# Critical Junctures and the Economic Origins of Autocracy*

Nick Shankar†

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**Abstract**

I investigate the hypothesis that transitory economic shocks at a critical juncture in a nation's history — specifically, the initial years following a country's independence from colonial rule — exert long-run effects on the likelihood of autocracy. Using over a century of climate data, I find that favorable precipitation in the immediate five years post-independence is associated with a 26% increase in the likelihood a nation is autocratic in 2018. Effects on autocracy emerge within five years of independence, persist at the same magnitude half a century later, and are robust to alternate climate measures such as temperature and evapotranspiration. Climate windfalls occurring before or after this early post-independence window, by contrast, are unassociated with long-run autocracy. Both econometric and case study evidence suggests that favorable climate shocks at this juncture increase the resources available to incumbent leaders, who in turn invest in repressive capacity and are consequently more likely to revise the constitution, purge the judiciary, eliminate opposition parties, and take over the media. Shocks in other periods, by comparison, do not exhibit the same pattern of institutional reshaping to concentrate power. While favorable rainfall following independence improves short-run economic performance, it worsens poverty and slows economic growth in the long-run. These findings suggest that favorable economic conditions in times of institutional transition may carry the unintended consequence of undermining democracy and development.

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†Department of Economics, University of California, Berkeley. Email: nick.shankar@berkeley.edu.

# 1 Introduction

Why are some countries autocratic and others democratic today? Nations with otherwise similar demographics and factor endowments often exhibit markedly different political institutions, and these differences tend to persist over time. At least since Lipset (1959), a line of scholarship has focused on the role of economic conditions in shaping democratic institutions (Huntington 1991; Przeworski et al. 2000; Acemoglu and Robinson 2006; Treisman 2020). Yet the impact of economic conditions may differ depending on the moment in which those conditions occur. The notion that critical periods in history may exert an outsized impact on institutional trajectories has long been a subject of inquiry across the social sciences, with a theoretical literature stressing the role of these critical junctures in producing dramatic and lasting political and economic change (Moore 1966; Lipset and Rokkan 1967; Collier and Collier 1991; North 1990; Acemoglu and Robinson 2012; Callen et al. 2024).

This paper empirically investigates the role of transitory economic shocks at one of the most important critical junctures in a nation's history — the initial years after gaining independence from a colonial power — on long-run political institutions. Scholars of postcolonial politics have long argued that the first years after national independence were a period in which institutions were particularly malleable (Zolberg 1966; Collier 1982; Acemoglu and Robinson 2012; Christensen and Laitin 2019).[1] Given the presence of multiple institutional equilibria at this critical juncture, even temporary economic shocks during these years could prove decisive in shifting a society onto a different long-run trajectory. Yet whether favorable economic conditions in these initial post-independence years bolster or weaken democracy is an empirical question. While modernization theory implies that economic prosperity buttresses democracy (Lipset 1959; Huntington 1991), other theoretical arguments posit that economic downturns weaken autocrats and force rulers to introduce more inclusive institutions (Acemoglu and Robinson 2000, 2006). Evidence, furthermore, is limited on the role of critical junctures in governing this relationship, which is of central importance to development given recent literature demonstrating that autocratic institutions have substantial negative consequences for economic growth (Acemoglu et al. 2019; Blattman et al. 2025).

To examine the role of economic shocks in the initial post-independence period on the long-run likelihood of autocracy, I pair over a century of historical data on global precipitation with multiple measures of contemporary political institutions from the literature on democracy measurement. Most developing countries at the time they gained independence were agrarian economies heavily reliant on rainfed agriculture and possessed almost no irrigation capacity

[1] Collier (1982), for example, notes that these years "were an analytically distinctive period in which national elites came to assume power, attempted to establish control of their new states, and first had the opportunity to create new political institutions unhampered by the constraints of colonial rule."

(Miguel et al. 2004; Siebert et al. 2015). Current regime type is assessed using four distinct measures from the academic literature with extensive geographical coverage: Acemoglu et al. (2019), Boix et al. (2012), Skaaning et al. (2015), and Lührmann et al. (2018). These measures exhibit substantial methodological differences as well as significant variation in the underlying data utilized to assess whether a given nation is autocratic or democratic. I utilize a simple average of the four measures in primary analyses while examining robustness to each individual measure. The main sample encompasses all countries with contemporary regime type data and precipitation information for a quarter-century before and after independence, spanning 126 nations in total across all regions in the developing world.

The central empirical finding of this study is that transitory economic shocks in the initial years following national independence exert substantial effects on contemporary political institutions. In particular, favorable economic conditions in the window immediately following independence are associated with a higher likelihood of autocracy in the long-run. Countries which received a favorable rainfall shock across the five years following independence are 26% more likely to be autocracies in 2018, over a half-century after the average nation in the sample attained full internal self-governance. This relationship is statistically significant at the one percent level and holds across every individual measure of democracy examined. This result withstands an array of robustness checks, including the inclusion of independence year, region, and colonial power fixed effects as well as, importantly, the use of alternate measures of climate such as temperature, the standardized precipitation-evapotranspiration index (SPEI), and a standardized inverse-covariance weighted index of rainfall, temperature, and SPEI based on Anderson (2008). Furthermore, when tracing out effects over time, the rise in autocracy resulting from climate shocks in the initial half-decade post-independence swiftly emerges in the short-run (within the first 5-10 years following national independence) and then persists at the same magnitude for at least a half-century afterwards.

Next, I examine whether the impact of economic shocks in the initial post-independence period on contemporary autocracy is distinctive to that historical juncture. On average, do shocks that strike in other periods relative to the year of independence exert persistent, long-run effects on political institutions? The answer appears to be no. Rainfall shocks in the eight other periods spanning the half-century around independence are not significantly associated with the probability of autocracy today. The average coefficient outside of the first five years post-independence is -0.01 ($p$=0.73), whereas the coefficient on the first half-decade following independence is 0.12 ($p$=0.001). The difference between the post-independence coefficient and the average of the other coefficients is statistically significant at the one percent level, and the difference between the post-independence coefficient and each of the individual other coefficients are significant as well in all but two cases (one of the exceptions being the half-

decade 5-10 years post-independence). While certainly not ruling out the possibility of other critical junctures such as revolutions or wars, taken together these results provide empirical support for the notion that the initial post-independence years comprise a critical juncture in a nation's history during which institutions may be particularly elastic to transitory economic conditions, with the institutions emerging during this window then persisting over time.

How do positive economic shocks facilitate the institutional pathways for autocracy to emerge? I investigate mechanisms using two approaches. First, I conduct five in-depth country case studies selected using Lieberman (2005)'s nested analysis approach, tracing out how transitory economic conditions shaped the development of political institutions during the initial post-independence years. The countries studied, which vary in the colonial power from which they gained independence as well as in their geography, size, and initial political institutions, are Chad, Guyana, Lesotho, Uganda, and Uzbekistan. Second, I expand to the full set of nations in my sample to investigate quantitatively whether the patterns seen in the case studies generalize.

Both the case study and econometric evidence are consistent with leaders leveraging resource windfalls to swiftly reshape fledgling political institutions in a manner that consolidates their power. First, favorable climate shocks are associated with sharply higher government revenue growth, especially from trade taxes that may be particularly sensitive to shifts in agricultural output (which rises substantially in response to more favorable rainfall). Second, incumbents exploit this windfall of state resources to invest in their repressive capacity — expanding the security forces and stacking them with loyalists — as well as to purchase the loyalty of the civil service and individual legislators. Third, once coercive power has been amassed and loyal personnel have been placed throughout government, leaders move to perpetuate their rule by transforming the nation's still nascent political institutions. Favorable shocks during the immediate post-independence juncture are associated with more revisions of the constitution, a higher incidence of banning opposition parties, fewer independent media outlets (often prohibited outright), and greater politicization of the judiciary. The autocratic turn in institutions which occurs during this period is rarely reversed by subsequent leaders and thus largely persists into the present. Conversely, when negative climate shocks strike during the initial post-independence window, economic recession leads to government tax hikes and budget cuts, which catalyze organized opposition to the government and result in the negotiation of more democratic institutions which then persist. Consistent with the null relationship between climate shocks outside the initial post-independence period and long-run democracy, these patterns of institutional change are null or substantially muted for shocks outside this critical juncture period.

The final section of this paper briefly examines the consequences of transitory economic

shocks during the post-independence critical juncture for long-run economic development. In a reversal of fortune, favorable climate shocks in the initial five year window post-independence are associated with notably worse poverty and economic growth. Specifically, I estimate that favorable rainfall in the initial post-independence period slows annual growth in GDP per capita by 0.37 percentage points (representing a 23% decline relative to the sample mean) and raises the share of citizens living under USD PPP 2 a day by 6.95 percentage points (a 50% increase compared to the mean). Positive climate shocks in other periods, by contrast, do not carry negative long-run consequences for economic development. Alongside these reduced-form analyses, I also estimate 2SLS specifications which utilize rainfall at the post-independence critical juncture as an instrument for the share of years spent in autocracy since independence. While the results are contingent upon the validity of the exclusion restriction, they indicate that autocracy significantly worsens poverty and slows growth. These results, which use a new source of variation in long-run autocracy stemming from the post-independence critical juncture in institutional development, are consistent with prior work which finds that autocracy harms growth (Acemoglu et al. 2019; Blattman et al. 2025).

This study aims to make two main contributions. First, it contributes to a longstanding theoretical debate on the relationship between economic conditions and political institutions (Lipset 1959; Huntington 1991; Haggard and Kaufman 1995; Przeworski et al. 2000; Acemoglu and Robinson 2006; Treisman 2020). Previous empirical work has largely focused on the short-run relationship between economic conditions and democratic change (Burke and Leigh 2010; Brückner and Ciccone 2011). Acemoglu et al. (2008) examines the relationship between long-run changes in income and long-run changes in democracy and find no general relationship, while Ciccone and Ismailov (2022) find some evidence in a subsample of 20-31 countries that poor rainfall in a given year can affect democratization in the medium-run (3-10 years later). This paper examines the effect of short-run economic shocks on regime type in the long-run (an average of 50-55 years after the shock), and finds that transitory positive shocks undermine long-run democracy but only if those shocks occur a time of major institutional transition. The findings thus imply the existence of a *conditional* "political resource curse" — adding to a body of literature documenting the impact of windfall resources on political corruption, selection, and regime type (Barro 1999; Jensen and Wantchekon 2004; Ross 2012; Brollo et al. 2013; Ross 2015; Caselli and Tesei 2016).

Second, this paper provides empirical support for the role of critical junctures in producing persistent institutional change. While a theoretical literature, at times supported by case studies, emphasizes the role of critical junctures in shaping institutional trajectories (Moore 1966; Lipset and Rokkan 1967; Collier and Collier 1991; Pierson 2000; Acemoglu and Robin-

son 2012; Acemoglu et al. 2021), quantitative empirical evidence has been more limited.[2] Capoccia and Kelemen (2007) write that scholarship has focused on "mechanisms of reproduction underpinning path dependence rather on the genetic phase of the critical juncture itself," a point reiterated by Callen et al. (2024). In comparison to work studying the consequences of path-dependent historical change resulting from exogenous shocks to historical institutions, I examine the heterogeneous impact of exogenous economic shocks on long-run political institutions by whether the nation stood at an ex-ante plausible critical juncture: in particular, the initial years post-independence during which numerous national institutions, both formal rules and informal norms, were constructed (Collier 1982; Christensen and Laitin 2019).

The remainder of this paper is organized as follows. Section II discusses data and measurement, Section III presents the estimation framework, and Section IV describes the empirical results. Section V concludes.

# 2 Data and Measurement

## 2.1 Democracy Data

This paper assesses the strength of democratic institutions using four distinct dichotomous measures of democracy, each varying in the methodology employed as well as the underlying data utilized in determining the democratic status of nations. The focus on dichotomous measures of democracy is motivated by Przeworski et al. (2000), who demonstrate that dichotomous scales exhibit less random error than polychotomous scales.

The first measure used is the measure of democracy from Acemoglu et al. (2019), who consider a country democratic during a given year if Freedom House codes the nation as "free" or "partially free" and Polity IV assigns it a positive score.[3] The authors (henceforth referred to as ANRR) combine the two indices to purge spurious changes in any individual index. The ANRR data span 1960-2010 and are available for all the years within that period during which a country was independent. I utilize their methodology along with data from Freedom House and Polity IV to construct country democracy scores for 2018, the last year for which Polity IV is available.

The second democracy measure is constructed by Boix et al. (2012) and is available through

[2] An exception is García-Ponce and Wantchekon (2024), who see the nature of independence movements as a critical juncture and empirically show within Africa an association between rural anticolonial insurgencies and autocracy today. Additionally, Acemoglu et al. (2020) find in the case of Sicily that poor agricultural conditions in the 1890s, a juncture during which landowners faced a burgeoning socialist movement, resulted in persistent increases in Mafia presence as local elites turned to the Mafia to resist socialism.

[3] The Acemoglu et al. (2019) appendix describes the construction of their democracy in detail, including relatively uncommon cases in which one or both of Freedom House and Polity IV are unavailable.

2020. The authors (referred to henceforth as BMR) utilize Dahl (1971)'s classification of democracy along the two dimensions of political contestation and participation, and define democracies as those that meet threshold standards on both dimensions. The authors require a minimal level of suffrage as well as free and fair voting processes, which they assess using text analysis of constitutions, histories of electoral turnover, and reports on the extent of the franchise over time.[4]

The third measure I use is the Regimes of the World (ROW) democracy dataset assembled by Lührmann et al. (2018). The ROW measure classifies countries using eight indicators from the Varieties of Democracy project, which are themselves generated by 4,000 country experts (Herre 2025). Nations in the ROW dataset are coded as one of four, rather than two, regime types; however, its creators note that "the ROW typology lends itself also to research that requires a dichotomous measure since both the two categories of democracy and autocracy can be collapsed" (Lührmann et al. 2018). Following the guidance of the authors, I create a dichotomous measure by coding nations classified as closed autocracies and electoral autocracies as autocratic, while classifying countries coded as electoral democracies and liberal democracies as democratic. ROW is available through 2023, albeit for fewer countries than ANRR and BMR. Notably, for the countries it does cover, ROW typically features data both on the years a polity was independent and periods in which it was a colony, facilitating the analysis of effects on regime type over time.

The final measure utilized is the Lexical Index of Electoral Democracy (LIED), a dataset constructed by Skaaning et al. (2015) and available through 2023. The authors of LIED operationalize electoral democracy as a series of binary necessary-and-sufficient conditions arrayed in an ordinal scale, focusing on factual characteristics of regimes so as to "avoid the problem of subjective judgments by coders and the mashup quality of nonbinary indices." Despite its focus on binary coding of its constituent components, LIED ultimately classifies countries into more than two categories. In practice, however, over 60% of countries in 2018 fall into the highest (most democratic) category, motivating a dichotomous interpretation.[5] An important feature of the LIED data is its remarkably comprehensive spatial and temporal coverage: the dataset covers all independent countries as well as most semi-sovereign polities and overseas colonies across 1789-2023. The authors achieve this coverage by assembling a large volume of original data.

[4]In cases when either Polity IV or Freedom House is unavailable, Acemoglu et al. (2019) code a country as democratic if either BMR or Cheibub et al. (2010) assesses it as democratic. BMR is decisive in this manner, however, in only a small minority of cases. I do not use Cheibub et al. (2010) as the authors have not updated their dataset past 2008.

[5]The authors note that "one might also construct binary variables using different cut-points on the lexical index" (Skaaning et al. 2015), though they also argue that their six-category measure allows the representation of more information than possible with a binary scale.

In the primary analyses examining effects on long-run democratic institutions, I utilize a simple average of the four measures to mitigate idiosyncratic fluctuations in individual indicators and improve statistical efficiency. I examine robustness to each individual measure.

## 2.2 Climate Data

The primary source of precipitation data used in this study is the University of Delaware (UDEL) Terrestrial Precipitation database (Willmott and Matsuura 2000). The UDEL dataset provides a global gridded timeseries spanning 1900 through 2017. I focus on the UDEL data due to its extensive historical coverage, which extends back farther than other gridded datasets. UDEL constructs gridded estimates based on weather station records, with interpolation performed using the Shepard spatial-interpolation algorithm (Gortan et al. 2024). For country-years in which UDEL estimates are not available, I use gridded data from the Climate Research Unit Time-Series (CRU-TS), which employs a similar methodology and spans much of the 20th century (Harris et al. 2020).[6]

For each country, I standardize annual rainfall realizations relative to the 1900-2017 national average. The rainfall measure used thus captures deviations from the long-run mean. Following this standardization process, I consider mean rainfall deviations across five-year periods relative to the year in which the country gained independence. I examine five-year bins relative to independence to measure shocks at a time frame relevant for political change, though I use the annual data in robustness analyses. I focus on area-weighted rainfall estimates to maximize country-year coverage, as weighting on population shrinks the sample due to a paucity of reliable historical population density estimates for many nations; population-weighting, however, yields broadly similar rainfall measures for most countries.[7]

## 2.3 Independence Dates

Information on national independence dates is drawn mainly from the CIA World Factbook. For nations granted independence by a colonial power, there are two potentially relevant definitions of independence. The first is the date a country won full self-governance over internal affairs, which typically corresponds to the formation of a national legislature, the selection of a prime minister either by representatives or direct suffrage, and local control over domestic budgets and policy (Kirk-Greene 1979). The second is the date a country achieved internal and external self-governance, i.e., full sovereignty. The transfer of power

[6] In robustness analyses, I utilize data on the Standardized Precipitation-Evapotranspiration Index (SPEI) from the Consejo Superior de Investigaciones Científicas (Vicente-Serrano et al. 2010), as well as temperature data from UDEL and CRU-TS.

[7] Dell et al. (2012) find that area-weighting substantially differs from population weighting only in a small number of large, sparsely-populated nations, such as Russia, Canada, the US, and Australia. Of those countries, only Australia is in my main sample.

from the colonial authorities to their former subjects was conducted in this phased manner to ensure a stable transition. Both types of independence typically followed quickly in sequence, with an average of three years elapsing between these two milestones.

Given that control over most state resources and the launch of domestic politics occurred at the internal self-governance date, I use internal self-governance as the primary definition of independence. However, I employ the full sovereignty definition in robustness analyses.

## 2.4 Other Political and Economic Attributes

To explore how climate shocks shape the evolution of the national political landscape, I draw upon data from two main sources: the Varieties of Democracy (V-Dem) and Comparative Constitutions projects (Coppedge et al. 2025; Elkins and Ginsburg 2022). V-Dem assembles a large volume of detailed historical data on national political attributes using a network of over 4,000 country experts (Herre 2025). Among the variables V-Dem collects are state control of the media, the presence of independent opposition parties, the incidence of mass demonstrations against the government, purges of the judiciary, reports of vote buying, and expert assessments of whether various groups, such as the military and ordinary citizens, generally support or oppose the regime. The Comparative Constitutions Project has gathered and analyzed the text of virtually all constitutional events worldwide since 1789, producing a country-year dataset with information on whether the constitution was replaced or suspended in a given year as well as standardized variables on constitutional attributes.[8]

Historical data on government revenue in the initial post-independence period is obtained from five sources: the World Bank's Open Data portal, the International Historical Statistics dataset published by Mitchell (2013), the Fiscal State in Africa data constructed by Albers et al. (2023), archived copies of the United Nations Statistical Yearbooks from the United Nations Statistics Division, and digitized editions of the Statesman's Yearbook. These datasets each feature different strengths with respect to geographic coverage. The World Bank is most comprehensive for contemporary fiscal statistics, but only provides historical coverage for a limited set of developing nations. Mitchell (2013) contains historical revenue data for a broad, though not complete, array of developing countries. Albers et al. (2023) is most comprehensive within Africa and provides both overall revenue statistics and revenue by category, such as direct taxes, indirect tax receipts, and non-tax revenue, but does not cover any countries outside Africa. The remaining gaps in the revenue data were filled by manually consulting archived editions of the United Nations Statistical Yearbooks from 1948 through 1979 as well as annual editions of the Statesman's Yearbook, a British reference publication,

[8]While the Comparative Constitutions Project has gathered the texts of historical constitutions, they note that most of these are under copyright restrictions and therefore cannot be publicly released.

from 1914 through 1998.

I obtain information on historical agricultural production from Gollin et al. (2021) and data on initial agricultural employment from Wingender (2014), which I utilize as a proxy for the population's reliance on agriculture. Estimates of historical poverty rates are taken from Roser and Hasell (2021), who compile data from the Maddison Project Database (2020), van Zanden et al. (2014), and the Global Consumption and Income Project (2016) to estimate the share of individuals living on under USD PPP 2 a day worldwide across time. For countries without data from Roser and Hasell (2021), I utilize data from Moatsos (2021), who conduct a similar exercise.

## 2.5 Descriptive Statistics

The main sample of this paper encompasses all nations with democracy data in 2018 and precipitation information for a quarter-century before and after independence, spanning 126 countries in total across all regions worldwide.

The median country in this sample gained full internal self-governance in 1962 and sovereignty in 1965, both over a half-century before 2018. Within the sample, 44 countries (34.9%) are in Sub-Saharan Africa, 23 (18.3%) in East Asia and the Pacific, 23 (18.3%) as well in Europe and Central Asia, 17 (13.5%) in the Middle East and North Africa, 13 (10.3%) in Latin America and the Caribbean, and 6 (4.8%) in South Asia.

Across the initial five years post-independence, the median standardized rainfall score is 0.0018. This indicates that on average, post-independence rainfall does not differ significantly from rainfall in other periods. Significant variation, however, exists in the shocks countries received. In total, 30.2% of countries experienced a standardized rainfall realization between 0.00 and 0.75, 12.7% experience a shock between 0.75 and 1.50, and 7.1% draw a realization above 1.50. Half the countries experience negative shocks — 31.7% draw a standardized rainfall realization between -0.75 and 0.00, 11.9% experience a shock between -1.50 and -0.75, and 6.3% suffer standardized rainfall below -1.50. Figure 1 illustrates the standardized rainfall realizations received by countries in the main sample within the initial post-independence period across Sub-Saharan Africa, South Asia, and Southeast Asia.[9]

The average likelihood a country in the main sample was autocratic in 2018 is 0.45, indicating a roughly even split between autocracy and democracy. The four democracy measures used to construct the index of indices employed throughout the paper all agreed on a nation's democratic status in 78.6% of cases, with three of the four agreeing in another 13.5% of cases. Notable variation in contemporary democracy exists within regions as well as

[9]The countries outside these regions display similar variation but are omitted in Figure 1 for graphical tractability. Appendix Figure A.1 illustrates post-independence rainfall shocks for the full main sample.

within time periods during which nations gained independence: for example, in every decade from 1910s through the 1970s, the share of countries that obtained independence in a given decade that are autocracies today fluctuates between 33% and 55%. With the exception of Latin America, in which there are no autocracies today within this paper's main sample, the share of countries within a given region that are autocratic varies between 30% and 78%.

# 3 Estimation Framework

To assess the effect of post-independence rainfall shocks on contemporary autocracy, I estimate the following regression specification:

$$Autocracy_c = \alpha_0 + \sum_{t=1}^{9} \beta_t StandardizedRainfall_{ct} + \epsilon_c, \quad (1)$$

where $c$ denotes country and $t$ denotes event time in five-year bins relative to the year country $c$ was granted full internal self-governance by a colonial power. The outcome variable $Autocracy_c$ is a simple average of four dichotomous measures of autocracy in 2018 (Acemoglu et al. 2019; Boix et al. 2012; Lührmann et al. 2018; Skaaning et al. 2015), and thus varies between zero and one. Each $StandardizedRainfall_{ct}$ variable encapsulates information on standardized rainfall realizations across one of nine given five-year event time bins, ranging from -20 to -16 years before independence ($t = 1$) to 20 to 24 years after independence ($t = 9$). Rainfall data are standardized relative to the 1900-2017 national average. Huber robust standard errors are reported for the main analyses.

