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Alternation through Death: Is Gerontocracy an Equilibrium?

Raul Magni Berton[1,2] and Sophie Panel[3]

Abstract

According to minimalist theories of democracy, the reason why civil conflicts are less frequent in democracies is that opposition parties can reasonably expect to win the next elections: they then prefer to wait than to rebel. In dictatorships, waiting until the dictator dies is generally much costlier. This waiting time, however, is considerably shortened when the dictator is old. Therefore, the risk of domestic conflict should decrease along with the age of autocratic leaders. Based on 160 countries from 1946 to 2008, our empirical analysis shows that the leader's age decreases the likelihood of violent rebellion in dictatorships, but not in democratic regimes.

Keywords

political leaders, dictatorship, intrastate conflict, democracy

Introduction

This article aims to demonstrate that gerontocracy produces domestic peace. According to the minimal theory of democracy, the reason why civil wars are less frequent in democracies is that opposition parties can expect a leadership change in a foreseeable future: although they would be better off in the short run rebelling rather than complying, they are better off in the long run complying if they have a reasonable chance of winning the next elections (Przeworski 1999). In dictatorships, waiting until the dictator dies is generally much costlier. This waiting time, however, is shortened when the dictator is old. Therefore, the risk of domestic conflict should decrease along with the age of leaders.

This peace-inducing property of aging leaders might be a reason why, in primitive and agrarian societies, elderhood was often associated with high status (Flanagan 1989; Posner 1995) and why, in many systems, the chief is chosen among the oldest men (Simmons 1945; Spencer 1965). Although gerontocracy is classically explained by social ties acquired with age or on personal characteristics such as wisdom or knowledge (Werner 1981), it has been recently demonstrated that old rulers are preferred because they produce alternation in power (Magni Berton and Panel 2017). This article investigates a further implication of the latter hypothesis: if elections in democracies and gerontocracy in autocracies are indeed functional equivalents, both should have similar effects on political violence.

A quick glance at history lends some credence to these intuitions, as many systems became more stable as they started institutionalizing gerontocracy. In Venice, most elected officials were selected for a fix term in office except for the Doge who was elected for life (Tullock 2002): as a consequence, Doge entered office at age sixty-eight on average—compared with thirty-three for European kings during the same period (Eisner 2011). This combination of mechanisms for limiting incumbency has proven fairly stable on the long run, since Venice experienced few coups or interfamily wars in its several centuries of existence (Tullock 2002, 252). In the contemporary period, the USSR experienced widespread political unrest under Stalin, who took power at age forty-four, but violent contestation declined under his successors, who entered office at age sixty-two on average. During the post-Stalin area, the two oldest Soviet leaders, Andropov (sixty-eight) and Chernenko (seventy-three) both had short but peaceful tenures, which ended with their natural death; the youngest, Gorbachev (fifty-four) was removed by a coup.

Beside this anecdotal evidence, the relationship between leaders' age and internal conflicts has never been systematically investigated. Although leaders are increasingly considered as one of the main units of analysis in international relations (Goemans, Gleditsch, and Chiozza

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2009; Horowitz and Stam 2014), current research almost exclusively focuses on the impact of leaders' individual traits on their own behavior, including studies centered on the age of leaders (e.g., Horowitz, McDermott, and Stam 2005). The argument presented here departs from prior research on age and leadership to the extent that it investigates the impact of leaders' age on the expectations and subsequent behavior of people ruled by these leaders, rather than on the leader's own behavior. This difference probably explains why, while the relationship between age of dictators and international wars has already been studied (Bak and Palmer 2010; Horowitz, McDermott, and Stam 2005; Potter 2007), nothing is yet known about age and domestic violence. Indeed, unlike international wars that are initiated by leaders, domestic rebellions are often triggered by an organized part of civil society.[1] Personal characteristics of leaders indubitably influence their activity—like the initiation of international conflicts, for example—but they also influence the activity of their environment, like the opposition's propensity to revolt.

In the next section, we present a brief overview on past research on political institutions and intrastate armed conflicts. The section "Aging Autocrats and Intrastate Violence: Theory and Hypotheses" outlines our main argument, the section "Data and Methods" provides an overview on the data and methods, the section "Multivariate Analysis" discusses the results, and the section "Conclusion" concludes.

Past Research: Democracy, Autocracy, and the Onset Of Intrastate Armed Conflicts

As Karl Popper ([1963] 2014, 472) famously argued, "under a democracy the government can be got rid of without bloodshed; under a tyranny it cannot." This idea was further developed by Przeworski (1999), according to whom democracy prevents violent rebellions simply by limiting the tenure length of governments and giving opposition groups reasonable chances of accessing power in the future. Yet, while several studies indeed report a lesser risk of civil conflict in democracies (Elbadawi and Sambanis 2002; K. S. Gleditsch and Ruggeri 2010; Goldsmith 2010; Sambanis 2001), the overall evidence in this regard is mixed at best (see Hegre 2014 for a review). Some studies even find traces of a positive effect of democracy on armed conflict (Abulof and Goldman 2015).

The reasons why democracy does not have an unambiguous effect on domestic conflicts are debatable, but some explanations have been put forward. To begin, democracy may exert contradictory effects on political violence: on one hand, it may make rebellion less desirable, but on the other hand, it also makes it more feasible or less costly (Collier and Rohner 2008). Accordingly, many studies have found evidence of a curvilinear effect of democracy: semidemocratic (or "anocratic") regimes experience more violence than either "pure" democracies or "pure" autocracies, because such regimes allow opposition groups to organize and mobilize support without giving them effective means to access power in a peaceful way (Hegre et al. 2001; Henderson and Singer 2000; Fearon and Laitin 2003; Reynal-Querol 2002a). The anocracy hypothesis was the dominant consensus in the quantitative conflict literature some ten years ago, until it became seriously challenged on methodological grounds (Vreeland 2008). Other studies have found evidence that some specifically democratic institutions—for example, multiparty executive elections (Carey 2007) or proportional electoral systems (Reynal-Querol 2002b, 2005; Schneider and Wiesehomeier 2008)—foster civil peace, while some others, such as civil liberties, are associated with a heightened risk of armed violence (Bell et al. 2013). Likewise, some political institutions can have opposite effects on different forms or manifestations of political violence: for example, high levels of political participation decrease the risk of civil war but make riots more likely (Choi and Raleigh 2015).

Another reason why prior research has failed to identify a monotonic relationship between democracy and civil war may lie in the fact that most of these studies rely on the Polity IV democracy measure, which ranks regimes according to the extent to which they meet basic democratic criteria such as openness and executive constraints: as a result, regimes as different as Saudi Arabia and the People's Republic of China get similar scores on the scale, although monarchic and party institutions do not have a lot in common and arguably have different effects on people's incentives to rebel. Some studies have attempted to disaggregate the category of authoritarian regimes into distinct subtypes, but have come to mixed results: while Fjelde (2010) and Wilson (2014) identify military dictatorships as the most conflict-prone, Gurses and Mason (2010) find personalist regimes to be the most likely to experience civil war, although all three studies rely on similar regime classifications.

We contribute to this literature in several ways. First, we reanalyze the relationship between democracy and political violence using a minimalist definition of democracy (Cheibub et al. 2010), which allows us to test for the alternation mechanism (Przeworski 1999). Second and most importantly, we investigate how authoritarian institutions may explain the variations in the frequency of civil war among nondemocratic systems: more specifically, we analyze whether formal or informal rule to ensure regular leadership turnovers can foster peace. These conjectures are developed in the next section.

