formal Model of Autocratic Elections

This appendix shows formally that electoral signaling of popular demands can be credible if voters are offered a tradeoff between patronage and policy concessions.[31] Lower vote support from a group communicates greater opposition to the regime, leading to general policy concessions. To make this signaling credible, payoffs to the group are simultaneously decreased. With this mechanism in place, groups reveal their true preferences.[32]

Basic Elements and the Perfect-Information Case

As in Gandhi (2008) and Desai, Olofsgård, and Yousef (2009), the basic framework is a one-dimensional spatial model. The *dictator* chooses a policy $X \in \mathbb{R}$. This reflects all major political decisions, such as taxes, spending, and repression. The dictator has an ideal point *D*, which incorporates the preferences of the supporting elite coalition. *N* citizen groups (indexed by *i* and with $N \geq 3$) have ideal points $\{X_i\}$, with mean $\bar{X}$. Without loss of generality, assume $D > \bar{X}$. All actors face utility losses equal to the squared distance of their ideal points from *X*.

The dictator additionally distributes targeted payoffs $\{k_i\}$ (not necessarily positive) to each group. These payoffs incorporate both patronage and punishment. To distinguish among different types of autocracies, the payoff k_i costs the dictator αk_i, where $\alpha > 0$ captures the difficulty of distributing rents and punishments. For instance, resource-rich states can access enormous revenues to distribute to loyal citizens, implying a low α (Greene, 2007, 2010).

The dictator gets an intrinsic benefit from ruling, $f(U)$, which is a function of the sum of individual utilities, $U = \sum_i u_i$. I assume f is increasing, strictly concave ($f'' < 0$), and that f' is not everywhere above or below α. The first assumption posits that dictators are better off with happier subjects, either because of a decreasing risk of social unrest and revolution (Tullock, 1987; Wintrobe, 1998), greater cooperation in economic production (Gandhi, 2008), or a reduced chance of future electoral turnover. The second assumption is decreasing marginal returns of subjects' happiness for the dictator. The third assumption eliminates cases in which the dictator is motivated to either give or take an infinite amount in payoffs.

The utility functions are thus the following:

$$u_i = k_i - (X - X_i)^2. \tag{2}$$

$$u_D = -\alpha \sum_i k_i + f(U) - N(D - X)^2, \tag{3}$$

where u_D is the dictator's utility.[33] The dictator chooses $\{X, k_i\}$ to maximize u_D.

Before introducing the electoral mechanism, I consider the perfect-information case in which the dictator knows $\{X_i\}$. What will the dictator choose? First, we can establish first-order conditions on the payoffs $\{k_i\}$:

$$\frac{\partial u_D}{\partial k_i} = 0 = -\alpha + f'(U)(1). \tag{4}$$

$$\Rightarrow f'(U) = \alpha. \tag{5}$$

Hence, the dictator dispenses enough patronage to get the desired level of total utility. A unique such value must exist given that f is strictly concave and not everywhere above or below α.

For the equilibrium location of X,

$$\frac{\partial u_D}{\partial X} = 0 = f'(U)\{-\sum_i 2(X - X_i)\} - 2N(D - X)(-1). \quad (6)$$

$$\Rightarrow D - X = \frac{\alpha}{N}\sum_i \left(X - X_i\right) = \alpha\left(X - \bar{X}\right). \quad (7)$$

This condition implies that X will be placed $\frac{\alpha}{1+\alpha}$ of the way from D to $\bar{X}$. A larger α thus implies greater policy concessions to citizens.

Autocratic Elections and Imperfect Information

We now consider the imperfect-information case in which the dictator does not know the group ideal points. This uncertainty is costly, since U and thus $f(U)$ decrease with the squared error of X from the target established above. D is known to all, but only i knows the location of X_i. The other actors have common priors over the location of X_i, with well-defined means and non-zero probability given to all points on $\mathbb{R}$.