In additional analyses, I test the robustness of the main results to the inclusion of region, independence year, and colonial power fixed effects, augmenting Equation 1 accordingly. I also examine the sensitivity of the results to other measures of climate, such as temperature and the standardized precipitation-evapotranspiration index (SPEI), as well as to spatial correlation in rainfall shocks.

# 4 Empirical Results

## 4.1 Historical Rainfall Shocks and Long-Run Autocracy

Panel A of Figure 2 displays estimates from Equation 1 of the relationship between historical precipitation shocks in five-year periods relative to national independence and autocracy in 2018. Outside of the initial five-years post-independence, there is no systematic association between historical rainfall and contemporary autocracy: I do not find statistically significant coefficients on standardized rainfall in any of the eight periods preceding and

following the initial post-independence period, and the average coefficient estimate across these bins is close to zero.

The typical null relationship between historical precipitation and autocracy, however, does not hold for the immediate years following national independence. In the initial five years post-independence, a one standard deviation increase in rainfall relative to the long-run national average is associated with a 11.9 percentage point increase in the likelihood a country is autocratic in 2018. The effect of a positive rainfall shock during the initial post-independence period is statistically significant at the one percent level and represents a 26.5% increase in the probability of autocracy relative to the sample mean. Conservative interpretations of this result still imply substantial impacts on autocracy: the point estimate implied by the lower bound of the 95% confidence interval (0.047) represents a 10.4% increase in autocracy today compared to the sample average.

Table 1 reports the estimates illustrated in Panel A of Figure 2 along with results using each of the individual four democracy measures (Acemoglu et al. 2019; Boix et al. 2012; Lührmann et al. 2018; Skaaning et al. 2015) that together constitute the composite measure used in the main specification. Despite the differences each exhibits in methodology and the underlying data utilized in their construction, the empirical estimates display a high degree of stability across each of the four measures. The estimated effect of a one standard deviation increase in post-independence rainfall fluctuates between 11.5 and 12.0 percentage points, with all four coefficients statistically significant at the one percent level. Furthermore, across the four columns of Table 1 reporting estimates using the individual democracy measures, just one of the 32 other coefficients spanning the eight time periods preceding or following the initial post-independence period significantly differs from zero (and that single coefficient, for rainfall 20-24 years post-independence using the ROW autocracy definition, is marginally significant and carries the opposite sign).

Table 2 presents results from augmenting Equation 1 with various combinations of region and independence year fixed effects. Column 1 reports estimates with no region or independence year fixed effects, which is the main specification. Column 2 of Table 2 presents estimates with World Bank region fixed effects included, which identifies the effect of rainfall shocks on autocracy using only within-region variation. These coefficients are also displayed in Panel B of Figure 2. Compared to the main specification, including region fixed effects renders the point estimate on rainfall shocks in the initial post-independence years largely unchanged: a one standard deviation increase in rainfall relative to the historical average is associated with a 11.5 percentage point increase in the likelihood of autocracy in 2018, or a 25.5% increase relative to the sample mean. In contrast to the positive relationship between initial post-independence rainfall and autocracy today, the point estimates on historical

rainfall shocks in all other periods are all close to zero and statistically insignificant.

Columns 3-5 of Table 2 report results, respectively, from including independence year, independence year and region, and independence year by region fixed effects. Across all these specifications, there is a significant and statistically precise positive relationship between rainfall realizations in the initial post-independence period and autocracy today, whereas there are no significant coefficients in any other period preceding or following independence. Whereas the coefficient on initial post-independence rainfall is somewhat smaller in Column 2 than in Column 1, the magnitude of point estimates are larger across Columns 3-5, which include substantially more fixed effects and generally report larger standard errors for all coefficients. Across Columns 1-5, the point estimates range from 11.5 to 19.1 percentage points, representing a 25.5% to 42.4% increase in the likelihood of autocracy in 2018.

I next trace out how initial post-independence rainfall affects autocracy over time — from the year a nation gained independence into the subsequent decades. Figure 3 displays the relationship between rainfall in the initial post-independence period and autocracy at points in time ranging from 10 years pre-independence to 30 years post-independence. These estimates are obtained by separately estimating Equation 1 in each point in time, controlling for shocks in the eight bins other than the initial post-independence period.

The results from this analysis indicate that the impact of post-independence rainfall shocks swiftly shifts nations onto an autocratic trajectory. Prior to independence, rainfall shocks in the initial post-independence period (which have yet to occur) do not exhibit a statistically significant relationship with pre-independence autocracy, which serves as a placebo check. During the five years following independence, however, a gap steadily emerges. Five years after independence, a one standard deviation increase in rainfall in the preceding five years is associated with a 11.3 percentage point rise in the likelihood of autocracy that year, a 17.4% increase off the sample mean of 65%. This effect size stabilizes at this level across the first five decades post-independence. Five decades after independence, the receipt of a one standard deviation increase in rainfall during the first five years of independence is associated with a 18.6% rise in the likelihood of autocracy at the thirty-year anniversary of self-governance. By 2018, the effect size largely remains the same — suggesting that the impact of initial post-independence rainfall emerges early yet is strikingly persistent.

## 4.2 Robustness Analyses

The main findings indicate that positive rainfall shocks in the initial half-decade post-independence are strongly associated with autocracy today, whereas no systematic relationship exists between rainfall in any other period pre- or post-independence and long-run autocracy. This result is robust to four different definitions of autocracy as well as to the

inclusion of different combinations of region and independence year fixed effects. Moreover, I show that precipitation shocks in the initial post-independence period immediately affect the probability of autocracy, with this effect persisting into the subsequent decades, as opposed to this effect emerging decades after the independence date. I next turn to further assessing the sensitivity of these findings through additional robustness checks.

The first set of robustness analyses examine sensitivity to alternate versions of the climate data and are presented in Appendix Table A.1. The climate variable utilized in the main analyses is precipitation. While rainfall shocks have a long history in the economics literature as a source of exogenous economic variation (e.g., Miguel et al. 2004), work such as Dell et al. (2012) finds that temperature also has first-order impacts on economic output. Furthermore, the Standardized Precipitation-Evapotranspiration Index (SPEI), a modern climate measure which utilizes both precipitation and temperature to assess agricultural conditions (Serrano et al. 2023; Vicente-Serrano et al. 2010), has also been utilized to examine the effect of climate shocks on economic outcomes (Albert et al. 2024).

I examine robustness to these climate measures using three approaches. First, I directly estimate Equation 1 using standardized temperature and SPEI instead of standardized rainfall. Second, I construct a standardized inverse-covariance weighted average of rainfall, temperature, and SPEI following Anderson (2008), so as to estimate the effects of a composite climate shock.[10] Third, I calculate Benjamini et al. (2006) sharpened two-stage $q$-values, which consider rainfall, temperature, and SPEI as part of the same family of climate measurements.

The main results are robust to all three approaches. Columns 3 and 5 of Appendix Table A.1 report results from Equation 1 using, respectively, temperature and SPEI. Consistent with Dell et al. (2012), who find that higher temperatures reduce economic output, I find that a positive economic shock (e.g., one standard-deviation lower temperatures) during the initial five years post-independence raises the likelihood of autocracy in 2018 by 16.1 percentage points. For SPEI, a positive shock (one standard-deviation higher SPEI) during this five-year window raises the probability of autocracy in 2018 by 12.7 percentage points. Across both these measures, the coefficients for other periods are in most cases statistically insignificant and on average close to zero. Column 7 of Appendix Table A.1 displays results using the Anderson (2008) inverse-covariance weighted index of rainfall, temperature, and SPEI. A positive climate shock during the initial five years post-independence raises the likelihood of autocracy in 2018 by 15.5 percentage points ($p < 0.01$), whereas the coefficients in every other period are statistically insignificant and close to zero in magnitude. Last, as shown in

[10] As higher temperatures have generally been found to reduce economic output, standardized temperature realizations are flipped when constructing the index.

Appendix Table A.2, the main precipitation results are robust to BKY sharpened two-stage $q$-values, with the coefficient on standardized rainfall 0-4 years post-independence remaining significant at the one percent level. Furthermore, the same is true for both temperature and SPEI, and across both measures none of the coefficients in any other period are statistically significant at the five percent level once adjusted for multiple-hypothesis testing (a single coefficient is significant at the ten percent level).

Columns 2, 4, 6, and 8 of Appendix Table A.1 report these same results but weighting climate data by contemporaneous population instead of area. As previously noted, I focus on area-weighted rainfall in the main specification to maximize country-year coverage, as weighting on population shrinks the sample due to a paucity of reliable historical population density estimates for a number of nations. The results, however, withstand weighting based on population across all four of the climate measures examined.

Next, I check the robustness of estimates to the inclusion of colonial power fixed effects in Appendix Table A.3. Rainfall shocks in the initial post-independence period continue to exhibit a statistically significant relationship with autocracy today, whereas shocks in all other periods display an insignificant relationship. This pattern holds when colonial power and independence year fixed effects are included, and when colonial power, independence year, and region fixed effects are all included. I additionally examine the sensitivity of the results to restricting the sample to nations which gained independence in a "wave": i.e., countries for which at least one other nation gained independence from the same colonizer in the same year. The main patterns continue to hold.

I undertake further exercises to assess the robustness of the main results. Appendix Figure A.2 reports results from reshuffling country independence years 1000 times and estimating Equation 1 using rainfall realizations calculated relative to the reshuffled independence year. I find that the actual coefficient estimate on initial post-independence rainfall lies in the top 1% of these simulations. I also find that the results are robust to dropping countries one at a time (Appendix Figure A.3) as well as to randomly dropping 10% of countries at a time in 1000 simulations (Appendix Figure A.4).

In Columns 1-3 of Appendix Table A.4, I assess the sensitivity of the findings to spatial correlation in precipitation using Conley (2008) standard errors. I use three spatial bands: 1000 kilometers, approximately the average distance between country centroids in my sample, 2000 kilometers, and 3000 kilometers. The coefficient on initial post-independence rainfall remains statistically significant across all three of these models. Columns 4-5 of Appendix Table A.4 relay that the results are robust to logit and probit specifications. Column 6 of Appendix Table A.4 tests whether the results are sensitive to the omission of nations that received particularly high rainfall (two standard deviations over the long-run mean or higher).

The results are unaffected. Column 7 of Appendix Table A.4 shows that the main findings are largely unaffected if national independence is defined using the year in which a country gained full external and internal autonomy (i.e., full sovereignty) as opposed to the year in which a nation achieved full internal self-governance. The point estimate on initial post-independence rainfall is virtually unchanged and remains statistically significant at the one percent level. Compared to the main specification shown in Table 1, the coefficient on rainfall 1-5 years pre-independence though imprecise is notably larger in magnitude (6.0 percentage points versus 0.5 percentage points), which is consistent with internal self-governance holding relevance as a milestone of independence as the average country in the sample gains internal self-governance three years prior to full sovereignty.

In Appendix Table A.5, I examine whether positive rainfall shocks indeed result in improved short-run economic performance during the initial post-independence years. As expected, I find that higher rainfall is associated with significantly higher agricultural production and significantly lower rates of poverty, particularly in countries with a majority of the workforce employed in agriculture at the time of independence. A one standard deviation increase in post-independence rainfall, for instance, results in a 6.95 percentage points fall in the share of individuals living under USD PPP 2 a day during the first five years post-independence in these agriculture-reliant countries, representing a 16.2% decline relative to the sample mean. Furthermore, the impact of initial post-independence rainfall shocks on long-run autocracy is concentrated in agrarian nations — consistent with precipitation affecting economic conditions (the "first-stage") most in agricultural societies. As previously noted, the overwhelming majority of countries were heavily reliant on agriculture at the time they gained independence, which facilitates using climate shocks as a means of exogenous variation in short-run economic conditions during the initial post-independence years.

Appendix Table A.6 demonstrates that rainfall realizations are not predictive of the probability a nation attains independence. Lastly, Appendix Table A.7 shows that modern rainfall shocks (e.g., standardized precipitation in 2013-2017) are not predictive of autocracy in 2018, and that the main results survive controlling for rainfall across nine five-year bins ranging from 1973-77 to 2013-17.

In summary, the finding that favorable climate shocks in the initial post-independence period — but not in other periods preceding or following independence — raise the likelihood of autocracy in the present withstands an array of robustness analyses, including alternate climate measures, placebo independence dates, spatial standard errors, alternative notions of national independence, tests for sensitivity to outliers, and accounting for the identity of the colonial power from which a country became independent.

## 4.3 How Did Post-Independence Shocks Shape Regime Type?

The empirical findings of this study indicate that the initial post-independence years comprised a critical juncture in the institutional trajectory of nations. In this relatively brief window, transitory economic conditions can tip a nation into a starkly different institutional equilibrium. In contrast, outside of this critical period, temporary economic shocks display no significant relationship with long-run autocracy, though the standard errors do not rule out quantitatively more modest effects and it is possible that shocks exert shorter-run impacts (Burke and Leigh 2010; Brückner and Ciccone 2011).

I turn next to exploring how favorable shocks in this critical juncture facilitated institutional paths to autocracy. I investigate mechanisms using two approaches. First, I conduct five country case studies to qualitatively trace how transitory economic conditions shaped the development of political institutions during the initial post-independence years. I select the countries by drawing upon Lieberman (2005)'s nested analysis approach. The nations examined are Chad, Guyana, Lesotho, Uganda, and Uzbekistan. Second, I investigate quantitatively whether the patterns seen in the case studies generalize by analyzing relatively fine-grained measures of institutional change from the Varieties of Democracy (V-Dem) and Comparative Constitutions projects (Coppedge et al. 2025; Elkins and Ginsburg 2022), as well as archival data on government revenue and information on economic conditions.

While suggestive rather than dispositive, taken together the qualitative and quantitative evidence both point to resource windfalls as instrumental in enabling incumbent leaders to reshape fledgling political institutions in a manner that concentrates power in the executive. Favorable climate shocks raise government revenues, which the leader disproportionately controls. The incumbent then uses this windfall to invest in repressive capacity, such as expanding the military and stacking security forces with loyalists. Expansions in the civil service are used to reward supporters and sustain loyalty, and outright bribery of opposition legislators and citizens picks up pace. After coercive power is established and loyalists suffuse the government, leaders turn to entrenching their position by transforming the nation's nascent political institutions. The constitution is changed to enhance executive power, opposition parties are banned, the judiciary is purged, and independent media outlets are either purchased or prohibited. While the resource windfall does not last, these institutional shifts enable the leader to persist in office. Even when the first leader's tenure ends, later leaders rarely make wholesale changes to the initial institutional settlement. Conversely, poor economic conditions in the initial post-independence period catalyze organized opposition to the government, which persists even after the economic downturn ends. The need to tax citizens, as well as the lack of resources to build repressive capacity, results in the negotiation of more democratic institutions which generally persist into the present.

### 4.3.1 Country Case Studies

To study how economic shocks in the initial post-independence period shaped long-run regime type, I first conduct five country case studies focused on economic and political developments in the early post-independence years. These years were pivotal for a nation's institutional development. In this period, both formal rules and informal political norms rapidly developed (Collier 1982; Christensen and Laitin 2019). Constitutions were drafted and, in the case when newly independent citizens and political elites were dissatisfied with the constitutional arrangements bequeathed by the outgoing colonial rulers, suspended and heavily revised. Arms of the state such as the judiciary and the bureaucracy needed to be staffed with new personnel to replace Europeans who either wanted to leave or were unwanted (Daly 2024). The landscape of political actors was in considerable flux, with ruling parties aiming to consolidate power before potential rivals could either emerge or strengthen bases of support (Zolberg 1966; Young 2012). Although many laws were carried over from the colonial period, the immediate years following independence also saw a flurry of legislation, with new regulations, including laws governing elections and the media, promulgated.

The five countries I examine are Chad, Guyana, Lesotho, Uganda, and Uzbekistan. These nations span three continents and together contain over 115 million people (United Nations 2024). The selection of these cases was guided by the nested analysis approach specified by Lieberman (2005). Appendix Figure A.6 shows how the relationship between standardized rainfall across the first five years post-independence and the value of autocracy in 2018 predicted by Equation 1 compares for the case study countries as opposed to the full sample. Panel B of Appendix Figure A.6 additionally displays the relationship between the regression-adjusted predicted value of autocracy in 2018 and actual autocracy that year. While the full text of the case studies can be found in Appendix B, I summarize each of them below.

Uganda was granted full internal self-government by Britain in 1961, with the first nationwide legislative elections held that year and formal independence achieved the following year. At independence over 90% of the population relied on rainfed agriculture for their livelihood, and the economy depended on coffee and cotton. While rainfall was average and in turn agricultural production and GDP were relatively stagnant prior to independence, the onset of independence coincided with unusually favorable rainfall that averaged 1.31 standard deviations above the long-run mean from 1961-64. Good rains resulted in bumper harvests for Uganda's principal crops, with coffee production rising 85% and cotton output increasing 23%. This agricultural boom in turn led to strong GDP growth and a 70% increase in inflation-adjusted government revenue across the early 1960s.

Uganda's leader, Prime Minister Milton Obote, initially lacked a majority in parliament and governed in coalition with a third party. He also faced a number of strong intra-

party rivals, "so that he was merely the first among equals" (Mutibwa 1992). Be that as it may, being prime minister provided Obote with the ability to control civil service appointments — and importantly, in negotiations over the allocation of ministerial positions, Obote took care to retain the defense ministry for himself. The prime minister then rapidly expanded the civil service and in the process stacked it with loyalists. Even more crucially, Prime Minister Obote's government provided Defense Minister Obote with a 923% inflation-adjusted increase in military spending, which resulted in "the fastest expanding army on the African continent" resulting in a situation in which, due to biased recruiting practices, "he personally had the loyalty of about 80% of the army and 65% of the police" (Ibingira 1980).

Even as Obote amassed repressive capacity and the loyalty of the administrative state, his party secured a majority in parliament due to opposition legislators enticed by patronage opportunities crossing the floor. By 1966, Obote was sufficiently strong to move decisively against his intra-party opponents and institutionalize personalistic rule. Loyalists in the army illegally arrested his rivals and, once they were detained in a maximum security prison, Obote personally assumed all executive powers of government. He also sent the army to destroy the palace of Uganda's traditional king and forced him into exile. Legislators he had bought off and judges he had appointed rubber-stamped a new constitution which granted him vast new powers, including the ability to rule by decree, detain citizens without trial, censor the media, and ban all opposition parties. While the previously loyal army overthrew Obote in the early 1970s and replaced him with Idi Amin, Obote's dictatorial constitution remained in place until 1995 and the autocratic institutions he was able to build early on largely persist to this day, with the nation ruled by the same strongman since 1986.

Chad, along with most of France's African colonies, was granted full internal self-government in 1958. As in Uganda, its first elections resulted in a coalition government led by a man, François Tombalbaye, who initially had a relatively tenuous hold on power. Fortunately for him, however, his first years in office saw Chad receive annual rainfall which averaged 0.62 standard deviations above the long-run mean, including 0.71 standard deviations above the mean in Chad's first year as a fully self-governing nation. Chad, a predominantly agrarian economy dependent on growing water-intensive cotton, saw a 44% increase in cotton production per capita and a concomitant 48% increase in real per capita government revenue.

Tombalbaye, as did Obote in Uganda, retained the defense ministry for himself. He then proceeded to raise spending on the army and police by 137%. He also exploited the fact that Chad's initially democratic constitution gave the prime minister the power to appoint all state employees to stack the government with loyalists from his own clan. Once "he made sure he had the coercive force necessary to accomplish the task," Tombalbaye banned all opposition parties and forcibly sidelined his intra-party rivals, with "the country's

prisons [containing] a virtual 'who's who' of Chadian politicians" (Library of Congress 1990; Hansen 2019). He then turned to reshaping the country's institutions to concentrate power in his person: Chad cycled through three constitutions in little over three years, each one successfully granting more power to the executive. The 1962 constitution granted him vast emergency powers, the ability to rule by decree, and made it impossible for the legislature to legally remove him. Tombalbaye remained in power until 1975, but the autocratic apparatus he constructed remains to this day. Chad's last president, Idriss Déby, ruled for 30 years, and the current president is Déby's son.

Uzbekistan, which was colonized by Russia in the mid-19th century, achieved independence in 1991. At independence, the country was led by Uzbek Communist Party secretary Islam Karimov, who had been recently appointed to the role by Mikhail Gorbachev due to his outsider status within the party elite. Uzbekistan's ruling clans "thought of him as their puppet" and he faced numerous rivals (Geddes et al. 2018). The early 1990s, however, saw favorable rainfall averaging 1.30 standard deviations above the long-run mean which boosted Uzbekistan's predominantly agrarian economy. The country's cotton and wheat crops, which despite some irrigation remain dependent to a substantial degree on natural rainfall, rose and furnished enough revenue for Uzbekistan to avoid the catastrophic budget cuts many other post-Soviet states, such as Armenia and Georgia, were forced to implement. A 1995 IMF report noted that "excise and export taxes on cotton, together with a good cotton crop, accounted for a large part of the higher revenue in 1992 and 1993" (Hemming et al. 1995).

Strong revenues from cotton and wheat allowed President Karimov, who early on asserted control over appointments in the security forces, to raise security spending by an inflation-adjusted 289% from 1991-95 and stack the army and police with members of his own clan, even as he shared resources with other clans in other state sectors. Stable revenues enabled Karimov to keep most Uzbeks on the state payroll, which alongside monitoring by the well-funded secret police provided citizens with strong incentives not to challenge the government. Budgets for state-owned media were increased and a well-staffed censorship office was retained from the Soviet era. Karimov then moved to construct newly independent Uzbekistan's institutions in a manner that concentrated power in the presidency. The constitution he promulgated, which remains to this day, grants the president sweeping powers to rule by decree, declare states of emergency, and appoint all ministers, governors, and judges without effective input from the legislature. It also places numerous restrictions on fundamental rights. With his presidential powers enshrined in the constitution and security forces under his control, Karimov systematically undercut his rivals and ruled Uzbekistan until his death in 2016. Though Karimov is gone, the autocratic institutions he established in the early 1990s remain: Uzbekistan is considered to be a "hard autocracy" to this day.

In contrast to the three cases above, Lesotho and Guyana represent examples of nations which faced unfavorable rainfall shocks in the initial years following independence. Lesotho's national motto is "Khotso, Pula, Nala" — Peace, Rain, Prosperity — which sums up the country's economic model. Unfortunately for its first government, which won a bare majority in Lesotho's inaugural 1965 legislative elections, its first half-decade saw a protracted drought in which rain came in at as low as 1.56 standard deviations below the mean in some years. The sequence of drought years resulted in a 51% reduction in per capita maize production from 1964-70 and a 15% reduction even in the output of the relatively drought-resistant sorghum and wheat crops. With the economy in a depression, government revenue per capita went into free fall, declining by an inflation-adjusted 45% from 1964-70.

