

Leaders and tenures in sub-Saharan Africa*

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October 13, 2020

Abstract

While there has been extensive evidence provided on the varying effects of leaders' extended tenures on economic growth, political institutions and conflict, little attention in the empirical literature has been given to the determinants that may contribute to long tenures. Without being cognisant of these underlying factors, any efforts aimed at limiting tenures to progress economic development and democratic institutions will have little effect, as evidenced by several leaders' attempts to subvert constitutional laws in this regard. Using panel data analysis for sub-Saharan African countries between 1960 and 2015, this study looks at the likely determinants (both at individual and country level) that can increase or decrease political survival. The preliminary results suggest that at an individual level, the leader's age, political career and rebel experience increase the likelihood of extended tenure, while the leader's education reduces the probability of extended tenure. At a country level, the country's wealth is likely to increase tenures, while increased conflict and strong institutions decrease a leader's tenure.

Keywords: institutions, education, panel data, sub-Saharan Africa

JEL Classifications: I25, C23, O43, 055

1 Introduction

The recent Afrobarometer survey indicates that over three quarters of citizens in 34 African countries are in favour of two term limits for presidents (Dulani 2015). Yet this sentiment has gone unheeded by long-standing leaders in Africa where some have served for over 20 years and are still in power, or have had to be forcibly removed. Examples include Presidents dos Santos in Angola (37 years), Campaore in Burkina Faso (27 years), Mobutu in The Democratic Republic of Congo (32 years), Biya in Cameroon (34 years), Mbasogo in Equatorial Guinea (37 years), Bongo in Gabon (42 years), Al-Bashir in Sudan (27 years), Eyadema in Togo (38 years), Museveni in Uganda (30 years) and Mugabe in Zimbabwe (36 years). During the 1990s, which was the period of significant improvements in sub-Saharan Africa in terms of growth and institutions, most reforming countries inserted term limit clauses in their constitutions (Dulani 2015). According to a report by the Africa

*I acknowledge comments received at the Women In Economics (WinE) Retreat in Cologne, the Economic Society of South Africa Conference in Johannesburg. I also acknowledge funding received from the National Research Fund under the University of Pretoria Mentorship Programme for Early Career Academics. I would also like to thank Matthew Clance from the Economics Department, University of Pretoria, for his valuable comments and my research assistant Chevaughn van der Westhuizen whose aid in the data collection and cleaning stages was infallible.

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Center for Strategic Studies (2017), only 14 out of 54 African countries¹ do not have two-term limits in their constitutions. However, over the years leaders in sub-Saharan Africa have extended their terms of office indefinitely, as indicated by the increasing trend observed in Figure 1. Of the 40 African countries with two-term limit clauses, 16 of them had leaders attempt to modify or eliminate the term limits with 10 successful attempts² (Africa Center for Strategic Studies 2017).

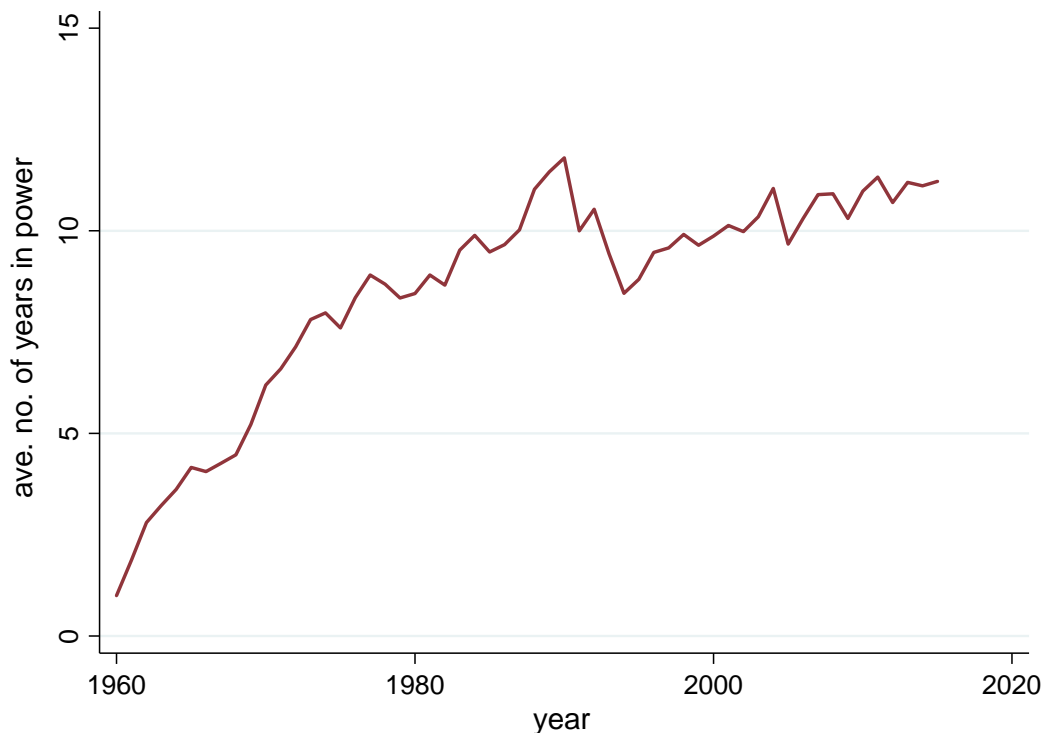


Figure 1: Average number of years in leadership role (Source: Archigos dataset v4.1, March 2016)

By 2012, at least 30 leaders had tried (some succeeding) to extend their presidential term limits, either getting courts to repeal or amend the clauses. Rarely have they vacated office after free elections, instead threats of coups or actual coups have been the most successful means to date of removing strongmen from their positions (e.g. President Campaore in Burkina Faso had to be forcibly removed from power in 2014, an attempted coup in Burundi was unsuccessful in discouraging President Nkurunziza from extending his term in office in 2015, a successful military overtake finally managed to topple President Mugabe in 2017). While President Kabila of the Democratic Republic of Congo (DRC) clung to power to the detriment of his country, it took the intervention of armed forces from the Economic Community of West African States (ECOWAS)

¹Cape Verde, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea Bissau, Lesotho, Mauritius, Morocco, Seychelles, Somalia, South Sudan, Sudan and Swaziland.

²Successful attempts at modifying or eliminating two-term limits: Togo (Eyadema, 2002), Gabon (Bongo, 2003), Uganda (Museveni, 2005), Chad (Deby, 2005), Cameroon (Biya, 2008), Djibouti (Guellah, 2010), Rwanda (Kagame, 2015), Burundi (Nkurunziza, 2015), Republic of Congo (Nguesso, 2015), DRC (Kabila, 2016).

countries to remove President Jammeh of the Gambia from office after his opponent defeated him at the elections. Such violations of tenure limits reverse democratic gains and are a cause of conflict within countries, not to mention the possible adverse effects on policy outcomes such as investing in health, education, and physical capital. These effects in turn can delay economic growth in the region. This is on the back of Zimbabwe’s collapsed economy during Mugabe’s tenure, the DRC’s rising inflation during Kabila’s tenure, and the lack of foreign currency in Sudan during Al-bashir’s tenure (Felter 2019), to name a few examples.