The goal is to characterize a *perfect Bayesian equilibrium* in which electoral signals of support provide perfect information on the group ideal points. Suppose each group i sends a signal through a vote share $v_i \in [0,1]$ for the dictator, with a lower v_i indicating greater policy dissatisfaction and thus greater distance from D. Assume that there is a recognized correspondence between any v_i and the implied group ideal point. For instance, if a group gives 90% support to the dictator, this communicates that the group ideal is at a specific point very close to D.[34] It is thus formally equivalent to speak of each group sending a signal $\tilde{X}_i$ of its ideal point.

If truthful signaling is in equilibrium, the dictator is certain about the group ideals after the election and thus sets X and $\{k_i\}$ according to the perfect-information case. However, the dictator needs to implement a system of reward and punishment to make the signals credible. Otherwise, each group will overstate its opposition since a false signal can pull X toward X_i. A credible $\tilde{X}_i$ signal thus requires a patronage adjustment given by $k_i = h(\tilde{X}_i)$.

We now solve for the function $h(\tilde{X}_i)$ that ensures sending $\tilde{X}_i = X_i$ is optimal. For all $j \neq i$, consider the signals $\tilde{X}_j$ to be given and assume the dictator believes $X_j = \tilde{X}_j$. Group i knows that X will be chosen as a function of $\tilde{X}_i$, namely $X = \frac{1}{1+\alpha}D + \frac{\alpha}{1+\alpha}\sum_k \frac{1}{N}\tilde{X}_k$. To capture this, I write $X = X(\tilde{X}_i)$.

In equilibrium, i will send an optimal signal $\tilde{X}_i$, implying

$$\frac{\partial u_i}{\partial \tilde{X}_i} = 0 = h'(\tilde{X}_i) - 2\left(X(\tilde{X}_i) - X_i\right)\frac{\partial X(\tilde{X}_i)}{\partial \tilde{X}_i}. \quad (8)$$

$$= h'(\tilde{X}_i) - \frac{2\alpha}{N(1+\alpha)}\left(X(\tilde{X}_i) - X_i\right). \tag{9}$$

For truthful signaling to be in equilibrium, it must be optimal to send the signal $\tilde{X}_i = X_i$. Hence, we must have

$$h'(\tilde{X}_i) = \frac{2\alpha}{N(1+\alpha)}\left(X(\tilde{X}_i) - \tilde{X}_i\right). \tag{10}$$

$$\Rightarrow h(\tilde{X}_i) = C_i + \frac{\alpha}{N(1+\alpha)} \frac{\left(X(\tilde{X}_i) - \tilde{X}_i\right)^2}{\frac{\alpha}{N(1+\alpha)} - 1}. \tag{11}$$

$$= C_i - \frac{\alpha}{N(1+\alpha) - \alpha}\left(X(\tilde{X}_i) - \tilde{X}_i\right)^2, \tag{12}$$

where C_i is a constant with respect to $\tilde{X}_i$.

It remains to show that choosing $k_i = h(\tilde{X}_i)$ is ex-post credible for the dictator after observing the signals. Critically, the dictator doesn't care about the distribution of $\{k_i\}$, only that the total payoffs lead to $f'(U) = \alpha$ being satisfied. Using a logic similar to the Groves-Clarke mechanism, I show it is possible to set the $\{C_i\}$ so that $f'(U) = \alpha$ with certainty and each C_i is independent of i's signal. Suppose that $U = U^*$ satisfies $f'(U) = \alpha$. Then ex-post credibility requires the following:

$$U^* = \sum_i u_i = \sum_i \left\{ C_i - \frac{\alpha}{N(1+\alpha) - \alpha}\left(X(\tilde{X}_i) - \tilde{X}_i\right)^2 - (X - X_i)^2 \right\}. \tag{13}$$

$$= \sum_i \left\{ C_i - \frac{\alpha}{N(1+\alpha) - \alpha}\left(X - \tilde{X}_i\right)^2 - \left(X - \tilde{X}_i\right)^2 \right\}. \tag{14}$$

