Aid on Demand: African Leaders and the Geography of China's Foreign Assistance

Axel Dreher, Andreas Fuchs, Roland Hodler, Bradley C. Parks, Paul A. Raschky, and Michael J. Tierney

Abstract:

We investigate whether the political leaders of aid-receiving countries use foreign aid inflows to further their own political or personal interests. Aid allocation biased by leaders' selfish interests arguably reduces the effectiveness of aid, negatively affecting development outcomes. We examine whether more Chinese aid is allocated to the political leaders' birth regions and regions populated by the ethnic group to which the leader belongs, controlling for objective indicators of need. We have collected data on 117 African leaders' birthplaces and ethnic groups and geocoded 1,955 Chinese development finance projects across 3,553 physical locations in Africa over the 2000-2012 period. The results from various fixed-effects regressions show that current political leaders' birth regions receive substantially larger financial flows than other regions. We do not find evidence that leaders shift aid to regions populated by groups who share their ethnicity.

Aid on Demand: African Leaders and the Geography of China's Foreign Assistance

Axel Dreher
Correspondence to:
mail@axel-dreher.de ✉
Alfred-Weber-Institute for Economics, Heidelberg University; KOF Swiss Economic Institute; CEPR;
Georg-August University Goettingen; IZA; and CESifo

Andreas Fuchs
Correspondence to:
mail@andreas-fuchs.net ✉
Alfred-Weber-Institute for Economics, Heidelberg University

Roland Hodler
Correspondence to:
roland.hodler@unisg.ch ✉
Department of Economics and SIAW-HSG, University of St.Gallen; OxCarre, University of Oxford; and CESifo

Bradley C. Parks
Correspondence to:
bcpark@wm.edu ✉
Institute for the Theory and Practice of International Relations, The College of William and Mary

Paul A. Raschky
Correspondence to:
paul.raschky@monash.edu.au ✉
Department of Economics, Monash University

Michael J. Tierney
Correspondence to:
mjtier@wm.edu ✉
Department of Government, The College of William and Mary

AidData

AidData:

info@aiddata.org
www.aiddata.org

Acknowledgments:

Contents

1. Introduction

Recent visitors to the village of Yoni, located in Bombali district, Sierra Leone, will find "a wonderful school in the middle of what Africans call 'the bush'" (Acemoglu and Robinson 2012). The school was built with Chinese aid, and Yoni is the home town of Sierra Leone's President, Ernest Bai Koroma. A fancy new school in the President's home town could be a simple coincidence. However, a large literature on patronage politics shows that government officials systematically favor their home regions (Barkan and Chege 1989; Moser 2008; Horowitz and Palaniswamy 2010; Burgess et al. 2011; Green 2011; Do et al. 2013). Most notably, Hodler and Raschky (2014a) study favoritism in a large sample of subnational administrative regions from all over the world. They find that subnational regions have more intense nighttime light when they fall within the birth region of the current political leader, and that higher foreign aid inflows and weaker institutions at the recipient country level amplify this effect. We therefore have reason to believe that the 'school in the bush' may reflect a broader effort to reward political supporters and thus be more than a mere coincidence.

In this paper, we investigate whether and to what extent African political leaders use foreign aid to favor their birth regions as well as regions populated by their own ethnic group.[1] Chinese aid is well-known for its principle of non-interference in the domestic affairs of recipient countries – a principle that is officially reiterated in the Chinese government's 2014 white paper on foreign aid where it explains, "[w]hen providing foreign assistance, China adheres to the principles of not imposing any political conditions, not interfering in the internal affairs of the recipient countries and fully respecting their right to independently choose their own paths and models of development" (State Council 2014). Therefore, as previous qualitative research suggests, Chinese aid may be particularly easy to exploit for politicians who are engaged in patronage politics (e.g., Tull 2006; Bräutigam 2009; Corkin 2011a; Mthembu-Salter 2012; Jansson 2013).

One reason to investigate the allocation of Chinese aid is to derive conclusions about its effectiveness. The literature on the effectiveness of aid does not provide easy answers.[2] However, previous work relies almost

---

[1] We thereby contribute to the literature on ethnic favoritism, which goes back to Bates (1974). Many recent studies have focused on African political leaders and the role played by their ethnicity in shaping government policy (e.g., Kasara 2007; Franck and Rainer 2012; Kramon and Posner 2012, 2013; Burgess et al. 2013). For ease of exposition, we will use the term "aid" to refer to all official financing flows (Official Development Assistance and Other Official Flows) and will postpone sharp definitions to the empirical part of the paper.

[2] Recent published studies making serious attempts to address endogeneity concerns include Rajan and Subramanian (2008), Clemens et al. (2012), and Brückner (2013). See Doucouliagos and Paldam (2008) for a review and meta-analysis of earlier studies on aid effectiveness.

exclusively on data from Western donors represented in the OECD's Development Assistance Committee (DAC).[3] Speculation abounds as to whether Chinese aid is more or less effective than Western aid. China is often accused of not only using foreign aid to curry favor with political leaders of developing countries, but also of doing little to advance development outcomes (e.g., Tull 2006; Naím 2007). Others praise China for getting things done in a timely manner and reducing the administrative burden placed on overstretched public bureaucracies in developing countries.[4] Some scholars have even suggested that Chinese aid could be less prone to waste, fraud, and abuse – and more effective in promoting economic growth – than aid from traditional Western donors because China maintains control over its projects from the planning phase through the implementation stage (Bräutigam 2009, 2011b; Mwase and Yang 2012).[5]

The limited temporal coverage of existing data on Chinese aid makes it difficult to investigate the effects of Chinese aid on economic growth. Our analysis is thus limited to investigating whether the allocation of Chinese aid is driven by factors that are likely to maximize its impact. To the extent that China's unwillingness to interfere in domestic politics renders the allocation of its aid more vulnerable to political capture within recipient countries, aid effectiveness will arguably suffer (Cohen 1995; Wright 2010; Briggs 2012, 2014). More generally, we know from cross-country studies that understanding the motives for granting aid is important because a donor's intent in allocating aid seems to impact the effectiveness of aid (e.g., Dreher et al. 2014).

In this paper we introduce a new georeferenced dataset on the subnational allocation of Chinese development finance projects across Africa over the 2000-2012 period.[6] We use these data to test whether China's non-interference principle allows African leaders to (ab)use development projects for patronage politics. Specifically, we study whether Chinese aid is disproportionately allocated to the birth regions of the recipient countries' political leaders, or to regions mainly populated by the leaders' ethnic groups, controlling for a large number of subnational variables and various fixed effects. Previous research suggests that government officials may steer public resources to their home districts in order to shore up their political support or conform to prevailing social and cultural expectations (Kasara 2007; Do et al. 2013).

This paper builds upon and contributes to the empirical literature on aid allocation, which traces its origins

---

[3]For an exception, see Werker et al. (2009) on the economic effects of foreign aid provided by Gulf oil-producing countries.

[4]See Dreher and Fuchs (forthcoming) and Strange et al. (2013) for references.

[5]In some cases, China remains involved in management of projects after they have been completed (Bräutigam 2009).

[6]These new data can be used to investigate a number of important questions related to the nature, allocation, and impact of Chinese aid. We make them available at http://china.aiddata.org/.

to McKinlay and Little (1977).[7] Dreher et al. (2011) compare some so-called "new" donors with the "old," mainly Western donor countries organized in the OECD-DAC. They find that "new" and "old" donors behave similarly, but the "new" ones care less about recipient needs.[8] Dreher and Fuchs (forthcoming) use data on Chinese foreign aid projects at the recipient country-level from various sources. They find that – consistent with China's principle of non-interference in internal affairs – Chinese aid is indeed not influenced by the democracy levels or governance characteristics of recipient countries. Contrary to the conventional wisdom, they also find that China's aid allocation is not dominated by recipient countries' natural resource endowments. Overall, at the country-level, Chinese aid does not seem to be allocated very differently from Western aid. However, Beijing's principle of non-interference does raise the possibility that the allocation of Chinese aid within the recipient countries will look substantially different when compared to that of Western donors.[9]

Our paper takes the aid allocation literature to the subnational level. We are not the first to investigate the allocation of foreign aid within countries. However, other contributions that rely on subnationally geo-coded aid data typically focus on a single country (e.g., Franken et al. 2012; Nunnenkamp et al. 2012; Dionne et al. 2013; Briggs 2014; Jablonski 2014; De and Becker 2014), or on a cross-section of subnational localities from different countries (e.g., Powell and Findley 2012; Öhler and Nunnenkamp 2014). In this paper, we analyze geo-coded data for a large number of recipient countries over a longer period of time. This research design provides significant advantages over previous studies. Focusing exclusively on cross-sectional variation, a positive association between the location of aid projects and the location of a leader's birthplace (or ethnic region) could simply be driven by permanent or highly persistent region-specific characteristics.[10] Relying on variation within regions over time in tandem with binary indicator variables for the years prior to and after the leader originates from a certain region instead allows us to identify potential causal effects of the political leaders' birth (or ethnic) regions on the amount of aid a region receives. The second difference between this paper and previous contributions is our focus on Chinese aid, rather than aid allocated by so-called "traditional" donors.

---

[7]Prominent contributions include Maizels and Nissanke (1984), Alesina and Dollar (2000), Kuziemko and Werker (2006), and Faye and Niehaus (2012). On the World Bank, see Frey and Schneider (1986), Kilby (2009), and Dreher et al. (2009).

[8]While the terms "new donor" or "non-traditional donor" are frequently used for donors like China and India, both countries' first aid deliveries took place in the 1950s.

[9]In a future version of this paper, we plan to compare the allocation of aid from China and the World Bank, which will allow us to derive conclusions about the relative ease with which recipient governments can use aid from two major donors to advance the political and personal interests of governing elites.

[10]We use the term "region" in this paper to refer to subnational localities, not large geographical groupings of countries.

Our results show that the political leaders' birthplaces receive larger flows of Chinese official financing. The result is starkest for overall official financing flows, which also include non-concessional loans and grants without development intent, going to so-called ADM1 regions,[11] where we find additional aid to birth regions on the order of around 270 percent when controlling for country-year and region fixed effects as well as binary indicator variables for the years prior to and after the leader originates from a certain region. Focusing on aid in the narrower sense according to the OECD's definition of Official Development Assistance (ODA),[12] our fixed-effects regressions show an increase of more than 80 percent to leaders' birth regions at the ADM1 level. While there is also some evidence that the number of aid projects and aid funding volumes are larger if a leader originates from a certain ADM2 region, these results are not robust to the inclusion of region-fixed effects and are thus potentially spurious. We do not find evidence that regions populated by the ethnic group the leaders belong to receive more aid.

The remainder of this paper is structured as follows: Section 2 explores some of the potential implications of China's principle of non-interference in the internal affairs of recipient countries. In Section 3, we introduce our method of estimation and data on leader characteristics and Chinese aid projects at the subnational level. Section 4 presents our main findings on the allocation of Chinese aid, while Section 5 concludes.

2. The Demand Side of China's Aid Allocation

A growing body of research analyzes the motives that drive China's aid giving. Dreher and Fuchs (forthcoming), for example, find that Chinese allocation decisions are significantly influenced by both political and commercial interests, but not by a recipient's institutional characteristics.[13] Strange et al. (2014b) distinguish the determinants of China's official financing from those of ODA-like flows (as we do below). They show that the allocation of highly concessional flows of Chinese official financing at the country level is primarily driven by political considerations, while economic interests predominate in the allocation of less

---

[11]ADM1s are the most central governmental units below the nation state, such as provinces, states, or governorates. ADM2s refer to the level below the ADM1 level, and include districts, municipalities, and communes.

[12]The OECD-DAC defines ODA as "[g]rants or loans to [developing] countries and territories [...] and to multilateral agencies which are: (a) undertaken by the official sector; (b) with promotion of economic development and welfare as the main objective; (c) at concessional financial terms (if a loan, having a grant element of at least 25 per cent). In addition to financial flows, technical co-operation is included in aid" (OECD DAC glossary, available at http://www.oecd.org/dac/dac-glossary.htm).

[13]China's disregard of institutional characteristics could still harm democracy and governance in recipient countries. Kersting and Kilby (2014), for example, find eligibility for Chinese aid to be negatively associated with democracy. Bader (forthcoming) finds that trade – but no other form of China's economic cooperation – stabilizes autocracies.

concessional sources of official financing.