Previous literature provides us with various adverse effects of leaders’ tenures on economic growth, political institutions or conflict (Efobi 2015, Olson 1993, Papaioannou & Luiten van Zanden 2015, Wintrobe 1998, Uzonyi & Wells 2015). However, more attention needs to be drawn to some of the determinants that may be associated with long tenures (de Mesquita et al. 2002, de Mesquita and Smith 2010). I contribute to this gap by proposing various observable attributes at both individual and country level that may be linked to long tenures. Using panel data analysis for sub-Saharan African countries from 1960 to 2015, I find that age, political career and rebel experience are associated with long tenures, along with the country’s wealth.

While tenure elongation is not an African phenomenon alone, the region does provide an interesting and relevant testing ground for exploring which determinants are associated with long tenures. As highlighted above, Sub-Saharan Africa has a significant amount of cases, some recent, of long-tenured leaders spanning across the region, as well as numerous incidences of leaders attempting to amend constitutions to allow them to serve extra terms. In addition, frustrated citizens have started taking to the streets to voice their disapproval of long-standing leaders or those that want to use legislature to extend their tenures (e.g. Burkina Faso, Burundi, Gambia, Zimbabwe, Cameroon, Nigeria). Given that leaders have considerable influence on welfare effects in the country, coupled with the prolonged difficulties that are involved in redressing the adverse consequences of extended leaders’ tenures on economic development, the evidence from this study may assist citizens in making more informed decisions when electing leaders. Understanding the conditions that increase the probability of a long-tenured leader should be decreased if possible.

For example, one of the determinants associated with long tenures is age. Ageing comes with increased medical expenses which can become a burden to taxpayers. According to a report by Liedong (2017), President Biya receives medical treatment constantly in Switzerland, as did his counterpart President Mugabe in Singapore, while President Buhari from Nigeria spent most of 2017 in the United Kingdom for medical treatment than in his own country³. Not only is age a debilitating factor, but the ideologies remain the same as those during liberation struggles. New ideas are integral to the process of economic development (Romer 1986). How can any innovative changes occur in countries where leaders have been in power for over 20 years, leaders with the same agenda every term of their tenure? In the time that President Mugabe was leader from 1980 to 2017, the United States of America had 6 duly elected presidents. This is likely to be the case for other sub-Saharan African countries with long-tenured leaders.

2 Previous related literature

While there has been extensive literature on the adverse effects of leaders tenures on growth and conflict, there has been limited empirical evidence into the possible factors of long tenures, particu-

³<http://theconversation.com/african-politicians-seeking-medical-help-abroad-is-shameful-and-harms-health-care-82771>

larly related to leader attributes. Much of this research builds on the various dictator theories put forward in the literature. There are two separate strands of literature that focus on political survival. The first strand looks at the theory of dictators. According to Papaioannou and van Zanden (2015), the ‘dictator effect’ can be split into two channels based on proposed theories in the literature. The first channel was proposed by Wintrobe (1998), who highlights that dictators in power for a long period are faced with information asymmetries (‘dictator’s dilemma’) that result in poor economic decision making. The loyalists or government officials are afraid to tell the president the truth because they do not want to fall from his grace and at the same time the president does not trust the information given to him by his loyalists. The second channel for the dictator effect was proposed by Robertson’s (2012) theory on ‘winner-effect’. He finds that the experience of winning releases hormonal drugs in the brain that cause a change in a person’s behaviour. Most dictators, for instance, start their tenures as reformists and are usually successful in implementing sound policies, but the longer they stay in power the more egocentric and less open to criticism they become which starts to affect their decision making. This increased power induces the likelihood of socially inappropriate behaviour and dictators become less sensitive to threat and punishment (Robertson 2012). The ‘dictator effect’ is typical of presidents such as Mugabe in Zimbabwe, Gaddafi in Egypt, Jose dos Santos in Angola, Mobuto in the DRC. Based on the ‘dictator effect’, Papaioannou and van Zanden (2015) find that long years in office reduce economic growth, the quality of institutions, and increases inflation. They find that the dictator effect is mostly predominant in Africa and Asia and in young states.

Another dictator’s theory is proposed by Olson (1993) and McGuire and Olson (1996) who distinguish between ‘stationary and roving bandits’. Dictators who want to maximise their income via rent extractions are forced to spend on public goods and to avoid increasing levels of taxation in order to increase economic growth. In order to achieve this benevolent effect however, their tenures have to be long, i.e. ‘stationary bandit’. On the other hand, if the dictator’s time horizon is short, he does not care about effects of increased taxation on economic growth and will simply loot as much as possible from the economy in his given tenure, i.e. ‘roving bandit’. President Zuma’s behaviour during his tenure is typical of a ‘roving bandit’ considering that his time in power was constrained by the relatively strong institutions in South Africa (mainly, an incorruptible constitutional court). President Mbasogo of Equatorial Guinea could be viewed as a ‘stationary bandit’ given that during his extended tenure, the country achieved per capita income high enough to be classified under World Bank’s ‘high income’ grouping between 2007 and 2014.

Gandhi and Przeworski (2007) also highlight institutions as an instrument that autocratic leaders use to extend their tenure in power. Rulers can solicit cooperation either through distribution of particular goods to specific groups (e.g. tenders, money, privileges), or through legislatures where they can offer policy concessions to the opposition parties in exchange for increasing their support base. A typical example is when ruling governments form coalitions with smaller political parties to increase their support base and mitigate threats to the top position. In addition, under some constitutions, elected leaders choose their cabinet of ministers which provides autocratic leaders with an opportunity to include people who are loyal rather than competent. This compromises the efficacy of institutions and perpetuates the cycle of strongmen in power.

A second strand of literature focuses on the selectorate theory. According to de Mesquita et al. (2002), staying in power is determined by the size of voters (known as the selectorate), the size of the loyalists (known as the winning coalition) and the ability of the leader to provide benefits to the winning coalition. A leader in a democratic country is less likely to overstay his welcome than a leader in an autocratic country based on the different compositions of the winning coalitions

in each political system. In democracies, the winning coalition tends to be large such that the benefits of private goods shared among the loyalists is less than the benefits of providing public goods to the selectorate. In autocracies, the winning coalition is small such that the benefits of private goods promised to the loyalists is greater than the benefits of public goods provision. In line with this argument and the ‘stationary bandit’ theory (McGuire & Olson 1996), de Mesquita and Smith (2010), find evidence that leaders can avoid displacement by either increasing the provision of public goods to appease disgruntled citizens, or limit the provision of certain goods that may increase the coordination of revolutions and coups, such as social media. An example is that of the Zimbabwean government’s interference with internet services to suppress communications related to a revolution against the then Mugabe regime, as well as the recent Mnangagwa regime⁴. Moreover, Flores and Smith (2012) find that higher levels of fatalities in natural disasters, rather than the occurrence of disasters, reduces leader tenures in large coalition systems (democracies), whereas the occurrence of natural disasters, rather than the level of fatalities, in political systems with small winning coalitions reduces tenure.