$$\Rightarrow \sum_i C_i = U^* + \frac{N(1+\alpha)}{N(1+\alpha) - \alpha} \sum_i \left\{ a_i + b_i \tilde{X}_i + c_i \tilde{X}_i^2 + \sum_{j \neq i} d_{ij} \tilde{X}_i \tilde{X}_j \right\}, \tag{15}$$

where a_i, b_i, c_i, and d_{ij} are independent of all signals. To satisfy this so that C_i is independent of $\tilde{X}_i$, let

$$C_i = \frac{U^*}{N} + \frac{N(1+\alpha)}{N(1+\alpha)-\alpha}\left\{\begin{array}{l} a_i + \frac{1}{N-1}\sum_{j\neq i}\left(b_j\tilde{X}_j + c_j\tilde{X}_j^2\right) + \\ \frac{1}{(N-1)(N-2)}\sum_{j,k\neq i} \boldsymbol{d}_{jk}\tilde{X}_j\tilde{X}_k \end{array}\right\}. \tag{16}$$

To sum up, the dictator punishes each group based on the squared distance of its signal from the chosen policy. This makes it strictly optimal for the groups to truthfully reveal their ideal points. The dictator thus updates on $\{X_i\}$ and selects the policy X according to the perfect-information analysis, as summed up in the following proposition.

Proposition 1. The following constitutes an equilibrium in the autocratic election game:

1. Each group i signals a v_i that corresponds to a truthful $\tilde{X}_i = X_i$.
2. The dictator updates beliefs about $\{X_i\}$ based on these signals.
3. The dictator sets policy X at $\frac{\alpha}{1+\alpha}$ of the way from D to $\bar{X}$ and sets payoffs

$$k_i = C_i - \frac{\alpha}{N(1+\alpha)-\alpha}\left(X - \tilde{X}_i\right)^2 \tag{17}$$

The empirical implication of this proposition is that lower vote totals (which indicate that $\bar{X}$ is far from D) should be followed by policy concessions, since they represent credible signals of dissatisfaction. Further, regimes with high α (such as those without natural resource wealth) will be especially responsive to elections.

A final point concerns the welfare effect of elections for the dictator, which can help predict their adoption. Consider the above game without elections or any signaling. The dictator must choose $\{X,k_i\}$ without knowing $\{X_i\}$, and thus U, for certain. Differing with the analysis above, the dictator will now set $\{k_i\}$ so that

$$E[f'(U)] = \alpha. \tag{18}$$

This necessitates a higher set of payoffs relative to the electoral case for two reasons. First, for a given X, $E[U]$ declines with the level of uncertainty.

Simply put, the dictator can guess wrong about $\bar{X}$, which will increase dissatisfaction since individual utilities decline with the squared distance of X_i from X. Specifically, $E[U]$ declines as a function of the expected variance of $\bar{X}$. Second, and less importantly, $E[f'(U)] > f'(E[U])$ since f is strictly concave. For both reasons, the equilibrium payoffs $\{k_i\}$ will need to be higher to reach the equilibrium level of U^* that satisfies (18). This cost to the dictator is saved by eliminating the uncertainty over $\{X_i\}$ through elections.

As a result, the dictator's welfare gain from elections increases with the expected variance of $\bar{X}$. However, there are welfare losses from the cost of running elections and the danger of providing a platform for the opposition. Thus, elections should be adopted when uncertainty reaches a threshold level that overwhelms these costs.

Acknowledgments

Thanks to the editors and anonymous reviewers, Carles Boix, Grigore Pop-Eleches, Adam Meirowitz, Christine Percheski, John Londregan, and audience members at Princeton, the University of Michigan, APSA 2010, and the Australian Political Studies Association 2011 for helpful advice.

Author's Note

Data Replication Materials are available at http://cps.sagepub.com/supplemental

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

Notes

1. For explanations of legislatures, see Gandhi (2008) and Boix and Svolik (2013). For explanations of political parties, see Magaloni (2006), Brownlee (2007), and Svolik (2012). A number of case studies also examine how hybrid regimes manipulate democratic elements (Blaydes, 2011; Brownlee, 2007; Hermet, Rose, & Rouquié, 1978; Levitsky & Way, 2010; Magaloni, 2006).
2. Election and protest signaling often work hand in hand, as in the Philippines in 1986 and the Color Revolutions of Serbia, Georgia, and Ukraine.
3. A separate question is whether policies and outcomes differ between electoral and non-electoral autocracies. See Conrad (2011) on calorie deprivation and civil

liberties, Hankla and Kuthy (2013) on trade policy, and Miller (2013b) on human development outcomes.