However, the motivations of aid donors provide only part of the picture. Although widely ignored in the empirical aid literature, recipient motives to accept aid likely influence aid effectiveness as well.[14] This should be particularly true in China's case, as the allocation of its aid is purportedly based on requests from recipient countries. During our own interviews with officials from China's Ministry of Commerce, we were informed that "the initiative generally comes from the recipient side."[15] Nissanke and Söderberg (2011: 26) also point out that "Chinese arrangements appear to be [...] much more flexible than the mechanisms offered by traditional donors, since the procedure adopted is seen to promote the sense of local ownership of aid-funded projects. Project selection is request-based: projects are initiated by borrowing countries, dependent on their preference, priority and circumstances."

The principle of country ownership – enshrined in the Paris Declaration (OECD 2005) – suggests that more government control and discretion will result in better resource allocation decisions. However, as Moss et al. (2007), Bueno de Mesquita and Smith (2007), Wright (2010), and Werker (2012) point out, recipients use aid strategically.[16] Leaders may therefore not direct aid to those projects where developmental returns are maximized, but rather where their personal and parochial interests are best served (Cohen 1995; Moss et al. 2007; Wright 2010; Briggs 2014). Arguably, the quality and developmental impact of aid will suffer when personal and parochial interests are advanced. Werker (2012) also points out that an aid windfall renders governments less accountable to their voters, making them choose policies that a democratic majority of the voters would not support. As such, there is a risk that China's demand-driven policy could come at a substantial cost to the citizens of its recipient countries.[17]

Tull (2006) suggests that African state elites might be the biggest winners of China's increasing engagement in Africa. The request-based selection of aid projects provides an obvious entry point for the recipient government to promote a subnational allocation of funding that cements allegiances and affections with

---

[14]Only recently has the literature taken account of combinations of donor and recipient characteristics to explain the effectiveness of aid. Dreher et al. (2013) show aid to be less effective in increasing growth when donor and recipient political ideology differ. Minasyan (2014) finds similar results regarding cultural distance between donors and recipients.

[15]Authors' interview in June 2013. Note that the Ministry of Commerce is China's lead aid agency. Officials within the Ministry of Health report a similar process: "We send medical teams to the areas of the country that are selected by the recipient government" (authors' interview in October 2014).

[16]Werker (2012) notes that "[t]he net result of the strategic political behavior on the part of the recipient government is to increase their power and control."

[17]To be clear, this argument should apply to any donor that gives recipient country governments a large amount of discretion in where to site development projects financed from abroad.

existing supporters and extends the patronage network to other politically useful groups. We also know from previous research that many African leaders are both willing and able to steer Western aid to politically important regions, despite significant efforts of donors to minimize host government discretion (van de Walle 2007; Morrison 2012; Briggs 2014). Therefore, China – a donor that distinguishes itself as being more responsive to the demands of its partner governments – may be particularly vulnerable to this type of patronage. Tull (2006: 467) notes that "Chinese aid tends to benefit the governments of receiving countries more directly than the policies of Western donors, who are preoccupied with the reduction of poverty."

The demand-driven nature of Chinese aid should give the domestic authorities in host countries substantial leeway to allocate funds to activities and locations that best suit their own interests. The process formally begins when the host government proposes a project to the Chinese Economic and Commercial Counselor's office, which in turn submits the government's application to the Ministry of Commerce and the Ministry of Foreign Affairs in Beijing (e.g., Davies et al. 2008; Corkin 2011b). While both Western donors and China emphasize country ownership, Chinese aid is largely determined in high-level meetings with political leaders rather than publicly outlined in country assistance strategies that prioritize the specific economic growth and poverty reduction priorities for a country (AFDB et al. 2011: 126).[18] Bräutigam (2011b) notes that "[f]or the Chinese, ownership starts (and sometimes ends) at the top. In cases where leaders do not coordinate with ministries, this can cause problems, as in Liberia where a president asked the Chinese to build a hospital upcountry, leaving the Liberian health ministry scrambling to figure out staffing for the remote location." Bräutigam (2011a: 761) also points out that this Chinese way of approaching country ownership "can lead to 'prestige' projects that do not appear to be poverty-reducing." A lack of transparency of China's development activities provides further room for misappropriation (e.g., Christensen et al. 2011; Zürcher 2012; AFDB et al. 2011).[19]

This demand-driven selection of Chinese aid projects must be understood in the context of one of the main principles of China's foreign aid policy: non-interference in the internal affairs of recipient countries and respect for their sovereignty.[20] Beijing claims that it "never uses foreign aid as a means to interfere in

---

[18]China is currently in the process of developing aid strategies for each country but they are unlikely to be made public (authors' interview with Chinese aid expert in Beijing, September 2014).

[19]Additionally, China does not regularly participate in the various in-country donor coordination meetings and prefers staying outside the aid architecture dominated by the OECD. For example, according to one UK Department for International Development (DFID) official who served in two different countries in the late 2000s, "[c]oordinating donors was like herding cats. The Americans were a pain, but the Chinese just ignored us – they simply refused to participate." (Authors' interview, October 2014).

[20]China's lead aid agency, the Ministry of Commerce claims that it pays "full respect for the recipient's sovereignty, without attaching any conditions and not asking for any special privileges, which displayed the true spirit of sincere cooperation" (Ministry of Commerce

recipient countries' internal affairs or seek political privileges for itself" (State Council 2011).

China's claim that it implements aid projects without interfering in domestic affairs also enjoys support among a number of African politicians. For example, President Museveni of Uganda has said that "[t]he Western ruling groups are conceited, full of themselves, ignorant of our conditions, and they make other people's business their business, while the Chinese just deal with you as one who represents your country, and for them they represent their own interests and you just do business" (Halper 2010: 100).[21]

Anecdotal evidence points to the potential (mis)use of Chinese aid for political reasons. According to Downs (2011: 93-94), by providing a US$ 20 billion loan that was used to address low-income housing needs and electricity shortages in areas of Venezuela that have traditionally supported the ruling party, China helped "finance [Hugo] Chávez's bid to win a third consecutive six-year term as president." Mthembu-Salter (2012: 20-21) argues that Chinese foreign assistance helped President Kabila to win the elections in the Demoratic Republic of the Congo in 2011: "In 2006 Kabila campaigned on a ticket of 'cinq chantiers' (five tasks), which include new and better infrastructure, but without the high-profile efforts of [China Railways Construction Company] and Sinohydro to date he would have had precious few projects with which to seek to impress the electorate. There can be no question that the 'goodwill' decision of Chinese state-owned companies to lend money and start building three years before the poll date provided invaluable assistance to Kabila's successful re-election campaign."[22] What is more, Bräutigam (2009: 159) claims that "several Chinese embassies in Africa appear to have handed some of these scholarships to the children of local politicians, or turned a blind eye when recipient governments use them for patronage."[23] It is telling that in DR Congo the presidency itself rather than government line ministries administers Chinese projects. A former European embassy official in DR Congo thus concluded: "Chinese aid benefits those who are in power."[24]

While such anecdotes are illustrative and may indeed help to illuminate the political economy logic of allocation within clientelistic systems, we seek to test these claims using systematic evidence and quantitative methods. Do recipient countries' political leaders systematically site Chinese aid projects in areas that align

---

1990: 63). The principle can be traced back to the Final Communiqué from the 1955 Bandung Conference and can still be seen in the most recent (2014) Chinese White Paper on Foreign Aid.

[21] Also see Wade (2008); Youngman (2013).

[22] See also Jansson (2013) on Kabila's use of Chinese funding for his own political aims.

[23] Tull (2006: 467) notes that "African leaders highly appreciate" China's prestige projects, such as the construction of presidential palaces and stadiums in recipient countries, "for their own political reasons."

[24] Authors' interview, September 2014.

with their personal and political interests?[25]

3. Method and Data

Our analysis covers subnational units of 47 African countries over the 2000-2011 period.[26] These sub-national units are administrative regions at the first and second subnational level, i.e., ADM1 regions like provinces, states, or governorates, and ADM2 regions like districts or municipalities. The GADM database on Global Administrative Areas provides shapefiles with information on subnational administrative regions and their boundaries. There are 709 ADM1 regions and 5,835 ADM2 regions in the 47 African countries covered in our sample. The borders of these divisions across Africa are shown in Figure 1, with strong borders representing ADM1 regions, and light borders ADM2 regions. We also use ethnographic regions as alternative subnational units. These ethnographic regions are based on the GREG data project by Wei-dmann et al. (2010), providing geo-referenced information on ethnic groups. Overall there are 609 different ethnic regions in our 47 African countries.[27]

---

[25]Briggs (2014) and Masaki (2014) show evidence suggesting that aid from Western donors could also be vulnerable to misappro-priation. To address this, in a future version of this paper we aim to compare the allocation of Chinese aid with that of the World Bank, which is a donor that attaches detailed and sometimes intrusive policy conditions to its aid. Alternatively, if geocoded data were available, the optimal comparison might contrast Chinese allocation patterns with a bilateral donor (such as the United States) that is known for intentionally "bypassing" recipient governments that are corrupt or lacking good governance institutions (see Dietrich 2013).

[26]We exclude Western Sahara as it constitutes disputed territory, Somalia for the absence of a central government, and the five small island states of Cape Verde, Comoros, Mauritius, São Tomé and Príncipe, and Seychelles. Given potential concerns about the comprehensiveness of the 2012 data of the 1.1 version of AidData's China in Africa dataset, we follow Strange et al. (2014a) and exclude 2012.

[27]We collapse different polygons (or regions) of the same country that share the same ethnic composition into one region.

Figure 1. Subnational boundaries
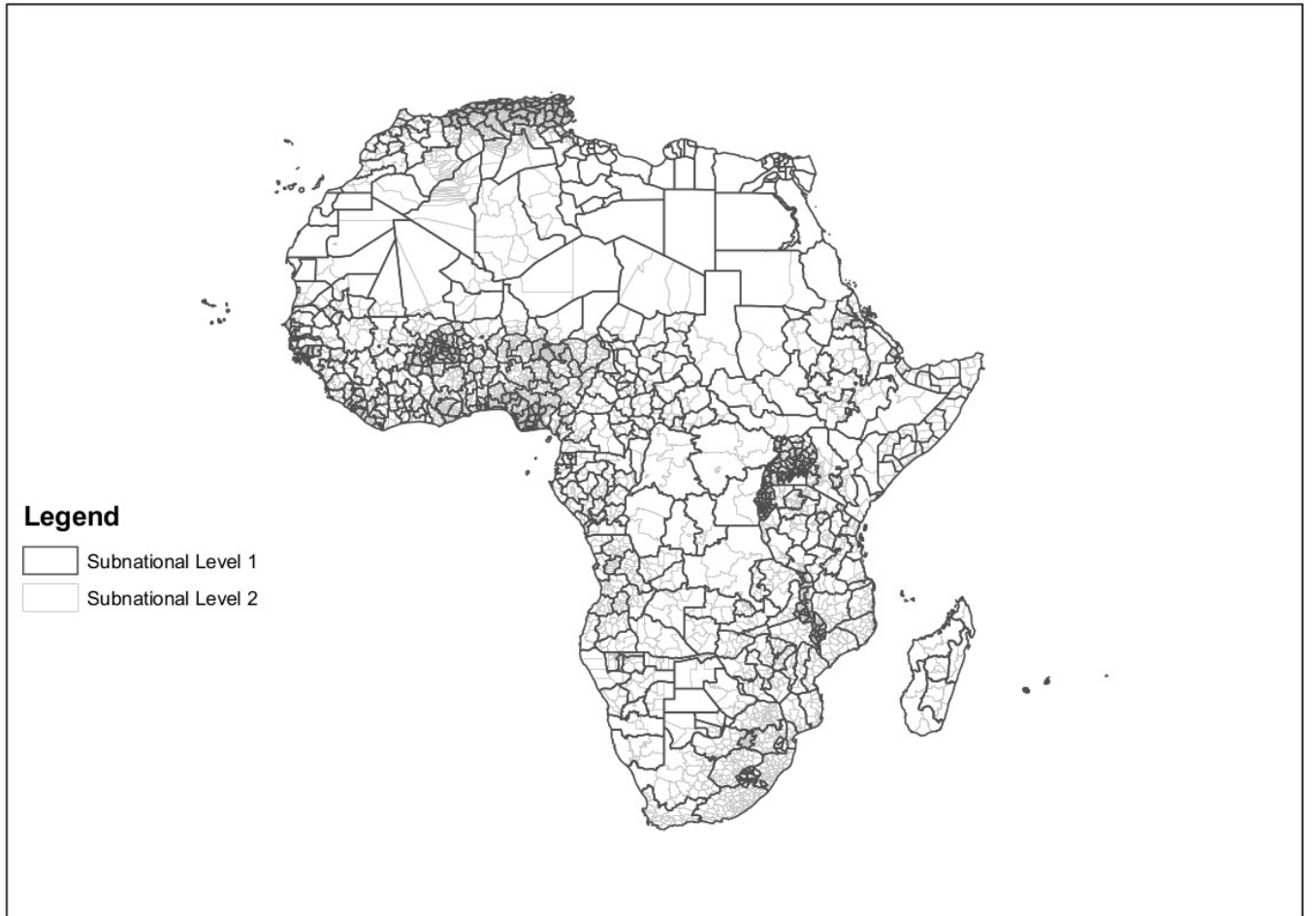
In order to test whether leaders' birthplaces and ethnic relationships matter for the allocation of Chinese aid, we estimate two sets of regressions, using ordinary least squares (OLS):

$$Aid_{ict} = \alpha_{ct} + \sum_j \beta_j X_{ic}^j + \gamma Birthregion_{ict} + \epsilon_{ict}, \tag{1}$$

$$Aid_{ict} = \alpha_{ct} + \delta_{ic} + \gamma Birthregion_{ict} + \eta Prebirth_{ict} + \theta Postbirth_{ict} + \epsilon_{ict}, \tag{2}$$

where α_{ct} represents country-year-fixed effects and δ_{ic} region-fixed effects.

