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Working Papers / Documents de travail

The Wise, the Politician and the Strongman: National Leaders' Type and Quality of Governance

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WP 2021 - Nr 20

The Wise, the Politician and the Strongman: National Leaders' Type and Quality of Governance

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February 2021

Abstract

There is strong evidence that national leaders matter for the performance of their nations, but little is known about what drives the direction of their effects. I assess how national leaders' quality of governance, measured by five indicators, varies with their career and education. Using text analysis and a sample of one thousand national leaders between 1932 and 2010, I identify five types of rulers: military leaders, academics, high-level politicians, low-level politicians and lawyers. Military leaders tend to be associated with a decrease in the quality of governance, whereas politicians who have held visible offices before taking power perform better. National leaders with a law background, as well as academics, can have negative effects depending on the political regime they run and on the choice of performance indicator. This highlights the heterogeneity behind the positive effect of holding a university degree, often used as a proxy for politicians' quality.

Key words: national leaders, politicians' quality, leaders' characteristics

JEL: H70, N10, J45

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1 Introduction

The debate on what makes a "good" head of state goes back to at least the beginning of Greek democracy, when most of the public offices were randomly selected by lottery. For Aristotle, it was a fair feature of democracy: everyone gets a say regardless of their background—at least, everyone considered to be a citizen, which at the time excluded women, foreigners, children, slaves and paupers (Susemihl et al., 1894). Among critics of this practice, Socrates pointed out the incompetence factor: "No one would choose a pilot or builder or flutist by lot, nor any other craftsman for work in which mistakes are far less disastrous than mistakes in statecraft" (Xenophon, Memorabilia Book I, 2.9). Closely related is the danger of democracy highlighted by Plato: being ruled by the ignorant (Wolff, 2006).

The opposite, known as *epistocracy*, is the discrimination in political decisions based on knowledge. It is not free from criticisms either. As claimed by Weber et al. (2004), science qualities that make a good scholar, or a good thinker, are not necessarily the same qualities that make for good leaders or role models.

Despite the importance of the debate and the diversity of opinions, quantitative studies addressing this question are scarce. The purpose of the present paper is to use economic tools and real data to assess whether some categories of leaders perform better than others.

To do so, I focus on around a thousand heads of government of a worldwide sample from 1932 to 2010. First, I estimate their effects on their quality of governance, measured by economic growth, democracy, corruption, rule of law and property rights. I use a recent methodology proposed by Easterly and Pennings (2020) to isolate national leaders' effects from their countries and their regions' effects in a more accurate way than by using fixed effects.

In a second step, I estimate how the probability of having a positive and significant effect on each outcome varies according to the leaders' background. For this purpose, I use data-driven categories based on their academic track record and previous career. More precisely, by analyzing the correlation between words in leaders' backgrounds, as well as their frequency in the sample, I create five categories of rulers: academics, those with a law background, high-level politicians, low-level politicians and military leaders.[1] Given that rulers' characteristics may have different effects according to the type of regime that they run, I interact each category with a dummy that distinguishes leaders in democracies from those in autocracies.

I find robust evidence that leaders' backgrounds significantly affect their quality of governance. The results show that leaders with a former military career tend to have an

[1]These categories are not mutually exclusive, meaning that a leader can simultaneously belong to more than one category.

overall negative effect on the quality of governance both in democracies and autocracies. Conversely, high-level politicians, such as former party leaders or prime ministers, improve institutional quality in autocracies. The positive effect of national leaders' education, previously found in the literature (Besley et al., 2011) hides a large heterogeneity. Indeed, academics and lawyers have either negative or insignificant effects on the considered outcomes. All of this weakens support for the idea that more educated leaders are more desirable.

This finding suggests that leaders' backgrounds can be a signal of the direction that their political decisions will have on the overall performance of their countries. Yet, one limitation is that leaders' characteristics are not randomly distributed across time and countries, which can lead to a matching issue. For instance, former high-level politicians may perform well in the countries they run, but it is not possible to assess whether they would be good rulers for every state and every period.

The main threat to identification is the endogeneity in the timing of political transitions, implying that the probability of observing a leader in a certain country, at a certain time, depends on his current and past performance. To assess this issue, I follow Jones and Olken (2005), who focus on transitions where the leader died while in power by natural causes, considering these as unpredictable events and thus independent of economic conditions. The results are robust with this sample restriction. Moreover, the methodology I use provides estimators that have been shown to be accurate in the presence of endogeneity in transitions (Easterly and Pennings, 2020).

The second concern is that leaders' backgrounds are endogenous to the initial quality of governance, in particular to the level of democracy. Indeed, it is more common to see former military staff in autocracies, where there are fewer academics, former mayors, governors and civil servants. The results hold when controlling for the initial level of democracy and the initial property rights score. Finally, I address the subjectivity and sensibility of the background categories. Using structural topic modeling to create unsupervised categories, similar to the approach of Bandiera et al. (2020) to analyze CEOs' behavior, leads to consistent conclusions.

This paper mainly refers to the literature on politicians' quality and valence. While many theoretical models have disentangled "good" politicians from "bad" ones (Besley, 2006; Caselli and Morelli, 2004; Galasso and Nannicini, 2011; Coate and Morris, 1995), it is empirically challenging to detect them and to measure their quality. Thus, it is common to use the level of education or previous experience as a proxy for politicians' valence (Ferraz and Finan, 2009; Galasso and Nannicini, 2011).

I also contribute to the connected literature that studies how national leaders' characteristics affect national outcomes. A closely related paper is the one by Besley et al. (2011), who tested whether the impact of leaders on their nation's economic growth varies according to their educational attainment, finding a positive association. Leaders with

an economic background are also associated with higher growth rates in democracies (Brown, 2019) and with higher foreign direct investment in autocracies (François et al., 2020). Moreover, national leaders' backgrounds have been shown to affect the implementation of market-liberalization reforms (Dreher et al., 2009), the level of democracy in developing countries (Mercier, 2016), corruption in Africa (Efobi, 2015) and militarized conflicts (Horowitz and Stam, 2014).

I mainly differ from previous works in three ways. First, I focus on multiple outcomes to measure leaders' quality of governance in a broad sense.[2] Second, I use data-driven categories that allow me to exploit detailed information on national leaders' past experience and to reduce prior judgment on the selection of attributes that affect leaders' performance. Third, the cited studies use fixed effects or the average outcome to measure the ruler's impact. Here, I use the leaders' value-added estimators of Easterly and Pennings (2020), which allow me to better isolate rulers' effects from shocks and countries' effects, and to detect significant leaders in relative terms both with respect to other rulers in their region at the same time and to leaders in the same country at different times.

The rest of this paper is organized as follows. Section 2 reviews the existing related literature. Section 3 describes the data and sources used in this work. Section 4 provides the estimations for leaders' effects. Section 5 analyzes how leaders' backgrounds affect the quality of governance. Section 6 presents the results of robustness checks, and Section 7 concludes.

2 Literature review

2.1 The broad debate

The philosophical debate goes back to at least ancient Greece, when political officials were selected by *sortition*, that is, randomly among the whole pool of citizens. Aristotle saw this as the fairness of democracy, which literally means "rule by the people", and the channel through which to achieve equality of law and political rights, as opposed to an election system that would lead to an oligarchical system where only a few would rule (Susemihl et al., 1894).

The most striking limitation of the random allocation of political offices is the lack of qualifications of some individuals. At the other extreme, *epistocrats* would argue for discriminating based on knowledge. John Stuart Mill proposed a voting system where the number of votes of each individual would be based on their educational attainment and occupational background (Estlund, 2003). Nowadays, this alternative seems implausible. Epistocracy is not likely to come after democracy, as argued by Weber: "the only thing

[2] An exception is Papaioannou and Van Zanden (2015), who use economic growth, inflation and two indexes for the quality of governance.

worse than letting everyone vote is telling some people that they no longer qualify" (Runciman, 2018). It is, nonetheless, acceptable to promote such discrimination in the case of politicians rather than voters. For instance, if educational attainment is a measure of knowledge, this may be translated into the desire to have a national leader with a higher academic degree and/or degrees in several fields. This vision of knowledge measured by the level of education is called *scholocracy* (Estlund, 2003).

Criticisms of epistocracy come in many forms, one being the demographic representation. The most educated group of a country may share some common demographic features in terms of gender, age and social class that make them unrepresentative of the whole society (Estlund, 2003). Moreover, nowadays, when educational attainment in the political elite is high, the core of the debate has been turned to which field of education is better suited to politicians. Supporters of *technocracy* would argue that we need to be governed by experts. But technocracy may not always be the best option. For instance, as argued by Runciman (2018): "Technocrats are the people who understand what's best for the machine. But keeping the machine running might be the worst thing we could do. Technocrats won't help with that question."

Besides education, previous political experience may give rulers a comparative advantage by acquiring specific skills, understanding the political arena and making political connections. As in all occupations, self-selection may also play a role. The type of people who are called to the profession of politics share some characteristics. Weber argued that politics may be a man's avocation or his vocation. While we are all "occasional" politicians, Weber defines "professional" politicians as those who live "for" and/or "off" politics. Rulers who have made a career in politics instead of having had other former occupations may have an inherent vocation and stronger motivations from others. Yet, Weber found vanity to be a common characteristic among politicians, meaning that politicians are tempted to make decisions based on emotional attachments to followers, and not on the rational reasoning needed to govern justly and effectively (Weber et al., 2004).

Finally, we cannot dismiss another type of leader: the military ruler. Horowitz and Stam (2014) argued that former military experience might have a particularly powerful and systematic effect on leaders' behavior. Indeed, military experiences can be particularly acute or traumatic and often occur during late adolescence, an important developmental stage. It is easy to talk about the dangers and criticisms of authoritarian leaders. But there is also room for supportive arguments. Because they worry less about dissenters' views, an authoritarian figure can more easily make policy decisions that are unpopular but necessary for the short run. For instance, Runciman (2018) argued that pragmatic authoritarianism may be an option when facing environmental challenges: "When flooding or air pollution or water scarcity have become an acute threat, pragmatic authoritarianism has delivered on its promise to prioritize immediate results over

long-term gains (...) Pragmatic authoritarianism can make democracy look cumbersome and indecisive."

2.2 The economic literature

In the economic literature, the interest in and evidence on the importance of political leaders' identity are more recent, as traditionally economic outcomes have been mostly attributed to shocks, household behaviors or institutions.

The quality of politicians is relatively easy to define and implement in theoretical models. For instance, Besley (2005) and Caselli and Morelli (2004) defined it according to honesty and competence. Thus, politicians' quality is a valence issue as, conditional on the policy platform, every citizen would want more of it. Modeling has been done in terms of a continuous variable that measures quality or the distinction between good and bad politicians (e.g., Besley, 2006; Caselli and Morelli, 2004; Galasso and Nannicini, 2011; Coate and Morris, 1995). Nevertheless, in the empirical analysis, the difficulty is higher as quality is unobserved. Supported by the labor economics literature, some authors have used as a proxy the level of education and previous experience in politics (Ferraz and Finan, 2009; Galasso and Nannicini, 2011).

Closely related is the literature that focuses on the link between individual characteristics, policy choices and economic outcomes. For instance, consistent with the scholocracy argument, Besley et al. (2011) showed that more educated leaders are associated with higher economic growth rates. In the spectrum of technocracy, Brown (2019) found that national leaders with degrees in economics are associated with higher rates of economic growth, and François et al. (2020) concluded that they also trigger higher levels of foreign investment. The economic performance of a nation is also affected negatively by national leaders' age (Jong-A-Pin and Mierau, 2011; Atella and Carbonari, 2017) and by their tenures in autocracies (Papaioannou and Van Zanden, 2015).

More broadly, Dreher et al. (2009) studied how the profession and education of heads of state are important for the implementation of market-liberalizing reforms, and Horowitz and Stam (2014) examined how national leaders' characteristics affect military decisions. In developing countries, Mercier (2016) analyzed the effects of national leaders' migration experience on the level of democracy, and Efobi (2015) found that the attributes of African national leaders are significant in determining the level of corruption.

At the local level, there is a larger body of compelling evidence that links politicians' characteristics and their constituencies' outcomes, as it is easier to design an empirical strategy to identify a causal effect. For instance, leaders' gender has become an active research topic at the local level. Chattopadhyay and Duflo (2004) used data from India, where some council head positions were randomly allocated to women. They found that female leaders spend more on infrastructure that is directly relevant to the needs and

complaints of women citizens. Brollo and Troiano (2016) used a discontinuity approach based on close elections and found that in Brazil, female mayors are less likely to engage in corruption, hire fewer temporary public employees during the electoral year and attract fewer campaign contributions when running for reelection. Using the same empirical strategy, Alesina et al. (2015) analyzed the effect of leaders' age on political governance, reelection rates and policies in Italian municipalities. Diaz-Serrano and Pérez (2013) and Lahoti and Sahoo (2020) focus on the role of leaders' education for education outcomes. The evidence on the role of individual characteristics in politics also extends to other political offices, such as central bankers (Göhlmann and Vaubel, 2007) and finance ministers (Jochimsen and Thomasius, 2014; Moessinger, 2014).

The managerial literature can also provide valuable analysis through the importance it has given to the role of CEOs in the performance of a firm. By analyzing their leadership style, risk-taking behavior and personal traits such as age, gender and family social class, Bertrand and Schoar (2003) concluded that differences in investment, financing and other organizational strategy variables depend on the specific characteristics of the firm's manager. Recently, using high-frequency and high-dimensionality data, as well as machine-learning techniques, Bandiera et al. (2020) first categorized CEOs into two types: "leaders", who do multi-functional, high-level meetings; and "managers", those with core functions and who do individual meetings. Then, they estimated whether these categories were relevant for the firm's performance, and found that firms with "leaders" tend to perform better.

The present paper differs from previous studies on the categorization of national leaders' backgrounds, disentangling leaders with knowledge in a specific field from those with more political experience and those with a military background. Further, while most of the cited papers used fixed effects models and a unique outcome, in this work, I estimate their effects with a less-biased methodology proposed by Easterly and Pennings (2020), and on multiple outcomes to capture the quality of their governance in a multi-dimensional way. Moreover, most of the existing literature, with the exception of Besley et al. (2011), François et al. (2020) and Mercier (2016), has focused exclusively on democracies or autocracies, or it has not distinguished between political regimes, making it difficult to generalize the results. Here, I include both types of leaders, and I differentiate between both.

3 Data

3.1 Leaders' data

This paper combines the Cursus Honorum (Baturo, 2016) and Leader Experience and Attribute Descriptions (LEAD) (Elli et al., 2015) datasets. Both identify the national

leader as the head of government, the one with the most executive power, and provide detailed information about their previous education and career. I use data from 1932 to 2010 from 148 countries, and I focus on leaders who stayed three or more years in power.[3] This gives a total of 1,007 national leaders, of which more than half are heads of state in democracies. Figure 1 shows that even though all regions are represented, there were fewer leaders in autocratic countries in this period, given the availability of data and the fact that these rulers stay in power longer.

I combine the details of their university education as well as their previous career provided by the Cursus Honorum (Baturo, 2016) dataset into a single variable that I will refer to as *leader's background*. Table 1 shows the most repeated words of this variable.

The multiplicity of previous experience as well as the fact that some academic fields may be highly connected with specific careers lead to the need for data aggregation. To create leaders' categories with a data-driven approach, I analyze the correlation of words within the *leader's background* variable. Figure 2 shows words that have a correlation coefficient higher than 0.10 in this variable. The thicker the line that links two words, the higher the correlation coefficient between them. On the left, we can see a cluster of words related to leaders with a military background, such as military career, military education, commander in chief, army and defence. A high proportion of these leaders are unlikely to have a university degree. On the bottom right are leaders with an economic background who are likely to be academics or former finance ministers. On the top right, it appears that leaders with a law degree, the most common type of national leader, are

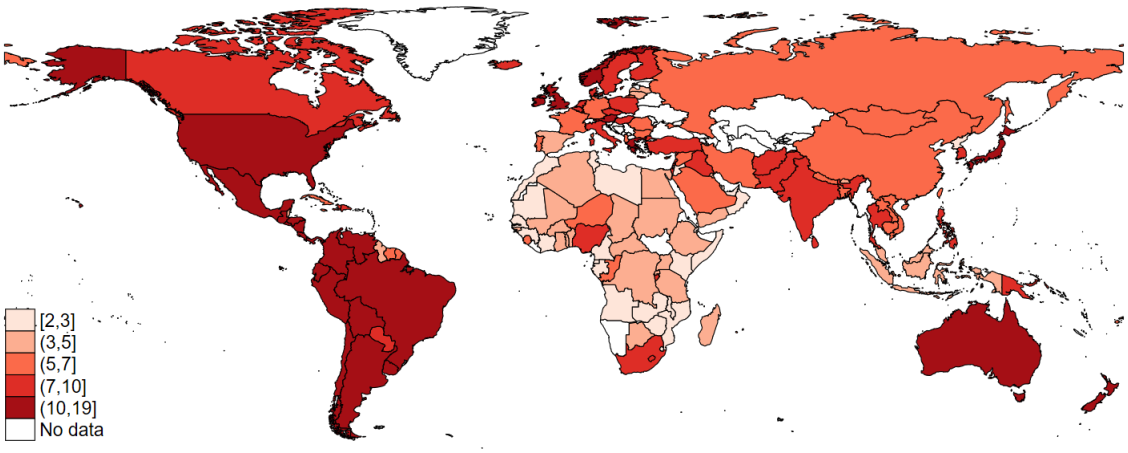


Figure 1: Number of national leaders per country

Notes: The map shows the distribution of national leaders who stayed in power three or more years from 1932 to 2010 and for whom I have data on at least one of the following macroeconomic variables: economic growth, corruption, democracy, property right score and/or rule of law.

[3]Thus, I do not include 675 leaders who stayed two or fewer years in power and 88 who stayed three or more but for whom I do not have sufficient data to estimate leaders' effects in the next section.

likely to have been members of parliament and/or party leaders. Finally, several former prime ministers also served as deputies before taking office as national leaders.

Based on the clusters of words shown in Figure 2 and on word repetition in Table 1, I create five main categories. The first comprises **academic leaders**, which includes economists, ministers of finance and other academics. Then, there are those with a **legal background** because they have a degree in law and/or a former legislative career as a member of parliament, senator or legislator. The third category is composed of the **high-level politicians** such as former prime ministers, vice presidents, presidents or party leaders. The fourth groups the **low-level politicians**, in which I include former mayors, governors, diplomats, civil servants and ministers other than ministers of finance or defence or prime ministers. Finally, the fifth group is composed of the **military leaders**, either because they had a career in the military force or a military education. These categories are not exclusive, meaning that a leader can simultaneously belong to two or more groups. However, I will be controlling for interactions between those categories with a high number of common leaders. The detailed categorization criteria, as well as the frequency of interactions across each category and subcategory, can be found in Appendix A. Moreover, in Section 6.3, I use an unsupervised categorization to

Word	**Repetition**
Law	228
Party leader	193
No education	178
Minister	164
Prime minister	148
Member of the Parliament	109
Military education	103
Economics degree	97
Humanities degree	72
Military career	65
Engineering	57
Pre-independence leader	52
Chief	50
Academic	37
President	35
Finance	34
Vice president	33
Commander	31
Political science	31
Medicine	28
Defence	27
Deputy	25
Foreign	25
Mayor	24
Speaker	22
Army	21
Governor	21

Table 1: Word repetition in leaders' background variable

Notes: The table shows the words with more than 20 repetitions in the leaders' background variable for the leaders included in the sample. The leaders' background variable is the concatenation of a variable that describes the leader's career prior to taking office and the one that describes his/her university field(s), taken from Baturo (2016) dataset. I grouped the following words into single expressions: "member of the parliament", "economics degree", "humanities degree", "political science", "party leader", "no education", "pre-independence leader", "military career", "military education" and "civil servant". There is a total of 188 distinct expressions in the background variable.

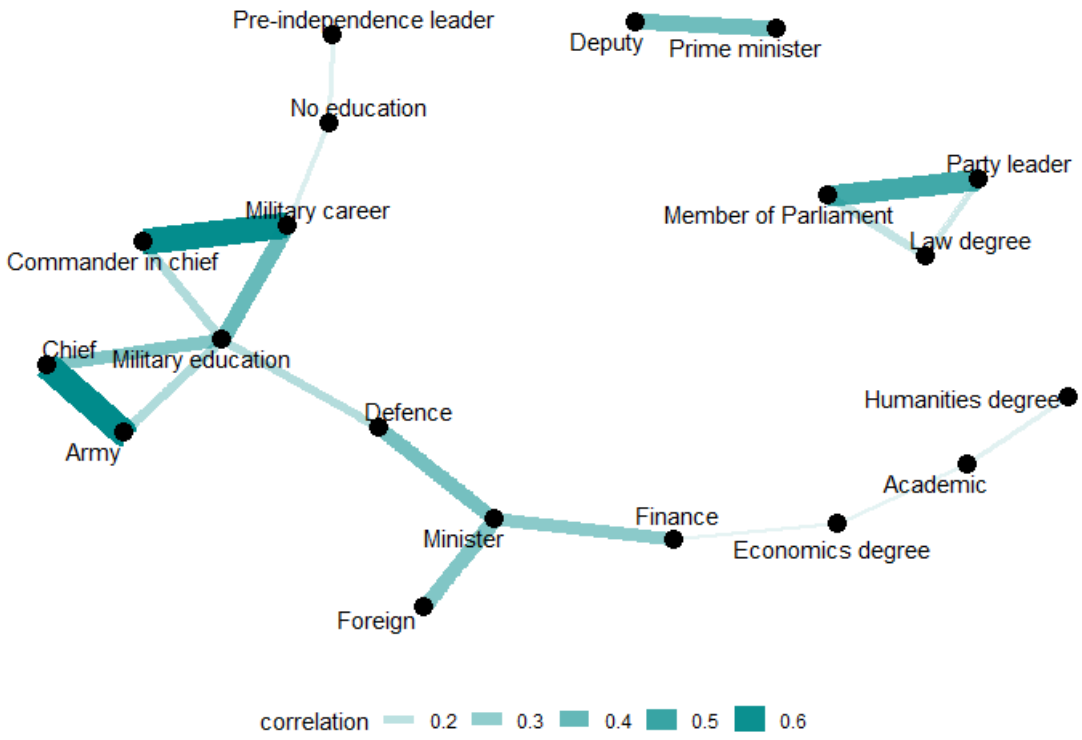


Figure 2: Words' network in the leaders' background variable

Notes: The figure shows the correlation of words in the leaders' background variable, which is the concatenation of a variable that describes the leader's career prior to taking office and the one that describes his/her university field(s), taken from Baturo (2016) dataset. I restrict to words with a correlation coefficient higher than 0.10 and to words repeated more than 20 times in the dataset. I grouped the following words into single expressions: "member of the parliament", "economics degree", "humanities degree", "political science", "party leader", "no education", "pre-independence leader", "commander in chief", "military career", "military education" and "civil servant".

test the robustness of the results.

Table 2 shows general descriptive statistics as well as the number of leaders for each category, divided across autocracies and democracies. Since men represent a high percentage (97%) of the dataset, it is not possible to assess the effect of gender. The median tenure is five years, and the mean age of entry is 53 years old. Even though a high proportion of national leaders are graduates, there is heterogeneity in academic fields as well as in professional careers, as shown in the division of background categories. This table also suggests an endogeneity of leaders' types with respect to countries' level of democracy. Indeed, academics and party leaders are rare in autocracies, while the opposite holds for military leaders. Section 6.1 accounts for this issue.

3.2 Quality of governance

Economic growth has been the main indicator when analyzing national leaders' effects in the literature (Jones and Olken, 2005; Besley et al., 2011; Brown, 2019; Jong-A-Pin

Part A: General characteristics

Number of leaders	1007
Men	984 (98%)
Mean entry age	53 years-old [sd: 10.9]
Mean tenure	8.5 years [sd: 7.4]
Median tenure	5 years
Leaders in democracies	603 (60%)
Leaders with university degree	789 (78%)

Part B: Background categories

	Leaders in democracies	Leaders in autocracies	Total
Academics	**109**	**16**	**125**
Economists	81	10	91
Academics	41	7	48
Law background	**290**	**59**	**355**
Law degree	195	43	241
Legislative career	243	41	290
High-level Politicians	**269**	**88**	**357**
Party leader	169	11	180
Prime minister/vice-president/president	131	78	209
Low-level Politicians	**153**	**47**	**246**
Minister	83	30	159
Mayor/governors/civil-servants	70	17	87
Military Leaders	**75**	**201**	**275**
Military career	55	181	234
Military education	57	154	214

Table 2: Leaders' characteristics

Notes: National leaders' sample is restricted to those with tenure equal or longer than 3 years who were in power from 1932 to 2010 and for whom I have data on at least one of the following variables: economic growth, corruption, democracy, property right score and/or rule of law. Data is taken from Baturo (2016) and Elli et al. (2015). Standard deviations are reported in brackets. Leaders in democracies are defined as those rulers for whom the average Polity V score during their term is greater than 0, otherwise they are coded as leaders in autocracies. The criteria used to build the background categories is detailed in Appendix A.

and Mierau, 2011; Atella and Carbonari, 2017). However, as will be discussed in Section 4.1, it is difficult to properly estimate leaders' effects on economic growth, given the high volatility in growth data and its inconsistency when using alternative datasets (Easterly and Pennings, 2020; Johnson et al., 2013; Ponomareva and Katayama, 2010). This is in addition to the fact that growth is only one aspect when evaluating a leader's performance, as high growth rates may not always be desirable if they come at the cost of social inequality or adverse environmental effects.

Thus, I use four other indicators of the quality of governance. Following Mercier (2016) and Papaioannou and Van Zanden (2015), I include in the analysis the Polity IV score as a measure of the degree of democracy. Similarly to Efobi (2015), I also explore the effects of national leaders on corruption, and I add two indicators for which leaders' effects have not yet been studied: property rights and rule of law.

The main criticism of these outcomes is that they are perception based and may not truly reflect what the variable aims to measure. Rodrik (2004) argued that investors'

ratings of the rule of law may capture how well the rules regarding property rights are perceived to operate rather than what those rules are. However, he also argued that performance is superior when the score is higher even though the results do not allow us to determine what makes investors feel that way. Similarly, Glaeser et al. (2004) claimed that the Polity variables are highly volatile and do not reflect durable constraints on the executive, but rather the political choices made by the leader. In both cases, there is still a unidirectional relationship between the variable and the evaluation of a leader's performance. The choice of variable also relies on data availability in terms of worldwide representation and temporal coverage.

Individually, each of these variables may not properly capture the quality of governance. However, taken together, if most of them improve and the remainder do not worsen, it is reasonable to claim that there is an increase in the quality of governance.

Data for economic and social outputs used in the present paper is drawn from the Maddison Project (Bolt et al., 2018), the Polity IV Project (Marshall et al., 2017) and the V-Dem (Varieties of Democracy) dataset (Coppedge et al., 2019). Each variable's definition, as well as its source, can be found in Appendix B.