4. Although not explored here, the model also implies that dictators should favor holding elections when faced with greater uncertainty over citizen preferences and loyalties. For instance, Anwar Sadat adopted multiparty legislative elections in 1976 partly in response to the high policy flux of 1973-1976 and his belief that the existing system could not effectively channel citizen demands (Waterbury, 1983).
5. These alternative parties often came packaged with clear "directional" platforms, perhaps to make voter signaling as transparent as possible. In Egypt in 1976, for instance, voters chose between Left, Right, and Center parties.
6. In the 1965 Tanzanian elections, for instance, voters signaled "their general attitudes toward the regime as expressed through their acceptance or rejection of incumbents" and "clearly the party's top leadership learned much from the results" (Foltz, 1973, p. 163).
7. This figure comes from the National Orientations of Singaporeans Survey, conducted by the Institute of Policy Studies at the Lee Kuan Yew School of Public Policy. Survey results can be found at http://lkyspp.nus.edu.sg/ips/research/surveys
8. Personal interview, July 28, 2010.
9. A parallel Malay organization, Mendaki, was founded in 1981 in the same year as the PAP's first post-1965 loss of a legislative seat, then considered a "psychological breakthrough" for the opposition (Yeo, 2002, p. 214).
10. The other component of the theory, the use of targeted rewards, has been thoroughly documented for these regimes and hence is not reinvestigated here.
11. Numerous studies show that education and social welfare spending are politically popular and higher in electorally competitive polities (Brown & Hunter, 1999; Haggard & Kaufman, 2008). There are some concerns that education spending may be used to target elites, but studies connecting increased competition to education spending have generally found the largest effects on primary education (Hecock, 2006; Stasavage, 2005). In contrast, ruling elites desire more military spending than citizens to bolster the regime's repressive capacity and maintain the military's loyalty (Bueno de Mesquita & Root, 2000; Lebovic, 2001).
12. Gandhi tests this with three indicators: the sum of social welfare and education spending, military spending, and various measures of civil liberties. Because education has much better data coverage, I test social welfare and education spending separately. Civil liberties are dropped as they are likely endogenous to election outcomes and prior choices to liberalize.
13. The full long-run effect is $-\gamma / \alpha$, assuming $\alpha < 0$.
14. Results are similar using spending levels from years t or $t - 1$.
15. I focus on seat shares since these represent the most immediate threat to the regime and vote shares can be inflated due to uncontested races. The online appendix also notes some data irregularities with the available vote share measure.