In what follows, we explain the remaining components of this regression framework. Our dependent variable Aid_{ict} is the natural logarithm of Chinese aid commitments allocated to region i in country c and year t in constant 2009 US$.[28] This variable is constructed based on the dataset in Strange et al. (2013a, 2014a) who provide project-level information of Chinese official finance activities in African countries.[29] These data are coded based on AidData's Tracking Underreported Financial Flows (TUFF) methodology, which synthesizes and standardizes a large amount of unstructured information in the public domain.[30] Despite the short time since the dataset's public release, it has already been used in a number of publications at the country-level (e.g., Grépin et al. 2014; Hendrix and Noland 2014; Hernandez 2014; Kopiński and Sun 2014: Strange et al. 2014b; and Dreher and Fuchs forthcoming).

In total, the dataset covers 1,686 projects committed to 50 African countries, amounting to approximately US$84.8 billion in official financing over the 2000-2012 period.[31] The largest recipients of Chinese official financing are Ghana, the Democratic Republic of Congo, and Ethiopia, with registered flows in the range of 7.9-12.1 billion constant 2009 US$ (Strange et al. 2014a).

In order to take the data to the sub-national level, we georeferenced the project-level data from version 1.1 of AidData's Chinese Official Finance to Africa dataset using the methodology described in Strandow et al. (2011). This methodology relies on a double-blind system, where two coders employ a defined hierarchy of geographic terms and independently assign uniform latitude and longitude coordinates, information about the precision of the data, and standardized names to each geographic feature of interest. If the geocodes chosen by the two coders conflict, a senior researcher identifies the source of discrepancy and assigns the appropriate geocodes. This process of arbitration between two independent coders by a third one ensures strict quality control, minimizing missed or incorrect locations. For projects with more than one location we georeferenced all locations.[32] Our application of this geocoding methodology yielded 1,898 project-locations geocoded at the ADM1 level and 1,575 project-locations at the ADM2 level. In the analysis based on ethnographic regions, we only include the 1,296 project-locations for which our geographical information

---

[28]We exclude flows coded as non-binding pledges or suspended projects. To avoid taking the log of zero, we added a value of US$ 1 to our measure before taking logarithms.

[29]Specifically, we rely on AidData's Chinese Official Finance to Africa Dataset, Version 1.1, which is available at http://china.aiddata.org/datasets/1.1.

[30]See Strange et al. (2013b) for a detailed description of this open source data collection methodology.

[31]Unsurprisingly, the database does not contain any development projects in the remaining four African countries which recognize the Republic of China (Taiwan) during these years. These countries are Burkina Faso, the Gambia, São Tomé and Príncipe, and Swaziland.

[32]Since we do not observe financial values at the project-location level, but only at the project level, we spread project amounts equally across locations.

is even more precise than the ADM2 level, such as the exact location or some nearby location.

We distinguish between two definitions of our dependent variable. First, we analyze the allocation of Chinese "aid" in the broadest sense as all official financing activities coded in Strange et al. (2013a, 2014a) as either "ODA-like" or "OOF-like" according to the DAC definitions of Official Development Assistance (ODA) and Other Official Flows (OOF).[33] Second, we restrict our analysis to those flows that were identified as being ODA-like. Figure 2 shows the allocation of official finance across ADM1 regions.

---

[33] This includes official financing activities that cannot clearly be attributed to either ODA or OOF and are thus coded as "Vague (Official Finance)." Note that our measure excludes projects coded as "Official Investment" or "Military Aid." OOF is categorized as "[t]ransactions by the official sector with [developing] countries [...] which do not meet the conditions for eligibility as Official Development Assistance, either because they are not primarily aimed at development, or because they have a grant element of less than 25 per cent" (OECD DAC glossary).

Figure 2. Value of Chinese aid projects per subnational unit in Africa (Total Value in million 2009 US$, 2000-2011)
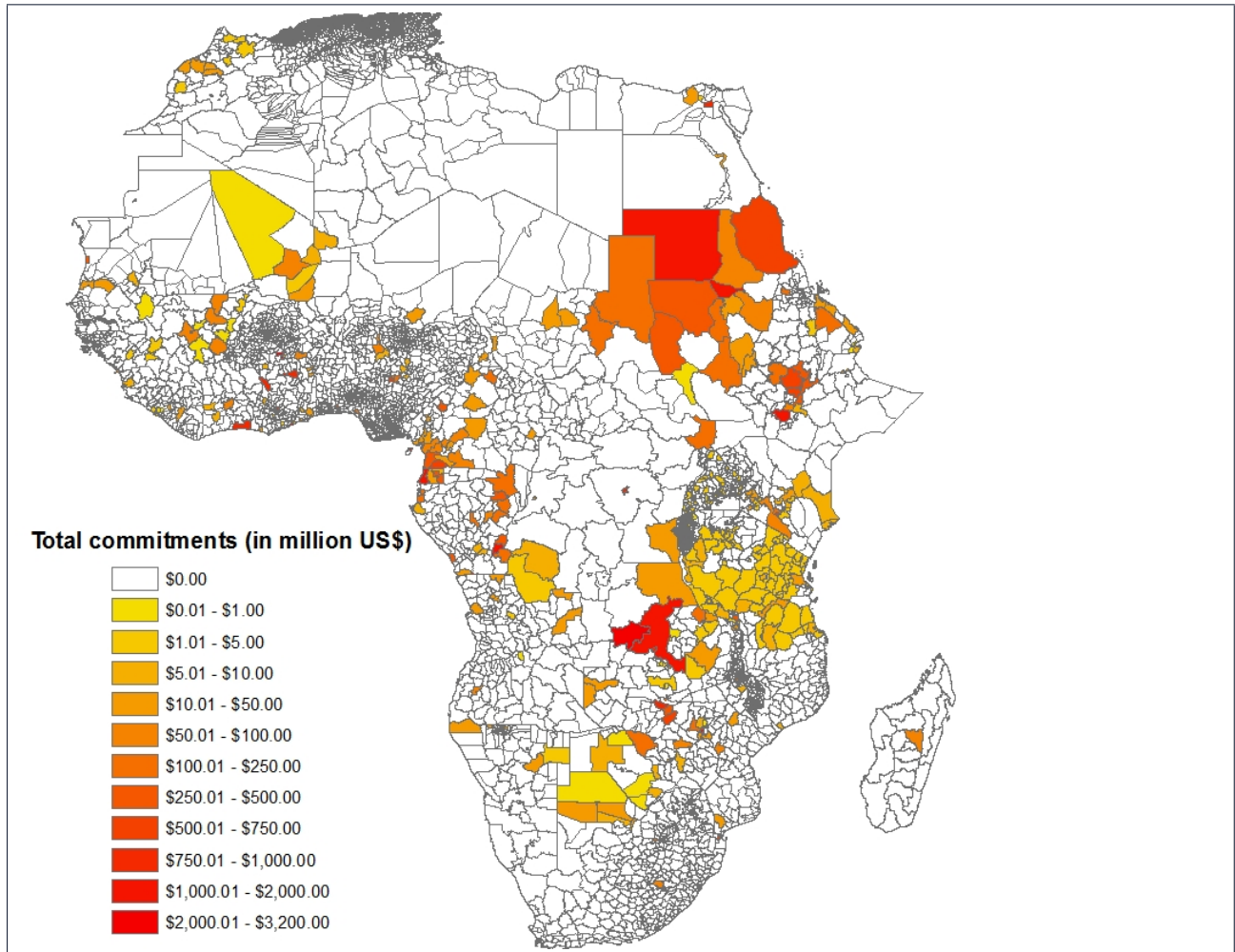
A caveat for this dataset is that 35% of the projects lack information on their respective financial values. Although the bias is likely to be negligible since most of the missing values should correspond to small projects that did not attract much public attention, we take two actions to account for this weakness of the data. First, if we know there are Chinese projects in a particular subnational locality but we have no information about any of their monetary amounts, we set Aid_{ict} to missing. Second, we employ an alternative measure of the intensity of China's development activities across Africa: the logarithm of the number of projects (plus 1) carried out in a particular subnational region. While this alternative measure comes with the disadvantage that it does not account for the financial size of each project, we use it to test

the robustness of our results. The number of projects per ADM1 region is shown in Figure 3.

Figure 3. Chinese aid projects per subnational unit in Africa (Total Number of Projects, 2000-2011)
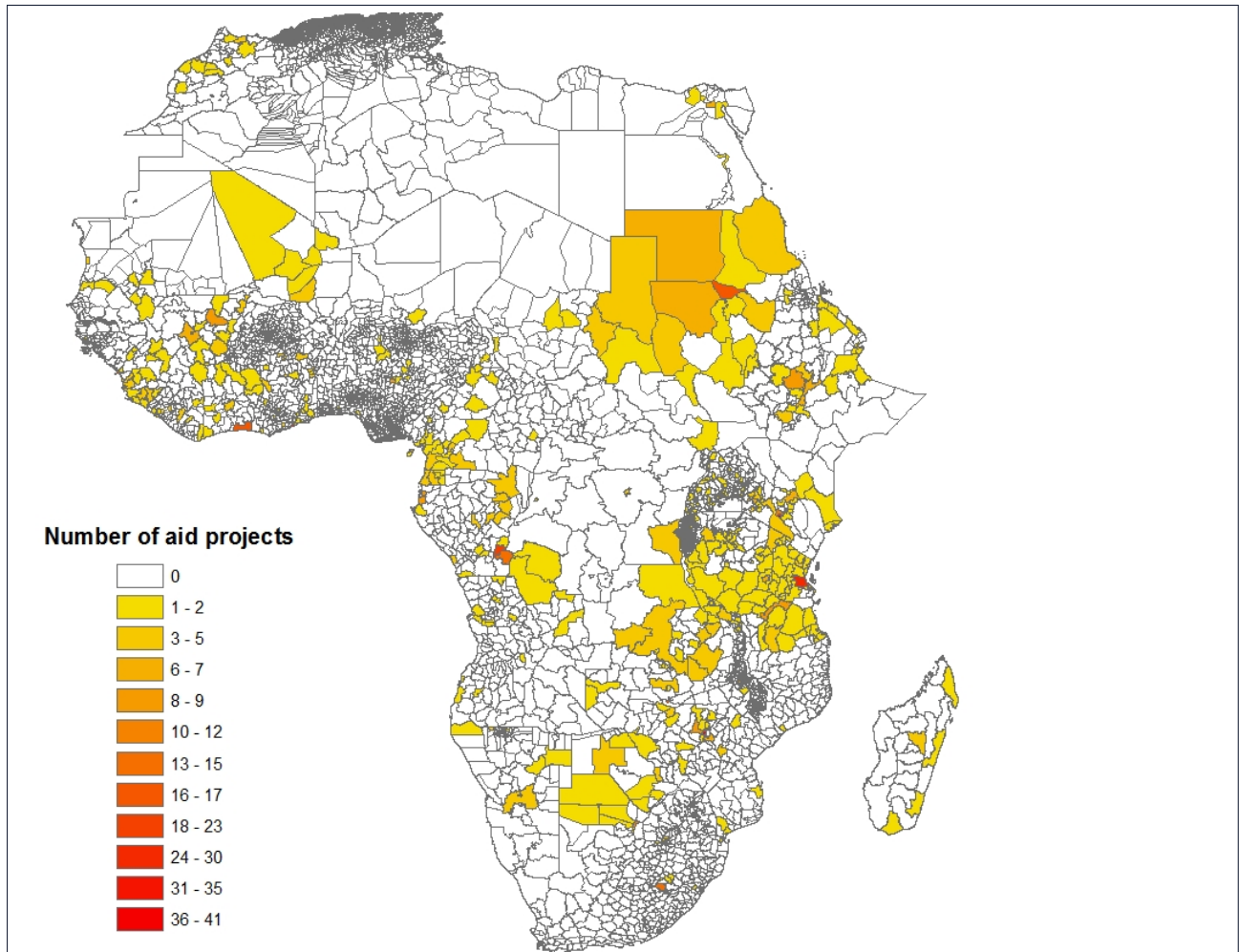
Our main variable of interest is $Leader_{ict}$, which we code by relying on a GIS shapefile that contains the boundaries of each subnational unit. In order to assign latitude and longitude coordinates to the birthplaces and ethnic affiliations of the political leaders of African countries, we follow Strandow et al. (2011). We use data on countries' effective leaders from Goemans et al.'s (2009) Archigos dataset, updated in Dreher et al. (2014).[34] Figure 4 shows the leaders' birth regions in our sample at the ADM2 level.