3 Empirical Analysis

3.1 Data and Methodology

This paper focuses on the determinants of leaders’ tenures for 46 African countries⁵ from 1960 to 2015. I estimate the following baseline logistic regression based on the approaches of de Mesquita and Smith (2010):

$$Y_{it} = \alpha_i + \beta_1 \mathbf{X}_{it} + \beta_2 \mathbf{Z}_{it-1} + \mu_{it}$$

The tenure variable counts the number of years a leader is in office since his rule began, that is, it increases each year the leader remains in power and starts at one again when a new ruler takes office. For the dependent (Y), I code a binary representation of the tenure variable (1 = tenure greater than ten years, and 0 = tenure less than or equal to ten years). The cut off is determined by the average number of terms for a president’s tenure set up by the various constitutions in sub-Saharan Africa. The majority state two terms of 4 to 5 years each term depending on the country. The dependent variable is taken from the Archigos dataset on leaders, version 4.1, March 2016 (Goemans et al. 2009). This dataset codes when and how leaders came into power, their exit from power, their age and if they have any family ties in power. The dataset has information up to year 2015.

\mathbf{X} is a vector that includes various leader characteristics, such as education of leader, age of leader, career options, war credentials, years of experience leading up to leadership role, number of children and entry strategy. The education variable is categorical and measures the quality of the leaders by coding their education levels. I follow Besley and Reynal-Querol’s (2011) method in my classification of the education variable as follows: 1 (low education) = primary, secondary or

⁴<https://www.news24.com/Africa/Zimbabwe/zimbabwe-again-forces-total-internet-shutdown-amid-unrest-20190118-2>

⁵*Sample of countries:* Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo (Democratic Republic), Congo (Republic), Cote d’Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe.

certificate, 2 (middle education) = seminary, military or college, and 3 (high education) = degree or diploma. The age of the leader (*age*) is obtained by subtracting their birth year from each year in the time period 1960 to 2015. I code the age as a dummy variable where 1 = leaders that are above 65 years of age, 0 = leaders that are younger or equal to 65 years. The age cut-off is guided by the average statutory retirement age which ranges between 60 and 65 years in African countries. I opted for the upper end of the age cut-off. The career options is a dummy variable that equals 1 for career of the leader and 0 otherwise. For example, if leader was an educator, then 1 = teacher; if lawyer, then 1 = lawyer; if politician, then 1 = careerpolitician etc. The war credentials is also a dummy variable that equals 1 if leader was active in combat military service (*combat*), non-combat military service (*milservice*) or was a rebel (*rebel*) prior to becoming a president, and 0 = otherwise⁶. The variable for years of experience (*yrsexp*) captures the number of years that the leader was involved in politics prior to becoming the president. I also include the number of children (*children*) that each president has, given availability of information. The entry strategy (*irregular entry*) is a dummy variable that equals 1 if the leader entered the position irregularly (for example, as result of a coup or foreign imposition), and 0 if entry was regular (i.e. elections, natural death of previous leader). These variables are obtained from the Leader Experience and Attribute Descriptions (LEAD) dataset (Ellis et al. 2015), which I updated from 2001 to 2015 and merged with the Archigos dataset on leaders (Goemans et al. 2009).

Z is a vector that includes country level characteristics, such as income per capita (*gdpcap*) measured as Gross Domestic Product at 2010 U.S\$ constant prices, resource rents (*resource rents*) measured as total natural resource rents as a percentage of GDP, and the level of education of population measured as the number of years in secondary education (*secondary educ*). These variables are obtained from the World Development Indicators and are logged. I also include conflict (*conflict*) from the Major Episodes of Violence (MEPV) dataset which measures the intensity of conflict incidences in a country from a scale of 1 to 10 (1 being low intensity, 10 high number of deaths) (Marshall 2017), and an institutional variable (*constraints*) from the Polity IV Project which proxies for government accountability and transparency (Marshall et al. 2018). The constraints on the executive measures the checks and balances on the executive or the extent of institutionalised constraints on the decision-making powers of chief executives, whether individuals or collectivities. A seven-category scale is used: 1 (unlimited authority of the decision-making body) to 7 (executive parity, i.e. the accountability groups have effective control over the executive).

I apply the correlated random effects estimator by including the averages of the time-varying variables. This method is similar to applying the fixed effects estimator. The correlated random effects minimise statistical endogeneity which may be present in the model. Since endogeneity in the form of reverse causality may also be present in the time-varying variables⁷, I lag them by one year to minimise this issue and to allow for delays in the response of the observed variable on tenures.

⁶The LEAD dataset defines military service as participation in a regular national uniformed military; combat experience as the deployment to a combat zone where the leader faces the risk of death in combat; and rebel experience as any form of participation in a rebellion (Ellis et al. 2015).

⁷Empirical evidence from Papaioannou & Luiten van Zanden (2015) indicates that long years in office reduce economic growth and quality of institutions. Moreover, Efobi (2015) indicates that the longer politicians are in power, the more likely they are to become corrupt because of greater influence over political structures. Uzonyi and Wells (2016) find that long-tenured leaders tend to fight longer civil wars because they are predictable and opposition groups do not believe any policy concession that the leader may offer. However, Thyne (2012) suggests that it is that predictability of the leader that may actually allow for negotiated settlements to be reached more quickly. Similarly, Smith and Spaniel (2019) find that longer-tenured leaders have shorter conflict durations and lower fatality rates.

3.2 Descriptive Statistics

A brief overview of the data reveals some interesting trends⁸. Figure 2 shows that not only do older presidents tend to stay longer in power in relation to younger presidents, but leaders who entered their positions irregularly are also less likely to vacate their posts when their terms are over. The data highlights that about 35% of the leaders entered their posts irregularly in relation to those that entered regularly, and that 21% are older than 65 years. Of these sample percentages, most are long-tenured presidents. For example, Presidents Campaore from Burkina Faso, Jammeh from Gambia, Museveni from Uganda, Mobutu from DRC and Eyadema from Togo entered their posts irregularly. Coincidentally, these same presidents are also older than 60 years. Although Presidents Mugabe from Zimbabwe, Biya from Cameroon, dos Santos from Angola and Bongo from Gabon entered their leadership roles through regular legislature, their ages are significantly older than some of their counterparts during this period under review.

