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Can donors prevent aid misallocations? Evidence from Chinese and World Bank aid.

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Abstract We estimate to what extent international aid projects are subject to favoritism. We compare two different sources: Chinese aid and World Bank aid, using differences in differences and RDD estimates based on the dates of presidential turnovers. Consistently with the literature, we find Chinese aid massively targets the region of birth of new presidents, concentrating in its large urban centers but not necessarily in the district of birth of the president. However, we also find some evidence of a less visible and less intense form of favoritism for World Bank aid: it targets areas co-ethnic with a new president without following main regional administrative borders. Finally, this pattern of World Bank aid disappears with democratization, which contrasts with Chinese aid also following the place of birth of presidents in democracies.

JEL Classification: H41, H52, O10, O12

Key words: clientelism, Pork Barel politics, ethnic favoritism, aid, Africa

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1 Introduction

The efficiency of development aid figures among the main controversies among development economists. Aid can sometimes increase tremendously the well being of local populations (see Burnside and Dollar, 2000; Svensson, 1999). However, the political economy of development aid explains some skepticism: development aid can have political motivations from the donors (Alesina and Dollar, 2000), can alter the political equilibrium of the receiving country (Djankov et al., 2008), and can be captured by the elite of the receiving country (Jablonski, 2014). This paper studies a mechanism of elite capture. We compare the geographic pattern of aid between Chinese and World Bank aid. We find favoritism in both cases but it follows very different patterns: first, favoritism is approximately ten times larger with Chinese aid, second, Chinese aid follows the regional origin of the president while World Bank aid follows ethnic lines. We argue this is probably due to a better control of World Bank aid allocation. Ethnic regions are less compact and less visible for donors than the administrative region of birth and targeting projects according to the local ethnicity might circumvent external controls.

Ethnic identities and personal ties often jeopardize economic policies in ethnically fractionalized countries, particularly in Subsaharan Africa. It may deter economic growth (Easterly and Levine, 1997; Bates, 1981) or cause conflicts (Horowitz, 1985; Fearon and Laitin, 2003). The literature generally identifies two forms of favoritism in politics in Africa. The president can distort public policies in favor of her home region (see Hodler and Raschky 2014, Dreher et al. 2019, and Bandyopadhyay and Green 2019) or in favor of coethnic regions (see Kramon and Posner 2016, Franck and Rainer 2012 and Burgess et al. 2015). This paper studies how favoritism drives the geographic allocation of Chinese and World Bank aid in Africa between 1995 and 2014. We simultaneously study the two forms of favoritism: of the ethnic group and the region of birth of the president. We argue that ethnic favoritism is less visible. It does not follow the official internal borders of the country, and ethnic regions are less compact: ethnic favoritism simultaneously targets many locations. By contrast, home region targeting favors a compact and official geographical area and is more visible for a donor. Regional favoritism can thus be harder to implement when donors want to limit favoritism and exert more control on aid. Besides, home region targeting may follow a different logic of rewarding core supporters and the close network of the leader. By contrast, ethnic favoritism follows a broader logic:

rewarding the leader's electorate.

We estimate the effect of geographic favoritism on the allocation of aid with differences in differences specifications and regression discontinuity designs. We find strong evidence in favor of differentiated targeting for Chinese aid and for the World Bank aid: Chinese aid is subject to home region targeting, and the World Bank aid seems mostly subjected to ethnic favoritism. When a president changes, Chinese aid sharply increases in her region of birth but not in the regions of her ethnic group (taking other regions as a reference). The magnitude of the effect is impressive and much higher than previously measured in the literature: Chinese aid amounts are multiplied by approximately 7 in the region of birth of a new president after her nomination (we compare the relative amounts in the birth region in [T; T+10] with [T-10; T-1], where T is the nomination date). The World Bank aid follows a very different pattern. When a new president enters in charge, World Bank aid increases mainly in the regions of her ethnic group. The magnitude is much smaller but remains sizeable: the amounts approximately double. This is consistent with a strong heterogeneity in the share and nature of aid capture. The newly appointed president's birth region represents on average 20% of Chinese aid, and we estimate that 18 percentage points (90%) can be explained by favoritism. Coethnic districts of a newly appointed president represent 4% of World Bank aid, and 1 to 3 percentage points can be explained by clientelism. We argue that this is probably because Chinese aid is less controlled and more politically oriented than the World Bank aid (see Naim (2007), Pehnelt (2007) and Traub (2006)). However, we also find some capture of World Bank aid, of a smaller magnitude.

Favoritism on World Bank aid is probably less visible as amounts are smaller but also because ethnic regions are less geographically clustered. In addition, donors have a better knowledge of administrative borders than of the details of ethnic regions. Consistent with this view, we find no evidence of favoritism on World Bank aid following the ethnicity of ADM1 regions: it follows smaller and less visible ADM2 districts.

Favoritism on Chinese aid is visible at the ADM1 (regional level) but not at the ADM2 (district) level. In addition, favoritism on Chinese aid mostly targets urban areas and regional capitals but not necessarily the ADM2 district of birth of the leader. This suggests that this form of favoritism probably targets the extended political network of the leader rather than the inner familly circle.

We also find favoritism on chinese aid to have the same order of magnitude in autocratic

and democratic periods. This might reinforce the fear that Chinese aid accentuates corruption. By contrast, favoritism on World Bank aid disappears in democratics. The interaction of donor control and democratic institutions in the receiving country seem to circumvent ethnic favoritism.

Our results are robust to many specifications. Event study analyses confirm the absence of pre trends and emphasize the robustness of our differences-in-differences. RDD explicitly controls for a specific trend before and after the transitions and in treated and untreated regions and give similar (if not quantitatively larger) results.

This paper contributes to the literature on favoritism and pork-barrel politics, a major topic in the field of African politics (De Luca et al., 2017; Mueller and Tapsoba, 2016; Franck and Rainer, 2012; Burgess et al., 2015; André et al., 2018; Hodler and Raschky, 2014; Dreher et al., 2019). This literature studies home region targeting and ethnic favoritism, usually separately. Several studies measure ethnic favoritism in multiple countries. De Luca et al. (2017) study 140 countries and show that nightlight intensity increases in the leader's coethnic region. Mueller and Tapsoba (2016) show that ethnic groups with a large influence in the executive power enjoy an increase in nightlight intensity. Franck and Rainer (2012) shows that the ethnic group of the leader has better educational outcomes and lower infant mortality. Several other studies focus on a single country but can observe the provision of public goods directly. For instance, Burgess et al. (2015) finds that road-building increases significantly in districts sharing the ethnicity of the president in Kenya. André et al. (2018) show that school constructions increase in districts coethnic with the minister of education. Other studies focus on home region targeting. Hodler and Raschky (2014) show that nightlight intensity increases significantly in the home region of the leader or Dreher et al. (2019) show that Chinese aid goes disproportionately to the home region of the leader. An important question remains: when and why does the leader favor her home region and/or her ethnic group? These two forms of elite capture may have very different consequences and different political returns. Home region favoritism targets a more compact region. Ethnic favoritism is more geographically dispersed and affects political supporters; most of them are treated impersonally: they have no personal ties to the president.

Measuring favoritism with aid data presents several advantages. We simultaneously study ethnic and home region favoritism with two different sources of funds following different objectives. The World Bank aid tries to follow explicit development objectives, while Chinese aid follows political and commercial purposes more often (see Naim, 2007; Pehnelt, 2007; Traub, 2006). To our knowledge, we are the first paper to compare how favoritism can be shaped by financial sources differing in their propensities of elite capture because they follow different objectives with different levels of control. Aid data are retrospective and identify the date and location of most projects. This level of detail is scarce for public spending or investments in low-income (and autocratic) countries, particularly in Sub-Saharan Africa. This leaves most researchers with a choice between country case-studies (Burgess et al., 2015; André et al., 2018) or replacing measures of investments by welfare outcomes (e.g., infant mortality, educational attainment, or nightlight intensity, see Kramon and Posner 2013, 2016; Franck and Rainer 2012; Perrotta Berlin 2013; De Luca et al. 2017). Measuring favoritism through welfare outcomes is indirect, and welfare outcomes might consequently be affected by unobserved factors (such as the local economic situation or specific shocks affecting a region). Aid data present the advantages of being available for many African countries, comparisons between countries, and disaggregated at the local level. This is a unique opportunity to observe policies directly for many countries and at the subnational level.

We also contribute to the literature on the political economy of aid (Dreher et al., 2009; Alesina and Dollar, 2000; Svensson, 2000; Reinikka and Svensson, 2004; Bräutigam and Knack, 2004; Rajan and Subramanian, 2007). Aid can be captured for reasons related to the donors' objectives and controls,¹ and for reasons related to the political economy of the receivers². Donors follow very different objectives and have different levels of internal control. Arguably, external controls are more developed at the World Bank than in the Chinese government, and the World Bank aid follows more explicit objectives. In particular, China applies a non interference policy into recipients internal affairs (Jiabao, 2004) which contrasts with the conditionality approach of traditional donors³. We find different forms and magnitudes of aid captured from two very different donors. We show that Chinese aid is prone to a more visible and more intense elite capture while World Bank aid is prone to a broader and less intensive form of elite capture: ethnic favoritism. This plausibly indicates that donors can at least partially control

^{1.} For example, Dreher et al. (2009) study the impact of UN security council membership on the number of World Bank projects in the country and Alesina and Dollar (2000) studies the pattern of foreign aid allocation and found that political alliances and colonial past are major determinants of foreign aid.

^{2.} Foreign aid can create rent-seeking behaviors (Svensson, 2000; Reinikka and Svensson, 2004) that weaken institutions and democracy (Bräutigam and Knack, 2004; Rajan and Subramanian, 2007)

^{3.} Even if this conditionality is imperfectly applied (see Kilby, 2009; Hernandez, 2017).

aid capture but without totally suppressing it.

This paper is also closely related to the intersection of ethnic favoritism and aid allocation. Dreher et al. (2019) show that home regions of the leader received disproportionately more Chinese Aid, using fixed-effects OLS specifications. They find no impact of World Bank Aid. We focus simultaneously on home region and ethnic favoritism and show that the World Bank aid is also subject to elite capture but in the form of ethnic favoritism. Also, using DID and RDD specifications around the transition dates, we find much larger effects of home regions for the allocation of Chinese aid than previously found in the literature. Perotta Berlin et al. (2019) study the consequences of temporary membership to the UN security council. They find little evidence of intra-country strategic allocation of the World Bank aid during the security council membership, but this allocation would take the form of home region targeting (rather than ethnic favoritism). Our approaches differ in several dimensions. First, we study countries from Subsaharan Africa in general while they study UN security council members. Second, we use DID and RDD estimates around the presidential transitions date. Finally, they focus on a larger set of countries outside, and we focus exclusively on Subsaharan African countries where ethnicity is more salient.

Studying Africa is appealing for several reasons. First, ethnicity is salient, and most districts (ADM 2 administrative regions) are homogeneous ethnically: the majority ethnic group of the local majority represents 62% of the population. This makes ethnic targeting of aid feasible: geographical favoritism is sufficient to achieve ethnic favoritism. This makes ethnic favoritism identifiable from our data through the geographical patterns of aid distribution.⁴ In addition, the president's ethnicity and birthplace also change, in respectively 59% and 73% of the transitions (change in the identity of the president). This allows a proper simultaneous identification of ethnic favoritism and home region targeting. Finally, Africa has experienced a phase of democratization relatively recently. This gives precious information on the dependence of favoritism on the institutional settings. We show that favoritism in Chinese aid holds in both democracies and autocracies. Many forms of favoritism have been shown to occur in democracies and the level of control of Chinese aid is low.⁶ Conversely, ethnic favoritism for World

^{4.} Ejdemyr et al. (2018) show that the elites can efficiently provide their coethnics with local public goods when ethnic groups are geographically segregated. This is clearly the case here: the ethnic group of the president represents approximately 85 % of coethnic districts in ADM1 regions and 90 % in ADM2 regions 5 .

^{6.} Interestingly, Gadenne (2017) finds that, in Brazil, taxes lead to more efficient public spendings than external sources such as public grants. Thus, it is not surprising to find some capture of other external sources

Bank aid only holds for autocratic periods and completely disappears in a democratic setting. This is consistent with previous literature. Burgess et al. (2015) or André et al. (2018) both find that the emergence of democratic institutions prevented ethnic favoritism (respectively in Kenya and in Benin).

The rest of the paper is organized as follows. Section 2 briefly presents the context of the development of aids, the role of the World Bank and the emergence of new donors such as China. Section 3 presents the data and the construction of the main variables. Section 4 presents the empirical strategy and section 5 the results. Section 6 concludes.

2 The context of Development Aid

Bilateral development aid Donor countries from OECD's Development Assistance Committee (DAC) constituted the bulk of bilateral development aid during the end of the last century. The efficiency of development aid has been fiercely debated (Tarp, 2000; Burnside and Dollar, 2000; Easterly et al., 2004). The political motivations behind aid are one of the reasons for this skepticism. Political motivations limiting the efficiency of aid can come from the donors⁷ It can also be related to the domestic politics of the recipient country, including elite capture (see Dreher et al. 2019 who show a form of elite capture: home region favoritism).

New donors like China have been emerging since the turn of the new century. China was the second-largest donor on the continent between 2000 and 2010 (Hernandez, 2017). Chinese aid has been accused of undermining aid conditionality and fight against corruption (Naim, 2007), and the World Bank seems to apply less conditionality in countries receiving Chinese aid (Hernandez, 2017). However, it is not obvious that Chinese aid follows more closely geopolitical interests or economic interests than other donors (Dreher et al., 2011; Dreher and Fuchs, 2015), apart from flows excluded from overseas development assistance (Dreher et al., 2018).

Multilateral development aid Multilateral donors, including notably the World Bank and the United Nations (including notably the UNDP, FAO or WHO) represent 25% of development

of financing such as aid in democracy.

^{7.} Alesina and Dollar (2000) found that political alliances and colonial past determine the flows of foreign aid as much as the economic situation of recipient countries. Kuziemko and Werker (2006) found that the amount of aid received by a country holding a temporary seat in the U.N. Security Council increases by 59%. Hoeffler and Outram (2011) also find that aid allocation follows the needs of recipient countries.

aid. The World Bank is the largest multilateral donor with the EU.⁸ Multilateral aid is probably less likely to be captured by donor's political considerations, as multilateral agencies represent multiple countries. The World Bank follows explicit objectives of poverty reduction and shared prosperity (World Bank, 2014) and implements conditionality principles.

This paper is based on two donors: China and the World Bank. We argue that their different objectives and degree of control of aid allocation affect the degree and the pattern of favoritism.

3 Data and variables

36 African countries compose our sample. They are split into 15 regions at the first administrative level on average (ADM1 regions thereafter) and 145 districts at the second administrative level (ADM2 districts thereafter).

We use three different sources of data in this paper. 1) the list of presidents gives us the political transitions, their dates, and the ethnic group of the presidents 2) the aid project listings inform us of the date and location (ADM 1 and/or ADM 2) of aid projects in Africa. 3) The Census (IPUMS), DHS, or the GREG ethnic map by order of preference gives us the ethnic composition of administrative regions.

3.1 List of presidents

Dreher et al. (2019) provides a list of African presidents from 2000 to 2011.⁹ We complete their data between 1995 and 2014. We rely on various sources of information, including press articles about the election of the presidents. Appendix C describes the detailed process. We code the ethnicity of politicians to ensure comparability with the geography of ethnic groups (section 3.3). The detailed list of presidents (and their ethnicities) is reported in Appendix Table C.1. We identify 94 turnovers of presidents between 1995 and 2014 with an average mandate duration of 5.07 years.

We identify two types of transitions from the list of presidents. Ethnic transitions are characterized by a change in the ethnicity of the president. Regional transitions are characterized by a change in the birthplace of the president (at the ADM1 level or at the ADM2 level depending

^{8.} source: http://stats.oecd.org, Year 2019

^{9.} We do not consider Somalia, South Sudan, and small islands.

on specifications). We identify 56 ethnic transitions between 1995 and 2014 with an average duration of 4.6 years between transitions, 82 regional transitions at the ADM1 administrative level and 83 at the ADM2 administrative level with average durations of respectively 5.47 and 5.46 years between transitions. Tables B.3, B.4,

3.2 Aid projects from China and the World Bank

Bluhm et al. (2018) makes available impressive data sets describing the aid projects of China and of the World Bank. The data are available from 2000 to 2011 for China and from 1995 to 2014 for the World Bank.¹⁰ In both cases, geographic information is available with some missing data at the ADM1, ADM2 and/or geographic coordinates levels. We geolocate geographical coordinates using the 3.6 version of GADM data.¹¹ The listing of World Bank project includes 1982 projects in Africa. 1905 of them have some information on their geolocation: 826 are national, 209 have location at the ADM1 level and 870 at the ADM2 level. These 1079 projects with sub-national location generate 15031 locations*project in total. The data list 1955 Chinese aid projects in Africa, and 1773 of them are geolocated: 925 are national, 69 provide information at the ADM1 level and 779 at the ADM2 level. In total, 848 projects with sub-national geographic information generate 2034 locations*project.

Throughout the paper, Y_{dt} is the amount of aid commitment for an ADM1 region or ADM2 district d during the year t. Figure 1 plots the yearly amounts of aid commitment for China and the World Bank, respectively.

We define y_{dt} the inverse hyperbolic sine of Y_{dt} , that approximates $\log(Y_{dt})$.¹²

$$y_{dt} = \log^{M}(Y_{dt}) = \log\left(Y_{dt} + \sqrt{Y_{dt}^{2} + 1}\right)$$
 (1)

3.3 Ethnic groups

We use three sources of information to identify the ethnic composition of ADM1 and ADM2 regions. Census data are the most reliable source of information in our view, as they are fully

^{10.} We drop the year 2012 in the Chinese data set as in Dreher et al. (2019) due to doubts about the comprehensiveness of the projects from that year.