Figure 4. Birth regions of effective political leaders in Africa (2000-2011)

Leaders' birthregions
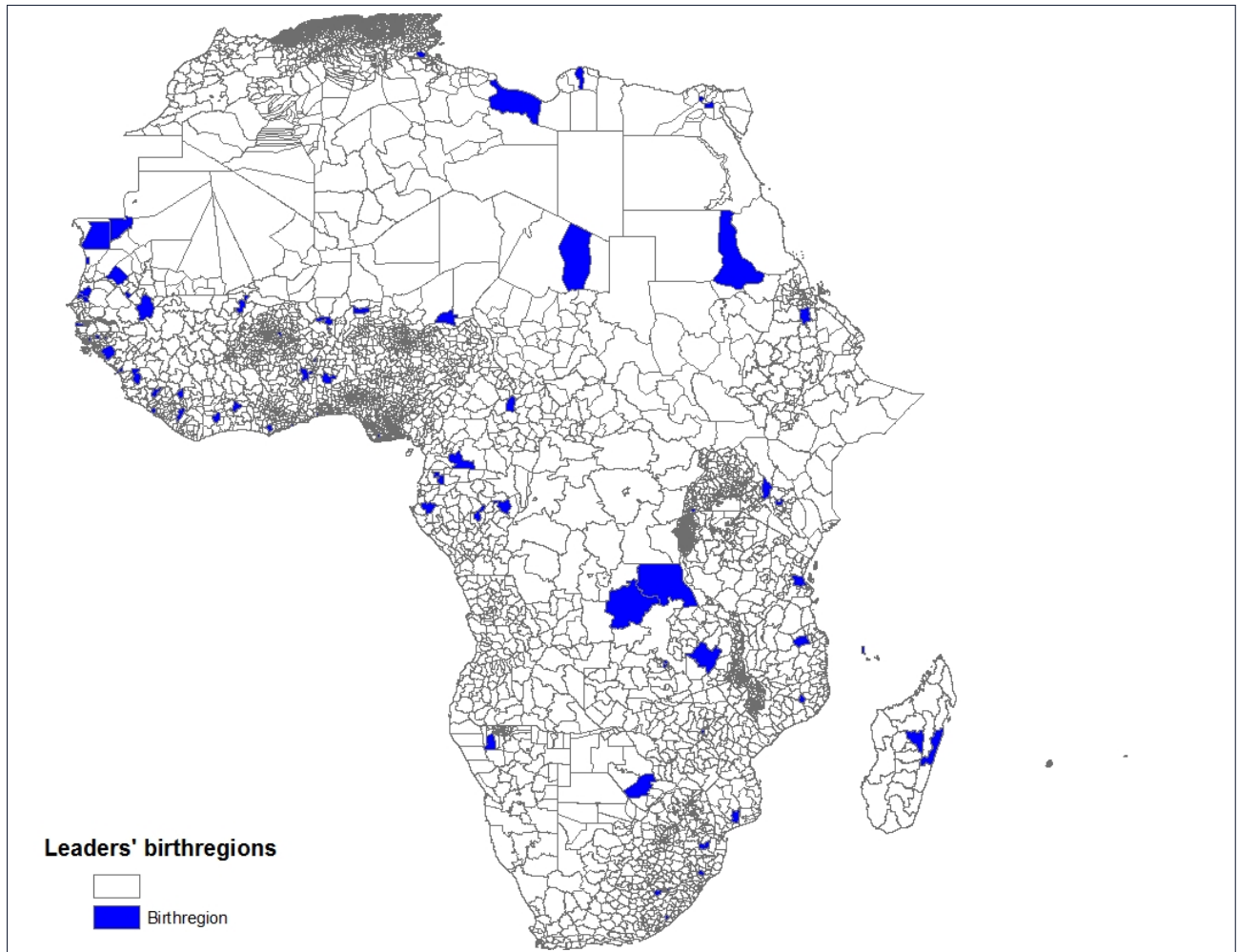
Birthregion

We use data on leaders' ethnic groups from Parks (2014),[35] and code their latitudinal and longitudinal coordinates using Geonames.[36] We coded leaders' birth regions at the ADM1 and ADM2 levels and their ethnic affiliation at the level of the "ethnic region" wherever possible. We were able to attribute leaders to 76.7 (75.4) percent of the country-years covered at the ADM1 (ADM2) level; the remaining leaders were either foreign-born or we were not able to gather sufficient information to geo-reference them as fine-grained as necessary for ADM1 (ADM2).

We construct a binary indicator variable $Birthregion_{ict}$, which is equal to 1 if the political leader of country c in year t was born in administrative region i, and 0 otherwise. For the analyses based on ethnic regions, we construct the indicator variable $Ethnicregion_{ict}$, which is equal to 1 if the political leader of country c in year t is member of the ethnic group that lives in ethnographic region i, and 0 otherwise. Table 1 lists all domestic-born leaders together with their administrative and ethnographic regions.

---

[34]Archigos applies the following coding rules: The effective ruler corresponds generally to the prime minister in parliamentary regimes, to the president in presidential regimes, and to the chairman of the party in communist states. Information on the dates of leaders' entrance and exit from power is taken from Archigos and verified using DBpedia and, if necessary, Wikipedia.

[35]We used biographies of political leaders provided by the Barcelona Centre for International Affairs (http://www.cidob.org/es/ documentacion/biografias_lideres_politicos) and the DBpedia profile page of the respective leader (http://dbpedia.org) as secondary sources.

[36]See http://www.geonames.org. We record locations with five decimal places of precision. As secondary source we rely on the American National Geospatial Intelligence Service (NGA) (http://geonames.nga.mil/ggmagaz).

Table 1. Leaders in the sample

Country	Leader name	Entered office	Left office	ADM1 region	ADM2 region	Ethnicity
Angola	Jose Eduardo dos Santos	10.09.1979	ongoing	Luanda	Maianga	Kimbundu
Benin	Mathieu Kerekou	04.04.1996	06.04.2006	Atakora	Toffo	Somba
Benin	Thomas Yayi Boni	06.04.2006	ongoing	Borgou	Tchaourou	Yoruba
Botswana	Festus Mogae	31.03.1998	01.04.2008	Central	Serowe	Kalanga
Burkina Faso	Blaise Compaore	15.10.1987	ongoing	Oubritenga	Ziniare	Mossi
Burundi	Pierre Buyoya	25.07.1996	30.04.2003	Bururi	Rutovu	Tutsi
Burundi	Pierre Nkurunziza	26.08.2006	ongoing	Bujumbura Mairie	Roherero	Hutu
Burundi	Domitien Ndayizeye	30.04.2003	26.08.2006	Kayanza	Kayanza	Hutu
Côte d'Ivoire	Alassane Ouattara	11.04.2011	ongoing	N'zi-Comoé	Dimbokro	Dioula
Côte d'Ivoire	Laurent Gbagbo	26.10.2000	11.04.2011	Fromager	Gagnoa	Krou (Bete)
Cameroon	Paul Biya	06.11.1982	ongoing	Sud	Dja-et-Lobo	Beti
Cape Verde	Jose Maria Neves	01.02.2001	ongoing	Santa Catarina		Portugese
Cape Verde	Carlos Veiga	04.04.1991	29.07.2000	São Vicente		Portugese
Central African Republic	Ange-Felix Patasse	22.10.1993	15.03.2003	Ouham-Pendé	Paoua	Sara-Kaba
Chad	Idriss Deby	02.12.1990	ongoing	Bet	Ennedi Ouest	Zaghawa
Comoros	Ikililou Dhoinine	26.02.2011	ongoing	Nzwani		Swahili
Comoros	Azali Assoumani	27.05.2002	26.05.2006	Njazidja		Swahili
Comoros	Ahmed Abdallah Mohamed Sambi	27.05.2006	26.05.2011	Mwali		Hadrami
Comoros	Azali Assoumani	30.04.1999	21.01.2002	Njazidja		Swahili
Democratic Republic of Congo	Laurent-Desire Kabila	16.05.1997	16.01.2001	Katanga	Tanganika	Luba
Democratic Republic of Congo	Joseph Kabila	17.01.2001	ongoing	Katanga	Haut-Lomami	Luba
Egypt	Mohammed Hussein Tantawi	11.02.2011	ongoing	Al Qahirah		Nubian
Egypt	Hosni Mubarak	14.10.1981	11.02.2011	Al Minufiyah		Arab
Equatorial Guinea	Teodoro Obiang Nguema Mbasogo	03.08.1979	ongoing	Wele-Nzás		Fang
Eritrea	Isaias Afewerki	24.05.1993	ongoing	Anseba	Asmara City	Biher-Tigrinya
Ethiopia	Meles Zenawi	27.05.1991	ongoing	Tigray	Central Tigray	Tigray-Tigrinya
Gabon	Omar Bongo Ondimba	28.11.1967	08.06.2009	Haut-Ogooué	Lé coni-Djoué	Teke
Gambia	Yahya Jammeh	22.07.1994	ongoing	Western	Brikama	Jola
Ghana	John Evans Atta-Mills	07.01.2009	ongoing	Western	Wassa West	Fanti
Ghana	John Agyekum Kufuor	08.01.2001	07.01.2009	Greater Accra	Kumasi	Asante
Ghana	Jerry Rawlings	31.12.1981	07.01.2001	Greater Accra	Accra	Ewe
Guinea	Lansana Conté	03.04.1984	22.12.2008	Kindia	Coyah	Susu
Guinea	Sekouba Konate	05.12.2009	21.12.2010	Conarky	Conarky	Mandinka
Guinea	Alpha Conde	21.12.2010	ongoing	Boké	Boké	Mandinka
Guinea	Moussa Dadis Camara	23.12.2008	05.12.2009	Nzérékoré	Nzérékoré	Kpelle
Guinea-Bissau	Joao Bernardo Vierira	01.20.2005	02.03.2009	Bissau	Bissau	Papel
Guinea-Bissau	Raimundo Pereira	02.03.2009	08.09.2009	Oio	Mansaba	
Guinea-Bissau	Malam Bacai Sanha	08.09.2009	ongoing	Oio	Mansaba	Mandinka
Guinea-Bissau	Kumba Iala	18.02.2000	14.09.2003	Cacheu	Bula	Balante
Guinea-Bissau	Henrique Pereira Rosa	28.09.2003	01.10.2005	Batatá	Batatá	Balante
Kenya	Daniel arap Moi	22.08.1978	30.12.2002	Rift Valley	Baringo	Kalenjin
Kenya	Mwai Kibaki	31.12.2002	ongoing	Central	Nyeri	Kikuyu
Lesotho	Pakalithal Mosisili	29.05.1998	ongoing	Mohale's Hoek		Basotho
Liberia	Charles Taylor	02.08.1997	11.08.2003	Bomi	Klay	Gola
Liberia	Gyude Bryant	14.10.2003	16.01.2006	Montserrado	Greater Monrovia	Grebo
Liberia	Ellen Johnson Sirleaf	16.01.2006	ongoing	Montserrado	Greater Monrovia	Gola
Libya	Muammar al-Gaddafi	01.09.1969	23.08.2011	Surt		Qadhadhfa