4 Measuring leaders' effects

4.1 Methodology

Identifying the effects of political leaders at the national level is a hard task, due to endogeneity issues, the availability of data to perform cross-country comparisons and noise in the data.

More recently, Easterly and Pennings (2020) proposed a new methodology inspired by the teacher value-added literature to estimate the growth contribution of every individual head of state since 1950. They started with a simple model in which growth, under leader i's term in country c in year t, follows

$$g^*_{ict} = \lambda_i + \mu_c + \epsilon_{ict} \tag{1}$$

where g^*_{ict} is the mean-zero residual of g_{ict} after removing region×year fixed effects in a first regression; $\lambda_i \sim N(0, \sigma_i^2)$ is the leader's effect on growth, which is fixed over all of their tenure; $\mu_c \sim N(0, \sigma_c^2)$ is the country effect, which captures the growth trend that is due to time-invariant variables at the country level beyond the leader's control, such as institutions, culture and geography; and $\epsilon_{ict} \sim N(0, \sigma_{\epsilon c}^2)$ is the random noise of growth with a country specific variance.[4]

[4]The six regions are: 1) Europe, the United States, Canada, Australia and New Zealand; 2) Communist Bloc countries close to the Soviet Union (Albania, Bulgaria, Hungary, Mongolia, Poland and Romania); 3) Sub-Saharan Africa; 4) the Middle East and North Africa; 5) Latin America and the

The goal of Easterly and Pennings (2020) was to propose a good estimator of λ_i. The first intuitive alternative is to use leaders' fixed effects, which is simply the average growth under leader i's tenure. However, using Monte Carlo simulations, they found that this estimator performs very poorly, as the root mean squared error of the estimator is very large.[5],[6]

They proposed instead a least-squares leader estimator (λ_i^{LS}) given by equation (2).

$$\hat{\lambda}_i^{LS} = \psi_i(\overline{g}_i - \gamma_i \overline{g}_{-ic}) \tag{2}$$

where γ_i intuitively reflects how $\overline{g}_{-ic}$, the average growth under other leaders from the same country, is a good measure of the country effect, and similarly ψ_i, the shrinkage factor, measures how the adjusted leader output average reflects the true leader effect. If ψ_i is low, this means that the adjusted average will be a poor measure of the leader's effect, which is the case when year-to-year growth is very noisy; the leader has a short tenure or country effects vary greatly, making it difficult to distinguish between country and leader effects.

Easterly and Pennings (2020) concluded by estimating confidence intervals at the 95% confidence level for leaders' effects. Using this methodology, a leader will be significant for a certain outcome if the change in this outcome during their tenure is significantly higher than that of other leaders in the same region at the same time and than that of other rulers from the same country in different years. I also condition significance on the nominal variation in the outcome being different from zero, meaning that the significance does not come only from the relative difference with other heads of government but also from a fluctuation in the outcome during the leader's term. A more detailed review of the methodology and the formulas used to calculate γ_i and ψ_i are presented in Appendix C.

4.2 Estimating leaders' effects

I estimate the effects of national leaders on five outcomes: growth, democracy, corruption, rule of law and property rights. Table 3 shows, for each of the outcomes considered, the estimated country and leader variance (σ_c and σ_λ, respectively) as well as γ_i and ψ_i, defined above. It also shows the number of significant leaders who have stayed in power

Caribbean; 6) Asia.

[5]Easterly and Pennings (2020) show that the root squared error of this estimator for economic growth is more than twice as large as when assuming $\hat{\lambda}_i = 0$.

[6]The error of this naive estimator is $\frac{1}{T_i}\sum_{t=1}^{T_i} \epsilon_{ict} + \mu_c$, where T_i is the total tenure of leader i. The first term of the sum is the country fixed effect, which could be removed in a first regression, as done with region×year dummies, but by doing so, we would also be removing part of each leader's effect, especially the ones with long tenure. Even if controlling for μ_c, the estimator would perform poorly as empirically the most important part of the error is ϵ_{ict}.

	(1) **Growth**	(2) **Democracy**	(3) **Corruption**	(4) **Rule of law**	(5) **Property rights**
σ_ϵ	4.10 [1.68]	0.8 [4.57]	3.2 [2.03]	4.9 [4.2]	0.10 [0.11]
$\sigma_{c,autoc}$	0.51	0.13	19.3	17.7	0.61
$\sigma_{c,demo}$	0.52	0.23	17.2	20.3	0.29
$\sigma_{\lambda,autoc}$	1.27	0.22	12.9	14.5	0.89
$\sigma_{\lambda,demo}$	1.77	0.18	6.79	10.21	0.21
ψ_i (shrinkage coefficient)	0.53 [0.20]	0.81 [0.24]	0.78 [0.25]	0.87 [0.07]	0.90 [0.05]
γ_i	0.32 [0.15]	0.75 [0.20]	0.92 [0.08]	0.93 [0.07]	0.83 [0.14]
Number of countries	134	149	145	144	144
Number of leaders	889	999	987	977	977
Number of significant leaders	**56 (6.3%)**	**192 (19.22%)**	**228 (23.1%)**	**296 (30.3%)**	**80 (8.2%)**
Number of leaders with significant and positive effect	35 (3.9%)	82 (8.2%)	113 (11.4%)	142 (14.5%)	36 (3.7%)
Number of leaders with significant and negative effect	21 (2.3%)	110 (11%)	115 (11.6%)	154 (15.7%)	44 (4.5%)

Table 3: Variance components and coefficients for leaders' effects estimation

Notes: σ_ϵ, σ_c and σ_λ are the estimates of the error, the country and the leader variance components respectively. ψ refers to the shrinkage coefficient and γ to the country effect's weight from equation (4). The detailed formulas for each component can be found in Appendix C. Leaders' effects are estimated for those with tenure equal to or longer than 3 years. I exclude countries with less than 30 observations and in the first column those observations where the absolute value for growth was greater than 40%. Democracies are defined as countries with a polity score greater than 0, otherwise they are coded as autocracies.

three or more years.[7]

Easterly and Pennings (2020) found that only 6% of national leaders in their sample had a significant impact on economic growth. I find the same proportion for growth in my sample of national leaders, as shown by column 1 in Table 3. As Easterly and Pennings (2020) explained, this is not necessarily because most rulers do not shape growth, but because the noise in the growth data makes it difficult to identify their effects. Further, the sample of significant leaders is not robust when using alternative data sources for growth.

When using alternative measures of growth for leaders' performance, a greater proportion of leaders becomes significant. It may seem counter-intuitive, given that these variables are much less volatile than growth rates. Indeed, it is precisely because they are more likely to change across leaders' terms, rather than within, that these variations are easily attributed to political leaders rather than to common regional shocks or luck. Thus, contrary to growth where variations are common from one year to another within a ruler's term, it becomes easier to identify the leaders' effects.

Overall, I find no substantial disparities between the number of positive and negative significant leaders. Table 4 shows the number of outcomes in which leaders have significant coefficients. Thus, 51% of leaders in the sample have a significant effect in at least one outcome. As would be expected, leaders in autocracies are proportionally more significant, given that they face fewer institutional constraints. More than half of heads

[7]As in Easterly and Pennings (2020), I exclude countries with less than 30 yearly observations and years for which the absolute value of economic growth was greater than 40%.

Significant coefficients	Leaders in democracies	Leaders in autocracies	Total
0	327	153	486
1	166	114	284
2	78	76	157
3	27	40	67
4	5	7	12
5	0	1	1
Total	603	391	1007

Table 4: Number of significant coefficients

Notes: The table represents the number of outcomes in which the leader had a significant effect. The sample is restricted to leaders with tenure equal to or longer than 3 years. The considered outcomes are: growth, democracy, executive corruption, rule of law and property right. Leaders in democracies are defined as those rulers for whom the average Polity V score during their term is greater than 0, otherwise they are coded as leaders in autocracies. There are 126 leaders who don't have a maximum of five potential significant effects given the missing data in one or more outcomes.

of states in democracies do not have a significant effect in any of the outcomes considered, compared with 39% in autocracies.

Obtaining these leaders' effects allows us to rank national leaders according to their performance in each area. In Appendix D, I provide the rankings of heads of government with a significant effect for each variable. Many well-known rulers do appear to be significant in several outcomes. For instance, when restricting the sample to those who were significant in two or more (out of five) of the considered outcomes, I find, among the 286 leaders, names such as Mussolini, Franco, de Gaulle, Castro, Pinochet, Videla, Chavez, Mandela, A. Papandreou, Pompidou, Violeta Chamorro (the first woman elected president on the American continent) and Kim Dae-jung.

Leaders with significance in multiple outcomes tend to have either all of their significant coefficients positive or all negative. This is confirmed in Table 5. I define, for each outcome y considered, a categorical variable that I denote Good_{yi} with three levels: 1 if the leader i's effect on output y is significant and positive, 0 if the leader's effect is not significant and -1 if the leader's effect is significant and negative.[8] Table 5 shows for each outcome, the correlation between Good_{yi} and the sum of this variable for all of the other outcomes: Good_{-yi}. All of these are positive, except for growth, which is close to zero, reinforcing the importance of not judging a head of government by merely relying on economic growth rates.

5 Leaders' backgrounds and the quality of governance

In this section, I analyze how the probability of having a positive effect on the quality of governance varies according to national leaders' personal traits. I use the categorical

[8]For corruption, I consider the leader as having a positive effect if the estimator is negative in nominal value, meaning that I code a "good" leader to be one who reduces corruption.

$\rho_{(Good_{growth};Good_{-growth})} = -0.003$
$\rho_{(Good_{democracy};Good_{-democracy})} = 0.301$
$\rho_{(Good_{corruption};Good_{-corruption})} = 0.270$
$\rho_{(Good_{ruleoflaw};Good_{-ruleoflaw})} = 0.418$
$\rho_{(Good_{propertyrights};Good_{-propertyrights})} = 0.096$

Table 5: Correlation coefficients between alternative outcomes

Notes: This table presents the correlation coefficients between the variable Good_{yi} that has three levels: 1 if the leader i's effect on output y is significant and positive; 0 if the leader's effect is not significant and -1 if the leader's effect is significant and negative; and the sum of this variable for outcomes others than y.

variable Good_{yi}, defined previously, and I distinguish, as detailed in Section 3, between leaders with an academic profile, those with a law background, former high-level politicians, former low-level politicians and military rulers. I then estimate an ordered probit on the probability that a leader i who takes power in year t in country c has either a negative, non-significant or positive effect using equation 3.

$$\mathbb{P}(Good_{yi} = -1, 0, 1) = \alpha + \beta_0 Tenure_i + \beta_2 \mathbf{X_i} + \epsilon \tag{3}$$

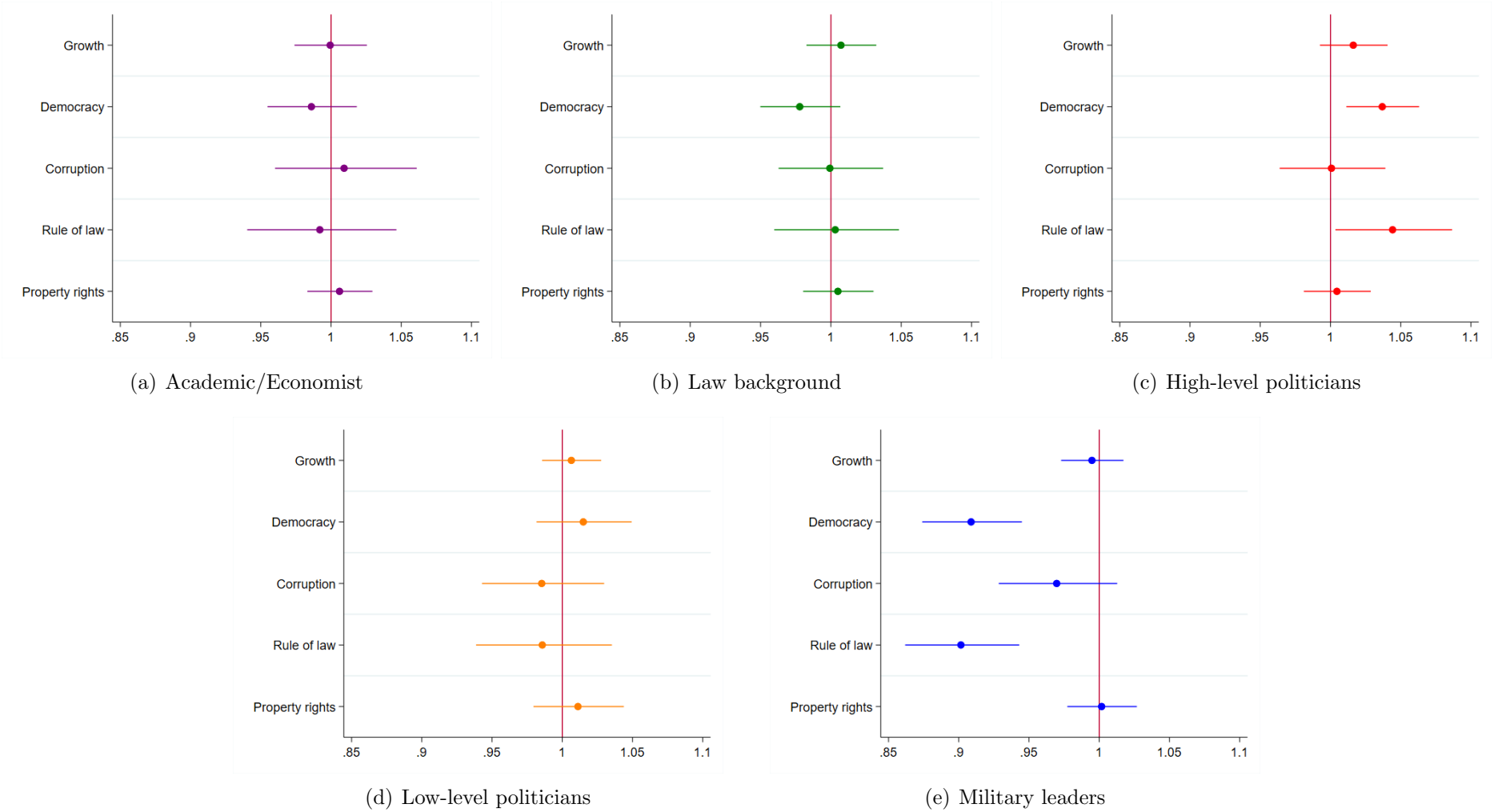
where $\mathbf{X}$ is a vector of leaders' characteristics, which includes the age of entry and the background categories.

I focus on the marginal effects of having a significant and positive effect ($Good_{yi} = 1$). Equation (3) is estimated for each outcome, and I then regroup the coefficients by leaders' backgrounds as odds ratios. Figure 3 shows the baseline results. For each outcome, if the estimator of a certain category is to the right of the red line, this means that leaders included in this group are more likely to have a positive and significant effect than other rulers. The opposite holds when the estimator is to the left of the red line.[9]

The main conclusion we can make from these results is that military leaders have a negative and significant impact on the quality of governance, while high-level politicians are associated with positive effects, being significant in two out of the five outcomes: democracy and rule of law. Thus, even though former military staff are sometimes acclaimed because they worry less about dissenters' views and can therefore more easily take unpopular but necessary policy decisions for prioritizing immediate results, I show that on average, they damage the institutional quality of a nation. When it comes to high-level politicians, their positive effect can be driven either by experience or selection. Indeed, in electoral systems, the fact that they previously held visible offices sent voters a signal of their quality. In other words, among these politicians, only those who performed well would have the chance to become a national leader. As stated by Besley (2005), previous experience is an opportunity to reveal political competence.

I now explore differences across subcategories by accounting for the interactions between those categories with a common frequency of 30 or more leaders. Figure 4 plots

[9]See Table A8 of Appendix E for the regression results.

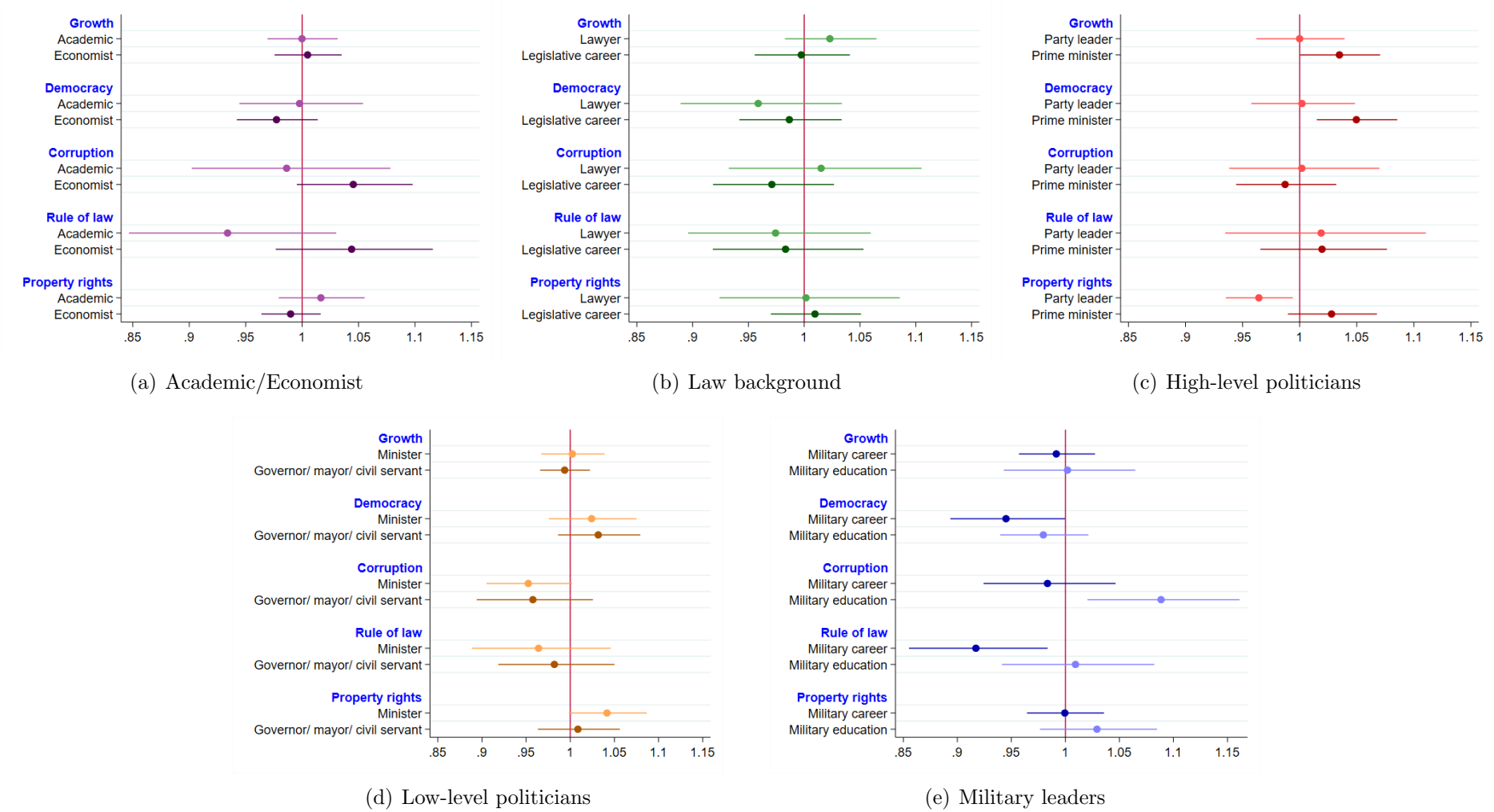


(a) Academic/Economist (b) Law background (c) High-level politicians

(d) Low-level politicians (e) Military leaders

Figure 3: Odds ratios on the probability of being a "good" leader

Notes: The graphs represent odds ratios for each leaders' category on the probability of a leader having a positive and significant effect on five economic variables. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. In each regression I control for all categories together, tenure and entry age. Standard errors are clustered at the country level. The results of all the coefficients are presented in Table A8. Leaders' effects are the ones obtained in Section 4. The criteria used to build the background categories is detailed in Appendix A. I restrict the sample to leaders with tenure equal to or longer than three years. The number of leaders included in each regression is: 889 for growth, 997 for democracy, 984 for corruption, 975 for rule of law and 975 for property rights.

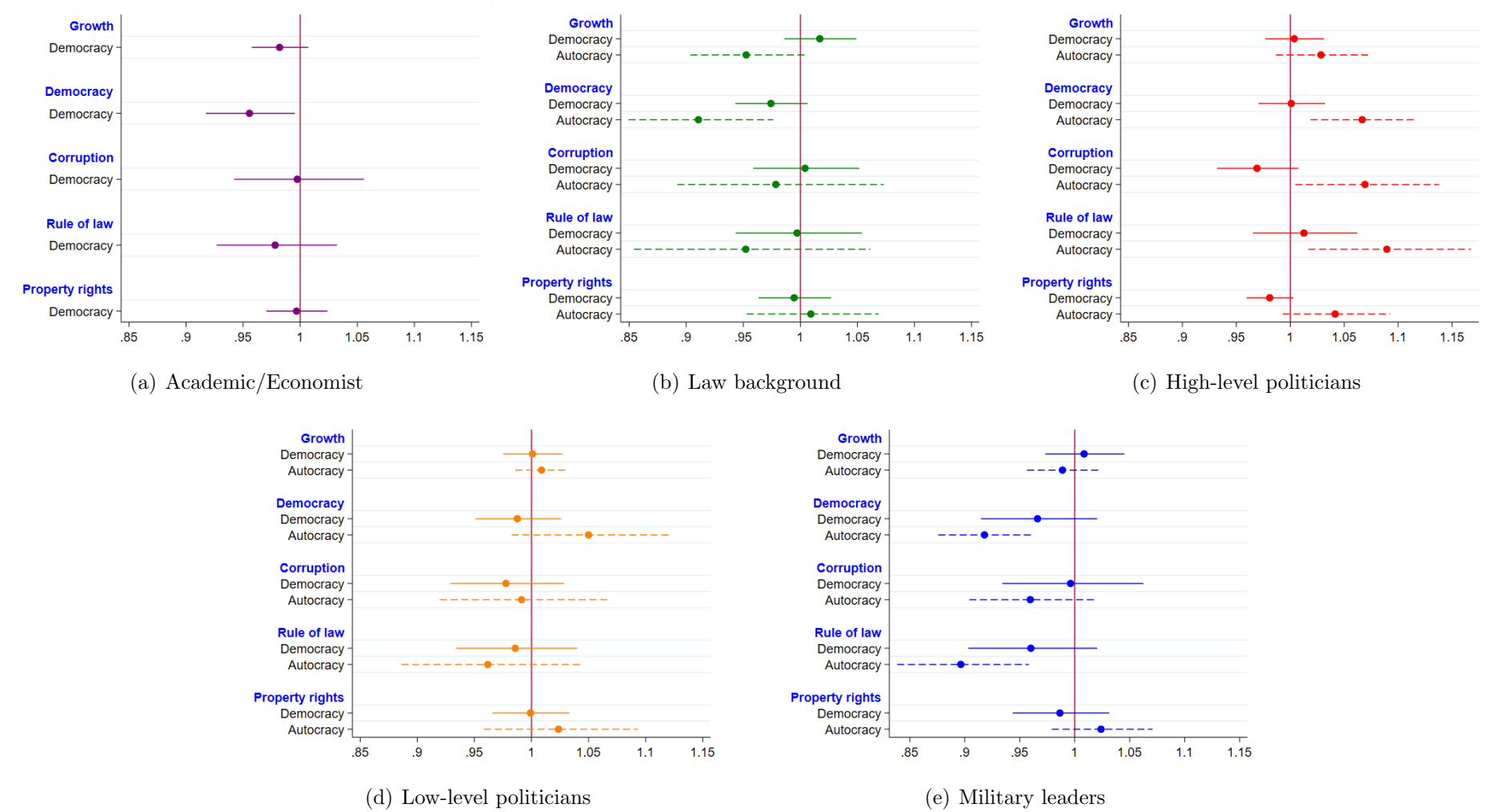


(a) Academic/Economist (b) Law background (c) High-level politicians

(d) Low-level politicians (e) Military leaders

Figure 4: Odds ratios on the probability of being a "good" leader with subcategories

Notes: The graphs represent odds ratios for each leaders' category on the probability of a leader having a positive and significant effect on five economic variables. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. In each regression I control for all categories together, tenure and entry age. Standard errors are clustered at the country level. The results of all the coefficients are presented in Table A9 of Appendix E. Leaders' effects are the ones obtained in Section 4. The criteria used to build the background categories is detailed in Appendix A. I restrict the sample to leaders with tenure equal to or longer than three years. The number of leaders included in each regression is: 889 for growth, 997 for democracy, 984 for corruption, 975 for rule of law and 975 for property rights.



(a) Academic/Economist

(b) Law background

(c) High-level politicians

(d) Low-level politicians

(e) Military leaders

Figure 5: Odds ratios on the probability of being a "good" leader across democracies and autocracies

Notes: The graphs represent odds ratios for each leaders' category on the probability of a leader having a positive and significant effect on five economic variables. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. In each regression I control for all categories together, tenure and entry age. Standard errors are clustered at the country level. The results of all the coefficients are presented in Table A10 of Appendix E. Leaders' effects are the ones obtained in Section 4. The criteria used to build the background categories is detailed in Appendix A. I restrict the sample to leaders with tenure equal to or longer than three years. Leaders in democracies are defined as those rulers for whom the average Polity V score during their term is greater than 0, otherwise they are coded as leaders in autocracies. The number of leaders included in each regression is: 872 for growth, 983 for democracy, 965 for corruption, 956 for rule of law and 956 for property rights.

the coefficients, and Table A9 of Appendix E presents the regression coefficients. The results show that the positive effect of high-level politicians is triggered by former vice presidents, prime ministers or ex-presidents, rather than by party leaders. It is also worth noting that even though having a law background is not significant per se, it counterbalances the positive effects of high-level politicians (see Table A9 of Appendix E). When it comes to military leaders, the negative effect is driven by those with a military career rather than by those with a military education. On the contrary, leaders with a military education tend to be less corrupt.

Tables A8 and A9, which correspond to Figures 3 and 4, respectively, include a column for a linear combination of all five outcomes in such a way that we retain most of the information obtained through a principal-component analysis (see Appendix F). Indeed, the positive correlation found previously between almost all leaders' effects makes it easy to infer the relationship between a leader's category and the leader's general performance, which enables a dimensionality reduction. For this variable, which I call the synthetic outcome, I also define the categorical variable Good_{yi} in the same way. The effects of a military background and of high-level politicians on the synthetic variable are significant. Further, in these tables, I provide the coefficients for age and tenure. In this regard, having a longer tenure tends to be associated with a deterioration in the quality of governance, while leaders' age has no significant effect.