^{11.} www.gadm.org

^{12.} Inverse hyperbolic sines allow to apply log transformation to regions that do not receive aid projects and therefore have a value of Y_{dt} equal to zero with $Y_{dt} = 0$. Recent papers using this transformation include Bahar and Rapoport (2018); Clemens and Tiongson (2017); McKenzie (2017).

Figure 1 – Assistance projects values from World Bank and China



Note: source: Aiddata, our computations. Amounts in constant US Dollars.

representative of the population. Therefore, we use the IPUMS extract of the census when ethnicity is available (Benin and Sierra Leone). Our second source of information is the DHS data. We use GPS information to geolocate the survey clusters and induce their ADM1 and ADM2 regions. DHS data are also representative of the population but with a smaller sample. We use DHS data to measure ethnicities in 14 countries.¹³ For the censuses and the DHS surveys, we aggregate the observations between survey or census rounds to increase sample sizes as the ethnic composition of districts is rather stable over time. Finally, when censuses or DHS surveys are not available, we use the GREG ethnic map (Weidmann et al., 2010) in 31 countries.¹⁴ We superimpose the GREG ethnic map and the Global Administrative Areas (GADM) map and compute the share of land occupied by each ethnic group in an ADM1 or ADM2 region, which approximates the ethnic distribution of the population. We build a coherent classification to ensure comparability between Dreher et al. (2019) and the census/survey/GREG ethnic map, and we repertoriate 13 ethnic groups per country on average, listed in appendix C.2.

Our ethnicity variable is E_{dp} ; it measures the share of people from the ADM1 or ADM2 region sharing the ethnicity of president p (or of the share of the area in countries where ethnicity is coded with GADM). $E'_{dp} = \mathbb{1}(E_{dp} \ge 50\%)$, is a discrete variable which takes the value 1 when the share of the ethnic group of the president p is at least 50%. We call coethnic regions the ADM1 or ADM2 regions with $E'_{dp} = 1$.

Although each country is highly fragmented, we find that the ADM1 and especially the ADM2 regions are much more homogenous. Among the 5,323 ADM2 districts in the sample, 4033 (75%) have an ethnic majority representing more than 50 % of the population. ADM1 regions are bigger and therefore more fractionalized. Among the 558 ADM1 regions, 209 (37%) do not have a strict ethnic majority. Ethnic favoritism should be more efficient and, therefore, more visible at the ADM2 level.

Table B.1 gives the summary statistics of the coethnicity variables, and Tables A.3 and A.4 show the robustness of our main results to alternative thresholds and to the use of the

^{13.} Cameroon, Ghana, Guinea, Gabon, Ivory Coast, Kenya, Liberia, Malawi, Mali, Niger, Senegal, Togo, Uganda, and Zambia

^{14.} Algeria, Angola, Botswana, Burkina Faso, Burundi, Central African Republic, Chad, Democratic Republic of Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea Bissau, Lesotho, Libya, Madagascar, Mauritania, Morocco, Mozambique, Namibia, Nigeria, Republic of Congo, Rwanda, South Africa, Sudan, Swaziland, Tanzania, Tunisia and Zimbabwe.

continuous variable of coethnicity.

4 Empirical strategy

We base our estimations on the comparison of the amount of aid projects immediately before and immediately after the appointment of a president, and between coethnic regions and other regions or birth regions and other regions. This leads to the following equation for the differences in differences for ethnic favoritism:

$$n_{dtp} = \alpha E'_{dp} \mathcal{T} + \beta \mathcal{T} + \theta_{cp} + \eta_d + \varepsilon_{dtp}$$
(DiD)

where $\mathcal{T} = 1(t > T_p) + 0.5 * 1(t = T_p)$ takes value 1 when president p has been appointed before year t, as T_p is the year of appointment of president p. It takes value 0.5 for the appointment year, which we assume partially treated.¹⁵ Coefficient α is a difference in differences: between before and after year $T_p + 1$, and between districts d with a co-ethnicity with the appointed president p ($E_{dp} \geq 50\%$) and other districts. The country times transition fixed-effects θ_{cp} and region fixed effects η_d capture the effect of E'_{dp} .¹⁶ We estimate (DiD) separately for each donor (Chinese or World Bank). We also study home region targeting, using the same equation (DiD), only replacing E_{dp} by R_{dp} , a dummy taking value 1 in the birth region of the president.

Importantly, we include all the observations (d, t, p) close to a transition using a 10 years window: $T_p - 10 \le t \le T_p + 10$. Thus, when a year is close to several transitions, we include the corresponding observations of the same district d at date t several times for several transitions p. This duplication of observations could lead to an overestimation of the precision of our estimates. To avoid this, we cluster the standard errors of our estimates by ADM1 regions as it is generally standard in DiD and RDD settings. In the online appendix, we replicate our main specifications with bootstrapped standard errors (by ADM1 regions), and we show that the standard errors are quasi identical, see online appendix A.7 and A.8.¹⁷

^{15.} Tables A.5 and A.6 provide robustness checks regarding the treatment of the appointment year. Results remain nearly the same

^{16.} Including a region times transition fixed θ_{dp} gives very similar coefficient estimates. In another robustness check, we replace E'_{dp} by its continuous version E_{dp} and get very similar results (see Tables A.3 and A.4).

^{17.} A recent literature revisits clustering practices and distinguishes sampling-based from design-based clustering (Abadie et al., 2017, 2020). Designed-based clustering is relevant here; clustering is needed because the treatment is correlated between observations. Athey and Imbens (2021) provide the treatment in DiD settings and show that clustering at the treatment unit is conservative. Tables A.9 and A.10 reproduce our main tables

Comparing variation in aid projects in each region around a transition date should capture region-specific factors (with region fixed-effects). In particular, this could capture ethnic background or colonial and pre-colonial history for instance.

Differences in differences have a well-known limitation: their sensibility to the common trend assumption. Co-ethnic regions or the home region of the leader may have a pre-existing specific increasing trend in aid projects. For example, economically dominant and dynamic ethnic groups may have a higher probability of having a co-ethnic president (for instance, more dynamic groups might invest more in the competition for power). These more dynamic groups can also receive more aid to sustain their rapid economic development. Or the home region of the leader may be more urban and dense area with specific trends in development and aid. The DiD results may capture this district-specific trends rather than the direct effect of having a co-ethnic president or being the home region of the president. We use three methods in order to ensure our estimates are valid. First, we rely on event studies in order to check that there is no pre-existing trend and that the parallel trend assumption holds. Second, we extend (DiD) with a control for a difference in trends between the coethnic districts ($E'_{dt} = 1$) and the other districts (and/or a difference with the region of birth when relevant). Third, we split these trends before and after the transition. This third specification becomes a refinement of Regression Discontinuity Designs, where we compute the difference in discontinuity between coethnic districts and other districts (or between home regions and other regions):

$$n_{dtp} = \alpha E'_{dp} \mathcal{T} + \beta \mathcal{T} + P_{11}(t-T) \mathcal{T} E'_{dp} + P_{10}(t-T)(1-\mathcal{T}) E'_{dp} + P_{01}(t-T) \mathcal{T}(1-E'_{dp}) + P_{00}(t-T)(1-\mathcal{T})(1-E'_{dp}) + \theta_{cp} + \eta_d + \varepsilon_{dtp} \quad (\text{RDD})$$

In addition to region and country times transition fixed-effects, we control for P_{00} , P_{01} , P_{10} , and P_{11} , four different trends in date, for coethnic districts and for other districts (or between regions of birth and other regions), before and after the transition. Hence, β captures the discontinuity for non-coethnic districts, and α captures the additional discontinuity for coethnic districts. Hence, we have a difference between the coethnic regions and other regions in the

implementing this: clustering by ethnic group \times transition units. Our results are robust to this change. In our view, Clustering by ethnic group is irrelevant here: it would correspond to sampling-based clustering, which means inferring our results to a larger population of ethnic groups. We cluster at the district level in the main body of the paper because this is standard in the literature and because, to the best of our knowledge, the treatment of design-based clustering for RDDs is not available.

discontinuity RDD at the date of the political transition. Here again, some RDD regressions use the continuous ethnicity variable E_{dp} instead of its binary version E'_{dp} . We also use the dummy R_{dp} to study home region favoritism.

This specification probably solves most estimation issues. Firstly, district-specific trends cannot bias our estimates, as this specification explicitly controls for a difference in trends in coethnic and non-coethnic districts. Second, the appointment of a new president may be endogenous. If a discontinuity in aid exists around the nomination date, it is unlikely to be related to other preexisting factors affecting both aid and the nomination of the president from a given ethnic group or region.

We also provide estimates, including simultaneously the treatment for coethnic regions $E'_{dp}\mathcal{T}$ and the treatment for region of birth $R_{dp}\mathcal{T}$ (the explanatory variables are the reunion of the two specifications).

5 Empirical results

5.1 Main specifications

In this section, we present the results of the estimation of DiD and RDD for the two sources of aid and the two kinds of favoritism, ethnic and home region of the leader.

Table 1 displays the results for the Chinese aid at the ADM1 administrative level. The corresponding table at the ADM2 level is presented in appendix (Table A.1). Table 2 displays the results for World Bank aid at the ADM2 level (and appendix Table A.2 presents ADM1 results in the appendix). In these tables, we study separately ethnic favoritism in columns 1 and 3, and regional favoritism in columns 2 and 4. We study them jointly in columns 5 and 6. Columns 1 and 2 present the DiD specifications. Columns 3, 4, and 5 reproduce the same specifications, including specific trends for treated and control group regions. Column 6 presents the coefficient estimates for the RDD specification. Importantly, we keep only relevant transitions in columns 1 to 4: we keep ethnic transitions in columns 1 and 3¹⁸ and regional transitions. We recode $E'_{dp} = 0$ for transitions keeping the ethnicity of the president as constant, and

^{18.} Transitions in the ethnicity of the president, see section 3.1.

^{19.} Transitions in the place of birth of the president, see section 3.1

 $R_{dp} = 0$ for transitions keeping the place of birth constant.

In every specification of Table 1, birth regions of newly appointed presidents receive more Chinese aid after the appointment of a new president. This result is very robust and stable in magnitude across all the specifications. The impact is extreme: the region of birth receives approximately $\exp(2.365) \approx 10$ times more Chinese aid as compared to before the transition (and relative to the other regions). Hence, as already shown by Dreher et al. (2019) the magnitude of the effect of home region favoritism by the president seems to be very large. Note, however, that the impact that we identify is much larger than in their study. We find that, for an average transition, 27.8% of Chinese aid goes to the ADM1 region of birth of the president between 1 and 5 years after the transition. Our model explains ≈ 25 percentage points of these 27.8% by regional favoritism. Appendix table A.1 displays the corresponding result at the ADM2 level. The effect appears much smaller and is statistically significant only at the ADM1 level. In other words, regional favoritism on Chinese aid does not necessarily target the precise place of birth of the president, as measured with the ADM2 district but rather an extended location around her place of birth. We thus argue that regional favoritism is likely to target an extended political network of the president rather than her inner family circle. We will explore this specific allocation pattern in more detail in section 5.4.

Conversely, coethnic regions at the ADM1 and the ADM2 level do not attract more Chinese aid. Elite seems to capture Chinese aid projects to favor their regions of origin rather than a broader targeting of all coethnic regions.

Figure 2 plots graphically the results of Table 1. We plot the average $\log^{M}(Y_{dt})$ for Chinese aid as a function of time separately for the ADM1 region of birth of presidents and the other regions. This gives a closer look at the potential existing pre-trends. Consistently with the results of Table 1 where trends play a minor role, pre-trends are not visible in Figure 2 before the appointment year. On the other hand, an increase in Chinese aid in the region of birth of the president is apparent when $\mathcal{T} - t \geq 1$ in Figure 2 and does not match with an increase in other regions. While the estimations of yearly effects are imprecise, the average magnitude of the effect is comparable with the coefficients of Table 1 (≈ 2 points).

The results regarding the World Bank aid are very different. We present them in Table 2 at the ADM2 level and in appendix Table A.2 at the ADM1 level. We find evidence of ethnic favoritism at the ADM2 level. In every specification of Table 2 (ADM2), coethnic regions

	dep.	var.: $\log^M(1)$	$Y_{dt}), Y_{dt}$ T	otal Value	of Chinese	Aid
	D	iD	Extended DiD			RDD
	(1)	(2)	(3)	(4)	(5)	(6)
$E'_{dp} * \mathcal{T}$	0.034		-0.763		-1.058	-0.938
	(0.596)		(0.835)		(0.754)	(0.736)
$R_{dp} * \mathcal{T}$		1.955^{**}		2.365^{**}	1.900^{**}	2.040^{**}
		(0.784)		(0.999)	(0.921)	(0.975)
\mathcal{T}	0.901***	0.722***	0.094	-0.313	0.134	0.177
	(0.284)	(0.158)	(0.432)	(0.225)	(0.228)	(0.227)
E'_{dp} (Coethnic ADM1 District)	-0.006		-0.695		-0.651	0.075
	(0.137)		(0.568)	0.045	(0.516)	(0.472)
R_{dp} (ADM1 District of Birth)		-0.723**		-0.345	-0.849	-1.225
		(0.299)	0 100**	(0.743)	(1.127)	(0.789)
$t - T_p$ (Linear Trend)			0.120^{**}	0.153^{+++}	0.117^{***}	
$(I T) \cdot E$			(0.052)	(0.025)	(0.029)	
$(t - I_p) * E_{dp}$			(0.090)		(0.107)	
(+, T) + D			(0.080)	0.056	(0.072)	
$(l-I_p) * \Lambda_{dp}$				-0.000	(0.120)	
(t T) interacted with $E' P E'$ is				(0.097)	(0.150)	
$(t - T_p)$ interacted with $E_{dp}, R_{dp}, E_{dp} * \mathcal{T}, R_{dp} * \mathcal{T}, \mathcal{T}, 1 - \mathcal{T}$						\checkmark
Country times Transition F.E.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
Country times Regions F.E.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
Observations close to an ethnic transition	\checkmark		\checkmark		\checkmark	\checkmark
Observations close to a regional transition		\checkmark		\checkmark	\checkmark	\checkmark
Ν	2,061	$6,\!653$	2,061	$6,\!653$	4,917	4,917
Avg. share of aid in ADM1 of birth, re-		0.278		0.278	0.278	0.278
gional transitions						'
Avg. share of distorted aid ^a in ADM1 of birth regional transitions		0.239		0.252	0.236	0.242

Table 1 – Effect of nomination of a president on Chinese Aid (ADM1 level)

Standard errors clustered at the ADM1 level are in parentheses. *p < 0.1, **p < 0.05, ***p < 0.01. *a*: We simulate the potential aid by substracting $\hat{\alpha}R_{dp}\mathcal{T}$ to the actual output. Distorted aid is the difference between actual and potential aid.





Notes: Date relative to the appointment year: difference between current year and appointment year $(t - \mathcal{T})$. Confidence intervals are obtained from an OLS regression of $\log^{M}(Y_{dt})$ on Date relative to the appointment year times region of birth dummies, clustered by ADM1 region.

	dep.var.: $\log^{M}(Y_{dt})$, Y_{dt} Total Value of Chinese Aid							
	D	iD	E	Extended DiD				
	(1)	(2)	(3)	(4)	(5)	(6)		
$E_{dp}' * \mathcal{T}$	0.349^{**}		1.582^{***}		0.935^{**}	0.817**		
	(0.175)		(0.454)		(0.428)	(0.407)		
$R_{dp} * \mathcal{T}$		0.218		0.881	1.110	1.116		
		(0.426)		(0.673)	(0.690)	(0.689)		
\mathcal{T}	0.626^{***}	0.537^{***}	-0.737***	-0.507***	-0.472***	-0.372***		
	(0.065)	(0.058)	(0.086)	(0.101)	(0.086)	(0.086)		
E'_{dp} (Coethnic ADM1 District)	-0.113		0.720^{***}		0.418^{*}	-0.232		
	(0.089)		(0.236)		(0.214)	(0.190)		
R_{dp} (ADM1 District of Birth)		0.216		0.653	0.859	-0.365		
-		(0.220)		(0.631)	(0.592)	(0.484)		
$t - T_p$ (Linear Trend)			0.155^{***}	0.117^{***}	0.105^{***}			
• •			(0.014)	(0.013)	(0.012)			
$(t - T_p) * E'_{dp}$			-0.137***		-0.078**			
· · · · · · · · · · · · · · · · · · ·			(0.042)		(0.037)			
$(t - T_p) * R_{dp}$				-0.070	-0.103			
				(0.082)	(0.080)			
$(t - T_p)$ interacted with $E'_{dp}, R_{dp}, E'_{dp} *$						\checkmark		
$\mathcal{T}, \mathcal{R}_{dp} * \mathcal{T}, \mathcal{T}, 1 - \mathcal{T}$	/	/	/	/	/	/		
Country times Transition F.E.	V	V	V	V	V	V		
Country times Regions F.E.	V	\checkmark	V	\checkmark	V	V		
Observations close to an ethnic transition	\checkmark	,	\checkmark	,	V	V		
Observations close to a regional transition	100 051	√ 100.151	100 0 - 1	√ 100.151	√ 1 ₹0,00 −	√ 1 ≍ 0 00 -		
N a cha a bha a bha a	100,874	126,451	100,874	126,451	158,627	158,627		
Avg. share of aid in ADM1 of birth, re-	0.046		0.046		0.046	0.046		
gional transitions								
Avg. share of distorted aid ^{<i>u</i>} in ADM1 of	0.013		0.036		0.028	0.025		
birth, regional transitions								

Table 2 – Effect of nomination of a president on World Bank aid at the ADM2 level

Standard errors clustered at the ADM1 level are in parentheses. *p < 0.1, **p < 0.05, ***p < 0.01. a: We simulate the potential aid by substracting $\hat{\alpha}R_{dp}\mathcal{T}$ to the actual output. Distorted aid is the difference between actual and potential aid.

with a newly appointed president receive more aid projects. The magnitude of the coefficient is large but much smaller than for home region and Chinese aid. In our preferred specifications (columns 5 and 6), coethnic ADM2 regions receive $\exp(0.9) \approx 2.5$ times more investments after a leader turnover. We compute that coethnic regions receive 4.6% of the World Bank aid between 1 and 5 years after a turnover, and approximately 3 percentage points of these 4.6% is due to ethnic favoritism. In table Table A.2, at the ADM1 level, results are insignificant, suggesting that ethnic favoritism follows the fine geography of ethnicities rather that regional borders. Conversely, we do find evidence of favoritism following the region of birth of the president on World Bank aid. In every specification of Tables 2 and A.2, the place of birth of the president does not receive significantly more aid projects.