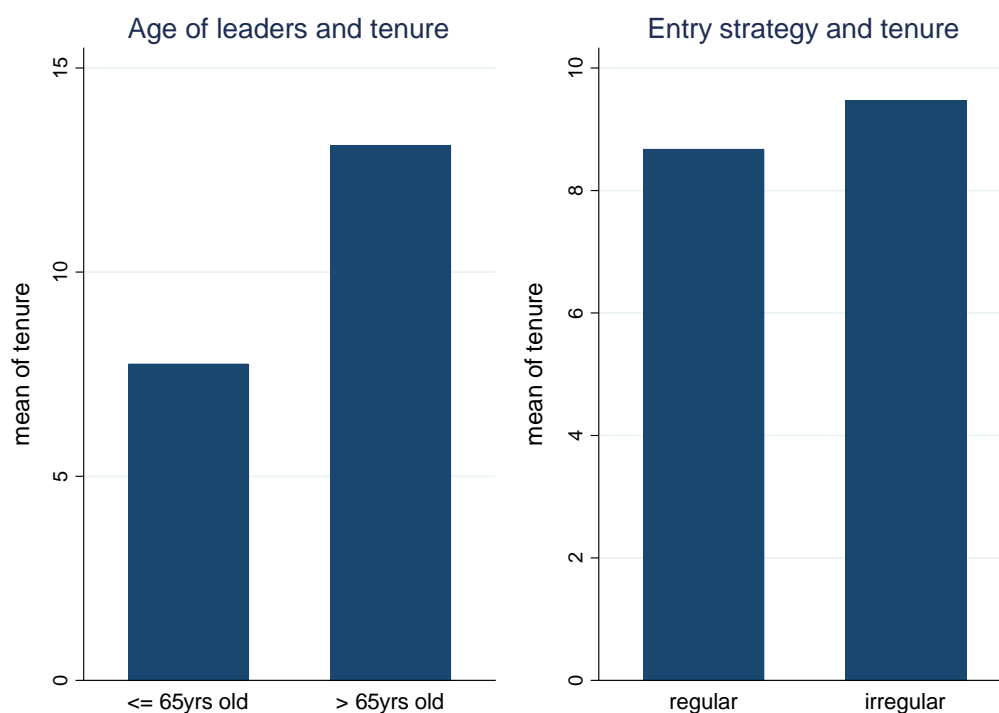


Figure 2: Age, entry strategy and tenure of leaders (Note: This figure compares young leaders and their average tenures with old leaders and their average tenures. The figure also compares the tenures of the leaders that entered their posts regularly and those that entered irregularly. (Source: Archigos dataset v4.1, March 2016), LEAD dataset (Ellis et al. 2015)).

Leaders with lower levels of education appear to have longer tenures in relation to those with higher levels of education, as observed in Figure 3. For example, long-tenured Presidents Al-Bashir

⁸The summary of variables and correlation matrices can be found in the Appendix.

from Sudan, Said Barre from Somalia and Zenawi from Ethiopia only had a secondary education, while President Mobutu from DRC obtained a certificate in accounting. However, there are some exceptions such as, Presidents Mugabe from Zimbabwe, Hastings Banda from Malawi, dos Santos from Angola, Jomo Kenyatta from Kenya and Nyerere from Tanzania who all had degrees but also stayed long in power. Interestingly, at least 75% of the leaders in this sample have some form of education higher than secondary level (i.e. vocational training, degrees or diplomas) suggesting that the region is not made up of illiterate leaders. So one wonders at the state of affairs in sub-Saharan African countries.

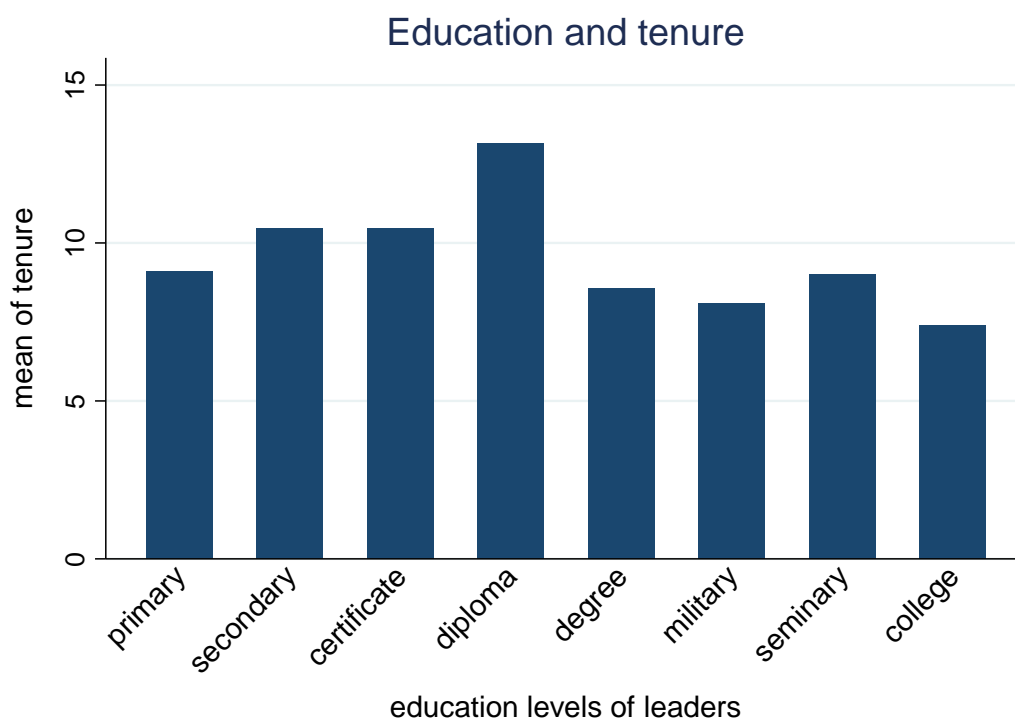


Figure 3: Education and tenure of leaders (Note: This figure shows the correlation between education levels and tenures (Source: Archigos dataset v4.1, March 2016); LEAD dataset (Ellis et al. 2015); Besley & Reynal-Querol (2011)).

Figure 4 shows that a relatively higher proportion of leaders in political careers have longer tenures, as well as leaders with rebel experience prior to becoming presidents. At least 62% of the leaders in the sample have political careers, while 42% were involved in rebel armies. Given the history of sub-Saharan Africa, a significant proportion of the leaders today either joined the military service or rebel armies during their countries' liberation wars from imperialists. For example, both Presidents Mbeki and Zuma joined rebel forces to liberate South Africa from the apartheid regime. In some instances, the leaders started off in rebel armies fighting the incumbent government and became high ranking officers in the country's military after the conflicts. History indicates that President Kagame from Rwanda started in Museveni's rebel army in Uganda, but later returned to Rwanda to command the national army in the genocide.