For greater precision, it is necessary to take into account that some leaders' characteristics may have different effects according to the type of regime (François et al., 2020). To do so, I create exclusive categories by interacting each background with a dummy that equals one if the leader runs a democracy and another that equals one if the leader rules an autocracy. I distinguish between leaders in autocracies and leaders in democracies according to whether their average Polity IV score during their term was negative or positive, respectively. In Appendix E, I use instead the initial level of Polity IV, and the results are robust (Figure A2). I omit those categories for which there are fewer than 30 observations. Indeed, academics in autocracies are not considered as there are only 16 of them in the sample. Results are shown in Figure 5 and in Table A10 of Appendix E.

Several conclusions can be drawn. First, the dummy of being a leader in a democracy is not significant and is even negative for half of the considered variables. There are, instead, crucial differences across the effects of their backgrounds. Overall, rulers' categories are significant exclusively in autocracies. Indeed, the effect of high-level politicians found before is relevant only in autocracies, and it becomes significant in four out of the five used outcomes (and in the synthetic one). For military rulers, the significance of their effects is also present only for autocrats. Nevertheless, when also controlling for subcategories, having a military career has a significant negative effect in both types of regime, as shown in Table A11 of Appendix E. The same table also shows that in democracies, academics tend to perform worse than other leaders, and rulers with a military education are less

corrupt.

Having a university degree is non-significant, weakening the scholocracy argument. Even if, when controlling only for this variable, the effect is positive in all outcomes and significant in two of them (see Table A12 of Appendix E), it hides a high heterogeneity. For instance, academics and leaders with a law degree have either a non-significant or negative effect. This is an important result as empirical works on politicians' valence often use educational attainment as a proxy for politicians' quality (e.g., Galasso and Nannicini, 2011; Ferraz and Finan, 2009).[10]

Moreover, the negative effect for tenure mentioned above holds only for dictators, consistent with Papaioannou and Van Zanden (2015), while for leaders in democracies, the coefficient is significantly positive for economic growth and non-significant for other outcomes. Similarly, older dictators perform worse, supporting the findings of Jong-A-Pin and Mierau (2011), but I do not find the same relationship in democracies as suggested by Atella and Carbonari (2017).

6 Robustness tests

6.1 Endogeneity concerns

One important threat to identification is that selection of rulers from a specific background might be driven by the initial quality of governance, giving rise to potential endogeneity. In Table 6, I use a conditional logit to test whether the dependent variables used in this paper predict the background of a leader. I find that the level of democracy in the year previous to a leader's transition is highly significant in explaining the ruler's background as well the property rights score. I tackle this source of endogeneity by controlling for the initial level of these two variables when the leader enters office. Figure 6 shows the robustness using the baseline categories, and Appendix E presents the results, split across democracies and autocracies (Figure A3) and using the subcategories (Figure A4).

Another difficulty of empirically analyzing the impact of politicians is that leaders' transitions are dependent on economic and social conditions. In other words, coups are more likely to occur in recessions, and heads of democracies are more likely to be reelected during economic booms (Londregan and Poole, 1990). This endogeneity in the timing of transitions is confirmed in Part A of Table 7, which shows that growth rate, democracy, corruption and rule of law scores are significant for predicting a transition the following year.

I test whether the results hold using a restricted sample of leaders' transitions considered exogenous. I follow Jones and Olken (2005), who used the political transitions

[10]The university degree variable was also non-significant in previous regressions, as shown in Table A9.

	(1) Academic	(2) Law background	(3) High-level politician	(4) Low-level politician	(5) Military leader
$Growth_{t-1}$	-0.263	-0.190	0.210	0.114	0.309*
	(0.177)	(0.272)	(0.240)	(0.225)	(0.186)
Normalized Polity IV $_{t-1}$	0.240***	0.396***	0.301***	0.146**	-0.470***
	(0.060)	(0.076)	(0.085)	(0.060)	(0.052)
Corruption $_{t-1}$	0.045	0.091	-0.009	-0.041	-0.037
	(0.132)	(0.173)	(0.157)	(0.127)	(0.137)
Property Right $_{t-1}$	-0.030	0.279**	0.177*	0.007	-0.048
	(0.082)	(0.115)	(0.102)	(0.093)	(0.084)
Rule of law $_{t-1}$	0.080	-0.021	-0.055	-0.038	-0.098
	(0.152)	(0.211)	(0.182)	(0.159)	(0.163)
Observations	790	790	790	790	790
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1					

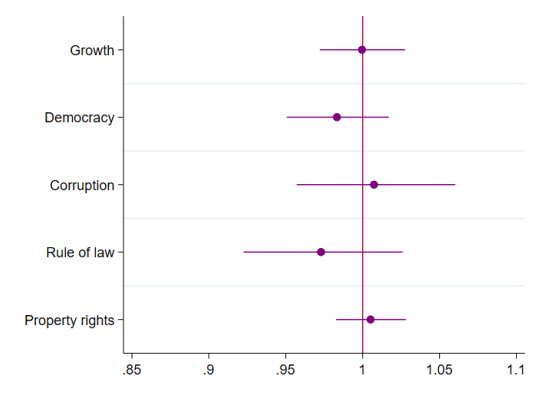
Table 6: Endogeneity of leaders' background

Notes: Pooled probit with errors clustered at the country level. Table reports the average marginal effects of each variable on the probability of a national leader from a specific category, denoted as column names, taking power in year t. The criteria used to build the background categories is detailed in Appendix A. I control for region fixed-effects as well as the initial level of democracy (measured by the Polity IV score) and the initial level of GDP in natural log.

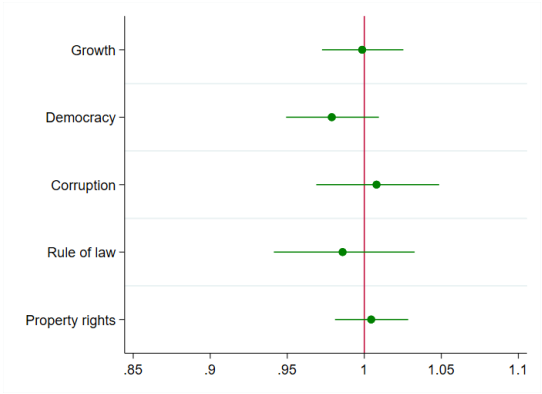
	(1) $\mathbf{X}$ = Growth	(2) $\mathbf{X}$ = Democracy	(3) $\mathbf{X}$ = Corruption	(4) $\mathbf{X}$ = Property rights	(5) $\mathbf{X}$ = Rule of law
			A- Full sample		
X_{t-1}	-0.479***	0.254***	-0.572***	0.266	0.495***
	(0.122)	(0.064)	(0.174)	(0.172)	(0.151)
X_{t-2}	0.045	-0.012	0.485***	0.040	-0.187
	(0.125)	(0.065)	(0.177)	(0.174)	(0.155)
Observations	8,363	9,290	9,193	9,193	9,193
			B- Restricted sample		
X_{t-1}	-0.268	0.160	-0.342	-0.054	-0.456
	(0.336)	(0.208)	(0.539)	(0.575)	(0.572)
X_{t-2}	0.274	-0.151	0.382	-0.024	0.481
	(0.344)	(0.209)	(0.540)	(0.583)	(0.574)
Observations	5,248	6,029	6,041	6,041	6,041
Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1					

Table 7: Endogeneity of transitions' timing

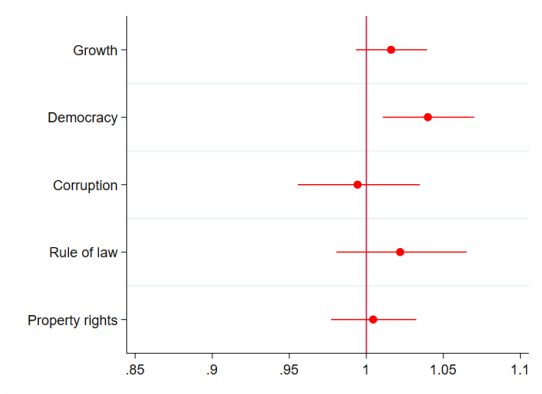
Notes: Conditional fixed-effects logistic regression model with standard errors clustered at the country level. Part A reports the average marginal effects of each variable on the probability of occurring a national leader transition in year t. Part B reports the average marginal effects of each variable on the probability of occurring a national leader transition that follows a leader's death by natural causes or his resignation due to health issues in year t.



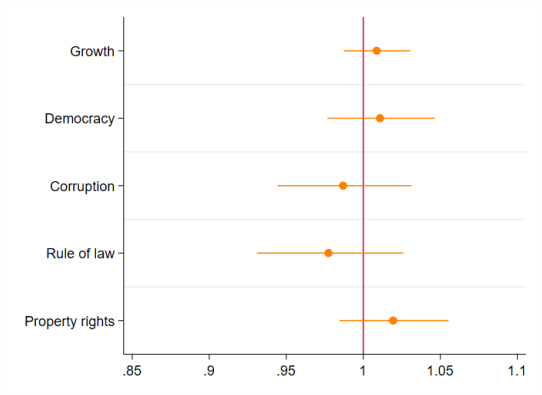
(a) Academic/Economist



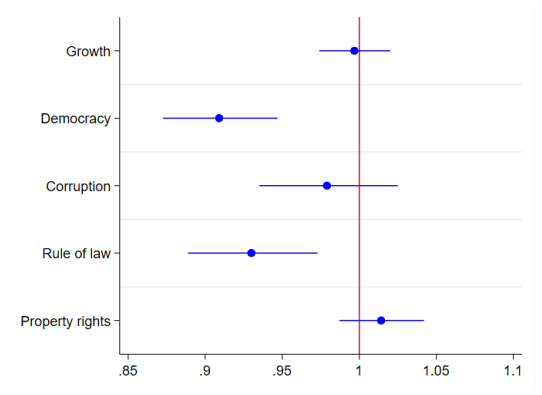
(b) Law background



(c) High-level politicians



(d) Low-level politicians

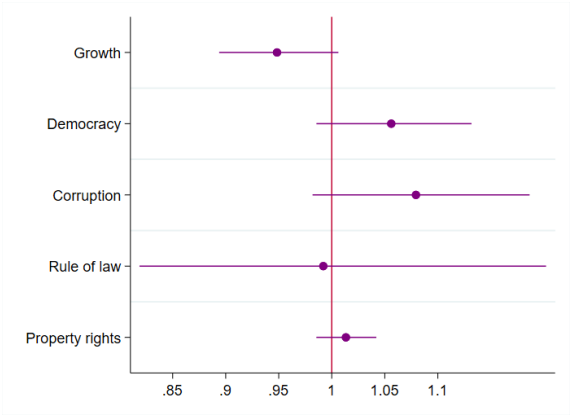


(e) Military leaders

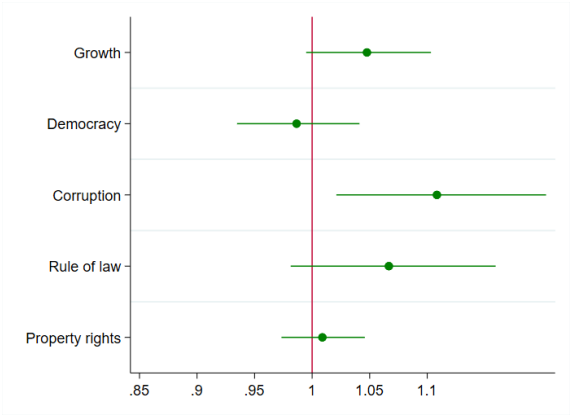
Figure 6: Odds ratios on the probability of being a "good" leader when controlling for the initial level of democracy and of property rights

Notes: The graphs represent odds ratios for each leaders' category on the probability of a leader having a positive and significant effect on five variables. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. In each regression I control for all categories together, tenure, entry age. I also control for the Polity IV ant the property right score of the year previous the leader enters in office. Standard errors are clustered at the country level. The results of all the coefficients are presented in Table A10 of Appendix E. Leaders' effects are the ones obtained in Section 4. The criteria used to build the background categories is detailed in Appendix A. I restrict the sample to leaders with tenure equal to or longer than three years. Leaders in democracies are defined as those rulers for whom the average Polity V score during their term is greater than 0, otherwise they are coded as leaders in autocracies. The number of leaders included in each regression is: 829 for growth, 910 for democracy, 903 for corruption, 901 for rule of law and 901 for property rights

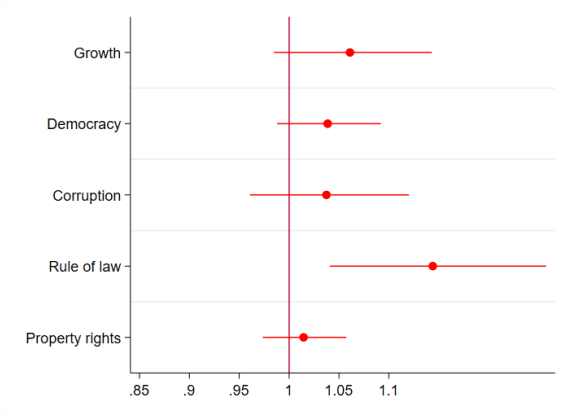
Figure 7: Odds ratios on the probability of being a "good" leader using exogenous transitions



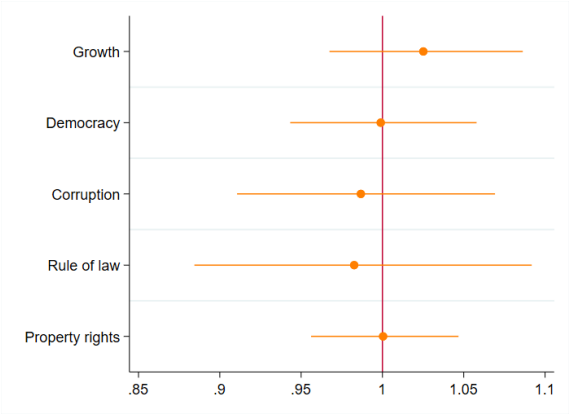
(a) Academic/Economist



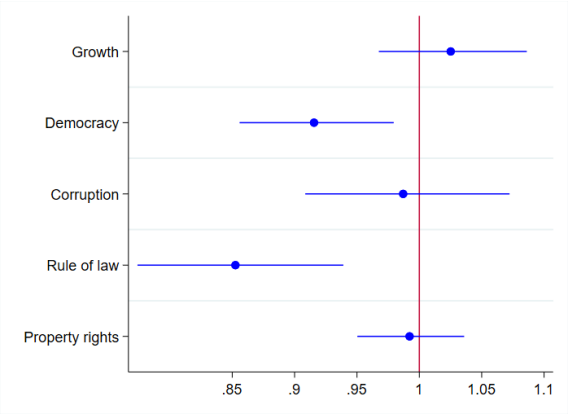
(b) Law background



(c) High-level politicians



(d) Low-level politicians



(e) Military leaders

Figure 8: Odds ratios on the probability of being a "good" leader using exogenous transitions

Notes: The graphs represent odds ratios for each leaders' category on the probability of a leader having a positive and significant effect on five economic variables. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. In each regression I control for all categories together, tenure and entry age. Standard errors are clustered at the country level. The results of all the coefficients are presented in Table A13. Leaders' effects are the ones obtained in Section 4. The criteria used to build the background categories is detailed in Appendix A. The sample is restricted to leaders who died in office by natural death, or resigned due to health issues, and their successors conditional on having had a tenure equal to or longer than three years. The number of leaders included in each regression is: 165 for growth, 194 for democracy, 194 for corruption, 194 for rule of law and 194 for property rights.

provided in Appendix G.

In addition, even though there is no exogenous variation that can be exploited for every individual leader, Easterly and Pennings (2020) found, using Monte Carlo simulations, that even if tenure is as endogenous as it is in the data, it does not affect the accuracy or forecast bias of the least-squares estimates proposed by them for their analysis of growth data.

6.2 Sample period and estimation methods

Another concern may arise from the fact that the sample includes the inter-war period as well as that of World War II, which were marked by intense conflicts, severe external constraints for specific countries and a higher weight on national leaders' decisions, which may trigger the results.

I restrict the sample to the period 1950–2010, and the results hold, as shown in Figure 9 using the main categories and in Appendix E with subcategories and division between democrats and autocrats. Both are consistent with the findings of previous sections.

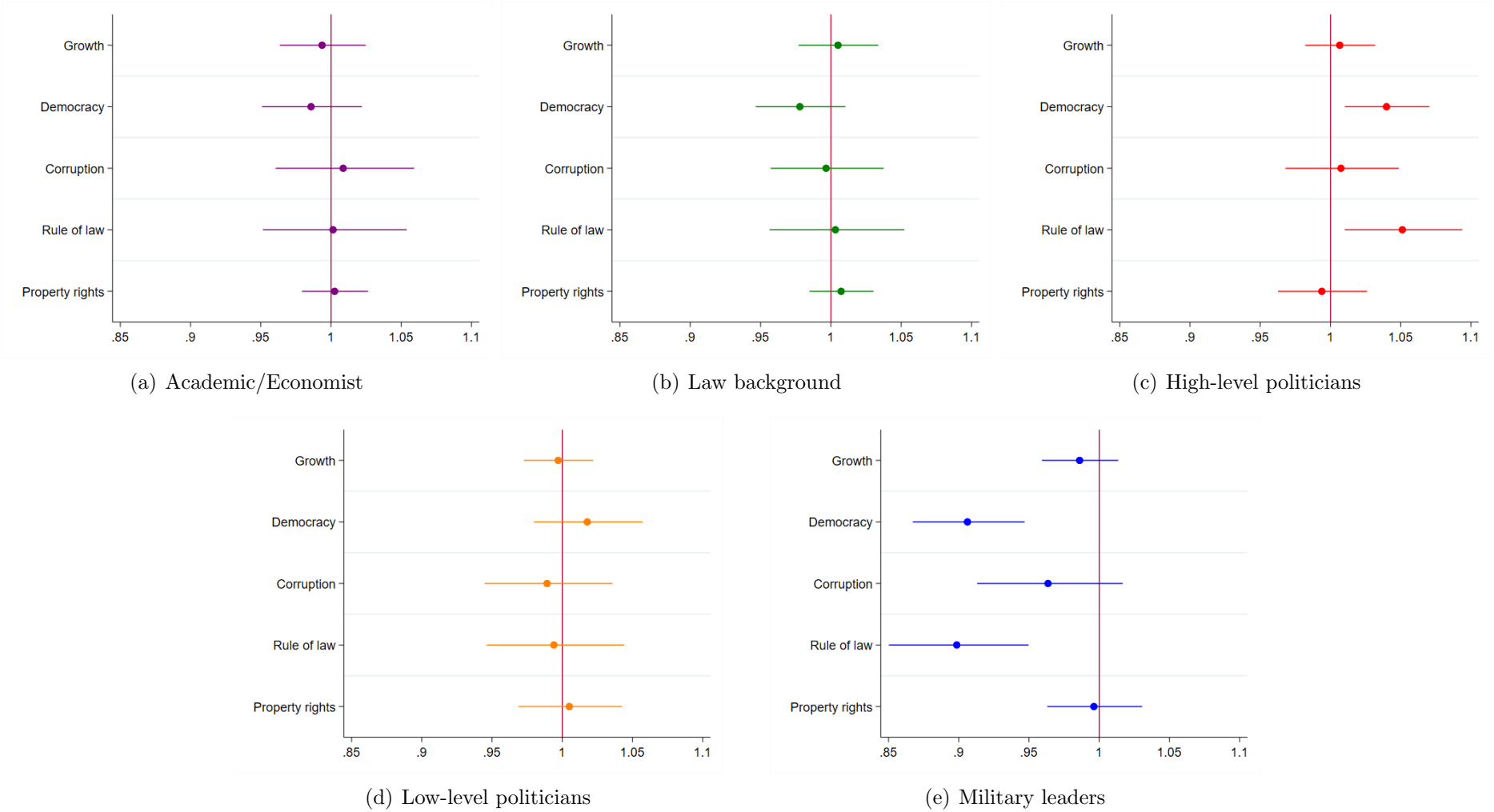
Then, I check for the robustness of results for the chosen method. Whereas in the previous section, I estimate the marginal effects on predicting the probability of having a positive and significant effect, I show that results are symmetric when estimating the marginal effects of being a "bad" leader in Figure A7 of Appendix E. Moreover, in Table A14 of Appendix E, instead of using the categorical variable $Good_{yi}$, I estimate an ordinary least squares (OLS) using leaders' effects as the dependent variable.[11] The results are robust, as we still observe a positive effect on institutional quality for high-level politicians in autocracies, as well as a negative one for military leaders in both regimes, and for academics in democracies.

6.3 Robustness of leaders' categories: an unsupervised approach

The construction of leaders' background categories may suffer from prior judgments and subjectivity. In this section, I rely on an unsupervised categorization based on a structural topic model that identifies clusters of leaders' characteristics. These clusters are defined as a mixture of words, where each word has a probability of belonging to a topic.[12] Figure 10 shows the results for an arbitrary number of five clusters. These data-driven groups are in fact in accordance with the supervised categories previously constructed.

[11] I replace the leader's effect with zero when it is non-significant. I multiply leaders' effects for corruption by -1, so that a positive effect is associated with less corruption. By doing so, we can interpret the signs in the same way as before.

[12] For a detailed explanation of the method see Roberts et al. (2014).



(a) Academic/Economist

(b) Law background

(c) High-level politicians

(d) Low-level politicians

(e) Military leaders

Figure 9: Odds ratios on the probability of being a "good" leader (1950-2010)

Notes: The graphs represent odds ratios for each leaders' category on the probability of a leader having a positive and significant effect on five economic variables. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. In each regression, I control for all categories together, tenure and entry age. Standard errors are clustered at the country level. Leaders' effects are the ones obtained in Section 4. The criteria used to build the background categories is detailed in Appendix A. I restrict the sample to leaders with tenure equal to or longer than three years and to leaders who take power from 1950 to 2010. The number of leaders included in each regression is: 808 for growth, 799 for democracy, 965 for corruption, 791 for rule of law and 791 for property rights.

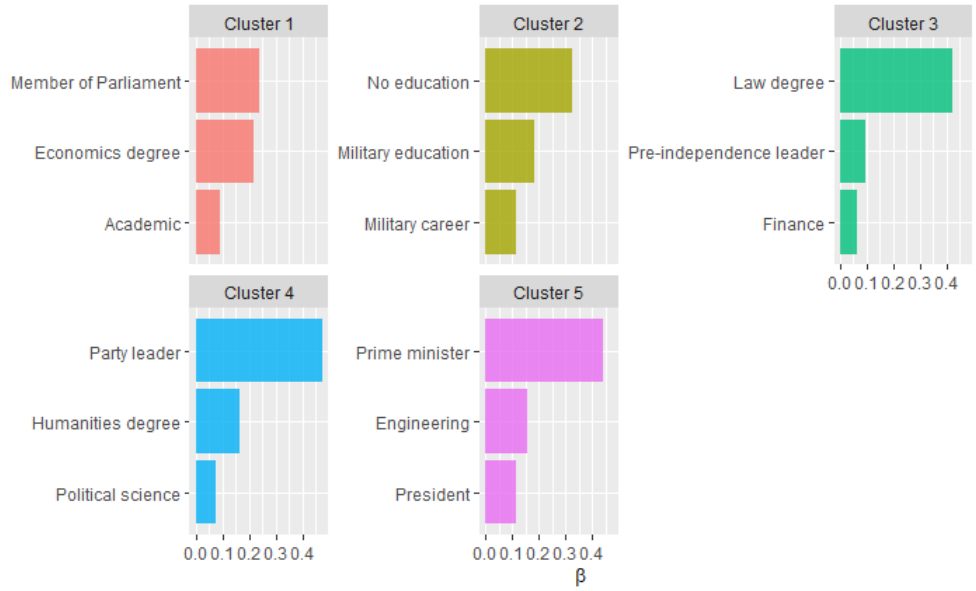


Figure 10: Cluster of words using a Structural Topic Model

Notes: The figure represents the three more important words of the topics created using a Structural Topic Model (STM) based on the leaders background variable. The STM is specified to be constructed with five topics and using a spectral matrix. The leaders background variable is a concatenation of a variable that describes the leader's career prior to taking office and the one that describes his/her university field(s).

This is shown in Table 8, which shows the correlation coefficients between γ_x, which is the probability that a leader is generated from Cluster x, and the previous categories. The probability of belonging to Cluster 1 is highly correlated with having an academic background, Cluster 2 is strongly associated with military leaders, Cluster 3 comprises mostly lawyers, and the probability of belonging to Clusters 4 and 5 is highly correlated with being a former party leader and prime minister, respectively.

I then regress leaders' effects on these probabilities. The results in Table 9 support the two main findings in the previous section. First, Cluster 2, mainly related to a military background, has overall negative coefficients, and two out of five coefficients are significant in autocracies. Second, a stronger probability of belonging to Cluster 5, composed largely of prime ministers, has overall positive effects in both types of regime.

7 Conclusion

Politicians are preferred over the wise men, who are preferred over the strongmen, would be the answer of this paper to the question "Who is better suited to run a nation?" To claim so, I estimated national leaders' effects in a large worldwide sample using the new methodology of Easterly and Pennings (2020). Then, I used an ordered probit to assess how the probability of having either a positive, non-significant or negative effect on the

	γ_1	γ_2	γ_3	γ_4	γ_5
Academic/Economist	0.409	-0.255	0.026	0.084	-0.183
Academic	0.271	-0.181	0.014	0.094	-0.141
Economist	0.351	-0.203	0.015	0.038	-0.141
Legal Background	0.107	-0.423	0.486	0.288	-0.207
Lawyer	-0.044	-0.342	0.602	0.163	-0.154
Legislative career	0.169	-0.395	0.35	0.301	-0.202
High-level politician	-0.012	-0.254	-0.004	0.318	0.214
Party leader	0.212	-0.358	-0.047	0.535	-0.129
Prime minister /vice-president/ president	-0.232	0.008	0.007	-0.08	0.457
Low-level politician	-0.06	-0.11	0.244	0.049	-0.039
Ministers	0.016	-0.132	0.203	0.074	-0.087
Mayor. governor. civil servant	-0.103	-0.005	0.112	-0.016	0.043
Military background	-0.056	0.5	-0.351	-0.428	-0.062
Military career	-0.042	0.504	-0.352	-0.438	-0.082
Military education	-0.056	0.446	-0.331	-0.362	-0.048
Observations	878	878	878	878	878

Table 8: Correlation between unsupervised and supervised categories

Notes: Correlation coefficients between γ_x, the probability of each leader of belonging to Cluster$_x$ (listed in raw), and the binary categories and subcategories constructed in Section 3 (listed in column). The clusters used are obtained through a structural topic model and are presented in Figure 10. The sample is restricted to leaders with tenure equal to or longer than three years. The criteria used to build the background categories is detailed in Appendix A.