These results confirm a better control of clientelism by the World Bank. Ethnic favoritism is probably more difficult to detect because precise ethnic borders are not common knowledge, while the president's origin is widely known. Clientelism represents a smaller share of total World Bank aid ($\approx 3\%$ versus $\approx 25\%$ for Chinese aid). In addition to a smaller magnitude, the patters also seems less visible: ethnic borders at the ADM2 level are less obvious than ADM1 regions. To our knowledge, we are the first paper to highlight Elite capture in the form of ethnic favoritism for World Bank aid.

Figure 3 plots graphically the results of Table 2. We plot the average $\log^{M}(Y_{dt})$ for World Bank aid as a function of time separately for coethnic regions and other regions. This gives a closer look at the potential existing pre-trends. Trends seem to play a small role in Table 2; However, they are not visible in Figure 3. ^{20 21} On the other hand, coethnic regions seem to receive slightly more aid than other regions when $\mathcal{T} - t \geq 1$ in Figure 3. While the estimations of yearly effects are imprecise, the average magnitude of the effect is comparable with the coefficients of Table 2 (≈ 1 point).

Finally, Figure 3 shows graphically the average trend in non-coethnic regions. The average trend of increasing amounts over time is visible and explains the positive coefficients for reference regions in columns 1 and 2 of Table 2. This increase seems to stop between 3 years before the transition and 3 years after the transition. This explains the negative coefficients in columns 3

^{20.} Additional regressions would show this is due to the fixed effects of Table 2.

^{21.} The point for t - T = -1 could indicate a short pre-trend. We believe this should be discarded because yearly estimates are highly imprecise. In particular, the point for t - T = -2 has the opposite signs with more precise estimations.





Notes: Date relative to the appointment year: difference between current year and appointment year $(t - \mathcal{T})$. Confidence intervals are obtained from an OLS regression of $\log^{M}(Y_{dt})$ on Date relative to the appointment year times dummies for coethnic ADM2 regions, clustered by ADM1 region.

to 6 of Table 2 controlling for trends.

5.2 Extensive and Intensive Margins

Tables A.11 and A.12 analyze the extensive and intensive margins of regional and ethnic favoritism in Chinese and World Bank aid allocation, respectively. The extensive margin refers to the existence of aid in the ADM1 region or in the ADM2 district. Intensive margin refers to the amount of aid (conditional of having some aid). Therefore, the intensive and extensive margins shed more light on the pattern of regional and ethnic favoritism regarding Chinese and World Bank aid allocation.

Table A.11 analyze the extensive and intensive margins of regional favoritism in Chinese aid allocation. Column 1 displays the results from our preferred specifications in column 4 of Table 1. In Columns 2 and 3, we predict the chances of ADM1 regions to receive some Chinese aid (regardless of the amount). They respectively display the results of a linear probability model and the marginal effects of a probit model. The dependent variable is the binary variable equal to 1 if ADM1 region d receives a development project from China at year t. Thes coefficients α are positive and highly significant, indicating that the region of birth of the president increases its chances to receive Chinese aid by 11.4 to 15.9 percentage points. In columns 4 to 6, we study the intensive margin and we restrict the sample to the ADM1 regions times year that receive non-negative amounts of development aid from China. Columns 4 and 5 display the results of the OLS specifications using the hyperbolic sine transformation and the log of Y_{dt} the value of aid projects as dependent variables. The coefficients α are negative, and have the same magnitude. Finally, we perform in column 6 a Poisson regression using Y_{dt} as the dependent variable. Hence, the president's ADM1 region of birth is more likely to receive Chinese development aid but the conditional amounts are smaller on average.

In Table A.12, we analyze the extensive and intensive margins of ethnic favoritism in World Bank aid allocation. Column 1 displays the results from our preferred specifications in column 3 of Table 2. Likewise, we predict the chances of ADM2 districts to receive World Bank development aid in columns 2 and 3. The dependent variable is the binary variable equal to 1 if the ADM2 district d receives some World Bank aid at year t. Columns 2 and 3 respectively display the results of a linear probability model and the marginal effects of a probit model. The coefficient α is positive and highly significant, indicating that the coethnic districts increase their chances to recieve World Band aid by 9.1 to 10 percentage points as compared to other districts. In columns 4 to 6, we restrict the sample to the ADM2 districts that receive some World Bank aid. Columns 4 and 5 display the results of the OLS specifications using the hyperbolic sine transformation and the log of Y_{dt} as dependent variables, respectively. Finally, column 6 displays the results from the Poisson regressions using Y_{dt} as the dependent variable. In the columns 4 to 6, none of the coefficients α is statistically different from 0 and the signs vary. Conditionally on receiving aid, the amounts seem unaffected by coethnicity. Hence, the coethnic districts receive more often World Bank aid, but not greater amounts when they receive aid.

5.3 Ethnic and Regional Favoritism in the allocation of aid projects in different sectors

In Tables A.13 and A.14, we analyze the effects of regional and ethnic favoritism in the different sectors affected by Chinese and World Bank aid, respectively. Table A.13 identifies which sectors are the most affected by regional favoritism. While column 1 recalls our main result on the total amount of Chinese aid received by ADM1 regions (column 4 of table 1). In the remaining columns, we split the total amount of Chinese aid by sector: Education, Health, Water Sanitation, Social Protection, Transportation, Agriculture, and others. We only find evidence of regional favoritism in the sector of Transportation. The president's ADM1 regions of birth receives the double exp(0.775) of the amount of aid allocated in other ADM1 regions. Note that the coefficient for projects in education is also large in magnitude and close to significance. Spliting project into different types drastically reduce the number of observations and consequently decreases the statistical power of our estimations. Moreover, we analyze the effects of regional favoritism on two types of aid: Overseas Development Assistance (ODA) and Other Financial Flows (OOF). We find that favoritism exists only in development assistance, as compared to other flows.

Likewise, in Table A.14, column 1, we replicate our preferred specification for World Bank aid (column 3 of Table 2). We split the amounts of aid by sectors (Education, Health, Water Sanitation, Social Protection, Transportation, Agriculture, and Others) in the remaining columns. We find evidence of ethnic favoritism in Education, Health, Social Protection, Transportation and Agricultural projects. Favoritism in World Bank aid seems to be shared by a wide variety of project types.

5.4 Aid Allocation in urban and rural areas

While Table 1 shows that ADM1 regions of birth of the president receive more Chinese aid, Table A.1 shows no similar mechanism regarding ADM2 districts of births. In this section, we show that, inside ADM1 regions, regional favoritism concentrates in urban areas. In Tables 3 and A.15, we run regressions at the ADM2 level, adding a specific form of favoritism to urban centers of the ADM1 region of birth. C_{dp} is a dummy variable equal to 1 if the ADM2 district d is the local capital of its ADM1 region. We have two definitions for urban areas, U_{dp} and U'_{dp} . U_{dp} identifies the ADM2 district with a population density above the national average. U'_{dp} is a dummy for the districts with a population density above the country's 90th percentile.

Column 1 of Table 3 reproduces our main specification of columns 4, Table A.1. Column 2 adds an additional effect for the capital of the ADM1 region of birth of the president. Columns 3 and 4 add an additional effect for the urban areas of the ADM1 region of birth of the president. Favoritism on Chinese aid seems to be concentrated in the urban centers of the ADM1 region of birth, even after controlling for the ADM2 district of birth of the president. We see two interpretation to this: Chinese aid tend to focus on urban centers, or this type of favoritism targets the local urban elite of the presidential region of birth. Table A.15 runs similar regressions with World Bank aid and shows no sign of a similar concentration to the urban centers of the ADM2 region of birth. This suggests that favoritism on Chinese aid targets extended local political networks (potentially in areas where she is influential and has built her career) rather than her inner familly circle.

5.5 Favoritism in democracy and dictatorship

In Tables 4 and 5, we split our sample into two categories according to political institutions, and we estimate our preferred DiD specification of Tables 1 and 2, column 3 and 4 for these subsamples. The two subsamples correspond to the autocratic and unconsolidated democracies whose polity 2 score is lower than 5 and consolidated democracies whose polity 2 score is higher

	$\ln Y + \sqrt{1}$	$/Y^2 + 1$,	Project V	alues in US dollars
	(1)	(2)	(3)	(4)
$R_{dp} * T$	0.280	-0.126	0.040	-0.107
	(0.607)	(0.643)	(0.670)	(0.628)
$C_{dp} * R_{dp} * \mathcal{T}$ Local Capital districts		0.824^{*}		
		(0.440)		
$U_{dp} * R_{dp} * \mathcal{T}$ Urban areas (population density above average)			0.676	
			(0.537)	
$U'_{dp} * R_{dp} * \mathcal{T}$ Urban areas (population density above the 90th percentile)				0.820**
				(0.354)
Country times Transition F.E.	\checkmark	\checkmark	\checkmark	\checkmark
Country times Regions F.E.	\checkmark	\checkmark	\checkmark	\checkmark
Ν	$53,\!905$	$53,\!905$	$53,\!335$	53,335

Table 3 – Effect of regional favoritism with Chinese aid allocation in urban areas (ADM2 level)

Column (1) reproduces the specification from the extended DID between the districts of birth and the other districts (Table A.1, column 4). In column (2), we add a coefficient for the local capital district of the ADM1 region of birth of the president (non reported), an interaction with \mathcal{T} (reported), and a linear trend for this district (reported). In columns (3) and (4), we perform similar analyses, replacing the local capital district by the urban areas of the ADM1 region of birth of the president. In column 3, the urban areas are to the districts with a density of the population above average. In column 4, urban areas are the districts with a density of the population above average. In column 4, urban areas are the districts with a density of the population above average. In columns 2 to 4, the transitions are defined by a change in the ADM1 region of birth of the presidents. Standard errors clustered at the ADM1 level are in parentheses. *p < 0.1, **p < 0.05, ***p < 0.01.

or equal to 5. We do not consider autocratic countries whose polity 2 index is lower than 0 separately to avoid small samples (most countries are considered as democratic during the period). This allows us to compare the pattern of ethnic and home region favoritism between democracy and dictatorship. We have 30 and 26 changes in the ethnic group of the president in autocracy and democracy, respectively; 47 and 35 changes in the ADM1 region of birth of the president in autocracy and democracy, respectively.

Table 4 shows that regional favoritism on Chinese aid seem to share a similar magnitude in democracy and in autocracy, although the impact is not statistically significant in the autocratic sample. Note that the difference between the two coefficients is non-significant. On the other hand, Table 5 shows that ethnic favoritism on the World Bank aid is positive and significant only in dictatorship and very close to zero in democracy. This result can have two potential explanations. First, democratic checks and balances might constraint ethnic favoritism in aid allocation. Second, democracy might make ethnicity less salient in politics and in implemented policies as a result. The fact that the region of birth continues to be favored in democracy for Chinese aid push to the second explanation. There might also be an interaction between the donor's willingness to control aid favoritism and democracy. Government's incentives to

	dep.var.: $\log^{M}(Y_{dt}), Y_{dt}$ Total Value of Chinese Aid								
	Full s	Full sample		Autocracy		ocracy			
	(1)	(2)	(3)	(4)	(5)	(6)			
$E'_{dp} * \mathcal{T}$	-0.763		-0.848		-0.664				
-	(0.835)		(1.123)		(1.090)				
$R_{dp} * \mathcal{T}$		2.365^{**}		1.919		2.958^{*}			
		(0.999)		(1.417)		(1.516)			
Country times Transition F.E.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark			
Country times Regions F.E.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark			
Ν	2,061	$6,\!653$	809	4,019	1,252	$2,\!634$			

Table 4 – Effect of nomination of a president on Chinese aid in democracy and dictatorship

Standard errors clustered at the ADM1 level are in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01.

Table 5 – Effect of nomination of a	president on	World Bank aid	in democracy an	d dictatorship
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	dep.var.: $\log^{M}(Y_{dt}), Y_{dt}$ Total Value of World Bank Aid							
	Full sample		Autoc	Autocracy		ocracy		
	(1)	(2)	(3)	(4)	(5)	(6)		
$E'_{dp} * \mathcal{T}$	1.582^{***}		3.484^{***}		0.089			
	(0.454)		(0.719)		(0.287)			
$R_{dp} * \mathcal{T}$		0.881		1.264		0.513		
-		(0.673)		(1.112)		(1.122)		
Country times Transition F.E.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		
Country times Regions F.E.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		
Ν	100,874	$126,\!451$	67,690	83,034	33,184	$43,\!417$		

provide some public goods to the population and donor's willingness to prevent corruption might be complement in order to avoid favoritism. Note, however, that democracy does not necessarily always prevent ethnically targeted policies. For instance, De Luca et al. (2017) find some evidence of ethnically targeted policies looking at nightlight intensity in the world, even in well-established democracies and in developed economies, while Mueller and Tapsoba (2016), André et al. (2018) and Burgess et al. (2015) find that ethnic favoritism vanishes when a country becomes democratic.

6 Conclusion

In this paper, we use differences in differences and regression discontinuity designs to estimate the effect of regional and ethnic favoritism in the allocation of Chinese and World Bank aid. More precisely, we study whether a change in the ethnic group or the region of birth of the president can affect the amount of aid received by an ADM1 or ADM2 region. We find no evidence of ethnic favoritism in the allocation of Chinese aid and no evidence of regional and ethnic favoritism in the allocation of World Bank aid within ADM1 regions. However, an ADM1 region receives more Chinese aid if it is the president's region of birth. The ADM2 districts coethnic with the president receive more World Bank aid than the other districts.

The magnitude of the effects is very large for Chinese aid compared to the World Bank aid. We argue that the presidents' birth regions are harder to target because project donors can easily identify them. However, it is harder for donors to identify coethnic districts, making it an easier form of favoritism when donors try to control favoritism. Indeed, Chinese aid is known to be less monitored than World Bank aid. Therefore, presidents can target Chinese aid to their regions of birth and might be forced to aim coethnic districts with World Bank aid.

Furthermore, we show that ethnic favoritism in the allocation of World Bank aid vanishes after democratization. In contrast, regional favoritism in the allocation of Chinese aid appears during the democratic period. This suggests that checks and balances prevent ethnic favoritism in the allocation of World Bank aid by making presidents more accountable for the use they make of aid. However, Chinese aid gives more discretionary power to the presidents to use aid even under democracy.