Lesotho's government, led by Prime Minister Leabua Jonathan, had little choice but to implement brutal spending cuts. Real per capita expenditure fell 42% from 1964-70. A 38% reduction in spending on general administration deprived Jonathan of patronage opportunities, and the security budget declined in real terms. The economic collapse and the government's seeming inability to remediate the situation catalyzed organized opposition to the government, with the rival Basotholand Congress Party (BCP) enjoying a large upswing in support. Support for Jonathan among Lesotho's traditional chiefs, a bedrock of his party's base, eroded to the point that legislators linked to the chiefs crossed the floor and joined the opposition, depriving Jonathan of a working majority in parliament and forcing him to work with the opposition to pass basic legislation. Lesotho's democratic 1966 constitution went unamended, and in 1968 the government worked constructively with the opposition to pass a bipartisan electoral law. The opposition BCP won a landslide victory in the 1970 elections, defeating Prime Minister Jonathan's party. Though Jonathan refused to leave office and remained prime minister with crucial backing from apartheid South Africa, the BCP remained resilient, retaining the strong organization and support it had developed during the drought years. Lesotho swiftly returned to democracy following the conclusion of Jonathan's tenure in office, and has remained so for over three decades.

Guyana gained full internal-self government in 1961, with elections that year proving to be a close-fought race in which the People's Progressive Party (PPP), led by Cheddi Jagan, prevailed against the People's National Congress (PNC), led by Forbes Burnham. Severe drought — with rainfall averaging 1.03 standard deviations below the long-run mean across Guyana's first five years as a fully self-governing polity — decimated the new country's production of sugar and rice, resulting in a severe recession that put severe pressure on government budgets. The socialist Jagan attempted to aggressively raise taxes to maintain social programs, which proved deeply unpopular and resulted in massive anti-government strikes. The PPP's efforts to consolidate power, such as by merging all of the country's

unions into an organization under its control, began to falter, leading PPP members started to leave the party, and the opposition, sensing that it could win if unified, began to cooperate with each other. Jagan and the PPP were forced to collaborate with the opposition to enact Guyana's first constitution, which was a democratic document. The PPP proceeded to lose Guyana's December 1964 elections to Burnham's PNC. Though Jagan initially refused to concede, he lacked institutional support to retain office, and Burnham assumed the position of prime minister. While Guyana has gone through its own periods of democratic backsliding, it has largely remained democratic since independence, with the PPP and PNC remaining formidable rivals to one another.

#### 4.3.2 Econometric Evidence on Mechanisms

Next, I examine whether the patterns shown in the case studies generalize to the sample as a whole. While scholars of postcolonial politics carefully documented institutional development in numerous newly-independent nations, systematic and precise quantitative data tracing the evolution of political outcomes over a country's history is much more limited. Most nations gained independence at a time when large-scale political data collection was rarer than it is today. The mechanism measures I use are thus relatively coarse, and interpreting evidence from them warrants a higher degree of circumspection. The measures of institutional control I draw on come from two main sources which provide some of the most detailed historical data available on national political attributes: the Varieties of Democracy (V-Dem) and Comparative Constitutions projects (Coppedge et al. 2025; Elkins and Ginsburg 2022). These projects rely on country experts to assess attributes of the political landscape in a standardized manner, using primary sources, academic work, and news reports. The V-Dem dataset, for example, draws on the expertise of over 4000 country experts, with several coders used for each question to mitigate bias (Herre 2025).

To explore how climate shocks at the post-independence critical juncture may facilitate pathways to autocracy, I estimate Equation 1 with political attribute $y_{cp}$ in the period $p$ relative to the year of independence as the outcome of interest. This specification is estimated separately for each of five periods around national independence, ranging from 1-5 years pre-independence to 15-19 years post-independence. As with the reduced-form main results, this specification identifies the effect of rainfall shocks post-independence along with the impact of shocks in other periods prior and following independence. In addition to estimating this regression on five-year averages of the outcomes, I also do so for ten-year and twenty-year averages in an effort to improve statistical precision and to examine long-run effects.

Figure 4 and Appendix Table A.8 present results for eight outcomes of interest. In Figure 4, estimates for five-year averages of the outcomes are plotted alongside results for twenty-year long averages, which are shown as red horizontal lines along with 95% confidence intervals.

Consistent with the case studies, favorable rainfall in the initial five-post-independence years is associated with significantly more replacements and suspensions of the constitution: a one standard deviation increase in precipitation at the critical juncture results in a 3.3 percentage point increase in the annual likelihood of major constitutional revisions across the first twenty years post-independence, a result statistically significant at the one percent level and representing a 35.5% increase relative to the sample mean. As a placebo check, I examine the association between rainfall in the initial post-independence years and constitutional revisions pre-independence, which were an occurrence as some national constitutions were drafted prior to the formal independence date. I do not find statistically or economically significant differences prior to the onset of independence.

Next, I examine the relationship between critical juncture climate shocks and the presence of independent opposition parties in national politics. Prior to independence, initial post-independence rainfall is not associated with significant differences in an independent opposition. This changes rapidly, however, after the first five years of independence: by years 5-9, a one standard deviation increase in critical juncture precipitation is associated with a 15.4 percentage point decline in the presence of independent opposition parties, a 23.6% reduction compared to the sample mean. This reduction in opposition presence then stabilizes and persists in subsequent periods.

Positive shocks at the critical juncture post-independence are also associated with a sharp and immediate increase in the likelihood the government holds total ownership of the media. A one standard deviation rise in initial post-independence rainfall raises by 51% the likelihood of media control across the first two decades of independence compared to the sample mean (a 6.0 percentage point increase compared to a mean of 11.7%). This effect again emerges soon after independence and persists in the subsequent years, mirroring the rise in autocracy traced out in Table 3.

Figure 4 and Appendix Table A.8 further show that critical juncture rainfall is associated with sharp increases in the likelihood of judicial purges, in which judges are removed for political reasons as opposed to for cause. Even in newly independent nations with relatively weak state capacity and the rule of law, the judiciary often served as an important constraint on executive power (Widner 2001; Daly 2024). Defying the courts was costly and unpopular, particularly if violations of judicial independence were reported by the media. While the impact of critical juncture climate shocks is not as immediate as with state ownership of the media, effects on judicial purges emerge 5-9 years following independence and subsequently persist. The difference in the timing of effects between media ownership and judicial purges may suggest a sequencing of autocratic consolidation. Overall, across the first two decades following independence, a standard deviation rise in initial post-independence precipitation

results in a 50% rise in judicial purges: a coefficient of 10.4 percentage points compared to a sample mean of 20.6%.

Crucially, I find that favorable rainfall in the critical juncture results in a significantly higher probability that country experts consider the military to be a key supporter of the regime. As shown in Column 6 of Appendix Table A.8 and in Figure 4, a standard deviation increase in initial rainfall is linked to a 23.4% rise in military support compared to the mean.

The results on constitutional revisions, media ownership, judicial purges, and military backing all suggest that favorable economic shocks in the initial post-independence period relaxed the constraints of leaders in government, enabling them to tighten control over instruments of state power. This appears to have occurred amid tepid mass support for the regime. While systematic historical opinion polling data are scarce, two main measures of mass support are available in the V-Dem dataset: reports of mass demonstrations and expert assessments of mass support for the government. I find no significant impact on the incidence of mass demonstrations, and while expert assessments of mass support are balanced pre-independence, following independence critical juncture rainfall is associated with a rapid deterioration in mass support. While not dispositive, these results are inconsistent with state leaders leveraging heightened popularity to consolidate power.

In contrast, consistent with the case studies, I find evidence that favorable climate shocks afford leaders additional resources. First, as discussed earlier and shown in Appendix Table A.5, rainfall shocks in fact do improve short-run economic conditions: critical juncture precipitation is positively associated with higher agricultural production, especially in nations in which most workers are employed in agriculture, and negatively associated with poverty rates. The economic upturn created by favorable climate conditions raises government revenue growth, as shown in Appendix Table A.9. A one standard deviation increase in critical juncture precipitation is associated with a 6.0 percentage point increase in annual nominal revenue growth during the initial five years following independence, a result statistically significant at the five percent level and representing a 38% increase relative to the sample mean.[11] These estimates suggest that windfall resources may have been exploited to consolidate control over important national institutions — the military, judiciary, and media, — and parlay that control into reshaping the constitution to concentrate power.[12] The long-run implication of these changes is a more personalistic regime, and indeed, in Appendix Table A.10, I show that the entirety of the impact of post-independence critical juncture

[11]Nominal revenue was used as inflation estimates are often unavailable during the historical period of interest and also frequently unreliable in many countries in the sample studied (Jerven 2013; Albers et al. 2023), rendering inflation-adjusted statistics difficult to obtain for much of the full sample.

[12]Benmelech and Monteiro (2026) find the onset of war similarly enables incumbent leaders to reshape institutions in a manner that undermines democracy.

climate shocks on autocracy stems from growth in personalistic autocracies as opposed to institutionalized dictatorships.

Table 1, however, shows that favorable economic conditions exert persistent impacts on autocracy only if they occur at the post-independence critical juncture. Do these shocks enable autocracy in the manner suggested in Figure 4 only at the critical juncture? As relayed by Appendix Figure A.5, the answer generally appears to be yes. Favorable rainfall shocks at other periods are not associated with significant subsequent increases in constitutional revisions, media ownership, judicial purges, or military support, nor with declines in independent opposition parties. While a small number of individual coefficients are significant and modest impacts cannot be ruled out by the standard errors, most point estimates hover around zero. Taken together, these results suggest that favorable shocks in the immediate years following independence provide political leaders with a unique opportunity to reshape institutions to their advantage, with effects on autocracy that persist into the present.

## 4.4 The Long-Run Consequences for Poverty and Growth

So far, the results presented imply the existence of a "political resource curse" conditional on resource windfalls striking at a time in which political institutions are particularly malleable. But do favorable economic shocks in the initial post-independence years — those which appear to ultimately facilitate autocracy — carry long-run consequences for economic development?

I find that positive economic shocks in the initial post-independence period worsen development in the long-run. Column 1 of Appendix Table A.11 reports the reduced-form relationship between rainfall in the initial five years post-independence and annual per capita GDP growth since independence. A one standard deviation increase in standardized rainfall in the initial post-independence years is associated with a 0.37 percentage point decline in annual GDP growth from independence to 2018. This estimate is statistically significant at the five percent level and represents a 22.6% decrease in per capita GDP growth relative to the sample mean of 1.64 percentage points a year.

Column 2 of Appendix Table A.11 presents estimates of the reduced-form relationship between precipitation at the post-independence juncture and long-run poverty rates. A one standard deviation increase in post-independence rainfall results in a 6.95 percentage point increase in the share of citizens living under USD PPP 2 a day in 2017, a 50.1% increase off the sample mean which is statistically significant at the one percent level.

Importantly, as with previous results, it is only shocks in the initial five years post-independence which are associated with adverse effects on long-run growth and poverty. Climate shocks in other periods do not exhibit this same relationship. For poverty, none

of the coefficients on standardized rainfall in any of the other eight periods preceding and following the initial post-independence period are statistically significant. For GDP growth, all the coefficients outside the first five years post-independence are insignificant except one (-15 to -11 years pre-independence), which is marginally significant and carries the opposite sign. It is economic perturbations in the initial post-independence window in particular which appear to carry consequences for long-run economic development, just as shocks in this window are particularly relevant for the development of political regime type.

In the final two columns of Appendix Table A.11, I present instrumental variable estimates of the effect of autocracy on growth and poverty. Prior work, such as Acemoglu et al. (2019) and Blattman et al. (2025), finds using a variety of econometric approaches that autocracy carries deleterious consequences for growth. As this paper shows that exogenous climate shocks during the initial five years post-independence significantly affect the likelihood a nation is an autocracy, this substantial first-stage may be able to be harnessed as another means of identifying autocracy's effect on growth. Columns 3-4 of Appendix Table A.11 report 2SLS estimates of autocracy's consequences for growth and poverty using post-independence critical juncture rainfall as an instrument for the share of years spent in autocracy since independence. The validity of these results is contingent on satisfaction of the exclusion restriction, and therefore I view these estimates as suggestive in nature. That said, consistent with the prior literature, the 2SLS results indicate that autocracy throttles growth and significantly worsens poverty rates.

# 5 Conclusion

This paper provides empirical evidence that transitory economic shocks can exert persistent changes on levels of democracy if those shocks occur at a critical period of institutional formation. The period I study — the initial half-decade after a nation gains independence from a colonial power — is ex-ante a plausible candidate for a critical juncture, as both formal rules and informal political norms are developed during this time (Collier 1982; Christensen and Laitin 2019). Furthermore, it is one that the overwhelming majority of countries in existence today have experienced. Comparing periods relative to the year of national independence, it is only during the initial post-independence years that temporary economic shocks result in long-run changes in autocracy. This supports the hypothesis that the initial post-independence years constitute a critical juncture: a short, rare period during which even slight perturbations can shift a society onto a starkly different institutional trajectory.

I also find that at this critical juncture, favorable economic conditions permanently raise the likelihood a nation is autocratic. Consistent with regimes exploiting resource windfalls to consolidate power at a time of institutional transition, positive shocks in the initial post-

independence years — but, importantly, not in other periods — are strongly associated with government takeovers of the media, sweeping constitutional and judicial reforms, and greater military support for the government. These findings may point to a possible unintended consequence of international development assistance disbursed by donors seeking to support nations through times of institutional flux: while more resources during these periods may be instrumental in reducing short-run poverty and alleviating humanitarian crises, they may also carry the unintended consequence of enabling would-be autocrats to undermine democracy, absent sufficient safeguards to foreclose this possibility.

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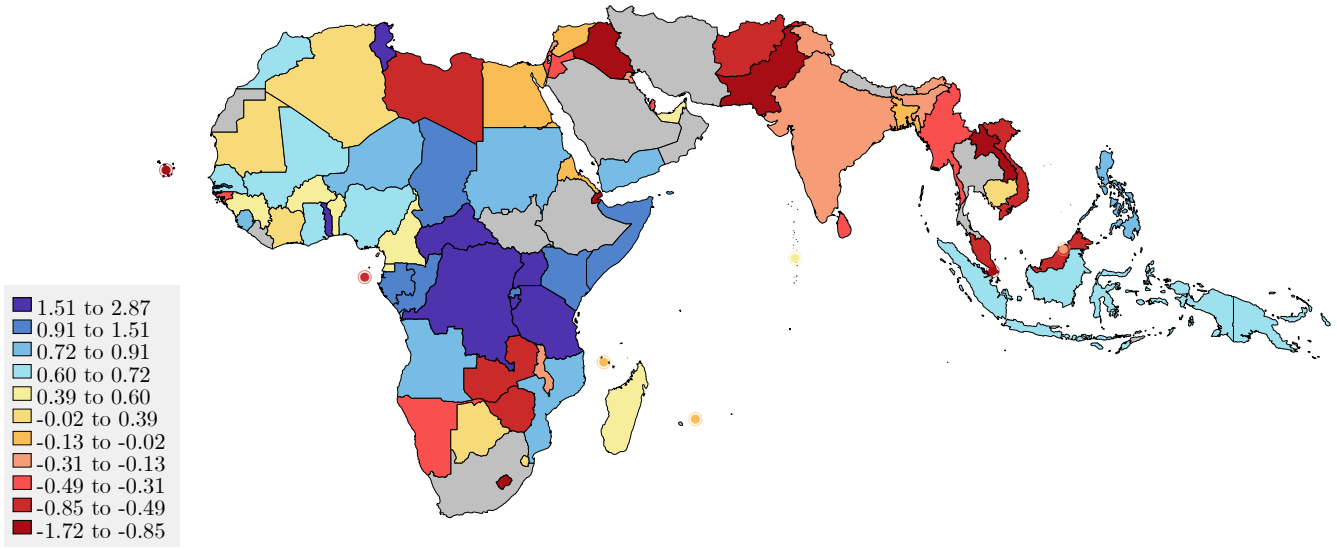
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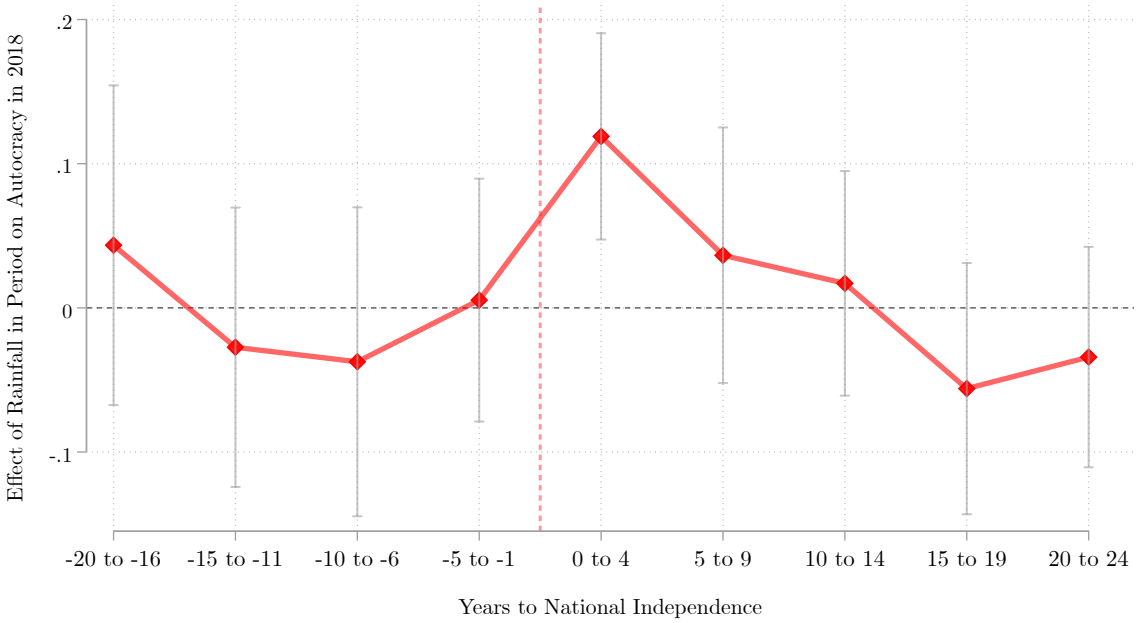
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Figure 1: Rainfall in the Initial Post-Independence Years by Country

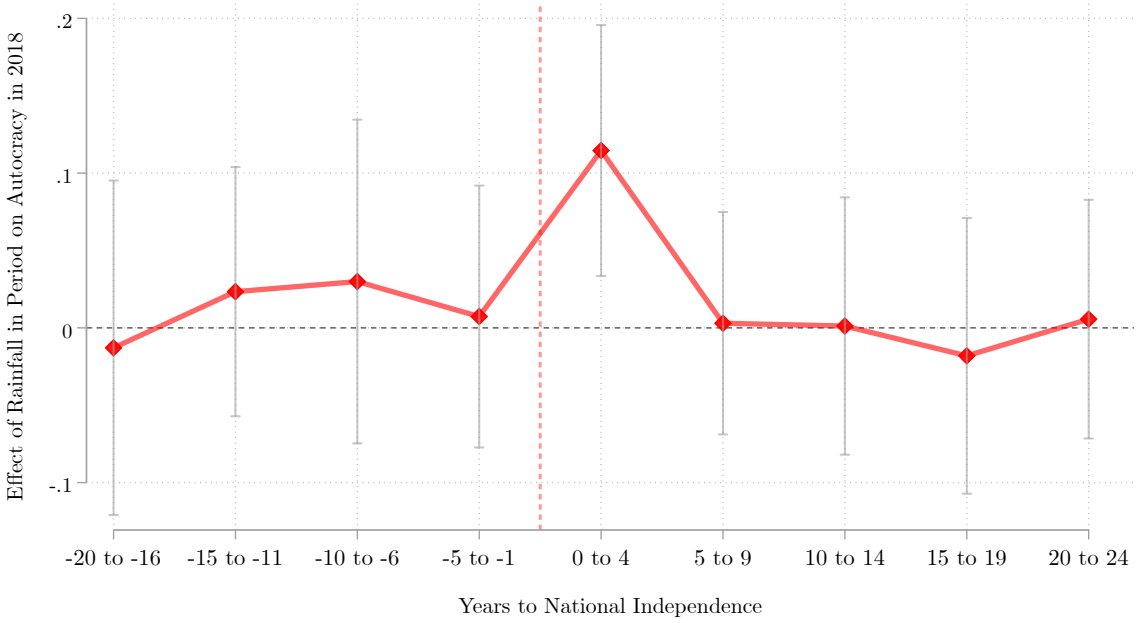



*Notes:* The figure plots standardized rainfall in the initial five years following independence for countries in Sub-Saharan Africa, South Asia, and Southeast Asia. Rainfall for each nation is standardized relative to the 1900-2017 national average, and is displayed on the figure in eleven equally-sized bins. The countries shown on the figure comprise two-thirds of the main sample, with other countries exhibiting similar variation but omitted for graphical tractability. Countries in grey are not in the main sample.

Figure 2: Rainfall Shocks at National Independence and Contemporary Autocracy




*Panel A: No Region Fixed Effects*




*Panel B: Region Fixed Effects Included*

*Notes:* The dependent variable is autocracy in 2018. The independent variables are standardized rainfall realizations across a given five-year period relative to the year a country was granted full internal self-governance by a colonial power. Rainfall data are standardized relative to the 1900-2017 national average. The sample consists of all countries with democracy data in 2018 as well as rainfall data for all five-year bins ranging from 16-20 years pre-independence to 20-24 years post-independence. Each observation is a country. Region fixed effects are included in Panel B. 95% confidence intervals are shown.