	(1) Growth	(2) Democracy	(3) Corruption	(4) Rule of law	(5) Property rights
Leader in democracy	-0.192	0.315**	-0.151	0.062	0.037
	(0.164)	(0.158)	(0.210)	(0.267)	(0.100)
Entry age * democracy	0.001	0.001	-0.000	0.001	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Entry age *autocracy	0.003**	0.001	-0.002	-0.003*	-0.000
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Tenure * democracy	0.005***	-0.002	-0.004	-0.005	0.001
	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)
Tenure * autocracy	0.001	0.001	-0.002	-0.001	-0.002**
	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)
γ_2Cluster 2 * democracy	-0.036	0.054	-0.059	-0.068	-0.060
	(0.122)	(0.109)	(0.181)	(0.175)	(0.073)
γ_2Cluster 2 * autocracy	-0.238*	0.104	-0.330*	-0.139	-0.103
	(0.145)	(0.127)	(0.190)	(0.224)	(0.089)
γ_3Cluster 3 * democracy	0.251*	0.186	0.145	0.175	-0.068
	(0.152)	(0.139)	(0.167)	(0.192)	(0.070)
γ_3Cluster 3 * autocracy	-0.271*	0.221	-0.021	0.449	0.307*
	(0.157)	(0.201)	(0.264)	(0.360)	(0.173)
γ_4Cluster 4 * democracy	-0.079	0.027	-0.209	0.001	-0.111
	(0.176)	(0.187)	(0.258)	(0.227)	(0.138)
γ_4Cluster 4 * autocracy	-0.275	0.293	-0.447	-0.330	-0.296
	(0.272)	(0.277)	(0.516)	(0.603)	(0.286)
γ_5Cluster 5 * democracy	0.296**	0.235	-0.370	0.018	0.187*
	(0.150)	(0.158)	(0.252)	(0.261)	(0.106)
γ_5Cluster 5 * autocracy	-0.099	0.618**	0.072	0.725**	0.080
	(0.186)	(0.291)	(0.309)	(0.351)	(0.193)
Pseudo R^2	0.10	0.13	0.01	0.06	0.06
Number of leaders	724	791	782	773	773

Table 9: Unsupervised categorisation

Notes: Average marginal effects on the probability of a leader having a positive and significant effect on the dependent variable. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. Leaders' effects are the ones obtained in Section 4. Standard errors are clustered at the country level. γ_x is a continuous variable that represents the probability of each leader of belonging to Cluster$_x$. The clusters used are the ones presented in Figure 10.The reference category is γ_1. The sample is restricted to leaders with tenure equal to or longer than three years. Leaders in democracies are defined as those rulers for whom the average Polity V score during their term is greater than 0, otherwise they are coded as leaders in autocracies.

quality of governance varies according to rulers' background categories.

I find robust evidence supporting the argument that leaders with a former military background are associated with worse quality of governance, weakening the belief that authoritarian leaders might be better through their tendency to ignore constraints and take decisions that prioritize immediate results. On the contrary, leaders with a military education tend to be less corrupt in democracies. Heads of government who have been prime ministers or party leaders have an overall positive effect on institutional and economic outcomes, although this result is significantly robust only under autocracies. Thus, these are the leaders who most closely resemble the benevolent dictator figure.

Educational attainment was not sufficiently significant to explain leaders' effects once controlling for their background, and lawyers or academic leaders tend to be associated with either a neutral or negative effect. All of this casts doubt on the epistocracy and technocracy argument for being ruled by the wise, the scientists or the experts. Moreover, it warns of the use of educational attainment as a measure of a politician's quality. Indeed, even if the average effect for graduate leaders is positive when not controlling for leaders' background, the heterogeneity across careers and academic fields is wide.

I tackled the main identification threats such as endogeneity in the timing of transitions', background and subjectivity in rulers' categories. However, the results must be interpreted conditional on being in office in a certain country at a certain time. It is not possible to assess whether the mechanism is purely driven by rulers' quality or whether there is a matching issue. Indeed, as in Bandiera et al. (2020), who studied how CEO types impact firms' performance, it could be a matter of mismatching. This would imply that former high-level politicians perform well only in the countries that they run and are not necessarily a good option for other states. On the contrary, perhaps military leaders would produce positive outcomes under specific circumstances.

The doors remain open for further empirical and theoretical research to explore how, and to what extent, leaders' background affects a leader's selection and policy choices and thus shapes their nation's aggregated economic and social performance.

Appendix

A Leaders' category

	Source
Academics/Economists	
1. Economists	
University degree in economics	Cursus Honorum
Occupation coded as economics	LEAD dataset
Career contains the word finance	Cursus Honorum
2. Academic	
Career contains the word academic	Cursus Honorum
Law background	
1. Lawyer	
University degree in law	Cursus Honorum
2. Legislative career	
Career contains at least one of the following words: MP, parliament, senate, senator, legislator	Cursus Honorum
High-level politicians	
1. Party leader	
Career coded as party leader	Cursus Honorum
2. Prime minister/vice-president/president	
Career contains at least one of the following words: PM, vice-president, ex president, pre-independence leader	Cursus Honorum
Low-level politicians	
1. Minister	
Career contains the word minister (except for prime minister)	Cursus Honorum
2. Governors/Mayors/Civil servant	
Career contains at least one of the following words: mayor, governor, civil servant	Cursus Honorum
Military Leader	
1. Military career	
Career contains at least one of the following words: career military/security, military, armed forces, mil junta, rebel or revolutionary	Cursus Honorum
Career coded as military/security	Cursus Honorum
2. Military education	
University degree coded as military	Cursus Honorum
Military education coded by 1	LEAD dataset

Table A1: Categories' construction

	Academic/ Economist	Legal Background	High-level Politician	Low-level Politician	Military Background	Others
Academic/ Economist	125					
Legal Background	45	355				
High-level Politician	54	171	357			
Low-level Politician	55	92	46	246		
Military Background	5	21	50	39	275	
Others	0	0	0	0	0	148
Exclusively column category	15	90	94	63	174	148

Table A2: Frequency of leaders' categories

Notes: The table displays the frequency of leaders who belong simultaneously to the category listed in the row and the one listed in the column. *Others* refers to leaders who don't belong to any of the constructed categories (academic/economist; legal background; high-level politician; low-level politician; military background). The last raw accounts for the number of leaders who only belong to the category listed in column.

		Academic/economist		Law background		High-level politicians		Low-level politicians		Military leaders	
		Academic	Economist	Lawyer	Legislative career	Party leader	Prime minister/ vice-president/ president	Minister	Mayor, governor, civil servant	Military career	Military education
Academic/ economist	Academic	48									
	Economist	14	91								
Law background	Lawyer	19	14	241							
	Legislative career	20	21	176	290						
High-level politicians	Party leader	11	25	82	109	180					
	Prime minister/ vice-president/ president	5	21	58	42	32	209				
Low-level politicians	Minister	14	32	54	44	17	0	159			
	Mayor, governors, civil servant	2	12	32	23	9	21	0	87		
Military leaders	Military career	0	2	9	7	6	32	30	3	234	
	Military education	0	4	10	9	12	34	26	3	173	214

Table A3: Frequency of leaders' subcategories

Notes: The table displays the frequency of leaders who belong simultaneously to the subcategory listed in the row and the one listed in the column.

B Variables' sources and definition

Variable	Definition	Source
Growth	$\ln(\text{rGDPpc}_t)$ - $\ln(\text{rGDPpc}_{t-1})$ where rGDPpc_t is the real GDP per capita in year t based on multiple benchmark comparisons of prices and incomes across countries.	Bolt et al. (2018)
Democracy	Polity IV score	Marshall et al. (2017)
Corruption	Executive corruption index from VDEM database. Awnser to the question: "How routinely do members of the executive, or their agents grant favors in exchange for bribes, kickbacks, or other material inducements, and how often do they steal, embezzle, or misappropriate public funds or other state resources for personal or family use?"	Coppedge et al. (2019)
Property rights	Property right index from VDEM database. Awnser to the question: "Do citizens enjoy the right to private property? Clarification: Private property includes the right to acquire, possess, inherit, and sell private property, including land. Limits on property rights may come from the state which may legally limit rights or fail to enforce them; customary laws and practices; or religious or social norms. This question concerns the right to private property, not actual ownership of property."	Coppedge et al. (2019)
Rule of law	Rule of law index from VDEM database. Awnser to the question: "To what extent are laws transparently, independently, predictably, impartially, andequally enforced, and to what extent do the actions of government officials comply with the law?"	Coppedge et al. (2019)

Table A4: Variables' sources and definition

C Easterly and Pennings' (2020) methodology

Easterly and Pennings (2020) propose a least-squares leader estimator (λ_i^{LS}) using the average growth for leader i, $\overline{g}_i$, and the average growth under other leaders from the same country, $\overline{g}_{-ic}$, which is considered a better proxy for the country effect. The idea is to give a weight to those two variables according to their *signal-to-noise* ratio. More precisely, they estimate:

$$\min_{\psi,\gamma} E[\lambda_i - \hat{\lambda}_i^{LS}]^2 \quad where \quad \hat{\lambda}_i^{LS} = \psi_i(\overline{g}_i - \gamma_i \overline{g}_{-ic}) \tag{4}$$

where the optimal weights γ_i and ψ_i are given respectively by equations (5) and (6).

$$\gamma_i = \frac{cov(\overline{g}_i \overline{g}_{-ic})}{var(\overline{g}_{-ic})} = \frac{\sigma_c^2}{\sigma_c^2 + \frac{\sigma_\epsilon^2}{Nc - T_i} + \frac{\sigma_\lambda^2}{L_{-ict}}} \tag{5}$$

$$\psi_i = \frac{cov(\lambda_i, \overline{g}_i - \hat{\gamma}\overline{g}_{-ic})}{var(\overline{g}_i - \hat{\gamma}\overline{g}_{-ic})} = \frac{\sigma_\lambda^2}{\sigma_\lambda^2 + \sigma_c^2(1-\hat{\gamma}) + \frac{\sigma_\epsilon^2}{T_i}} \tag{6}$$

Before estimating the weights it is necessary to estimate the variance components which are given by equations (7), (8) and (9).

$$\hat{\sigma}_{\epsilon,c}^2 = \frac{1}{T - N_L} \sum_{i=1}^{N_L} \sum_{t=1}^{T_i} (g_{ict} - \overline{g}_{ic})^2 \tag{7}$$

where T_i is the tenure of leader i, T is de total number of observations for country c and N_L is the total number of leaders of country c.

$$\hat{\sigma}_c^2 = \frac{\sum_c \sum_{i \neq j, t \neq s} g_{ict} g_{jcs}}{\sum_{i \neq j, t \neq s} \mathbf{1}_{ict} \mathbf{1}_{jcs}} \tag{8}$$

$$\hat{\sigma}_\lambda^2 = \frac{\sum_c \sum_{t \neq s} g_{ict} g_{ics}}{\sum_{t \neq s} \mathbf{1}_{ict} \mathbf{1}_{ics}} - \hat{\sigma}_c^2 \tag{9}$$

Once estimating $\hat{\lambda}_i^{LS}$, their final step is to check whether it is statistically different from zero, by calculating confidence intervals at 95% confidence assuming that $\hat{\lambda}^{LS}$ follows a normal distribution with mean 0 and variance $\hat{\sigma_\lambda}^2$, given by the following equation:

$$95\% CI = [\hat{\lambda}_i^{LS} - 1.96 \;\; \sigma_\lambda \sqrt{1 - \psi_i} \;\; ; \;\; \hat{\lambda}_i^{LS} + 1.96 \;\; \sigma_\lambda \sqrt{1 - \psi_i}]$$

D Leaders' rankings

(1) Growth	(2) Property rights
1° Figl (Austria,1946-1952): 0.053	3° Yeltsin (Russia,1992-1999): 1.081
2° Khama (Botswana,1966-1980): 0.046	4° Lon Nol (Cambodia,1970-1974): 1.071
3° Roosevelt, F. (United States,1933-1945): 0.038	5° Boris III (Bulgaria,1918-1943): 1.048
4° Masire (Botswana,1981-1997): 0.036	6° Guebuza (Mozambique,2005-2010): 1.017
5° de Gasperi (Italy,1946-1953): 0.036	9° Berisha (Albania,1992-1997): 0.876
6° Panday (Trinidad and Tobago,1996-2001): 0.035	10° Putin (Russia,2000-2010): 0.858
7° Bruton (Ireland,1995-1997): 0.034	11° Sardar Mohammad Daud Khan (Afghanistan,1974-1977): 0.854
8° Anerood Jugnauth (Mauritius,1983-1995): 0.032	12° Alfonso Portillo Cabrera (Guatemala,2000-2003): 0.853
9° Ikeda (Japan,1961-1964): 0.032	13° Berger Perdomo (Guatemala,2004-2007): 0.842
10° Kishi (Japan,1957-1960): 0.029	14° Alvaro Colom (Guatemala,2008-2010): 0.835
11° Walesa (Poland,1991-1995): 0.028	15° Zahir Shah (Afghanistan,1964-1972): 0.801
12° Sato (Japan,1965-1972): 0.028	16° Nguema Mbasogo (Equatorial Guinea,1980-2010): 0.783
13° Manning (Trinidad and Tobago,2002-2009): 0.027	20° Mandela (South Africa,1994-1999): 0.71
14° Idris (Libya,1952-1969): 0.026	22° Gyanendra Bir Bikram Shah Deva (Nepal,2003-2007): 0.694
15° Adenauer (Germany,1950-1963): 0.024	23° Ranariddh (Cambodia,1994-1997): 0.667
16° Monteiro (Cape Verde,1992-2000): 0.023	24° Kuwatli (Syria,1944-1948): 0.627
17° Mintoff (Malta,1972-1984): 0.023	26° Hun Sen (Cambodia,1999-2010): 0.611
18° Chissano (Mozambique,1987-2004): 0.023	27° Gierek (Poland,1970-1980): 0.609
19° Churchill (United Kingdom,1940-1945): 0.023	30° Bierut (Poland,1944-1956): 0.57
20° Lee Kuan Yew (Singapore,1960-1990): 0.022	36° Jaruzelski (Poland,1982-1990): 0.545
21° Faisal (Saudi Arabia,1965-1974): 0.022	42° Girija Prasad Koirala (Nepal,1991-1994): 0.527
22° Raab (Austria,1953-1960): 0.021	51° Birendra (Nepal,1973-2001): 0.475
23° King (Canada,1936-1948): 0.021	56° Tito (Yugoslavia,1945-1980): 0.461
24° Manmohan Singh (India,2004-2010): 0.02	59° Inonu (Turkey,1939-1949): 0.459
25° Chiang Ching-Kuo (Taiwan,1978-1988): 0.02	65° Karmal (Afghanistan,1980-1985): 0.449
27° Medici (Brazil,1970-1973): 0.019	68° Ramgoolam (Mauritius,1968-1982): 0.44
32° Santer (Luxembourg,1985-1994): 0.018	78° Trujillo (Colombia,1991-1994): 0.417
34° Batmonh (Mongolia,1985-1989): 0.018	88° Calderon Sol (El Salvador,1995-1999): 0.385
35° Museveni (Uganda,1986-2010): 0.018	89° Gonzalo Sanchez de Lozada (Bolivia,1994-1997): 0.382
37° Hee Park (South Korea,1962-1979): 0.017	131° Alvaro Uribe Velez (Colombia,2003-2010): 0.306
41° Brundtland (Norway,1991-1996): 0.016	133° Senanayake, Don (Sri Lanka,1948-1952): 0.306
43° Ahern (Ireland,1998-2007): 0.016	134° Arango (Colombia,1999-2002): 0.305
45° De Gaulle (France,1959-1968): 0.016	185° Malan (South Africa,1949-1953): 0.234
58° Chiang Kai-shek (Taiwan,1950-1974): 0.013	195° Anerood Jugnauth (Mauritius,1983-1995): 0.22
73° Pompidou (France,1969-1974): 0.013	201° Nehru (India,1947-1963): 0.215
(...)	237° Karamanlis (Greece,1975-1979): 0.173
849° de Valera (Ireland,1932-1947): -0.014	249° Lleras Camargo (Colombia,1959-1962): 0.168
858° Ho Chi Minh (Vietnam,1945-1969): -0.016	250° Otilia Ulate (Costa Rica,1950-1953): 0.166
859° Marcos (Philippines,1966-1985): -0.016	254° Seaga (Jamaica,1981-1988): 0.161
863° Nasser (Egypt,1954-1970): -0.016	262° Lleras Restropo (Colombia,1967-1970): 0.151
871° Mobutu (Democratic Republic of Congo,1966-1996): -0.019	275° Yoshida, Shigeru (Japan,1952-1954): 0.141
873° Ferenc Gyurcsany (Hungary,2005-2008): -0.021	301° Pastrana Borrero (Colombia,1971-1974): 0.122
874° Stauning (Denmark,1929-1942): -0.022	340° De Gaulle (France,1959-1968): 0.099
875° Amin, Idi (Uganda,1971-1978): -0.022	348° Carazo Odio (Costa Rica,1978-1981): 0.093
877° Junichiro Koizumi (Japan,2001-2006): -0.023	(...)
878° Cedras (Haiti,1992-1994): -0.023	747° Quisling (Norway,1940-1944): -0.126
879° Truman (United States,1946-1952): -0.023	769° Bennett (Canada,1931-1935): -0.15
880° Paz Estenssoro (Bolivia,1952-1956): -0.023	785° Johnson (United States,1964-1968): -0.173
881° Yeltsin (Russia,1992-1999): -0.025	835° Rojas Pinillia (Colombia,1954-1956): -0.231
882° Khalifah Ath-Thani (Qatar,1972-1995): -0.026	866° Santos (Colombia,1939-1942): -0.296
883° Chifley (Australia,1946-1949): -0.027	867° Metaxas (Greece,1936-1941): -0.297
884° Metaxas (Greece,1936-1941): -0.032	878° Manmohan Singh (India,2004-2010): -0.313
885° Atlee (United Kingdom,1946-1951): -0.032	885° Lopez Pumarejo (Colombia,1935-1938): -0.326
886° Quisling (Norway,1940-1944): -0.033	918° Ospina Perez (Colombia,1947-1950): -0.426

887° Dollfuss (Austria,1932-1934): -0.033
888° Manley (Jamaica,1972-1980): -0.033
889° Laval (France,1942-1944): -0.091

928° Rajapaksa (Sri Lanka,2006-2010): -0.459
931° Arevalo (Guatemala,1945-1950): -0.476
932° Al-Assad H. (Syria,1971-2000): -0.507
938° deKlerk (South Africa,1990-1993): -0.545
943° Hugo Chavez (Venezuela,1999-2010): -0.564
945° Stroessner (Paraguay,1955-1988): -0.588
947° Saud (Saudi Arabia,1954-1964): -0.642
951° Phomivan (Laos,1975-1992): -0.696
952° Brezhnev (Russia,1964-1982): -0.741
956° Juddha Rana (Nepal,1933-1944): -0.991
957° Macias Nguema (Equatorial Guinea,1969-1979): -1.042
959° Toure (Guinea,1958-1983): -1.066
960° Al-Bashir (Sudan,1990-2010): -1.122
961° Hua Guofeng (China,1977-1979): -1.231
964° Ubico Castaneda (Guatemala,1931-1944): -1.378
965° Le Duan (Vietnam,1970-1986): -1.466
966° Burhanuddin Rabbani (Afghanistan,1993-1996): -1.578
968° Mullah Omar (Afghanistan,1997-2001): -1.771
969° Kim Il-Sung (North Korea,1948-1994): -1.877
970° Hoxha (Albania,1944-1985): -1.908
971° Alia (Albania,1986-1991): -1.947
972° Stalin (Russia,1923-1953): -1.957
973° Kim Jong-Il (North Korea,1995-2010): -2.243
974° Castro (Cuba,1959-2010): -2.267
975° Mao Tse-Tung (China,1949-1976): -2.423
976° Machel (Mozambique,1975-1986): -3.726
977° Pol Pot (Cambodia,1975-1978): -4.38

Table A5: Ranking of significant leaders' effects on growth and property rights

*Notes:*The table reports leaders rank, leaders' names and leaders' effects on growth (in column 1) and on property rights (column 2) with a significant effect. Leaps in the rankings correspond to leaders with non-significant effects. The leader's country and the leader's years in power are reported between parentheses. The sample is restricted to leaders with tenure equal or longer than three years.

(1) Corruption	(2) Rule of law
1° Arevalo (Guatemala,1945-1950): 0.46	1° Calfa (Czechoslovakia,1990-1992): 0.314
2° Arbenz Guzman (Guatemala,1951-1954): 0.444	2° Arbenz Guzman (Guatemala,1951-1954): 0.311
3° Roh Moo Hyun (South Korea,2003-2007): 0.372	3° Al-Hamadi (Yemen Arab Republic,1975-1977): 0.31
4° Pol Pot (Cambodia,1975-1978): 0.359	4° Sihanouk (Cambodia,1954-1969): 0.295
5° Violeta Chamorro (Nicaragua,1990-1996): 0.344	5° Kuwatli (Syria,1944-1948): 0.287
6° Kuwatli (Syria,1944-1948): 0.328	6° Benes (Czechoslovakia,1936-1938): 0.286
7° Banda (Malawi,1965-1993): 0.325	8° Arevalo (Guatemala,1945-1950): 0.278
8° L0. Khan (Pakistan,1949-1951): 0.316	9° Mbeki (South Africa,2000-2008): 0.271
9° Hoxha (Albania,1944-1985): 0.305	10° L0. Khan (Pakistan,1949-1951): 0.262
11° Kountche (Niger,1974-1987): 0.304	11° Chen Shui-bian (Taiwan,2000-2007): 0.258
13° Meles Zenawi (Ethiopia,1991-2010): 0.294	12° Mandela (South Africa,1994-1999): 0.252
14° Abboud (Sudan,1959-1964): 0.287	13° Jawara (Gambia,1965-1994): 0.248
15° Calfa (Czechoslovakia,1990-1992): 0.283	14° Violeta Chamorro (Nicaragua,1990-1996): 0.244
16° Shishakli (Syria,1950-1953): 0.28	16° Betancourt (Venezuela,1959-1963): 0.227
17° Al-Hamadi (Yemen Arab Republic,1975-1977): 0.279	17° Ma Ying-jeou (Taiwan,2008-2010): 0.222
18° Boumedienne (Algeria,1965-1978): 0.276	18° Caldera Rodriguez (Venezuela,1969-1973): 0.222
19° Roldos Aquilers (Ecuador,1979-1981): 0.272	19° Museveni (Uganda,1986-2010): 0.22
20° Alfonsin (Argentina,1984-1988): 0.268	20° Tito (Yugoslavia,1945-1980): 0.219
21° Felipe Calderon (Mexico,2007-2010): 0.262	21° Roh Moo Hyun (South Korea,2003-2007): 0.213
24° Paul Kagame (Rwanda,2001-2010): 0.249	22° Belaunde (Peru,1981-1985): 0.207
25° Vicente Fox Quesada (Mexico,2001-2006): 0.249	23° Mahmud Khan Ghazi (Afghanistan,1946-1953): 0.2

26° Hurtado Larrea (Ecuador,1982-1984): 0.242
27° Nyerere (Tanzania,1962-1985): 0.242
28° Frondizi (Argentina,1958-1961): 0.237
29° Arturo Illia (Argentina,1964-1966): 0.235
30° Levy Mwanawasa (Zambia,2002-2008): 0.232
31° Daniel Ortega (Nicaragua,1980-1989): 0.231
32° Ugarteche (Peru,1957-1962): 0.225
33° Lee Myung-bak (South Korea,2008-2010): 0.223
34° Betancourt (Venezuela,1959-1963): 0.219
35° Alia (Albania,1986-1991): 0.216
36° Enrique Bolanos (Nicaragua,2002-2006): 0.215
38° Kim Dae Jung (South Korea,1998-2002): 0.214
39° Bagaza (Burundi,1977-1987): 0.214
40° Mohammed Ali (Pakistan,1953-1955): 0.214
41° Kostov (Bulgaria,1997-2001): 0.213
42° Mengistu Marriam (Ethiopia,1977-1990): 0.21
44° Keita (Mali,1961-1968): 0.202
48° Lon Nol (Cambodia,1970-1974): 0.196
49° Cabral (Guinea-Bissau,1975-1980): 0.195
50° Lech Kaczynski (Poland,2005-2010): 0.194
53° Belaunde (Peru,1981-1985): 0.184
55° Museveni (Uganda,1986-2010): 0.179
56° Buyoya (Burundi,1988-1993): 0.179
58° Sihanouk (Cambodia,1954-1969): 0.176
59° Morales Bermudez (Peru,1976-1980): 0.171
60° Obote (Uganda,1963-1970): 0.165
61° Caldera Rodriguez (Venezuela,1969-1973): 0.164
62° Kasavubu (Democratic Republic of Congo,1961-1965): 0.163
65° Chen Shui-bian (Taiwan,2000-2007): 0.151
66° Lissouba (Congo,1993-1997): 0.149
68° Zedillo (Mexico,1995-2000): 0.146
70° Stalin (Russia,1923-1953): 0.144
71° Sheikh Mujib Rahman (Bangladesh,1972-1974): 0.144
72° Al-Iryani (Yemen Arab Republic,1968-1974): 0.144
74° Walesa (Poland,1991-1995): 0.141
75° Le Duan (Vietnam,1970-1986): 0.141
77° Velasco Alvarado (Peru,1969-1975): 0.138
78° Nasser (president of UAR) (Syria,1958-1961): 0.137
81° Medina Angarita (Venezuela,1941-1945): 0.134
83° Nkrumah (Ghana,1952-1965): 0.133
86° Saksgoburggotski (Bulgaria,2002-2005): 0.129
89° Chehab (Lebanon,1959-1964): 0.124
91° Al-Mirghani (Sudan,1986-1989): 0.119
92° Mao Tse-Tung (China,1949-1976): 0.119
93° Ma Ying-jeou (Taiwan,2008-2010): 0.117
95° Lyonpo Jigme Thinley (Bhutan,2008-2010): 0.116
96° Stanishev (Bulgaria,2006-2009): 0.116
97° Nasser (Egypt,1954-1970): 0.115
98° Lozano Diaz (Honduras,1954-1956): 0.115
105° Ramos (Philippines,1993-1998): 0.108
106° Terra (Uruguay,1931-1938): 0.108
107° Castro (Cuba,1959-2010): 0.108
108° Kabbah (Sierra Leone,1998-2007): 0.108
110° Galvez (Honduras,1949-1953): 0.106
111° Carazo Odio (Costa Rica,1978-1981): 0.105
112° Ayub Khan (Pakistan,1959-1968): 0.105
115° Choibalsan (Mongolia,1936-1952): 0.104
118° Razak (Malaysia,1970-1976): 0.103
120° Justo (Argentina,1932-1937): 0.102