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A Additional regressions

	dep.var.: $\log^{M}(Y_{dt})$, Y_{dt} Total Value of Chinese							
	E	DiD	E	Extended DiD				
	(1)	(2)	(3)	(4)	(5)	(6)		
$E'_{dp} * \mathcal{T}$	0.187		0.068		0.037	0.104		
•	(0.128)		(0.159)		(0.156)	(0.166)		
$R_{dp} * \mathcal{T}$		0.521		0.280	0.879	0.226		
		(0.392)		(0.607)	(0.554)	(0.425)		
\mathcal{T}	0.087^{**}	0.169^{***}	-0.025	0.025	-0.009	0.004		
	(0.038)	(0.032)	(0.052)	(0.039)	(0.037)	(0.037)		
E'_{dp} (Coethnic ADM2 District)	-0.049		-0.163*		-0.127	-0.077		
-	(0.036)		(0.093)		(0.090)	(0.096)		
R_{dp} (ADM2 District of Birth)		-0.202		-0.420				
		(0.155)		(0.538)				
$t - T_p$ (Linear Trend)			0.016^{***}	0.021^{***}	0.020***			
			(0.005)	(0.004)	(0.004)			
$(t - T_p) * E'_{dp}$			0.017		0.011			
-			(0.013)		(0.012)			
$(t - T_p) * R_{dp}$				0.032	-0.007			
				(0.073)	(0.029)			
$(t - T_p)$ interacted with $E'_{dp}, R_{dp}, E'_{dp} *$.(
$\mathcal{T}, R_{dp} * \mathcal{T}, \mathcal{T}, 1 - \mathcal{T}$						v		
Country times Transition F.E.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		
Country times Regions F.E.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		
Observations close to an ethnic transition	\checkmark		\checkmark		\checkmark	\checkmark		
Observations close to a regional transition		\checkmark		\checkmark	\checkmark	\checkmark		
Ν	$29,\!256$	$53,\!905$	29,256	$53,\!905$	$43,\!660$	43,660		

Table A.1 – Effect of nomination of a president on Chinese Aid (ADM2 level)

	dep.va	$\text{r.: } \log^M(Y_a)$	$_{tt}), Y_{dt}$ Tota	al Value of	World Ban	k Aid
	D	iD	Е	xtended Di	D	RDD
	(1)	(2)	(3)	(4)	(5)	(6)
$E'_{dp} * \mathcal{T}$	-0.549		0.263		-0.156	-0.241
	(0.689)		(0.990)		(0.903)	(0.922)
$R_{dp} * \mathcal{T}$		-1.143**		-0.098	0.130	-0.049
		(0.507)		(0.893)	(1.172)	(1.157)
\mathcal{T}	2.508^{***}	2.400^{***}	-0.078	0.055	0.323	0.542^{**}
	(0.415)	(0.195)	(0.516)	(0.241)	(0.274)	(0.271)
E'_{dp} (Coethnic ADM1 District)	0.240		0.753		-0.211	0.272
.1 .	(0.327)		(0.557)		(0.532)	(0.612)
R_{dp} (ADM1 District of Birth)		0.642^{**}		1.331**	0.868	0.178
•		(0.274)		(0.578)	(0.793)	(0.707)
$t - T_p$ (Linear Trend)			0.282***	0.261***	0.147***	
			(0.047)	(0.029)	(0.029)	
$(t-T_p) * E'_{dp}$			-0.087		0.051	
			(0.076)		(0.069)	
$(t-T_p) * R_{dp}$			~ /	-0.110	-0.085	
				(0.079)	(0.104)	
$(t - T_p)$ interacted with $E'_{dp}, R_{dp}, E'_{dp} *$. ,	, ,	\checkmark
$f, R_{dp} * f, f, l - f$	/	/	/	/	/	/
Country times Transition F.E.	V	V	V	V	V	V
Country times Regions F.E.	V	\checkmark	V	\checkmark	V	V
Observations close to an ethnic transition	\checkmark	/	\checkmark	/	V	V
Observations close to a regional transition	4.907	√ 15 00 4	4.907	√ 15 00 4	√ 11.050	√ 11.050
IN	4,387	15,894	4,387	15,894	11,850	11,850

Table A.2 – Effect of nomination of a president on World Bank aid at the ADM1 level

	Alternative Thresholds of coethnicity							
	50%	60%	70%	80%	Continous Var			
	(1)	(2)	(3)	(4)	(5)			
$E'_{dp} * \mathcal{T}: \ (E'_{dp} = E_{dp} > 50)$	-0.763 (0.835)							
$E_{dp}^1 * \mathcal{T}: \ (E_{dp}^1 = E_{dp} > 60)$		-0.900 (0.977)						
$E_{dp}^2 * \mathcal{T}: \ (E_{dp}^2 = E_{dp} > 70)$			-0.173 (1.079)					
$E_{dp}^3 * \mathcal{T}: (E_{dp}^3 = E_{dp} > 70)$			· · /	-0.007 (1.330)				
$E_{dp} * \mathcal{T}$				· · · ·	-0.001 (0.010)			
${\mathcal T}$	$0.094 \\ (0.432)$	$0.079 \\ (0.413)$	-0.049 (0.405)	-0.051 (0.395)	-0.605^{*} (0.345)			
Country times Transition F.E.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark			
Country times Regions F.E.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark			
Ν	2,061	2,061	2,061	2,061	4,745			

Table A.3 – Effect of nomination of a president on Chinese Aid (ADM1 level): Using Alternative Thresholds

Table A.4 – Effect of nomination of a president on World Bank aid (ADM2 level): Using Alternative Thresholds

		Alternative Thresholds of coethnicity							
	50%	60%	70%	80%	Continous Var				
	(1)	(2)	(3)	(4)	(5)				
$E'_{dp} * \mathcal{T}: \ (E'_{dp} = E_{dp} > 50)$	1.582^{***} (0.454)								
$E_{dp}^1 * \mathcal{T}: \ (E_{dp}^1 = E_{dp} > 60)$		1.599^{***} (0.485)							
$E_{dp}^2 * \mathcal{T}: \; (E_{dp}^2 = E_{dp} > 70)$			1.726^{***}						
$E_{dp}^3 * \mathcal{T}: (E_{dp}^3 = E_{dp} > 70)$			(0.001)	2.076^{***}					
$E_{dp} * \mathcal{T}$				(0.000)	0.022^{***}				
\mathcal{T}	-0.737***	-0.729***	-0.721^{***}	-0.719***	-0.808***				
Country times Transition F.F.	(0.086)	(0.087)	(0.086)	(0.086)	(0.094)				
Country times Transition F.E.	V	V	V	V	V				
N	v 100,874	v 100,874	v 100,874	v 100,874	v 100,874				

Table A.5 – Effect of nomination of a president on Chinese Aid (ADM1 level): Treatment at t=0

	dep.var.: $\log^{M}(Y_{dt}), Y_{dt}$ Total Value of World Bank Aid							
	t = 0 set (bend	semi-treated Treatr nchmark)		nt starts at t=0	t=0 exc	t=0 excluded from sample		ent starts at t=1
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$E_{dp}'*\mathcal{T}$	-0.763							
$E'_{dp} * \mathcal{T}^{(1)}$	(0.855)		-0.746 (0.739)					
$E'_{dp} * \mathcal{T}^{(2)}$			~ /		-0.797			
$E'_{dp} * \mathcal{T}^{(3)}$					(0.838)		-0.417 (0.721)	
$R_{dp} * \mathcal{T}$		2.365**					· · · ·	
$R_{dp} * \mathcal{T}^{(1)}$		(0.999)		1.260 (0.835)				
$R_{dp} * \mathcal{T}^{(2)}$				~ /		2.379^{**}		
$R_{dp} * \mathcal{T}^{(3)}$						(1.001)		2.350^{**} (0.918)
Country times Transition F.E.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
N	v 2,061	✓ 6,653	✓ 2,061	√ 6,653	✓ 1,886	✓ 6,091	√ 2,061	√ 6,653

Standard errors clustered at the ADM1 level are in parentheses. *p < 0.1, **p < 0.05, ***p < 0.01. $\mathcal{T}: t = 0$ semi-treated ($\mathcal{T} = 0.5$). Benchmark specification $\mathcal{T}^{(1)}$: Treatment starts at t = 0 $\mathcal{T}^{(2)}: t = 0$ excluded $\mathcal{T}^{(3)}$: Treatment starts at t = 1
Table A.6 – Effect of nomination of a president on World Bank aid (ADM2 level): Treatment at t=0 $\,$

		de	p.var.: $\log^{M}($	$(Y_{dt}), Y_{dt}$ To	tal Value of '	World Bank	Aid	
	t = 0 sen (bench	ni-treated nmark)	Treatmen t=	t starts at =0	t=0 exclusion sar	uded from nple	Treatmen t:	t starts at =1
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$E'_{dp} * \mathcal{T}$	1.582^{***} (0.454)							
$E'_{dp} * \mathcal{T}^{(1)}$	× /		1.303***					
$E'_{dp} * \mathcal{T}^{(2)}$			(0.345)		1.567^{***}			
$E'_{dp} * \mathcal{T}^{(3)}$					(0.400)		1.216***	
$R_{dp} * \mathcal{T}$		0.881					(0.413)	
$R_{dp} * \mathcal{T}^{(1)}$		(0.010)		0.273 (0.538)				
$R_{dp} * \mathcal{T}^{(2)}$				()		0.902 (0.672)		
$R_{dp} * \mathcal{T}^{(3)}$						(0.012)		1.132^{*} (0.644)
Country times Transition F.E.	V	V	V	√	V	√	V	V
Country times Regions F.E. N	✓ 100,874	\checkmark 126,451	√ 100,874	\checkmark 126,451	✓ 94,318	✓ 118,405	$\sqrt{100,874}$	✓ 126,451

Standard errors clustered at the ADM1 level are in parentheses. *p < 0.1, **p < 0.05, ***p < 0.01. \mathcal{T} : t = 0 semi-treated ($\mathcal{T} = 0.5$). Benchmark specification $\mathcal{T}^{(1)}$: Treatment starts at t = 0 $\mathcal{T}^{(2)}$: t = 0 excluded $\mathcal{T}^{(3)}$: Treatment starts at t = 1

	ln	$Y + \sqrt{Y^2}$	+1, Proje	ect Values	in US dol	lars
		Ez	xtended D	DID		RDD
	(1)	(2)	(3)	(4)	(5)	(6)
$E'_{dp} * \mathcal{T}$	0.034		-0.763		-1.058	-0.938
	(0.596)		(0.835)		(0.754)	(0.736)
	[0.667]		[0.886]		[0.780]	[0.738]
$R'_{dp} * \mathcal{T}$		1.955^{**}		2.365^{**}	1.900^{**}	2.040^{**}
1		(0.784)		(0.999)	(0.921)	(0.975)
		[0.778]		[0.990]	[0.949]	[1.041]
Country times Transition F.E.		\checkmark		\checkmark	\checkmark	\checkmark
Country times Regions F.E.		\checkmark		\checkmark	\checkmark	\checkmark
Ν	2,061	$6,\!653$	2,061	$6,\!653$	4,917	4,917
Order of the Polynomials	-	-	-	-	-	1
Sample (Window of the discontinuity)	[T - 5]	, T + 5]		[T - 10]	, T + 10]	

Table A.7 – Effect of nomination of a president on Chinese Aid (ADM1 level): Bootstrapped Standard Errors

Standard errors clustered at the ADM1 level are in parentheses, s.e. bootstrapped at the ADM1 level are in brackets (200 replications. *p < 0.1, **p < 0.05, ***p < 0.01.

Table A.8 – Effect of nomination of a president on World Bank Aid (ADM2 level): Bootstrapped Standard Errors

	ln	$Y + \sqrt{Y^2}$	+1, Projec	et Values i	in US dolla	ars
	D	ID	Ex	tended D	[D	RDD
	(1)	(2)	(3)	(4)	(5)	(6)
$E_{dp}' * \mathcal{T}$	0.349**		1.582^{***}		0.935^{**}	0.817^{**}
	(0.175)		(0.454)		(0.428)	(0.407)
	[0.188]		[0.435]		[0.437]	[0.417]
$R'_{dp} * \mathcal{T}$		0.218		0.881	1.110	1.116
1		(0.426)		(0.673)	(0.690)	(0.689)
		[0.425]		[0.678]	[0.728]	[0.732]
Country times Transition F.E.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
Country times Regions F.E.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
Ν	$100,\!874$	$126,\!451$	$100,\!874$	$126,\!451$	$158,\!627$	$158,\!627$
Order of the Polynomials	-	-	-	-	-	1
Sample (Window of the discontinuity)			[T-10,	T + 10]		

Standard errors clustered at the ADM1 level are in parentheses, s.e. bootstrapped at the ADM1 level are in brackets (200 replications. *p < 0.1, **p < 0.05, ***p < 0.01.

	$\ln Y + \sqrt{1}$	$/Y^2 + 1$,	Project Values in US dollars
	Extend	led DID	RDD
	(1)	(2)	(3)
$E'_{dp} * \mathcal{T}$	-0.763		-0.938
	(1.053)		(0.831)
	[0.917]		[0.722]
$R'_{dn} * \mathcal{T}$		2.365^{**}	2.040**
<u>r</u>		(0.995)	(0.951)
		[0.895]	[0.876]
Country times Transition F.E.	\checkmark	\checkmark	\checkmark
Country times Regions F.E.	\checkmark	\checkmark	\checkmark
Ν	2,061	$6,\!653$	$4,\!917$
Sample (Window of the discontinuity)		[T]	[-10, T+10]

Table A.9 – Effect of nomination of a president on Chinese Aid (ADM1 level): with Design based Clustering

 $p^* < 0.1$, $p^* < 0.05$, $p^* < 0.01$. Standard errors with clustering at the ethnic group times transition level between parentheses. Two-way clustering at the ADM1 and at the ethnic group times transition levels between brackets.

Table A.10 – Effect of nomination of a president on World Bank aid (ADM2 level): with Design based Clustering

	$\ln Y + \sqrt{1}$	$\sqrt{Y^2 + 1}, P$	roject Values in US dollars
	Extend	ed DID	RDD
	(1)	(2)	(3)
$\overline{E'_{dp} * \mathcal{T}}$	1.582^{*}		0.817
	(0.811)		(0.781)
	[0.738]		[0.690]
$R'_{dp} * \mathcal{T}$		0.881	1.116
		(0.734)	(0.770)
		[0.656]	[0.680]
Country times Transition F.E.	\checkmark	\checkmark	\checkmark
Country times Regions F.E.	\checkmark	\checkmark	\checkmark
Ν	100,874	$126,\!451$	158,627
Sample (Window of the discontinuity)		[T -	[-10, T+10]

p < 0.1, p < 0.05, p < 0.05, p < 0.01. Standard errors with clustering at the ethnic group times transition level between parentheses. Two-way clustering at the ADM1 and at the ethnic group times transition levels between brackets.

		Full sar	nple	Distric	ts*year wit	h a project
	$\log^M(Y_{dt})$	Has a p OLS	roject $1(Y_{dt} > 0)$ Probit marg. eff.	$\log^M(Y_{dt})$	$\log(Y_{dt})$	Poisson (Y_{dt})
	(1)	(2)	(3)	(4)	(5)	(6)
$R_{dp} * \mathcal{T}$	2.365^{**}	0.159^{**}	0.114^{***}	-1.975^{**}	-1.975**	-2.961***
	(0.999)	(0.062)	(0.040)	(0.947)	(0.947)	(1.028)
${\mathcal T}$	-0.313	-0.015	-0.012	0.090	0.090	0.757^{**}
	(0.225)	(0.013)	(0.014)	(0.503)	(0.503)	(0.374)
R_{dp} (ADM1 District of Birth)	-0.345	-0.009	0.018	-0.885	-0.885	-2.053*
-	(0.743)	(0.042)	(0.057)	(1.193)	(1.193)	(1.157)
$(t-T_p)$ Linear Trend	0.153^{***}	0.008^{***}	0.008^{***}	0.211^{***}	0.211^{***}	0.222^{***}
-	(0.025)	(0.001)	(0.001)	(0.061)	(0.061)	(0.080)
$(t - T_p) * R_{dp}$	-0.056	-0.005	-0.002	0.177	0.177	0.278^{**}
	(0.097)	(0.006)	(0.005)	(0.131)	(0.131)	(0.113)
Country times Transition F.E.	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark
Country times Transition dummies			\checkmark			
Country times Regions F.E.	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark
Observations close to an ethnic transition	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
Ν	$6,\!653$	$6,\!653$	$6,\!605$	496	496	496

Table A.11 – Effect of nomination of a president on Chinese Aid (ADM1 level): intensive and extensive margins

Standard errors clustered at the ADM1 level are in parentheses. *p < 0.1, **p < 0.05, ***p < 0.01.

Table A.12 – Effect of nomination of a president on World Bank Aid (ADM2 level): intensive and extensive margins

		Full san	nple	Distric	ts*year wit	h a project
	$\log^M(Y_{dt})$	Has a pr OLS	roject $1(Y_{dt} > 0)$ Probit marg. eff.	$\log^M(Y_{dt})$	$\log(Y_{dt})$	Poisson (Y_{dt})
	(1)	(2)	(3)	(4)	(5)	(6)
$E'_{dp} * \mathcal{T}$	1.582^{***}	0.100***	0.091***	0.397	0.397	-0.138
-	(0.454)	(0.031)	(0.029)	(0.241)	(0.241)	(0.490)
\mathcal{T}	-0.737***	-0.049***	-0.048***	0.092	0.092	0.054
	(0.086)	(0.006)	(0.006)	(0.077)	(0.077)	(0.136)
E'_{dp} (treated district)	0.720^{***}	0.044^{***}	0.042^{**}	0.370^{*}	0.370^{*}	0.270
1	(0.236)	(0.016)	(0.018)	(0.188)	(0.188)	(0.251)
$t - T_p$ (Linear Trend)	0.155^{***}	0.010***	0.010***	0.051^{***}	0.051***	0.051^{***}
• • •	(0.014)	(0.001)	(0.001)	(0.010)	(0.010)	(0.016)
$(t-T_p) * E'_{dp}$	-0.137***	-0.008***	-0.008***	-0.056**	-0.056**	-0.017
	(0.042)	(0.003)	(0.002)	(0.024)	(0.024)	(0.040)
Country times Transition F.E.	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark
Country times Transition dummies			\checkmark			
Country times Regions F.E.	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark
Observations close to an ethnic transition	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
Ν	100,874	100,874	100,874	7,432	7,432	7,432

Standard errors clustered at the ADM1 level are in parentheses. *p < 0.1, **p < 0.05, ***p < 0.01.