Aging Autocrats and Intrastate Violence: Theory and Hypotheses

General Hypothesis: How Alternation Favors Domestic Peace

We investigate the impact of leaders' age on the outbreak of political violence. We assume that democratic institutions are intrinsically more peaceful, because they provide unsatisfied opposition groups with incentives to be patient, and we seek to demonstrate that this effect may also be achieved in autocracies which rely on a formal or informal gerontocratic rule. The underlying mechanism is that leadership change generally occurs through three mechanisms: a regularized procedure to dismiss the leader, the leader's death, or a revolution.[2] Rebellion becomes desirable when people ruled by an unwanted leader cannot expect any alternation in power reasonably soon, that is, when the leader is young *and* there is no formal limitation to his tenure. Thus, introducing a rule that reduces leaders' expected tenure (such as regular elections and fixed terms in office) *or* selecting a relatively old leader should decrease the desirability of rebellion.

If the prospect of future alternation in power—regardless of who will take office next—is sufficient to generate social peace, we should expect nondemocratic regimes to be more stable if they are ruled by relatively old leaders. Note that we understand "alternation" as leadership change and not party turnover: if the alternation mechanism is correct, regular leadership changes should be enough to deter rebellion. Given the considerable discretionary power most dictators enjoy, we can reasonably expect that a mere leadership change is enough to bring about considerable changes in public policies, even if the new leader and his predecessor come from the same party (consider, for example, the difference between life under Stalin and life under Khrushchev). However, in the real world, party alternation and leadership changes are highly correlated. When elections are not contested, the same leader is often renewed for life. Once in power, leaders have considerable control over their selectorate and a clear advantage face to their challengers. In the USSR, for example, the communist party was formally able to dismiss its General Secretary, but in fact, only Khrushchev lost power by this procedure[3]: the remainder of Soviet leaders either died in office or was removed in an irregular fashion. Yet, in some rare cases, autocratic regimes are able to impose a term limit on leaders. A well-known example is the PRI regime in Mexico, under which presidents were subject to a six-year term limit without the possibility of reelection[AQ: 2]. Incidentally, the PRI dictatorship was one of the most durable authoritarian regimes until its demise in 2000. In such cases, rebellion should be unrelated to the leader's age because the system provides a reliable mechanism to dismiss him.

Thus, generally, we should observe that, while rebellions are more likely in autocratic regimes than in democracies, *the age of autocratic leaders decreases the likelihood of rebellion* (Hypothesis 1 [H1]), *especially in autocracies where there are no formal term limits* (Hypothesis 2 [H2]).

These hypotheses rest on the assumption that rebellion is motivated by the perspective of being ruled by a bad leader for a longtime. Yet, this assumption may be invalid: rebellion might be due to opposition groups' desire to take power. If this is the case, leadership turnover may not be sufficient to prevent rebellion. In the next section, we identify conditions under which gerontocracy is most likely to bring about peace.

Some Qualifications: Do Perspectives of Inclusion in the Future Selectorate Matter?

According to Przeworski (1999), there are two specific mechanisms behind the peace-inducing effect of electoral democracy. First, elections are periodic: unsatisfied people can expect a leadership change in a foreseeable future. Second, elections are contested: people may hope to be part of the future winning coalition. In this regard, gerontocracy is only a partial substitute for elections: it replaces periodicity but not contestation. Thus, if rebellion arises when opposition groups want to maximize their chances of taking office, gerontocracy should have no effect: even when alternation in power occurs regularly, opposition groups will always tend to rebel unless they have a chance of attaining power in a foreseeable future. The case in point is monarchy, since monarchs are immediately replaced by their designated heir upon their death. Thus, if rebellions break out because citizens are simply unhappy with the current king, older monarchs should experience fewer civil wars; but if the cause of rebellions lies in opposition groups' willingness to increase their own political influence, incentives to rebel in monarchies should be stable over time and unrelated to the leader's age.

A direct implication is that the age of autocrats should only impact a specific subset of rebellions, that is, those leaded by members of the political or military elite (i.e., coups) rather than those which solely involve regime outsiders: indeed, since a dictator's death does not necessarily increase the opposition's chances of taking office, incentives to rebel should be unrelated to his age. By contrast, aging dictators may provide their own ruling coalitions—including their heirs—with incentives to be patient. This might be one of the reasons why dictators' overall risk of losing office decreases throughout their

tenure (Bienen and van de Walle 1989, 1992; Svolik 2012): the length of time dictators spend in office does not only affect their political resources but also the desirability of rebellion, since long-lasting autocrats are likely to be older on average. According to Tullock (1987), this may also be one of the reasons why primogeniture makes monarchies more stable than the average dictatorship: the age gap between the incumbent and his successor makes the latter less likely to attempt a coup to speed up the succession process. Conversely, coups should be more likely under a young dictator, especially when there are no institutional devices to remove him. In the Roman Empire, Caligula and Nero (who accessed power at a very young age) experienced frequent conflicts with the Senate and their Praetorian guards which finally cost them their life, while Tiberius and Claudius (who were over fifty years old as they took power) experienced no such conflicts and died of natural death while in office (Rutledge 2002).

Our third hypothesis is therefore that *gerontocracy decreases the risk of rebellion leaded by political or military elite* (Hypothesis 3 [H3]).

Beyond elite rebellions, opposition groups generally cannot expect to have better chances of accessing power upon the leader's death: institutionalized procedures for replacing leaders (such as primogeniture), or the mere existence of an organization able to select successors from within its own ranks, should cancel out the peace-inducing impact of the dictator's aging. There are cases, however, where the selectorate is not clearly defined: these cases include, for example, highly personalized autocracies, which rarely survive after the leader's death (Geddes 1999), but also systems in which the dictator relies on several organizations that compete for influence (see Haber 2006). If none of these organizations is able to exercise independent decision-making power or decide over political appointments, they are also unlikely to be able to replace the leader upon his death, which may lead to the whole regime's demise and even a transition to democracy. Such cases are rare—recent research shows that the death of the incumbent dictator rarely leads to a regime breakdown (Kendall-Taylor and Frantz 2016)—but not exceptional: the death of Francisco Franco and the succession problems it brought about were arguably not the sole cause of the democratic transition in Spain but they clearly facilitated the process (Medhurst [1984] 2016; Share 1987). Empirically, we should thus expect gerontocracy to influence the risk of intrastate conflict when the regime is vulnerable to succession crises—that is, when political succession is not fully institutionalized.

Our last hypothesis is therefore that *the age of autocrats decreases the likelihood of rebellions when the selectorate is not clearly defined* (Hypothesis 4 [H4]).

Data and Methods

Dependent Variables

Our main dependent variable is a dummy that takes on the value of 1 for each intrastate armed conflict outbreak in a given country-year. The dummy identifies both completely new conflicts and instances of conflict relapses; in this latter case, more than one year of peace must have passed for the conflict to be coded as a new onset. As we focus on conflict outbreak, only the first year of the conflict is coded 1; subsequent conflict years are coded 0. The measure of armed conflict is based on the UCDP/PRIO Armed Conflict Dataset (Allansson, Melander, and Themnér 2017; N. P. Gleditsch et al. 2002), that defines armed conflict as a "contested incompatibility that concerns government or territory or both where the use of armed force between two parties results in at least 25 battle-related deaths" and in which one of the two parties is the government of a state (N. P. Gleditsch et al. 2002, 618–619).