24° Nyerere (Tanzania,1962-1985): 0.2
25° Leoni (Venezuela,1964-1968): 0.198
26° Kostov (Bulgaria,1997-2001): 0.198
28° Belaunde (Peru,1964-1968): 0.196
29° Ghazi (Iraq,1934-1939): 0.196
30° Girija Prasad Koirala (Nepal,1991-1994): 0.196
31° Guzman Fernandez (Dominican Republic,1979-1982): 0.195
32° Ugarteche (Peru,1957-1962): 0.194
33° Mohammed Ali (Pakistan,1953-1955): 0.193
34° Ould Daddah (Mauritania,1961-1978): 0.193
35° Lula da Silva (Brazil,2003-2010): 0.19
36° Cardoso (Brazil,1995-2002): 0.19
37° Hurtado Larrea (Ecuador,1982-1984): 0.189
38° Abboud (Sudan,1959-1964): 0.189
39° Alfonsin (Argentina,1984-1988): 0.188
40° Dollfuss (Austria,1932-1934): 0.187
41° Kim Dae Jung (South Korea,1998-2002): 0.186
42° Kim Young Sam (South Korea,1993-1997): 0.185
43° Ben Ali Bourguiba (Tunisia,1958-1987): 0.185
44° Martinez Trueba (Uruguay,1951-1953): 0.185
45° Andres Perez (Venezuela,1974-1978): 0.183
46° Bennett (Canada,1931-1935): 0.179
47° Margai,M (Sierra Leone,1961-1964): 0.178
48° Rahman (Malaysia,1960-1969): 0.174
49° Arturo Illia (Argentina,1964-1966): 0.174
50° Bambang Yudhoyono (Indonesia,2005-2010): 0.174
51° Batlle Berres (Uruguay,1948-1950): 0.173
52° John Agyekum Kufuor (Ghana,2001-2008): 0.173
53° Sankara (Burkina Faso,1984-1987): 0.172
54° Nkrumah (Ghana,1952-1965): 0.172
55° Lissouba (Congo,1993-1997): 0.172
56° Amezaga (Uruguay,1943-1946): 0.17
57° Shishakli (Syria,1950-1953): 0.17
58° Daniel Ortega (Nicaragua,1980-1989): 0.169
59° Lon Nol (Cambodia,1970-1974): 0.163
60° Saksgoburggotski (Bulgaria,2002-2005): 0.163
61° Gyanendra Bir Bikram Shah Deva (Nepal,2003-2007): 0.162
62° Lee Myung-bak (South Korea,2008-2010): 0.161
63° Ecevit (Turkey,1999-2002): 0.16
65° Erdogan (Turkey,2004-2010): 0.158
67° Mokhehle (Lesotho,1995-1997): 0.157
68° Burnham (Guyana,1966-1985): 0.156
69° Vicente Fox Quesada (Mexico,2001-2006): 0.155
70° Sardar Mohammad Daud Khan (Afghanistan,1954-1962): 0.155
71° Baldomir (Uruguay,1939-1942): 0.154
72° Bagaza (Burundi,1977-1987): 0.154
73° Svinhufud (Finland,1931-1936): 0.153
74° Hashim Khan (Afghanistan,1934-1945): 0.153
75° Lee Teng-Hui (Taiwan,1989-1999): 0.15
76° Hoxha (Albania,1944-1985): 0.15
77° Antonescu (Romania,1941-1944): 0.149
78° Megawati Sukarnoputri (Indonesia,2002-2004): 0.148
79° Zahir Shah (Afghanistan,1964-1972): 0.147
80° Paz Estenssoro (Bolivia,1986-1989): 0.147
81° Levy Mwanawasa (Zambia,2002-2008): 0.145
82° Felipe Calderon (Mexico,2007-2010): 0.143
83° Campins (Venezuela,1979-1983): 0.141
84° Bandaranaike, S0.W0.R0.D0. (Sri Lanka,1956-1959): 0.141
85° Terra (Uruguay,1931-1938): 0.14

123° Borja Cevallos (Ecuador,1989-1992): 0.1
124° Amezaga (Uruguay,1943-1946): 0.1
128° Khrushchev (Russia,1954-1963): 0.098
130° Sardar Mohammad Daud Khan (Afghanistan,1974-1977): 0.096
132° Kim Young Sam (South Korea,1993-1997): 0.095
134° Carias Andino (Honduras,1933-1948): 0.094
136° Hua Guofeng (China,1977-1979): 0.093
144° Bandaranaike, S (Sri Lanka,1970-1976): 0.089
146° Williams (Trinidad and Tobago,1962-1981): 0.088
149° al-Maliki (Iraq,2006-2010): 0.087
152° Otilia Ulate (Costa Rica,1950-1953): 0.086
154° Carol II (Romania,1931-1940): 0.085
156° Sanguinetti (Uruguay,1985-1989): 0.084
158° Phomivan (Laos,1975-1992): 0.083
160° Flores, Francisco (El Salvador,2000-2004): 0.082
161° Lopez Contreras (Venezuela,1936-1940): 0.081
163° Hussein Bin Onn (Malaysia,1977-1981): 0.081
164° Cardoso (Brazil,1995-2002): 0.08
169° Nicanor Duarte Frutos (Paraguay,2004-2008): 0.078
175° de Valera (Ireland,1932-1947): 0.073
186° Evren (Turkey,1981-1983): 0.069
190° Saca Gonzalez (El Salvador,2005-2009): 0.065
200° Leekpai (Thailand,1998-2000): 0.062
202° de Gasperi (Italy,1946-1953): 0.062
205° Trejos (Costa Rica,1966-1969): 0.059
207° Paz Estenssoro (Bolivia,1952-1956): 0.059
208° Prodi (Italy,1996-1998): 0.059
217° deKlerk (South Africa,1990-1993): 0.054
223° Brian Cohen (Ireland,2008-2010): 0.052
243° Begin (Israel,1978-1983): 0.048
246° Konstantinos Karamanlis (Greece,2004-2009): 0.047
256° Simitis (Greece,1997-2003): 0.044
263° Churchill (United Kingdom,1940-1945): 0.042
269° Calderon Fournier (Costa Rica,1990-1993): 0.041
272° Rojas Pinillia (Colombia,1954-1956): 0.04

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713° Sato (Japan,1965-1972): -0.041
742° Arias (Costa Rica,2006-2009): -0.051
762° Banzer Suarez (Bolivia,1972-1978): -0.059
769° Metaxas (Greece,1936-1941): -0.061
776° Douglas MacArthur (Japan,1946-1950): -0.063
782° Castillo Armas (Guatemala,1955-1957): -0.064
783° Callejas (Honduras,1990-1993): -0.064
786° Reynolds (Ireland,1992-1994): -0.066
789° Reina (Honduras,1994-1997): -0.067
793° Barrientos Ortuna (Bolivia,1966-1969): -0.069
794° Alfonso Portillo Cabrera (Guatemala,2000-2003): -0.07
795° Premadasa (Sri Lanka,1989-1992): -0.071
797° Endara (Panama,1990-1994): -0.071
803° Balaguer (Dominican Republic,1987-1996): -0.073
804° Lula da Silva (Brazil,2003-2010): -0.073
807° Musharraf (Pakistan,2000-2008): -0.075
809° Rodriguez Lara (Ecuador,1972-1975): -0.076
815° Lopez Portillo (Mexico,1977-1982): -0.08
817° Manuel Zelaya (Honduras,2006-2009): -0.08
821° Garcia Perez (Peru,1986-1990): -0.083
829° Ricardo Maduro (Honduras,2002-2005): -0.087
830° Aleman (Nicaragua,1997-2001): -0.087
833° Haughey (Ireland,1987-1991): -0.089

86° Abdul-Ilah (Iraq,1940-1952): 0.14
87° A0. Papandreou (Greece,1982-1989): 0.14
88° Stauning (Denmark,1929-1942): 0.139
89° Tadic (Yugoslavia,2005-2010): 0.139
90° Simitis (Greece,1997-2003): 0.138
91° Nicanor Duarte Frutos (Paraguay,2004-2008): 0.138
92° Nasser (president of UAR) (Syria,1958-1961): 0.137
93° Ho Chi Minh (Vietnam,1945-1969): 0.137
94° Sardar Mohammad Daud Khan (Afghanistan,1974-1977): 0.137
95° Konstantinos Karamanlis (Greece,2004-2009): 0.137
96° Buyoya (Burundi,1988-1993): 0.136
97° Bustamante y Rivero, Jose (Peru,1946-1948): 0.135
99° Senanayake, Don (Sri Lanka,1948-1952): 0.134
100° Williams (Trinidad and Tobago,1962-1981): 0.134
102° Ayub Khan (Pakistan,1959-1968): 0.133
103° Lyons (Australia,1932-1939): 0.132
104° Stanishev (Bulgaria,2006-2009): 0.131
106° A0. Papandreou (Greece,1993-1996): 0.13
108° Sanguinetti (Uruguay,1985-1989): 0.128
109° Lozano Diaz (Honduras,1954-1956): 0.128
110° Roldos Aquilers (Ecuador,1979-1981): 0.128
111° Frondizi (Argentina,1958-1961): 0.127
112° Figueres Ferrer (Costa Rica,1954-1957): 0.126
113° Thaksin Shinawatra (Thailand,2001-2006): 0.126
115° Quiros, Daniel (Costa Rica,1974-1977): 0.125
116° de Valera (Ireland,1932-1947): 0.124
117° Razak (Malaysia,1970-1976): 0.123
119° Gonzalez Marquez (Spain,1983-1995): 0.121
123° Otilia Ulate (Costa Rica,1950-1953): 0.114
126° Manley (Jamaica,1972-1980): 0.113
127° Walesa (Poland,1991-1995): 0.112
128° Farouk (Egypt,1937-1952): 0.112
132° Rodriguez Zapatero (Spain,2004-2010): 0.11
135° Carazo Odio (Costa Rica,1978-1981): 0.109
136° Kwasniewski (Poland,1996-2004): 0.106
137° Pompidou (France,1969-1974): 0.105
138° Aguirre Cerda (Chile,1938-1941): 0.104
139° Bandaranaike, S (Sri Lanka,1970-1976): 0.104
140° Leekpai (Thailand,1998-2000): 0.103
141° Sheikh Mujib Rahman (Bangladesh,1972-1974): 0.103
143° Justo (Argentina,1932-1937): 0.101
145° Lyonpo Jigme Thinley (Bhutan,2008-2010): 0.1
147° Kountche (Niger,1974-1987): 0.098
148° Yayi Boni (Benin,2006-2010): 0.098
150° Siles Zuazo (Bolivia,1983-1985): 0.097
156° Carol II (Romania,1931-1940): 0.092
157° Hansson (Sweden,1936-1946): 0.091
158° Roh Tae Woo (South Korea,1988-1992): 0.091
160° Horn (Hungary,1995-1998): 0.09
163° Frei Montalva (Chile,1965-1970): 0.089
165° Karamanlis (Greece,1975-1979): 0.087
168° Figueres Ferrer (Costa Rica,1970-1973): 0.085
169° Alejandro Toledo (Peru,2002-2006): 0.084
174° Chambers (Trinidad and Tobago,1982-1986): 0.083
178° Banzer Suarez (Bolivia,1998-2001): 0.08
179° Alessandri Rodriguez (Chile,1959-1964): 0.08
181° Nehru (India,1947-1963): 0.08
184° Paz Zamora (Bolivia,1990-1993): 0.079
192° Shamir (Israel,1987-1992): 0.077

834° Prince Paul (Yugoslavia,1935-1940): -0.09
835° Traian Basescu (Romania,2005-2010): -0.09
840° Makarios (Cyprus,1961-1973): -0.094
842° Gierek (Poland,1970-1980): -0.094
845° Souvanna Phouma (Laos,1952-1954): -0.095
847° Fitzgerald (Ireland,1983-1986): -0.098
850° Laugerud Garcia (Guatemala,1975-1978): -0.1
852° El-Atassi, N0. (Syria,1966-1970): -0.101
853° Duvalier, Francois (Haiti,1957-1971): -0.102
854° Demirel (Turkey,1966-1970): -0.103
856° Ratsiraka (Madagascar,1997-2002): -0.105
859° Gemayel, Amin (Lebanon,1983-1988): -0.106
860° Rakoski (Hungary,1945-1956): -0.107
861° Schussel (Austria,2000-2006): -0.108
862° Berisha (Albania,1992-1997): -0.108
863° Saud (Saudi Arabia,1954-1964): -0.108
873° Phieu (Vietnam,1998-2000): -0.117
876° Zhivkov (Bulgaria,1956-1989): -0.12
879° Ongania (Argentina,1967-1970): -0.122
880° Ngouabi (Congo,1969-1976): -0.122
881° Salem Aref (Iraq,1963-1966): -0.123
882° Hun Sen (Cambodia,1985-1993): -0.123
883° Mendez Montenegro (Guatemala,1967-1970): -0.123
884° Yen Chia-Kan (Taiwan,1975-1977): -0.124
886° Kumba Iala (Guinea-Bissau,2000-2003): -0.125
888° Stevens (Sierra Leone,1968-1985): -0.127
891° Sali Ram Berisha (Albania,2006-2010): -0.129
892° Bustamante y Rivero, Jose (Peru,1946-1948): -0.131
894° Yeltsin (Russia,1992-1999): -0.132
895° Houphouet-Boigny (Cote d'Ivoire,1960-1993): -0.132
896° Sukarno (Indonesia,1950-1965): -0.136
897° Milosevic (Yugoslavia,1989-2000): -0.136
898° Conte (Guinea,1984-2008): -0.136
901° Velasco Ibarra (Ecuador,1944-1947): -0.139
902° Torrijos Herrera (Panama,1968-1981): -0.139
903° Bordaberry (Uruguay,1972-1976): -0.139
907° Arroyo del Rio (Ecuador,1941-1943): -0.142
908° Putin (Russia,2000-2010): -0.143
909° Sidi Ahmed Taya (Mauritania,1985-2005): -0.144
910° Perez Jimenez (Venezuela,1951-1957): -0.144
911° Hamid Karzai (Afghanistan,2002-2010): -0.144
912° Habyarimana (Rwanda,1974-1993): -0.145
916° Lucas Garcia (Guatemala,1979-1981): -0.147
917° Mubarak (Egypt,1982-2010): -0.148
918° Peralta Azurdia (Guatemala,1963-1966): -0.148
919° Ydigoras Fuente (Guatemala,1958-1962): -0.148
921° Gottwald (Czechoslovakia,1948-1952): -0.15
922° Chiang Kai-shek (Taiwan,1950-1974): -0.15
926° Bingu wa Mutharika (Malawi,2004-2010): -0.154
928° Roh Tae Woo (South Korea,1988-1992): -0.155
929° Kumaratunga (Sri Lanka,1995-2005): -0.158
930° Fatos Nano (Albania,2003-2005): -0.158
931° Anastasio Somoza Debayle (Nicaragua,1967-1979): -0.159
932° Kadar (Hungary,1957-1987): -0.16
933° Batista (Cuba,1952-1958): -0.161
934° Acheampong (Ghana,1972-1978): -0.162
935° Dimitrov (Bulgaria,1946-1949): -0.164
937° Momoh (Sierra Leone,1986-1991): -0.165
939° Calderon Guardi (Costa Rica,1940-1943): -0.166
194° Lacalle de Herrera (Uruguay,1990-1994): 0.076
204° Lopez Michelsen (Colombia,1975-1978): 0.072
205° Prem (Thailand,1980-1988): 0.072
207° Galvez (Honduras,1949-1953): 0.071
210° Shastri (India,1964-1966): 0.07
219° Mireya Moscoso (Panama,2000-2004): 0.067
229° Ozal (Turkey,1984-1989): 0.062
230° Roosevelt, F0. (United States,1933-1945): 0.062
232° Hansson (Sweden,1933-1935): 0.062
244° Nygaardsvold (Norway,1935-1939): 0.057
249° Trejos (Costa Rica,1966-1969): 0.056
252° Gonzalo Sanchez de Lozada (Bolivia,1994-1997): 0.056
258° Monge Alverez (Costa Rica,1982-1985): 0.055
269° Giscard D'Estaing (France,1975-1980): 0.051
289° Kishi (Japan,1957-1960): 0.044

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693° Junichiro Koizumi (Japan,2001-2006): -0.043
718° Dehaene (Belgium,1992-1999): -0.049
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763° de la Espriella (Costa Rica,2002-2005): -0.061
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786° Quisling (Norway,1940-1944): -0.07
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798° Arroyo del Rio (Ecuador,1941-1943): -0.072
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823° Velasco Ibarra (Ecuador,1969-1971): -0.084
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827° Rafel Trujillo (Dominican Republic,1931-1960): -0.086
828° Kadar (Hungary,1957-1987): -0.087
829° Anastasio Somoza Debayle (Nicaragua,1967-1979): -0.088
831° Sarit (Thailand,1958-1963): -0.088
832° Hassan Al-Bakr (Iraq,1969-1979): -0.088
837° Thanon Kittakachorn (Thailand,1964-1973): -0.091
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840° Velasco Ibarra (Ecuador,1944-1947): -0.096
841° Figueiredo (Brazil,1979-1984): -0.098
846° Geisel (Brazil,1974-1978): -0.101
848° Georghiu-Dej (Romania,1947-1965): -0.101
850° Bainimarama (Fiji,2007-2010): -0.102
853° Lucas Garcia (Guatemala,1979-1981): -0.103
855° Stroessner (Paraguay,1955-1988): -0.105
856° Morales Bermudez (Peru,1976-1980): -0.105
857° El-Atassi, N0. (Syria,1966-1970): -0.106
860° Duarte (El Salvador,1985-1989): -0.107
861° Salem Aref (Iraq,1963-1966): -0.107
862° Diori (Niger,1961-1973): -0.108

940° Lekhanya (Lesotho,1986-1990): -0.167
945° Iliescu (Romania,2001-2004): -0.174
946° Khaleda Zia (Bangladesh,2002-2006): -0.175
947° Traore (Mali,1969-1990): -0.177
948° Bouteflika (Algeria,1999-2010): -0.177
949° Enkhbayar (Mongolia,2006-2009): -0.177
950° Mahatir Bin Mohammad (Malaysia,1982-2003): -0.181
951° Velasco Ibarra (Ecuador,1969-1971): -0.181
952° Nestor Kirchner (Argentina,2003-2007): -0.184
953° Chiluba (Zambia,1992-2001): -0.184
954° Marcos (Philippines,1966-1985): -0.188
956° Videla (Argentina,1976-1980): -0.197
957° Mugabe (Zimbabwe,1980-2010): -0.197
959° Sharif (Pakistan,1997-1999): -0.205
961° Burhanuddin Rabbani (Afghanistan,1993-1996): -0.213
963° Selassie (Ethiopia,1941-1974): -0.217
964° Hee Park (South Korea,1962-1979): -0.218
966° Mussolini (Italy,1923-1943): -0.227
968° Eyadema (Togo,1967-2005): -0.246
972° Menem (Argentina,1989-1999): -0.259
973° Nkurunziza (Burundi,2006-2010): -0.281
975° Amin, Idi (Uganda,1971-1978): -0.304
976° Ranariddh (Cambodia,1994-1997): -0.317
977° Al-Assad H0. (Syria,1971-2000): -0.319
978° Suharto (Indonesia,1966-1997): -0.32
980° Fujimori (Peru,1991-2000): -0.343
981° Al-Bashir (Sudan,1990-2010): -0.352
983° Franco (Spain,1939-1975): -0.354
985° Pinochet (Chile,1974-1989): -0.364
986° Hugo Chavez (Venezuela,1999-2010): -0.405
987° Rajapaksa (Sri Lanka,2006-2010): -0.426

865° Plaek Pibulsongkram (Thailand,1947-1957): -0.113
866° Alexander (Yugoslavia,1919-1934): -0.114
868° Daniel Ortega (Nicaragua,2007-2010): -0.116
869° Peralta Azurdia (Guatemala,1963-1966): -0.116
870° Menem (Argentina,1989-1999): -0.116
872° Ceausescu (Romania,1966-1989): -0.117
873° Kerekou (Benin,1973-1990): -0.117
876° Ospina Perez (Colombia,1947-1950): -0.118
877° Jonathan (Lesotho,1967-1985): -0.12
880° Calderon Guardi (Costa Rica,1940-1943): -0.123
881° Torrijos Herrera (Panama,1968-1981): -0.123
882° Momoh (Sierra Leone,1986-1991): -0.124
883° Bouteflika (Algeria,1999-2010): -0.125
884° Vorster (South Africa,1967-1978): -0.126
885° Makarios (Cyprus,1961-1973): -0.127
886° Milosevic (Yugoslavia,1989-2000): -0.127
887° Batista (Cuba,1952-1958): -0.129
890° Castello Branco (Brazil,1964-1966): -0.131
891° Premadasa (Sri Lanka,1989-1992): -0.131
892° Rojas Pinillia (Colombia,1954-1956): -0.131
893° Ngouabi (Congo,1969-1976): -0.132
894° Chiang Ching-Kuo (Taiwan,1978-1988): -0.134
895° Rakoski (Hungary,1945-1956): -0.135
896° Bizimungu (Rwanda,1995-1999): -0.137
897° Verwoerd (South Africa,1959-1966): -0.137
898° Saddam Hussein (Iraq,1980-2002): -0.138
900° Putin (Russia,2000-2010): -0.141
901° Khaleda Zia (Bangladesh,2002-2006): -0.144
902° Kumaratunga (Sri Lanka,1995-2005): -0.144
903° Deby (Chad,1991-2010): -0.144
904° Medici (Brazil,1970-1973): -0.145
905° Sidi Ahmed Taya (Mauritania,1985-2005): -0.146
906° Juddha Rana (Nepal,1933-1944): -0.146
907° Menderes (Turkey,1950-1959): -0.149
908° Mubarak (Egypt,1982-2010): -0.15
909° Chervenkov (Bulgaria,1951-1955): -0.15
912° Cedras (Haiti,1992-1994): -0.157
913° Caetano (Portugal,1969-1973): -0.159
914° Musharraf (Pakistan,2000-2008): -0.16
915° Bhutto Benazir (Pakistan,1994-1996): -0.161
916° Mahatir Bin Mohammad (Malaysia,1982-2003): -0.162
917° Sophoulis (Greece,1947-1949): -0.164
918° Dimitrov (Bulgaria,1946-1949): -0.166
919° Husak (Czechoslovakia,1969-1989): -0.166
921° Acheampong (Ghana,1972-1978): -0.168
922° Zhivkov (Bulgaria,1956-1989): -0.169
924° Hacha (Czechoslovakia,1939-1944): -0.173
925° Ongania (Argentina,1967-1970): -0.174
926° Banzer Suarez (Bolivia,1972-1978): -0.175
927° Velasco Alvarado (Peru,1969-1975): -0.179
928° Salazar (Portugal,1932-1968): -0.179
929° Ranariddh (Cambodia,1994-1997): -0.18
930° Gottwald (Czechoslovakia,1948-1952): -0.18
931° Zapotocky (Czechoslovakia,1953-1957): -0.18
932° Yen Chia-Kan (Taiwan,1975-1977): -0.181
933° Sa'id ibn Taimur (Oman,1932-1970): -0.185
934° Evren (Turkey,1981-1983): -0.191
935° Novotny (Czechoslovakia,1958-1967): -0.194
936° Qaddafi (Libya,1970-2010): -0.196

937° Odria (Peru,1951-1956): -0.199
938° Jammeh (Gambia,1995-2010): -0.199
939° Ibn Yahya Hamid (Yemen Arab Republic,1948-1962): -0.2
940° Ahmad Badawi (Malaysia,2004-2008): -0.204
941° Padma Rana (Nepal,1945-1948): -0.209
942° Strasser (Sierra Leone,1992-1995): -0.21
943° Amin, Idi (Uganda,1971-1978): -0.213
944° Sharif (Pakistan,1997-1999): -0.213
945° Rhee (South Korea,1949-1959): -0.221
946° Barrientos Ortuna (Bolivia,1966-1969): -0.222
947° Hun Sen (Cambodia,1999-2010): -0.223
948° Videla (Argentina,1976-1980): -0.225
949° Castro (Cuba,1959-2010): -0.24
950° Perez Jimenez (Venezuela,1951-1957): -0.24
951° Hamid Karzai (Afghanistan,2002-2010): -0.242
952° Chun Doo Hwan (South Korea,1981-1987): -0.243
953° Nkurunziza (Burundi,2006-2010): -0.245
954° Yahya (Yemen Arab Republic,1905-1947): -0.253
955° Al-Assad H0. (Syria,1971-2000): -0.253
956° Chiang Kai-shek (Taiwan,1950-1974): -0.254
957° Marcos (Philippines,1966-1985): -0.254
958° Bashar al-Assad (Syria,2001-2010): -0.262
959° Gomez (Venezuela,1908-1935): -0.264
961° Mullah Omar (Afghanistan,1997-2001): -0.267
962° Bordaberry (Uruguay,1972-1976): -0.268
963° Metaxas (Greece,1936-1941): -0.27
964° Hee Park (South Korea,1962-1979): -0.283
965° Rajapaksa (Sri Lanka,2006-2010): -0.297
966° Noriega (Panama,1984-1989): -0.315
967° Laval (France,1942-1944): -0.323
968° Burhanuddin Rabbani (Afghanistan,1993-1996): -0.324
969° Suharto (Indonesia,1966-1997): -0.324
970° Al-Bashir (Sudan,1990-2010): -0.329
971° Mussolini (Italy,1923-1943): -0.338
972° Fujimori (Peru,1991-2000): -0.376
973° Franco (Spain,1939-1975): -0.38
974° Mendez Manfredini (Uruguay,1977-1981): -0.389
975° Pinochet (Chile,1974-1989): -0.402
976° Alvarez Armalino (Uruguay,1982-1984): -0.444
977° Hugo Chavez (Venezuela,1999-2010): -0.462

Table A6: Ranking of significant leaders' effects on corruption and rule of law

Notes: The table reports leaders' rank, leaders' names and leaders' effects on corruption (in column 1) and on rule of law (column 2) of leaders with a significant effect. Leaps in the rankings correspond to leaders with non-significant effects. The leader's country and the leader's years in power are reported between parentheses. The sample is restricted to leaders with tenure equal or longer than three years. Leaders' effects on corruption are multiplied by -1, so a positive value indicates an decrease in corruption.