	Total amount	Education	Health	Water Sanitation	Social Protection	Transportation	Agriculture	Others	Overseas Dev. Assistance	Other Official Flows
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$R_{dp} * \mathcal{T}$	2.365^{**}	0.839	-0.016	-0.147	0.437	0.775^{**}	0.054	0.366	2.504^{***}	-0.166
	(0.999)	(0.554)	(0.259)	(0.286)	(0.393)	(0.311)	(0.137)	(0.606)	(0.851)	(0.757)
Т	-0.313	-0.008	-0.241^{***}	-0.250***	-0.012	-0.148	0.044	0.176	-0.377**	-0.091
	(0.225)	(0.067)	(0.067)	(0.075)	(0.055)	(0.121)	(0.035)	(0.131)	(0.155)	(0.175)
R_{dp} (ADM1 District	-0.345	-0.026	-0.066	-0.028	-0.007	0.255	-0.152	-0.599	0.398	-0.911
of Birth)	(0.743)	(0.416)	(0.246)	(0.280)	(0.186)	(0.255)	(0.173)	(0.484)	(0.450)	(0.700)
$(t - T_p)$ Linear Trend	0.153^{***}	0.008	0.051 ***	0.017^{***}	0.009	0.059^{***}	0.004	0.047^{***}	0.074^{***}	0.100^{***}
	(0.025)	(0.006)	(0.011)	(0.006)	(0.008)	(0.014)	(0.005)	(0.018)	(0.020)	(0.020)
$(t - T_p) * R_{dp}$	-0.056	-0.030	0.006	0.009	-0.016	-0.057*	0.014	0.049	-0.140**	0.102
	(0.097)	(0.060)	(0.033)	(0.036)	(0.032)	(0.032)	(0.020)	(0.062)	(0.069)	(0.095)
Country times Transi- tion F.E.	<	٩	٢	<	<	٩	<	٩	<	<
Country times Re- gions F.E.	<	٩	٩	<	م	٢	٩	٢	٢	٢
Observations close to an ethnic transition	٢	٢	م	٢	٢	٢	٩	٩	٢	٢
Ν	6,653	6,653	6,653	6,653	6,653	6,653	6,653	6,653	6,653	6,653
# of positive amounts	556	51	59	59	36	107	16	241	345	248
Avg value of positive amounts $(\times 10^6)$	118	4.17	22.5	11.4	26.9	223	87	98.6	49.4	183

Table A.13 – Effect of nomination of a president on Chinese Aid (ADM1 level): Type of project

Standard errors clustered at the ADM1 level are in parentheses. *p < 0.1, **p < 0.05, ***p < 0.01.

	Total amount	Education	Health	Water Sanitation	Social Protection	Transportation	Agriculture	Others
	(1)	(2)	(3)	(4)	(5)	(9)	(2)	(8)
$E'_{dn} * \mathcal{T}$	1.582^{***}	1.291^{***}	0.378^{**}	0.401	1.100^{**}	0.679^{*}	1.044^{***}	-0.618^{**}
da	(0.454)	(0.403)	(0.187)	(0.340)	(0.455)	(0.380)	(0.286)	(0.248)
\mathcal{T}	-0.737***	-0.145^{**}	-0.101^{***}	-0.279***	-0.364^{***}	-0.553***	-0.391^{***}	-0.037^{*}
	(0.086)	(0.066)	(0.027)	(0.061)	(0.081)	(0.068)	(0.061)	(0.020)
E'_{dp} (treated district)	0.720^{***}	0.128	-0.087	-0.096	0.657^{***}	0.105	0.270^{*}	-0.133^{**}
	(0.236)	(0.150)	(0.117)	(0.194)	(0.189)	(0.217)	(0.153)	(0.053)
$t-T_p$ (Linear Trend)	0.155^{***}	0.043^{***}	0.021^{***}	0.049^{***}	0.069^{***}	0.074^{***}	0.063^{***}	0.007***
	(0.014)	(0.010)	(0.005)	(0.00)	(0.013)	(0.010)	(0.010)	(0.002)
$(t-T_p) st E'_{dw}$	-0.137***	-0.070**	-0.008	-0.009	-0.105***	-0.033	-0.065^{**}	0.042^{***}
	(0.042)	(0.029)	(0.015)	(0.033)	(0.037)	(0.038)	(0.026)	(0.016)
Country times Transition F.E.		>	>	>		>	>	>
Country times Regions F.E.	>	>	>	>	>	>	>	>
Observations close to an ethnic transition	>	>	>	>	>	>	>	>
Ν	100,874	100,874	100,874	100,874	100,874	100,874	100,874	100,874
# of positive amounts	7,703	2,286	1,677	2,714	2,861	3,185	2,577	266
Avg value of positive amounts $(\times 10^6)$	7.61	3.43	ß	6.75	4.17	6.2	4.4	5.78

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Standard errors clustered at the ADM1 level are in parentheses. *p < 0.1, **p < 0.05, ***p < 0.01.

Table A.15 – Effect of regional favoritism with World Bank aid allocation in urban areas (ADM2 level)

	$\ln Y + \sqrt{1}$	$\sqrt{Y^2 + 1}, P$	roject Valu	ues in US dollars
	(1)	(2)	(3)	(4)
$R_{dp} * T$	0.881	0.602	0.629	0.618
	(0.673)	(0.574)	(0.636)	(0.612)
$C_{dp} * R_{dp} * \mathcal{T}$ Local Capital districts		0.636		
		(0.661)		
$U_{dp} * R_{dp} * \mathcal{T}$ Urban areas (population density above average)		· · · ·	0.828	
			(0.511)	
$U'_{dn} * R_{dn} * \mathcal{T}$ Urban areas (population density above the 90th percentile)			· · · ·	0.763
up -r (, , , , , , , , , , , , , , , , , ,				(0.603)
Country times Transition F.E.	\checkmark	\checkmark	\checkmark	\checkmark
Country times Regions F.E.	\checkmark	\checkmark	\checkmark	\checkmark
Ν	$126,\!451$	$126,\!451$	$125,\!081$	125,081

Column (1) reproduces the specification from the extended DID between the districts of birth and the other districts (Table 2, column 3). In column (2), we add a coefficient for the local capital district of the ADM1 region of birth of the president (non reported), an interaction with \mathcal{T} (reported), and a linear trend for this district (reported). In columns (3) and (4), we perform similar analyses, replacing the local capital district by the urban areas of the ADM1 region of birth of the president. In column 3, the urban areas are to the districts with a density of the population above average. In column 4, urban areas are the districts with a density of the population above average. In column 4, urban areas are the districts with a density of the population above the country's 90th percentile. In columns 2 to 4, the transitions are defined by a change in the ADM1 region of birth of the presidents. Standard errors clustered at the ADM1 level are in parentheses. *p < 0.1, **p < 0.05, ***p < 0.01.

B Compactness index

In order to compare the compactness of ethnic regions with ADM1 regions, we compute the "convex Hull score" (see Niemi et al., 1990). This measure compares the area of ethnic regions (or ADM1 regions) to the area of the smallest convex surface (the convex Hull) containing those regions.

We plot a few examples in Figure B.1 to illustrate the computations and the difference in compactness implied by our measure. We plot ethnic regions in subfigures B.1a, B.1c and B.1e, and ADM1 regions in subfigures B.1b, B.1d and B.1f. The first line depicts the least compact regions (at the ninth decile of our compactness index). The second line depicts median regions. The last line depicts the most compact regions (at the first decile of our compactness index).

The first line for the less compact areas shows a large difference in the compactness indexes. The difference is between an index of 0.5 for the ethnic region at the 9^{th} decile (the Baule region in Côte d'Ivoire) and an index of 0.65 for the corresponding ADM1 region (Maniema in D.R. Congo). The difference in compactness indexes carries on visually, in part because the Baule region is split in two.

The second line, for median areas, shows a smaller difference in compactness indexes: the ethnic region (the Hausa region of Nigeria) has an index of 0.69 and the ADM1 region (the Bauchi State of Nigeria) has an index of 0.77. Interestingly, the visual impression follows the same line. The ethnic region on the left seems sightly more scattered, with small non-contiguous areas and empty areas, but the ADM1 region looks only marginally less convex.

Finally, the last line shows the more compact areas. The ethnic region at the first decile, the Barundi of Burundi, appears visually very compact and has a Hull index of 0.82. The difference with the ADM1 region at the first decile, the Northern region of Sierra Leone, appears minimal. While the convex Hull resembles the ADM1 region even better, both regions appear very compact visually and according to the Hull index.



(a) Map of the Baule districts in Côte d'Ivoire (b) Map of the Maniema Province in D.R. Congo



- (c) Map of the Hausa districts in Nigeria





(d) Map of the Bauchi State in Nigeria





Hull index: 0.77

(e) Map of the Barundi districts in Burundi





Source: Our computations, see section 3. Each Figure prints a region in red with the limit of its convex Hull in blue. The Hull index is the share of the red area in the area delimited in blue.

	Obs.	Mean	Std.Dev.	Min	Max
Sample A : Ethnic Transitions					
China (ADM1)					
Y_{dtp}	4,745	9.3m	78 M	0	1.94b
y_{dtp}	4,745	1.66	5.02	0	22.08
E_{dp}^{\prime} (Binary coethnicity variable)	4,745	0.07	0.26	0	1
E_{dp} (Linear coethnicity variable)	4,745	10.70	21.85	0	100
China (ADM2)					
Y_{dtp}	43,318	$0.8\mathrm{m}$	$19.9\mathrm{m}$	0	936m
y_{dtp}	43,318	0.19	1.81	0	21.35
E'_{dp} (Binary coethnicity variable)	43,318	0.08	0.27	0	1
E_{dp} (Linear coethnicity variable)	43,318	9.81	24.55	0	100
World Bank (ADM1)					
Y_{dtp}	11,450	$6.7\mathrm{m}$	$37.3\mathrm{m}$	0	2.13b
y_{dtp}	11,450	6	7.91	0	22.17
E'_{dp} (Binary coethnicity variable)	11,450	0.06	0.24	0	1
E_{dp} (Linear coethnicity variable)	11,450	10.37	21.83	0	100
World Bank (ADM2)					
Y_{dtp}	101,645	$0.57\mathrm{m}$	$9.6\mathrm{m}$	0	1.28b
y_{dtp}	101,645	1.16	4.08	0	21.66
E'_{dp} (Binary coethnicity variable)	101,645	0.061	0.23	0	1
E_{dp} (Linear coethnicity variable)	101,645	7.71	21.46	0	100
Sample B : Regional Transitions					
China (ADM1)					
Y_{dtp}	$6,\!653$	9.8m	$91.9\mathrm{m}$	0	2.39b
y_{dtp}	$6,\!653$	1.39	4.69	0	22.28
E'_{dp} (Binary coethnicity variable)	$6,\!653$	0.13	0.34	0	1
E_{dp} (Linear coethnicity variable)	$6,\!653$	20.69	32.81	0	100
China (ADM2)					
Y_{dtp}	$53,\!905$	$1.01\mathrm{m}$	24.6m	0	1.79b

Table B.1 – Descriptive Statistics

Table $B.1 - ($	(continued)
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	Obs.	Mean	Std.Dev.	Min	Max
y_{dtp}	$53,\!905$	0.19	1.79	0	21.99
E'_{dp} (Binary coethnicity variable)	$53,\!905$	0.17	0.37	0	1
E_{dp} (Linear coethnicity variable)	$53,\!905$	19.45	35.31	0	100
World Bank (ADM1)					
Y_{dtp}	$15,\!894$	$7.06\mathrm{m}$	34.6m	0	2.13b
y_{dtp}	$15,\!894$	6.32	7.98	0	22.17
E'_{dp} (Binary coethnicity variable)	$15,\!894$	0.12	0.33	0	1
E_{dp} (Linear coethnicity variable)	$15,\!894$	20.02	32.41	0	100
World Bank (ADM2)					
Y_{dtp}	$126,\!451$	$0.66 \mathrm{m}$	$9.1\mathrm{m}$	0	1.28b
y_{dtp}	$126,\!451$	1.43	4.48	0	21.66
E'_{dp} (Binary coethnicity variable)	$126,\!451$	0.13	0.34	0	1
E_{dp} (Linear coethnicity variable)	$126,\!451$	15.52	31.86	0	100
China (ADMI)					
Y_{dtp}	7,601	$9.3\mathrm{m}$	87.9m	0	2.39b
Y_{dtp} y_{dtp}	7,601 7,601	9.3m 1.48	87.9m 4.80	0 0	2.39b 22.28
Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable)	7,601 7,601 7,601	9.3m 1.48 0.046	87.9m 4.80 0.21	0 0 0	2.39b 22.28 1
Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable) E_{dp} (Linear coethnicity variable)	7,601 7,601 7,601 7,601	9.3m 1.48 0.046 21.47	87.9m 4.80 0.21 33.49	0 0 0 0	2.39b 22.28 1 100
Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable) E_{dp} (Linear coethnicity variable) China (ADM2)	7,601 7,601 7,601 7,601	9.3m 1.48 0.046 21.47	87.9m 4.80 0.21 33.49	0 0 0	2.39b 22.28 1 100
Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable) E_{dp} (Linear coethnicity variable) China (ADM2) Y_{dtp}	7,601 7,601 7,601 7,601 57,601	9.3m 1.48 0.046 21.47 0.99m	87.9m 4.80 0.21 33.49 24.2m	0 0 0 0	2.39b 22.28 1 100 1.79b
Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable) E_{dp} (Linear coethnicity variable) China (ADM2) Y_{dtp} y_{dtp}	7,601 7,601 7,601 7,601 57,601 57,601	9.3m 1.48 0.046 21.47 0.99m 0.2	87.9m 4.80 0.21 33.49 24.2m 1.84	0 0 0 0	2.39b 22.28 1 100 1.79b 21.99
Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable) E_{dp} (Linear coethnicity variable) China (ADM2) Y_{dtp} y_{dtp} y_{dtp} (Binary coethnicity variable)	7,601 7,601 7,601 7,601 57,601 57,601 57,601	9.3m 1.48 0.046 21.47 0.99m 0.2 0.06	87.9m 4.80 0.21 33.49 24.2m 1.84 0.24	0 0 0 0 0 0 0 0	2.39b 22.28 1 100 1.79b 21.99 1
Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable) E_{dp} (Linear coethnicity variable) China (ADM2) Y_{dtp} y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable) E_{dp} (Linear coethnicity variable)	7,601 7,601 7,601 7,601 57,601 57,601 57,601 57,601	9.3m 1.48 0.046 21.47 0.99m 0.2 0.06 19.23	87.9m 4.80 0.21 33.49 24.2m 1.84 0.24 35.02	0 0 0 0 0 0 0 0 0 0	2.39b 22.28 1 100 1.79b 21.99 1 100
Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable) E_{dp} (Linear coethnicity variable) China (ADM2) Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable) E_{dp} (Linear coethnicity variable) E_{dp} (Linear coethnicity variable) World Bank (ADM1)	7,601 7,601 7,601 7,601 57,601 57,601 57,601 57,601	9.3m 1.48 0.046 21.47 0.99m 0.2 0.06 19.23	87.9m 4.80 0.21 33.49 24.2m 1.84 0.24 35.02	0 0 0 0 0 0 0 0 0	2.39b 22.28 1 100 1.79b 21.99 1 100
Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable) E_{dp} (Linear coethnicity variable) China (ADM2) Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable) E'_{dp} (Binary coethnicity variable) E_{dp} (Linear coethnicity variable) World Bank (ADM1) Y_{dtp}	7,601 7,601 7,601 7,601 57,601 57,601 57,601 57,601 18,913	9.3m 1.48 0.046 21.47 0.99m 0.2 0.06 19.23 6.4m	87.9m 4.80 0.21 33.49 24.2m 1.84 0.24 35.02 32.2m	0 0 0 0 0 0 0 0 0 0	2.39b 22.28 1 100 1.79b 21.99 1 100 2.13b
Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable) E_{dp} (Linear coethnicity variable) China (ADM2) Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable) E_{dp} (Linear coethnicity variable) $World Bank (ADM1)$ Y_{dtp} y_{dtp}	7,601 7,601 7,601 7,601 57,601 57,601 57,601 57,601 18,913 18,913	9.3m 1.48 0.046 21.47 0.99m 0.2 0.06 19.23 6.4m 5.93	87.9m 4.80 0.21 33.49 24.2m 1.84 0.24 35.02 32.2m 7.88	0 0 0 0 0 0 0 0 0 0 0 0	2.39b 22.28 1 100 1.79b 21.99 1 100 2.13b 22.17
Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable) E_{dp} (Linear coethnicity variable) China (ADM2) Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable) E_{dp} (Linear coethnicity variable) $World Bank (ADM1)$ Y_{dtp} y_{dtp} E'_{dp} (Binary coethnicity variable)	7,601 7,601 7,601 7,601 57,601 57,601 57,601 57,601 18,913 18,913 18,913	9.3m 1.48 0.046 21.47 0.99m 0.2 0.06 19.23 6.4m 5.93 0.04	87.9m 4.80 0.21 33.49 24.2m 1.84 0.24 35.02 32.2m 7.88 0.19	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2.39b 22.28 1 100 1.79b 21.99 1 100 2.13b 22.17 1

	Obs.	Mean Std.Dev.		Min	Max	
Y_{dtp}	$159,\!434$	0.55m	8.1m	0	1.28b	
y_{dtp}	159,434	1.19	4.13	0	21.66	
E'_{dp} (Binary coethnicity variable)	$159,\!434$	0.04	0.20	0	1	
E_{dp} (Linear coethnicity variable)	159,434	26.4	40.69	0	100	

Table B.1 – (continued)