H3 makes a distinction between rebellions that are leaded or supported by regime insiders. Specifically, H3 states that gerontocracy should only impact the subset of rebellions that involve the selectorate. To identify these instances, we rely on Powell and Thyne's (2011) list of coups d'état that appear in the UCDP/PRIO data because they resulted in twenty-five battle-deaths. Since Powell and Thyne provide information on the exact date of coups, we are able to assign each of them to a particular leader.

Regime Type and Selectorate

If our general hypothesis is correct, the leaders' age should impact rebellion in autocracies, while in democracy it should not. To identify political regimes, we use Cheibub, Gandhi, and Vreeland's (2010) Democracy and Dictatorship data set. In this classification, a regime must meet four requirements to be classified as a democracy: the chief executive must be directly or indirectly chosen by popular election; the legislature must be popularly elected; there must be at least two parties competing in elections; and a party alternation in power must have taken at least once (Cheibub, Gandhi, and Vreeland 2010, 69). In other words, all elective regimes in which the incumbent party always wins are automatically classified as nondemocracies, even though they display seemingly democratic institutions. This makes their measure especially relevant to our argument, as their definition of democracy explicitly relies upon alternation through contested elections, and we expect age to be a substitute for elections when voting is not enough to get rid of the leader.

Although this definition is consistent with our argument, there are some regimes that guarantee alternation of leaders, but not of parties: although these countries can hardly be considered democratic, they should exert similar effects to the extent that the age of leader becomes irrelevant to predict when they will leave power. As mentioned above, the PRI regime in Mexico—while autocratic in the sense that the PRI never lost an election in seventy years—did not allow presidents to be reelected after completion of their six-year term. Other examples include ambiguous cases such as Botswana, which are classified as autocracies by Cheibub, Gandhi, and Vreeland (2010) because they fail to fulfill the alternation criterion alone. Thus, to test H2, we use a dummy variable (drawn from Baturo 2016) that measures whether the chief executive is subject to an absolute term limit. An alternative would have been to distinguish dictators elected for a fixed term in office from those who rule for an undetermined period; yet, given the considerable incumbency advantage dictators enjoy, formal term limits represent a stronger guarantee that the leader will definitely leave power after the completion of his term.

Finally, H4 states that gerontocracy should have its strongest impact in regimes that are vulnerable to succession crises because they lack a well-identified selectorate with independent decision-making power. The most straightforward way of assessing the extent of the institutionalization of succession is to observe whether a regular leadership transition has already taken place under the same ruling coalition (see Svolik 2012 for a similar approach). We thus use a variable, drawn from Archigos (Goemans, Gleditsch, and Chiozza 2009), which measures whether the current leader has taken power in an irregular way: we take peaceful leadership transitions as evidence that the selectorate has succeeded in implementing succession rules.

Independent Variable

Data on leaders' age are provided by the Archigos database (Goemans, Gleditsch, and Chiozza 2009), which captures the age of the person that exercises power de facto in each country. For our investigation period (1946–2008), leaders' mean age is 56.4 years, with values somewhat higher in democracies (57.7 years) than in dictatorships (55.7 years), but a larger standard deviation among the latter (9.8 vs. 12.2). Unsurprisingly, several of the youngest leaders in our sample—like Hussein bin Talal of Jordan and Jigme Singye Wangchuck of Bhutan, both aged seventeen as they took office—inherited power; yet, the record belongs to the Fourteenth Dalai Lama. The oldest leader of our sample is also found in a nondemocratic regime: Deng Xiaoping stayed in power until the age of ninety-three.

Control Variables

In addition to the predictors mentioned above, we include several control variables (see Online Appendix A for summary statistics). We first control for the number of years the leader has spent in office, using Archigos data. Indeed, the leader's tenure length is correlated to his age,[4] but might also be related to the risk of conflict: the longer leaders stay in office, the lowest the risk of civil conflict onset, either because they have had time to reinforce their control on the country or because their long tenure precisely indicates they have been popular enough to avoid being violently overthrown (see Bienen and van de Walle 1989, 1992). We also add two dummy variables (from Cheibub, Gandhi, and Vreeland 2010) that capture, respectively, monarchies and military regimes. Rulers of both categories are younger on average (see descriptive statistics below); furthermore, there is evidence that regime type influences the probability of an intrastate conflict, monarchies displaying a lower risk and military dictatorships a higher risk of civil conflict onset (Fjelde 2010; Gurses and Mason 2010; Wilson 2014). In other words, monarchies may behave as negative confounders, and military regimes as positive confounders in the statistical analysis if we omit these variables.

The remaining variables are drawn from the World Development Indicators (World Bank 2017). First, we control for the population's life expectancy at birth, because it is both related to leaders' age and to civil war (as large-scale conflicts decrease average life expectancy). Second, our models include the natural log of population size, to account for the fact that our civil conflict measure is based on a fixed fatalities threshold: larger countries display a higher probability to experience conflicts that reach that threshold. Finally, poverty—as measured by the natural log of gross domestic product (GDP) per capita—is one of the strongest predictors of civil war (e.g., Collier and Hoeffler 1998, 2004) and might also influence the age of leaders simply because economic development is correlated to life expectancy.

Descriptive Statistics

Figure 1 shows the distribution of our independent variable across political regimes. It shows that leaders are on average younger in military dictatorships than in the residual category of dictatorships that are neither military regimes nor monarchies. Leaders' mean age is about fifty-two in monarchies, fifty-four in military dictatorships, fifty-eight in democracies, and fifty-seven in the remaining dictatorships; these averages, however, mask large disparities. The standard deviation is lowest in democracies, where 50 percent of the leaders are aged fifty-four to sixty-one. In monarchies, the variation is

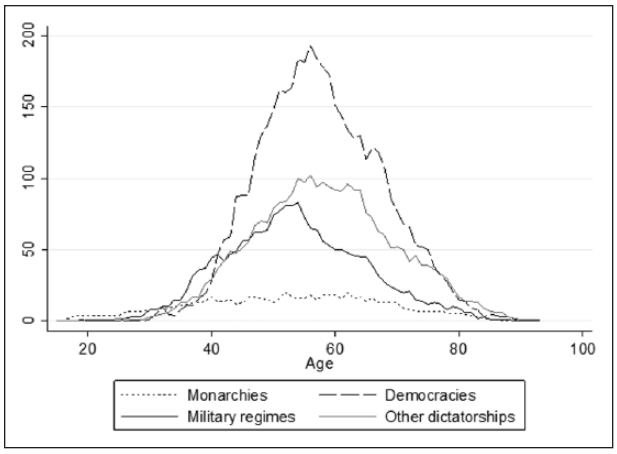

Figure 1. Distribution of leaders' age by regime type.

much higher: monarchs can start reigning at a young age—which explains the relative overrepresentation of leaders under thirty—but they then rule until their death—which explains the fact that kings' mean age is still fairly high in our sample: indeed, the average tenure length in monarchies is about twelve years (vs. four in democracies and eight in military dictatorships).

Table 1 shows the distribution of our dependent variables by regime. We also compute mean comparisons to gain a first insight into the relationship between leaders' age and conflicts.

The data set includes 123 conflict onsets in democracies and 301 in dictatorships. On the whole, conflict onsets represent 4.3 percent of the observations for which we have information on regime type.

In democracies, conflicts tend to break out under slightly older leaders (1.6 years difference, significant at the 10% level). In dictatorships, the trend is reversed: rebellions occur under leaders who are two years younger on average, and this difference is highly significant. This result provides suggestive evidence in favor of H1. Furthermore, the age difference between dictators at war and at peace increases slightly when we remove from the sample dictators who are subject to term limits: this finding is consistent with H2. However, this difference is most striking in the case of violent coups: the mean age of leaders is considerably (six years) and significantly lower during a coup than in peaceful periods. This suggests that the age of leader is an incentive to rebel particularly when insurgents have a chance to take power (H3).