(1)
Democracy
1° Souvanna Phouma (Laos,1956-1958): 0.537
2° Al-Mirghani (Sudan,1986-1989): 0.532
3° Jawara (Gambia,1965-1994): 0.519
9° Balewa (Nigeria,1961-1965): 0.444
12° Benes (Czechoslovakia,1945-1947): 0.426
13° Dutra (Brazil,1946-1950): 0.42
18° Chen Shui-bian (Taiwan,2000-2007): 0.379

21° Caldera Rodriguez (Venezuela,1969-1973): 0.367
22° Kubitschek (Brazil,1956-1960): 0.365
23° Roldos Aquilers (Ecuador,1979-1981): 0.364
24° Quisling (Norway,1940-1944): 0.352
25° Arevalo (Guatemala,1945-1950): 0.349
28° Lyonpo Jigme Thinley (Bhutan,2008-2010): 0.337
30° Obote (Uganda,1981-1985): 0.327
32° Siles Zuazo (Bolivia,1983-1985): 0.318
33° Rahman (Malaysia,1960-1969): 0.315
35° John Agyekum Kufuor (Ghana,2001-2008): 0.313
39° Martinez Trueba (Uruguay,1951-1953): 0.291
43° Pacheco Areco (Uruguay,1968-1971): 0.284
46° Hurtado Larrea (Ecuador,1982-1984): 0.275
47° Konare (Mali,1993-2002): 0.274
54° Bhutto (Pakistan,1972-1977): 0.26
55° Oueddei (Chad,1979-1982): 0.26
58° L. Khan (Pakistan,1949-1951): 0.257
61° Ahmed Sambi (Comoros,2006-2010): 0.255
63° Pires (Cape Verde,2001-2010): 0.252
67° Franjieh (Lebanon,1971-1976): 0.25
69° Ozal (Turkey,1984-1989): 0.247
77° Mwai Kibaki (Kenya,2003-2010): 0.236
78° Sarnay (Brazil,1985-1989): 0.236
79° Zahir Shah (Afghanistan,1964-1972): 0.232
81° Abdoulaye Wade (Senegal,2000-2010): 0.229
82° Daniel Ortega (Nicaragua,2007-2010): 0.228
86° Soglo, C (Benin,1991-1995): 0.218
87° Youlou (Congo,1961-1963): 0.216
89° Ramgoolam (Mauritius,1968-1982): 0.214
90° Bouteflika (Algeria,1999-2010): 0.212
91° Muluzi (Malawi,1994-2003): 0.212
92° Souvanna Phouma (Laos,1964-1974): 0.212
93° Magana Borjo (El Salvador,1982-1984): 0.212
94° Hashim Khan (Afghanistan,1934-1945): 0.211
96° Sheikh Mujib Rahman (Bangladesh,1972-1974): 0.209
105° Sanguinetti (Uruguay,1985-1989): 0.204
106° Ferrier (Suriname,1976-1980): 0.204
109° Sukarno (Indonesia,1946-1948): 0.199
114° Farouk (Egypt,1937-1952): 0.195
115° Megawati Sukarnoputri (Indonesia,2002-2004): 0.194
122° de Valera (Ireland,1932-1947): 0.19
128° Antall (Hungary,1990-1993): 0.188
129° Pastrana Borrero (Colombia,1971-1974): 0.188
131° Suazo Cordova (Honduras,1982-1985): 0.186
133° Eanes (Portugal,1977-1985): 0.185
134° Pompidou (France,1969-1974): 0.185
136° Lissouba (Congo,1993-1997): 0.181
141° AL-Sallal (Yemen Arab Republic,1963-1967): 0.179
142° Thaksin Shinawatra (Thailand,2001-2006): 0.178
147° Lee Teng-Hui (Taiwan,1989-1999): 0.177
149° Helou (Lebanon,1965-1970): 0.176
158° Djohar (Comoros,1990-1995): 0.168
159° Leoni (Venezuela,1964-1968): 0.168
170° Ibanez Campo (Chile,1953-1958): 0.162
172° Estime (Haiti,1947-1949): 0.159
175° Hacha (Czechoslovakia,1939-1944): 0.158
177° Ratsiraka (Madagascar,1997-2002): 0.157
179° Ndayizeye (Burundi,2003-2005): 0.157
183° Hun Sen (Cambodia,1985-1993): 0.154

186° Ghazi (Iraq,1934-1939): 0.153
190° Violeta Chamorro (Nicaragua,1990-1996): 0.15
192° Febres Cordaro (Ecuador,1985-1988): 0.149
193° Mendez Montenegro (Guatemala,1967-1970): 0.149
196° Benavidez (Peru,1933-1939): 0.148
200° Khaleda Zia (Bangladesh,1991-1995): 0.146
201° Tito (Yugoslavia,1945-1980): 0.144
218° A. Papandreou (Greece,1982-1989): 0.131
230° Menem (Argentina,1989-1999): 0.126
239° Bandaranaike, S (Sri Lanka,1970-1976): 0.121
248° Eshkol (Israel,1963-1969): 0.116
254° Cristiani (El Salvador,1990-1994): 0.114
258° Sophoulis (Greece,1947-1949): 0.112
272° Karamanlis (Greece,1975-1979): 0.105
273° de Gasperi (Italy,1946-1953): 0.105
309° Mitterand (France,1981-1994): 0.09

(...)

741° Paz Estenssoro (Bolivia,1952-1956): -0.094
768° Verhofstadt (Belgium,2000-2007): -0.109
770° Rao (India,1992-1995): -0.109
781° Salinas (Mexico,1989-1994): -0.115
782° de La Madrid (Mexico,1983-1988): -0.115
787° Osorio (El Salvador,1951-1956): -0.117
791° Ulmanis (Latvia,1934-1940): -0.121
806° Burhanuddin Rabbani (Afghanistan,1993-1996): -0.133
809° Lemus (El Salvador,1957-1960): -0.134
819° Makarios (Cyprus,1961-1973): -0.14
822° Phomivan (Laos,1975-1992): -0.142
826° Peralta Azurdia (Guatemala,1963-1966): -0.146
830° Momoh (Sierra Leone,1986-1991): -0.149
831° Sidi Ahmed Taya (Mauritania,1985-2005): -0.149
834° Smigly-Rydz (Poland,1936-1939): -0.151
836° Rajapaksa (Sri Lanka,2006-2010): -0.157
837° Mintoff (Malta,1972-1984): -0.159
838° Gustavo Noboa (Ecuador,2000-2002): -0.16
842° Figueiredo (Brazil,1979-1984): -0.162
844° Hee Park (South Korea,1962-1979): -0.162
848° Kumaratunga (Sri Lanka,1995-2005): -0.163
850° Al-Assad H. (Syria,1971-2000): -0.165
852° Azali Assoumani (Comoros,1999-2001): -0.169
856° Babangida (Nigeria,1986-1992): -0.173
860° Morinigo (Paraguay,1941-1948): -0.179
861° Ratsiraka (Madagascar,1976-1992): -0.18
863° Nimeiri (Sudan,1972-1983): -0.181
865° Plaek Pibulsongkram (Thailand,1947-1957): -0.182
867° Zia (Pakistan,1978-1988): -0.184
868° Nkrumah (Ghana,1952-1965): -0.186
869° Boumedienne (Algeria,1965-1978): -0.187
870° Anastasio Somoza Debayle (Nicaragua,1967-1979): -0.19
873° Smetona (Lithuania,1927-1940): -0.193
876° Ziaur Rahman (Bangladesh,1978-1980): -0.193
878° Cedras (Haiti,1992-1994): -0.202
879° Gnassingbe (Togo,2006-2010): -0.202
880° Gottwald (Czechoslovakia,1948-1952): -0.203
881° Rhee (South Korea,1949-1959): -0.204
882° Paz Estenssoro (Bolivia,1961-1964): -0.205
883° Emile Lahoud (Lebanon,1999-2007): -0.206
885° Abboud (Sudan,1959-1964): -0.21
886° Ydigoras Fuente (Guatemala,1958-1962): -0.21

887° Correa (Ecuador,2007-2010): -0.212
888° Patterson (Jamaica,1992-2005): -0.213
899° Duvalier, Francois (Haiti,1957-1971): -0.222
900° Sihanouk (Cambodia,1954-1969): -0.225
901° Bouterse (Suriname,1981-1987): -0.225
902° Pizano (Colombia,1995-1998): -0.226
904° Chun Doo Hwan (South Korea,1981-1987): -0.231
905° Husak (Czechoslovakia,1969-1989): -0.231
907° Thanon Kittakachorn (Thailand,1964-1973): -0.233
908° Nguema Mbasogo (Equatorial Guinea,1980-2010): -0.234
909° Ubico Castaneda (Guatemala,1931-1944): -0.235
910° Museveni (Uganda,1986-2010): -0.238
912° Kerekou (Benin,1973-1990): -0.239
913° Castaneda Castro (El Salvador,1945-1948): -0.239
914° Yahya (Yemen Arab Republic,1905-1947): -0.239
915° Duvalier, Jean- (Haiti,1972-1985): -0.243
916° Peron (Argentina,1947-1955): -0.243
917° Gayoom (Maldives,1979-2008): -0.244
918° Chiang Ching-Kuo (Taiwan,1978-1988): -0.245
919° Farrell (Argentina,1944-1946): -0.245
920° Mahendra (Nepal,1955-1972): -0.247
921° Ospina Perez (Colombia,1947-1950): -0.251
922° Musharraf (Pakistan,2000-2008): -0.253
923° Mohammad Reza (Iran,1954-1978): -0.253
925° Yahya Khan (Pakistan,1969-1971): -0.255
927° Hugo Chavez (Venezuela,1999-2010): -0.257
928° Banda (Malawi,1965-1993): -0.257
930° Lopez Contreras (Venezuela,1936-1940): -0.262
932° Nguesso (Congo,1998-2010): -0.265
933° Banzer Suarez (Bolivia,1972-1978): -0.268
934° Heng Samrin (Cambodia,1979-1984): -0.269
935° Al-Bashir (Sudan,1990-2010): -0.27
938° Batista (Cuba,1952-1958): -0.271
945° Mainassara (Niger,1996-1998): -0.292
947° Rodriguez Lara (Ecuador,1972-1975): -0.294
948° Yen Chia-Kan (Taiwan,1975-1977): -0.295
950° Fujimori (Peru,1991-2000): -0.297
951° Videla (Argentina,1976-1980): -0.306
952° Torrijos Herrera (Panama,1968-1981): -0.315
953° Inonu (Turkey,1939-1949): -0.318
954° Mswati (Swaziland,1986-2010): -0.327
956° Stroessner (Paraguay,1955-1988): -0.34
957° Castello Branco (Brazil,1964-1966): -0.341
960° Ershad (Bangladesh,1982-1990): -0.348
961° Sarit (Thailand,1958-1963): -0.351
962° Marcos (Philippines,1966-1985): -0.355
964° Bordaberry (Uruguay,1972-1976): -0.358
966° Abacha (Nigeria,1993-1998): -0.363
967° Bainimarama (Fiji,2007-2010): -0.363
968° Jammeh (Gambia,1995-2010): -0.364
970° Milosevic (Yugoslavia,1989-2000): -0.378
971° Strasser (Sierra Leone,1992-1995): -0.378
973° Mendez Manfredini (Uruguay,1977-1981): -0.404
974° Noriega (Panama,1984-1989): -0.405
975° Elias Hrawi (Lebanon,1990-1998): -0.407
976° Rafel Trujillo (Dominican Republic,1931-1960): -0.409
978° Ayub Khan (Pakistan,1959-1968): -0.419
979° Suharto (Indonesia,1966-1997): -0.422
980° Pinochet (Chile,1974-1989): -0.426

982° Ataturk (Turkey,1922-1938): -0.449
983° Metaxas (Greece,1936-1941): -0.457
984° Mullah Omar (Afghanistan,1997-2001): -0.46
987° Schuschnigg (Austria,1935-1937): -0.53
988° Castro (Cuba,1959-2010): -0.546
991° Dupong (Luxembourg,1937-1940): -0.582
994° Laval (France,1942-1944): -0.603
997° Franco (Spain,1939-1975): -0.656
998° Nygaardsvold (Norway,1935-1939): -0.672

Table A7: Ranking of significant leaders' effects on democracy

Notes: The table reports leaders' rank, leaders' names and leaders' effects on democracy of leaders with a significant effect. Leaps in the rankings correspond to leaders with non-significant effects. The leader's country and the leader's years in power are reported between parentheses. The sample is restricted to leaders with tenure equal or longer than three years.

E Additional Tables and Figures

	(1) Growth	(2) Democracy	(3) Corruption	(4) Rule of law	(5) Property rights	(6) Synthetic outcome
Entry age	0.001**	0.001	-0.001	-0.001	0.000	0.001
	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)
Tenure	0.001	-0.003***	-0.002*	-0.005***	-0.002**	-0.004*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Academic/Economist	-0.002	-0.014	0.010	-0.008	0.007	-0.014
	(0.013)	(0.016)	(0.025)	(0.027)	(0.012)	(0.042)
Law background	0.007	-0.023	-0.001	0.003	0.005	-0.001
	(0.013)	(0.015)	(0.019)	(0.023)	(0.013)	(0.037)
High level politician	0.017	0.036***	-0.000	0.045**	0.004	0.083**
	(0.012)	(0.013)	(0.019)	(0.021)	(0.013)	(0.034)
Low level politician	0.010	0.010	-0.015	-0.007	0.006	-0.004
	(0.010)	(0.016)	(0.020)	(0.025)	(0.015)	(0.041)
Military leader	-0.005	-0.098***	-0.031	-0.100***	0.001	-0.196***
	(0.011)	(0.020)	(0.023)	(0.024)	(0.013)	(0.036)
Pseudo R^2	0.02	0.07	0.01	0.03	0.02	0.03
Number of leaders	889	997	984	975	975	880

Table A8: Leaders' background and the probability of being a "good" leader

Notes: Average marginal effects on the probability of a leader having a positive and significant effect on the dependent variable. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. Leaders' effects are the ones obtained in Section 4. Standard errors are clustered at the country level. I restrict the sample to leaders with tenure equal to or longer than three years. The criteria used to build the background categories is detailed in Appendix A. The synthetic outcome is a linear combination of the five outcomes, obtained through a principal component analysis, in such a way that we retain most of the information (see Appendix F).

	(1) Growth	(2) Democracy	(3) Corruption	(4) Rule of law	(5) Property rights	(6) Synthetic outcome
Entry age	0.001**	0.001	-0.001	-0.001	0.000	0.001
	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)
Tenure	0.001	-0.003***	-0.003**	-0.005***	-0.002**	-0.005**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Academics/Economists						
Academic	-0.001	-0.001	-0.015	-0.068	0.018	-0.122*
	(0.016)	(0.028)	(0.046)	(0.050)	(0.019)	(0.072)
Economist	0.002	-0.021	0.045*	0.043	-0.009	0.108**
	(0.016)	(0.019)	(0.026)	(0.036)	(0.014)	(0.054)
Law background						
Lawyer	0.013	-0.042	0.014	-0.016	0.003	0.091
	(0.020)	(0.040)	(0.045)	(0.045)	(0.043)	(0.088)
Legislative career	-0.006	-0.015	-0.030	-0.011	0.009	-0.038
	(0.022)	(0.024)	(0.032)	(0.037)	(0.021)	(0.051)
Lawyer* legislative career	0.002	0.051	0.002	0.032	0.009	-0.022
	(0.026)	(0.043)	(0.044)	(0.046)	(0.034)	(0.095)
High-level politicians						
Party leader	0.000	0.003	0.000	0.019	-0.035**	0.006
	(0.020)	(0.023)	(0.034)	(0.044)	(0.016)	(0.065)
Party leader* law background	0.012	0.015	-0.012	0.015	0.020	0.025
	(0.023)	(0.031)	(0.040)	(0.048)	(0.023)	(0.076)
Prime minister/president	0.034*	0.048***	-0.013	0.024	0.027	0.064
	(0.018)	(0.017)	(0.024)	(0.029)	(0.020)	(0.045)
Prime minister/president * law background	-0.037*	-0.029	0.012	0.012	-0.027	-0.022
	(0.022)	(0.033)	(0.045)	(0.046)	(0.037)	(0.089)
Low-level politicians						
Minister	0.003	0.012	-0.038	-0.010	0.023	-0.028
	(0.014)	(0.019)	(0.028)	(0.039)	(0.019)	(0.059)
Minister * law background	0.035	-0.040	0.064	-0.023	-0.055	-0.026
	(0.034)	(0.029)	(0.048)	(0.054)	(0.035)	(0.094)
Mayor/governor/civil servant	-0.012	0.030	-0.043	-0.015	0.007	-0.028
	(0.014)	(0.024)	(0.036)	(0.035)	(0.024)	(0.061)
Military leaders						
Military career	-0.008	-0.059*	-0.017	-0.079**	0.000	-0.182***
	(0.019)	(0.030)	(0.034)	(0.037)	(0.019)	(0.063)
Military education	0.002	-0.020	0.084**	0.011	0.028	-0.026
	(0.031)	(0.021)	(0.033)	(0.035)	(0.026)	(0.058)
Military career * military education	0.000	-0.051	-0.132***	-0.072	-0.038	-0.038
	(0.034)	(0.037)	(0.046)	(0.044)	(0.031)	(0.085)
University degree	0.013	0.014	-0.003	0.022	0.022	-0.028
	(0.013)	(0.016)	(0.021)	(0.026)	(0.016)	(0.047)
Pseudo R^2	0.04	0.08	0.02	0.05	0.03	0.04
Number of leaders	889	997	984	975	975	880

Table A9: Leaders' subcategories and the probability of being a "good" leader

Notes: Average marginal effects on the probability of a leader having a positive and significant effect on the dependent variable. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. Leaders' effects are the ones obtained in Section 4. Standard errors are clustered at the country level. I restrict the sample to leaders with tenure equal to or longer than three years. The criteria used to build the background categories is detailed in Appendix A. The synthetic outcome is a linear combination of the five outcomes, obtained through a principal component analysis, in such a way that we retain most of the information (see Appendix F).

	(1) Growth	(2) Democracy	(3) Corruption	(4) Rule of law	(5) Property rights	(6) Synthetic outcome
Democracy	0.023	0.036	-0.053	-0.155	-0.038	-0.242
	(0.057)	(0.085)	(0.104)	(0.125)	(0.062)	(0.193)
Entry age*demo.	0.000	0.001	-0.001	0.000	0.001	0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Entry age*auto.	0.001	-0.001	-0.002*	-0.004***	-0.001	-0.005*
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
Tenure* demo.	-0.018	-0.045**	-0.003	-0.022	-0.003	-0.029
	(0.013)	(0.021)	(0.029)	(0.027)	(0.014)	(0.046)
Tenure* auto.	0.001	-0.001	-0.002	-0.004**	-0.002*	-0.005*
	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.003)
Academic/Economist *demo.	-0.018	-0.045**	-0.003	-0.022	-0.003	-0.039
	(0.013)	(0.021)	(0.029)	(0.027)	(0.014)	(0.044)
Law background *demo.	0.017	-0.026	0.004	-0.003	-0.005	0.019
	(0.016)	(0.017)	(0.024)	(0.028)	(0.016)	(0.045)
Law background*auto.	-0.049*	-0.094***	-0.022	-0.049	0.009	-0.095
	(0.027)	(0.036)	(0.047)	(0.055)	(0.029)	(0.088)
High level politician *demo.	0.004	0.001	-0.031	0.013	-0.019*	-0.000
	(0.014)	(0.016)	(0.020)	(0.024)	(0.011)	(0.039)
High level politician*auto.	0.028	0.065***	0.067**	0.086**	0.041*	0.203***
	(0.021)	(0.023)	(0.032)	(0.035)	(0.024)	(0.054)
Low level politician *demo.	0.001	-0.012	-0.023	-0.014	-0.001	-0.023
	(0.013)	(0.019)	(0.026)	(0.027)	(0.017)	(0.044)
Low level politician*auto.	0.009	0.049	-0.009	-0.039	0.023	-0.020
	(0.012)	(0.034)	(0.038)	(0.042)	(0.034)	(0.080)
Military leader *demo.	0.009	-0.034	-0.004	-0.041	-0.014	-0.056
	(0.018)	(0.028)	(0.033)	(0.031)	(0.023)	(0.053)
Military leader *auto.	-0.011	-0.086***	-0.041	-0.109***	0.024	-0.217***
	(0.017)	(0.024)	(0.030)	(0.034)	(0.023)	(0.054)
University degree*demo.	0.005	-0.002	0.008	0.015	0.003	-0.055
	(0.018)	(0.022)	(0.025)	(0.035)	(0.017)	(0.054)
University degree* autocracy	0.019	-0.011	-0.012	-0.004	0.016	-0.043
	(0.019)	(0.023)	(0.028)	(0.037)	(0.024)	(0.062)
Pseudo R^2	0.06	0.14	0.02	0.04	0.06	0.06
Number of leaders	872	983	965	956	956	869

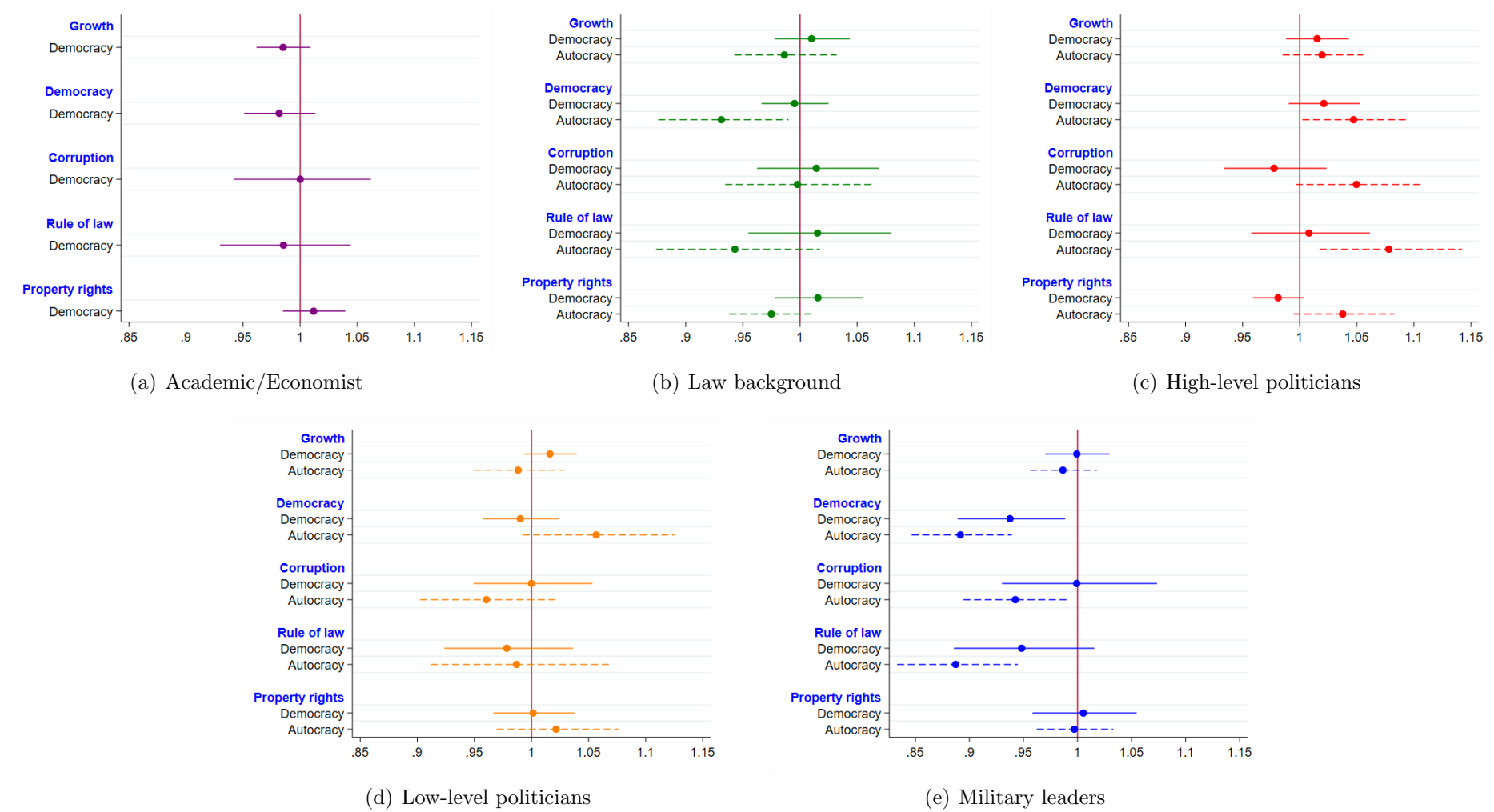
Table A10: Leaders' categories and the probability of being a "good" leader across democracies and autocracies

Notes: Average marginal effects on the probability of a leader having a positive and significant effect on the dependent variable. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. Leaders' effects are the ones obtained in Section 4. Standard errors are clustered at the country level. The criteria used to build the background categories is detailed in Appendix A. I restrict the sample to leaders with tenure equal to or longer than three years. Democracy (abbreviated by demo.) is a dummy that equals 1 if the average Polity V score during a leader term is higher than 0. Auto. is a dummy that equals 1 if the average Polity V score during a leader term is lower than 0. The synthetic outcome is a linear combination of the five outcomes, obtained through a principal component analysis, in such a way that we retain most of the information (see Appendix F).