16. The data is stationary, as Maddala-Wu tests (the panel version of the Augmented Dickey-Fuller test) reject the presence of a unit root for *Electoral Change* and the three spending measures in both levels and first-differences.
17. As the panel is unbalanced, the cross-country covariance matrix is calculated pairwise, rather than casewise.
18. The DPI coding is the same as used in Brownlee (2009). Hadenius and Teorell (2007) is used to measure democracy because they explicitly distinguish democracies from *electoral authoritarian* (EA) regimes. The results hold using their coding alone to define the EA sample.
19. Results are unchanged if these democratizing regimes are included.
20. The results hold additionally controlling for lagged changes in spending.
21. Previous results are conflicting. Desai, Olofsgård, and Yousef (2009) find that oil-rich countries spend more, but Bueno de Mesquita and Smith (2009) find that they spend less.
22. Results hold when also controlling for militarized interstate disputes and conflict severity.
23. The slight decline in military spending toward the election is small compared with the standard errors of the means: 0.20 for election years and 0.56 for the years preceding an election.
24. For comparison, one standard deviation of *Education Spending* is 0.71% of GDP after controlling for country fixed effects.
25. A Breusch-Pagan test does not indicate that the residuals of the two models are correlated ($\chi^2 = 0.086$, $p = .769$).
26. The within-country standard deviation of *Social Welfare Spending* is 0.84%.
27. Three cases exert high leverage because of large changes in military spending. If Δ *Military Spending* is capped at 5%, 10%, or 20%, results are similar or stronger.
28. The within-country standard deviation of *Military Spending* is 2.22%.
29. I use three measures of contentious political action: the sum of protests, strikes, and riots (Norris, 2008); a dummy for electoral protests or riots; and a dummy for violent deaths surrounding an election (both Hyde & Marinov, 2012). For each spending type, I separately test each measure using both the paper's electoral sample and a full sample of EA regimes. The models are otherwise identical to Model 2 in Tables 1 to 3, except that *Electoral Change* and *Electoral Fraud* are omitted for the full sample. In only 1 of 18 tests is the coefficient on contentious action significant at the .10 level.
30. This is the same threshold used in Haber and Menaldo (2011) and results are not sensitive to its variation. *Resource State* = 1 in about 20% of the sample. Using a continuous version of resource dependence in the interaction term produces similar findings.
31. No previous formal model links autocratic electoral outcomes to policy choice. Past models of autocratic elections focus either on how they facilitate revolutionary collective action (Fearon, 2011) or on the interplay between incumbents and challengers (Cox, 2009). Autocratic policy choice is modeled in Gandhi (2008) and Desai et al. (2009), but they assume perfect information and omit elections.

32. This result is surprising in light of the formal literature on "sender-receiver models" that generally find credible information revelation is imperfect or impossible when preferences diverge (Crawford & Sobel, 1982).
33. The squared distance is multiplied by N in the dictator's utility function so that payoffs and policy are on the same scale as for the groups.
34. To extend this model to the individual level, we can assume that individual ideal points are spread with a known distribution around the group ideal. If voters support the dictator when within a distance threshold, this will lead to a share of each group voting for the dictator. This vote share will then imply a location for the group ideal point.

References

Acemoglu, D., & Robinson, J. A. (2006). *Economic origins of dictatorship and democracy*. Cambridge, UK: Cambridge University Press.

Ames, B. (1970). Bases of support for Mexico's dominant party. *American Political Science Review*, *64*, 153-167.

Beck, N., & Katz, J. N. (1995). What to do (and no to do) with time-series cross-section data. *American Political Science Review*, *89*, 634-647.

Beck, T., Clarke, G., Groff, A., Keefer, P., & Walsh, P. (2001). New tools in comparative political economy: The database of political institutions. *World Bank Economic Review*, *15*, 165-176.

Blaydes, L. (2011). *Elections and distributive politics in Mubarak's Egypt*. Cambridge, UK: Cambridge University Press.

Bohlken, A. T. (2010). Coups, elections and the predatory state. *Journal of Theoretical Politics*, *22*, 169-215.

Boix, C., & Svolik, M. (2013). The foundations of limited authoritarian government: Institutions, commitment, and power-sharing in dictatorships. *Journal of Politics*, *75*, 300-316.

Brown, D., & Hunter, W. (1999). Democracy and social spending in Latin America, 1980–92. *American Political Science Review*, *93*, 779-790.

Brownlee, J. (2007). *Authoritarianism in an age of democratization*. Cambridge, UK: Cambridge University Press.

Brownlee, J. (2009). Portents of pluralism: How hybrid regimes affect democratic transitions. *American Journal of Political Science*, *53*, 515-532.

Bueno de Mesquita, B., & Root, H. L. (2000). When bad economics is good politics. In B. Bueno de Mesquita & H. L. Root (Eds.), *Governing for prosperity* (pp. 1-16). New Haven, CT: Yale University Press.

Bueno de Mesquita, B., & Smith, A. (2009). Political survival and endogenous institutional change. *Comparative Political Studies*, *42*, 167-197.