Table 1: Rainfall Shocks at National Independence and Contemporary Autocracy

| | (1) Autocracy Composite | (2) Autocracy ANRR | (3) Autocracy BMR | (4) Autocracy LIED | (5) Autocracy ROW |
|---|---|---|---|---|---|
| Rainfall 16-20 years pre-independence | 0.04 | 0.04 | 0.06 | 0.05 | 0.03 |
| | (0.06) | (0.06) | (0.06) | (0.06) | (0.06) |
| Rainfall 11-15 years pre-independence | -0.03 | 0.01 | -0.02 | -0.05 | -0.05 |
| | (0.05) | (0.06) | (0.06) | (0.05) | (0.06) |
| Rainfall 6-10 years pre-independence | -0.04 | -0.02 | -0.05 | -0.04 | -0.06 |
| | (0.05) | (0.06) | (0.06) | (0.06) | (0.07) |
| Rainfall 1-5 years pre-independence | 0.01 | -0.05 | 0.01 | 0.04 | -0.02 |
| | (0.04) | (0.05) | (0.05) | (0.05) | (0.05) |
| **Rainfall 0-4 years post-independence** | 0.12*** | 0.12*** | 0.12*** | 0.12*** | 0.12*** |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Rainfall 5-9 years post-independence | 0.04 | 0.05 | 0.03 | 0.04 | 0.03 |
| | (0.05) | (0.05) | (0.05) | (0.05) | (0.06) |
| Rainfall 10-14 years post-independence | 0.02 | 0.04 | -0.01 | 0.00 | 0.05 |
| | (0.04) | (0.05) | (0.05) | (0.05) | (0.05) |
| Rainfall 15-19 years post-independence | -0.06 | -0.04 | -0.08 | -0.05 | -0.04 |
| | (0.04) | (0.05) | (0.05) | (0.05) | (0.05) |
| Rainfall 20-24 years post-independence | -0.03 | -0.01 | -0.04 | -0.01 | -0.09* |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.05) |
| Sample Mean | 0.45 | 0.38 | 0.50 | 0.40 | 0.58 |
| Observations | 126 | 126 | 126 | 126 | 109 |
| Total Countries | 126 | 126 | 126 | 126 | 109 |

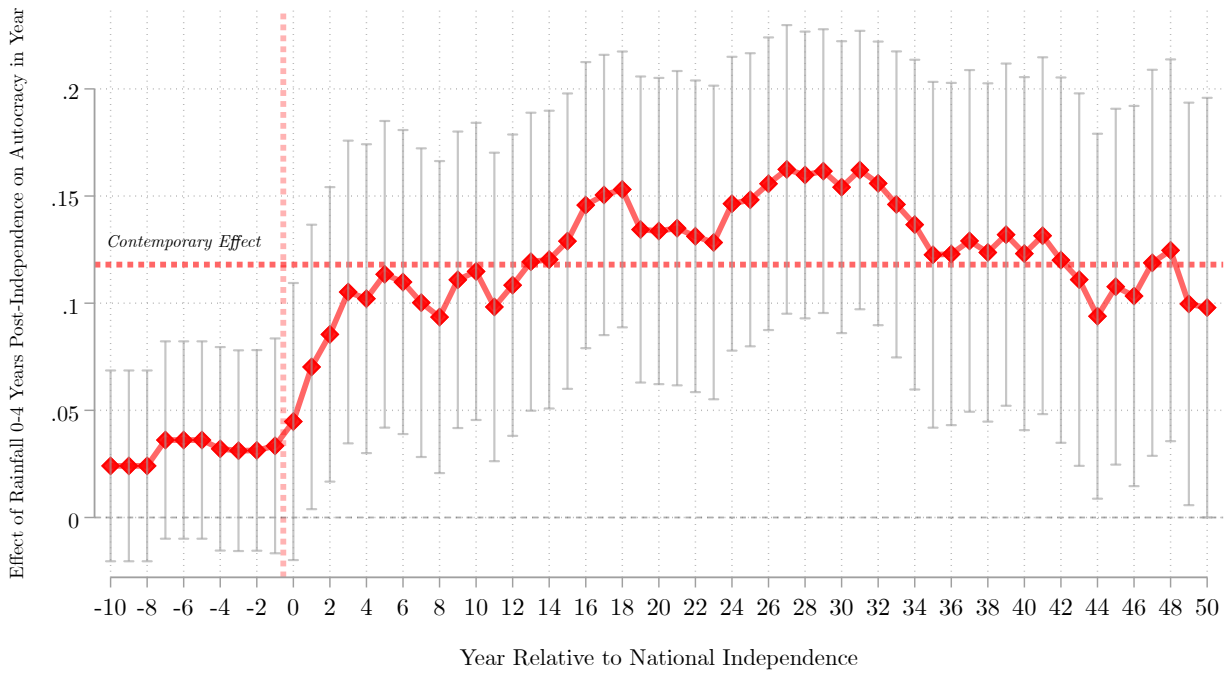
*Notes:* The dependent variable is autocracy in 2018, as assessed using five measures: Acemoglu et al. (2019) (column 2), Boix et al. (2012) (column 3), Skaaning et al. (2015) (column 4), Lührmann et al. (2018) (column 5), and a simple average of the preceding four measures (column 1). The independent variables are standardized rainfall realizations across a given five-year period relative to the year a country was granted full internal self-governance by a colonial power. Rainfall data are standardized relative to the 1900-2017 national average. The sample consists of all countries with democracy data in 2018 as well as data on rainfall for all five-year bins ranging from 16-20 years pre-independence to 20-24 years post-independence. Each observation is a country. * $p < .10$, ** $p < .05$, *** $p < .01$. Robust standard errors are reported.

Table 2: Rainfall Shocks at National Independence and Contemporary Autocracy

| | (1) Autocracy Composite | (2) Autocracy Composite | (3) Autocracy Composite | (4) Autocracy Composite | (5) Autocracy Composite |
|---|---|---|---|---|---|
| Rainfall 16-20 years pre-independence | 0.04 | -0.01 | 0.01 | -0.01 | -0.02 |
| | (0.06) | (0.06) | (0.09) | (0.08) | (0.13) |
| Rainfall 11-15 years pre-independence | -0.03 | 0.02 | -0.04 | 0.02 | 0.01 |
| | (0.05) | (0.04) | (0.06) | (0.06) | (0.10) |
| Rainfall 6-10 years pre-independence | -0.04 | 0.03 | 0.06 | 0.08 | 0.08 |
| | (0.05) | (0.05) | (0.09) | (0.08) | (0.14) |
| Rainfall 1-5 years pre-independence | 0.01 | 0.01 | -0.04 | -0.06 | -0.10 |
| | (0.04) | (0.04) | (0.07) | (0.06) | (0.10) |
| **Rainfall 0-4 years post-independence** | 0.12*** | 0.11*** | 0.18*** | 0.19*** | 0.17** |
| | (0.04) | (0.04) | (0.06) | (0.05) | (0.08) |
| Rainfall 5-9 years post-independence | 0.04 | 0.00 | 0.04 | -0.04 | -0.02 |
| | (0.05) | (0.04) | (0.07) | (0.06) | (0.10) |
| Rainfall 10-14 years post-independence | 0.02 | 0.00 | 0.06 | -0.03 | -0.02 |
| | (0.04) | (0.04) | (0.06) | (0.06) | (0.11) |
| Rainfall 15-19 years post-independence | -0.06 | -0.02 | -0.06 | -0.01 | -0.05 |
| | (0.04) | (0.05) | (0.06) | (0.07) | (0.10) |
| Rainfall 20-24 years post-independence | -0.03 | 0.01 | -0.07 | 0.01 | 0.01 |
| | (0.04) | (0.04) | (0.05) | (0.06) | (0.12) |
| Region FEs | NO | YES | NO | YES | NO |
| Independence Year FEs | NO | NO | YES | YES | NO |
| Region x Independence Year FEs | NO | NO | NO | NO | YES |
| Sample Mean | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 |
| Observations | 126 | 126 | 126 | 126 | 126 |
| Total Countries | 126 | 126 | 126 | 126 | 126 |

*Notes:* The dependent variable is autocracy in 2018. The independent variables are standardized rainfall realizations across a given five-year period relative to the year a country was granted full internal self-governance by a colonial power. Rainfall data are standardized relative to the 1900-2017 national average. The sample consists of all countries with democracy data in 2018 as well as data on rainfall for all five-year bins ranging from 16-20 years pre-independence to 20-24 years post-independence. Each observation is a country. * $p < .10$, ** $p < .05$, *** $p < .01$. Robust standard errors are reported.

Figure 3: Rainfall Shocks at National Independence and Autocracy Over Time



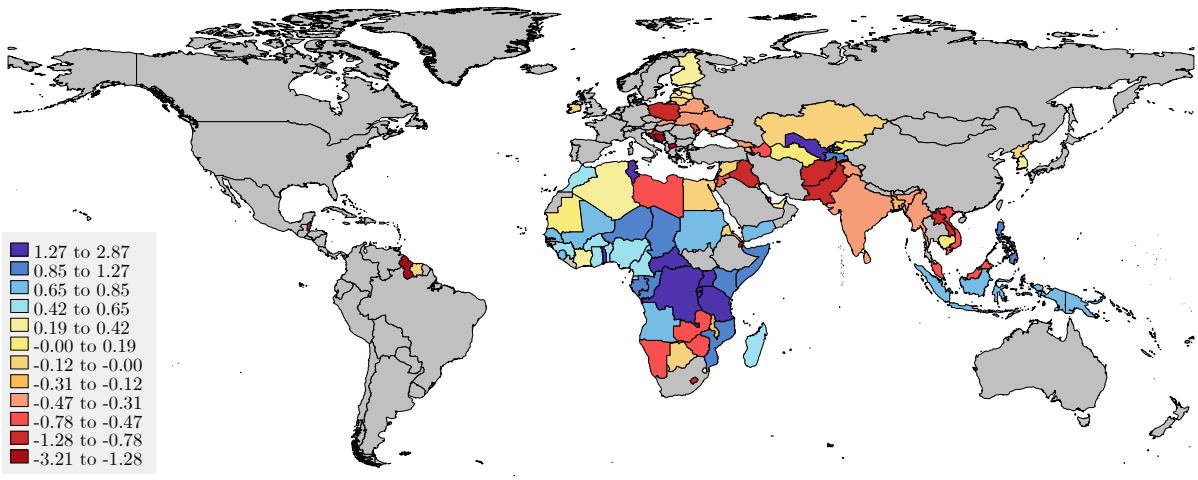

*Notes:* The dependent variable is autocracy in a given year relative to national independence. The independent variable is standardized rainfall across the first five years post-independence, with controls for standardized rainfall for all five-year bins ranging from 16-20 years pre-independence to 20-24 years post-independence. Rainfall data are standardized relative to the 1900-2017 national average. The sample consists of all countries with democracy data in the year of interest as well as rainfall data for all five-year bins. Each observation is a country. 95% confidence intervals are shown.

Figure 4: Rainfall Shocks at National Independence and Measures of Political Power



# A Appendix Exhibits

Figure A.1: Rainfall in the Initial Post-Independence Years by Country




*Notes:* The figure plots standardized rainfall in the initial five years following independence for countries worldwide. Rainfall for each nation is standardized relative to the 1900-2017 national average, and is displayed on the figure in twelve equally-sized bins. Countries in grey are not in the main sample.

Table A.1: Robustness to Alternative Climate Measures

| | (1) Rainfall Area-Weighted | (2) Rainfall Pop-Weighted | (3) Temperature Area-Weighted | (4) Temperature Pop-Weighted | (5) SPEI Area-Weighted | (6) SPEI Pop-Weighted | (7) Anderson Index Area-Weighted | (8) Anderson Index Pop-Weighted |
|---|---|---|---|---|---|---|---|---|
| Climate 16-20 years pre-independence | 0.04 | 0.04 | 0.05 | 0.08 | -0.02 | -0.04 | -0.03 | -0.03 |
| | (0.06) | (0.06) | (0.06) | (0.07) | (0.05) | (0.05) | (0.04) | (0.04) |
| Climate 11-15 years pre-independence | -0.03 | 0.03 | 0.09 | 0.09 | -0.11** | -0.09* | -0.05 | -0.03 |
| | (0.05) | (0.06) | (0.07) | (0.07) | (0.05) | (0.05) | (0.04) | (0.05) |
| Climate 6-10 years pre-independence | -0.04 | -0.02 | -0.04 | -0.10 | 0.02 | 0.03 | -0.01 | 0.01 |
| | (0.05) | (0.05) | (0.09) | (0.10) | (0.05) | (0.05) | (0.04) | (0.05) |
| Climate 1-5 years pre-independence | 0.01 | 0.00 | 0.03 | -0.02 | -0.03 | -0.04 | -0.00 | -0.01 |
| | (0.04) | (0.04) | (0.07) | (0.07) | (0.05) | (0.05) | (0.04) | (0.05) |
| **Climate 0-4 years post-independence** | 0.12*** | 0.09** | -0.16** | -0.17** | 0.13*** | 0.11*** | 0.15*** | 0.15*** |
| | (0.04) | (0.04) | (0.07) | (0.08) | (0.04) | (0.04) | (0.04) | (0.04) |
| Climate 5-9 years post-independence | 0.04 | 0.07 | 0.14** | 0.14* | -0.00 | -0.02 | -0.04 | -0.02 |
| | (0.05) | (0.05) | (0.06) | (0.08) | (0.04) | (0.04) | (0.05) | (0.05) |
| Climate 10-14 years post-independence | 0.02 | -0.01 | 0.05 | 0.08 | 0.02 | -0.01 | -0.00 | -0.03 |
| | (0.04) | (0.04) | (0.06) | (0.07) | (0.04) | (0.05) | (0.04) | (0.04) |
| Climate 15-19 years post-independence | -0.06 | -0.03 | -0.10* | -0.06 | -0.07 | -0.05 | -0.01 | -0.02 |
| | (0.04) | (0.05) | (0.05) | (0.06) | (0.04) | (0.05) | (0.04) | (0.05) |
| Climate 20-24 years post-independence | -0.03 | -0.02 | -0.09 | -0.10* | -0.01 | -0.03 | 0.02 | 0.03 |
| | (0.04) | (0.04) | (0.05) | (0.06) | (0.05) | (0.05) | (0.04) | (0.05) |
| Sample Mean | 0.45 | 0.47 | 0.45 | 0.47 | 0.46 | 0.47 | 0.45 | 0.47 |
| Observations | 126 | 118 | 126 | 118 | 122 | 118 | 126 | 118 |
| Total Countries | 126 | 118 | 126 | 118 | 122 | 118 | 126 | 118 |

*Notes:* The dependent variable is autocracy in 2018. The independent variables are standardized climate realizations across a given five-year period relative to the year a country was granted full internal self-governance by a colonial power. Columns 1-2 report results using standardized rainfall realizations as the measure of climate. Columns 3-4 display results using standardized temperature (as shown in Dell et al. (2012), higher temperatures lower economic output). Columns 5-6 show results using the standardized precipitation and evapotranspiration index (SPEI). Columns 7-8 report results using a standardized inverse-covariance weighted average of rainfall, temperature, and SPEI, following Anderson (2008). The sample consists of all countries with democracy data in 2018 as well as data on climate for all five-year bins ranging from 16-20 years pre-independence to 20-24 years post-independence. Each observation is a country. * $p < .10$, ** $p < .05$, *** $p < .01$. Robust standard errors are reported.

Table A.2: Robustness to Alternative Climate Measures

| | (1) Rainfall | (2) Temperature | (3) SPEI |
|---|---|---|---|
| Climate 16-20 years pre-independence | 0.043 | -0.049 | -0.017 |
| | (0.057) | (0.065) | (0.048) |
| | [0.444] | [0.453] | [0.731] |
| | {1.000} | {1.000} | {1.000} |
| Climate 11-15 years pre-independence | -0.027 | -0.087 | -0.109 |
| | (0.049) | (0.066) | (0.046) |
| | [0.581] | [0.189] | [0.020] |
| | {0.396} | {0.233} | {0.064} |
| Climate 6-10 years pre-independence | -0.037 | 0.042 | 0.021 |
| | (0.055) | (0.088) | (0.051) |
| | [0.495] | [0.636] | [0.682] |
| | {1.000} | {1.000} | {1.000} |
| Climate 1-5 years pre-independence | 0.005 | -0.031 | -0.026 |
| | (0.043) | (0.066) | (0.047) |
| | [0.900] | [0.634] | [0.581] |
| | {1.000} | {1.000} | {1.000} |
| **Climate 0-4 years post-independence** | 0.119 | 0.161 | 0.127 |
| | (0.037) | (0.066) | (0.040) |
| | [0.001] | [0.017] | [0.002] |
| | {0.004} | {0.006} | {0.004} |
| Climate 5-9 years post-independence | 0.036 | -0.137 | -0.003 |
| | (0.045) | (0.064) | (0.043) |
| | [0.422] | [0.035] | [0.947] |
| | {0.729} | {0.116} | {1.000} |
| Climate 10-14 years post-independence | 0.017 | -0.047 | 0.018 |
| | (0.040) | (0.063) | (0.044) |
| | [0.669] | [0.462] | [0.674] |
| | {1.000} | {1.000} | {1.000} |
| Climate 15-19 years post-independence | -0.056 | 0.096 | -0.071 |
| | (0.044) | (0.052) | (0.044) |
| | [0.210] | [0.068] | [0.109] |
| | {0.196} | {0.196} | {0.196} |
| Climate 20-24 years post-independence | -0.034 | 0.088 | -0.013 |
| | (0.039) | (0.055) | (0.051) |
| | [0.383] | [0.111] | [0.795] |
| | {0.621} | {0.502} | {1.000} |

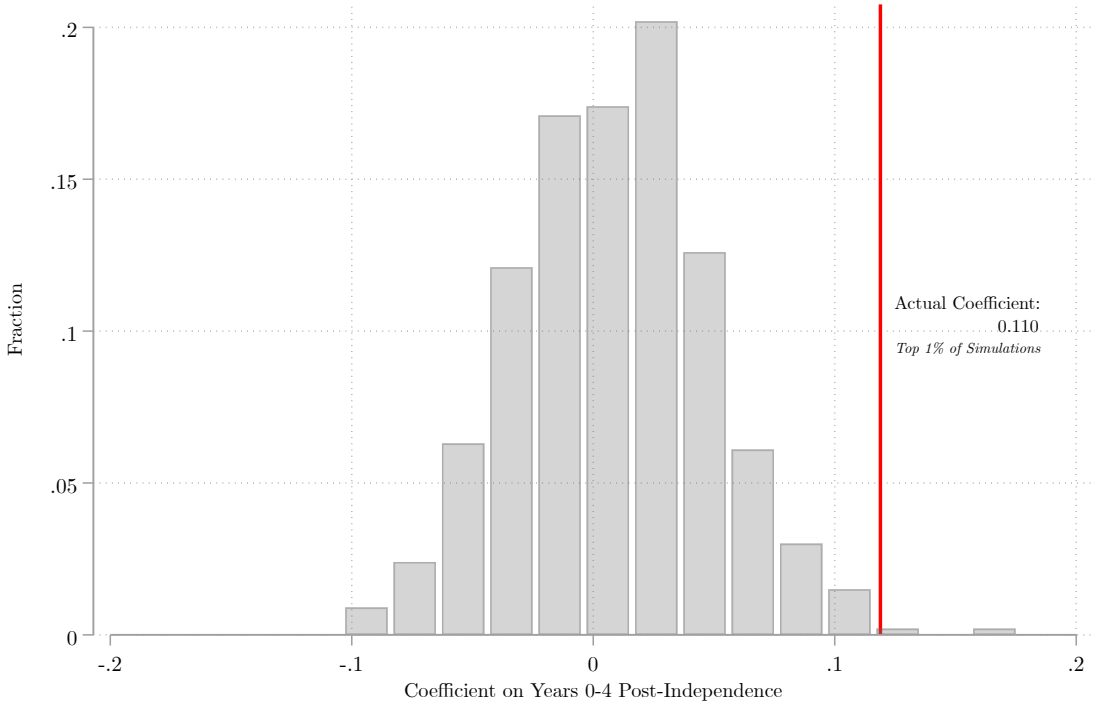
*Notes:* Within each period the first row represents the coefficient estimate, the second row (in parentheses) displays the standard error, the third row (in square brackets) reports the unadjusted $p$-value, and the fourth row (in curly brackets) displays the Benjamini et al. (2006) sharpened two-stage $q$-value, computed considering rainfall, temperature, and SPEI as part of the same family of climate measurements. The dependent variable is autocracy in 2018. The independent variables are standardized climate realizations across a given five-year period relative to the year a country was granted full internal self-governance by a colonial power. The sample consists of all countries with democracy data in 2018 as well as data on climate for all five-year bins ranging from 16-20 years pre-independence to 20-24 years post-independence.

Table A.3: Rainfall Shocks at National Independence and Contemporary Autocracy

| | (1) Colonial Power Fixed Effects Only | (2) Colonial Power and Year Fixed Effects | (3) Colonial Power, Year, Region Fixed Effects | (4) 2+ Countries Independent in Year |
|---|---|---|---|---|
| Rainfall 16-20 years pre-independence | 0.08 | 0.03 | -0.01 | 0.00 |
| | (0.06) | (0.09) | (0.09) | (0.07) |
| Rainfall 11-15 years pre-independence | -0.03 | -0.06 | 0.03 | -0.01 |
| | (0.06) | (0.07) | (0.07) | (0.06) |
| Rainfall 6-10 years pre-independence | -0.01 | 0.10 | 0.10 | -0.02 |
| | (0.06) | (0.09) | (0.09) | (0.07) |
| Rainfall 1-5 years pre-independence | -0.04 | -0.02 | -0.06 | 0.01 |
| | (0.05) | (0.08) | (0.08) | (0.05) |
| **Rainfall 0-4 years post-independence** | 0.08* | 0.20*** | 0.19*** | 0.17*** |
| | (0.04) | (0.06) | (0.07) | (0.04) |
| Rainfall 5-9 years post-independence | 0.02 | 0.01 | -0.03 | 0.06 |
| | (0.05) | (0.07) | (0.07) | (0.05) |
| Rainfall 10-14 years post-independence | 0.00 | 0.05 | -0.04 | 0.05 |
| | (0.05) | (0.06) | (0.08) | (0.05) |
| Rainfall 15-19 years post-independence | -0.06 | -0.03 | 0.02 | -0.04 |
| | (0.05) | (0.08) | (0.08) | (0.06) |
| Rainfall 20-24 years post-independence | -0.02 | -0.04 | -0.00 | 0.00 |
| | (0.04) | (0.06) | (0.07) | (0.04) |
| Sample Mean | 0.45 | 0.45 | 0.45 | 0.40 |
| Observations | 126 | 126 | 126 | 90 |
| Total Countries | 126 | 126 | 126 | 90 |

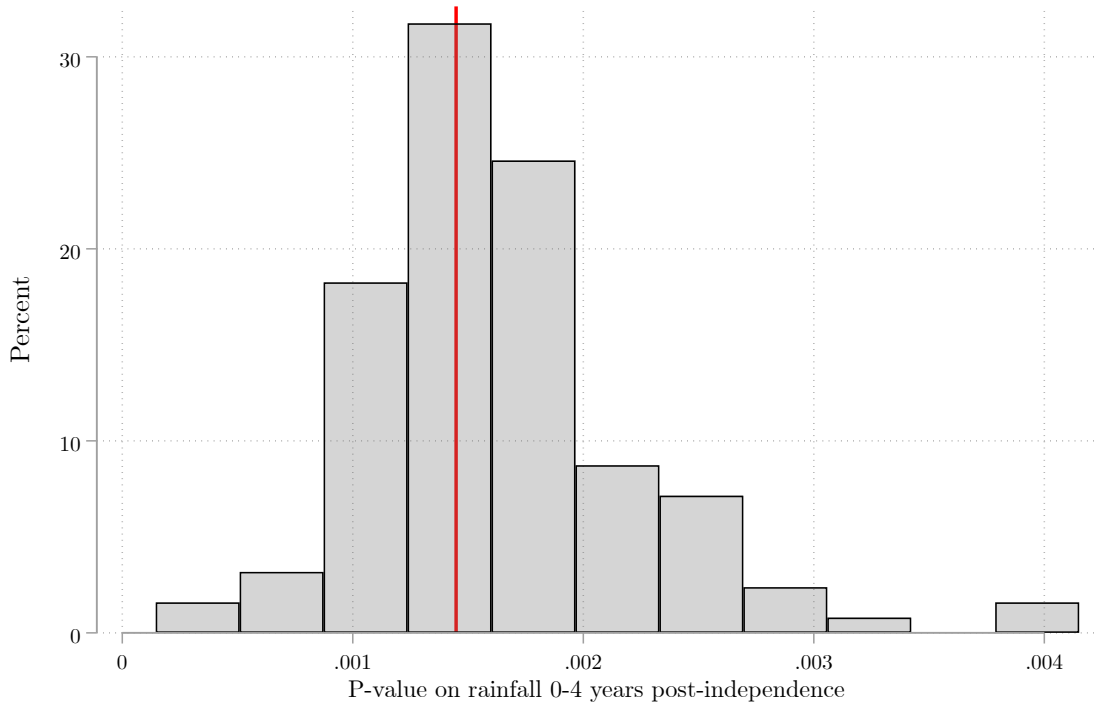
*Notes:* The dependent variable is autocracy in 2018. The independent variables are standardized rainfall realizations across a given five-year period relative to the year a country was granted full internal self-governance by a colonial power. Rainfall data are standardized relative to the 1900-2017 national average. The sample consists of all countries with democracy data in 2018 as well as data on rainfall for all five-year bins ranging from 16-20 years pre-independence to 20-24 years post-independence. Each observation is a country. * $p < .10$, ** $p < .05$, *** $p < .01$. Robust standard errors are reported.