	(1) Growth	(2) Democracy	(3) Corruption	(4) Rule of law	(5) Property rights	(6) Synthetic outcome
Democracy	0.029	0.034	-0.060	-0.136	-0.045	-0.220
	(0.059)	(0.085)	(0.100)	(0.123)	(0.063)	(0.190)
Entry age * demo.	0.000	0.001	-0.000	0.000	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Entry age * auto.	0.001	-0.001	-0.002*	-0.004***	-0.001	-0.005**
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
Tenure* demo.	0.005***	-0.002	-0.003	-0.004	0.001	0.009
	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.006)
Tenure* auto.	0.001	-0.001	-0.002	-0.003*	-0.002*	-0.005**
	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.003)
Academic * demo.	-0.016*	-0.012	-0.008	-0.047	0.016	-0.084
	(0.009)	(0.033)	(0.055)	(0.050)	(0.021)	(0.076)
Economist * demo.	-0.015	-0.047**	0.029	0.024	-0.017	0.066
	(0.015)	(0.022)	(0.026)	(0.037)	(0.017)	(0.055)
Lawyer * demo.	0.010	-0.014	0.045*	0.024	-0.003	0.105**
	(0.018)	(0.018)	(0.025)	(0.031)	(0.021)	(0.048)
Legislative career * demo.	0.010	0.004	-0.038	-0.010	-0.003	-0.056
	(0.014)	(0.019)	(0.025)	(0.028)	(0.013)	(0.041)
Lawyer * auto.	0.044	-0.103**	-0.000	-0.071	-0.008	-0.034
	(0.027)	(0.046)	(0.063)	(0.072)	(0.039)	(0.115)
Legislative career * auto.	-0.072**	-0.031	-0.022	0.008	0.024	-0.090
	(0.030)	(0.036)	(0.057)	(0.063)	(0.029)	(0.094)
Prime minister * demo.	0.021	0.037**	-0.040	0.013	-0.007	-0.018
	(0.016)	(0.019)	(0.026)	(0.031)	(0.016)	(0.051)
Prime minister* auto.	0.017	0.054**	0.041	0.061	0.054**	0.178***
	(0.022)	(0.023)	(0.034)	(0.038)	(0.027)	(0.059)
Party leader *demo.	-0.006	-0.033*	-0.033	-0.012	-0.026**	-0.041
	(0.014)	(0.018)	(0.024)	(0.029)	(0.012)	(0.042)
Minister * demo.	0.008	-0.028	-0.014	-0.030	-0.009	-0.074
	(0.013)	(0.025)	(0.025)	(0.035)	(0.017)	(0.050)
Mayor/governor/civil serv. * demo.	-0.011	0.011	-0.064	-0.018	0.006	-0.036
	(0.020)	(0.025)	(0.040)	(0.038)	(0.025)	(0.072)
Minister * auto.	0.010	0.058	-0.024	-0.024	0.053**	0.015
	(0.012)	(0.040)	(0.043)	(0.054)	(0.026)	(0.096)
Military career * demo.	0.010	0.018	-0.096***	-0.089**	-0.003	-0.104
	(0.025)	(0.032)	(0.034)	(0.043)	(0.030)	(0.067)
Military education * demo.	-0.013	-0.048*	0.074*	0.035	-0.029	0.049
	(0.029)	(0.027)	(0.040)	(0.038)	(0.030)	(0.066)
Military career * auto.	-0.026	-0.077***	-0.044	-0.078*	-0.011	-0.176**
	(0.026)	(0.028)	(0.036)	(0.045)	(0.024)	(0.073)
Military education * auto.	0.025	-0.043	-0.033	-0.063	0.037	-0.104
	(0.026)	(0.030)	(0.038)	(0.048)	(0.032)	(0.083)
University degree * demo.	0.008	-0.001	-0.005	0.006	0.005	-0.071
	(0.019)	(0.022)	(0.026)	(0.034)	(0.018)	(0.053)
University degree* auto.	0.006	0.004	-0.004	0.013	0.009	-0.019
	(0.018)	(0.022)	(0.029)	(0.037)	(0.025)	(0.066)
Pseudo R^2	0.08	0.15	0.03	0.06	0.05	0.07
Number of leaders	872	983	965	956	956	869

Table A11: Leaders' subcategories and the probability of being a "good" leader across democracies and autocracies

Notes: Average marginal effects on the probability of a leader having a positive and significant effect on the dependent variable. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. Leaders' effects are the ones obtained in Section 4. Standard errors are clustered at the country level.The criteria used to build the background's categories is detailed in Appendix A. I restrict the sample to leaders with tenure equal or longer than three years. I also control for entry age and tenure both interacted with the demo. and auto. dummies. Democracy (abbreviated by demo.) is a dummy equal one if the average Polity V score during a leader term is higher than 0. Auto. is a dummy equal one if the average Polity V score during a leader term is lower than 0. The synthetic outcome is a linear combination of the five outcomes, obtained through a principal component analysis, in such a way that we retain most of the information (see Appendix F).



(a) Academic/Economist

(b) Law background

(c) High-level politicians

(d) Low-level politicians

(e) Military leaders

Figure A2: Odds ratios on the probability of being a "good" leader across democracies and autocracies II

Notes: The graphs represent odds ratios for each leaders' category on the probability of a leader having a positive and significant effect on five economic variables. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. In each regression I control for all categories together, tenure and entry age. Standard errors are clustered at the country level. Leaders' effects are the ones obtained in Section 4. The criteria used to build the background categories is detailed in Appendix A. I restrict the sample to leaders with tenure equal to or longer than three years. Leaders in democracies are defined as those rulers for whom the initial Polity V score during their term is greater than 0, otherwise they are coded as leaders in autocracies. The number of leaders included in each regression is: 882 for growth, 996 for democracy, 978 for corruption, 969 for rule of law and 969 for property rights.

	Growth	Democracy	Corruption	Rule of law	Property rights	Synthetic outcome
University degree	0.016	0.021	0.004	0.042*	0.025**	0.060
	(0.012)	(0.015)	(0.020)	(0.023)	(0.012)	(0.039)
Number of leaders	889	999	987	977	977	804

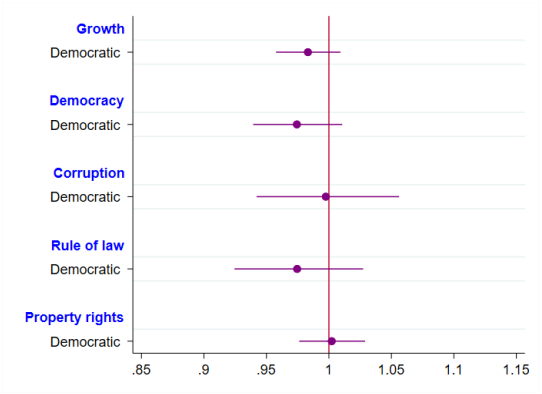
Table A12: Leaders' education and the probability of being a good leader

Notes: Average marginal effects on the probability of a leader having a positive and significant effect on the dependent variable. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. Leaders' effects are the ones obtained in Section 4. Standard errors are clustered at the country level. The synthetic outcome is a linear combination of the five outcomes, obtained through a principal component analysis, in such a way that we retain most of the information (see Appendix F).

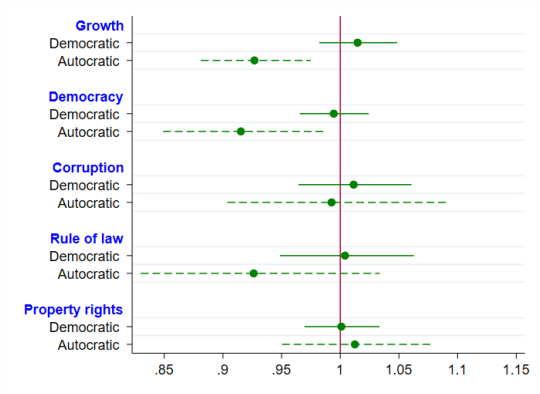
	(1) Growth	(2) Democracy	(3) Corruption	(5) Rule of law	(6) Property rights	(7) Synthetic outcome
Entry age	0.001	-0.000	-0.002	-0.005***	-0.001	-0.002
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.003)
Tenure	0.001	-0.000	-0.002	-0.002	-0.002	-0.007
	(0.001)	(0.002)	(0.002)	(0.002)	(0.001)	(0.004)
Academic / Economist	-0.053*	0.055	0.076	-0.008	0.013	-0.120
	(0.030)	(0.035)	(0.048)	(0.098)	(0.014)	(0.136)
Law background	0.047*	-0.014	0.103**	0.065	0.009	0.096
	(0.026)	(0.027)	(0.042)	(0.043)	(0.018)	(0.089)
High level politician	0.059	0.038	0.037	0.135***	0.014	0.172**
	(0.038)	(0.026)	(0.039)	(0.048)	(0.021)	(0.079)
Low level politician	0.025	-0.001	-0.013	-0.018	0.000	-0.004
	(0.030)	(0.029)	(0.041)	(0.054)	(0.023)	(0.073)
Military leader	0.025	-0.088**	-0.013	-0.160***	-0.008	-0.185**
	(0.030)	(0.034)	(0.042)	(0.049)	(0.022)	(0.087)
Pseudo R^2	0.07	0.07	0.05	0.10	0.02	0.06
Number of leaders	165	194	194	194	194	139

Table A13: Exogenous transitions

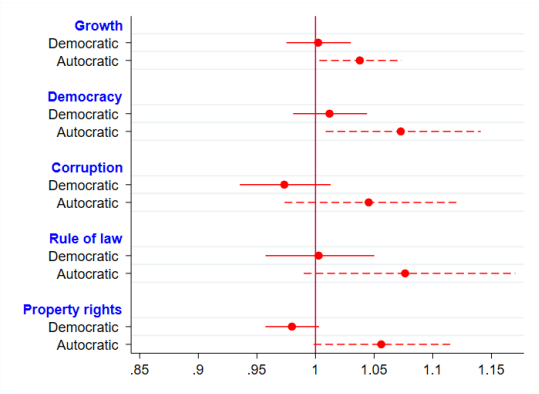
Notes: Average marginal effects on the probability of a leader having a positive and significant effect on the dependent variable. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. Leaders' effects are the ones obtained in Section 4. Standard errors are clustered at the country level. The sample is restricted to leaders who died in office by natural death, or resigned due to health issues, and their successors conditional on having had a tenure equal to or longer than three years. The criteria used to build the background categories is detailed in Appendix A. The synthetic outcome is a linear combination of the five outcomes, obtained through a principal component analysis, in such a way that we retain most of the information (see Appendix F).



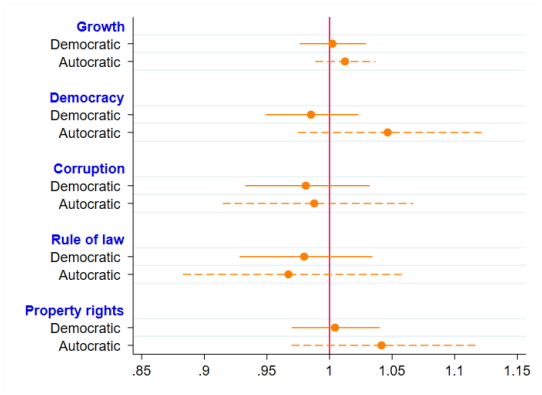
(a) Academic/Economist



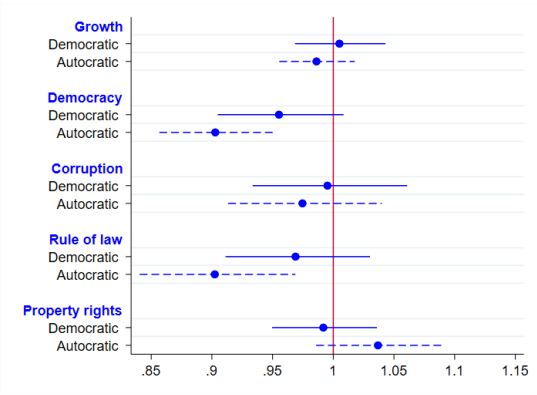
(b) Law background



(c) High-level politicians



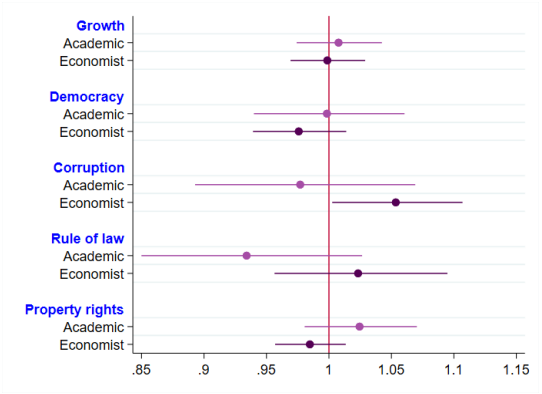
(d) Low-level politicians



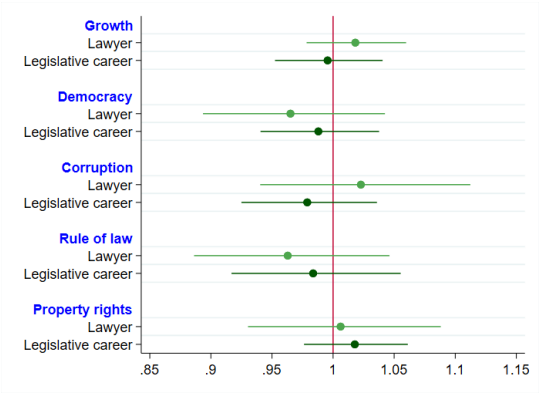
(e) Military leaders

Figure A3: Odds ratios on the probability of being a "good" leader when controlling for the initial level of democracy and of property rights, across democracies and autocracies

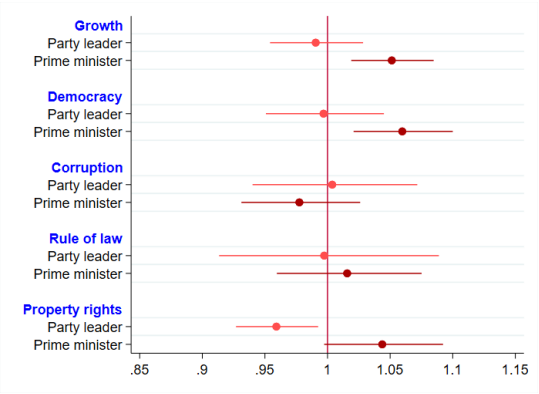
Notes: The graphs represent odds ratios for each leaders' category on the probability of a leader having a positive and significant effect on five variables. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. In each regression I control for all categories together, tenure, entry age. I also control for the Polity IV ant the property right score of the year previous the leader enters in office. Standard errors are clustered at the country level. The results of all the coefficients are presented in Table A10 of Appendix E. Leaders' effects are the ones obtained in Section 4. The criteria used to build the background categories is detailed in Appendix A. I restrict the sample to leaders with tenure equal to or longer than three years. Leaders in democracies are defined as those rulers for whom the average Polity V score during their term is greater than 0, otherwise they are coded as leaders in autocracies. The number of leaders included in each regression is: 896 for growth, 896 for democracy, 887 for corruption, 885 for rule of law and 885 for property rights



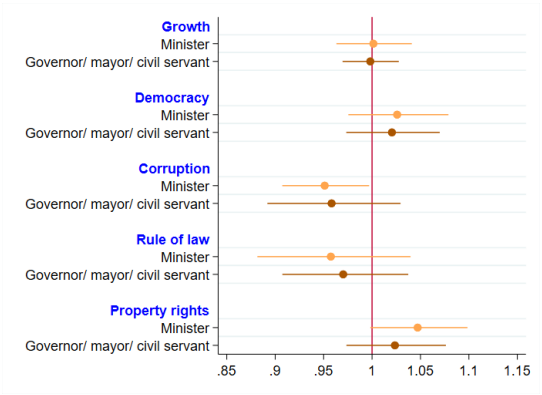
(a) Academic/Economist



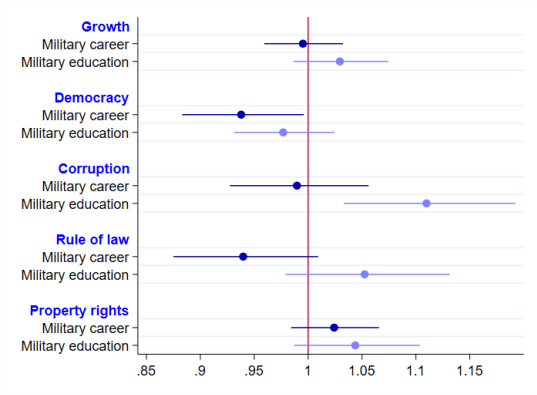
(b) Law background



(c) High-level politicians



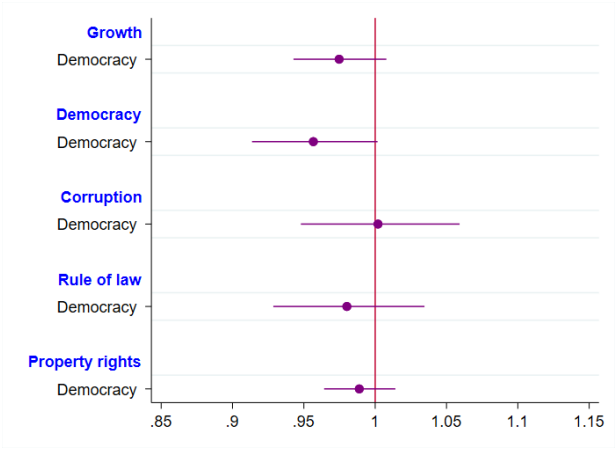
(d) Low-level politicians



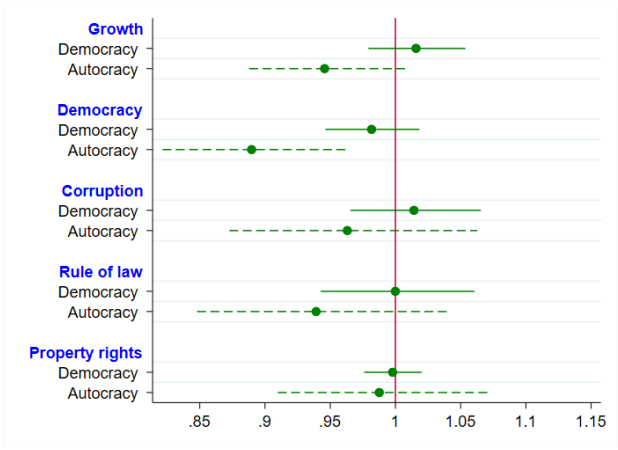
(e) Military leaders

Figure A4: Odds ratios on the probability of being a "good" leader when controlling for the initial level of democracy and of property rights, with subcategories

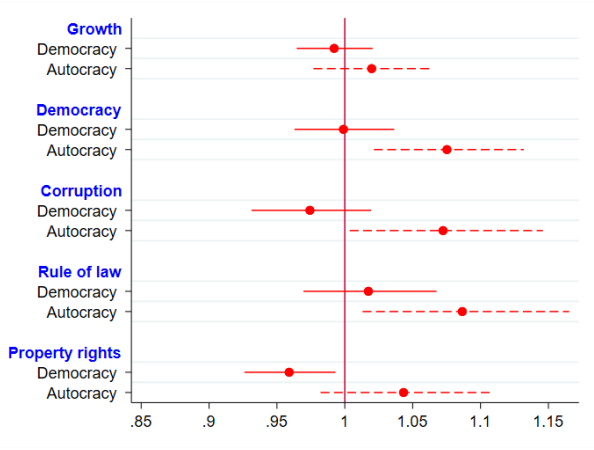
Notes: The graphs represent odds ratios for each leaders' category on the probability of a leader having a positive and significant effect on five variables. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. In each regression I control for all categories together, tenure and entry age. I also control for the Polity IV ant the property right score of the year previous the leader enters in office. Standard errors are clustered at the country level. The results of all the coefficients are presented in Table A9 of Appendix E. Leaders' effects are the ones obtained in Section 4. The criteria used to build the background categories is detailed in Appendix A. I restrict the sample to leaders with tenure equal to or longer than three years. The number of leaders included in each regression is: 829 for growth, 910 for democracy, 903 for corruption, 901 for rule of law and 901 for property rights.



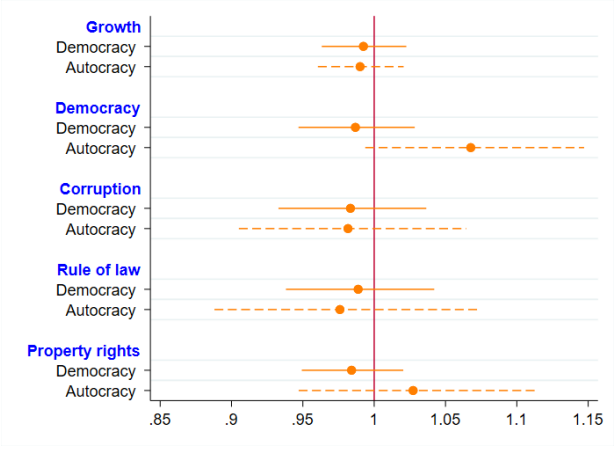
(a) Academic/Economist



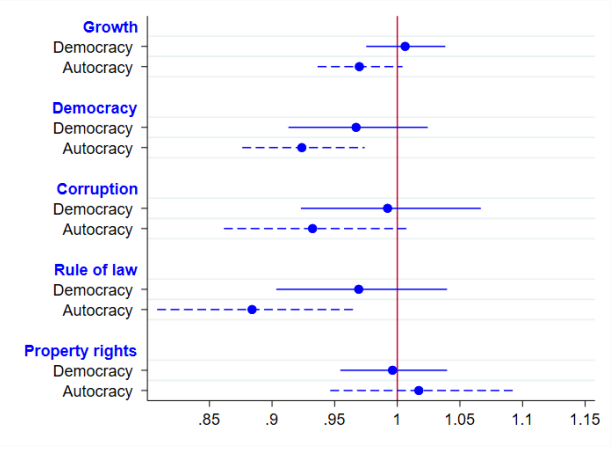
(b) Law background



(c) High-level politicians



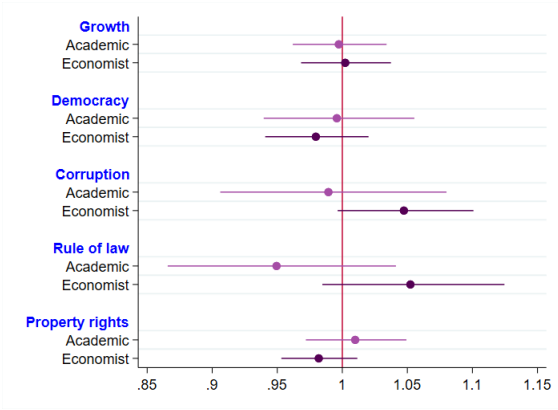
(d) Low-level politicians



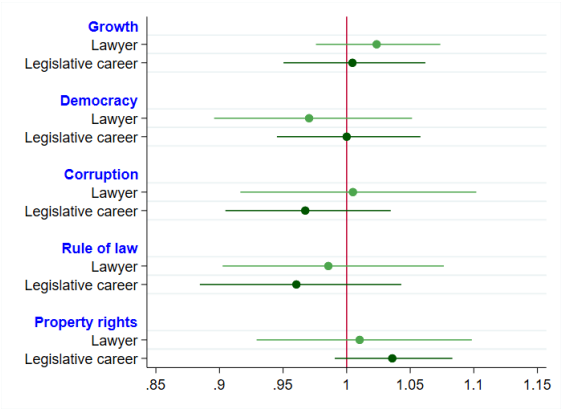
(e) Military leaders

Figure A5: Odds ratios on the probability of being a "good" leader (1950-2010), by democracies and autocracies

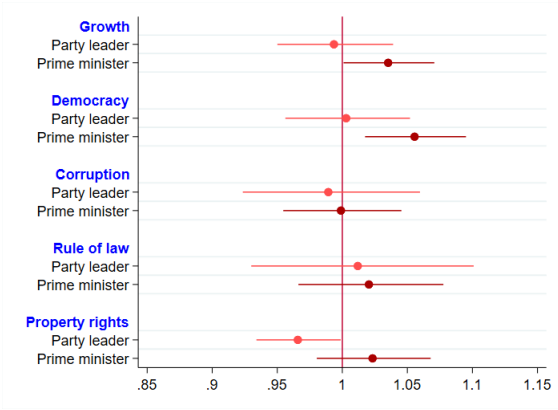
Notes: The graphs represent odds ratios for each category on the probability of a leader having a positive and significant effect on the dependent variable as estimated following Equation 3 restricted to leaders with tenure equal to or longer than three years. If the estimator is on the right (left) of the red line, it means that leaders belonging to this category are more likely to have a positive (negative) and significant effect than other leaders on the considered outcome. The criteria used to build the background categories is detailed in Appendix A.I restrict the sample to leaders with tenure equal to or longer than three years and to leaders who take power from 1950 to 2010. The number of leaders included in each regression is: 733 for growth, 799 for democracy, 785 for corruption, 777 for rule of law and 683 for property rights.



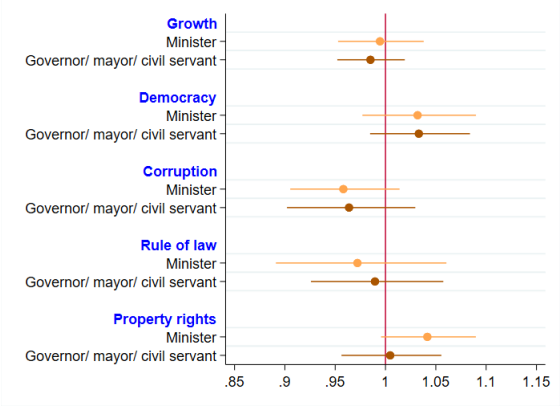
(a) Academic/Economist



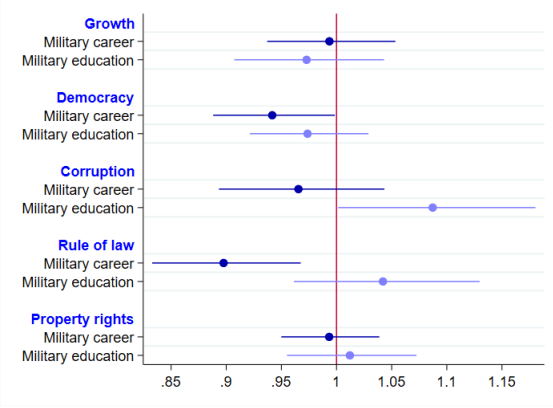
(b) Law background



(c) High-level politicians



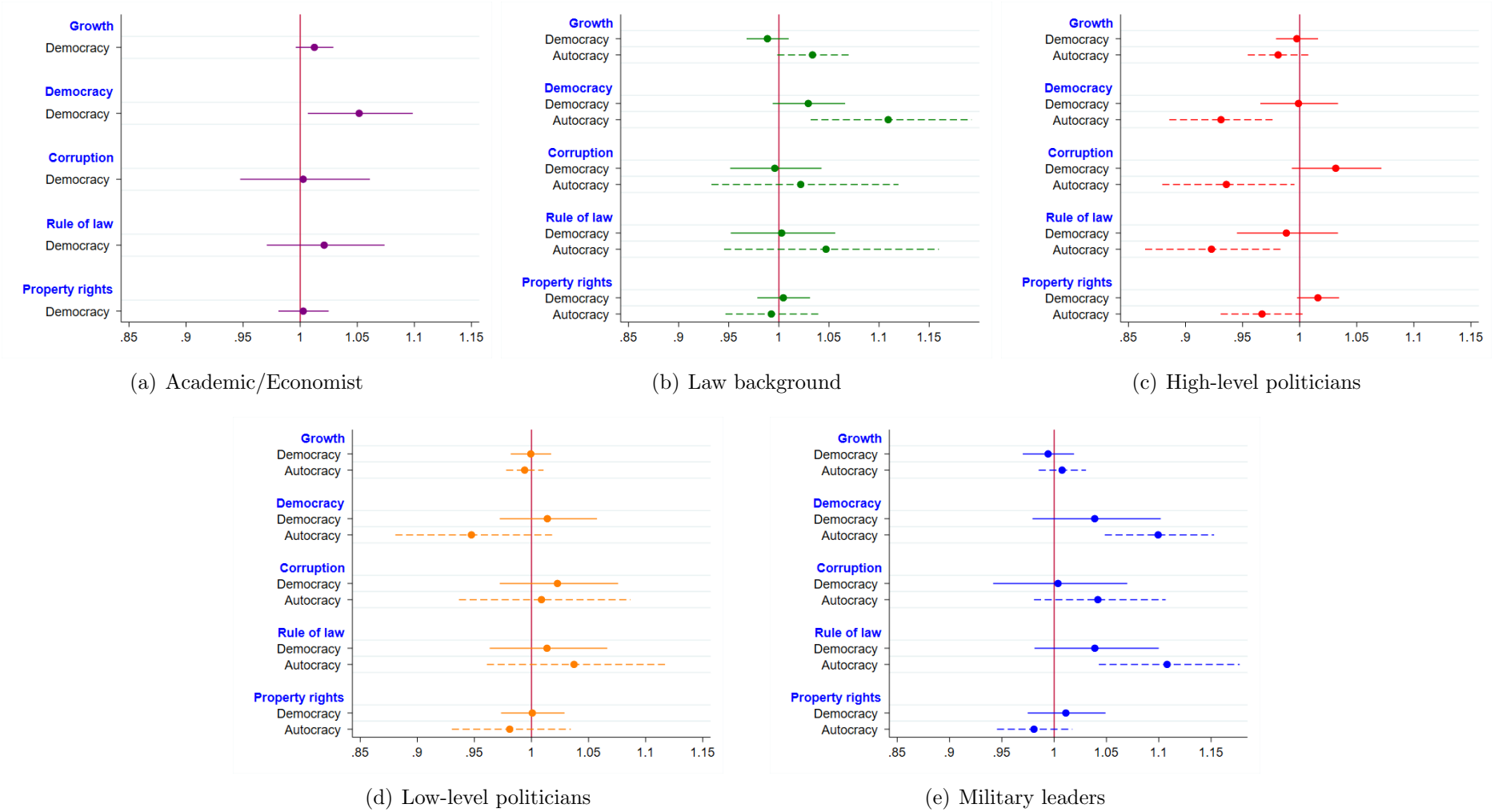
(d) Low-level politicians



(e) Military leaders

Figure A6: Odds ratios on the probability of being a "good" leader (1950-2010), by subcategories

Notes: The graphs represent odds ratios for each leaders' category on the probability of a leader having a positive and significant effect on five economic variables. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. In each regression, I control for all categories together, tenure and entry age. Standard errors are clustered at the country level. Leaders' effects are the ones obtained in Section 4. The criteria used to build the background categories is detailed in Appendix A. I restrict the sample to leaders with tenure equal to or longer than three years and to leaders who take power from 1950 to 2010. The number of leaders included in each regression is: 746 for growth, 808 for democracy, 799 for corruption, 791 for rule of law and 791 for property rights



(a) Academic/Economist

(b) Law background

(c) High-level politicians

(d) Low-level politicians

(e) Military leaders

Figure A7: Odds ratios on the probability of being a "bad" leader

Notes: The graphs represent odds ratios for each leaders' category on the probability of a leader having a negative and significant effect on five economic variables. Those are post-estimations of an ordered probit with three outcomes: having a negative and significant effect; having a non-significant effect and having a significant and positive one. In each regression I control for all categories together, tenure and entry age. Standard errors are clustered at the country level. Leaders' effects are the ones obtained in Section 4. The criteria used to build the background categories is detailed in Appendix A. I restrict the sample to leaders with tenure equal to or longer than three years. Leaders in democracies are defined as those rulers for whom the average Polity V score during their term is greater than 0, otherwise they are coded as leaders in autocracies. The number of leaders included in each regression is: 889 for growth, 997 for democracy, 984 for corruption, 975 for rule of law and 975 for property rights.