Finally, the data lends some support to H4 to the extent that leaders who entered office in an irregular way are on average younger during conflict outbreaks (52.2 years) than in peaceful periods (53.4). However, this difference is not statistically significant.

The data thus provides first evidence in favor of our hypotheses. Yet, this evidence is only tentative and needs further confirmation. The data is in leader-year format and hence includes many years in which one or several leadership changes occurred: this gives rise to concerns about reverse causation (an issue we address below). Furthermore, the multivariate analysis will confirm whether these patterns are still visible once we include all necessary controls, such as tenure years.

Table 1. Leaders' Mean Age and Conflicts by Regime Type.

	Leaders' age (mean)	*n*
In democracies in peaceful years (reference)	57.6	4,268
In democracies when a rebellion starts	59.2*	123
In dictatorships in peaceful years (reference)	55.9	5,240
In dictatorships when a rebellion starts (H1)	54***	301
In dictatorships when a violent coup starts (H3)	49.6***	65
In dictatorships without term limits in peaceful years (reference)	55.8	4,875
In dictatorships without term limits when a rebellion starts (H2)	53.8***	276
In dictatorships (irregular entry) in peaceful years (reference)	53.4	1,825
In dictatorships (irregular entry) when a rebellion starts (H4)	52.2	132

*$p < .1$ (two-tailed *t* test). **$p < .05$ (two-tailed *t* test). ***$p < .01$ (two-tailed *t* test).

Multivariate Analysis

Main Results

To test H1, we estimate a set of logistic regressions, which are displayed in Table 1. The unit of analysis is the leader-year; however, as we are unable to precisely identify the start date of each conflict, we include only the leader in office on January 1 to alleviate concerns about reverse causation. In addition to the control variables discussed above, we include a variable that records the years since the last armed conflict onset (this variable is built from the UCDP/PRIO data) as well as its square and cubic terms, to address time-dependence issues (see Carter and Signorino 2010). Our independent variable of interest is the interaction term of Dictatorship and Age, which allows us to test for H1: if our conjectures are correct, the interaction term should be negatively related to civil conflict onset, while Dictatorship should have a positive effect and Age no effect at all.

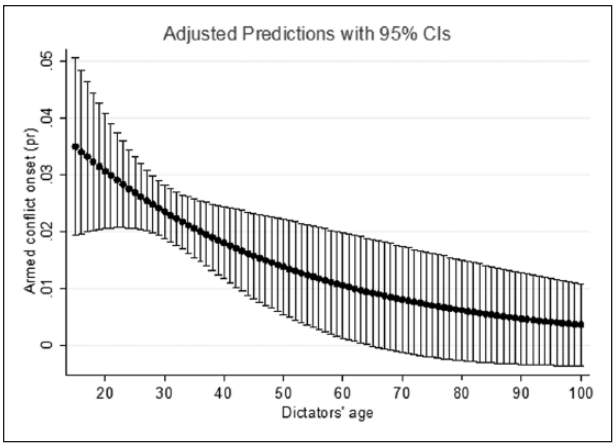

Figure 2. Impact of dictators' age on the risk of intrastate armed conflict (predicted probabilities; covariates set at their mean value).
CI = confidence interval.

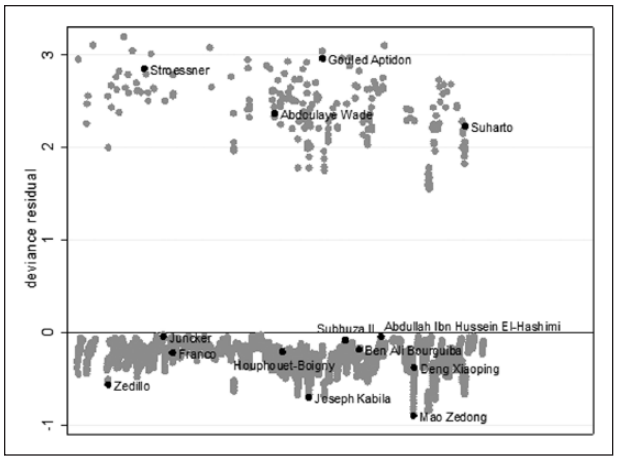

Figure 3. Deviance residuals of model 2.

Model 1 includes all control variables displayed above alongside with our main predictors: Age, Dictatorship, and the interaction of both variables. Age and Dictatorship both have a positive effect on the dependent variable (the latter effect being significant at the 5% level). The interaction term, by contrast, has a negative effect, which is significant at the 10 percent level. In terms of magnitude, a one-unit increase of the interactive term brings about a 3 percent decrease in the odds of experiencing armed conflict. This effect (which is plotted in Figure 3) is moderate but nonnegligible considering that dictators' ages vary between seventeen and ninety-three in our sample.

As Figure 2 shows, the risk of rebellion decreases as dictators' age increases. Estimates have to be interpreted with some caution, as the overall risk of civil conflict onset remains very low in absolute terms. Yet, in relative terms, the predicted probabilities show a nonnegligible effect of leaders' age. According to the model's predictions, dictators under twenty years of age run a 2 to 5 percent risk of civil conflict outbreak in any year; this risk, by contrast, is estimated between 0 and 1 percent for 95-year-old dictators. On average, the probability of conflict decreases from about 3.5 percent for the youngest dictators to about 0.5 percent for the oldest ones: in other words, this risk decreases by a factor of seven over the life span of dictators.

We then check whether the relationship between dictators' age can be best modeled as linear, logarithmic or exponential. We first use the natural logarithm of the variable Age and the interactive term to rerun model 1: the effect of the interactive term is still negative but does not reach statistical significance. By contrast, the interaction of Age squared and Dictatorship—displayed in model 2—is significant at the 5 percent level. This gain in statistical significance is consistent with our theory: our argument implies that the effect of dictators' age should increase as they approach death (i.e., the difference in conflict risk should be greater between seventy and eighty years than between thirty and forty years). A slight decrease in Akaike's and Bayesian information criteria confirms that this model specification fits the data better than the linear term in model 1.

We then examine several alternative specifications of model 2: we include clusters at the country level (model 3), fixed effects at the region[5] and year level (model 4) and country and years fixed effects (model 5). Our main results remain basically unchanged in models 3 and 4, with a significantly negative effect of the interactive variable and a positive effect of both constituent terms, and coefficients similar in magnitude. In model 5, the effect of the interactive term remains negative but decreases slightly and loses statistical significance. However, given the binary nature of our dependent variable and the low number of positive cases, this model has to be interpreted cautiously: first, we lose more than 2,000 observations due to quasi-separation; second, it brings about a considerable instability in the estimates; third, it is a very severe estimation method, and almost none of the other predictors remains statistically significant. In terms of model fit, fixed effects lead to a sharp decrease of the Akaike information criterion (AIC), but an equally dramatic increase in the Bayesian information criterion (BIC; models 4 and 5): it is therefore difficult to conclude that the inclusion of fixed effects improves the goodness-of-fit of the model.

We further examine the goodness-of-fit of model 2. The model accurately predicts 96 percent of the cases and has a false positive rate of 0 percent. However, this is due to the fact that the model never predicts a probability of conflict above 0.5[6]: in other words, the sensitivity of the model is also 0 percent, and the 3.8 percent of real positive cases in the estimation sample are false negatives.