Bueno de Mesquita, B., Smith, A., Siverson, R. M., & Morrow, J. D. (2003). *The logic of political survival*. Cambridge, MA: MIT Press.

Carothers, T. (1999). *Aiding democracy abroad: The learning curve*. Washington, DC: Carnegie Endowment for International Peace.

Case, W. (2006). Manipulative skills: How do rulers control the electoral arena? In A. Schedler (Ed.), *Electoral authoritarianism: The dynamics of unfree competition* (pp. 95-112). Boulder, CO: Lynne Rienner.

Congleton, R. D. (2001). On the durability of king and council: The continuum between dictatorship and democracy. *Constitutional Political Economy*, *12*, 193-215.

Conrad, C. R. (2011). Constrained concessions: Beneficent dictatorial responses to the domestic political opposition. *International Studies Quarterly*, *55*, 1167-1187.

Coulon, C. (1990). Senegal: The development and fragility of semidemocracy. In L. Diamond, J. Linz, & S. M. Lipset (Eds.), *Politics in developing countries: Comparing experiences with democracy* (pp. 411-448). Boulder, CO: Lynne Rienner.

Cox, G. W. (2009). *Authoritarian elections and leadership succession, 1975–2004*. In *APSA 2009 Meeting*, Toronto. Available at SSRN: http://ssrn.com/abstract=1449034.

Crawford, P. V., & Sobel, J. (1982). Strategic information transmission. *Econometrica*, *50*, 1431-1451.

De Boef, S., & Keele, L. (2008). Taking time seriously. *American Journal of Political Science*, *52*, 184-200.

Desai, R. M., Olofsgård, A., & Yousef, T. M. (2009). The logic of authoritarian bargains. *Economics & Politics*, *21*, 93-125.

Diamond, L. (2002). Thinking about hybrid regimes. *Journal of Democracy*, *13*(2), 21-35.

Easterly, W. R. (2001). The lost decades: Developing countries' stagnation in spite of policy reform, 1980–1998. *Journal of Economic Growth*, *6*, 135-157.

Egorov, G., Guriev, S., & Sonin, K. (2009). Why resource-poor dictators allow freer media: A theory and evidence from panel data. *American Political Science Review*, *103*, 645-668.

Eisenstadt, T. A. (2004). *Courting democracy in Mexico: Party strategies and electoral institutions*. Cambridge, UK: Cambridge University Press.

Fearon, J. D. (2011). Self-enforcing democracy. *Quarterly Journal of Economics*, *126*, 1661-1708.

Foltz, W. J. (1973). Political opposition in single-party states of tropical Africa. In R. A. Dahl (Ed.), *Regimes and oppositions* (pp. 143-170). New Haven, CT: Yale University Press.

Gandhi, J. (2008). *Political institutions under dictatorship*. Cambridge, UK: Cambridge University Press.

Gandhi, J., & Lust-Okar, E. (2009). Elections under authoritarianism. *Annual Review of Political Science*, *12*, 403-422.

Gandhi, J., & Przeworski, A. (2006). Cooperation, cooptation, and rebellion under dictatorships. *Economics & Politics*, *18*, 1-26.

Geddes, B. (2006). *Why parties and elections in authoritarian regimes?* In *the annual meeting of the American Political Science Association*, Washington DC.

Gleditsch, K. S. (2002). Expanded trade and GDP data. *Journal of Conflict Resolution*, *46*, 712-724.

Gleditsch, N. P., Wallensteen, P., Eriksson, M., Sollenberg, M., & Strand, H. (2002). Armed conflict, 1946-2001: A new dataset. *Journal of Peace Research*, *39*, 615-637.

Goemans, H. E., Gleditsch, K. S., & Chiozza, G. (2009). Introducing Archigos: A dataset of political leaders. *Journal of Peace Research*, *46*, 269-283.

Greene, K. F. (2007). *Why dominant parties lose: Mexico's democratization in comparative perspective*. Cambridge, UK: Cambridge University Press.

Greene, K. F. (2010). The political economy of authoritarian single-party dominance. *Comparative Political Studies*, *43*, 807-834.