Figure A.2: Robustness to Reshuffling Country Independence Years 1000 Times



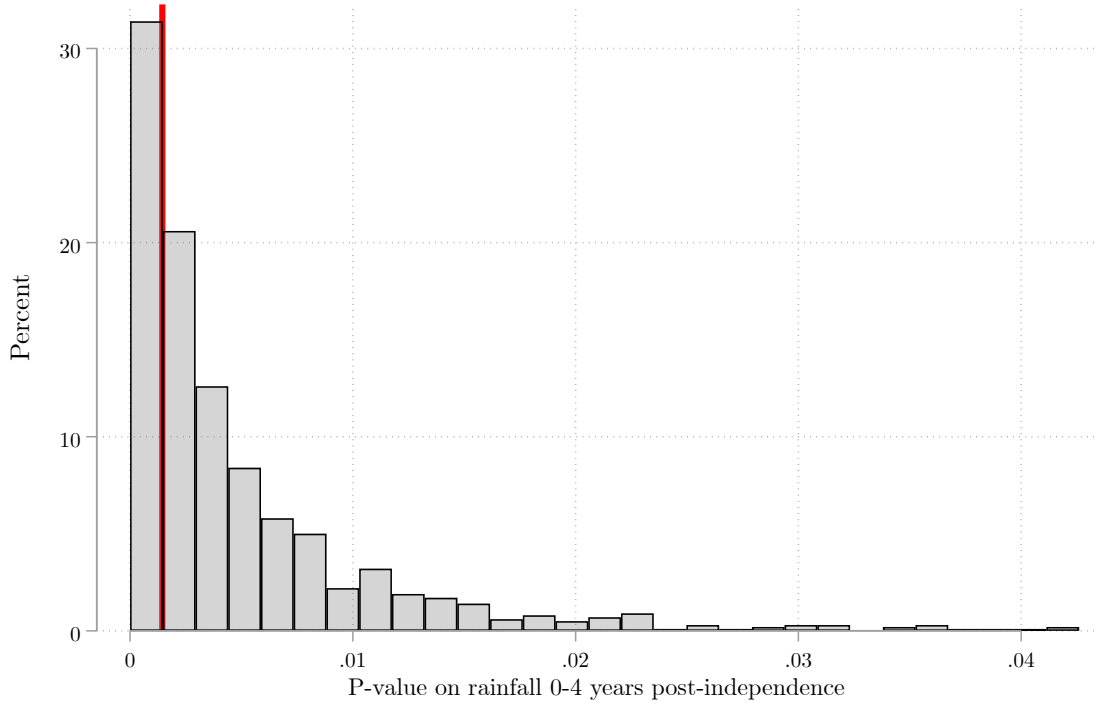

*Notes:* The dependent variable is autocracy in 2018 and the independent variables are standardized rainfall realizations across a given five-year period relative to the year a country was granted full internal self-governance by a colonial power. Country independence years are reshuffled 1000 times and rainfall realizations are calculated relative to the reshuffled independence year. The actual coefficient for the main specification is displayed using the dashed line. Robust standard errors are used.

Figure A.3: Robustness to Dropping Individual Countries




*Notes:* The dependent variable is autocracy in 2018 and the independent variables are standardized rainfall realizations across a given five-year period relative to the year a nation was granted full internal self-governance. Countries are dropped one at a time. The actual $p$-value for the main specification is shown using the dashed line. Robust standard errors are used.

Figure A.4: Robustness to Dropping a Randomized 10% of Countries 1000 Times




*Notes:* The dependent variable is autocracy in 2018 and the independent variables are standardized rainfall realizations across a given five-year period relative to the year a nation was granted full internal self-governance. For 1000 iterations, a random 10% of countries are dropped. The actual $p$-value for the main specification is displayed using the dashed line. Robust standard errors are used.

Table A.4: Rainfall Shocks at National Independence and Contemporary Autocracy

| | (1) Spatial Band 1000 km | (2) Spatial Band 2000 km | (3) Spatial Band 3000 km | (4) Logit Model | (5) Probit Model | (6) Drop High Rainfall Outliers | (7) Full Sovereignty |
|---|---|---|---|---|---|---|---|
| Rainfall 16-20 years pre-independence | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.10** |
| | (0.06) | (0.07) | (0.06) | (0.06) | (0.06) | (0.06) | (0.05) |
| Rainfall 11-15 years pre-independence | -0.03 | -0.03 | -0.03 | -0.01 | -0.01 | -0.03 | -0.02 |
| | (0.05) | (0.06) | (0.03) | (0.05) | (0.05) | (0.05) | (0.05) |
| Rainfall 6-10 years pre-independence | -0.04 | -0.04 | -0.04 | -0.06 | -0.06 | -0.06 | -0.03 |
| | (0.05) | (0.06) | (0.05) | (0.06) | (0.06) | (0.06) | (0.05) |
| Rainfall 1-5 years pre-independence | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | 0.02 | 0.06 |
| | (0.05) | (0.05) | (0.05) | (0.04) | (0.04) | (0.05) | (0.04) |
| **Rainfall 0-4 years post-independence** | 0.12*** | 0.12** | 0.12** | 0.12*** | 0.12*** | 0.12** | 0.13*** |
| | (0.04) | (0.06) | (0.06) | (0.04) | (0.04) | (0.05) | (0.04) |
| Rainfall 5-9 years post-independence | 0.04 | 0.04 | 0.04* | 0.01 | 0.01 | 0.02 | -0.02 |
| | (0.04) | (0.03) | (0.02) | (0.05) | (0.05) | (0.05) | (0.04) |
| Rainfall 10-14 years post-independence | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.02 | 0.01 |
| | (0.03) | (0.03) | (0.03) | (0.04) | (0.04) | (0.04) | (0.04) |
| Rainfall 15-19 years post-independence | -0.06 | -0.06 | -0.06 | -0.06 | -0.05 | -0.06 | -0.05 |
| | (0.05) | (0.05) | (0.05) | (0.04) | (0.04) | (0.05) | (0.04) |
| Rainfall 20-24 years post-independence | -0.03 | -0.03 | -0.03 | -0.07* | -0.07* | -0.04 | 0.02 |
| | (0.04) | (0.05) | (0.06) | (0.04) | (0.04) | (0.04) | (0.04) |
| Sample Mean | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.43 | 0.44 |
| Observations | 126 | 126 | 126 | 126 | 126 | 120 | 130 |

*Notes:* Columns 1-3 display results calculating non-parametric (GMM) spatial correlation (Conley 2008) using country centroids and a uniform kernel with radii ranging from 1000 km to 5000 km. Column 4 shows results from a logit model. Column 5 reports estimates from a probit model. Column 6 defines the year of independence as the year in which a country gained both full external and internal autonomy, as opposed to the year in which a country gained full internal autonomy. Each observation is a country. * $p < .10$, ** $p < .05$, *** $p < .01$. Robust standard errors are reported for Columns 4-6, whereas Conley standard errors are reported for Columns 1-3.

Table A.5: Post-Independence Rainfall and Short-Run Agricultural Production and Poverty

| | (1) Log agricultural output 0-4 yrs post-indep. | (2) Poverty rate 0-4 yrs post-indep. | (3) Autocracy in 2018 |
|---|---|---|---|
| Rainfall 0-4 years post-independence | -0.26 | 0.69 | 0.08 |
| (Agriculture reliant = 0) | (0.24) | (1.76) | (0.08) |
| Rainfall 0-4 years post-independence | 0.41*** | -6.95** | 0.19*** |
| (Agriculture reliant = 1) | (0.12) | (2.72) | (0.05) |
| Agriculture reliant | 2.82*** | 29.78*** | 0.16 |
| | (0.43) | (5.01) | (0.13) |
| Sample Mean (Ag reliant = 0) | -1.14 | 4.78 | 0.32 |
| Sample Mean (Ag reliant = 1) | -0.49 | 42.82 | 0.56 |
| Observations (Total) | 113 | 110 | 121 |
| Observations (Ag reliant = 0) | 42 | 40 | 45 |
| Observations (Ag reliant = 1) | 71 | 70 | 76 |

*Notes:* The dependent variables are the natural log of total agricultural production across the first five years post-independence (columns 1-2) and the share of the population living on under $2.00 a day across the first five years post-independence (columns 3-4). The sample consists of countries in the main estimation sample, split by whether a country had an initial agricultural employment share above versus below 50%. The independent variable is rainfall across the first five years post-independence, standardized relative to the 1900-2017 national average. Each regression includes independence year and region fixed effects. Agricultural production data are from Gollin et al. (2021), agricultural employment shares are sourced from Wingender (2014), and historical poverty estimates are obtained from Roser and Hasell (2021), Moatsos (2021), and Lahoti et al. (2016). * $p < .10$, ** $p < .05$, *** $p < .01$. Robust standard errors are reported.

Table A.6: Pre-Independence Rainfall and the Probability of Attaining Independence

| | (1) Independence Attained | (2) Independence Attained | (3) Independence Attained | (4) Independence Attained |
|---|---|---|---|---|
| Rainfall in previous year | 0.003 | 0.003 | 0.005 | 0.004 |
| | (0.005) | (0.006) | (0.005) | (0.005) |
| Country FEs | NO | YES | NO | YES |
| Year FEs | NO | NO | YES | YES |
| Sample Mean | 0.048 | 0.048 | 0.048 | 0.048 |
| Observations | 2636 | 2636 | 2636 | 2636 |
| Total Countries | 126 | 126 | 126 | 126 |

*Notes:* The dependent variable is an indicator equal to one if a country attained independence in a given year and zero otherwise. The sample consists of countries in the main estimation sample and for each country contains the twenty years prior to attaining independence as well as the year of independence. The independent variable is rainfall in the previous year, standardized relative to the 1900-2017 national average. * $p < .10$, ** $p < .05$, *** $p < .01$. Standard errors are clustered at the country level.

Table A.7: Modern Rainfall Shocks and Contemporary Autocracy

| | (1) Autocracy Composite | (2) Autocracy Composite | (3) Autocracy Composite | (4) Autocracy Composite |
|---|---|---|---|---|
| **Rainfall in 2013-2017** | -0.02 | -0.01 | 0.01 | 0.01 |
| | (0.03) | (0.03) | (0.03) | (0.03) |
| Rainfall in 1973-1977 | | 0.06 | | 0.07 |
| | | (0.04) | | (0.04) |
| Rainfall in 1978-1982 | | -0.04 | | -0.05 |
| | | (0.04) | | (0.04) |
| Rainfall in 1983-1987 | | -0.01 | | 0.05 |
| | | (0.04) | | (0.05) |
| Rainfall in 1988-1992 | | -0.08* | | -0.12*** |
| | | (0.04) | | (0.04) |
| Rainfall in 1993-1997 | | 0.08* | | 0.10** |
| | | (0.04) | | (0.05) |
| Rainfall in 1998-2002 | | 0.03 | | 0.03 |
| | | (0.05) | | (0.05) |
| Rainfall in 2003-2007 | | -0.03 | | -0.01 |
| | | (0.04) | | (0.05) |
| Rainfall in 2008-2012 | | -0.07* | | -0.06 |
| | | (0.04) | | (0.04) |
| Rainfall 16-20 years pre-independence | | | 0.05 | -0.01 |
| | | | (0.06) | (0.06) |
| Rainfall 11-15 years pre-independence | | | -0.03 | 0.00 |
| | | | (0.05) | (0.05) |
| Rainfall 6-10 years pre-independence | | | -0.04 | -0.02 |
| | | | (0.06) | (0.05) |
| Rainfall 1-5 years pre-independence | | | 0.01 | 0.02 |
| | | | (0.04) | (0.04) |
| **Rainfall 0-4 years post-independence** | | | 0.12*** | 0.13*** |
| | | | (0.04) | (0.04) |
| Rainfall 5-9 years post-independence | | | 0.04 | 0.02 |
| | | | (0.05) | (0.04) |
| Rainfall 10-14 years post-independence | | | 0.02 | 0.00 |
| | | | (0.04) | (0.05) |
| Rainfall 15-19 years post-independence | | | -0.06 | -0.05 |
| | | | (0.04) | (0.04) |
| Rainfall 20-24 years post-independence | | | -0.03 | -0.04 |
| | | | (0.04) | (0.04) |
| Sample Mean | 0.45 | 0.45 | 0.45 | 0.45 |
| Observations | 126 | 126 | 126 | 126 |

*Notes:* The dependent variable is autocracy in 2018. The independent variables are standardized climate realizations across a given five-year period relative to the 2017 as well as standardized climate realizations across a given five-year period relative to the year a country was granted full internal self-governance by a colonial power. The sample consists of all countries with democracy data in 2018 as well as data on climate for all five-year bins ranging from 16-20 years pre-independence to 20-24 years post-independence. Each observation is a country. * $p < .10$, ** $p < .05$, *** $p < .01$. Robust standard errors are reported.

Table A.8: Rainfall Shocks at National Independence and Measures of Political Power

| | (1) New/Suspended Constitution | (2) Independent Opposition | (3) State Owns Media | (4) Judicial Purges | (5) Vote Buying | (6) Military Support | (7) Mass Support | (8) Mass Demonstrations |
|---|---|---|---|---|---|---|---|---|
| ***Panel A: Five-Year Bins*** | | | | | | | | |
| Outcome: 1-5 years pre-independence | 0.010 | -0.032 | 0.018 | 0.033 | 0.004 | 0.020 | 0.002 | -0.088** |
| | (0.014) | (0.035) | (0.025) | (0.036) | (0.006) | (0.021) | (0.007) | (0.043) |
| Outcome: 0-4 years post-independence | 0.029 | -0.085** | 0.067** | 0.031 | 0.017 | 0.047** | -0.030** | 0.031 |
| | (0.022) | (0.033) | (0.028) | (0.037) | (0.012) | (0.024) | (0.012) | (0.034) |
| Outcome: 5-9 years post-independence | 0.030** | -0.154*** | 0.057** | 0.115*** | 0.005 | 0.082*** | -0.045*** | -0.017 |
| | (0.014) | (0.044) | (0.027) | (0.043) | (0.009) | (0.029) | (0.015) | (0.030) |
| Outcome: 10-14 years post-independence | 0.032 | -0.188*** | 0.054* | 0.129*** | 0.022 | 0.120*** | -0.053*** | -0.036 |
| | (0.020) | (0.037) | (0.027) | (0.044) | (0.015) | (0.031) | (0.015) | (0.030) |
| Outcome: 15-19 years post-independence | 0.037** | -0.168*** | 0.040 | 0.126*** | 0.048* | 0.127*** | -0.057*** | -0.004 |
| | (0.015) | (0.036) | (0.025) | (0.042) | (0.027) | (0.032) | (0.015) | (0.028) |
| Outcome: 0-9 years post-independence | 0.031** | -0.121*** | 0.068** | 0.075** | 0.011 | 0.064** | -0.037*** | 0.008 |
| | (0.013) | (0.038) | (0.027) | (0.036) | (0.008) | (0.025) | (0.013) | (0.029) |
| ***Panel B: Ten-Year Bins*** | | | | | | | | |
| Outcome: 10-19 years post-independence | 0.035** | -0.178*** | 0.052** | 0.132*** | 0.033* | 0.124*** | -0.055*** | -0.019 |
| | (0.016) | (0.037) | (0.026) | (0.041) | (0.018) | (0.032) | (0.015) | (0.025) |
| ***Panel C: Twenty-Year Long Average*** | | | | | | | | |
| Outcome: 0-19 years post-independence | 0.033*** | -0.150*** | 0.060** | 0.104*** | 0.022** | 0.094*** | -0.046*** | -0.005 |
| | (0.011) | (0.035) | (0.025) | (0.036) | (0.010) | (0.027) | (0.014) | (0.026) |
| Dependent Variable Mean | 0.093 | 0.654 | 0.117 | 0.206 | 0.044 | 0.402 | 0.147 | 0.213 |
| Observations | 126 | 109 | 109 | 109 | 109 | 109 | 109 | 109 |

*Notes:* The independent variable is the rainfall realization across the first five years post-independence, standardized relative to the 1900-2017 national average. The dependent variables are from the Varieties of Democracy (V-Dem) and Comparative Constitutions projects and are indicator variables denoting whether: 1) a new constitutional regime was implemented, 2) an independent opposition exists in national politics, 3) the government owns all print media outlets, 4) arbitrary removals of high-level judges occurred, 5) systematic and widespread vote buying occurs in elections, 6) the military supports the political regime, 7) ordinary citizens (i.e., urban/rural working/middle classes) support the political regime, and 8) large-scale citizen mass demonstrations are occurring. Each cell corresponds to a separate regression of the outcome of interest across a given time period (1-5 years pre-independence, 0-4 years post-independence, 5-9 years post-independence, 10-14 years post-independence, 15-19 years post-independence) on rainfall across the first five years post-independence. Results from regressions of the outcomes of interest across ten- and twenty-year time periods are also shown. Each observation is a country. * $p < .10$, ** $p < .05$, *** $p < .01$. Robust standard errors are reported.

Figure A.5: Rainfall Shocks at National Independence and Measures of Political Power

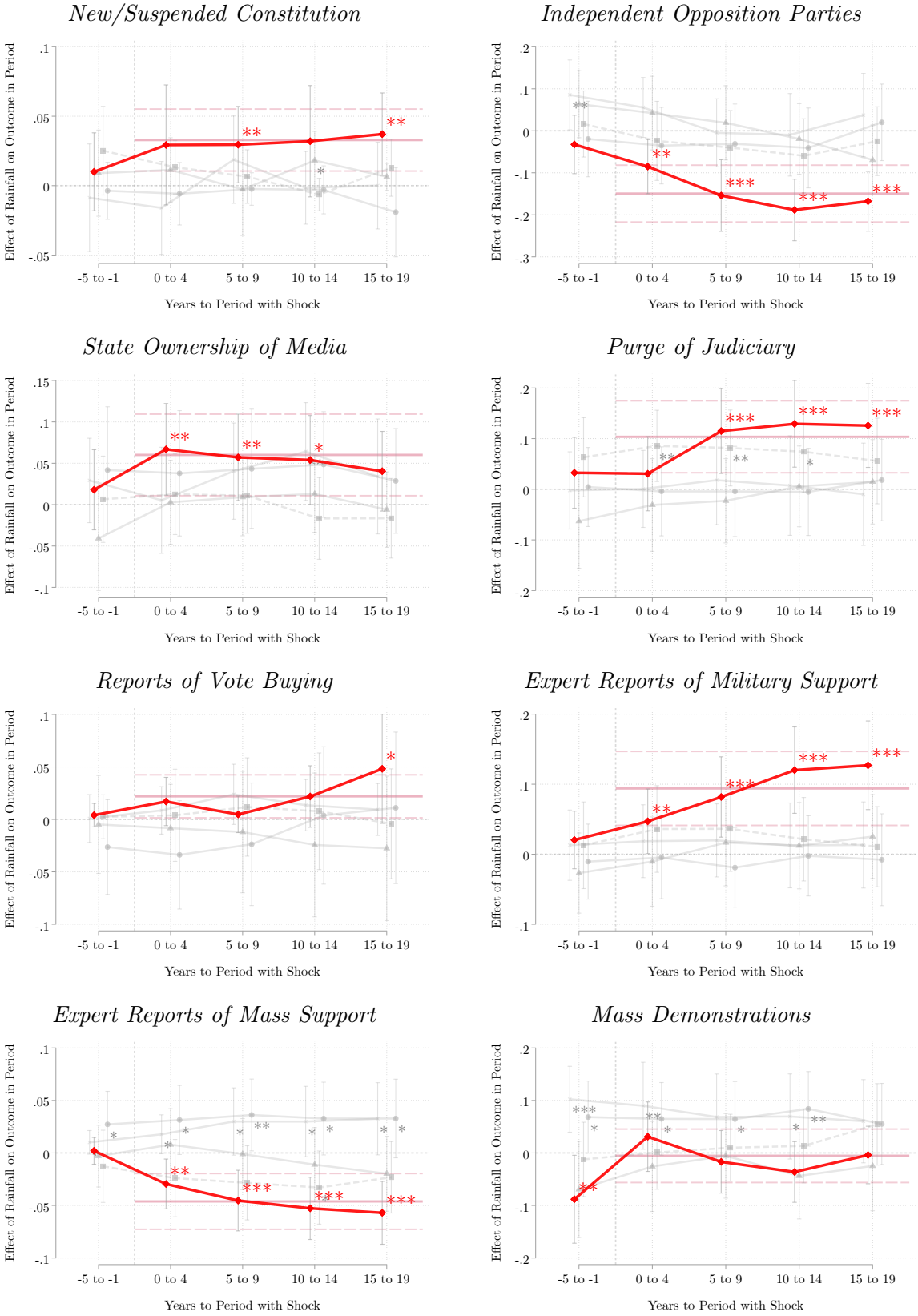


Table A.9: Rainfall Shocks at National Independence and Government Revenue Growth

| | (1) Total revenue | (2) Total revenue | (3) Direct taxes | (4) Indirect exc. trade | (5) Trade taxes |
|---|---|---|---|---|---|
| Rainfall 0-4 years post-independence | 5.95** | 8.07* | 1.63 | -4.42 | 16.97* |
| | (2.96) | (4.25) | (5.13) | (7.83) | (9.96) |
| Mean Share of Total Revenue | | | 0.24 | 0.16 | 0.42 |
| Sample Mean | 15.72 | 18.06 | 14.99 | 19.19 | 21.43 |
| Observations | 126 | 41 | 36 | 36 | 36 |

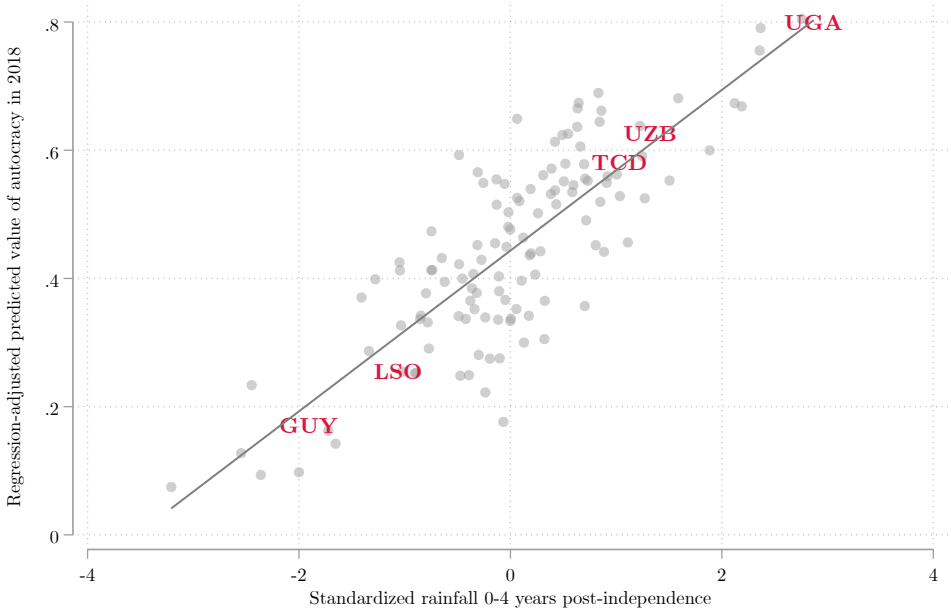
*Notes:* Dependent variable is mean annual nominal government revenue growth across the first five years post-independence. Independent variable is the rainfall realization across the first five years post-independence, standardized relative to 1900-2017 national average. Sample consists of all countries with democracy data in 2018 as well as data on rainfall for all five-year bins ranging from 16-20 yrs pre-independence to 20-24 yrs post-independence. Data on total nominal revenue are sourced from the World Bank, United Nations Statistical Yearbooks, the Statesman's Yearbooks, Mitchell (2013), and Albers et al. (2023). Data on revenue in Sub-Saharan Africa by category is sourced from Albers et al. (2023). Sample in Sub-Saharan Africa comprises agriculture-reliant countries (i.e., those with an initial agricultural employment share above 50%). * $p < .10$, ** $p < .05$, *** $p < .01$. Robust standard errors are reported.