This problem can be partly attributed to the distribution of our dependent variable, as conflict instances are very rare in the sample.

Figure 3 displays the deviance residuals of the model, which often reach very high values. Again, this problem is partly due to the distribution of the dependent variable: as most observations have a low predicted probability of rebellion, residuals thus become automatically very large when a conflict does break out. In addition, we plotted some illustrative cases on Figure 3: these include correctly predicted cases but also false negatives (on the upper side of the plot) and some instances of "false positives," that is, cases in which the predicted probability of conflict was relatively high but no conflict broke out.

We start with the false negatives. In 1989, a bloody coup interrupted the thirty-four-year rule of Paraguayan dictator Alfredo Stroessner, who was aged seventy-seven at that time. The coup was partly motivated by concerns over Stroessner's succession (Roett 1989). This case stands in obvious contradiction with our argument, since Stroessner's declining health sparked the violence instead of preventing it.[7] In Djibouti, armed violence broke out several times during the second half of the 1990s, long after the Abb'a peace agreement of 1994 put an end to the Afar insurgency. The low-scale insurgency continued during the last years of Gouled Aptidon's rule and stopped as his nephew, Ismail Omar Guelleh, took office in 2000. This case confirms one part of our argument—that a leadership change can be enough to stop violence even when the regime remains the same—but still constitutes a counter-example to our main point: Gouled Aptidon's old age (eighty-three in 1999) was not enough to prevent rebellion. Neither was Suharto's age (seventy-seven) sufficient to deter the mass unrest that led to his resignation in 1998. Finally, Senegal's President Abdoulaye Wade is an outlier but does not clearly contradict the theory we put forward, as the Casamance conflict had started decades ago and the conflict intensity declined during his tenure.

The lower end of the graph includes cases in which no conflict broke out in spite of a high-predicted probability of conflict. The largest negative residual is reached by China in 1960, where the predicted probability of a civil war onset peaked at about 33 percent: Mao Zedong, aged sixty-seven at that time, was older than the sample mean but not old enough to explain the fact that China remained at peace. The bulk of the false positives, however, is comprised of leaders who either did not experience a new conflict onset during their tenure because one or several conflicts were already ongoing as they took office, or who began their tenure peacefully but experienced an armed conflict later on: Joseph Kabila (who took office at age thirty-one) is a case in point. This is easily explained by the fact that the data are in leader-year format: even the tenure of the most contested dictator may include some accidental years of peace. Finally, the case of Ernesto Zedillo, the last PRI president, indirectly supports our argument to the extent that Mexican presidents were subject to a strictly enforced six-year term limit without the possibility of reelection.

Cases clustered around the y-axis are correctly predicted cases. For reasons explained above, these are only negative cases, which had a very low predicted probability of conflict: for example, Luxembourg's Prime Minister Juncker had an estimated probability of less than 0.1 percent of experiencing political violence during his mandate. Most of these cases are wealthy democracies, but not only: Mongolia appeared in the cluster of correctly predicted cases several times during the 2000s[AQ: 3]. Furthermore, some kings are represented in this group, such as Subhuza of Swaziland and Abdullah of Jordan. Generally, monarchies and democracies are overrepresented in this category.

A little further away from the reference line are "typical" cases, that is, aging dictators for which model 2 (correctly) predicted a low risk of intrastate conflict. Such cases include the already discussed examples of Franco and Subhuza. Habib Bourguiba of Tunisia and Felix Houphouët-Boigny of Ivory Coast both had the particularity of being nation fathers. In Deng Xiaoping's case, the predicted probability of conflict (about 7%) is relatively large compared with the rest of the sample (which explains the size of the residual) but negligible when compared with the dramatically high values reached by China under Mao. Xiaoping, who still governed at age ninety-three, is the oldest leader of our sample.

To sum up, models 1 to 5 lend support to our main hypothesis. With regard to control variables, our analyses confirm that democracies run a lesser risk of civil war than dictatorships: this is consistent with our expectations and with several prior works on the topic. Predicted probabilities derived from model 1 show that the estimated risk of civil war is below 1 percent in democracies but reaches almost 6 percent in dictatorships. The constituent term is statistically significant in all models except model 5. Monarchies also run a consistently lower risk of armed conflict, as well as military dictatorships (although this latter effect only reaches significance in model 4). The remainder of the control variables display the expected signs and their coefficients remain relatively stable across models, but most of them (with the notable exception of Population) never attain statistical significance: the effects of years in power, life expectancy, and GDP per capita are mostly negative but not statistically distinguishable from zero. This nonresult is surprising with regard to GDP per capita, as poverty belongs to the most well-studied determinants of civil conflict (e.g., Collier and Hoeffler 1998; Fearon and Laitin 2003). On a more general note, it is noteworthy that only institutional

Table 2. Dictators' Age and Rebellion. **[AQ: 10]**

	(1)	(2)	(3)	(4)	(5)
Peace years	−0.0824***	−0.0814**	−0.0814**	−0.0438	0.166***
	(0.0318)	(0.0319)	(0.0341)	(0.0344)	(0.0519)
Peace years^2	0.00302*	0.003*	0.003*	0.00185	−0.0105***
	(0.0018)	(0.0018)	(0.00179)	(0.00193)	(0.00342)
Peace years^3	−3.99e–05	−3.99e–05	−3.99e–05*	−2.82e–05	0.000226***
	(2.55e–05)	(2.55e–05)	(2.42e–05)	(2.72e–05)	(6.02e–05)
Age	0.0112				
	(0.0119)				
Dictatorship	2.016**	1.437***	1.437**	1.405***	1.008
	(0.891)	(0.486)	(0.633)	(0.491)	(0.626)
Dictatorship × Age	−0.0273*				
	(0.0146)				
Age^2		0.000121	0.000121	9.65e–05	7.44e–05
		(9.65e–05)	(0.000146)	(9.73e–05)	(0.000117)
Dictatorship × Age^2		−0.0003**	−0.0003*	−0.0003**	−0.0002
		(0.00012)	(0.00017)	(0.00013)	(0.00016)
Ln(population)	0.387***	0.389***	0.389***	0.433***	1.933*
	(0.0466)	(0.0468)	(0.0699)	(0.0587)	(1.021)
Ln(GDP/capita)	−0.0764	−0.0804	−0.0804	−0.0503	0.0805
	(0.0861)	(0.0865)	(0.107)	(0.107)	(0.221)
Life expectancy	−0.0155	−0.0146	−0.0146	−0.0175	0.00525
	(0.0109)	(0.011)	(0.0128)	(0.0154)	(0.0293)
Years in power	−0.00036	0.00103	0.00103	−0.00112	−0.0309*
	(0.0128)	(0.0128)	(0.0165)	(0.0132)	(0.0175)
Military regime	−0.257	−0.272	−0.272	−0.329*	−0.35
	(0.182)	(0.182)	(0.215)	(0.194)	(0.286)
Monarchy	−0.942**	−0.956**	−0.956***	−1.309***	−0.818
	(0.447)	(0.445)	(0.334)	(0.49)	(0.825)
Constant	−3.087***	−2.916***	−2.916***	−3.546**	−25.88***
	(0.896)	(0.653)	(0.803)	(1.392)	(6.684)
Region FE	No	No	No	Yes	No
Country FE	No	No	No	No	Yes
Year FE	No	No	No	Yes	Yes
Observations	5,981	5,981	5,981	5,720	3,341
AIC	1,762.295	1,760.314	1,760.314	1,753.292	1,634.018
BIC	1,849.348	1,847.366	1,847.366	2,199.357	2,508.324

Standard errors in parentheses. GDP = gross domestic product; AIC = Akaike information criterion; BIC = Bayesian information criterion.
*p < .1. **p < .05. ***p < .01.

variables significantly predict civil war in most of the models displayed above, apart from Population.