Haber, S., & Menaldo, V. (2011). Do natural resources fuel authoritarianism? A reappraisal of the resource curse. *American Political Science Review*, *105*, 1-26.

Hadenius, A., & Teorell, J. (2007). Pathways from authoritarianism. *Journal of Democracy*, *18*(1), 143-156.

Haggard, S., & Kaufman, R. R. (2008). *Development, democracy, and welfare states: Latin America, East Asia, and Eastern Europe*. Princeton, NJ: Princeton University Press.

Hankla, C. R., & Kuthy, D. (2013). Economic liberalism in illiberal regimes: Authoritarian variation and the political economy of trade. *International Studies Quarterly*, *57*, 492-504.

Hecock, R. D. (2006). Electoral competition, globalization, and subnational education spending in Mexico, 1999–2004. *American Journal of Political Science*, *50*, 950-961.

Hermet, G., Rose, R., & Rouquié, A. (Eds.). (1978). *Elections without choice*. New York, NY: John Wiley.

Herron, E. S. (2011). Measuring dissent in electoral authoritarian societies: Lessons from Azerbaijan's 2008 presidential election and 2009 referendum. *Comparative Political Studies*, *44*, 1557-1583.

Hinnebusch, R. A. (1985). *Egyptian politics under Sadat: The post-populist development of an authoritarian-modernizing state*. Cambridge, UK: Cambridge University Press.

Huntington, S. P. (1968). *Political order in changing societies*. New Haven, CT: Yale University Press.

Hyde, S. D., & Marinov, N. (2012). Which elections can be lost? *Political Analysis*, *20*, 191-210.

International Institute for Democracy and Electoral Assistance. (2012). *Voter turnout database, institute for democracy and electoral assistance*. Retrieved from www.idea.int/vt/

Jensen, N., & Wantchekon, L. (2004). Resource wealth and political regimes in Africa. *Comparative Political Studies*, *37*, 816-841.

Karklins, R. (1986). Soviet elections revisited: Voter abstention in noncompetitive voting. *American Political Science Review*, *80*, 449-470.

Keefer, P. (2010). *Database of political institutions: Changes and variable definitions*. Washington, DC: Development Research Group, World Bank.

Lebovic, J. H. (2001). Spending priorities and democratic rule in Latin America. *Journal of Conflict Resolution*, *45*, 427-452.

Leong, H. K. (2000). *The politics of policy-making in Singapore*. New York, NY: Oxford University Press.

Levitsky, S., & Way, L. A. (2010). *Competitive authoritarianism: Hybrid regimes after the cold war*. Cambridge, UK: Cambridge University Press.

Lindberg, S. I. (Ed.). (2009). *Democratization by elections: A new mode of transition*. Baltimore, MD: The Johns Hopkins University Press.

Lorentzen, P. L. (2013). Regularizing rioting: Permitting public protest in an authoritarian regime. *Quarterly Journal of Political Science*, *8*, 127-158.

Lust-Okar, E. (2006). Elections under authoritarianism: Preliminary lessons from Jordan. *Democratization*, *13*, 456-471.

Magaloni, B. (2006). *Voting for autocracy: Hegemonic party survival and its demise in Mexico*. Cambridge, UK: Cambridge University Press.

Magaloni, B., & Kricheli, R. (2010). Political order and one-party rule. *Annual Review of Political Science*, *13*, 123-143.

Malesky, E., & Schuler, P. (2010). Nodding or needling: Analyzing delegate responsiveness in an authoritarian parliament. *American Political Science Review*, *104*, 482-502.

Malesky, E., & Schuler, P. (2011). The single-party dictator's dilemma: Information in elections without opposition. *Legislative Studies Quarterly*, *36*, 491-530.

Marshall, M. G., & Jaggers, K. (2010). *Polity IV project: Political regime characteristics and transitions, 1800–2009*. Fairfax, VA: Center for Systemic Peace, George Mason University.

Mauzy, D. K., & Milne, R. S. (2002). *Singapore politics under the people's action party*. London, England: Routledge.