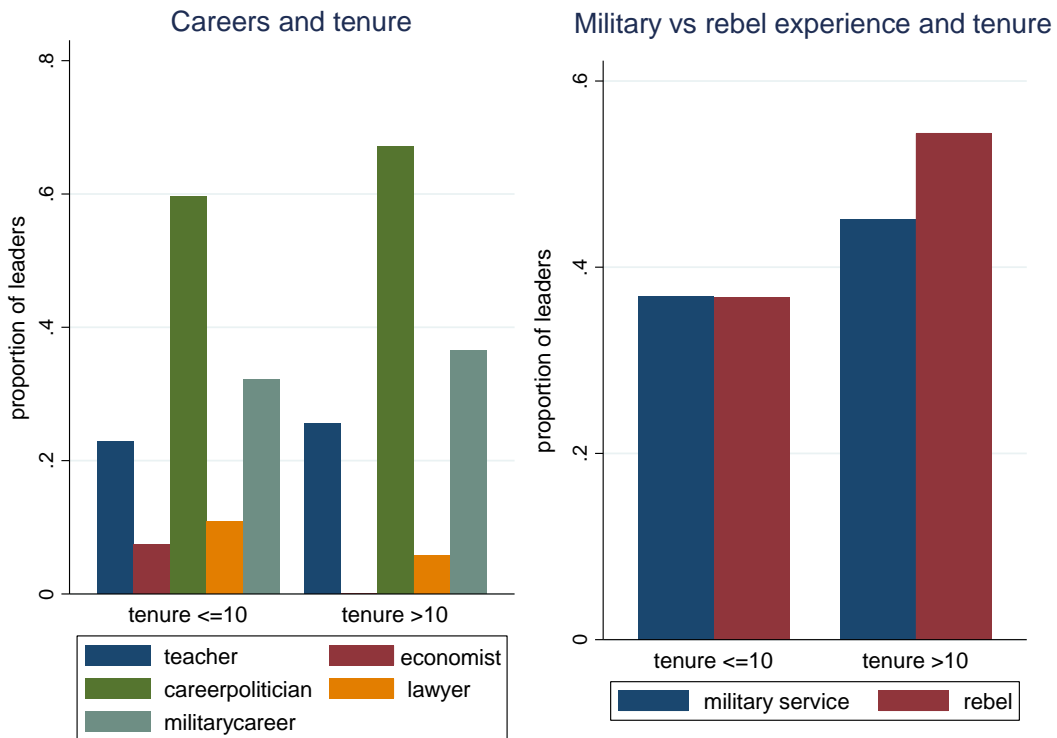


Figure 4: Careers, military vs rebel experience and tenure of leaders (Note: This figure shows the correlation between the careers of leaders and their tenures. The figure also compares the tenures of the leaders with military experience against those with rebel experience prior to becoming presidents. (Source: Archigos dataset v4.1, March 2016), LEAD dataset (Ellis et al. 2015)).

Leaders with more children have longer tenures as shown in Figure 5. Examples include long-tenured Presidents dos Santos from Angola with 9 children, Deby from Chad with 9, Mobuto from the DRC with 14, Nguesso from the Congo Republic with 11, Houphouet-Boigny from Ivory Coast with 7, Nyerere from Tanzania with 8 and Kaunda from Zambia with 7 children. The data indicates that although a slightly higher proportion of the leaders (42%) have between 3 to 6 children, they have shorter tenures in relation to the proportion of presidents with 7-10 children (16%)

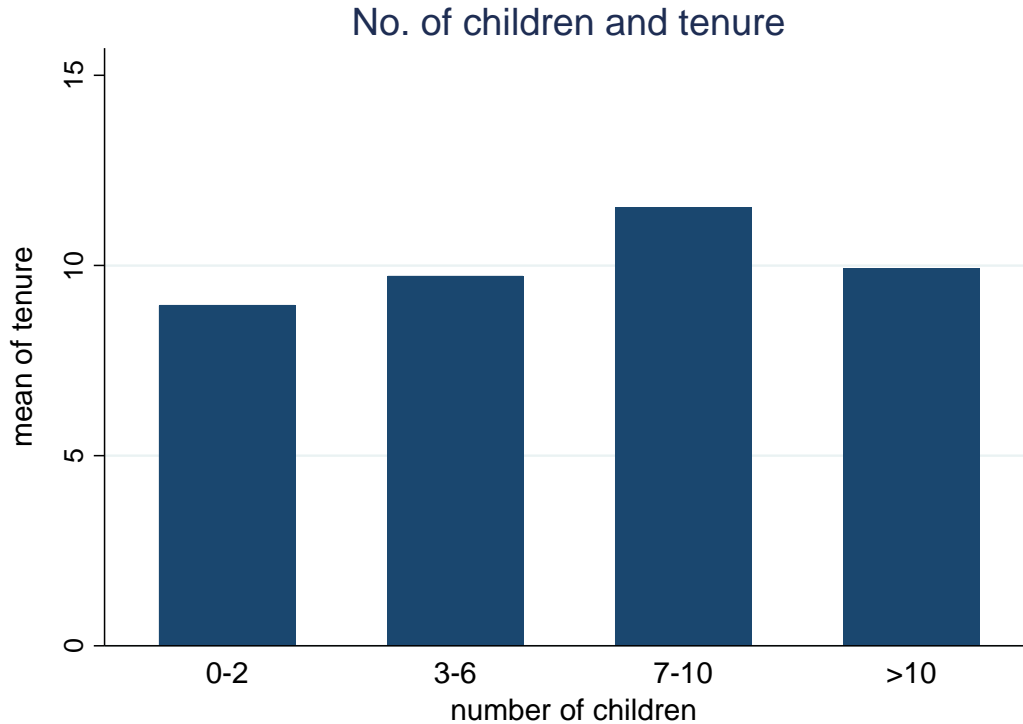


Figure 5: Number of children and tenure of leaders. (Note: This figure shows the correlation between the number of children that the leaders have and their tenures. (Source: Archigos dataset for leaders v4.1, March 2016), LEAD dataset (Ellis et al. 2015)).

The above statistics provide some initial insights into correlations between the various characteristics of leaders and the probability of longer years in power.