Additional Estimations

Prior section discussed several tests that yield support to our main hypothesis. In this section, we examine several variants of this main hypothesis: we test whether the relationship between dictators' age and armed violence is affected by the existence of term limits in dictatorships (H2), whether it is solely driven by the subset of conflicts in which the selectorate is involved (H3), and whether it becomes stronger when there is no selectorate able to replace deceased leaders (H4). Table 3 presents these estimates. All models include regions and years fixed effects (as in model 4 above): this is an arguably conservative estimation, which simultaneously avoids a drastic reduction of the sample size.

In model 6, we investigate the effects of term limits in nondemocratic regimes. As discussed above, Cheibub, Gandhi, and Vreeland's (2010) regime classification requires party alternation to take place for regimes to be coded as democracies: as a result, some regimes (e.g., Mexico) are treated as dictatorships in spite of regular leadership changes. We thus recode as democracies all countries in which leaders are subject to absolute term limits (even if

Table 3. Alternative Tests.

	(6)	(7)	(8)	(9)
Peace years	−0.0475	−0.0188	−0.0415	−0.0521
	(0.0343)	(0.125)	(0.0364)	(0.0438)
Peace years^2	0.00209	0.00341	0.00137	0.00147
	(0.00192)	(0.00748)	(0.00201)	(0.00254)
Peace years^3	−3.15e–05	−6.25e–05	−1.99e–05	−9.48e–06
	(2.72e–05)	(0.000118)	(2.80e–05)	(3.74e–05)
Dictatorship	1.136**	0.533	1.459***	
	(0.468)	(1.837)	(0.519)	
Age^2	5.50e–05	5.45e–05	8.93e–05	−0.000228**
	(9.08e–05)	(0.000437)	(0.000102)	(0.000105)
Dictatorship × Age^2	−0.000216*	−7.02e–05	−0.000277**	
	(0.000120)	(0.000479)	(0.000133)	
Irregular entry				−0.656
				(0.522)
Irregular × Age^2				0.000211
				(0.000152)
Ln(population)	0.443***	0.123	0.461***	0.401***
	(0.0597)	(0.182)	(0.0629)	(0.0758)
Ln(GDP/capita)	−0.0615	−0.524	−0.00991	−0.00368
	(0.108)	(0.389)	(0.113)	(0.129)
Life expectancy	−0.0170	0.0780*	−0.0310*	−0.0312*
	(0.0155)	(0.0467)	(0.0164)	(0.0178)
Years in power	−0.000476	0.00994	0.000443	−0.000136
	(0.0128)	(0.0350)	(0.0141)	(0.0147)
Military regime	−0.299	0.521	−0.441**	−0.271
	(0.195)	(0.559)	(0.208)	(0.224)
Monarchy	−1.256**	1.214	−1.710***	−1.192**
	(0.490)	(1.022)	(0.576)	(0.522)
Constant	−3.277**	−6.836*	−3.173**	−0.100
	(1.381)	(3.627)	(1.444)	(1.423)
Country FE	No	No	No	No
Region FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	5,720	1,145	5,651	2,737

Standard errors in parentheses. GDP = gross domestic product.
*p < .1. **p < .05. ***p < .01.

these regimes do not allow for party alternation), using data from Baturo (2016). This strategy enables us to distinguish the effects of leadership turnover from the effects of party alternation, that is, to see whether leadership changes are enough to prevent violence. If a simple leadership change (without party or regime change) is enough to bring about peace, removing cases such as Mexico from the category of dictatorships should improve the results. Yet, model 6 shows that this is not the case. Although the effect of the interactive term is still significantly negative, it decreases slightly in magnitude and loses in statistical significance. This also holds true of Dictatorship. In short, leadership changes do reduce incentives to resort to violence, but this is not the only mechanism driving the relationship between war and democracy.

In models 7 and 8, we examine H3. As already mentioned, the dependent variable we used previously includes civil conflicts launched by opposition groups as well as some instances of coups that resulted in twenty-five battle-related fatalities or more (see Powell and Thyne 2011). To check whether our results are driven by one of these two conflict types or valid for both of them, we build two new dependent variables that measure violent coups and civil wars, respectively. We then run two separate models to examine the effect of age on coups (model 7) and rebellion (model 8).

H3 states that gerontocracy should decrease the risk of rebellion leaded by members of the selectorate. Results, however, are inconclusive: we find no effect of age (the coefficient associated with the interactive term is vanishingly small and the *p* value extremely large) but this result may be partly attributable to the fact that bloody coups are very rare[8]: we only have seventy-three of such events in our sample. As a consequence, we lose many observations due to multicollinearity and the sample size shrinks to 1,145 cases.[9] None of the predictors reaches significance in the model, except for Life expectancy which appears to have a positive effect on coups. Thus, while available evidence clearly speaks against H3, we cannot rule it out entirely.

However, indirect evidence shows that dictators' age seems to affect opponents' incentives rather than selectorate members': in model 8, the interactive term has a negative and significant effect on civil conflicts initiated by opposition groups. Furthermore, the coefficient of the interactive term is larger and the *p* value smaller than in model 4, in which the dependent variable included coups. Again, this speaks against H3: gerontocracy does not affect elites' incentives to resort to violence.

Finally, model 9 examines whether the impact of dictators' age on civil conflict is more pronounced when there are no clear succession rules or no selectorate able to choose the next leader after the incumbent's death. As discussed above, we take prior occurrences of peaceful leadership transitions within the same ruling coalition as evidence for the existence of a selectorate. To identify cases in which there is no selectorate, we rely on a dummy variable (drawn from Archigos) that measures whether the incumbent entered office in an irregular way. We interact this variable with leaders' age to test H4, and restrict the sample to nondemocratic regimes: we expect a negative effect of the interactive term. Yet, as can be seen in model 9, this expectation is not borne out: the effect of the interactive variable is positive, albeit insignificant. Due to the restriction to nondemocratic regimes, model 9 is the only model in which Age becomes statistically significant. With regard to the second constituent term, the effect of Irregular entry is (somewhat unexpectedly) negative, but does not reach significance.

With regard to control variables, tendencies remain the same as previously. Military dictatorships are consistently associated with a decrease in the risk of civil conflict—which is clearly at odds with Fjelde's (2010) results—although this effect is not perfectly robust. Monarchy, by contrast, is nearly always significant. The effect of monarchy can sometimes be quite large: for example, in model 8, the variable reduces the odds of civil conflict fivefold. Among noninstitutional predictors, Population is the only variable that is systematically related to civil conflicts.

Robustness Checks

We already established the main estimates' robustness to estimation methods; we now check whether the results are sensitive to case selection. These additional estimates are displayed in Online Appendix B. The baseline estimation is model 4, which includes region and year fixed effects.

With respect to case selection, we inspect outlying observations in two ways. We first compute Pregibon's delta-beta to identify influential observations, and rerun model 4 after excluding cases for which the value of the statistic exceeds 1 (model 10) and 0.2 (model 11). In both cases, our interaction term remains highly significant and its coefficient increases; on the flipside, we lose numerous observations ($N = 2{,}040$ in model 11). We then check whether the relationship between leaders' age and conflicts is entirely driven by the inclusion of very young dictators, which would be inconsistent with our argument. This is not the case, since the effect of the interaction terms remains significant when we restrict the sample to leaders over forty (model 12) years.