	No	Years of	N	fandate D	uratior	1
Country		Transitions	Mean	St. dev.	Min	Max
[1995; 2014]						
Algeria	1	1999	20		20	20
Benin	2	1996; 2006	10	0	10	10
Botswana	2	1998; 2008	10	0	10	10
Burkina Faso	1	2014	1		1	1
Burundi	3	$1996;\ 2003;\ 2005$	8.33	7.09	2	16
Central African Republic	3	2003; 2013; 2014	4.33	4.93	1	10
Democratic Re-	2	$1997;\ 2001$	11	9.89	4	18
Diibouti	1	1999	10		10	10
Egypt	1	2011	10		10	10
Ethiopia	2	2001: 2013	8.5	4.94	5	12
Gabon	1	2010	11	1.0 1	11	11
Ghana	3	2001: 2009: 2012	5.33	2.51	3	8
Guinea	3	2008: 2010: 2011	4.33	4.93	1	10
Guinea Bissau	7	1999: 2000: 2003: 2005: 2009: 2012: 2014	3.14	1.95	1	7
Ivorv Coast	3	2000: 2001: 2011	7	5.19	1	10
Kenva	2	2003: 2013	9	1.41	8	10
Lesotho	2	1998: 2012	8.5	7.77	3	14
Liberia	5	1996: 1997; 2003; 2004: 2006	4.4	4.72	1	12
Madagascar	5	1996; 1997; 2002; 2009; 2014	4.4	2.19	1	7
Malawi	3	2004; 2012; 2014	5.66	3.21	2	8
Mali	3	2002; 2012; 2014	6.33	4.04	2	10
Mauritania	3	2005; 2007; 2008	5.33	6.65	1	13
Mozambique	1	2005	10		10	10
Namibia	1	2005	10		10	10
Niger	5	1996; 1999; 2000; 2010; 2011	5	4.63	1	10
Nigeria	4	1998; 1999; 2007; 2010	4.25	2.98	1	8
Republic of Congo	1	1998	23		23	23
Rwanda	1	2000	21		21	21
Senegal	2	2000; 2012	10.5	2.12	9	12
Sierra Leone	4	1996; 1997; 1998; 2007	5.5	5.25	1	11
South Africa	3	1999; 2008; 2009	6.33	4.61	1	9
Swaziland	3	1999; 1996; 2004; 2008	7.33	3.05	4	10
Tanzania	2	1996; 2005	9.5	0.70	9	10
Togo	1	2005	16		16	16
Tunisia	1	2011	10		10	10
Zambia	4	2002; 2008; 2011; 2014	3.25	2.06	1	6
Total	91	· · ·	6.94	5.26	1	23

Table B.2 – Presidential turnovers

	No. of	Years of		Mandate Dura	tion	
Country	Trans.	Transitions	Mean	Standard dev.	Min	Max
[1995; 2014]						
Benin	2	1996; 2006	10	0	10	10
Central African	0	9012, 9014	4	4.94	1	7
Republic	Ζ	2015; 2014	4	4.24	1	1
Democratic Re-	1	1007	94		94	94
public of Congo	T	1997	24		24	24
Egypt	1	2011	10		10	10
Ghana	2	2001; 2012	8	4.24	5	11
Guinea	3	2008; 2010; 2011	4.33	4.93	1	10
Guinea Bissau	4	1999; 2000; 2005; 2009	5.5	4.65	1	12
Ivory Coast	3	2000; 2001; 2011	7	5.19	1	10
Kenya	1	2003	18		18	18
Liberia	3	1995; 1996; 2006	7.66	5.85	1	12
Malawi	3	2004; 2012; 2014	5.66	3.21	2	8
Mali	2	2002; 2012	9.5	0.70	9	10
Niger	1	2011	10		10	10
Nigeria	4	1998; 1999; 2007; 2010	4.25	2.98	1	8
Republic of	1	1009	<u> </u>		<u> </u>	<u> </u>
Congo	T	1998	20		20	23
Senegal	1	2012	9		9	9
South Africa	2	2008; 2009	5	5.65	1	9
Tanzania	2	1996; 2005	9.5	0.70	9	10
Zambia	3	2002; 2008; 2011	6.33	3.51	3	10
Total	41		7.73	5.39	1	24

Table B.3 – Ethnic Transitions

	No. of	Years of		Mandate Dura	tion	
Country	Trans.	Transitions	Mean	Standard dev.	Min	Max
[1995; 2014]						
Benin	2	1996, 2006	10	0	10	10
Botswana	1	1998	10		10	10
Burkina Faso	1	2014	7		7	7
Burundi	3	1996; 2003; 2005	8.33	7.09	2	16
Central African Republic	1	2013	1		1	1
Democratic Re-	_					
public of Congo	2	1997; 2001	11	9.89	4	18
Egypt	1	2011	10		10	10
Ethiopia	2	2001; 2013	8.5	4.94	5	12
Ghana	3	2001; 2009; 2012	5.33	2.51	3	8
Guinea	3	2008; 2010; 2011	4.33	4.93	1	10
Guinea Bissau	5	1999; 2000; 2003; 2005; 2009	4.4	4.39	1	12
Ivory Coast	3	2000; 2001; 2011	7	5.19	1	10
Kenya	2	2003; 2013	9	1.41	8	10
Lesotho	2	1998; 2012	8.5	7.77	3	14
Liberia	3	1997; 2003; 2004	8	8.18	1	17
Malawi	2	2004; 2012	8.5	0.70	8	9
Mali	3	2002; 2012; 2014	6.33	4.04	2	10
Mauritania	3	2005; 2007; 2008	4.66	5.50	1	11
Mozambique	1	2005	16		16	16
Namibia	1	2005	10		10	10
Niger	5	1996; 1999; 2000; 2010; 2011	5	4.63	1	10
Nigeria	4	1998; 1999; 2007; 2010	4.25	2.98	1	8
Republic of Congo	1	1998	23		23	23
Rwanda	1	2000	21		21	21
Senegal	1	2012	9		9	9
Sierra Leone	2	1996; 2007	11	0	11	11
South Africa	2	2008; 2009	5	5.65	1	9
Tanzania	2	1996; 2005	9.5	0.70	9	10
Togo	1	2005	16		16	16
Tunisia	1	2011	10		10	10
Zambia	2	2011; 2014	2	1.41	1	3
Total	65		7.46	5.35	1	23

Table B.4 – Regional Transitions (ADM1 regions)

	No. of	Years of		Mandate Dura	tion	
Country	Trans.	Transitions	Mean	Standard dev.	Min	Max
[1995; 2014]						
Benin	2	1996, 2006	10	0	10	10
Botswana	1	1998	10		10	10
Burkina Faso	1	2014	7		7	7
Burundi	3	1996; 2003; 2005	8.33	7.09	2	16
Democratic Re-	2	1007, 2001	11	0.80	4	10
public of Congo	Z	1997, 2001	11	9.89	4	10
Ethiopia	2	2001; 2013	8.5	4.94	5	12
Ghana	3	2001; 2009; 2012	5.33	2.51	3	8
Guinea	1	2008	13		13	13
Guinea Bissau	5	1999; 2000; 2003; 2005; 2009	4.4	4.39	1	12
Ivory Coast	3	2000; 2001; 2011	7	5.19	1	10
Kenya	2	2003; 2013	9	1.41	8	10
Lesotho	2	1998; 2012	8.5	7.77	3	14
Malawi	2	2004; 2012	8.5	0.70	8	9
Mali	3	2002; 2012; 2014	6.33	4.04	2	10
Mauritania	3	2005; 2007; 2008	4.66	5.50	1	11
Mozambique	1	2005	10		10	10
Namibia	1	2005	10		10	10
Niger	5	1996; 1999; 2000; 2010; 2011	5	4.63	1	10
Nigeria	4	1998; 1999; 2007; 2010	5.75	4.57	1	11
Republic of	1	1002	24		94	94
Congo	T	1998	Z4		24	24
Rwanda	1	2000	21		21	21
Senegal	2	2000; 2012	10.5	2.12	9	12
Sierra Leone	4	1996; 1997; 1998; 2007	5.5	5.25	1	11
South Africa	3	1999; 2008; 2009	6.33	4.61	1	9
Tanzania	1	2005	10		10	10
Togo	1	2005	16		16	16
Tunisia	1	2011	10		10	10
Zambia	3	2002; 2011; 2014	3.33	2.51	1	6
Total	63		7.58	5.15	1	23

Table B.5 – Regional Transitions (ADM2 districts)

C List of presidents

? offers a list of valuable pieces of information for presidents from 2000 to 2011 for all African countries except Algeria and Djibouti. We extend the data from 1995 to 2014 and thoroughly check the ethnic groups and the regions of birth of the presidents from the original list. We use a different version of the GADM data than ?; therefore, the names of the ADM1 and ADM2 regions may be different. Here, we report the differences between the list of presidents from ? and ours. In Algeria, the president is Abdelaziz Bouteflika for all the periods considered in our data. He was born in Morocco²²; therefore, the region of birth in our data is missing. In Benin, Mathieu Kerekou was born in the city of Kouarfa²³ located in the district of Toucountouna²⁴. In Botswana, Fetus Mogae belongs to the Bamangwatos²⁵ ethnic group. He left the power in 2008 and was replaced by Ian Khama, son of Seretse Khama, a former president of Botswana. Seretse and Ian Khama are both from the Bamangwatos ethnic group ²⁶. Ian Khama was born in the UK; therefore, his region of birth is missing from our data. The ADM1 region of Birth of Blaise Compaore, the president of Burkina Faso, is the Plateau Central in our version of the GADM file. Domitien Ndayizeve, the president of Burundi between 2003 and 2005, was born in the district of Murano https://fr-academic.com/dic.nsf/frwiki/530987 in the province of Kayanza. Pierre Nkurunziza was born in the district of Ngozi from the province of the same name²⁷. Ange Felix Patasse, president of Central African Republic, is from the Gbaya²⁸ ethnic group. Ange Felix Patasse left office in 2002 and was succeeded by François Bozize. François Bozize was president from 2002 to 2012; he is a member of the Gbaya ethnic group and was born in Gabon²⁹. Michel Djotodia took office in 2003 and is from the Goula³⁰ ethnic group and was born in the village of Gordil from the sub-prefecture of Birao in the prefecture of Vakaga. The former president Mobutu of the Democratic Republic of Congo is from the Ngbandi³¹ ethnic group and was born in the district of Lisala in the province of Mongala.

^{22.} https://www.universalis.fr/encyclopedie/abdelaziz-bouteflika/1-la-guerre-et-l-homme-d-etat/

^{23.} https://www.bourse-des-voyages.com/benin/guide-culture-politique-mathieu-kerekou.php

^{24.} https://fr.wikipedia.org/wiki/Kouarfa

^{25.} https://www.britannica.com/biography/Festus-Mogae

^{26.} https://www.thoughtco.com/biography-sir-seretse-khama-42942

^{27.} https://information.tv5monde.com/afrique/burundi-le-president-pierre-nkurunziza-est-mort-gouverner

^{28.} https://www.lematin.ch/story/crimes-de-guerre-en-centrafrique-un-ex-officier-arrete-et-incarcere-

^{29.} https://information.tv5monde.com/afrique/presidentielle-en-centrafrique-la-cour-constitutionnelle-

^{30.} https://www.lemonde.fr/afrique/article/2014/07/12/centrafrique-djotodia-reconduit-a-la-tete-de-l-04456118_3212.html

^{31.} https://personnages.cd/souvenirs/les-origines-familiales-du-marechal-mobutu-sese-seko-kuku-ngbend

Mobutu was succeeded by Laurent Desire Kabila, born in the district of Likasi (formerly called Jadotvile) and the province of the Haut Katanga. He belongs to the Luba ethnic group 32 . Joseph Kabila took power in 2001 after the assassination of his father. Joseph Kabila is from the Luba ethnic group as his father and was born in the district of Fizi from the Sud Kivu. In Djibouti, the former president Hassan Gouled Aptidon is Somali and was born in Somalia³³. He was succeeded by Ismail Omar Guelleh³⁴, another Somali born in Ethiopia. Both these presidents were born abroad; therefore, there is no region of birth for any of the presidents in Djibouti in our sample. In Ethiopia, there were two presidents in power between 1995 and 2014. Negasso Gidada is Oromo³⁵, and was born in the city of Dembidolo³⁶ in the district of Mirab Welega and the province of Oromia³⁷. Girma Wolde Giyorgis is from the Oromo ethnic group and was born in the capital Addis Abeba³⁸. In Gabon, the ADM2 region of Omar Bongo is Mpassa in our version of the GADM data. He was succeeded by his son Ali Bongo from the Teke ethnic group as his father. Ali Bongo does not have any regions of birth in our sample because he was born in Congo³⁹. John Atta Mills, a former Ghanaian president, was a member of the Fante ethnic group and was born in the district of Nsuaem Municipal in the province of Tarkwa⁴⁰. John Dramani Mahama is the successor of John Atta Mills. He is from the Gonja ethnic group and was born in the district of West Gonja in the region of Savannah⁴¹. The ADM2 region of birth of Lansana Conte is Dubreka in the GADM version we use. Moussa Dadis Camara took power for a very short time. He is from the Kpelle⁴² ethnic group and was born in the district of Nzerekore from the province of the same name. Moussa Dadis Camara was succeeded by Sekouba Konate, who held office only for a year. Sekouba Konate is from the Malinke ethnic group and was born in the capital city Conakry⁴³. The last Guinean president from our sample is Alpha Conde. He is from the Malinke ethnic group and was born in the

^{32.} https://www.britannica.com/biography/Laurent-Kabila

^{33.} https://www.universalis.fr/encyclopedie/hassan-gouled-aptidon/

^{34.} https://www.notablebiographies.com/newsmakers2/2006-Ei-La/Guelleh-Ismail-Omar.html

^{35.} https://www.britannica.com/place/Ethiopia/Federal-Democratic-Republic-of-Ethiopia

ref1033870

^{36.} https://fr.wikipedia.org/wiki/Negasso_Gidada

^{37.} https://fr.wikipedia.org/wiki/Dembidolo

^{38.} https://en.wikipedia.org/wiki/Girma_Wolde-Giorgis

^{39.} https://information.tv5monde.com/afrique/gabon-ali-bongo-dans-la-tourmente-102707

^{40.} http://www.togoportail.net/2012/07/ghana-retour-sur-la-vie-de-john-atta-mills/

^{41.} https://en.wikipedia.org/wiki/John_Mahama

^{42.} https://fra.wiki/wiki/Moussa_Dadis_Camara

^{43.} https://www.jeuneafrique.com/195127/politique/s-kouba-konat-l-homme-qui-n-aimait-pas-le-pouvoir/

district of Boke from the province of the same name ⁴⁴. In Guinea Bissau, Malam Bacai Sanha took power for a very short period; he is Malinke ⁴⁵ and was born in the district of Mansaba

took power for a very short period; he is Malinke⁴⁵ and was born in the district of Mansaba from the province of Oio⁴⁶. Joao Bernardo Vieira belongs to the Papel ethnic group and was born in the capital Bissau⁴⁷. Manuel Serifo Nhamadjo stayed in power for only two years, and we did not manage to find any information. Jose Mario Vaz is the last president on our list for Guinea Bissau, we did not find his ethnic group, but he was born in the region of Cacheu⁴⁸. In Ivory Coast, Henry Conan Bedie is Baoule and was born in the district of lacs from the region of Iffou⁴⁹. Robert Guei held office for a year; he is a member of the Dan ethnic and was born in the district of Tonkpi from the province of Goh Djiboua⁵⁰. In our version of the GADM, Laurent Gbagbo was born in the district of Goh from the Goh Djiboua province⁵¹. Alassane Ouattara, the current president of Ivory Coast, is from the Djoula (Malinke) ethnic group and was born in the district of Nzi and the province of lacs⁵². In Kenya, the ADM1 region of birth of Daniel Arap Moi is Baringo in our version of the GADM dataset. The ADM2 region of birth of Mwai Kibaki is Nyeri town in our version of the GADM data. Uhuru Kenyatta took power in 2013; he is from the Kikuyu ethnic group and was born in Nairobi⁵³. In Lesotho, Ntsu Mokhehle is from the Sotho ethnic group and was born in the district of Berea⁵⁴. Thomas Thabane took power in 2012; he is also from the Sotho ethnic group and was born in Maseru⁵⁵. In Liberia, we did not manage to find the ethnic groups of Wilton Gbakolo Sengbe Sankawulo and Ruth Pery. These two presidents stayed in power for very shorts amount of time. We then rely on the dataset of ? for these two presidents. Ruth Perry was born in the Grand Cape Mount province⁵⁶. Charles Ghankay Taylor was born in Artington in the greater Monrovia⁵⁷. In Madagascar, president Norbert Ratsirahonana held office for a year; he was from the Merina

^{44.} https://justiceguinee.gov.gn/president-de-la-guinee-alpha-conde/

^{45.} https://media.africaportal.org/documents/Guinea-Bissau_-_Beyond_rule_of_the_gun.pdf

^{46.} https://www.theguardian.com/world/2012/jan/16/malam-bacai-sanha

^{47.} https://fr.wikipedia.org/wiki/Joao_Bernardo_Vieira

^{48.} https://fr.wikipedia.org/wiki/Jose_Mario_Vaz

^{49.} https://fr.wikipedia.org/wiki/Henri_Konan_Bedie

^{50.} https://fr.wikipedia.org/wiki/Robert_Guei

^{51.} https://fr.wikipedia.org/wiki/Laurent_Gbagbo

^{52.} https://fr.wikipedia.org/wiki/Alassane_Ouattara

^{53.} https://fr.wikipedia.org/wiki/Uhuru_Kenyatta

^{54.} https://fr.wikipedia.org/wiki/Ntsu_Mokhehle

^{55.} https://fr.wikipedia.org/wiki/Tom_Thabane

^{56.} https://fr.wikipedia.org/wiki/Ruth_Perry

^{57.} https://fr.wikipedia.org/wiki/Charles_Taylor_(Liberia)

ethnic group and was born in the district of Atsiranana in the province of Toamasina⁵⁸. Andry Rajoelina was born in the district of Vakinankaratra in the province of Antananarivo⁵⁹. Henry Rajaonarimampianina is also Merina and was born in the district of Analamanga from the province of Antananarivo⁶⁰. The ADM2 region of birth of the president Bingu wa Mutharika, a former malawian president is Thyolo Boma in our version of the GADM data set. Joyce Banda is from the Yao ethnic group and was born in the district of Zomba City in the province of Zomba⁶¹. Peter Mutharika was also born in Zomba City and is from the Lomwe ethnic group ⁶². The former president Alpha Oumar Konaré from Mali, is not from the Fula ethnic group. The ethnicity in Mali can be defined using the name, and Konaré is a typical Bambara name⁶³. Amadou Toumani Toure is from the peulh (also called Fulani) ethnic group⁶⁴. Dioncounda Traore, the interim president, is also Bambara and was born in the Kati from the region of Koulikoro⁶⁵. The last elected president in Mali, Ibrahim Boubacar Keita, is Malinke and was born in Koutiala from the region of Sikasso⁶⁶. In Mauritania, Maaouiya Ould Sidadhmed Taya, former president of Mauritania, is from the Beidane (literally white moors) and was born in the district of Atar from the province of Adrar⁶⁷. In Mozambique, Joaquim Chissano is from the Shangane ethnic group ⁶⁸. Armando Guebuza is from the Ronga ethnic group ⁶⁹. In Niger, Mahamane Ousmane was an Houssa⁷⁰ president and was born in the district of Mirriah from the province of Zinder⁷¹. Ibrahim Bare Mainassara is from the Maouri ethnic group and was born in the district of Dogondoutchi from the province of Dosso⁷². Daouda Malam Wanke only held office for a year; he was also an Haoussa president and was born in the capital Niamey⁷³. Mamadou Tandja is a mix of Soninke and Fulani and was born in the district of Maine Soroa