Miller, M. K. (2013a). Democratic pieces: Autocratic elections and democratic development since 1815. *British Journal of Political Science*. Advance online publication.

Miller, M. K. (2013b). *Electoral authoritarianism and human development* . In *APSA 2013 Annual Meeting Paper; American Political Science Association 2013 Annual Meeting*. Available at SSRN: http://ssrn.com/abstract=2303574

Mutalib, H. (2003). *Parties and politics: A study of opposition parties and the PAP in Singapore*. Singapore: Eastern Universities Press.

Norris, P. (2008). *Democracy time-series dataset*. Retrieved from www.hks.harvard.edu/fs/pnorris/Data/Data.htm

Pop-Eleches, G., & Robertson, G. B. (2009). *Elections, information and liberalization in the post-cold war era* (Unpublished manuscript). Princeton University, Princeton, NJ; the University of North Carolina, Chapel Hill, NC.

Pravda, A. (1978). Elections in communist party systems. In G. Hermet, R. Rose, & A. Rouquié (Eds.), *Elections without choice* (pp. 169-195). New York, NY: John Wiley.

Ross, M. L. (1999). The political economy of the resource curse. *World Politics*, *51*, 297-322.

Ross, M. L. (2001). Does oil hinder democracy? *World Politics*, *53*, 325-361.
Sarkees, M. R., & Wayman, F. (2010). *Resort to war: 1816–2007*. Washington, DC: CQ Press.
Schedler, A. (2002). The menu of manipulation. *Journal of Democracy*, *13*(2), 37-50.
Schedler, A. (Ed.). (2006). *Electoral authoritarianism: The dynamics of unfree competition*. Boulder, CO: Lynne Rienner.
Schedler, A. (2013). *The politics of uncertainty: Sustaining and subverting electoral authoritarianism*. Oxford, UK: Oxford University Press.
Schmitter, P. C. (1978). The impact and meaning of "non-competitive, non-free and insignificant" elections in authoritarian Portugal, 1933–74. In G. Hermet, R. Rose, & A. Rouquié (Eds.), *Elections without choice* (pp. 145-168). New York, NY: John Wiley.
Simpser, A. (2013). *Why governments and parties manipulate elections: Theory, practice and implications*. New York, NY: Cambridge University Press.
Stasavage, D. (2005). Democracy and education spending in Africa. *American Journal of Political Science*, *49*, 343-358.
Svolik, M. (2012). *The politics of authoritarian rule*. New York, NY: Cambridge University Press.
Tullock, G. (1987). *Autocracy*. Boston, MA: Kluwer Academic.
UNESCO Institute for Statistics. (2007). Retrieved from http://stats.uis.unesco.org/unesco
Wang, C.-S., & Kurzman, C. (2007). Logistics: How to buy votes. In F. C. Schaffer (Ed.), *Elections for sale: The causes and consequences of vote buying* (pp. 61-79). Boulder, CO: Lynne Rienner.
Waterbury, J. (1983). *The Egypt of Nasser and Sadat: The political economy of two regimes*. Princeton, NJ: Princeton University Press.
Wintrobe, R. (1998). *The political economy of dictatorship*. Cambridge, UK: Cambridge University Press.
World Bank. (2011). *Statistics retrieved 2012, from World Development Indicators Online (WDI)*. Retrieved from www.worldbank.org/data
Worthington, R. (2003). *Governance in Singapore*. London, England: Routledge.
Yeo, L. H. (2002). Electoral politics in Singapore. In A. Croissant & M. John (Eds.), *Electoral politics in Southeast and East Asia* (pp. 203-232). Singapore: Friedrich Ebert Stiftung.
Zeldin, T. (1958). *The political system of Napoleon III*. London, England: MacMillan.

Author Biography

Michael K. Miller is an assistant professor of political science at George Washington University. His research focuses on democratization and the role that autocratic elections play in regime change and policy setting. He has published articles in the *American Journal of Political Science, British Journal of Political Science, Journal of Conflict Resolution*, and elsewhere.