4 Results

4.1 Baseline Analysis

Table 1 shows the marginal effects from logit results for the various individual leader characteristics and country-level characteristics on tenures in sub-Saharan Africa⁹. The results indicate that at an individual level, age, career, past war experience and to some extent the number of children are associated with long tenures. The positive coefficients show that older leaders in relation to leaders younger than 65 years, leaders who have a career in politics, leaders who participated in rebellions, and leaders with more children in relation to those with fewer children significantly increases the probability of staying in power beyond the constitutional two terms mandate (longer than 10 years). According to Bueno de Mesquita & Smith (2010), age is an important determinant of

⁹Table A4 in the Appendix shows results for the logit model with a different cutoff for lengths of tenure as a robustness check.

leader survival in repressive regimes where the autocrat's tenure depends on his continuous ability to provide private goods to his small coalition¹⁰. Leaders, such as Mugabe and Biya, survived by providing kickbacks to loyal supporters. A career in politics provides one with the necessary experience to survive in political posts such as presidency (i.e. one understands and knows how to play the game of politics).

Evidence by Horowitz et al. (2018) finds that because leaders with combat experience are relatively better judges of their own military power, adversaries tend to take their threats more seriously. This channel may explain why leaders with rebel experience are likely to stay longer in power as their reputations may precede them and act as a deterrent to contenders for the high seat. Efobi (2015) finds that politicians in polygamous marriages and those with higher number of children are likely to be more corrupt because of the increased financial responsibilities. This same channel may act as an incentive for leaders to stay in power longer so that they can meet their personal financial obligations, especially if looting is possible.

On the other hand, years of experience in politics prior to becoming a leader negatively and significantly reduce the probability of long tenures. In this instance, the intermittent entry in and out of politics may not equip one with enough knowledge to subvert the legislative system and stay in power longer. The results also indicate that in relation to lower education such as primary, secondary and certificates, leaders who have vocational training, degrees or diplomas are less likely to stay long in power, but the significance is low. Similarly, the entry strategy, combat and military service also have minimal significance on whether leaders will have longer tenures or less.

¹⁰The results remain consistent when I use different age cutoffs. I use a categorical variable where age = 1 if age of leader is less than or equal to 30, age = 2 if age of leader is between 31 and 35, and continue for every 5 years until age of leader is greater than 70. The results are available on request.

Table 1: Logit results for leader and country characteristics

Tenure	(1) Logit	(2) Logit	(3) Logit
middle educ	-0.119 (0.081)		-0.188* (0.114)
higher educ	-0.124 (0.077)		-0.185** (0.086)
age	0.389*** (0.077)		0.329*** (0.093)
careerpolitician	0.341*** (0.080)		0.414*** (0.130)
yrsexp	-0.009*** (0.003)		-0.009** (0.004)
rebel	0.295*** (0.063)		0.248* (0.128)
combat	-0.106 (0.130)		0.024 (0.165)
milservice	0.193 (0.131)		0.137 (0.150)
2-6 kids	0.101 (0.078)		0.137 (0.125)
7-10 kids	0.383*** (0.105)		0.342* (0.190)
>10 kids	-0.012 (0.093)		-0.088 (0.111)
irregular entry	0.048 (0.078)		-0.145 (0.107)
gdpcap _{t-1}		0.209** (0.094)	0.286** (0.126)
resource rents _{t-1}		0.020 (0.050)	0.088 (0.061)
conflict _{t-1}		-0.053*** (0.014)	-0.045** (0.018)
constraints _{t-1}		-0.082*** (0.021)	-0.073* (0.042)
secondary educ _{t-1}		0.140 (0.425)	0.846 (0.722)
Observations	1,676	1,803	1,343
Number of i	44	45	42
Wald statistic	82.08***	76.01***	211.98***

Marginal effects reported. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Notes: dependent is tenure = 1 if no. of years in office is greater than 10. Education is categorical:

1 (low educ) = primary, secondary, certificate (ref. group); 2 (middle educ) = seminary, military or college, 3 (higher educ) = degree, diploma. age = older than 65yrs old, yrsexp = no.of yrs in politics.

The country level characteristics indicate that as income per capita increases, leaders are more likely to stay in power longer. The looting pot is larger to maintain support. This result is in line with Bueno de Mesquita & Smith (2010) who find that economic growth reduces the risk of deposition for leaders in a repressive regime. In the same vein, countries with access to resource rents can also expect leaders with longer tenures. Rent extraction is an additional form of income to leaders, especially in autocratic nations where they can use these resource rents to buy political support or deter revolutionary threats (Bueno de Mesquita & Smith 2010). The results from income per capita and resource rents may explain why many African countries find themselves unable to move out of poverty. The country's wealth is used for ulterior personal motives. Alternatively, higher episodes of conflict and increased constraints on the executive are significantly and negatively correlated with the probability of longer tenures. Countries with strong institutions that limit the power of leaders make it difficult for leaders to overstay their welcome. For example, in 2018, the constitutional court in South Africa ruled that President Zuma had behaved unconstitutionally by abusing his power as a president during his tenure. This ruling forced his party, the African National Congress (ANC), not to re-elect him as president. The results are also in line with findings from Dulani (2015) that people who expressed support for democracy in the Afrobarometer survey were also in support of term limits. Increased protests or conflicts are a threat to leader survival. As such, leaders try to minimise any threats to their rule either through military force or through monetary rewards (Gandhi & Przeworski 2007). A country with an educated population is likely

to have long-tenured presidents, however the results are insignificant.

In Table 2, I run the ordinary least squares (OLS) model. The tenure variable counts the number of years a leader is in office since his rule began, that is, it increases each year the leader remains in power and starts at one again when a new ruler takes office. In order to capture unobserved characteristics of countries, such as year of independence, changes in legislative amendments related to leader tenures, or historical backgrounds (for example, colonial heritage), I include country fixed effects and time effects. The method gives more efficient estimates because it allows for unobserved country and time differences through individual specific effects. The method pools the time series data for each group and allows the intercepts to differ across the groups. I also use robust standard errors to deal with potential presence of heteroskedasticity and serial correlation which can result in biased estimates and inferences. The results remain relatively consistent with the logit outcomes. Age, rebel experience, political career and the country's income per capita are positively associated with longer tenures. Increased conflicts and strong institutions are negatively associated with long tenures.

Table 2: OLS results for leader and country characteristics

	(1)	(2)	(3)
Tenure	OLS	OLS	OLS
preseducation	-1.770 (1.504)		-1.442 (1.336)
age	0.508*** (0.078)		0.479*** (0.071)
careerpolitician	5.691*** (1.854)		4.485* (2.224)
yrsexp	-0.148** (0.065)		-0.153** (0.066)
rebel	3.922*** (1.364)		2.610 (1.748)
combat	-0.253 (2.258)		0.759 (3.647)
milservice	0.869 (2.054)		0.518 (3.429)
children	-0.114*** (0.024)		-0.102*** (0.021)
irregular entry	0.722 (1.575)		-0.687 (1.299)
gdp _{cap} _{t-1}		3.238** (1.488)	1.702 (1.057)
resource rents _{t-1}		0.211 (0.870)	0.439 (0.757)
conflict _{t-1}		-1.052*** (0.254)	-0.512** (0.218)
constraints _{t-1}		-1.452*** (0.431)	-1.454*** (0.463)
secondary educ _{t-1}		1.744 (5.647)	3.045 (5.394)
Observations	1,676	1,803	1,343
R-squared	0.500	0.167	0.533
Number of i	44	45	42
F- statistic	24.01***	6.84***	24.48***
Country FE	YES	YES	YES
Year FE	YES	YES	YES

Coefficients reported. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Notes: dependent is no. of years in office. preseducation is a dummy variable for leader's education (1 = degree, diploma, military, seminary or college, 0 = primary, secondary, certificate). age and children are now continuous variables.