We then examine whether our results hold when we restrict the sample to conflictual countries. We adopt this approach for three reasons: first, it is more consistent with our theory, as we have a typical "grievance" argument (incentives to rebel should be more important to explain domestic conflict in situations where it is feasible); second, our findings are more relevant if they hold in conflict-prone societies instead of being solely driven by low-risk cases; finally, this enables us to alleviate concerns about spuriousness, as conflict-prone countries may produce younger leaders. We use two related approaches: we first exclude countries that never experienced armed conflict since 1946 or since independence (model 13); we then restrict the sample to countries that experienced at least one conflict during the past twenty (model 14) and ten years (model 15). The two latter models result in a notable improvement of our main results in terms of both magnitude and significance. Goodness-of-fit criteria also improve markedly: for example, model 15's AIC and BIC are, respectively, 1,313.159 and 1,691.975, compared with 1,753.692 and 2,199.357 for model 4. Furthermore, the models' sensitivity increase to 19 percent for model 18 and 34.5 percent in model 19 (model 4 had a sensitivity of 2%).

To sum up, we can be relatively confident that the main results are robust to model specification and case selection.

Conclusion

The main lesson drawn from this article is that, while democracies face a lower risk of rebellion, nondemocratic

regimes may reduce this risk by appointing older leaders. In democracies, social peace is fostered by alternation through elections; in autocratic systems, gerontocracy introduces the possibility of alternation through the autocrats' death; in contrast, in regimes led by young autocrats, violence is the only way to produce alternation. Our results also suggest that the mere perspective of alternation is sufficient to deter rebellion, even when potential rebels have no reason to hope to be included in the next winning coalition. Furthermore, we show that expectations of being included in the future selectorate do not strengthen the relationship between age and rebellion. However, given severe data availability issues, this latter finding has to be taken with caution.

These findings contribute to two debates. First, they add nuances to the Popperian thesis according to which only in democracy the government can be got rid of without violence. This is not quite correct, because the natural death of leaders also allows for peaceful alternation in power and the frequency of leadership turnover can be manipulated by the selectorate. This could partly explain why the literature finds mixed evidence in favor of a negative correlation between violent conflicts and democracies. In our estimates, when leaders' age is controlled for, democracies prove to be more peaceful than autocracies. But, in absolute terms, this difference could be considerably reduced if autocracies were systematically gerontocratic, like the Vatican. Second, our findings can in part explain the propagation of gerontocratic rule in predemocratic societies and in some contemporary nondemocratic systems. This rule is extraordinarily widespread in human societies, and this article contributes to explaining why: to the extent that gerontocracy makes political systems more stable, the societies that observed such a rule were more likely to survive and develop.

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Notes

1. Although it might be difficult to identify the initiator of a conflict with accuracy, most studies on political institutions and civil war at least implicitly rely on the assumption that civil conflicts are initiated by dissatisfied opposition groups (see, for example, Fearon and Laitin 2003; Fjelde 2010; Hegre et al. 2001), not the incumbent.
2. Strictly speaking, there is another mechanism, namely, voluntary retirement. But this does not happen very often (see, Goemans, Gleditsch, and Chiozza 2009; Svolik 2012).
3. It is actually not even clear whether Khrushchev's removal from office should be considered regular: Goemans, Gleditsch, and Chiozza (2009) code it as a regular exit, but Baturo (2016) treats it as a coup.
4. The correlation for the whole sample is about 0.3 but reaches 0.4 in some estimation samples.
5. This makes sense from a theoretical point of view, given the contagious nature of civil war (e.g., Buhaug and Gleditsch 2008). Furthermore, this strategy has the advantage of maximizing the number of observations, in contrast to country-fixed effects. To identify regions, we use the tenfold classification by Hadenius and Teorell (2007), drawn from the Quality of Government data set (Teorell et al. 2018; Wahman, Teorell, and Hadenius 2013). **[AQ: 4]**
6. The smallest value (Iceland 2006) is 0.0003. The highest value (China 1949) is 0.34.
7. Early succession crises—that is, cases in which elites overthrow an ailing dictator in an attempt to preempt upcoming power struggles—are the most obvious instances in which our theory is not valid. However, as we explained above, succession crises are likely to affect conflicts between the dictator and his ruling coalition, but not conflicts between the government and the opposition.
8. This does not mean that coups are less frequent than civil wars but that they are often less violent. We do not include bloodless coups in our analysis, because these instances may include low-stake conflicts that do not involve costs as heavy as those associated with insurgency: according to Geddes (1999), coups are politics as usual in some regimes, especially military juntas.
9. Removing fixed effects from the model increases the number of observations to 5,981 but does not change the main results: the effect of the interactive term is still negligible and far from significant.

Supplemental Materials

Supplemental materials for this article are available with the manuscript on the *Political Research Quarterly* (*PRQ*) website.

References

Abulof, Uriel, and Ogen Goldman. 2015. "The Domestic Democratic Peace in the Middle East." *International Journal of Conflict and Violence* 9 (1): 72–89.

Allansson, Marie, Erik Melander, and Lotta Themnér. 2017. "Organized Violence, 1989–2016." *Journal of Peace Research* 54 (4): 574–87.

Bak, Daehee, and Glenn Palmer. 2010. "Testing the Biden Hypotheses: Leader Tenure, Age, and International Conflict." *Foreign Policy Analysis* 6 (3): 257–73.

Baturo, Alexander. 2016. "Cursus Honorum: Personal Background, Careers and Experience of Political Leaders in Democracy and Dictatorship—New Data and Analyses." *Politics and Governance* 4 (2): 138–57.

Bell, Sam R., David Cingranelli, Amanda Murdie, and Alper Caglayan. 2013. "Coercion, Capacity, and Coordination: Predictors of Political Violence." *Conflict Management and Peace Science* 30 (3): 240–62.

Bienen, Henry, and Nicolas van de Walle. 1989. "Time and Power in Africa." *American Political Science Review* 83 (1): 19–34.

Bienen, Henry, and Nicolas van de Walle. 1992. "A Proportional Hazard Model of Leadership Duration." *Journal of Politics* 54 (3): 685–717.

Buhaug, Halvard, and Kristian S. Gleditsch. 2008. "Contagion or Confusion? Why Conflicts Cluster in Space." *International Studies Quarterly* 52 (2): 215–33.

Carey, Sabine. 2007. "Rebellion in Africa: Disaggregating the Effect of Political Regimes." *Journal of Peace Research* 44 (1): 47–64.

Carter, David B., and Curtis S. Signorino. 2010. "Back to the Future: Modeling Time Dependence in Binary Data." *Political Analysis* 18 (3): 271–92.

Cheibub, José A., Jennifer Gandhi, and James R. Vreeland. 2010. "Democracy and Dictatorship Revisited." *Public Choice* 143 (2): 67–101.

Choi, Hyun Jin, and Clionadh Raleigh. 2015. "Dominant Forms of Conflict in Changing Political Systems." *International Studies Quarterly* 59:158–71.

Collier, Paul, and Anke Hoeffler. 1998. "On Economic Causes of Civil War." *Oxford Economic Papers* 50 (4): 563–73.

Collier, Paul, and Anke Hoeffler. 2004. "Greed and Grievance in Civil War." *Oxford Economic Papers* 56:563–95.

Collier, Paul, and Dominic Rohner. 2008. "Democracy, Development, and Conflict." *Journal of the European Economic Association* 6 (2–3): 531–40.