Table 1 (cont.): Leaders in the sample

Country	Leader name	Entered office	Left office	ADM1 region	ADM2 region	Ethnicity
Madagascar	Marc Ravalomanana	06.07.2002	17.03.2009	Antananarivo	Analamanga	Merina
Madagascar	Didier Ratsiraka	09.02.1997	06.07.2002	Toamasina	Atsinanana	Malagasy
Madagascar	Andry Rajoelina	17.03.2009	ongoing	Antananarivo	Analamanga	Merina
Malawi	Bakili Muluzi	21.05.1994	24.05.2004	Machinga	SC Chiwalo	Yao
Malawi	Bingu wa Mutharika	24.05.2004	ongoing	Thyolo	TA Nchilamwela	Lhomwe
Mali	Alpha Oumar Konare	08.06.1992	08.06.2002	Kayes	Kayes	Bambara/Fula
Mali	Amadou Toumani Toure	08.06.2002	ongoing	Mopti	Mopti	Fula
Mauritania	Ely Ould Mohamed Vall	03.08.2005	19.04.2007	Nouakchott	Nouakchott	Bidan
Mauritania	Mohammed Ould Abdelaziz	05.08.2009	ongoing	Inchiri	Akjoujt	Bidan
Mauritania	Maaouya Ould Taya	12.12.1984	03.08.2005	Adrar	Atar	Bidan
Mauritania	Ba Mamadou Mbaré	15.04.2009	05.08.2009	Gorgol	Maghama	Fula
Mauritania	Sidi Ould Cheikh Abdellahi	19.04.2007	06.08.2008	Brakna	Aleg	Bidan
Mauritius	Navinchandra Ramgoolam	05.07.2005	ongoing	Port Louis		Hindu
Mauritius	Anerood Jugnauth	18.09.2000	30.09.2003	Plaines Wilhems		Hindu
Mauritius	Navinchandra Ramgoolam	22.12.1995	17.09.2000	Port Louis		Hindu
Mauritius	Paul Berenger	30.09.2003	05.07.2005	Moka		French
Morocco	Mohammed VI of Morocco	23.07.1999	ongoing	Rabat - Salé - Zemmour - Zaer	Rabat	Berber
Mozambique	Armando Emilio Guebuza	02.02.2005	ongoing	Nampula	Murrupula	Makua
Mozambique	Joaquim Alberto Chissano	06.11.1986	02.02.2005	Gaza	Chibuto	Tsonga
Namibia	Sam Daniel Nujoma	21.03.1990	21.03.2005	Omusati	Okahao	Ovambo
Namibia	Hifikepunye Pohamba	21.03.2005	ongoing	Ohangwena	Engela	Ovambo
Niger	Mahamadou Issoufou	07.04.2011	ongoing	Tahoua	Illéla	Hausa
Niger	Salou Djibo	08.02.2010	07.04.2011	Tillabéry	Kollo	Djerma
Niger	Mamadou Tandja	22.12.1999	08.02.2010	Diffa	Maˈiné-Soroa	Fula/Kanuri
Nigeria	Goodluck Jonathan	09.02.2010	ongoing	Bayelsa	Ogbia	Ijaw
Nigeria	Olusegun Obasanjo	29.05.1999	29.05.2007	Ogun	Abeokuta South	Yoruba
Nigeria	Umaru Musa Yar'Adua	29.05.2007	09.02.2010	Katsina	Katsina (K)	Fulani
Republic of the Congo	Denis Sassou Nguesso	15.10.1997	ongoing	Cuvette	Owando	Mbochi
Rwanda	Paul Kagame	19.07.1994	ongoing	Gitarama	Tambwe	Tutsi
Senegal	Abdoulaye Wade	02.04.2000	ongoing	Louga	Kébémer	Wolof
Sierra Leone	Ahmad Tejan Kabbah	10.03.1998	17.09.2007	Eastern	Kailahun	Mende
Sierra Leone	Ernest Bai Koroma	17.09.2007	ongoing	Northern	Bombali	Temne
South Africa	Jacob Zuma	09.05.2009	ongoing	KwaZulu-Natal	Nkandla	Zulu
South Africa	Thabo Mbeki	16.06.1999	24.09.2008	Eastern Cape	Idutywa	Xhosa
Sudan	Umar Hassan Ahmad al-Bashir	30.06.1989	ongoing	Northern	River Nile	Ja'alin
Swaziland	Mswati III of Swaziland	25.04.1986	ongoing	Manzini		Swazi
Tanzania	Jakaya Kikwete	21.12.2005	ongoing	Pwani	Bagamoyo	Kwere
Tanzania	Benjamin Mkapa	23.11.1995	21.12.2005	Mtwara	Masasi	Ngoni
Togo	Faure Gnassingbe	04.05.2005	ongoing	Maritime	Lacs	Kabre
Togo	Gnassingbe Eyadema	14.04.1967	05.02.2005	Kara	Kozah	Kabre ***Kabiye
Tunisia	Zine El Abidine Ben Ali	07.11.1987	14.01.2011	Sousse	Sousse Médina	Tunisia Arabs
Tunisia	Fouad Mebazaa	15.01.2011	13.12.2011	Tunis	Bab Souika	Tunisia Arabs
Uganda	Yoweri Museveni	26.01.1986	ongoing	Ntungamo	Ruhaama	Banyankole
Zambia	Frederick Chiluba	02.11.1991	02.01.2002	Copperbelt	Kitwe	Bemba
Zambia	Levy Mwanawasa	03.01.2002	19.08.2008	Copperbelt	Mufulira	Lenje
Zambia	Michael Sata	23.09.2011	ongoing	Northern	Mpika	Bemba
Zimbabwe	Robert Mugabe	04.03.1980	ongoing	Harare	Harare	Shona

X_{ic} represents our time-invariant control variables. We include nighttime light intensity as a proxy for economic activity at the subnational level.[37] The National Oceanic and Atmospheric Administration (NOAA) provides annual data for pixels that correspond to slightly less than one square kilometer on a scale from 0 to 63, with higher values implying more intense nighttime light.[38] The variable $Light2000_{ic}$ corresponds to the logarithm of the average nighttime light intensity of the pixels in region i of country c in 2000, i.e., at the beginning of our sample period.[39]

We further control for the geographical and human-population size of subnational regions. The variable $Area_{ic}$ is directly calculated from the shapefile of subnational boundaries, while $Population2000_{ic}$ is based on high resolution data on the spatial distribution of the world population in 2000 by CIESIN. We add the binary variable $Capitalregion_{ic}$ that takes the value of one if the capital city of country c is located in region i in order to account for the specific role played by the capital region. To test the claim that Chinese aid is driven by a desire for access to natural resources, we compute $Mines_{ic}$, which is defined as the log of the sum of mineral facilities in each subnational region i according to Mineral Resource Data System of the United States Geological Survey (USGS 2005).[40] We build a second indicator of resource wealth using data provided by Lujala et al. (2007). The variable $OilGas_{ic}$ takes the value of one if parts of an oil or gas field overlap with the area of subnational region i. In order to test for China's potential interest in facilitating the import and export of goods to and from Africa, we construct a binary indicator variable $Port_{ic}$ that is one if a port is located in region i, using data from the World Port Index 2011 (NGA 2011). We compute the total length of roads per square kilometer ($RoadDensity_{ic}$) using geographic data from CIESIN (2013). We expect this variable to exhibit a negative coefficient if Chinese projects follow recipient need. A positive coefficient in turn might signal the relevance of the ease of project implementation (or doing business more generally).

---

[37]Changes in nighttime light intensity have been shown to be highly correlated with changes in regional GDP at both the country level and the level of subnational localities (Henderson et al. 2012; Hodler and Raschky 2014a). A main advantage of nighttime light intensity is its availability at the regional level, which is particularly useful in the African context where regional GDP estimates are typically poor or unavailable.

[38]Weather satellites from the U.S. Air Force circle the Earth 14 times a day and measure light intensity. The NOAA uses observations from evenings during the dark half of the lunar cycle in seasons when the sun sets early. It removes observations that are likely to be affected by, e.g., cloud coverage, fires or other ephemeral lights.

[39]We follow Michalopoulos and Papaioannou (2013, 2014) and Hodler and Raschky (2014a,b) in adding 0.01 to the average nighttime light intensity before taking its logarithm. Doing so ensures that we do not lose observations with a reported nighttime light intensity of zero. Using the year 2000 minimizes potential reversed causality.

[40]This cross-sectional dataset on historical and current mining facilities includes mines, plants, mills and refineries of many mineral commodities such as Coal, Iron Ore, Copper, Gold, Silver, and Zinc.

Comparing the models in Equation 1 and 2, the former has two main advantages. First, the omission of region-fixed effects allows us to also exploit between-region variation, which might be important to identify the relationship between birthplaces and aid absent large variation in the leaders' birth regions and ethnic regions. Second, this specification allows us to include variables that vary across regions exclusively. While the focus of our analysis is on leaders' birth and ethnic regions, the inclusion of these variables facilitates comparison with the country-level literature on the allocation of aid. A shortcoming of this approach is that a statistically significant effect of these regions on aid might be spurious and could simply reflect the fact that certain regions receive more aid than others, for reasons unrelated to leaders that we do not control for in our models. Equation 2 precludes such spurious results by exploiting region-specific variation over time exclusively, at the same time controlling for the year before and after leaders came to power. While this specification is the more rigorous one, we lose substantial variation, which makes identifying the relationship between aid and regions more difficult. In both equations, we cluster standard errors by leaders.[41]

Table 2 provides summary statistics. On average, each African ADM1 region receives 0.2 Chinese projects or US$ 6.5 million in development finance per year, of which US$ 1.5 come in the form of ODA-like flows. 6.7 percent of region-years are coded as being the respective leader's birth region. The next section reports the regression results.

Table 2. Summary statistics, 2000-2011

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total flows (in levels)	8,327	6.5m	86.8m	0	5.2b
ODA-like flows (in levels)	8,375	1.5m	29.1m	0	1.5b
Project count (in levels)	8,508	0.202	0.869	0	13
Birthregion	8,508	0.067	0.249	0	1
Light2000 (in levels)	8,508	1.964	5.989	0	48.20
Population2000 (in levels)	8,508	1.1m	1.7m	6,047	21.9m
Capitalregion	8,508	0.066	0.249	0	1
Mines (in levels)	8,508	3.577	12.58	0	139
Oilgas	8,508	0.173	0.379	0	1
Area (in levels)	8,508	41,107	81,045	41.56	0.6m
Ports	8,508	0.186	0.389	0	1
Roaddensity	8,508	0.092	0.146	0	1.874

---

[41] Note that country-years with power transitions or without domestic-born leaders receive a separate country-specific leader ID.

4. Results

Table 3 shows the results for our regressions including country-year fixed effects, but excluding region-fixed effects, as shown in Equation 1 above. Columns 1 and 2 focus on total aid flows for ADM1 and ADM2 regions, respectively. As can be seen, aid amounts increase with economic activity (proxied by nighttime light intensity) and the geographic size of the administrative units, at least at the five percent level of significance. At the one percent level, regions containing the country's capital receive more aid. ADM2 regions with larger populations and the presence of ports, and ADM1 regions with mines receive significantly more aid (at the ten percent level), while the availability of oil or gas, and road density are not significant at conventional levels. Taken together, these results imply that subnational need does not drive the allocation of Chinese aid within African countries. Specifically, while more aid is allocated to poorer countries according to the results in Dreher and Fuchs (forthcoming), we find that *poorer regions within countries* receive less aid (that is, countries with less nighttime light intensity, after controlling for regional population size). These discrepancies highlight the importance of taking the aid allocation literature to the sub-national level. The lack of robust evidence that the availability of natural resources is a dominant driver of aid is less surprising: Dreher and Fuchs (forthcoming) also do not find natural resources to play a significant role at the cross-country level. Interestingly, the only significant positive effect (mine presence at ADM1 level) gets lost when we restrict the sample to ODA-like flows. This is in line with the findings in Strange et al. (2014b) that commercial motives matter more for less concessional flows than for ODA-like flows.