^{58.} https://en.wikipedia.org/wiki/Norbert_Ratsirahonana

^{59.} https://fr.wikipedia.org/wiki/Antsirabe

^{60.} https://fr.wikipedia.org/wiki/Antsirabe

^{61.} https://fr.wikipedia.org/wiki/Joyce_Banda

^{62.} https://newsbasis.com/how-many-kids-does-peter-mutharika-have/

^{63.} https://fr.wikipedia.org/wiki/Bambaras

^{64.} https://www.cairn.info/revue-communications-2020-2-page-147.htm

^{65.} https://fr.wikipedia.org/wiki/Dioncounda_Traore

^{66.} https://fr.wikipedia.org/wiki/Ibrahim_Boubacar_Keita

^{67.} https://fr.wikipedia.org/wiki/Maaouiya_Ould_Sid'Ahmed_Taya

^{68.} https://bit.ly/3P6bYWE

^{69.} https://www.cairn.info/revue-outre-terre1-2011-4-page-301.htm

^{70.} https://www.cairn.info/les-medias-de-la-haine--9782707124517-page-75.htm

^{71.} https://fr.wikipedia.org/wiki/Mahamane_Ousmane

^{72.} https://en.wikipedia.org/wiki/Ibrahim_Bare_Maianassara

^{73.} https://en.wikipedia.org/wiki/Daouda_Malam_Wanke

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from the region of Diffa⁷⁴. In Nigeria, Sani Abacha is from the Kanuri ethnic group and was born in the district of Kano from the province of the same name⁷⁵. Pascal Lissouba from the Republic of Congo is from the Nzebi ethnic group and was born in the district of Mossendjo⁷⁶. In Rwanda, the former president Pasteur Bizimungu is from the Hutu⁷⁷ ethnic group and was born in Gisenyi in the district of Rubavu⁷⁸. His successor Paul Kagame was born in the district of Ruhango from the region of Amajyepfo⁷⁹. In Senegal, the former president Abdou Diouf was a mix of Serere and Peul⁸⁰ and was born in the district of Louga from the province of the same name. Macky Sall was also absent from the list of ?, he is from the peulh⁸¹ ethnic group and was born in the district of Fatick⁸². Valentine Esegragbo Melvine Strassar, a former president from Sierra Leone, was from the creole ethnic group⁸³ and was born in the capital Freetown from the western district⁸⁴. Johnny Paul was briefly president in 1997; he is Limba and was born in the district of Kono⁸⁵. Nelson Mandela, former president of South Africa, was Xhosa and was born in the district of Ortambo from the Eastern Cape⁸⁶. Thabo Mbeki is also Xhosa and was born in the district of Transkei in the region of the Eastern Cape. Kgalema Molanthe a Sotho⁸⁷ was president for a year and was born in the district of Boksburg in the Gauteng⁸⁸. Benjamin William from Tanzania was from the Makua ethnic group⁸⁹ and was born in the district of Masasi from the province of the Mtwara⁹⁰. Faure Gnassingbe from Togo was born in the district of Afagnan⁹¹. In Zambia, Frederick Chiluba was a bemba⁹² born in

^{74.} https://en.wikipedia.org/wiki/Mamadou_Tandja

^{75.} https://fr.wikipedia.org/wiki/Sani_Abacha

^{76.} https://fr.wikipedia.org/wiki/Pascal_Lissouba

^{77.} https://www.lemonde.fr/afrique/article/2007/04/06/l-ancien-president-rwandais-pasteur-bizimungu-a-892928_3212.html

^{78.} https://fr.wikipedia.org/wiki/Pasteur_Bizimungu

^{79.} https://fr.wikipedia.org/wiki/Paul_Kagame

^{80.} https://maitron.fr/spip.php?article186103

^{81.} https://www.lemonde.fr/afrique/article/2015/03/20/chez-les-esclaves-de-la-famille-du-president-set 4598251_3212.html

^{82.} https://fr.wikipedia.org/wiki/Macky_Sall

^{83.} see ?

^{84.} https://fr.wikipedia.org/wiki/Valentine_Strasser

^{85.} https://fr.wikipedia.org/wiki/Johnny_Paul_Koroma

^{86.} https://fr.wikipedia.org/wiki/Nelson_Mandela

 $^{87. \ {\}tt https://southafricaportal.com/kgalema-motlanthe/}$

^{88.} https://fr.wikipedia.org/wiki/Kgalema_Motlanthe

^{89.} https://mkapafoundation.or.tz/author/admin/page/3/

^{90.} https://fr.wikipedia.org/wiki/Benjamin_Mkapa

^{91.} https://fr.wikipedia.org/wiki/Faure_Gnassingbe

^{92.} https://www.refworld.org/docid/469f3aea5.html

the district of Kitwe in the Copperbelt⁹³. Rupia Banda was a Nyanja president and was born in Zimbabwe. Finally, Guy Scott was a British president in Zambia and was born in the district of Livingstone in the Southern⁹⁴.

Country	Name	Appointment Year	Year leaving office	Ethnicity	ADM1 birthplace	ADM2 birthplace
Algeria	Abdelaziz Bouteflika	1999	2019	Algeria Arabs		
Benin	Mathieu Kerekou	1996	2006	Somba	Atacora	Toucountouna
Benin	Thomas Yayi Boni	2006	2016	Yoruba	Borgou	Tchaourou
Botswana	Festus Mogae	1998	2008	Bamangwato	District Central	Serowe
Botswana	Ian Khama	2008	2018	Bamangwato	5	
Burkina Faso	Blaise Compaore	1987	2014	Mossi	Plateau Central	Oubritenga
Burundi	Pierre Buyoya	1996	2003	Tutsi	Bururi	Rutovu
Burundi	Domitien Ndayizeye	2003	2005	Hutu	Kayanza	Murango
Burundi	Pierre Nkurunziza	2005		Hutu	Ngozi	Ngozi
Cameroon	Paul Biya	1982		Fang	Sud	Dja et Lobo
Central African Republic	Ange Felix Patasse	1993	2002	Gbaya	Ouham Pende	Paoua
Central African Republic	Francois Bozize	2002	2012	Gbaya		
Central African Republic	Michel Djotodia	2013	2014	Goula	Vakaga	Birao
Central African	Catherine Samba	2014	2016	Dongini	Tabad	
Republic	Panza	2014	2010	DallZIII	Tenau	
Chad	Idriss Deby Itno	1990	2021	Zaghawa	Ennedi Est	Ennedi Est
Democratic Re- public of Congo	Mobutu Sese Seko Kuku Ngbendu Wa Za	1995	1997	Ngbandi	Mongala	Lisala

Table C.1 – List of Presidents between 1995 and 2014

93. https://fr.wikipedia.org/wiki/Frederick_Chiluba

94. https://fr.wikipedia.org/wiki/Guy_Scott

Country	Name	Appointment Year	Year leaving office	Ethnicity	ADM1 birthplace	ADM2 birthplace
Democratic Re- public of Congo	Laurent Desire Kabila	1997	2001	Luba	Haut Katanga	Likasi
Democratic Re- public of Congo	Joseph Kabila	2001	2019	Luba	Sud Kivu	Fizi
Djibouti	Hassan Gouled Aptidon	1977	1999	Somali		
Djibouti	Ismail Omar Guelleh	1999		Somali		
Egypt	Hosni Mubarak	1981	2011	Nubian	Al Qahirah	
Egypt	Mohammed Hussein Tantawi	2011	2021	Nubian	Al Qahirah	
Equatorial Guinea	Teodoro Obiang Nguema Mbasogo	1979		Fang	Wele Nzas	Mongomo
Eritrea	Isaias Afwerki	1993		Tigreen	Anseba	Asmara City
Ethiopia	Negasso Gidada	1995	2001	Oromo	Oromia	Mirab Welega
Ethiopia	Girma Wolde Giyorgis	2001	2013	Oromo	Addis Abeba	Addis Abeba
Ethiopia	Mulatu Teshome	2013	2018	Oromo	Wellega	Arjo
Gabon	El Hadj Omar Bongo	2010		Teke	Haut Ogoue	Mpassa
Gabon	Ali Bongo	2010		Teke		
Gambia	Yahya Jammeh	1994	2017	Jola	Western	Foni Bondali
Ghana	Jerry Rawlings	1981	2000	Ewe	Greater Accra	Accra
Ghana	John Agyekum Kufuor	2001	2008	Ashanti	ashanti	kumasi
Ghana	John Atta Mils	2009	2012	Fante	Tarkwa	Nsuaem Municipal
Ghana	John Dramani Mahama	2013	2017	Gonja	Savannah Region	West Gonja
Guinea	Lansana Conte	1984	2007	Susu	Kindia	Dubreka

Table C.1 - (continued)

Country	Name	Appointment Year	Year leaving office	Ethnicity	ADM1 birthplace	ADM2 birthplace
Guinea	Moussa Dadis Camara	2008	2010	Kpelle		
Guinea	Sekouba Konate	2010	2011	Malinke		
Guinea	Alpha Conde	2011		Malinké	boke	boke
Guinea Bissau	Malam Bacai Sanha	1999	2000	Malinke	Oio	Mansaba
Guinea Bissau	Kumba Lala	2000	2003	Balante	Cacheu	Bula
Guinea Bissau	Henrique Pereira Rosa	2003	2005	Balante	Bafata	Bafata
Guinea Bissau	Joao Bernardo Vieira	2005	2009	Papel	Bissau	Bissau
Guinea Bissau	Malam Bacai Sanha	2009	2012	Malinke	Oio	Mansaba
Guinea Bissau	Manuel Serifo Nhamadjo	2012	2014			
Guinea Bissau	Jose Mario Vaz	2014			Cacheu	
Ivory Coast	Henry Conan Bedie	1994	1999	Baoule	Iffou	Lacs
Ivory Coast	Robert Guei	2000	2001	Dan	Montagnes	Tonkpi
Ivory Coast	Laurent Gbagbo	2001	2011	Bete	Goh Djiboua	Goh
Ivory Coast	Alassane Ouattara	2011		Malinke	Lacs	Nzi
Kenya	Daniel Arap Moi	1978	2002	Kalenjin	Baringo	Baringo Central
Kenya	Mwai Kibaki	2003	2013	Kikuyu	Nyeri	Nyeri Town
Kenya	Uhuru Kenyatta	2013		Kikuyu	Nairobi	Nairobi
Lesotho	Ntsu Mokhehle	1993	1997	Sotho	Berea	Berea
Lesotho	Pakalitha Mosisili	1998	2012	Sotho	Mohales Hoek	Qachas Nek
Lesotho	Thomas Thabane	2012	2015	Sotho	Maseru	Maseru
Liberia	Wilton Gbakolo Sengbe Sankawulo	1995	1996	Kpelle		
Liberia	Ruth Perry	1996	1997	Vai	Grand Cape Mount	

Table C.1 - (continued)

Country	Name	Appointment Year	Year leaving office	Ethnicity	ADM1 birthplace	ADM2 birthplace
Liberia	Charles Ghankay Taylor	1997	2003	Americo Liberian and Gola	Montserrado	Greater Monrovia
Liberia	Moses Zeh Blah	2003	2004	Dan	Grandgedeh	
Liberia	Charles Gyude Bryant	2004	2006	Grebo	Montserrado	Monrovia
Liberia	Ellen Johnson Sirleaf	2006	2018	Gola	Montserrado	Monrovia
Libya	Muammar Al Gaddafi	1969	2011	Qadhadhfa	Surt	
Madagascar	Norbert Ratsirahonana	1996	1997	Merina	Antsiranana	Diana
Madagascar	Didier Ratsiraka	1997	2002	Malgasy	Toamasina	Atsiranana
Madagascar	Marc Ravalomanana	2002	2009	Merina	Antananarivo	Analamanga
Madagascar	Andry Rajoelina	2009	2014	Merina	Antananarivo	Vakinankaratra
Malawi	Bingu wa Mutharika	2004	2012	Lomwe	Suds	Thyolo
Malawi	Joyce Banda	2012	2014	Yao	Sud	Zomba
Malawi	Peter Mutharika	2014		Lomwe	Sud	Zomba
Mali	Alpha Oumar Konare	1992	2001	Bambara	Kayes	Kayes
Mali	Amadou Toumani Toure	2002	2012	Fulani	Mopti	Mopti
Mali	Dioncounda Traore	2012	2014	Bambara	kati	koulikoro
Mali	Ibrahim Boubacar Keita	2014	2020	Malinke	sikasso	koutiala
Mauritania	Maaouiya Ould Sidadhmed Taya	1984	2004	Beidane	Atar	Adrar
Mauritania	Ely Ould Mohamed Vall	2005	2007	Beidane	Nouakchott	Nouakchott

Table C.1 - (continued)

Country	Name	Appointment Year	Year leaving office	Ethnicity	ADM1 birthplace	ADM2 birthplace
	Sidi Mohamed					
Mauritania	Ould Cheikh	2007	2008	Beidane	Brakna	Aleg
	Abdallahi					
Mauritania	Mohamed Ould	2008		Beidane	Inchiri	Akiouit
	Abdel Aziz	2000		Dordanio		
					Rabat Sale	
Morocco	Mohammed VI	1999		Arabs	Zemmour	Rabat
					Zaer	
Mozambique	Joaquim Chissano	1987	2004	Shangane	Gaza	Chibuto
Mozambique	Armando Guebuza Ronga	2005	2015	Nampula	Murrupula	
Namibia	Sam Nujoma	1990	2004	Ovambo	Omusati	Okahao
Namibia	Hifikepunye Pohamba	2005	2015	Ovambo	Ohangwena	Okanghudi
Niger	Mahamane Ousmane	1993	1995	Haoussa	Zinder	Mirriah
NT:	Ibrahim Bare	1000	1000	м :	D	
Niger	Mainassara	1996	1999	Maouri	Dosso	Dogondoutchi
Niger	Daouda Malam	1999	2000	Haoussa	Niamey	Niamey
				Fulani		
Niger	Mamadou Tandja	2000	2010	and	Diffa	Maine Soroa
				Soninke		
Nigor	Salou Diibo	2010	2011	Djerma	Tilabori	Kollo
Niger	Salou Djibo	2010	2011	Songhay	THADEII	Rono
Niger	Mahamadou	2011		Haoussa	Tahoua	Illela
i i i goi	Issoufou	2011		11404554	Tanoua	meia
Nigeria	Sani Abacha	1994	1997	Kanuri	Kano	Kano
Nigeria	Abdul Salam	1998	1999	Haoussa	Niger	Paikoro
0	Abubakar				0.	
Nigeria	Olusegun Obasanjo	1999	2007	Yoruba	Ogun	Abeokuta
~	. 0				~	South
Nigeria	Umaru Yar Adua	2007	2010	Fulani	Katsina	Katsina

Table C.1 - (continued)

Country		Name	Appointment Year	Year leaving office	Ethnicity	ADM1 birthplace	ADM2 birthplace
Nigeria		Jonathan Goodluck	2010	2015	Ijaw	Bayelsa	Ogbia
Republic Congo	of	Pascal Lissouba	1992	1996	Nzebi	Niari	Mossendjo
Republic Congo	of	Denis Sassou Ngues	1998		Mbochi	Cuvette	Owando
Rwanda		Paster Bizimungu	1994	1999	Hutu	Iburengerazuba	Rubavu
Rwanda		Paul Kagame	2000		Tutsi	Amajyepfo	Ruhango
Senegal		Abdou Diouf	1981	1999	Serere and Peul	Louga	Louga
Senegal		Abdoulaye Wade	2000	2012	Wolof	Louga	Kebemer
Senegal		Macky Sall	2012		Peul	Fatick	Fatick
Sierra Leone		Valentine Esegragbo Melvine Strassar	1992	1995	Creole	Western	Western
Sierra Leone		Ahmad Tejan Kabbah	1996	1997	Mandingo and Mende	Eastern	Kailahun
Sierra Leone		Johnny Paul Koroma	1997	1998	Limba	Eastern	Kono
Sierra Leone		Ahmad Tejan Kabbah	1998	2007	Mandingo and Mende	Eastern	Kailahun
Sierra Leone		Ernest Bai Koroma	2007	2018	Temne and Loko	Nord	Bombali
South Africa		Nelson Mandela	1999	2008	Xhosa	Eastern Cape	Ortambo
South Africa		Thabo Mbeki	1999	2008	Xhosa	Eastern Cape	Transkei
South Africa		Kgalema Motlanthe	2008	2009	Sotho	Gauteng	Boksburg
South Africa		Jacob Zuma	2009	2018	Zulu	Natal	Nkandla

Table C.1 - (continued)

Country	Name	Appointment Year	Year leaving office	Ethnicity	ADM1 birthplace	ADM2 birthplace
Swaziland	Mswati III	1986		Swati	Hhohho	Mbabane
Tanzania	Benjamin William Mkapa	1996	2005	Makua	Mtwara	Masasi
Tanzania	Jakaya Kikwete	2005	2015	Kwere	Pwani	Bagamoyo
Togo	Eyadema Gnassingbe	1967	2004	Kabye	Kara	Kozah
Togo	Faure Gnassingbe	2005		Kabye	Maritime	Afagnan
Tunisia	Zine El Abidine Ben Ali	1987	2011	Arabs	Sousse	Sousse Medina
Tunisia	Fouad Mebazaa	2011		Arabs	Tunis	Bab Souika
Uganda	Yoweri Museveni	1986		Banyankole	Ntungamo	Ruhaama
Zambia	Frederick Chiluba	1991	2001	Bemba	Copperbelt	Kitwe
Zambia	Levy Mwanawasa	2002	2007	Lenje	Copperbelt	Mufulira
Zambia	Rupiah Banda	2008	2010	Nyanja		
Zambia	Michael Sata	2011	2014	Bemba	Muchinga	Mpika
Zambia	Guy Scott	2014	2015	British	Southern	Livingstone
Zimbabwe	Robert Mugabe	1987	2017	Zezuru	Midlands	Zvimba

Table C.1 - (continued)

Notes: Countries without President turnover between 1995 and 2014 are not included in the Table. Year of leaving office is missing only when the president is still in office.