	(1) Growth	(2) Democracy	(3) Corruption	(4) Rule of law	(5) Property rights	(6) Synthetic outcome
Democracy	0.004	0.112*	0.027	-0.076*	0.151	-0.611
	(0.004)	(0.064)	(0.045)	(0.043)	(0.180)	(0.663)
Academic/Economist						
Academic * demo.	-0.000	-0.028	0.009	-0.021	0.024	-0.197
	(0.001)	(0.027)	(0.020)	(0.019)	(0.041)	(0.272)
Economist * demo.	-0.002	-0.040**	-0.008	0.007	-0.024	0.029
	(0.001)	(0.019)	(0.010)	(0.012)	(0.031)	(0.123)
Law background						
Lawyer * demo.	0.001	-0.034*	-0.014	0.012	-0.008	0.159
	(0.001)	(0.017)	(0.012)	(0.012)	(0.031)	(0.144)
Legislative career * demo.	0.001	0.002	0.005	-0.000	0.040*	-0.055
	(0.001)	(0.015)	(0.011)	(0.010)	(0.024)	(0.116)
Lawyer * auto.	0.007**	-0.066*	0.028	-0.058*	0.038	-0.669
	(0.003)	(0.038)	(0.031)	(0.030)	(0.112)	(0.481)
Legislative career * auto.	-0.005	-0.017	0.001	0.022	0.043	-0.163
	(0.004)	(0.036)	(0.024)	(0.024)	(0.083)	(0.387)
High level politician						
Prime minister * demo.	0.000	0.021	0.016	-0.005	0.024	0.038
	(0.001)	(0.016)	(0.011)	(0.010)	(0.023)	(0.127)
Party leader * demo	-0.001	-0.035**	0.014	-0.017	-0.058**	-0.151
	(0.001)	(0.015)	(0.011)	(0.010)	(0.024)	(0.127)
Prime minister* auto.	0.002	0.071***	-0.038**	0.035**	0.071	0.607***
	(0.001)	(0.019)	(0.015)	(0.014)	(0.089)	(0.180)
Low level politician						
Minister * demo.	0.000	-0.025	0.011	-0.018*	-0.032	-0.084
	(0.001)	(0.016)	(0.009)	(0.011)	(0.041)	(0.124)
Mayor/governor/civil serv. * demo.	-0.001	0.006	0.010	-0.006	-0.023	-0.051
	(0.001)	(0.022)	(0.013)	(0.014)	(0.045)	(0.203)
Minister * auto.	0.001	0.006	0.027	-0.001	0.146*	0.145
	(0.001)	(0.030)	(0.020)	(0.022)	(0.076)	(0.335)
Military leader						
Military career * demo.	-0.000	-0.028	0.023*	-0.040***	0.034	-0.407**
	(0.001)	(0.021)	(0.013)	(0.014)	(0.068)	(0.168)
Military education * demo.	-0.000	-0.010	-0.010	0.028*	-0.057	0.172
	(0.001)	(0.025)	(0.014)	(0.015)	(0.055)	(0.188)
Military career * auto.	0.001	-0.040*	0.012	-0.036**	-0.030	-0.579***
	(0.002)	(0.021)	(0.018)	(0.018)	(0.090)	(0.220)
Military education * auto.	0.002	-0.031	0.020	-0.023	0.144	-0.308
	(0.002)	(0.025)	(0.019)	(0.019)	(0.113)	(0.248)
University degree						
University degree * demo.	0.000	0.007	0.010	-0.006	0.017	-0.127
	(0.001)	(0.016)	(0.012)	(0.010)	(0.031)	(0.129)
University degree* auto.	-0.001	0.013	-0.005	0.007	0.027	0.001
	(0.001)	(0.017)	(0.014)	(0.014)	(0.087)	(0.174)
R-squared	0.039	0.362	0.053	0.135	0.040	0.145
Number of leaders	872	983	965	956	956	869
Robust standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

Table A14: OLS using Leaders' effects

Notes: OLS estimators. Dependent variables are the leaders' effects estimated in Section 4. Standard errors are clustered at the country level. I restrict the sample to leaders with tenure equal to or longer than three years. The criteria used to build the background's categories is detailed in Appendix A. Democracy (abbreviated by demo.) is a dummy that equals 1 if the average Polity V score during a leader term is higher than 0. Auto. is a dummy that equals 1 if the average Polity V score during a leader term is lower than 0. I omit those subcategories for which there are less than 30 observations. Thus, I do not include academics, economists and party leaders from autocracies. The synthetic outcome is a linear combination of the five outcomes, obtained through a principal component analysis, in such a way that we retain most of the information (see Appendix F).

F Dimensionality-reduction

The synthetic outcome used in tables of Appendix E is obtained through a principal component analysis detailed in this section. I first restricted the sample to those leaders for whom I have data for all outcomes. I replaced the leader's effect with 0 when it was non-significant. Besides, to keep consistency, I multiply leaders' effects on corruption by -1 so a higher value is associated to a better performance.

Each dimension of the principal component analysis is a linear combination of variables in such a way that we retain most of the information. Figure A8 shows how much of the variance is explained by each principal component. Thus, with the two first dimensions we account for more than half of leaders' performance in all the considered outcomes. Table A15 shows the coefficient for each variable in the three first dimensions. Dimension one summarizes an overall positive performance, as it is positively associated with all economic and social outcomes and with lower corruption. It mainly summarizes the effects of rule of law, democracy, and corruption, which are indeed the outcomes for which there are more significant leaders.

A positive value in the second dimension can be interpreted as the leader having an overall positive effect on property rights index. Finally, the third one will mainly contain the effects on growth, which, as said before it is uncorrelated with the other outcomes. In part (a) of Figure A9 it is possible to visualize the contribution of each variable for each of the two first dimensions.

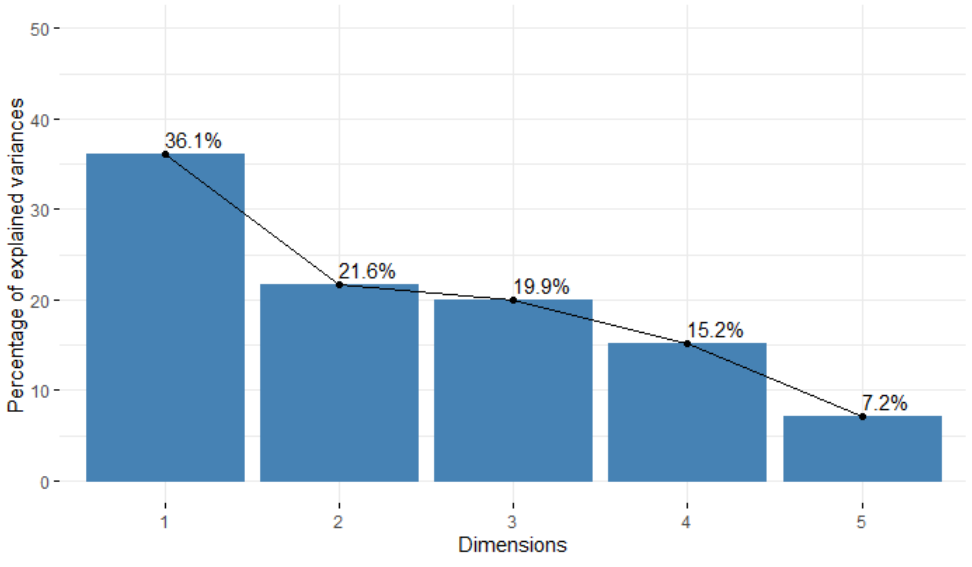


Figure A8: Variance explained by dimension

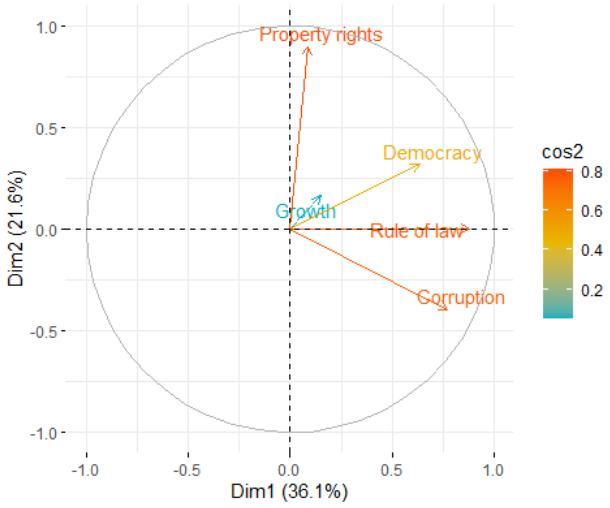
Notes: The figure shows the variance explained by each one of the dimensions of the principal component analysis using the leaders' effects for growth, democracy, corruption, rule of law and property rights obtained in Section 4.

	Dimension 1	Dimension 2	Dimension 3
Growth	0.022	0.027	0.923
Corruption	0.597	0.015	0.007
Democracy	0.401	0.100	-0.002
Property rights	0.007	0.799	0.011
Rule of law	0.777	0.000	0.010

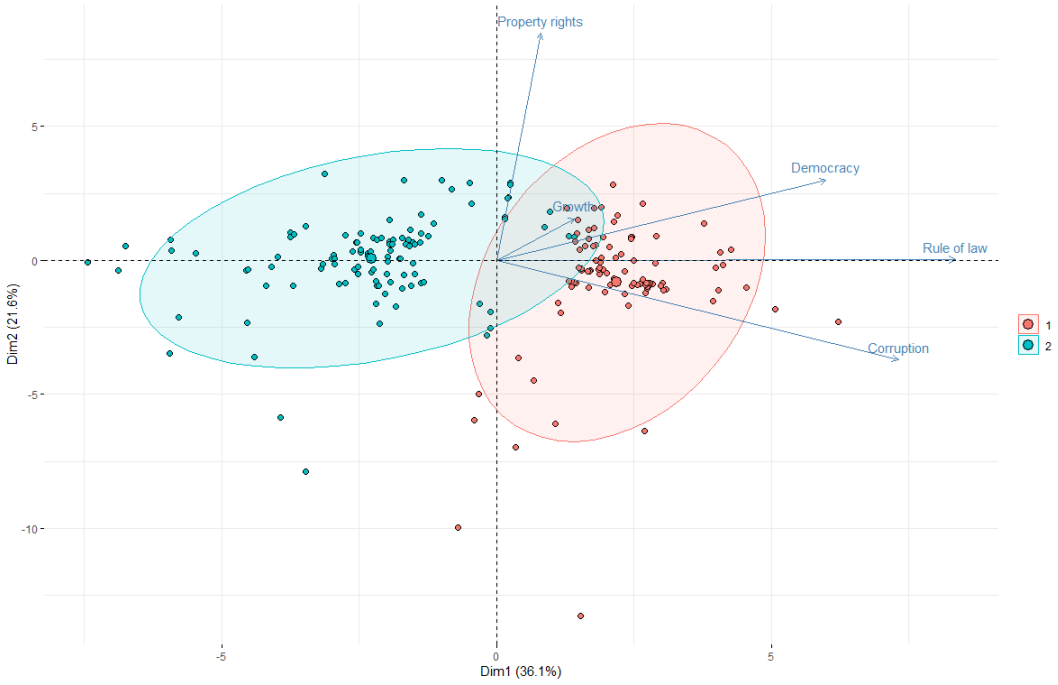
Table A15: Dimensions' composition

Notes: The table shows the coefficient for the leaders' effects of each variable in the linear combination of each dimension. Leaders' effects are the ones obtained in Section 4.

The next step consists in clustering leaders' according to their coordinates in the axis using a k-means clustering approach with k=2. It is possible to see in part (b) of Figure A9 that clusters are mainly constructed based on the first dimension, which is the one that best summarizes the general performance. Thus, it is the value of this first dimension that I use in previous tables as the synthetic outcome.



(a) Variables' contributions



(b) Clustering of leaders' effects

Figure A9: PCA Biplots

Notes: Figure (a) reports the cos2 of each variable for the two first dimensions. Cos2 measures the quality of representation, meaning how much of a variable is represented in a given component. Figure (b) plots the leaders' effects, clustered through a k-means approach with a selected k=2.

G Leaders of selected transitions

Country	Transition year	Entering leader	Exiting leader	Type of exit
Afghanistan	1946	Mahmud Khan Ghazi	Hashim Khan	Resign for health
Albania	1986	Alia	Hoxha	Died in office
Algeria	1979	Benjedid	Boumedienne	Died in office
Angola	1980	Dos Santos	Neto	Died in office
Argentina	1943	Castillo	Ortiz	Died in office
Argentina	1975	Peron, Isabel	Peron	Died in office
Australia	1940	Menzies	Lyons	Died in office
Australia	1946	Chifley	Curtin	Died in office
Australia	1968	Gorton	Holt	Died in office
Azerbaijan	2004	Ilhma Aliyev	H. Aliyev	Died in office
Bahrain	2000	Hamad Isa Ibn Al-Khalifah	Isa Ibn Al-Khalifah	Died in office
Bangladesh	1978	Ziaur Rahman	Sayem	Died in office
Barbados	1986	Barrow	Adams	Died in office
Barbados	1988	Sandiford	Barrow	Died in office
Bhutan	1952	Wangchuk, Jigme Dorji	Wangchuk, Jigme	Died in office
Bhutan	1973	Wangchuck, Jigme Singye	Wangchuk, Jigme Dorji	Died in office
Bolivia	1949	Urriolagoitia	Herzog	Resign for health
Bolivia	1970	Ovando Candia	Barrientos Ortuna	Died in office
Bolivia	2002	Jorge Quiroga Ramirez	Banzer Suarez	Resign for health
Bosnia and Herzegovina	1999	Radisic	Izetbegovic	Resign for health
Bosnia and Herzegovina	2001	Radisic	Izetbegovic	Resign for health
Botswana	1981	Masire	Khama	Died in office
Brazil	1956	Kubitschek	Cafe Filho	Resign for health
Brazil	1970	Medici	Costa de Silva	Died in office
Bulgaria	1944	Cyril	Boris III	Died in office
Bulgaria	1950	Kolarov	Dimitrov	Died in office
Bulgaria	1951	Chervenkov	Kolarov	Died in office
Cameroon	1983	Biya	Ahidjo	Resign for health
Canada	1949	St. Laurent	King	Resign for health
Chile	1942	Rios Morales	Aguirre Cerda	Died in office
Chile	1947	Gonzalez Videla	Rios Morales	Died in office
China	1945	Chen Gongbo	Wang Jingwei	Died in office
China	1977	Hua Guofeng	Mao Tse-Tung	Died in office
China	1998	Jiang Zemin	Deng Xiaoping	Died in office
Comoros	1999	Azali Assoumani	Abdoulkarim	Died in office
Cote d'Ivoire	1994	Konan Bedie	Houphouet-Boigny	Died in office
Croatia	2000	Mesic	Tudjman	Died in office
Cyprus	1978	Kyprianou	Makarios	Died in office
Czechoslovakia	1936	Benes	Masaryk	Resign for health
Czechoslovakia	1953	Zapotocky	Gottwald	Died in office
Czechoslovakia	1958	Novotny	Zapotocky	Died in office
Denmark	1943	Scavenius	Stauning	Died in office
Denmark	1955	Hansen	Hedtoft	Died in office
Denmark	1961	Kampmann	Hansen	Died in office
Denmark	1963	Krag	Kampmann	Resign for health
Dominican Republic	1983	Blanco	Guzman Fernandez	Died in office
Ecuador	1940	Cordova Nieto	Mosquera Narvaez	Died in office
Ecuador	1982	Hurtado Larrea	Roldos Aquilers	Died in office
Egypt	1937	Farouk	Fuad I	Died in office
Egypt	1971	Sadat	Nasser	Died in office
Ethiopia	1931	Selassie	Judith (Zanditu)	Died in office
Finland	1941	Ryti	Kallio	Died in office
Finland	1946	Paasikivi	Mannerheim	Resign for health

Finland	1982	Koivisto	Kekkonen	Resign for health
France	1975	Giscard D'Estaing	Pompidou	Died in office
Gabon	1968	Bongo	Mba	Died in office
Gabon	2010	Bongo Ondimba	Bongo	Died in office
Greece	1936	Metaxas	Demertzis	Died in office
Greece	1950	Plastiras	Sophoulis	Died in office
Greece	1956	Karamanlis	Papagos	Died in office
Greece	1997	Simitis	A. Papandreou	Died in office
Guatemala	1931	Ubico Castaneda	Chacon	Resign for health
Guinea	1984	Conte	Toure	Died in office
Guinea	2009	Moise Dadis Camara	Conte	Died in office
Guyana	1986	Hoyte	Burnham	Died in office
Guyana	1998	Janet Jagan	Jagan Cheddi	Died in office
Guyana	2000	Bharrat Jagdeo	Janet Jagan	Resign for health
Haiti	1972	Duvalier, Jean-	Duvalier, Francois	Died in office
Honduras	1954	Lozano Diaz	Galvez	Resign for health
Hungary	1994	Boross	Antall	Died in office
Iceland	1964	Benediktsson	Thors	Died in office
Iceland	1971	Hafstein	Benediktsson	Died in office
India	1964	Shastri	Nehru	Died in office
India	1967	Gandhi, I.	Shastri	Died in office
Iran	1990	Khamenei	Ayatollah Khomeini	Died in office
Iraq	1934	Ghazi	Faisal I	Died in office
Iraq	1940	Abdul-Ilah	Ghazi	Died in office
Iraq	1967	Rahmen Aref	Salem Aref	Died in office
Israel	1970	Meir	Eshkol	Died in office
Israel	2007	Ehud Olmert	Ariel Sharon	Died in office
Jamaica	1968	Shearer	Sangster	Died in office
Jamaica	1992	Patterson	Manley	Resign for health
Japan	1965	Sato	Ikeda	Died in office
Japan	1981	Suzuki	Ohira	Died in office
Japan	2001	Junichiro Koizumi	Obuchi	Died in office
Jordan	2000	Abdullah Ibn Hussein El-Hashimi	Hussein Ibn Talal El-Hashim	Died in office
Kenya	1979	Moi	Kenyatta	Died in office
Kuwait	1966	Sabah As-Sabah	Abdullah As-Sabah	Died in office
Kuwait	1978	Jabir As-Sabah	Sabah As-Sabah	Died in office
Kuwait	2007	Sabah IV	Jabir As-Sabah	Died in office
Laos	1993	Phounsavanh	Phomivan	Died in office
Liberia	1972	Tolbert	Tubman	Died in office
Luxembourg	1954	Bech	Dupong	Died in office
Luxembourg	1960	Werner	Frieden	Died in office
Malaysia	1977	Hussein Bin Onn	Razak	Died in office
Malaysia	1982	Mahatir Bin Mohammad	Hussein Bin Onn	Died in office
Maldives	1979	Gayoom	Nasir	Died in office
Mauritania	1980	Ould Haidalla	Ould Bouceif	Died in office
Mongolia	1953	Tsedenbal	Choibalsan	Died in office
Morocco	1961	Hassan II	Mohammed V	Died in office
Morocco	2000	Muhammad VI	Hassan II	Died in office
Mozambique	1987	Chissano	Machel	Died in office
Nepal	1930	Bhim Rana	Chandra Rana	Died in office
Nepal	1933	Juddha Rana	Bhim Rana	Died in office
Nepal	1949	Mohan Rana	Padma Rana	Died in office
Nepal	1955	Mahendra	Tribhuvan	Died in office
Nepal	1973	Birendra	Mahendra	Died in office
New Zealand	1931	Forbes	Ward	Died in office
New Zealand	1941	Fraser, Peter	Savage	Died in office
New Zealand	1958	Nash	Holland	Resign for health
New Zealand	1975	Rowling	Kirk	Died in office
Nicaragua	1967	Anastasio Somoza Debayle	Shick Gutierrez	Died in office

Niger	1988	Seibou	Kountche	Died in office
Nigeria	1999	Obasanjo	Abacha	Died in office
North Korea	1995	Kim Jong-Il	Kim Il-Sung	Died in office
Norway	1933	Mowinckel	Kolstad	Died in office
Norway	1981	Brundtland	Nordli	Resign for health
Pakistan	1949	L. Khan	Jinnah	Died in office
Panama	1940	Boyd	Arosomena, Juan	Died in office
Panama	1950	Arias, A.	Diaz Arosomena	Died in office
Panama	1982	Dario Paredes	Torrijos Herrera	Died in office
Paraguay	1941	Morinigo	Estigarribia	Died in office
Philippines	1949	Quirrino	Roxas	Died in office
Philippines	1958	Garcia	Magsaysay	Died in office
Poland	1936	Smigly-Rydz	Pildsudski	Died in office
Poland	1957	Gomulka	Bierut	Died in office
Portugal	1969	Caetano	Salazar	Died in office
Romania	1966	Ceausescu	Georghiu-Dej	Died in office
Russia	1923	Stalin	Lenin	Died in office
Russia	1954	Khrushchev	Stalin	Died in office
Russia	1983	Andropov	Brezhnev	Died in office
Russia	1984	Chernenko	Andropov	Died in office
Russia	1986	Gorbachev	Chernenko	Died in office
Saudi Arabia	1954	Saud	Aziz	Died in office
Saudi Arabia	1983	Fahd	Khalid	Died in office
Saudi Arabia	1996	Abdullah	Fahd	Died in office
Sierra Leone	1965	Margai, A	Margai,M	Died in office
Singapore	1991	Goh Chok Tong	Lee Kuan Yew	Died in office
South Africa	1959	Verwoerd	Strijdom	Died in office
South Africa	1989	Botha	Botha	Died in office
Spain	1976	Arias Navarro	Franco	Died in office
Sri Lanka	1953	Senanayake, Dudley	Senanayake, Don	Died in office
Sri Lanka	1954	Kotelawala	Senanayake, Dudley	Resign for health
Swaziland	1983	Dzeliwe Shongwe	Subhuza II	Died in office
Sweden	1947	Erlander	Hansson	Died in office
Syria	2001	Bashar al-Assad	Al-Assad H.	Died in office
Taiwan	1975	Yen Chia-Kan	Chiang Kai-shek	Died in office
Taiwan	1978	Chiang Ching-Kuo	Yen Chia-Kan	Died in office
Taiwan	1989	Lee Teng-Hui	Chiang Ching-Kuo	Died in office
Thailand	1926	Rama VII	Rama VI	Died in office
Thailand	1964	Thanon Kittakachorn	Sarit	Died in office
Togo	2006	Gnassingbe	Eyadema	Died in office
Trinidad and Tobago	1982	Chambers	Williams	Died in office
Turkey	1939	Inonu	Ataturk	Died in office
Turkey	1972	Melen	Erim	Died in office
Turkmenistan	2007	Berdymuhamedov	Niyazov	Died in office
United Arab Emirates	2005	Khalifa bin Zayed	An-Nahayan	Died in office
United Kingdom	1957	MacMillan	Eden, Anthony	Resign for health
United States	1946	Truman	Roosevelt, F.	Died in office
Uruguay	1948	Batlle Berres	Berreta	Died in office
Uruguay	1966	Heber Usher	Giannattasio	Died in office
Uruguay	1968	Pacheco Areco	Gestido	Died in office
Venezuela	1936	Lopez Contreras	Gomez	Died in office
Vietnam	1970	Le Duan	Ho Chi Minh	Died in office
Vietnam	1987	Nguyen Van Linh	Le Duan	Died in office
Yemen Arab Republic	1963	AL-Sallal	Ibn Yahya Hamid	Died in office
Yugoslavia	1981	Kraigher	Tito	Died in office
Zambia	2009	Rupiah Banda	Levy Mwanawasa	Died in office

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