4.2 Additional analysis

I check the validity of the results against a duration model, also known as survival analysis. The purpose of the survival analysis is to follow subjects (individuals, firms, countries) over time and

observe at which point in time they experience the event of interest. This type of model allows me to analyse the situation where the unit of observation begins in an initial state and is observed to exit the state. In my case, since I am interested in observing the individual and country characteristics that affect a leader's survival times, my duration (event) variable is the number of years spent in office (leaderterm = 1 if less than or equal to 10 years in office, 0 = otherwise). At the end of ten years, the leaders exit. The duration model is specified as follows (Aye et al. 2017):

$$P_{it} = \Pr[T_i = t | T_i > t, x_{it}] = 1 - \exp[-\exp(\theta_t + \beta' X_{it})]$$

where T_i is an indicator for the end of the event and x_{it} are the constant and time-varying explanatory variables. These characteristics describe the probability of leader exiting at time $t=10$ years. The variable θ_t is logarithm of the baseline hazard function for the Weibull and defined as:

$$h(t, x) = \gamma p t^{p-1} \exp(\beta' x)$$

where the variables γ is a constant and positive and p indicates duration dependence¹¹. The model is estimating the probability of a leader leaving at time = 10 years. In a panel model, there would be an unobserved latent effect for each country (random effects). I report the hazard rates. The hazard rate is the probability that an individual will experience an event at time t (i.e. the probability that a leader will exit at ten years). A lower hazard rate indicates a lower probability of exiting at time t , while a higher hazard rate indicates a higher probability of exiting at time t .

The results remain relatively consistent with the previous estimations. Looking at Column 3 with all the explanatory variables, the probability of leaving office at time $t=10$ years is lower with age by 65% $((1-0.352)*100)$. The probability of leaving office is higher with years of experience by 3%. The other variables, though insignificant, draw similar conclusions as the other models, such as the probability of leaving office is lower with rebel experience and income per capita, while the probability of leaving office is higher with combat experience and conflict. The results also indicate that the probability of leaving office is lower with constraints, but the probability is at a low 20.6% emphasising the importance of strong institutions in constraining leaders to shorter tenures.

¹¹If $p < 1$, then the conditional probability for a particular individual (or country) that an event will end decreases with the length of time or monotonically decreasing.

Table 3: Survival analysis results for leader and country characteristics

	(1)	(2)	(3)
Failure to leave office	Survival	Survival	Survival
middle educ	1.005 (0.387)		1.150 (0.434)
higher educ	0.577 (0.229)		0.713 (0.318)
age	0.270*** (0.064)		0.352*** (0.117)
careerpolitician	2.153** (0.791)		2.003** (0.596)
yrsexp	1.018 (0.011)		1.030** (0.014)
rebel	0.475** (0.178)		0.736 (0.348)
combat	1.491 (1.407)		1.986 (3.032)
milservice	0.872 (0.766)		0.729 (1.177)
2-6 kids	0.811 (0.281)		0.861 (0.364)
7-10 kids	2.178* (0.881)		0.819 (0.303)
>10 kids	2.736** (1.285)		2.781** (1.191)
irregular entry	1.397 (0.513)		1.535 (0.778)
gdpcap _{t-1}		0.295* (0.195)	0.427 (0.281)
resource rents _{t-1}		0.554*** (0.103)	0.759 (0.136)
conflict _{t-1}		1.061 (0.081)	1.071 (0.090)
constraints _{t-1}		0.692*** (0.036)	0.794** (0.085)
secondary educ _{t-1}		1.497 (2.550)	29.411 (63.206)
Observations	1,676	1,803	1,343
Number of i	44	45	42
Wald statistic	88.77***	79.25***	187.21***

Hazard ratios reported. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Notes: dependent is leaderterm = 1 if no. of years in office is less than or equal to 10.

Education is categorical: 1 (low educ) = primary, secondary, certificate (ref. group);

2 (middle educ) = seminary, military or college; 3 (higher educ) = degree, diploma.

age = older than 65yrs old, yrsexp = no.of yrs in politics.

5 Conclusion

This study contributes to the literature which is at the centre of critical debates regarding economic development in Africa. In this study, I highlight the importance of a relatively new aspect in these debates - the characteristics for leader survival. The findings indicate that not only country level characteristics matter for explaining longer tenures, but also leader attributes, particularly age, political career and prior experience in rebellions. The results also indicate that maintaining strong institutions is integral in ensuring that leaders stay accountable when in power. For example, if constitutions are upheld and are not exclusive of the "elite", then there will be no loophole for leaders to extend their terms beyond stated mandates. The spill-over effects of upholding term constitutions is that a) we will not have leaders as old as 90 still holding onto power with minimal contribution to economic development of the country, b) young leaders with new ideas will be given an opportunity to make changes that can progress economic development, and c) there is less likelihood of exhaustive looting occurring from leaders with diversionary incentives which delays economic development.

6 Appendix

Below is a table with the variables' statistics. The data highlights the variation in tenures which range from one year in office (interim presidents during a regime change) to 42 years (President Bongo from Gabon). Age also has a wide variation with King Mswati entering leadership role at 18 years old, while President Mugabe was 91 years old and still in power at the end of 2015. King Sobhuza the Second of Swaziland had 210 children from 70 wives.

Table A1: Summary of statistics

Variables	Obs	Mean	Std. dev	Min	Max	Datasets
Tenure	2,330	8.91	7.84	1	42	Archigos dataset
preseducation	2,234	2.16	0.80	1	3	LEAD dataset
age	2,330	55.72	12.04	18	91	Archigos dataset
careerpolitician	2,327	0.62	0.48	0	1	LEAD dataset
yrsexp	2,326	12.58	12.33	0	51	LEAD dataset
rebel	2,330	0.42	0.49	0	1	LEAD dataset
combat	2,330	0.27	0.44	0	1	LEAD dataset
milservice	2,330	0.39	0.49	0	1	LEAD dataset
children	1,716	6.39	18.92	0	210	LEAD dataset
irregular entry	2,312	0.35	0.48	0	1	LEAD dataset
gdpcap	2,182	1542.22	2331.25	115.79	20,333.90	World Development Indicators
resource rents	1,918	12.07	12.39	0	89.17	World Development Indicators
conflict	2,352	0.77	1.73	0	10	Major Episodes of Violence
constraints	2,352	3.12	1.98	0	7	Polity IV Project
secondary educ	2,088	6.29	0.77	4	8	World Development Indicators

Sources: Goemans et al. (2016), Ellis et al. (2015), Marshall (2017), Marshall et al. (2018).