Table A.10: Rainfall Shocks at National Independence and Autocracy by Type

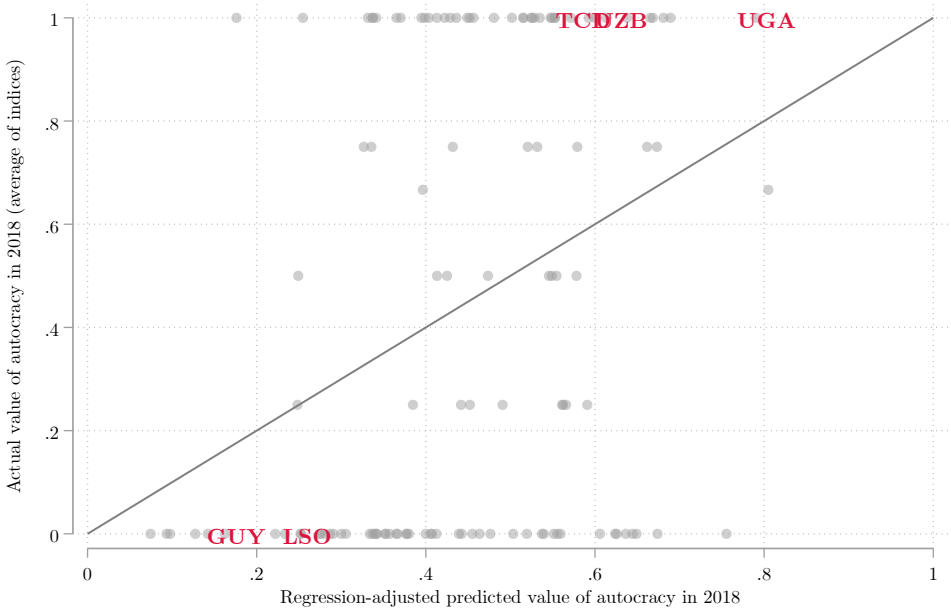
| | (1) Autocracy All | (2) Autocracy Institutionalized | (3) Autocracy Personalistic |
|---|---|---|---|
| Rainfall 16-20 years pre-independence | 0.04 | 0.03 | 0.02 |
| | (0.06) | (0.04) | (0.06) |
| Rainfall 11-15 years pre-independence | -0.03 | -0.03 | 0.00 |
| | (0.05) | (0.05) | (0.04) |
| Rainfall 6-10 years pre-independence | -0.04 | -0.04 | 0.00 |
| | (0.05) | (0.04) | (0.05) |
| Rainfall 1-5 years pre-independence | 0.01 | 0.00 | 0.00 |
| | (0.04) | (0.04) | (0.04) |
| **Rainfall 0-4 years post-independence** | 0.12*** | 0.02 | 0.10*** |
| | (0.04) | (0.04) | (0.04) |
| Rainfall 5-9 years post-independence | 0.04 | 0.03 | 0.00 |
| | (0.05) | (0.03) | (0.04) |
| Rainfall 10-14 years post-independence | 0.02 | -0.02 | 0.03 |
| | (0.04) | (0.03) | (0.04) |
| Rainfall 15-19 years post-independence | -0.06 | -0.06** | 0.01 |
| | (0.04) | (0.03) | (0.05) |
| Rainfall 20-24 years post-independence | -0.03 | -0.05* | 0.01 |
| | (0.04) | (0.03) | (0.04) |
| Sample Mean | 0.45 | 0.21 | 0.24 |
| Observations | 126 | 126 | 126 |
| Total Countries | 126 | 126 | 126 |

*Notes:* The dependent variables are autocracy (Column 1), institutionalized autocracy (Column 2), and personalistic autocracy (Column 3) in 2018. The type of autocracy is defined by dichotomizing the Varieties of Democracy (Coppedge et al. 2025) measure of presidentialism at the sample median for autocratic nations, following Blattman et al. (2025). The independent variables are standardized rainfall realizations across a given five-year period relative to the year a country was granted full internal self-governance by a colonial power. Rainfall data are standardized relative to the 1900-2017 national average. The sample consists of all countries with democracy data in 2018 as well as data on rainfall for all five-year bins ranging from 16-20 years pre-independence to 20-24 years post-independence. Each observation is a country. * $p < .10$, ** $p < .05$, *** $p < .01$. Robust standard errors are reported.

Figure A.6: Nested Analysis and the Selection of Country Case Studies




*Panel A: Post-Independence Rainfall and Predicted Autocracy in 2018*




*Panel B: Predicted and Actual Autocracy in 2018*

*Notes:* The figure displays the relationship between standardized rainfall 0-4 years post-independence and the regression-adjusted predicted value of autocracy in 2018 (Panel A) as well as the relationship between the regression-adjusted predicted value of autocracy in 2018 and the actual value of autocracy in 2018 (Panel B) for all countries, including the five selected for country case studies. Selection of cases was guided by the nested analysis approach from Lieberman (2005), with a wide range of cases based on rainfall realizations and predicted autocracy chosen. The five cases are Chad (TCD), Guyana (GUY), Lesotho (LSO), Uganda (UGA), and Uzbekistan (UZB).

Table A.11: Rainfall Shocks at Independence and Long-Run Growth and Poverty

| | Reduced-Form | | Instrumental Variables | |
|---|---|---|---|---|
| | (1) GDP growth | (2) Poverty | (3) GDP growth | (4) Poverty |
| Rainfall 0-4 years post-independence | -0.37** | 6.95*** | | |
| | (0.14) | (1.92) | | |
| Autocracy (scaled by first-stage coefficient) | | | -0.37** | 9.67** |
| | | | (0.18) | (4.24) |
| Anderson-Rubin test statistic | | | 6.46 | 10.65 |
| Montiel-Pflueger effective F-statistic | | | 20.24 | 8.06 |
| Mean dependent variable | 1.64 | 13.86 | 1.64 | 13.86 |
| Mean share of years in autocracy | | | 0.59 | 0.63 |
| Observations | 126 | 109 | 126 | 109 |

*Notes:* The dependent variables are annual GDP growth since independence (columns 1 and 3) and the percentage of citizens living under USD PPP 2 a day in 2017 (columns 2 and 4). Columns 1-2 report the reduced-form relationship between standardized rainfall realizations in the first five years post-independence and these economic outcomes, controlling for rainfall in all other five-year bins ranging from 16-20 years pre-independence to 20-24 years post-independence. Columns 3-4 report estimates of autocracy's effect on economic outcomes using standardized rainfall in the first five years post-independence as an instrument for the share of years in autocracy since independence, controlling for rainfall in all other five-year bins ranging from 16-20 years pre-independence to 20-24 years post-independence. The IV results are scaled by the first-stage coefficient on the share of years in autocracy since independence, which is 0.131 ($p < 0.01$). Anderson-Rubin (1949) test statistics and Montiel-Pflueger (2013) effective F-statistics are reported for the IV estimates. Each observation is a country, and each specification controls for the initial value at independence of the economic variable of interest. Data on GDP growth are sourced from the Maddison Project (2020), World Bank (2026), Penn World Tables (2015), and International Monetary Fund (2025). Poverty estimates are obtained from Roser and Hasell (2021), Moatsos (2021), and Lahoti et al. (2016). * $p < .10$, ** $p < .05$, *** $p < .01$. Robust standard errors are reported.

# 1 The Case of Uganda

Uganda was granted full internal self-government by Britain in 1961, with the first nationwide direct legislative elections held in March, and achieved formal independence the following year (U.S. Department of State 2012).

At the time internal self-government was granted, there were three main political forces in the country: the Uganda People's Congress (UPC), which favored a strong central government and was comprised mostly of Protestants; the Democratic Party (DP), which was conservative and largely Roman Catholic in character; and the Kingdom of Buganda, which enjoyed autonomy under British rule and initially wanted to achieve independence for itself separately from the rest of Uganda, but at the very least wished to retain substantial powers for itself within the new Ugandan state (Mamdani 1976).[1]

In the years leading up to independence, the UPC held a substantial majority of elected African seats in the colonial Ugandan Legislative Council and was considered "the most significant and powerful national party" (Uzoigwe 1982). After a brief interregnum early in 1961 in which the UPC narrowly lost its majority position in the legislature to the DP, in September 1961 the UPC and the Bugandan establishment formed a coalition which rendered them together the country's strongest political force (Ibingira 1973). Thus, by early 1962, the UPC-Buganda alliance held 58 seats in the legislature out of 82 in total (Nohlen et al. 1999). The UPC itself held 37 seats — hence the UPC, led by Prime Minister Milton Obote, was the single largest party but did not enjoy a majority on its own.

Uganda at independence was a largely agrarian economy heavily dependent on rainfed agriculture. Over 90% of the population relied on agriculture for their livelihood, with agrarian activities accounting for 60% of GDP and 80% of total exports (Singleton 1968). Cotton and coffee, both of which are water-intensive crops, were the predominant agricultural products — accounting for 40% of domestic income and virtually all of the country's export income. (World Bank 1961b). Irrigation was virtually non-existent then and even today, less than 1% of households practice irrigation in Uganda (Wanyama et al. 2017).

In the five years leading up to full internal self-government, the Ugandan economy was essentially stagnant. From 1955 to 1960, total GDP rose by just 4.7% and real government revenue increased by just 3.1%, insufficient to keep up with population growth (Simson 2019). Given the predominance of rainfed agriculture in Uganda's economy, this sluggish economic situation was driven by tepid rainfall and weak crop production. Across these years, rainfall was slightly below normal by historical standards, with annual precipitation

[1] Supporters of the UPC referred to the DP as *Dini ya Papa* (Religion of the Pope), whereas supporters of the DP referred to the UPC as the "United Protestants of Canterbury"(Mutibwa 1992).

realizations during 1956-60 averaging 0.37 standard deviations below the long-run mean. Roughly average to somewhat below-average rainfall resulted in stagnant agricultural production. Coffee, which rapidly expanded its acreage in the 1950s after being introduced to Uganda on a large-scale after World War II, was the exception, increasing production by 13.5% a year. Every other major crop, however, either exhibited stable or falling harvests. From 1955-60, cotton production grew by just 2% in total (Mitchell 2013). Production of maize, the subsistence crop for which there is the most historical data, increased just 1% in total across these five years. Millet, sorghum, and cassava, Uganda's three other major staple crops, likewise recorded either declines or the slightest of increases.

This stagnant economic situation turned around sharply just as Uganda achieved independence. The four years spanning 1961 through 1964 saw Uganda enjoy unusually favorable rainfall, with annual precipitation realizations averaging 1.31 standard deviations above the long-run historical mean. Rainfall then reverted back to the historical average for the rest of the 1960s, with annual precipitation averaging 0.01 standard deviations above the mean from 1965-69. Furthermore, across the next five year period (1970-74), annual rainfall was again close to the historical average, at 0.02 standard deviations above the mean. In short, the unusually good rains of the early 1960s comprised a climate windfall for Uganda — not seen in the recent past nor in the near future — which the country received at almost precisely the same time that it won the ability to govern itself.

Data on agricultural production demonstrates that this favorable rainfall resulted in bumper harvests for Uganda's principal crops. After a decade of stagnation, output of cotton, long a major cash crop for Uganda, rose 22.7% from 1960 to 1965 (Mitchell 2013). Production of maize, which again had stagnated throughout the prior decade, soared by 93.6% during the early 1960s. Coffee production, which was a rare bright spot in the 1950s, rose a further cumulative 85% from 1960-65. Data on staple crops other than maize is less complete in nature, but indicate that during the early 1960s millet production rose about 20% while output of sorghum and cassava held about stable (Singleton 1968; Mitchell 2013).

Given the agrarian nature of Uganda's economy, the boom in agricultural production resulted in rapid growth in both GDP and government revenues. From 1960 to 1965, real GDP increased by 26.6%, or by nearly 5% a year. Government revenues rose even faster — by a striking 11.1% a year, representing a 69.6% increase in inflation-adjusted state resources over just five years (Simson 2019). This surge in state revenue cannot be accounted for by the new nation receiving a massive influx of development aid, as revenues excluding grants rose even more than overall revenue, by a cumulative 76.4%.[2] Nor can it be explained by

[2]The impact of independence on development aid, at least in the British African context, is ambiguous. Low and Lonsdale (1976) documents a "second colonial occupation" for British Africa that followed World

surging commodity prices, as opposed to exceptional crop harvests, as the world prices of coffee and cotton steadily declined from the late 1950s through the 1960s (Gukiina 1972).

The booming economy of the initial post-independence years was a significant blessing for Prime Minister Milton Obote, who started his administration leading a fragile coalition government. In the initial elections around independence, Obote's UPC party and its rival the DP had won nearly identical numbers of votes, and it was only with the support of the King of Buganda — a powerful rival with strong regional support who was made President of Uganda — that Obote was able to assume the prime ministership (Uzoigwe 1982). When he became Prime Minister, Obote did not start out in a particularly strong position, as he faced at least three major constraints. First, as previously noted, his party did not have a majority in the legislature. Second, Uganda's semi-federal constitution, which was negotiated in London in 1961, granted substantial autonomy to the country's four constituent kingdoms, Buganda first among them, and thus by law limited the power of the central government. Third, even beyond the still-influential leaders of the DP and the widely-respected kings and chiefs of traditional polities, Obote had "rivals, some of them serious ones, within the UPC, so that he was merely the first among equals" (Mutibwa 1992). As Martin (1978) notes, "no other East African Commonwealth leader faced such an unenviable task at independence...that he survived as long as he did is a tribute to his political skill."

Despite these initial constraints, as prime minister Obote was still the chief executive of the country and possessed more power over the state apparatus than any other leader. One important example was the ability to control public service appointments. Under the nation's first constitution, the Uganda Public Service Commission was appointed entirely by the prime minister, though the commissioners were fully independent in their decisions (Ibingira 1980). The very first constitutional amendment enacted by the Obote administration — before even replacing Queen Elizabeth as Uganda's head of state — was to centralize appointment powers further by making the Public Service Commission merely advisory, so that the prime minister enjoyed complete power over all public hiring, promotions, and dismissals. Obote justified this change as one necessary to allow for an efficient, functional administration given the rapid Africanization of the public service that was currently underway, and he was able to convince the coalition in the National Assembly to pass his proposal.

These new powers over personnel, however, were quickly exploited by Obote to strengthen his own political position at a time in which the state bureaucracy, and the government more broadly, was rapidly expanding. The prosperous agricultural economy in the initial years

War II, in which the colonial administration greatly intensified their focus on promoting economic development. Gardner (2012) notes that "there were a variety of fiscal consequences in the transition from colony to state," in which explicit and implicit subsidies from the colonial administration and being part of empire were replaced by new sources to varying degrees.

post-independence, which boosted state revenues, enabled Obote's government to dramatically increase government spending. After having remained virtually static in the late 1950s, real government expenditures soared by 56.4% from 1960 to 1965 (Simson 2019). Nearly 75% of the increase in spending was recurrent, rather than one-time capital or development expenditures — and once the favorable rains of 1961-64 subsided the level of ongoing spending proved unsustainable, with large deficits emerging in the second half of the 1960s.

A share of the rise in spending was dedicated to initiatives such as cutting school fees and providing health care free of charge at all levels (Golooba-Mutebi and Hickey 2013). While these broad-based subsidies may have helped Obote maintain his initial mass popularity in the critical early years, by 1966 the average citizen "came to view Obote as corrupt...unfair, a shameless brute, and an economic exploiter" given that improvements in the access and quality of public services were rather minute compared to the very high rate of implicit taxation on farmers imposed by state marketing boards setting the price of cash crops at levels far below world prices (Gukiina 1972; Bates 1981).[3] As most citizens surmised, "a large portion of their hard-earned money from coffee, cotton, tea, and tobacco crops was retained by the central government and used for buying...material and prestigious benefits for Dr. Obote, his friends, and his government" (Gukiina 1972).[4]

To remain in office as he did for years after the agricultural boom subsided, Obote skillfully utilized the economic windfall to consolidate his own power and reshape Uganda's institutions to that end. He did so by using the surge in state resources during the economic boom to purchase the support of three key groups: public sector workers, the military, and legislators in the National Assembly.

First, as noted previously, Obote swiftly moved to assert his control over the civil service. At independence, African civil servants were an elite group but relatively evenly divided between the country's three main parties: the UPC, the DP, and Buganda's Kabaka Yekka (Ibingira 1980).[5] Furthermore, of those public sector workers who supported the UPC, many were associated with party factions other than the prime minister's own. Once granted the power to unilaterally hire, fire, and transfer personnel, Obote turned the public sector into a reservoir of patronage utilized to reward and control party supporters personally loyal

[3]Obote, though not known for his charisma, was at independence "extremely popular among Ugandans...because a seemingly peaceful transition was being achieved with Obote as one of its architects," and that "seemed almost miraculous" (Mutibwa 1992).

[4]Writing at a similar time as Bates (1981), Jørgensen (1981) notes about the Obote era that "the rural tax burden was both regressive and hidden, consisting of export taxes on coffee and cotton, and the tobacco levy, import duties, and surpluses appropriated by the marketing boards...marketing board surpluses and taxes resulted in a 'tax' burden equal to more than half of peasants' cash incomes."

[5]The Kabaka Yekka was the UPC's coalition partner and was led by the King (Kabaka) of Buganda. Kabaka Yekka translates to "the King Alone."

to himself. While outright dismissals of public servants affiliated with the DP and Kabaka Yekka were initially uncommon due to the poor political optics of firing personnel, large-scale patronage appointments in government — which fulfilled the prime minister's twin aims of incentivizing supporters and leading a compliant public administration — were made possible by the rapid expansion of the civil service, in turn facilitated by the economic boom-driven growth in the size of government as well as positions opened up by departing Europeans.

Within a few short years, "the once-dignified civil service was filled with obsequious mediocrities as were the parastatal bodies: the only sure qualification for holding these positions was undoubted loyalty to the leader" (Karugire 1980). Those whose loyalties were in doubt were harassed out of office with frequent transfers; occasionally Obote was known to personally visit ministries and dismiss civil servants who had taken actions he disliked. Despite the departures of non-loyalists, the civil service and parastatals became such a vehicle for patronage that the previously lean and reasonably efficient state inherited at independence devolved into a bloated, incompetent, and at times predatory bureaucracy. A 1964 World Bank report warned that the public service was "grossly overstaffed" and by 1966 the Bank was commenting on the notable "loss of efficiency" in the civil service and parastatal organizations (World Bank 1964, 1966). While loyalty was a necessary condition for public employment, integrity was not: a report in 1966 noted that "civil servants who were related to ministers were misappropriating public funds with impunity while public officers deserving of promotion were being bypassed in favor of those most undeserving" (Karugire 1980).

Even more dramatic — and fateful for the country — was Obote's rapid expansion and politicization of the military. While most newly-independent countries raised defense spending and troop numbers to replace departing colonial forces, Uganda's military grew to be unusually large, particularly for a nation that at the time faced few external threats. As Ibingira (1980) writes, "for the first five years of independence, it was the fastest expanding army on the African continent, growing yearly at the rate of 48 to 50 percent." Real defense spending, after remaining roughly flat in the last decade of the colonial era, rose a remarkable 117% a year — or 923% in total — from 1962 to 1965 (Simson 2019). This growth, which was only possible under extremely favorable economic conditions, reflected both the increase in the army's size and substantial pay rises, as well as investments in modern equipment (Omara-Otunnu 1987). The budget of the military then stagnated from 1965-70, once Obote realized the army he created to entrench his power could also pose a danger to it.

A large army helped Obote only if it were loyal to him, and the prime minister tried to take great care to ensure the country's soldiers would unconditionally support him. First, even as he gave one-third of posts in his inaugural cabinet to the Kabaka Yekka (KY) and others to his intra-party rivals, Prime Minister Obote personally assumed the role of Minister

of Defense (Bidwell 1978). The prime minister furthermore appointed his cousin as head of the intelligence service, which was answerable only to Obote himself and enjoyed a large budget exempt from public and even intra-governmental audits (Ibingira 1980). Second, in addition to ensuring that members of his own family held the levers of coercive power, Obote populated the rapidly expanding army with loyalists from his home region of northern Uganda. While insisting to parliament and the public that the army was open to all, the prime minister achieved this aim in part through biased recruiting practices in which soldiers would recruit for months in the north while informing citizens in other regions of recruitment events only 1-2 days in advance (Ibingira 1980). Obote not only expanded the army with northern recruits, but also promoted northerners in disproportionate numbers to replace departing British officers. Among these rapidly promoted northerners was future Ugandan president Idi Amin, who became deputy commander of the army in 1963 and then commander in early 1966. Third, akin to his approach with the civil servants, Obote allowed soldiers to enjoy high salaries and lax discipline as long as they remained loyal to him.

As concurrent defense minister and prime minister, Obote misled the National Assembly about the army's hiring practices, insisting that recruitment and promotion decisions were made solely on merit. By the time interested members of the coalition found out the truth, however, there was no coalition to be found. As Jørgensen (1981) writes, "the UPC was largely a national confederation of locally powerful political notables competing for control over allocation of state patronage to enhance their local patron-client relationships and their personal business ventures in farming, trading and transport." This was largely also the case for the conservative DP and feudalist KY, but only Obote supporters could enjoy access to the rapidly growing flow of state patronage. Amidst the booming economy and escalating state revenues, for many KY and DP legislators the pie at some point became too large for them to deny themselves a slice, no matter their religion or ideology.

In June 1963, five KY legislators who were ministers in the coalition defected to the UPC (New York Times 1963; Ibingira 1980). As Ibingira (1980) notes, "the most common reason people switched to the government as they did was to seek rewards from the government...in order to bring in extra income and influence," while Mutibwa (1992) concurs in that the "sinister" defections were driven by "selfish interests." The defection of the five KY MPs gave the UPC a majority in the National Assembly, although Obote himself could not yet count on fully controlling parliament due to the presence of rivals within the party, and the UPC-KY coalition remained in force. The King of Buganda was furious at this betrayal from his subjects, but at this point Obote had established himself as the principal purveyor of patronage, with the role of traditional leaders such as the Bugandan king having become much diminished. By 1964, members of the opposition DP began crossing the floor en-masse,

and in August of that year Obote felt confident enough to dissolve the UPC-KY coalition (Mutibwa 1992).

In early 1965, four years after full internal self-governance was granted and just as the period of favorable rainfall was coming to a close, Obote's UPC had risen from a minority position in the National Assembly to holding well over two-thirds of its seats. Funded by rising state revenues, the ranks of the civil service had swollen with Obote loyalists. The prime minister personally held the defense portfolio and, having multiplied the security budget nearly tenfold during the boom years, could confidently tell his cabinet that "he personally had the loyalty of about 80% of the army and 65% of the police" (Ibingira 1980). Bolstered by favorable economic tailwinds, Obote had concentrated power and become a substantially more powerful leader than he was at the start of his tenure as prime minister. The concentration of power in the apex leader, however, had yet to be reflected in Uganda's institutions. The semi-federal constitution, which placed substantial legal constraints on the executive, remained in place. Uganda's traditional kingdoms, foremost the Kingdom of Buganda, continued to exist alongside the central government. Opposition parties, though weakened by self-interested defections, remained in the National Assembly and those opposition legislators who remained were generally principled individuals who continued their work despite intimidation. The media was functionally, though imperfectly, free (Tabaire 2007). The judiciary, by contrast, had begun to experience a degree of political interference, and Obote had managed to install as chief justice a judge who was known to take an accommodating stance towards executive authority (Mutibwa 1992; Daly 2024).