Table C.2 – List Ethnic Groups

Ethnic Group	Included Subgroups
Algeria	
Algeria Arabs	
Kabiles	
Libya Arabs	
Morocco Arabs	
Shawiya	
Tuaregs	

Ethnic Group	Included Subgroups		
Tunisia Arabs			
West Sahara			
Arabs			
Angola			
Bakongo			
Balozi			
Balunda			
Bambundu			
Bankoya and			
Wambuela			
Bushmen			
Herero			
Ovambo			
Ovimbundu			
Wachokwe			
Waluchazi			
Wanyaneka			
Wayeye			
Benin			
Adja	Adja, Ouatchi, Mina, Sahoue, Houeda, Xwla, Defi		
Fon	Aizo, Fon, Kotafon, Mahi, Weme, Tofin, Torri, Seto, Agouna		
Bariba	Bariba, Boko, Boo		
Dendi	Dendi, Djerma		
Voa	Dompago (Lokpa), Kabye, Koto-Koli, Yoa, Soruba, Taneka, Yon		
10a	(Pila Pila), Ani, Foodo, Windji-Windji		
Peulh	Peulh (Fulani), Gando		
Otamari	Berba, Ditamari, Gagamba, Gurma, Hassori, Natimba, Waama,		
Otalilari	Yende, Otamary		
Yoruba	Yoruba, Nagot, Chade, Tdaasha, Holli-Dje, Ife, Ketou, Manigri,		
101404	Partago		
Goun	Goun		
Others			

Table C.2 - (continued)

Ethnic Group	Included Subgroups
Botswana	
Basubia	
Bechuanas	
Bushmen	
Hottentots	
Mashona	
Matebele	
Ndebele	
Pedi	
Wayeye	

Table C.2 - (continued)

Burkina Faso

Barba

Bobo

Busa

Dogon Fulbe

Grusi

Gurma

Kulango

 Lobi

Mandingo

Mossi

 Sanu

Senufo

 Somba

Songai

Soninke

Tuaregs

Burundi

Banyaruanda

Barundi

Cameroon

	Included Subgroups		
A 1	Arab-Choa, Peulh, Haoussa, Kanuri, Bata, Daba, Guidar,		
Arab-	Kotoko, Kwang/Kera, Mafa, Margui, Massa, Mousgoum and		
Choa/Peuin/Haouss	a/Kanuri Sara		
Biu Mandara	Wandala and Mandara		
Adamaoua	Dourou Fali Chava Mambila Mhoum and Samha		
Oubanguin	Dourou, Fan, Gbaya, Maniona, Moouni and Samoa		
South West	Banyang Bandi Efik Koron Fiagham Mhombo Tiy and Ba		
Bantou	Banyang, Bendi, Enk Korop, Ejagnani, Mbenibe, 11v and		
Grassfields	Menchum, Momo, Ngemba, Ring and Wimbum Yanba		
Bamileke/Bamoun	Bamoun and Bamileke		
Cotier/Ngoe/Oroko	Cotier and Ngoe Oroko		
Bati /Bassa /Mham	Bafia, Banen Bandem, Yambassa, Bassa Bakoko, Beti and		
Dett/ Dassa/ WDalll	Boulou Fang		
Kako/Meka/Pygmes	Kako, Meka and Pygmee		
Others	Other, Foreigners, Missing		
Central African Re- public			
African Re- public Azande Bagirmi Bakare			
African Re- public Azande Bagirmi Bakare Banda			
African Re- public Azande Bagirmi Bakare Banda Bantu-speaking			
AfricanRe-publicAzandeBagirmiBakareBandaBantu-speakingPygmy tribes			
AfricanRe-publicAzandeBagirmiBakareBandaBantu-speakingPygmy tribesChamba			
AfricanRe-publicAzandeBagirmiBakareBandaBantu-speakingPygmy tribesChambaMaka			
AfricanRe-publicAzandeBagirmiBakareBandaBantu-speakingPygmy tribesChambaMakaMbum			
AfricanRe-publicAzandeBagirmiBakareBandaBantu-speakingPygmy tribesChambaMakaMbumNgbandi			
AfricanRe-publicAzandeBagirmiBakareBandaBantu-speakingPygmy tribesChambaMakaMbumNgbandiNgiri			
African Re- public Azande Bagirmi Bagirmi Bakare Banda Bantu-speaking Pygmy tribes Chamba Maka Maka Mbum Ngbandi Ngiri Sere-Mundu Sere-Mundu			
AfricanRe-publicAzandeBagirmiBakareBandaBantu-speakingPygmy tribesChambaMakaMbumNgbandiNgiriSere-MunduSudan Arabs			

Table C.2 - (continued)

Ethnic Group	Included Subgroups
Bagirmi	
Banda	
Bura, Bata and	
Tera	
Chamba	
Dago	
Fulbe	
Gola	
Kanuri	
Kotoko	
Libya Arabs	
Maba (incl.	
Masalit)	
Mandara	
Masa	
Mbum	
Mubi	
Shoa-Arabs	
Sudan Arabs	
Tama	
Tuaregs	
Tubu	
Zagawa	
Djibouti	
Danakil	
Somalis	
Democratic	
Republic of	
Congo	
Bakongo	
Wachokwe	
Balunda	

Table C.2 - (continued)

Ethnic Group	Included Subgroups
Baluba	
Bakuba and	Deluike and Delvare
Bakare	Dakuba and Dakare
Bemba	
Barega	
Bakomo	
Bateke	
Basakata	
Mongo	
Pygmes	
Bobangi and	Pohangi and Pangala Ngini and Ngamba
Bangala	bobangi and bangaia, ngiri and ngombe
Ngbandi	
Bambundu	
Gbaya and	Chara and Danda
Banda	GDaya and Banda
Azande	
Moru-	Moru-Mangbetu, Moru-Mangbetu and Sere-Mundu-speaking
Mangbetu	Pygmy tribes, and Bantu-speaking Pygmy tribes
Bari	
Barundi	Barundi and Banyaruanda
Bakonjo	
Baboa	
Acholi and	Acheli and Cautham I wa
Southern Lwo	Acnon and Southern Lwo
Banyoro	Banyoro, Mba and Sere Mundu
Equatorial	
Guinea	
Bubi	
Duala	
Fang	
Maka	
Egypt	

Table C.2 - (continued)

Ethnic Group	Included Subgroups
Arabs of UAR	
(Egyptians)	
Beja	
Jews of Israel	
Jordan and	
Palestine Arabs	
Libya Arabs	
Sudan Arabs	
Eritrea	
Agau	

Table C.2 - (continued)

Arabs of Yemen Barea

Beja

Danakil

Kunama

 Saho

Sudan Arabs

Tigrai

Tigre

Ethiopia

Agau

Amhara

Anuak

Berta

Danakil

Galla Koma

Kunama

Murle

Northern Lwo

Nuer

Saho

Ethnic Group	Included Subgroups
Sidamo	
Somalis	
Sudan Arabs	
Teso	
Tigrai	
Gabon	
Fang	
Kota Kele	
Mbede Teke	
Myene	
Nzabi Duma	
Okande Tsogho	
Shira Punu/Vili	
Pygmee	
Others	
Gambia	
Diola	
Mandingo	
Wolof	
Ghana	
Akan	
Ga/Dangme	
Ewe	
Guan	
Mole Dagbani	
Grussi	
Gruma	
Hausa	
Other	
Guinea	
Soussou	

Table C.2 - (continued)

Ethnic Group	Included Subgroups
Peulh	
Malinke	
Kissi	
Toma	
Guerze	
Other	
Guinea Bissau	
Balante	
Biafada	
Diola	
Fulbe	
Mandingo	
Mandjak	
Nalu	
Pepel	
Tenda	
Guinea Bissau	
Balante	
Biafada	
Diola	
Fulbe	
Mandingo	
Mandjak	
Nalu	
Pepel	
Tenda	
Ivory Coast	
Baoule	
Agni	
Akye (Attie)	
Degha	Degha and Doma

Table C.2 - (continued)
Ethnic Group	Included Subgroups
	Abbey, Abidji, Aboure, Abron, Adjoukrou, Alladian, Appo
Abbey	(Nzima), Avikam (Brignan), Ebrie, Ega, Krobou and Mbat
	(Goua)
Ahizi	Ahizi, Bakwe, Bete, Dida, Godie, Kouya, Neyo and Oubi
Gnaboua (Ni-	Chapters (Nisheys), Cuera Keuzia, Niedebeus and Web
aboua)	Gliaboua (Maboua), Guere, Rouzie, Medeboua and Wob
Kodia	Kodia, Kotrohou and Kroumen
Birifor	Birifor, Lobi and Siti
Gbin	Gbin, Koulango and Lohron
Djimini	Djimini, Komono, Nafana, Senoufo and Tagouana
Yacouba	Yacouba (Dan)
Gouin	Gouin (Kirma) and Gouro
Gagou	Gagou, Ngain and Ouan
	Bambara, Dioula, Kamara (Komara), Koro, Koyaka (Koyar
Dioula	Mahou (Mahouka), Malinke (Maninka), Mona (Mouan), Nig
Diouia	Ouadougou, Ouodougou, Samogho, Toura, Wane and Yaou
	(Yohoure)
Conja	Conja, Ehotile, Essouma and Fula
Kenya	
Embu	
Kalenjin	
Kamba	
Kikuyu	
Kisii	
Luhya	
Luo	
Masai	
Meru	
Mijikenda/Swahili	Mijikenda/Swahili
Somali	
Taita/Taveta	Taita/Taveta
Other	

Table C.2 - (continued)

Ethnic Group	Included Subgroups
Basuto	
Xhosa	
Zulus	
Liberia	
Americano	
Liberian	
Bassa	
Gbandi	
Belle	
Dey	
Gio	
Gola	
Grebo	
Kissi	
Kpelle	
Krahn	
Kru	
Lorma	
Mandingo	
Mano	
Mende	
Sarpo	
Vai	
Other	
Libya	
Libya Arabs	
Tuaregs	
Tubu	
Tunisia Arabs	
Arabs of UAR	
(Egyptians)	
Madagascar	

Table C.2 - (continued)

Ethnic Group	Included Subgroups
Malagasy	
Malawi	
Chewa	
Tumbuka	
Lomwe	
Tonga	
Yao	
Sena	
Nkonde	
Ngoni	
Other	
Mali	
Bambara	
Malinke	
Peulh	
Sarakole	Sarakole, Soninke and Marka
Songhrai	
Dogon	
Tamacheck	
Senoufo	Senoufo and Minianka
Bobo	
Other	
Mauritania	
Algeria Arabs	
Fulbe	
Mandingo	
Soninke	
West Sahara	
Arabs	
Morocco	
Morocco Arabs	

Table C.2 - (continued)

Ethnic Group	Included Subgroups
Rif	
Shleuh	
Tamazight	
Algeria Arabs	
Mozambique	
Angoni	
Makonde	
Makua	
Malavi	
Mashona	
Swahili	
Swazi	
Tsonga	
Wakinga	
Wayao	
Zulus	
Namibia	
Afrikaners	
Balozi	
BBasubia	
Bushmen	
Herero	
Hottentots	
Ovambo	
Wayeye	
Niger	
Arab	
Djerma	
Gourmanthe	
Haoussa	
Kanouri	
Mossi	

Table C.2 - (continued)

Ethnic Group	Included Subgroups
Peulh	
Touareg/Bella	
Toubou	
Other	
Nigeria	
Ekoi	
Fulani	
Hausa	
Ibibio	
Igala	
Igbo	
Ijaw/Izon	
Kanuri/Beriberi	
Tiv	
Yoruba	
Other	
Republic of	
Congo	
Bakele	
Bakongo	
Bakota	
Banda	
Bantu Speaking	
Pygmy Tribes	
Bateke	
Bobangi and	
Bangala	
Fang	
Maka	
Mpongwe	
Ngiri	
Ngombe	
Sere Mundu	

Table C.2 - (continued)

Ethnic Group	Included Subgroups
Rwanda	
Bantu Speaking	
Pygmy Tribes	
Banyaruanda	
Banyoro	
Barundi	
Senegal	
Wolof/Lebou	
Poular	
Serer	
Mandingue	
Diola	
Sarakole/Soninke	
Bambara	
Other	
Sierra Leone	
Temne	
Mende	
Creole	
Mandinguo	
Loko	
Sherbro	
Limba	
Kono	
Others	
South Africa	
Afrikaners	
Basuto	
Bawenda	
Bechuanas	
Bushmen	

Table C.2 - (continued)

Ethnic Group	Included Subgroups
Hottentots	
Ndebele	
Pedi	
Swazi	
Tsonga	
Xhosa	
Zulu	
South Sudan	
Acholi	
Anuak	
Azande	
Bagirmi	
Bakomo	
Banda	
Bari	
Berta	
Dago	
Dinka	
Karamojo	
Koma	
Lotuka	
Moru Mangbetu	
Murle	
Northern Lwo	
Nuer	
Sere Mundu	
Sidamo	
Southern Lwo	
Sudan Arabs	
Teso	
Sudan	
Arabs of UAR	

Table C.2 - (continued)

(Egyptians)

Ethnic Group	Included Subgroups
Arabs of Yemen	
Bagirmi	
Banda	
Beja	
Berta	
Dago	
Dinka	
Kadugli Krongo	
Koalib Tagoi	
Koma	
Libya Arabs	
Maba (Masalit)	
Northern Lwo	
Nubians	
Shoa Arabs	
Sudan Arabs	
Tama	
Temaini	
Tigre	
Zagawa	
Swaziland	
Swazi	
Tsonga	
Zulus	
Tanzania	
Angoni	
Baha	
Baluhya	
Banyaruanda	Banyaruanda and Barundi
Banyoro	
Hadzapi	
Iraku	
Irangi	

Table C.2 - (continued)

Ethnic Group	Included Subgroups
Joluo	
Makonde	
Makua	
Malavi	
Masai	
Swahili	
Wadjagga	
Wafipa	
Wagogo	
Wahehe	
Wahinga	
Wanyaturu	
Wanyika	
Wapare	
Wasagara	
Washambala	
Wateita	
Wayao	
Wazaramo	
Sandawe and	Sandawe and Tatog
Tatog	Sandawe and Tables
Togo	
Adja Ewe	
Akposso and	
Akebou	
Ana Ife	
Kabye and Tem	
Para Gourma	
and Akan	
Other	
Tunisia	
Tunisia Arabs	
Algeria Arabs	

Table C.2 - (continued)

Ethnic Group	Included Subgroups
Libya Arabs	
Uganda	
Baganda	
Banyankole	
Basoga	
Bakiga	
Atesa	
Acholi	
Alur	
Ngakaramajong	
Langi	
Lugbara	
Madi	
Mufumbira	
Mugishu	
Mugwere	
Mukonjo	
Munyoro	
Mutooro	
Munyarwanda	
Other	
Zambia	
Bemba	
Lunda (Lua-	
pala)	
Lala	
Bisa	
Ushi	
Chishinga	
Ngumboo	
Lamba	
Kabende	

Tabwa

Table C.2 - (continued)

Ethnic Group	Included Subgroups
Swaka	
Mukulu	
Ambo	
Lima	
Shila	
Unga	
Bwile	
Luano	
Tonga	
Lenje	
Soli	
Ila	
Toka Leya	
Sala	
Gowa	
Luvale	
Lunda (North-	
western)	
Mbunda	
Luchazi	
Ndembu	
Mbowe	
Chokwe	
Kaonde	
Luyana	
Kwangwa	
Kwandi	
Koma	
Nyengo	
Simaa	
Mwenyi	
Imilangu	
Mashi	
Lozi	

Table C.2 - (continued)

Ethnic Group	Included Subgroups
Totela	
Subiya	
Nkoya	
Mashasha	
Chewa	
Nsenga	
Ngoni	
Nyanja	
Kunda	
Chikunda	
Lungu	
Mambwe	
Namwanga	
Wina	
Tambo	
Tumbuka	
Senga	
Yombe	
Zimbabwe	
Basubia	
Bawenda	
Bechuanas	
Bushmen	
Malavi	

Mashona Matebele Pedi Tonga Tsonga

Table C.2 - (continued)