The correlation matrices show the expected correlations between the explanatory variables and tenure. Of the leader attributes, age has the highest positive correlation with leaders staying long in power, followed by previous rebel experience and political careers.

Table A2: Correlation matrix for leader characteristics

Variables	tenure	preseduc	age	careerpol.	yrsexp	rebel	combat	milservice	children	irregular
tenure	1.000									
preseduc	-0.004	1.000								
age	0.376*	0.303*	1.000							
careerpol.	0.092*	0.135*	0.183*	1.000						
yrsexp	-0.062*	0.199*	0.398*	0.557*	1.000					
rebel	0.169*	-0.222*	-0.213*	-0.279*	-0.275*	1.000				
combat	0.036*	-0.355*	-0.198*	-0.308*	-0.356*	0.480*	1.000			
milservice	0.062*	-0.450*	-0.349*	-0.457*	-0.490*	0.502*	0.759*	1.000		
children	-0.001	-0.096*	0.082*	0.088*	0.237*	-0.077*	-0.046*	-0.046*	1.000	
irregular	0.048*	-0.334*	-0.259*	-0.394*	-0.364*	0.544*	0.517*	0.576*	-0.063*	1.000

Sources: Archigos dataset v4.1, LEAD dataset, MEPV, Polity IV Project. * significant at 5%.

Of the country characteristics, leader survival is threatened when there are strong institutions in place, as well as high episodes of violence in the country. On the other hand, wealthier and resource-rich countries in Africa suffer from long-tenured presidents.

Table A3: Correlation matrix for country characteristics

Variables	tenure	gdpcap	resource rents	conflict	constraints	secondary educ
tenure	1.000					
gdpcap	0.182*	1.000				
resource rents	0.113*	-0.178*	1.000			
conflict	-0.109*	-0.155*	0.070*	1.000		
constraints	-0.252*	0.223*	-0.312*	-0.115*	1.000	
secondary educ	0.022	-0.180*	-0.101	-0.049*	-0.202*	1.000

Sources: Archigos dataset, World Development Indicators. * significant at 5%.

Table A4 shows results for the logit model with a different cutoff for lengths of tenure as a robustness check. I change the binary representation of the tenure variable to 1 = tenure greater than 8 years, and 0 = tenure less than or equal to 8 years. I repeat the estimations with a cutoff of 12 years. The results remain consistent, irrespective of length of tenure¹².

¹²I do the same for the survival analysis where I change the duration (event) variable to number of years spent in office = 1 if less than or equal to 8 years in office, 0 = otherwise. The results also remain consistent and are available on request.

Table A4: Logit results with different cutoff for lengths of tenure

Tenure	(1)		(2)		(3)		(4)		(5)		(6)	
	Logit	tenure>8	Logit	tenure>8	Logit	tenure>8	Logit	tenure>12	Logit	tenure>12	Logit	tenure>12
middle educ	-0.133*	(0.078)	-0.195*	(0.112)	-0.100	(0.076)	-0.138	(0.096)	-0.193***	(0.075)	-0.193***	(0.075)
higher educ	-0.109	(0.069)	-0.110	(0.077)	-0.123	(0.075)	-0.123	(0.075)	-0.123	(0.075)	-0.123	(0.075)
age	0.389***	(0.075)	0.335***	(0.086)	0.399***	(0.069)	0.348***	(0.083)	0.399***	(0.069)	0.348***	(0.083)
careerpolitician	0.321***	(0.076)	0.355***	(0.116)	0.329***	(0.072)	0.407***	(0.105)	0.329***	(0.072)	0.407***	(0.105)
yrsexp	-0.008***	(0.003)	-0.009**	(0.003)	-0.010***	(0.003)	-0.009***	(0.003)	-0.010***	(0.003)	-0.009***	(0.003)
rebel	0.298***	(0.054)	0.248**	(0.103)	0.264***	(0.064)	0.241**	(0.110)	0.264***	(0.064)	0.241**	(0.110)
combat	-0.124	(0.124)	0.012	(0.157)	-0.106	(0.124)	0.010	(0.138)	-0.106	(0.124)	0.010	(0.138)
milservice	0.237*	(0.124)	0.174	(0.141)	0.172	(0.126)	0.075	(0.108)	0.172	(0.126)	0.075	(0.108)
2-6 kids	0.062	(0.074)	0.104	(0.107)	0.151**	(0.071)	0.190*	(0.100)	0.151**	(0.071)	0.190*	(0.100)
7-10 kids	0.276***	(0.093)	0.264*	(0.159)	0.452***	(0.106)	0.413**	(0.181)	0.452***	(0.106)	0.413**	(0.181)
>10 kids	-0.043	(0.109)	-0.042	(0.121)	0.031	(0.073)	-0.026	(0.075)	0.031	(0.073)	-0.026	(0.075)
irregular entry	0.020	(0.068)	-0.160*	(0.094)	0.051	(0.072)	-0.101	(0.089)	0.051	(0.072)	-0.101	(0.089)
gdpcap _{t-1}			0.191**	(0.086)	0.249**	(0.112)	0.266**	(0.107)	0.232***	(0.086)	0.266**	(0.107)
resource rents _{t-1}			0.023	(0.051)	0.091	(0.064)	0.054	(0.049)	0.018	(0.044)	0.054	(0.049)
conflict _{t-1}			-0.053***	(0.019)	-0.040*	(0.023)	-0.033***	(0.012)	-0.044***	(0.011)	-0.033***	(0.012)
constraints _{t-1}			-0.078***	(0.020)	-0.072*	(0.041)	-0.059	(0.036)	-0.068***	(0.019)	-0.059	(0.036)
secondary educ _{t-1}			0.168	(0.423)	0.900	(0.911)	0.498	(0.626)	0.076	(0.410)	0.498	(0.626)
Observations	1,676		1,343		1,676		1,343		1,803		1,803	
Number of i	44		42		44		42		45		45	
Wald statistic	76.04***		68.09***		81.63***		63.96***		63.96***		465.11***	

Marginal effects reported. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Notes: dependent is tenure = 1 if no. of years in office is greater than 8 or 12. Education reference group is 1 (low educ) = primary, secondary, certificate; 2 (middle educ) = seminary, military or college, 3 (higher educ) = degree, diploma. age = older than 65yrs old, yrsexp = no.of yrs in politics.

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