Table 3. Birth regions and aid, OLS, country-year fixed effects, 2000-2011

	(1) ADM1	(2) ADM2	(3) ADM1	(4) ADM2	(5) ADM1	(6) ADM2
Units of obs.	ADM1	ADM2	ADM1	ADM2	ADM1	ADM2
Dependent variables	Total flows (in logs)	Total flows (in logs)	ODA-like flows (in logs)	ODA-like flows (in logs)	Project count (in logs)	Project count (in logs)
Birthregion	0.688**	0.554**	0.283	0.392*	0.035	0.037*
	(0.323)	(0.252)	(0.206)	(0.204)	(0.023)	(0.022)
Light2000	0.293**	0.060***	0.242**	0.038**	0.024***	0.005***
	(0.114)	(0.018)	(0.120)	(0.015)	(0.008)	(0.001)
Population2000	0.087	0.028*	0.014	0.008	0.012*	0.002**
	(0.087)	(0.014)	(0.073)	(0.009)	(0.007)	(0.001)
Capitalregion	4.164***	4.625***	2.837***	3.229***	0.335***	0.355***
	(0.496)	(0.527)	(0.398)	(0.430)	(0.038)	(0.042)
Mines	0.117*	0.020	0.003	-0.001	0.007	0.001
	(0.066)	(0.027)	(0.039)	(0.013)	(0.005)	(0.002)
Oilgas	0.070	-0.053	0.077	-0.039	0.006	-0.004*
	(0.132)	(0.036)	(0.122)	(0.026)	(0.011)	(0.002)
Area	0.234***	0.039***	0.183**	0.023**	0.022***	0.003***
	(0.085)	(0.013)	(0.077)	(0.009)	(0.007)	(0.001)
Ports	-0.068	0.158*	-0.155	0.038	-0.013	0.012*
	(0.187)	(0.087)	(0.146)	(0.059)	(0.013)	(0.007)
Roaddensity	1.145	0.360	1.181	0.322**	0.094	0.018*
	(1.130)	(0.219)	(0.865)	(0.159)	(0.081)	(0.010)
Country-year FE	yes	yes	yes	yes	yes	yes
R-squared	0.398	0.184	0.350	0.152	0.399	0.207
Observations	8,327	69,054	8,375	69,115	8,508	69,252
Number of regions	709	5,835	709	5,835	709	5,835

Note: Standard errors (in parentheses) clustered at the leader level.

Turning to our variable of interest, the results show that larger aid amounts go to the ADM1 and ADM2 birth regions of a country's leader, both at the five percent level of significance. The coefficients imply an increase in aid flows by almost 100 percent to ADM1 regions containing a leader's birthplace and a corresponding increase of almost 75 percent for ADM2 regions.

Columns 3 and 4 replicate the analysis focusing on ODA-like flows rather than all official finance, while columns 5 and 6 focus on the total number of official finance projects rather than total official finance amounts. The results for most of our explanatory variables are qualitatively similar to those in columns 1 and 3. It is however noteworthy that the density of the road network does have a statistically significant positive effect in the additional regressions at the ADM2-level, and that the presence of oil and gas tends to reduce the number of projects there. The results for our main variable of interest are similar, but weaker. At the ADM1-level, the coefficients of birth regions, while still positive, are no longer statistically significant at conventional levels. At the ADM2-level, ODA-like flows and the (total) number of projects are larger in birth regions, at the ten percent level of significance. Quantitatively, we find that the birth regions of political leaders receive an increase in ODA of 48 percent and in the number of projects of 4 percent at the ADM2-level. While Strange et al. (2014b) show that political variables are more important for ODA-like

flows compared to OOF-like flows, our results point at the opposite direction. It seems that *Chinese* political interests predominate in the cross-national allocation of ODA, while *African* political interests predominate in the subnational allocation of ODA and foreign assistance broadly defined.

In Table 4 we report two sets of more rigorous regressions, controlling for the possibility that the relationship between the leaders' birthplace and aid is spurious. The first set of regressions (based on Equation 1) includes binary indicators that take the value of one in the year before and after the leader of a certain region assumes power, but excludes region-fixed effects. To the extent that regions are more important in some years of our sample than in others and so at the same time receive more Chinese aid and are more likely to be the birth region of the country's leader, one would expect the *Prebirth*-indicator to be positive and significant. The results reported in Table 3 would then potentially be spurious. Significant *Postbirth*-indicators, to the contrary, might indicate that part of the aid pledged for a birth region is formally committed one year later only.

In this second set of regressions, we replace the region-specific control variables with region-fixed effects (see Equation 2 above). While controlling for region-fixed and country-year fixed effects is likely to absorb a large share of the variation in our variable of interest, it represents the most conservative specification. Controlling for the set of fixed effects makes the existence of a spurious relationship between birthplace and aid flows unlikely.

As can be seen in Table 4, the pre- and post-birthplace indicators are not significant at conventional levels in most of the regressions. The exceptions are column 2, where significant amounts of total flows continue to be committed to birth regions in the *Postbirth* year and column 5, where the *Prebirth* indicator is a significant determinant of ODA-like flows at the ADM1-level, but with a *negative* coefficient. The results for our main variable of interest in the regressions excluding region-fixed effects mirror those reported in Table 3. Total aid flows continue to be higher in the birthplace regions of leaders at the five percent level with the inclusion of the two pre- and post-birth region indicators. In all other regressions, their inclusion also does not affect our conclusions. To the contrary, and as expected, the inclusion of region-fixed effects makes it more difficult to identify statistically significant results, rendering the coefficient of birthplace insignificant at conventional levels for the three aid variables at the ADM2-level. However, the results for ADM1 regions turn stronger with the inclusion of region-fixed effects. According to the coefficient of column 2, total aid flows increase by around 270 percent when regions turn to become birthplace-regions, significant at the one percent

Table 4. Birth regions and aid, OLS, country-year and region-fixed effects, 2000-2011

	(1) ADM1	(2) ADM1	(3) ADM2	(4) ADM2	(5) ADM1	(6) ADM1	(7) ADM2	(8) ADM2	(9) ADM1	(10) ADM1	(11) ADM2	(12) ADM2
Units of obs.												
Dependent variables	Total flows (in logs)	Total flows (in logs)	Total flows (in logs)	Total flows (in logs)	ODA-like flows (in logs)	ODA-like flows (in logs)	ODA-like flows (in logs)	ODA-like flows (in logs)	Project count (in logs)	Project count (in logs)	Project count (in logs)	Project count (in logs)
Birthregion	0.698**	1.309***	0.556**	0.330	0.277	0.593*	0.392*	0.181	0.036	0.028	0.038*	-0.015
	(0.325)	(0.378)	(0.252)	(0.254)	(0.206)	(0.307)	(0.203)	(0.224)	(0.023)	(0.027)	(0.022)	(0.022)
Prebirth	0.072	0.467	0.032	-0.088	-1.022**	-0.772	-0.200	-0.589	0.043	0.058	0.003	-0.029
	(0.829)	(0.893)	(0.538)	(0.589)	(0.513)	(0.562)	(0.369)	(0.430)	(0.064)	(0.071)	(0.045)	(0.047)
Postbirth	1.035	1.471*	0.574	0.527	0.685	0.836	0.052	-0.294	0.100	0.083	0.044	0.001
	(0.836)	(0.816)	(0.644)	(0.612)	(0.780)	(0.731)	(0.431)	(0.539)	(0.069)	(0.059)	(0.038)	(0.036)
Light2000	0.294**		0.060***		0.242**		0.038**		0.024***		0.005***	
	(0.114)		(0.018)		(0.120)		(0.015)		(0.008)		(0.001)	
Population2000	0.084		0.028*		0.014		0.008		0.012*		0.002**	
	(0.087)		(0.014)		(0.073)		(0.009)		(0.007)		(0.001)	
Capitalregion	4.162***		4.624***		2.843***		3.230***		0.334***		0.354***	
	(0.495)		(0.527)		(0.397)		(0.430)		(0.038)		(0.042)	
Mines	0.116*		0.020		0.002		-0.001		0.007		0.001	
	(0.066)		(0.027)		(0.039)		(0.013)		(0.005)		(0.002)	
Oilgas	0.071		-0.053		0.074		-0.039		0.006		-0.004*	
	(0.132)		(0.036)		(0.122)		(0.026)		(0.010)		(0.002)	
Area	0.234***		0.039***		0.184**		0.023**		0.022***		0.003***	
	(0.085)		(0.013)		(0.077)		(0.009)		(0.007)		(0.001)	
Ports	-0.067		0.158*		-0.151		0.038		-0.013		0.012*	
	(0.187)		(0.087)		(0.146)		(0.059)		(0.013)		(0.007)	
Roadensity	1.124		0.360		1.218		0.322**		0.091		0.018*	
	(1.134)		(0.219)		(0.863)		(0.159)		(0.082)		(0.010)	
Country-year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Region FE	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
R-squared	0.398	0.297	0.184	0.098	0.350	0.278	0.152	0.069	0.400	0.290	0.207	0.095
Observations	8,327	8,327	69,054	69,817	8,375	8,375	69,115	69,880	8,508	8,508	69,252	70,020
Number of regions	709	709	5,835	5,835	709	709	5,835	5,835	709	709	5,835	5,835

Note: Standard errors (in parentheses) clustered at the leader level.

level. The results also show that the inclusion of region-fixed effects renders the coefficient of birth regions significant at the ten percent level in column 6 (at the ADM1 level). This implies an increase in ODA-like flows by more than 80 percent once a leader originates from a certain region. Overall, these results provide remarkably strong support that our results are causal rather than spurious.

Table 5 replicates the fixed-effects regressions focusing on regions populated by the leaders' ethnic group (GREG regions), focusing on the amount of total aid (column 1), ODA-like flows (column 2), and the number of (total) aid projects (column 3). As can be seen, none of the leader-related variables are significant at conventional levels. We offer three explanations for this insignificant results. One, the larger size of the GREG regions reduces variation over time in the leader-related amount of aid these regions receive, making it more difficult to identify the effect given the inclusion of region-fixed effects. Two, the substantially lower number of aid projects that we were able to geocode compared to ADM2 regions increases noise, again making the identification of significant effects more difficult. Three, of course, leaders might not target their ethnic groups with Chinese aid.

Table 5. Ethnic regions and aid, OLS, country-year and region-fixed effects, 2000-2011

	(1)	(2)	(3)
Units of obs.	GREG	GREG	GREG
Dependent variables	Total flows	ODA-like flows	Project count
	(in logs)	(in logs)	(in logs)
Ethnicregion	-0.205	-0.285	0.004
	(0.384)	(0.276)	(0.033)
Preethnic	-0.578	-0.235	-0.052
	(0.947)	(0.791)	(0.068)
Postethnic	-0.221	-0.219	-0.037
	(0.581)	(0.442)	(0.049)
Country-year FE	yes	yes	yes
Region FE	yes	yes	yes
R-squared	0.189	0.197	0.196
Observations	7,199	7,229	7,308
Number of regions	609	609	609

Note: Standard errors (in parentheses) clustered at the leader level.

5.   Conclusions

China prides itself on providing foreign aid in a demand-driven process in order to meet the needs of recipients. Many scholars also give Beijing credit for providing their African government counterparts with more "ownership" and "policy space" (Oya 2008; Bräutigam 2011b; Kragelund 2011; Reisen and Stijns 2011). However, while good intentions might guide this policy, and advance the principle of country ownership put

forward by OECD donors, it is unclear who Beijing expects to ultimately benefit from such a policy. "Recipient need" could refer to the needs of the general population or to governing elites and their clients, but the interests of these groups do not necessarily align. Our results based on a new georeferenced dataset of Chinese development finance across African localities highlight the potential development risks of this "on-demand" approach to aid allocation: controlling for objective indicators of recipient needs and various fixed effects, more Chinese aid projects are sited in the birth regions of African leaders. When provided with the discretion to do so, the average African leaders seem to pay favorites by allocating substantial additional resources to their home constituency to the detriment of citizens who face greater economic needs.[42]

A concern that follows from our main finding is the possibility that the subnational allocation of (Chinese) aid might diminish its ultimate effectiveness. Previous research suggests the bulk of the variation in project success to be at the project- rather than the country-level (Denizer et al. 2013). There is also a growing body of evidence that the allocation of aid to a narrow set of political constituencies is unlikely to improve the provision of public goods or facilitate significant improvements in development outcomes (Cohen 1995; Wright 2010; Dionne et al. 2013; De and Becker 2014). As Briggs (2014: 202-203) puts it, "a lot of successfully built roads may not help national growth if they are built in areas that are politically – but not economically – important. The individual projects may have succeeded, and some key constituencies may enjoy these roads, but this alone does not ensure that the roads will improve the national economy."