Eisner, Manuel. 2011. "Killing Kings: Patterns of Regicide in Europe, AD 600–1800." *The British Journal of Criminology* 51 (3): 556–77.

Elbadawi, Ibrahim, and Nicholas Sambanis. 2002. "How Much War Will We See? Explaining the Prevalence of Civil War." *Journal of Conflict Resolution* 46 (3): 307–44.

Fearon, James D., and David D. Laitin. 2003. "Ethnicity, Insurgency, and Civil War." *American Political Science Review* 97 (1): 75–90.

Fjelde, Hanne. 2010. "Generals, Dictators, and Kings: Authoritarian Regimes and Civil Conflict, 1973–2004." *Conflict Management and Peace Science* 27 (3): 195–218.

Flanagan, James G. 1989. "Hierarchy in Simple "Egalitarian" Societies." *Annual Review of Anthropology* 18:245–66.

Geddes, Barbara. 1999. "What Do We Know about Democratization after Twenty Years?" *Annual Review of Political Science* 2:115–44.

Gleditsch, Kristian S., and Andrea Ruggeri. 2010. "Political Opportunity Structures, Democracy, and Civil War." *Journal of Peace Research* 47 (3): 299–310.

Gleditsch, Nils P., Peter Wallensteen, Mikael Eriksson, Margareta Sollenberg, and Håvard Strand. 2002. "Armed Conflict 1946-2001: A New Dataset." *Journal of Peace Research* 39 (5): 615–37.

Goemans, H. E., Kristian Skrede Gleditsch, and Giacomo Chiozza. 2009. "Introducing Archigos: A Dataset of Political Leaders." *Journal of Peace Research* 46 (2): 269–83.

Goldsmith, Arthur. 2010. "Mixed Regimes and Political Violence in Africa." *Journal of Modern African Studies* 48 (3): 413–33.

Gurses, Mehmet, and T. David Mason. 2010. "Weak States, Regime Types, and Civil War." *Civil Wars* 12 (1): 140–55.

Haber, Stephen. 2006. "Authoritarian Government." In *The Oxford Handbook of Political Economy*, edited by B. Weingast and D. Wittman, 693–707. New York: Oxford University Press.

Hegre, Håvard. 2014. "Democracy and Armed Conflict." *Journal of Peace Research* 51 (4): 159–72.

Hegre, Håvard, Tanja Ellingsen, Scott Gates, and Nils Petter Gleditsch. 2001. "Toward a Democratic Civil Peace? Democracy, Political Change, and Civil War, 1816–1992." *American Political Science Review* 95 (1): 17–33.

Henderson, Errol, and J. David Singer. 2000. "Civil War in the Post-Colonial World, 1946-92." *Journal of Peace Research* 37 (3): 275–99.

Horowitz, Michael C., Rose McDermott, and Allan C. Stam. 2005. "Leader Age, Regime Type and Violence International Relations." *Journal of Conflict Resolution* 49 (5): 661–85.

Horowitz, Michael C., and Allan C. Stam. 2014. "How Prior Military Experience Influences the Future Militarized Behavior of Leaders." *International Organization* 68 (3): 527–59.

Kendall-Taylor, Andrea, and Erica Frantz. 2016. "When Dictators Die." *Journal of Democracy* 27 (4): 159–71.

Magni Berton, Raul, and Sophie Panel. 2017. "Strategic Gerontocracy: Why Nondemocratic Systems Produce Older Leaders." *Public Choice* 171 (3–4): 409–27.

Medhurst, Kenneth. (1984) 2016. "Spain's Evolutionary Pathway from Dictatorship to Democracy." In *The New Mediterranean Democracies: Regime Transition in Spain, Greece and Portugal*, edited by Geoffrey Pridham. New York: Routledge.[AQ: 5][AQ: 6]

Popper, Karl. (1963) 2014. *Conjectures and Refutations: The Growth of Scientific Knowledge*. London: Routledge.

Posner, Richard A. 1995. *Aging and Old Age*. Chicago: University of Chicago Press.

Potter, Philip B. K. 2007. "Does Experience Matter? American Presidential Experience, Age, and International Conflict." *Journal of Conflict Resolution* 51 (3): 351–78.

Powell, Jonathan M., and Clayton L. Thyne.2011. "Global Instances of Coups from 1950 to 2010: A New Dataset." *Journal of Peace Research* 48 (2): 249–59.

Przeworski, Adam. 1999. "Minimalist Conception of Democracy: A Defense." In *Democracy's Value*, edited by Ian Shapiro and Casiano Hacker-Cordon. Cambridge: Cambridge University Press.[AQ: 7]

Reynal-Querol, Marta. 2002a. "Ethnicity, Political Systems, and Civil Wars." *Journal of Conflict Resolution* 46 (1): 29–54.

Reynal-Querol, Marta. 2002b. "Political Systems, Stability and Civil Wars." *Defence and Peace Economics* 13 (6): 465–83.

Reynal-Querol, Marta. 2005. "Does Democracy Preempt Civil Wars?" *European Journal of Political Economy* 21: 445–65.

Roett, Riordan. 1989. "Paraguay after Stroessner." *Foreign Affairs* 68 (2): 124–42.

Rutledge, Steven H. 2002. *Imperial Inquisitions: Prosecutors and Informants from Tiberius to Domitian*. Routledge. [AQ: 8]

Sambanis, Nicholas. 2001. "Do Ethnic and Nonethnic Civil Wars have the Same Causes? A Theoretical and Empirical Inquiry (Part 1)." *Journal of Conflict Resolution* 45 (3): 259–82.

Schneider, Gerald, and Nina Wiesehomeier. 2008. "Rules That Matter: Political Institutions and the Diversity—Conflict Nexus." *Journal of Peace Research* 45 (2): 183–203.

Share, Donald. 1987. "Transition to Democracy and Transition through Transaction." *Comparative Political Studies* 19 (1): 525–48.

Simmons, Leo W. 1945. *The Role of the Aged in Primitive Society*. New Haven: Yale University Press.

Spencer, Paul. 1965. *The Samburu: A Study of Gerontocracy in a Nomadic Tribe*. Berkeley: University of California Press.

Svolik, Milan W. 2012. *The Politics of Authoritarian Rule*. Cambridge: Cambridge University Press.

Teorell, Jan, Stefan Dahlberg, Sören Holmberg, Bo Rothstein, Natalia Alvarado Pachon, and Richard Svensson. 2018. "The Quality of Government Standard Dataset, Version Jan18." The Quality of Government Institute, University of Gothenburg. doi:10.18157/QoGStdJan18.

Tullock, Gordon. 1987. *Autocracy*. Dordrecht: Kluwer Academic.

Tullock, Gordon. 2002. "Undemocratic Governments." *Kyklos* 55 (2): 247–64.

Vreeland, James R. 2008. "The Effect of Political Regime on Civil War: Unpacking Anocracy." *Journal of Conflict Resolution* 52 (3): 402–25.

Wahman, Michael, Jan Teorell, and Axel Hadenius. 2013. "Authoritarian Regime Types Revisited: Updated Data in Comparative Perspective." *Contemporary Politics* 19 (1): 19–34.

Werner, Dennis. 1981. "Gerontocracy among the Mekranoti of Central Brazil." *Anthropological Quarterly* 54 (1): 15–27.

Wilson, Matthew. 2014. "A Discreet Critique of Discrete Regime Type Data." *Comparative Political Studies* 47 (5): 689–714.

World Bank. 2017. *World Development Indicators*. [AQ: 9]