Events would soon demonstrate that Obote commanded sufficient power by 1965-66 to reshape Uganda's political institutions as a means of perpetuating personalistic rule. While Obote had systematically concentrated power across 1961-65, the institutionalization of that power occurred perhaps earlier than he may have planned, as events were set in motion by an opposition legislator accusing him of corruption in parliament. The legislator, Daudi Ocheng, claimed that Obote, his then-ally Idi Amin, and two cabinet ministers had illegally profited off gold, ivory, and coffee originating from the Congo, which in 1965 was in the midst of a civil war (Ibingira 1980; Mujaju 1987). Ocheng produced a photocopy of Amin's bank account, which documented the deposit of 340,000 Ugandan shillings in exchange for gold bars of Congolese origin, and further stated that Amin had threatened to kill him if he brought up the matter in the National Assembly (Scott 2011). While it has never been definitively proven that Amin and Obote personally profited from Congolese smuggling, Ocheng's allegations brought to light a convert Ugandan military operation in which operatives in the army imported gold and other commodities from the Congo and in exchange provided arms to Chinese-backed rebels fighting the US-backed Congolese government. This operation in the

Congo had been kept from almost all members of the National Assembly, and when it came to the fore many in the UPC, which had previously been a largely pliant "coalition of selfish interest-groups," were enraged and frightened that the country had been illegally dragged by Obote and Amin into a violent Cold War confrontation (Uzoigwe 1983; Scott 2011).

Obote's rivals, who had diminished in strength over the years but still included important figures such as a minority of ministers in the UPC and the King of Buganda, saw the "Gold Scandal" as an opportunity to weaken him. Ocheng, backed by these figures, moved a motion in parliament to censure Obote and thoroughly investigate the entire affair via a commission of inquiry (Mutibwa 1992). While Obote successfully stalled this vote for nearly a year, in February 1966 it managed to pass (Ibingira 1980). At least in that moment, the prime minister's grip on the National Assembly appeared tenuous.

Obote responded to this challenge by mobilizing the other two pillars of power he had built up in the initial post-independence years — the security forces and the civil service — to neutralize the threat and swiftly institutionalize personalistic rule. On February 22, 1966, soldiers loyal to Obote burst into a cabinet meeting and illegally arrested five ministers. These ministers, who constituted the principal intra-party opposition to Obote, were then detained without trial in a maximum security prison for five years (Ibingira 1980). Having decapitated the rival faction within the UPC, he then announced to the country that same day that he had personally assumed all executive powers of government (Mutibwa 1992). Two days later, Obote suspended the constitution and summarily dismissed the King of Buganda from his position as Uganda's president, assuming that position instead for himself (Scott 2011). Importantly, Obote was widely supported by civil servants irrespective of ethnicity — far from facing administrative chaos or resistance, government business carried on smoothly during this constitutional coup (Jørgensen 1981). Obote's decisive actions and clear grip on both the coercive and administrative machinery of government cowed the National Assembly into submission, with an interim constitution granting himself vastly increased powers approved by legislators by a vote of 55 to 4 (Mittelman 1975). The third branch of government, the judiciary, then ruled that constitution — and by extension Obote's means of promulgating it — to be legitimate in a highly controversial legal opinion that reverberated across the African continent (Daly 2024).

The primary remaining threat to Obote was Uganda's traditional leadership, foremost the King of Buganda. The king, who until late had served as Uganda's head of state, retreated to his palace and appealed to the United Nations to intervene on his behalf. The Buganda establishment launched a trade boycott of the rest of Uganda and then, in a major and rather unwise escalation, demanded that the central government remove all its personnel and property from the Buganda kingdom within ten days (Gukiina 1972; Jørgensen 1981).

Given that by this time Buganda had little military strength of its own, Obote exploited this situation to crush the kingdom's traditional elite. Deeming the ultimatum "an open declaration of rebellion" and "an act of treason," he sent in Idi Amin's army to overrun the king's palace. The palace was looted and destroyed, thousands were killed, and the king himself was forced into lifelong exile in London (Omara-Otunnu 1987). Obote further used this confrontation as an opportunity to abolish the Bugandan kingdom, declare a state of emergency, and postpone national elections indefinitely (Uzoigwe 1983).

By this time free and fair elections were likely one of the only means of removing Obote from power, as a mixture of his heavy-handed tactics, a slowing economy dragged down by tepid rainfall, and the lurid allegations of corruption noted earlier had made him deeply unpopular. His investments in building up his strength during the initial period of economic prosperity, however, left him in an unassailable position nonetheless and enabled him to fashion new political institutions which concentrated power in the executive.

Obote's time in office saw the promulgation of three constitutions, each more autocratic than the last: the semi-federal, democratic constitution at independence, the markedly more autocratic 1966 interim constitution, and the dictatorial 1967 constitution, which was not fully revised until 1995 (Mukholi 1995). In Obote's 1967 constitution, all of Uganda's constituent kingdoms were abolished, "thereby fulfilling his ambition to remove any centers of loyalty and authority other than his own emanating from the central government in Entebbe" (Mutibwa 1992). With the kingdoms gone, Uganda was now a unitary republic.

The 1967 constitution centralized power in a number of other ways. The executive was given widespread powers of preventive detention with almost no legislative or judicial oversight (Gingyera-Pinycwa 1978). Fundamental freedoms such as those of assembly, association, expression, and conscience were curtailed, with constraints permitted in the interest of the "national economy and the running of essential services." The administration swiftly deemed such restrictions necessary in the case of the press, upon which severe censorship was imposed. The government was permitted under the constitution to ban trade unions and political parties, and in fact did so — Uganda was soon declared a one-party state, with all parties other than the UPC outlawed. The appointment powers of the president were expanded further, including granting the president the authority to unilaterally replace the chief justice at any time. Furthermore, the president now enjoyed legislative powers during all times in which the National Assembly was not itself sitting, which was much of the time given that the president held the ability to dissolve parliament.

In short, the new constitution gave President Obote "the physical and legal apparatus to enforce his will by whatever degree of persuasion or compulsion may be expedient — provided that he [could] keep the army in its corner" (Daly 2024). Obote, in the end, was a victim of

the very forces, including the military, that enabled him to seize power. By this time, the economy was stagnant but demands for patronage kept rising, resulting in large deficits that fueled inflation. Citizens were increasingly angry at "the flagrant and widespread corruption among ministers and top civil servants" (Mutibwa 1992). Obote responded with a socialist "Move to the Left" which aimed to simultaneously boost his popularity and unlock new patronage opportunities via the nationalization of numerous private firms, but the move did little to boost his mass appeal while doing much to antagonize powerful business owners. Economic constraints also forced Obote to suspend salary increases to civil servants in 1970, while the president, cognizant that his large army could be his undoing, sought to divide and rule his security forces by strongly favoring the paramilitary wing of the civilian police and the secret police over the military in the late 1960s (Mutibwa 1992). Threatened by moves against his position and aware of Obote's unpopularity among elites and the poor alike, Amin launched a successful coup in January 1971 when Obote was abroad in Singapore.

Amin ruled Uganda in infamous fashion until he was overthrown in 1979. After a short interregnum, Obote himself returned to power from 1980 to 1985. The "clearly rigged" 1980 election which installed the still-loathed Obote back in office precipitated a civil war which resulted in Yoweri Museveni assuming the presidency in early 1986 (Mutibwa 1992). Museveni has ruled ever since, now for over four decades.

Despite periodic changes in leadership, one constant has remained in Uganda: the fact that it is not a democracy. The composite index used as the main measure in this paper indicates that Uganda has remained a full autocracy, with a handful of fleeting exceptions, since 1966 — the year Milton Obote arrested his cabinet, dismissed the head of state, and suspended the constitution with the support of the army and the civil service. Given that Obote was only able to secure the support of the army, bureaucracy, and much of the legislature by distributing patronage made possible by exceptionally favorable economic circumstances in the initial years post-independence — and swiftly proceeded to institute a dictatorial system of government that concentrated virtually all power in the executive, which later rulers left fundamentally untouched — it may be the case that the rainfall windfall of the early 1960s proved a curse for the country's political institutions in the longer-run.

## 2 The Case of Chad

Chad, along with most of France's colonies in Africa, was granted full internal self-government in 1958 (Lanne 1998). Formal independence followed in 1960.

The first elections with universal suffrage were held in 1957, shortly before internal self-government was introduced. Two main political forces existed in the country at the time of these elections. The first and largest bloc was the Chadian Progressive Party (Parti Progressiste Tchadien — PPT), which was African nationalist in nature, emphasized popular mobilization against colonial and elite rule, and was comprised mostly of Christians from southern Chad (Nolutshungu 1996). The PPT's main rival was the Chadian Democratic Union (Union Democratique Tchadienne — UDT), a conservative party associated with French Gaullists and dominated by elites from the Muslim north (Library of Congress 1990).

The 1957 elections saw the PPT emerge as the single largest party but fail to win a majority on its own. Of the 65 seats in the Assembly, the PPT won 32, the UDT held 16, and minor parties took the remainder (Sternberger et al., eds 1978). The PPT thus formed the first African government in Chad in coalition with legislators from the smaller parties, most of which were in effect factions representing traditional chiefs across the country (Library of Congress 1990). It was this coalition that led the country at the time full internal self-government was introduced.

Chad at independence was a predominantly agrarian economy dependent on one water-intensive cash crop: cotton. Nearly 90% of the population relied on agriculture for their livelihood, which accounted for 65% of GDP (World Bank 1968a). Cotton alone accounted for nearly 80% of the country's export income (General Agreement on Tariffs and Trade 1967). As irrigation was virtually nonexistent, the cotton crop depended on natural rainfall, yet, as noted by a World Bank (1968a) study, "rainfall varies widely from season to season and year to year, which makes for a precarious existence for man and beast."

The Chadian economy in the years leading up to full internal self-government was characterized by flat living standards amid stagnant cotton harvests. While reliable GDP statistics in Chad do not exist for this period, both agricultural and non-agricultural wages exhibited zero growth from 1953 to 1957. Flat cotton production in the early- to mid-1950s manifested in stagnant real per capita government revenue collection, which did not grow from 1953 to 1957. The static economy was shaped by modest rainfall realizations. In 1957, for example, precipitation was 0.33 standard deviations above the long-run mean: slightly higher than average but well within the normal range.

Fortunately for the Chadian Progressive Party (PPT)'s fledging government, the rains were kind to Chad's economy across its first years in office. The five years spanning 1958

through 1962 saw Chad receive annual precipitation realizations averaging 0.62 standard deviations above the long-run historical mean — including 0.71 standard deviations above the mean in the administration's first full year.

Favorable rainfall ignited a cotton boom nationwide. Cotton production per capita, which varied year to year but remained about flat at approximately 22 metric tons per thousand people across 1950-58, rose to 32 metric tons per thousand by 1960 — a 44% increase. Buoyed by continued strong rains, the cotton crop largely remained at this elevated level through 1963. Droughts in the mid-1960s then led to a 20% drop in per capita cotton production from 1963-65. These droughts, however, only struck after the PPT had consolidated power.

The cotton boom in the early post-independence years translated into broader economic expansion and a surge in both government revenue and spending. Real agricultural wages rose by 17.2% from 1958 to 1960 — an immense jump in living standards given that real per capita GDP in Chad exhibited virtually no growth from 1960 (when the World Bank's data begin) to 2024 (World Bank 1968a, 2026). Inflation-adjusted government revenues, which had been largely static during the early- to mid-1950s, increased by 34.1% from 1957 to 1960 and then by another 19.5% from 1960 to 1962. The expanding economy and state resources occurred despite stagnant foreign assistance and gradually declining cotton prices over this period (World Bank 1968a; Gukiina 1972). Surging revenues enabled the government to surge its spending: inflation-adjusted expenditure soared 66.7% across 1957-62, marking a sharp break with the stagnant budgets of prior years (World Bank 1968a; Mitchell 2013).

The PPT-led government, led by President François Tombalbaye, concentrated the spending surge in two main domains — in which, not coincidentally, control over resources was held by Tombalbaye himself. Though independent Chad's inaugural government was a multiparty coalition, and even within the PPT numerous leaders possessed strong bases of support, in the process of allocating ministerial positions President Tombalbaye took care to personally retain the defense portfolio (Hansen 2019). Furthermore, he also swiftly asserted his control over civil service appointments: Chad's very first constitution, though noted as quite democratic and less executive-dominant compared to those that followed, nevertheless conveyed upon Tombalbaye the power to "appoint to all the employments of the State" (Republic of Chad 1959).

These two presidentially-controlled domains — the security state and the civil service — rapidly expanded alongside the Chadian economy in the initial post-independence years. Though data on expenditure by category is not available for the late 1950s, real spending on general administration soared by 76.7% from 1960 to 1962 before stagnating for the next five years as the revenue boom began to falter. Spending on the army, gendarmerie, national guard, and security police rose even faster — by a cumulative 137% from 1960 to 1962.

The percentage of government expenditure dedicated to the security state rose from 7.7% to 13.7% from 1960-62, and then escalated further to 17.6% in 1963. Meanwhile, other parts of the government — controlled by ministers not named François Tombalbaye — saw generally positive but far less generous increases. Real spending on health and education rose just 18.5% from 1960-62, and public works spending actually decreased after adjusting for inflation.

President Tombalbaye leveraged his appointment powers over the burgeoning security and civil services to stack both with loyalists from his home region. As noted by the Library of Congress (1990)'s Chadian country study, "an effort to Africanize the civil service and security forces as rapidly as possible complemented Tombalbaye's drive for personal power." Despite the massive increase in the hiring of African troops and police due to the need to replace French personnel as well as the surge in the size of the overall security state during this period, "none of them was recruited from the northern parts of the country" (Hansen 2019). Tombalbaye instead recruited from the south, and even within the southern tribes "gave the key security posts to his kinsmen of the Madjingaye Sara" (Nolutshungu 1996).

Chad's northern majority fared little better in the civilian administrative state: within a few years of independence, they chafed at "Southern dominance in the public service" (Nolutshungu 1996). The Library of Congress (1990)'s country study diplomatically notes "Tombalbaye's failure to establish hiring and training policies geared to achieving greater ethnic and regional balance in public administration." Within five years of full internal self-government, the "civil service [was] stocked with loyalists" who were not necessarily paragons of administrative competence: "a decline in the quality of government service was immediately apparent" and "reports of corruption and other abuses of authority grew" (Library of Congress 1990).

After the agricultural boom showered resources on the government, the PPT — initially only the largest party in a governing coalition — consolidated its power over government. Within two years of full internal self-government, the PPT had achieved a majority in parliament "as Tombalbaye wooed individual members to the PPT." While material inducements were the carrot, Tombalbaye's growing cadre of troops served as the stick: the choice was to either join or be jailed. Within four years of independence, all opposition leaders were "in prison, exile, or completely co-opted," and in 1962 all parties except the PPT were outlawed (Library of Congress 1990).

Even as the PPT consolidated power over the government, Tombalbaye consolidated his power over the PPT. Powell (2020) writes that "the half decade following independence saw PPT leader François Tombalbaye solidify his personal control over the party." He did so once "he made sure he had the coercive force necessary to accomplish the task" (Hansen 2019).

Early in his presidency, he sidelined a major intra-party rival through a "coup by telegram" in which the politician, who was not born in Chad, was declared a noncitizen while traveling outside the country and prohibited from re-entering Chad's border (Library of Congress 1990). While the rival's supporters vocally protested, Tombalbaye was able to gain majority support by appealing to nationalism (Nolutshungu 1996). Later, though, rhetoric was not needed because Tombalbaye's guns could do the talking: backed by his loyalists in the security forces, by 1963 "the country's prisons contained a virtual 'who's who' of Chadian politicians" (Library of Congress 1990). Tombalbaye retained as leading PPT officials only those who were members of his own ethnic group — "no non-Sara politician... and few not of the latter's specific clan, were able to hold office for long" — and, "by outmaneuvering, exiling, arresting, or forcibly retiring potential rivals" was able to turn the PPT into "a group of sycophants" (Decalo 1980; Powell 2020).

Having amassed what was described as "full command of the country," Tombalbaye then sought to extend his rule by reshaping Chad's nascent institutions to concentrate power in his person (Library of Congress 1990). Chad cycled through three constitutions in little over three years, each one successively granting more power to the executive (Constitute Project 2024). Chad's first constitution, which was developed throughout 1958 and took effect in early 1959, established a parliamentary system of government with an executive prime minister responsible to the legislature. Tombalbaye did not appreciate the formal constraints this constitution placed on his power, and he campaigned for a constitution instituting a presidential system of government. This constitution, which was promulgated in late 1960, created the position of president and endowed it with notably broader powers than the prime minister had enjoyed, including the ability to declare a state of emergency and the right to appoint Supreme Court judges (Decalo 1987). While the 1960 constitution marked a step towards political institutions that concentrated power in the executive, the president was still elected by the legislature and could be dismissed by them; some legal scholars noted that "it is consequently difficult to see any real progression toward presidentialism in the differences between the 1959 and 1960 constitutions" (Juergensmeyer 1964).

Even skeptics, however, could see that Chad's third constitution opened "the flood gates... toward the personalization of governmental power" (Juergensmeyer 1964). This constitution, which was promulgated in mid-1962, gave the president an extended term of seven years with the possibility of reelection and stipulated that the president was to be elected by an electoral college comprised of both members of the legislature and other officials, such as mayors and chiefs, who Tombalbaye considered to be more supportive of his rule. Crucially, unlike in the previous two constitutions, once the president was elected for the seven-year term, the legislature had no legal means of dismissing him (Juergensmeyer 1964). Furthermore, the

constitution equipped the president with the power to prorogue parliament for up to 18 months and also provided him with broad powers to rule by decree (Republic of Chad 1962). The emergency powers introduced in the 1962 constitution were made even broader, allowing the president to "take such measures as the circumstances require" if "the institutions of the Republic... are threatened by a clear and present danger, or when the regular functioning of the constitutional government authorities is interrupted." Given that the 1962 constitution also provided the president with broad powers over the judiciary, the sum of these changes was to effectively provide President Tombalbaye with dictatorial powers and reduce the legislature and courts to the status of token assemblies. This constitution was later amended in 1965 to enshrine Chad's status as a one-party state, which had been statute since 1962.

Chad's post-independence cotton boom, and the cash it provided to the state, did not last for very long. Rainfall reverted back to its long-run average by 1963 and Chad entered a severe drought in 1965. The government's increasingly obvious corruption and blatant ethnic favoritism rendered it increasingly unpopular (Library of Congress 1990). The budget swung into deficit in 1965, and faced with the need to support his large security forces and continue to finance political patronage, Tombalbaye raised taxes Powell (2020). Explicit tax increases were paired with a compulsory and extortionate "national loan" collected from struggling farmers and herders. By late 1965, frustration with the government's high taxation, regional favoritism, and mismanagement — as well as the inability to effect any political change through peaceful means — boiled over into large-scale peasant riots in northern Chad. Locals targeted government officials, killing ten of them (Azevedo 1998). Tombalbaye's loyal security forces brutally put down the revolt, killing over 500 people (Powell 2020). The "Mangalmé tax riots," however, marked the start of Chad's near-continuous state of conflict ever since. Riots soon spread across the country in a resounding sign of Tombalbaye's unpopularity among his fellow citizens.

Backed by a loyal army and civil service, however, Tombalbaye lasted as president for another decade. Furthermore, the personalistic and autocratic institutions he constructed during Chad's economically prosperous early post-independence years have lasted to this day. Since independence, Chad has been ruled by a succession of dictatorial presidents. A notable example is Idriss Déby, who ruled Chad for thirty years in a highly authoritarian manner before being killed by rebel insurgents in 2021 when personally commanding his security forces on the frontlines. Déby was succeeded in office by his son, who currently leads the country. Chad's moment of hope in the early 1960s — newly independent and in the midst of an economic boom — was followed by decades of political oppression and economic stagnation, as its first president leveraged his window of opportunity to craft autocratic institutions that have endured into the present.

# 3 The Case of Uzbekistan

Uzbekistan, which was colonized by Russia in the mid-19th century, achieved independence in 1991 during the dying days of the Soviet Union (Yalcin 2002). The nation's first presidential election was held that same year.

The country's first president was Islam Karimov, who previously served as First Secretary of the Uzbek Communist party and who was elected in a competitive race against non-communist Muhammad Salih (Commission on Security and Cooperation in Europe 1992).[6] As recounted by Geddes et al. (2018), when he first took office, "Karimov was weak." Part of the reason why Soviet General Secretary Mikhail Gorbachev had appointed Karimov as Uzbek Communist First Secretary in the last days of the Soviet Union was because Karimov was "someone uncontaminated by previous attachments... an outsider to the Party *nomenclatura* throughout most of his previous career... he had never been a member of the republican Party's Politburo nor had he held a position in the central Secretariat" (Yalcin 2002). While Uzbek politics was effectively controlled by different clans, Karimov "was not a clan leader" and as such "lacked an independent power base" (Geddes et al. 2018). The clan leaders "backed Karimov because they distrusted one another" and "thought of him as their puppet" (Geddes et al. 2018). Still operating within the institutional constraints of Soviet politics, Karimov as Uzbek Communist First Secretary had not yet been able to consolidate power on the eve of the Soviet Union's demise in early 1991, with his control of the party and government described by Geddes et al. (2018) as "somewhat precarious."

Karimov's prospects for concentrating power brightened after Uzbekistan gained independence and thus embarked on constructing a new set of political institutions. Beyond finding himself as the incumbent leader at a unique window of opportunity, his ability to consolidate power was helped by another fortunate stroke of luck: Uzbekistan's resilient agrarian economy in the early 1990s, especially compared to the economic catastrophe that struck many other post-Soviet states upon the collapse of the USSR.

As noted by Melvin (2000), "agriculture forms the backbone of the Uzbekistani economy." In 1991, 45% of the country's GDP was generated directly from agriculture and the industrial sector, which accounted for 30% of GDP, was "dominated by raw materials extraction and processing, most of which is connected with cotton production" (Library of Congress 1997).

[6] While the 1991 elections were considered to have been quite flawed, they were considered by observers to nonetheless represent a "landmark event" and "significant progress compared to the republic's previous practices and relative to other Central Asian republics, most of which did not hold contested presidential elections" (Commission on Security and Cooperation in Europe 1992). Furthermore, although Karimov's official 86% of the vote was ludicrously high (and a relic of prior Soviet election practices), even his principal opponent conceded that Karimov had likely won about 60% of actual ballots and therefore had majority support from the Uzbek citizenry in 1991.

Over half of the population relied on agriculture as their main source of income (Yalcin 2002). The principal crop in Uzbekistan is cotton, followed by wheat. While Uzbekistan's large crop of cotton and cereals would not be possible without the country's irrigation network, the agronomic literature stresses that rainfall remains a first-order contributor to yields in the Uzbekistani context (Atakulov 2004; Abdullaev et al. 2009; Tolipov and Sokolov 2022; Xu et al. 2022; Khujakulova et al. 2025).