Therefore, while this paper only provides empirical evidence related to the subnational determinants of (Chinese) aid *allocation*, it raises broader questions about the degree to which inefficiency in the allocation and use of public resources affects development outcomes, such as economic growth and poverty reduction. This is an important avenue for future research. Previous studies establish a link between inefficient public spending and inferior development outcomes (Lanjouw and Ravallion 1999; Ravallion 2000; Rajkumar and Swaroop 2008; Gauthier and Wane 2008). However, we do not yet know whether or to what extent the political targeting of Chinese aid diminishes its ultimate development impact.

While our empirical results show that the *selection* of Chinese aid projects is vulnerable to regional favoritism and this source of targeting bias might adversely impact the effectiveness of Chinese aid, things could look

---

[42]While we have not done so in this paper, one can imagine sector-specific analysis of need using different dependent variables. Does education aid go to areas with the lowest literacy rates? Does health aid go to regions with the highest child mortality, lowest life expectancy, or highest rates of communicable disease? We are hopeful that specialists in different issue areas will conduct similar sub-national analyses.

different at the project implementation stage. Chinese aid money often does not leave Chinese hands (and China sometimes controls management after the project has been completed); therefore, Chinese aid may be less prone to corruption or favoritism than Western aid at later stages of the aid cycle. As importantly, a large number of additional features likely influence the effectiveness of aid, including the amount of red tape involved in setting up the projects, the design of and compliance with conditions accompanying aid from some donors but not others, the choice of project aid over budget support, and the specific sectors a donor prioritizes. We leave these important questions for future research.

References

Acemoglu, Daron, and James Robinson. 2012. Fancy Schools. Why Nations Fail Blog. February 27, 2012. http://whynationsfail.com/blog/2012/2/27/fancy-schools.html.

African Development Bank (AFDB), Organisation for Economic Co-operation and Development (OECD), United Nations Development Programme (UNDP), United Nations Economic Commission for Africa (UNECA). 2011. African Economic Outlook 2011. Tunis: AFDB. Accessed on 01 November 2014 at http://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Media_Embargoed_Content/EN-AEO_2011_embargo%206%20Juin.pdf

Alesina, Alberto, and David Dollar. 2000. Who Gives Foreign Aid to Whom and Why? *Journal of Economic Growth* 5, 1: 33-63.

Alesina, Alberto, Stelios Michalopoulos, and Elias Papaioannou. Forthcoming. Ethnic Inequality. *Journal of Political Economy*.

Bader, Julia. Forthcoming. China, Autocratic Patron? An Empirical Investigation of China as a Factor in Autocratic Survival. *International Studies Quarterly*.

Barkan, Joel D. and Michael Chege. 1989. Decentralising the State: District Focus and the Politics of Reallocation in Kenya. *Journal of Modern African Studies* 27, 3: 431-453.

Barro, Robert, and Jong-Wha Lee. 2010. A New Data Set of Educational Attainment in the World, 1950-2010. *Journal of Development Economics* 104: 184-198.

Bates, Robert H. 1974. Ethnic Competition and Modernization in Contemporary Africa. *Comparative Political Studies* 6, 4: 457-484.

Beck, Thorsten, George Clarke, Alberto Groff, Philip Keefer, and Patrick Walsh. 2001. New Tools in Comparative Political Economy: The Database of Political Institutions. *World Bank Economic Review* 15, 1: 165-176.

Bräutigam, Deborah. 2009. *The Dragon's Gift: The Real Story of China in Africa*. Oxford, UK: Oxford University Press.

Bräutigam, Deborah. 2011a. Aid 'With Chinese Characteristics': Chinese Foreign Aid and Development Finance Meet the OECD-DAC Aid Regime. *Journal of International Development* 23, 5: 752-764.

Bräutigam, Deborah. 2011b. Testimony on China's Growing Role in Africa before the United States Senate Committee on Foreign Relations Subcommittee on African Affairs. November 1, 2011. Accessed at http://www.foreign.senate.gov/imo/media/doc/Deborah_Brautigam_Testimony.pdf

Briggs, Ryan C. 2012. Electrifying the Base? Aid and Incumbent Advantage in Ghana. *Journal of Modern African Studies* 50, 4: 603-624.

Briggs, Ryan C. 2014. Aiding and Abetting: Project Aid and Ethnic Politics in Kenya. *World Development* 64: 194-205.

Brückner, Markus. 2013. On the Simultaneity Problem in the Aid and Growth Debate. *Journal of Applied Econometrics* 28, 1: 126-150.

Bueno de Mesquita, Bruce, and Alastair Smith. 2007. Foreign Aid and Policy Concessions. *Journal of Conflict Resolution* 51, 2: 251-284.

Burgess, Robin, Remi Jedwab, Edward Miguel, Ameet Morjaria, and Gerard Padró i Miquel. 2011. Ethnic Favoritism. Working Paper. Accessed at https://www.dartmouth.edu/~neudc2012/docs/paper_230.pdf.

Burgess, Robin, Remi Jedwab, Edward Miguel, Ameet Morjaria, and Gerard Padró i Miquel. 2013. The Value of Democracy: Evidence from Road Building in Kenya. *NBER Working Paper* 19398.

Center for International Earth Science Information Network (CIESIN). 2013. Global Roads Open Access Data Set, Version 1 (gROADSv1). Columbia University, and Information Technology Outreach Services - ITOS - University of Georgia. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC). http://dx.doi.org/10.7927/H4VD6WCT.

Christensen, Zachary, Richard Nielsen, Daniel Nielson, and Michael Tierney. 2011. Transparency Squared: The Effects of Donor Transparency on Aid Recipients' Corruption Levels. Paper prepared for the 2011 meeting of the International Political Economy Society, Cambridge, Massachusetts, 2011 November 12-13.

Clemens, Michael A., Steven Radelet, Rikhil R. Bhavnani, and Samuel Bazzi. 2012. Counting Chickens when they Hatch: Timing and the Effects of Aid on Growth. *Economic Journal* 122, 561: 590-617.

Cohen, John M. 1995. Ethnicity, Foreign Aid, and Economic Growth in sub-Saharan Africa: The Case of Kenya. HIID Development Paper No. 520. Cambridge, MA: Harvard Institute for International Development.

Collier, Paul, Lani Elliot, Håvard Hegre, Anke Hoeffler, Nicholas Sambanis, and Marta Reynal-Querol. 2003. *Breaking the Conflict Trap: Civil War and Development Policy*. Oxford, UK: Oxford University Press.

Corkin, Lucy. 2011a. Uneasy Allies: China's Evolving Relations with Angola. *Journal of Contemporary African Studies* 29, 2: 169-180.

Corkin, Lucy. 2011b. Redefining Foreign Policy Impulses toward Africa: The Roles of the MFA, the MOF-COM and China Exim Bank. *Journal of Current Chinese Affairs* 40, 4: 61-90.

Davies, Martyn, Hannah Edinger, Nastasya Tay, and Sanusha Naidu. 2008. How China Delivers Development Assistance to Africa. Centre for Chinese Studies, University of Stellenbosch.

De, Rajlakshmi, and Charles Becker. 2014. The Foreign Aid Effectiveness Debate: Evidence from Malawi. Working Paper.

Denizer, Cevdet, Daniel Kaufmann, and Aart Kraay. 2013. Good Countries or Good Projects? Macro and Micro Correlates of World Bank Project Performance. *Journal of Development Economics* 105: 288-302.

Dietrich, Simone. 2013. Bypass or Engage? Explaining Donor Delivery Tactics in Foreign Aid Allocation. *International Studies Quarterly* 57: 698-712.

Dionne, Kim Yi, Eric Kramon, and Tyson Roberts. 2013. Aid Effectiveness and Allocation: Evidence from Malawi. Paper presented at the Conference "Research Frontiers in Foreign Aid" at Princeton University, April 26-27.

Doucouliagos, Hristos, and Martin Paldam. 2008. Aid Effectiveness on Growth: A Meta Study. *European Journal of Political Economy* 24, 1: 1-24.

Do, Quoc-Anh, Kieu-Trang Nguyen, and Anh N. Tran. 2013. One Mandarin Benefits the Whole Clan: Home-

town Favoritism in an Authoritarian Regime. Paper presented at the 2014 Annual Congress of the European Economic Association in Toulouse. http://www.eea-esem.com/files/papers/EEA-ESEM/2014/2185/Mandarin%20Oct%2030%202013.pdf.

Doll, Christopher N.H., Jan-Peter Muller, and Jeremy G. Morley. 2006. Mapping Regional Economic Activity from Night-Time Light Satellite Imagery. *Ecological Economics* 57, 1: 75-92.

Downs, Erica. 2011. Inside China, Inc: China Development Bank's Cross-Border Energy Deals. John L. Thornton China Center Monograph Series No. 3. Washington, DC: Brookings Institution.

Dreher, Axel, Vera Eichenauer, and Kai Gehring. 2014. Geopolitics, Aid and Growth. CEPR Discussion Paper No. 9904.

Dreher, Axel, and Andreas Fuchs. Forthcoming. Rogue Aid? An Empirical Analysis of China's Aid Allocation. *Canadian Journal of Economics*.

Dreher, Axel, Richard Jong-A-Pin, and Shu Yu. 2014. The Alma Mater Effect. Does Foreign Education of Political Leaders Influence Voting Behavior in the United Nations General Assembly? Mimeo.

Dreher, Axel, Anna Minasyan, and Peter Nunnenkamp. 2013. Government Ideology in Donor and Recipient Countries: Does Political Proximity Matter for the Effectiveness of Aid? Kiel Working Paper No. 1870.

Dreher, Axel, Peter Nunnenkamp, and Rainer Thiele. 2011. Are 'New' Donors Different? Comparing the Allocation of Bilateral Aid Between nonDAC and DAC Donor Countries. *World Development* 39, 11: 1950-1968.

Dreher, Axel, Jan-Egbert Sturm, and James Vreeland. 2009. Development Aid and International Politics: Does Membership on the UN Security Council Influence World Bank Decisions? *Journal of Development Economics* 88, 1: 1-18.

Faye, Michael, and Paul Niehaus. 2012. Political Aid Cycles. *American Economic Review* 102, 7: 3516-3530.

Franck, Raphaël, and Ilia Rainer. 2012. Does the Leader's Ethnicity Matter? Ethnic Favoritism, Education and Health in Sub-Saharan Africa. *American Political Science Review* 106, 2: 294-325.

Franken, Nathalie, Bart Minten, and Johan F.M. Swinnen. 2012. The Political Economy of Relief Aid Allocation: Evidence from Madagascar. *World Development* 40, 3: 486-500.

Frey, Bruno S. and Friedrich Schneider. 1986. Competing Models of International Lending Activity. *Journal of Development Economics* 20, 3: 225-245.

Gauthier, Bernard and Waly Wane. 2008. Leakage of Public Resources in the Health Sector: An Empirical Investigation of Chad. *Journal of African Economies 18* (1): 52-83.

Goemans, Hein E., Kristian S. Gleditsch, and Giacomo Chiozza. 2009. Introducing Archigos: A Data Set of Political Leaders. *Journal of Peace Research* 46, 2: 269-283.

Green, Elliott. 2011. Patronage as Institutional Choice: Evidence from Rwanda and Uganda. *Comparative Politics* 43, 4 : 421-438.

Grépin, Karen A., Victoria Y. Fan, Gordon C. Shen, and Lucy Chen. 2014. China's Role as a Global Health Donor in Africa: What Can We Learn from Studying Under Reported Resource Flows? Paper presented at the Workshop on South-South Development Cooperation at Heidelberg University, September 26-27.

Halper, Stefan. 2010. *The Beijing Consensus: How China's Authoritarian Model Will Dominate the Twenty-first Century*. New York, NY: Basic Books.

Henderson, Vernon J., Adam Storeygard, and David N. Weil. 2012. Measuring Economic Growth from Outer Space. *American Economic Review* 102, 2: 994-1028.

Hendrix, Cullen, and Marcus Noland. 2014. *Confronting the Curse: The Economics and Geopolitics of Natural Resource Governance*. Washington DC: Peterson Institute for International Economics.

Hernandez, Diego. 2014. Is Non-DAC Aid Challenging World Bank Conditionality? Paper presented at the Workshop on South-South Development Cooperation at Heidelberg University, September 26-27.

Hodler, Roland, and Paul A. Raschky. 2014a. Regional Favoritism. *Quarterly Journal of Economics* 129, 2: 995-1033.

Hodler, Roland, and Paul A. Raschky. 2014b. Economic Shocks and Civil Conflict at the Regional Level. *Economics Letters* 124, 3: 530-533.

Horowitz, Leah, and Nethra Palaniswamy. 2010. In Pursuit of Votes: The Capture of the Allocation of Local Public Goods by the Central State in Ghana. IFPRI Discussion Paper.

International Country Risk Guide. 2012. PRS Group. http://www.prsgroup.com/ICRG.aspx.

Jablonski, Ryan S. 2014. How Aid Targets Votes: The Impact of Electoral Incentives on Foreign Aid Distribution. *World Politics* 66, 2: 293-330.

Jansson, Johanna. 2013. The Sicomines Agreement Revisited: Prudent Chinese Banks and Risk-taking Chinese Companies. *Review of African Political Economy* 40, 135: 152-162.

Kasara, Kimuli. 2007. Tax Me if You Can: Ethnic Geography, Democracy, and the Taxation of Agriculture in Africa. *American Political Science Review* 101, 1: 159-172.

Kersting, Erasmus, and Christopher Kilby. 2014. Aid and Democracy Redux. *European Economic Review* 67: 125-143.

Kilby, Christopher. 2009. The Political Economy of Conditionality: An Empirical Analysis of World Bank Loan Disbursements. *Journal of Development Economics* 89, 1: 51-61.

Kopiński, Dominik and Qian Sun. 2014. New Friends, Old Friends? The World Bank and Africa When the Chinese Are Coming. *Global Governance: A Review of Multilateralism and International Organizations* 20, 4: 601-623.

Kragelund, Paul. 2011. Emerging Partners and Governance: Does the Rise of Emerging Partnerships Increase Ownership of Development Policies and Widen the Policy Space for African Governments? Special African Economic Outlook 2011 Paper. Paris: OECD Development Centre.

Kramon, Eric, and Daniel N. Posner. 2012. Ethnic Favoritism in Primary Education in Kenya. Mimeo.

Kramon, Eric, and Daniel N. Posner. 2013. Who Benefits from Distributive Politics? How the Outcome One Studies Affects the Answer One Gets. *Perspectives on Politics* 11, 2: 461-474.

Kuziemko, Ilyana, and Eric Werker. 2006. How Much Is a Seat on the Security Council Worth? Foreign Aid and Bribery at the United Nations. *Journal of Political Economy* 114, 5: 905-930.

Lanjouw, Peter, and Martin Ravallion. 1999. Benefit Incidence, Public Spending Reforms, and the Timing

of Program Capture. *World Bank Economic Review* 13 (2): 257-73.

Lujala, Päivi, Jan Ketil Rød, and Nadia Thieme. 2007. Fighting over Oil: Introducing A New Dataset. *Conflict Management and Peace Science* 24, 3: 239-256.

Maizels, Alfred, and Machiko K. Nissanke. 1984. Motivations for Aid to Developing Countries. *World Development* 12, 9: 879-900.

Marshall, Monty G., Keith Jaggers, and Ted Robert Gurr. 2011. Polity IV Project: Dataset Users' Manual. Center for Systemic Peace: Polity IV Project.

Mthembu-Salter, Gregory. 2012. Goodwill and Hard Bargains: The DRC, China and India. South African Institute of International Affairs Occasional Paper 114. Johannesburg, South Africa: South African Institute of International Affairs.

McKinlay, Robert D., and Richard Little. 1977. A Foreign Policy Model of US Bilateral Aid Allocation. *World Politics* 30, 1: 58-86.

Michalopoulos, Stelios, and Elias Papaioannou. 2013. Pre-Colonial Ethnic Institutions and Contemporary African Development. *Econometrica* 81, 1: 113-152.

Michalopoulos, Stelios, and Elias Papaioannou. 2014. National Institutions and Subnational Development in Africa. *Quarterly Journal of Economics* 129, 1: 151-213.

Minasyan, Anna. 2014. Do Donor-Recipient Cultural Differences Matter for the Effectiveness of Aid? Mimeo.

Ministry of Commerce. 1990. Almanac of China's Foreign Economic Relations and Trade. Hong Kong: China Foreign Economic Relations and Trade Publishing House.

Morrison, Kevin. 2012. What Can We Learn About the ?Resource Curse? from Foreign Aid? *The World Bank Research Observer* 27, 1: 52-73.

Moser, Christine. 2008. Poverty Reduction, Patronage or Vote Buying? The Allocation of Public Goods and the 2001 Election in Madagascar. *Economic Development and Cultural Change* 57, 1: 137-162.

Moss, Todd, Gunilla Pettersson, and Nicolas van de Walle. 2007. An Aid-Institutions Paradox? A Review

Essay on Aid Dependency and State Building in Sub-Saharan Africa, in *Reinventing Foreign Aid*, edited by William Easterly. Pp. 255-281. Cambridge, UK: MIT Press.

Mwase, Nkunde and Yongzheng Yang. 2012. BRICs' Philosophies for Development Financing and Their Implications for LICs. IMF Working Paper WP/12/74. Washington D.C.: International Monetary Fund.

Naím, Moisés. 2007. Rogue Aid. *Foreign Policy*. 14 February 2007.

National Geospatial-Intelligence Agency (NGIA). 2011. World Port Index (Pub 150). Springfield, VA: National Geospatial-Intelligence Agency. http://msi.nga.mil/NGAPortal.

National Oceanic and Atmospheric Administration (NOAA). 2014. *Version 4 DMSP-OLS Nighttime Lights Time Series.* Boulder, CO: National Geophysical Data Center. Accessed 05 April 2014.

Nissanke, Machiko, and Marie Söderberg. 2014. The Changing Landscape in Aid Relationships in Africa: Can China?s Engagement Make a Difference to African Development. Swedish Institute for International Affairs (SIIA) Working Paper. Stockholm: SIIA.

Nunnenkamp, Peter, Hannes Öhler, and Maximiliano Sosa Andrés. 2012. Need, Merit and Politics in Multilateral Aid Allocation: A District-Level Analysis of World Bank Projects in India. Kiel Working Paper No. 1783. Kiel, Germany: Kiel Institute for the World Economy.

OECD. 2005. *Paris Declaration on Aid Effectiveness: Ownership, Harmonisation, Alignment, Results and Mutual Accountability*. Paris, France: OECD Publications.

Öhler, Hannes, and Peter Nunnenkamp. 2014. Needs-based Targeting or Favoritism? The Regional Allocation of Multilateral Aid Within Recipient Countries. *Kyklos* 67, 3: 420-446.

Oya, Carlos. 2008. Greater Africa-China Economic Cooperation: Will This Widen 'Policy Space'? Centre for Development Policy and Research at the School of Oriental and African Studies. June 2008. Development Viewpoint 4.

Parks, Bradley C. 2014. *Brokering Development Policy Change: The Parallel Pursuit of Millennium Challenge Account Resources and Reform*. Ph.D. Dissertation. London, UK: London School of Economics and Political Science.

State Council. 2011. *China's Foreign Aid*. Beijing, China: Information Office of the State Council. 21 April 2011.

Powell, Joshua, and Michael G. Findley. 2012. The Swarm Principle? A Sub-national Spatial Analysis of Donor Coordination in Sub-Saharan Africa. http://www.michael-findley.com/uploads/2/0/4/5/20455799/swarm_principle_coordination_may2013.pdf.

Raleigh, Clionadh, Andrew Linke, Håvard Hegre, and Joakim Karlsen. 2010. Introducing ACLED: An Armed Conflict Location and Event Dataset. *Journal of Peace Research* 47, 5: 651-660.

Rajan, Raghuram G., and Arvind Subramanian. 2008. Aid and Growth: What Does the Cross-Country Evidence Really Show? *Review of Economics and Statistics* 90, 4: 643-665.

Rajkumar, Andrew S., and Vinaya Swaroop. 2008. Public Spending and Outcomes: Does Governance Matter? *Journal of Development Economics* 86: 96-111.

Ravallion, Martin. 2000. Monitoring Targeting Performance When Decentralized Allocations to the Poor Are Unobserved. *World Bank Economic Review* 14(2): 331-45.

Reisen, Helmut, and Jean-Philippe Stijns 2011. Emerging partners create policy space for Africa. VoxEU.org. Accessed on 01 November 2014 at http://www.voxeu.org/article/how-emerging-donors-are-creating-policy-space-af

State Council of the People's Republic of China. 2014. Full Text: China's Foreign Aid. Accessed on 01 November 2014 at http://news.xinhuanet.com/english/china/2014-07/10/c_133474011.htm.

Sutton, Paul C., and Robert Costanza. 2002. Global Estimates of Market and Non-Market Values Derived from Nighttime Satellite Imagery, Land Use, and Ecosystem Service Valuation. *Ecological Economics* 41, 3: 509-527.

Sutton, Paul C., Christopher D. Elvidge, and Tilottama Ghosh. 2007. Estimation of Gross Domestic Product at Sub-National Scales Using Nighttime Satellite Imagery. *International Journal of Ecological Economics & Statistics* 8, S07: 5-21.

Strandow, Daniel, Michael Findley, Daniel Nielson, and Josh Powell. 2011. The UCDP-AidData codebook on Geo-referencing Foreign Aid. Version 1.1. Uppsala Conflict Data Program. Uppsala, Sweden: Uppsala University.

Strange, Austin M., Bradley Parks, Michael J. Tierney, Andreas Fuchs, Axel Dreher, and Vijaya Ramachandran. 2013. China's Development Finance to Africa: A Media-Based Approach to Data Collection. CGD Working Paper 323. Washington, DC: Center for Global Development.

Strange, Austin M., Bradley Parks, Michael J. Tierney, Andreas Fuchs, and Axel Dreher. 2014a. Tracking Under-Reported Financial Flows: China's Development Finance and the Aid-Conflict Nexus Revisited. University of Heidelberg Discussion Paper 533. Heidelberg, Germany: Heidelberg University.

Strange, Austin M., Bradley Parks, Michael J. Tierney, Andreas Fuchs, and Axel Dreher. 2014b. Apples and Dragon Fruits: The Determinants of Aid and Other Forms of State Financing from China to Africa. Paper presented at the 2014 Annual Convention of the American Political Science Association.

Tierney, Michael, Daniel Nielson, Ryan Powers, Sven Wilson, Bradley Parks, Michael Findley, Roberts Hicks, Darren Hawkins, and J. Timmons Roberts. 2011. More Dollars than Sense: Refining Our Knowledge of Development Finance Using AidData. *World Development* 39, 11: 1891-1906.

Tull, Denis M. 2006. China's Engagement in Africa: Scope, Significance and Consequences. *Journal of Modern African Studies* 44, 3: 459-479.

U.S. Geological Survey (USGS). 2005. Mineral Resources Data System: U.S. Geological Survey, Reston, VA.

van de Walle, Nicolas. 2007. Meet the New boss, Same as the Old Boss? The Evolution of Political Clientelism in Africa. In: *Patrons, Clients, and Policies*, edited by K. Herbert and I. W. Steven, 60-67. New York, NY: Cambridge University Press.

Wade, Abdoulaye. 2008. Time for the West to practice what it preaches. Financial Times 23 January 2008. Accessed at http://www.ft.com/intl/cms/s/0/5d347f88-c897-11dc-94a6-0000779fd2ac.html#axzz295bvXrn1

Weidmann, Nils B., Jan Ketil Rød, and Lars-Erik Cederman. 2010. Representing Ethnic Groups in Space: A New Dataset. *Journal of Peace Research* 47, 4: 491-499.

Werker, Eric D., Faisal Z. Ahmed, and Charles Cohen. 2009. How Is Foreign Aid Spent? Evidence from a Natural Experiment. *American Economic Journal: Macroeconomics* 1, 2: 225-244.

Werker, Eric D. 2012. The Political Economy of Bilateral Foreign Aid. In: *Handbook of Safeguarding Global Financial Stability: Political, Social, Cultural, and Economic Theories and Models*, edited by G. Caprio, 47-58. Academic Press.

World Bank. 2014. World Development Indicators. Washington, D.C.

Wright, Joseph. 2010. Aid Effectiveness and the Politics of Personalism. *Comparative Political Studies* 43, 6: 735-762.

Youngman, Frank. 2013. Strengthening Africa-China Relations: A Perspective from Botswana. Center for Chinese Studies Discussion Paper. Stellenbosch University.

Zürcher, Christoph. 2012. Conflict, state fragility and aid effectiveness: insights from Afghanistan. *Conflict, Security & Development* 12 (5); 461-480.