In the run-up to independence, both the climate and economy in Uzbekistan were stable. Annual rainfall realizations across 1986-90 averaged 0.06 standard deviations above the historical mean, almost exactly at the normal long-run level. Across this period of average rainfall, cotton production in Uzbekistan generally grew until 1988 and gradually began to decline by about 5% a year thereafter due to problems associated with environmental degradation from decades of intensive agriculture, including the desiccation of the Aral Sea (Library of Congress 1997; Abdullaev et al. 2005; USDA 2026). Aware that cotton production was in long-run decline, Uzbek authorities in the 1980s sought to diversify the economy by encouraging light industry. Industrial output grew 3% a year across the second half of the 1980s, with important sectors such as clothing and textile production (a major industry in Uzbekistan today) increasing at an annual pace of 11.5% (Library of Congress 1993; Yalcin 2002). The net result was an economy that grew slowly but steadily: real net material product (NMP) per capita rose 1.3% a year from 1987-90 (Economic Survey of Europe 2001).

The dissolution of the Soviet Union was followed by major economic dislocation across its successor nations. Across the former Soviet Union, real GDP declined by 41% from 1990 to 1995, with some nations seeing economic contractions as large as 77% from peak to trough (Economic Survey of Europe 2001). While Uzbekistan was not immune from these economic troubles, the country suffered far less than others due to a well-timed upswing in climatic conditions — which allowed a growing agricultural sector to cushion industrial decline.

From 1991 through 1994, annual rainfall averaged 1.30 standard deviations above the long-run historical mean. Favorable rains translated into a short-lived but very well-timed agricultural boom. Despite the long-term decline of Uzbekistan's cotton sector due to escalating environmental degradation, optimal climatic conditions allowed cotton yields to stabilize from 1991 through 1995 — the early years following independence in which post-Soviet states saw the steepest economic contractions. Cotton exports, which had been falling in the last Soviet years, rose 12% from 1991 to 1993 despite a decline in area under cultivation. Once rains returned back to their normal levels, which occurred during the second half of the 1990s, cotton resumed its long-run decline: from 1995 to 2000, yields fell 20% and exports fell 24%.

Favorable rainfall benefited Uzbekistan beyond the short-term stabilization of the cotton

sector. Buoyed by good rains, Uzbekistan experienced a wheat boom in the early post-independence years. After remaining fairly static in the late 1980s, wheat yields rose 42% from 1990 to 1995. Rising yields coupled with a sharp increase in area under cultivation resulting from replacing marginal cotton lands with wheat led to a 325% increase in total wheat production from 1990-95.

The result of this agricultural upswing was that Uzbekistan escaped the worst of the economic depression that afflicted much of the former Soviet Union. As noted by Yalcin (2002), "during this time per capita GDP remained fairly stable compared to other countries of the CIS (Commonwealth of Independent States), and agricultural production contributed to this stability." According to Melvin (2000), in Uzbekistan "the recession saw GDP decline by 18% between 1991 and 1995," whereas in "Kazakhstan the equivalent was 55.9% and in Kyrgyzstan it was 54.5%." (Kazakhstan and Kyrgyzstan border Uzbekistan but are geographically distant due to Central Asia's large landmass, and both experienced far smaller rainfall shocks in the early 1990s.) The contraction was sufficiently mild that Uzbekistan was able to recover virtually its entire 1989 GDP by the year 2000, whereas at the turn of the century Kazakh GDP was 31% below its 1989 level, Kyrgyz GDP was 30% lower, Armenian GDP was 36% lower, Ukrainian GDP was 58% lower, Moldovan GDP was 66% lower, and Georgian GDP was 68% lower than its 1989 level (Economic Survey of Europe 2001).

The fact that Uzbekistan experienced recession whereas others experienced depression resulted in government revenues which held remarkably steady through the tumultuous initial post-independence years as opposed to suffering catastrophic declines. Following the logic detailed in Bates (1981), the agricultural boom provided much-needed revenue for the Karimov-led government via "the high implicit tax on farmers through state orders" (Yalcin 2002). The result was that inflation-adjusted government revenue per capita totaled 345.33 Uzbekistani Soms (adjusted for 2010 prices) in 1991, and stood at a virtually identical 345.98 Soms in 1995 (Yalcin 2002; Müller et al. 2026). This was directly attributed by observers at the time to a strong agricultural sector: a 1995 IMF report noted that "excise and export taxes on cotton, together with a good cotton crop, accounted for a large part of the higher revenue in 1992 and 1993." Other post-Soviet states, meanwhile, saw the state resource base effectively collapse, with Georgia experiencing a 97% decline in real government revenue from 1991-93, Armenia suffering a 72% decline, Lithuania a 67% decline, and Moldova a 54% decline over this period (Hemming et al. 1995).

The steady flow of resources to the government enabled President Karimov to avoid budget cuts that would cause pain to the constituencies he relied on to maintain and expand his power: Uzbekistan's clan-based patronage networks and the security services, which as president he personally controlled (Yalcin 2002; Collins 2006). As Geddes et al. (2018) notes,

Uzbekistan's clans "competed fiercely over high-level posts and the opportunities to make profits ... that came with appointments." Stable revenues meant that Karimov's government was able to keep both public sector employment and real wages steady throughout the early 1990s, allowing him to avoid shrinking the pie available to the clans. Public sector employment shrank just 2% in total from 1992 to 1994, before growing 4% from 1994 to 1995 (Yalcin 2002).[7] Meanwhile, the real average public sector wage was repeatedly adjusted for inflation and fell just 5% total from 1991 to 1995. The result was that "most clans continued to support Karimov in exchange for economic opportunities" (Geddes et al. 2018).

One part of the state that was not shared with any clan except Karimov's own was the security apparatus. While taking care to pacify other clans by giving them liberal access to state-controlled economic rents, Karimov early on asserted control over appointments in the security forces (Geddes et al. 2018). He then proceeded to replace departing Russian officers, soldiers, and police with members of his own clan. Furthermore, using Uzbekistan's relatively robust government revenues, Karimov was able to dramatically expand the security state without substantial cuts to other parts of the state which rival clans whose support he needed largely controlled. Spending on defense and public order soared by 289% in real terms from 1991 to 1995, steadily ratcheting upwards from 8.9% to 30.5% of the state budget over that period (Yalcin 2002).[8]

The government's steady resource base in the early post-independence years enabled President Karimov, originally just the first among equals in government, to keep the clans and security forces in his corner as "gradually, he consolidated power under his personal control" (Geddes et al. 2018). While he initially needed to maintain the support of most clans to remain in office, "the clans' mutual antagonism provided Karimov with opportunities for power grabs" using divide-and-rule logic (Geddes et al. 2018). Karimov's concentration of power began in 1991 when, using the August coup attempt by Soviet Communist Party hardliners as a pretext, Karimov banned the Communist Party of Uzbekistan (CPU). He then created a new dominant party, the National Democratic Party of Uzbekistan (NDPU). Most of the party members were in fact the same, but the larger change was institutional. The CPU featured well-developed institutions to manage appointments to jobs and political positions. By contrast, in the new NDPU all appointments, including legislative nominations, were personally controlled by Karimov (Geddes et al. 2018). While the clans may have not necessarily welcomed this change, they accepted this power grab because Karimov

[7] Yalcin (2002) does not have statistics for years before 1992. However, Economic Survey of Europe (2001) shows that overall employment in Uzbekistan, of which the state comprised the majority, grew from 1990 to 1991 and then barely contracted from 1991 to 1992.

[8] The surge in security spending, flat revenues, and an approximately balanced budget meant that real spending on non-security items fell by 13.8% from 1991 to 1995 (Yalcin 2002).

held the reputation of "a neutral broker, merely managing the clan pact" and "competing regional and clan factions trusted Karimov more than they trusted each other, and hence preferred to have him at the center of the pact that held the state together, if by autocratic means" (Collins 2006).

Control over government appointments as president and NDPU leader — a power which, importantly, was of practical significance given strong revenues meant there was actual patronage to distribute — and the fact that his personnel decisions and investments in security forces meant that "he had a near-monopoly on the means of violence" enabled Karimov to reshape Uzbekistan's fledging institutions in the early post-independence years "from a communist regime to an autocratic one, in which power belonged not to a hegemonic party, but to Karimov himself" (Collins 2006; Geddes et al. 2018). The president's choices across 1992 through 1995 are telling. First, in 1992, Karimov moved against his principal rival, the sitting vice president and a major clan leader, by convincing other clan elites to support him in abolishing the office of vice president altogether (Melvin 2000). Then, leveraging his tightening control of the expanding security state, Karimov began to imprison opposition leaders throughout 1992-93, with a number disappearing without explanation. This drive to eliminate organized opposition culminated in the permanent banning of the country's two main opposition parties in late 1993; from that point onward, all parties other than the NDPU were pro-government shell organizations meant to project a veneer of democratic competition to international observers (Melvin 2000). Backed generously by rising security budgets, the secret police were strong enough to abduct opposition leaders living in exile in Kyrgyzstan and harass opposition groups as far away as Moscow (Library of Congress 1997).

Control over the media, which was relatively free during the final years of the USSR and the immediate post-independence period, was tightened as well: in December 1993, independent publications were outlawed. The elimination of independent media was paired with a significant expansion in state-owned broadcast and print media, in stark contrast to a number of other post-Soviet states in which governmental budgetary difficulties resulted in major cuts to state media (Aksartova et al. 2003). By the late 1990s, "television, radio, and the press [were] all funded by the state," with "neither the bulletins nor the documentary and entertainment output... remotely critical of the government" (Human Rights Watch 1997). Stable government budgets also allowed Uzbekistan to maintain a large and zealous press censorship office, and the expansive secret police that President Karimov cultivated was intimidating to the point where journalists largely chose to self-censor to avoid facing harassment or outright violence against themselves or their families (Melvin 2000).

Organized opposition to Karimov's regime was stymied both by a lack of media coverage on any signs of dissent as well as tight restrictions on freedom of speech and assembly, which

were implemented during the initial post-independence years. While the Soviet Union was never a paragon of individual freedom, the 1988-91 era of *glasnost* and *perestroika* saw a flourishing of public rallies and citizen-led movements in Uzbekistan (Human Rights Watch 1996). This period of openness was swiftly brought to an end as Karimov consolidated power. While the constitution nominally gave citizens the rights of freedom of speech and assembly, it stipulated that those freedoms must be exercised "in accordance with the legislation of the Republic" (Constitute Project 2026). The government then banned unsanctioned public meetings and demonstrations, and then refused to grant permits to any anti-government groups (Library of Congress 1997). Those protests that did erupt, such as a wave of student demonstrations, were violently suppressed by Karimov's security forces.

The well-funded secret police — the direct successor of the KGB — kept a large network of informants and infiltrators on the payroll to monitor citizens (Melvin 2000). Furthermore, beyond the threat of detention or violence for demonstrating or expressing anti-government views, a powerful impetus for compliance was the fact that most Uzbeks remained on the state payroll, as robust government revenues had allowed state employment to expand rather than contract. Given that an individual in a government job was certain to be fired if caught protesting or even expressing anti-government perspectives, few dared to air grievances against Karimov even as he tightened his grip on the nation (Human Rights Watch 1996).

Uzbekistan's status as a personalistic "hard autocracy" was entrenched by its first and to date only constitution. The constitution, which was promulgated in late 1992 and amended in late 1993 to further strengthen presidential powers, provides the government with sweeping control over its citizens and provides the president with sweeping control over the government (Asif 2025). As previously noted, the constitution promised citizens fundamental rights such as freedoms of speech, press, and assembly, but "in accordance with the law" which, in a Kafkaesque turn, was implemented in a manner that permitted none of those rights to be exercised (Constitute Project 2026). The constitution sanctioned the banning of political parties on vague grounds such as "coming out against the security of the Republic" and "advocating social hostility," which Karimov's government promptly exercised.

Beyond the constitution's restriction of individual and opposition rights, it consolidated power in the executive to such an extent that the Uzbek constitution has been dubbed "crown-presidential" (Partlett 2022). Under the constitution, the president is empowered to appoint and dismiss the prime minister, the full cabinet of ministers, all regional governors, and all judges of the supreme, constitutional, and lower courts. While these appointments are subject to approval by the national legislature, the president has the power to dissolve the legislature if it threatens the "normal functioning" of government, "in effect negating the [legislature's] veto power over presidential nominations in a power struggle situation"

(Library of Congress 1997; Partlett 2022). That the entire judiciary is appointed and can be dismissed by the president further meant that "the courts remain under complete control of the executive branch" (Library of Congress 1997). The constitution also gives the president sweeping legislative powers to rule by decree as well as declare states of emergency (Partlett 2022). It also enshrined into fundamental law the president's tight control over the armed forces and security services (Constitute Project 2026).

According to Partlett (2022), Karimov "introduced the new constitution with crown-presidential design to help him consolidate informal control over competing Uzbek clans." In this sense, he was successful — his rule "exemplified personalism, especially in later years" (Geddes et al. 2018). Although the agricultural boom of the early 1990s soon subsided, the short-run windfall it provided was instrumental in enabling him to weather the tumult of the post-Soviet economic collapse and make important investments in buying off clan elites and strengthening his grip on the security state. By the mid-1990s he had eliminated most of his rivals and the clans, which had once considered him their puppet, instead were rendered dependent on his patronage for their economic survival (Geddes et al. 2018). No alternative power center had the ability nor the incentive to remove him due to the institutions he managed to erect and establish control over during the initial post-independence window.

Karimov died of natural causes in 2016, after ruling Uzbekistan as president for a quarter century. Yet although Karimov is gone, the autocratic institutions he established in the initial post-independence years remain. Karimov's successor, Shavkat Mirziyoyev, served as Karimov's prime minister for over a decade before assuming the presidency and has now ruled Uzbekistan for nearly ten years. While Mirziyoyev is considered to be somewhat more liberal and humane than Karimov — admittedly a low bar given that Karimov was compared to Stalin by even his own ministers — Uzbekistan continues to be deemed a consolidated authoritarian regime by Freedom House, with a democracy score of 12 out of 100 (Freedom House 2024; Komilov 2025). The autocratic "crown-presidential" constitution remains in place, protests continue to be violently suppressed, opposition parties continue to be banned, and in 2023 Mirziyoyev was reelected for a third time with an implausible 88% of the vote.

While Uzbekistan is certainly not the only post-Soviet state to have descended into dictatorship since 1991, its unusually strong economy in the initial post-independence years enabled its incumbent leader to institute a particularly hard form of autocracy. Across the post-Soviet nations, a one standard deviation increase in standardized rainfall in 1991-95 is associated with a 25 percentage point increase in the probability of autocratic rule in 2018. Though Uzbeks may have enjoyed the bumper crops of cotton and wheat in the early 1990s, they may have in fact been reaping a more bitter harvest — that of long-term dictatorship — than anticipated at the time.

# 4 The Case of Lesotho

Lesotho was granted full internal self-government by the United Kingdom in 1965, with general elections held in April (World Bank 1971). Formal independence followed in 1966.

At the time internal self-government was granted, Lesotho possessed two principal political parties. The Basotholand Congress Party (BCP) was left-wing, pan-Africanist, and hostile to apartheid South Africa, which bordered Lesotho (Ferguson 1994). The Basotho National Party (BNP), by contrast, was a conservative outfit heavily supported by chiefs and the Catholic church, and while officially against apartheid pursued a policy of pragmatic "dialogue" with the South African government. A third minor party, the Marematlou Freedom Party (MFP), was royalist and sought to walk a middle road between the two larger parties.

The legislative elections of early 1965 were a pitched battle between the BCP and BNP. The BNP won 31 of the 60 seats in the National Assembly — earning the barest of possible majorities (Machobane 1990). The BCP won 25 seats and polled just 6,072 votes fewer than the BNP nationwide, pointing to an election in which many seats were won by the thinnest of margins. The MFP garnered four seats and, along with the BCP, sat in the opposition. Chief Leabua Jonathan, founder and leader of the BNP, took office as Prime Minister.

Lesotho's national motto is "Khotso, Pula, Nala" — Peace, Rain, Prosperity — which sums up the country's economic model. At independence, Lesotho was a predominantly agrarian economy in which 85% of the population relied on agriculture for their primary means of living (World Bank 1968b). Irrigation was virtually non-existent and considered by engineering consultants to be economically nonviable for over 97% of the country's arable land due to topographical and geographical considerations (World Bank 1971). Hence Lesotho's agricultural sector was almost entirely dependent on natural rainfall. Nearly two-thirds of arable land was occupied by maize, with much of the remainder taken up by wheat and sorghum (World Bank 1968b).

The economic picture of Lesotho in the years leading up to internal self-government is one of short-term stability amidst longer-run structural shifts. Nature was cooperative — annual rainfall realizations across 1961-64 averaged 0.28 standard deviations above the long-run mean, pointing to precipitation that was mildly favorable but well within the normal range. Crop production data from the Food and Agriculture Organization of the United Nations (2026) indicates that maize, wheat, and sorghum production were all effectively static across this period. While this might be expected given average rains, stagnant crop production concominant with a growing population posed longer-term concerns for Lesotho. As recounted by Ferguson (1994), large amounts of Basotho historically had worked in South African mines, and this labor migration steadily rose both in the years before as well as after

independence.[9] Flat agricultural production combined with gradually rising remittances from miners resulted in mild economic growth. Real government revenues per capita rose by 2.2% a year from 1960 to 1965.

Unfortunately for Prime Minister Jonathan and the BNP, Lesotho's relatively benign economic situation took a significant turn for the worse just as the new government took office in early 1965. From 1965 through 1970, annual rainfall realizations averaged 0.81 standard deviations below the long-run historical mean. The government's first year in office, 1965, saw the rains come in at a catastrophic 1.56 standard deviations below the mean. After a brief respite, the year 1968 saw rainfall at 1.53 standard deviations below the mean, and then in the election year of 1970, Lesotho again suffered rainfall at 1.37 standard deviations below the mean.

The sequence of drought years proved disastrous for Lesotho's all-important agricultural sector. Production of maize, the country's most important crop, fell from 110,000 tons in 1964 to 66,500 tons in 1970 — a 40% decline that widens to a 51% reduction when adjusted for population growth (FAO 2026). Farmers tried to shift planting to the more drought-resistant sorghum and wheat, but agronomic conditions were so unfavorable that per capita production of even these crops across this period declined by nearly 15%.[10]

The result was of this "impecunious independence," as the World Bank (1975) noted, "hunger and near-starvation." This applied to both the people of Lesotho and its government budget. With the economy in a depression, government revenue per capita went into free fall, declining an average of 9.5% a year from 1964 to 1970 — a cumulative decline of 45%. While foreign assistance decreased during this period, the government's own revenue generation per capita fell nearly 30%.

Faced with enormous declines in revenue, the new Lesotho government had little choice but to implement brutal spending cuts. Inflation-adjusted expenditure per capita fell 42% between 1964 and 1970. Spending on general administration fell 38% between 1964 and 1970, depriving the new administration of patronage opportunities. Health and education spending, never high during colonial times, was cut by 32% over this period. The country's army and police, tiny at independence, shrank even further: after a modest 7% increase in the real security budget from 1964 to 1965, the security state was forced to shrink by 12% from 1965 to 1970.

[9] Ferguson (1994) notes that labor migration among the Basotho is "nearly as old as their contact with Europeans" and that "migration of large numbers of Basotho in fact preceded the decline in agriculture by many years."

[10] Remittances from miners in South Africa could not replace shrinking crop output as job growth in mines did not accelerate during this period: the number of miners per capita only rose mildly from 1964 to 1970.

# 5 The Case of Guyana

Guyana was granted full internal self-government by Britain in 1961, with general elections held the same year (Reid 1968). Formal independence followed in 1966.

The 1961 elections were a closely-fought contest between the People's Progressive Party (PPP) and the People's National Congress (PNC), who were separated by a less than two percentage point difference in vote share. Led by Cheddi Jagan, the PPP was strongly left-wing (if not outright Marxist) and dominated by Indo-Guyanese, who were descendants of indentured laborers from India and comprised approximately half the population (International Commission of Jurists 1965). The more centrist PNC was led by Forbes Burnham and supported primarily by Afro-Guyanese, the descendants of enslaved laborers from Africa who formed about 30% of the population. Much of the rest of the population was either mixed or Amerindian, who largely supported the minor United Force (TUF) party. Backed by Guyana's largest ethnic group, the PPP obtained a majority in the Legislative Assembly and Cheddi Jagan became the country's first premier.

The Guyanese economy around the time of independence was a largely agricultural one dominated by sugar and rice, water-intensive crops which together accounted for 60% of the territory's total exports in the late 1950s (World Bank 1961a). Even in the modern era, "a single year of drought can undermine years of social development" (Guyana Lands and Surveys Commission 2020). Not only are droughts catastrophic for sugar and rice yields, but they also hinder natural resource exploitation due to the predominance of river transport in the country's vast hinderland.

In the run-up to internal self-governance, average rains supported a gradually growing economy. Annual rainfall realizations across 1955-60 averaged 0.08 standard deviations below the mean, right around the normal long-run level. Between 1955 and 1960, sugar yields rose a cumulative 6% and rice yields rose 11%, reflecting a mix of average rains and steady improvements in agricultural productivity (World Bank 1967b). Real GDP per capita grew at an annual rate of 2.8% across 1955-60, and real government revenue per capita grew 1.8% annually over this period (World Bank 1961a).

This benign economic picture darkened soon after Guyana's new government took office. Rainfall, which had been normal in the years leading up to internal self-government, averaged a dire 1.03 standard deviations below the long-run historical mean across Guyana's first five years as a fully self-governing polity. Sugar production, the mainstay of the economy which had gradually grown throughout the last 1950s, collapsed: sugar output per capita fell for four straight years, declining a cumulative 30.4% from 1960 to 1964. The rice crop fared little better, with per capita output falling by 24.7% from 1960 to 1963 (before experiencing

a moderate rebound in 1964). GDP growth slowed three years in row, culminating in a 13.1% collapse in per capita GDP in 1963, and unemployment rose from 10.8% in 1960 to 20.8% in 1965 (World Bank 1967a).

Having inherited a budget surplus of nearly 2% of GDP in 1960, Premier Jagan's socialist government was initially able to fund its priorities by spending down reserves. By 1963, however, with per capita real revenues having fallen two years in a row, a fiscal reckoning loomed. The government was "close to bankruptcy" (Central Intelligence Agency 1963). Unwilling to fully rollback the government's new social programs, Premier Jagan instead turned to aggressively raising revenue amidst recession. Advised by economist Nicholas Kaldor, the government's "Kaldor budget" imposed new property taxes, compulsory payroll taxes for salaried workers, and sharply higher import duties (Wallace 1964). At the same time, to close a growing deficit, budget cuts were inevitable, and so government expenditures per capita (excluding interest payments on the debt) were cut 8.5% from 1962 to 1963 (World Bank 1967a). The government also tried to solicit more foreign aid, but its efforts were unsuccessful (Central Intelligence Agency 1963).

The bevy of new taxes allowed the government to maintain steady revenues even in the middle of the drought-induced recession, but at great cost to its popularity. Wage and salary earners — who suffered a 55% increase in personal income tax collections from 1962-63 despite the faltering economy — responded with massive anti-government strikes, some of which transmuted into riots in which several people were killed and over 50 properties destroyed (Wallace 1964). The opposition PNC capitalized on the discontent by increasing its support among people hit hard by the taxes, claiming that the socialist government was in fact showing itself to be anti-worker. A large-scale campaign by the government to consolidate Guyana's many unions into an umbrella organization supported by the ruling PPP began to falter, and prominent local leaders of the PPP's Indo-Guyanese base started to defect to the PNC and TUF (Central Intelligence Agency 1963). At the same time, sensing that victory in the next elections was within reach, the PNC and TUF began to cooperate with each other in service of defeating the PPP.

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