Democracy, Distributive Politics, and Development Finance: Evidence from Africa

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Abstract: Recent scholarship on distributive politics reveals foreign aid may serve incumbent political survival strategy (Briggs, 2012; Jablonski, 2014), while others (Kramon and Posner, 2013) caution against generalizing findings from single foreign-financed public good types. This paper advances the literature by arguing that the source of project financing is a critical determinant of distributive outcome. The degree to a project aligns with a political survival logic hinges on two key factors: the level of external accountability imposed by the financier (financier conditionality) and political competition within recipient countries (internal accountability). I analyze geocoded Chinese and World Bank projects in 48 African countries from 1995 to 2017, conduct 175 elite interviews across Beijing, Washington, D.C., Zambia, Ethiopia, and Ghana, and incorporate original data on all roads funded by China, multilateral institutions, and OECD bilateral donors in Ethiopia, Zambia, and Ghana from 1999 to 2021. I demonstrate that traditional financiers with more stringent scrutiny may limit regional favoritism, it persists due to institutional fragmentation and principle-agent problems. Moreover, I challenge the notion that increased political competition necessarily reduces regional favoritism, arguing that in weak institutional settings, it can exacerbate it. Case studies highlight how domestic interest groups tailor their distributive decisions based on their distinctive political survival strategies, including targeting national economic development priority, swaying swing voters, and rewarding coethnic/copartisan supporters.

1. Introduction

In 2012, the former Zambian President Michael Sata announced the “Link Zambia 8000” project, a bold initiative to build an 8000km road network in just 10 years. Despite receiving about 44 percent of its funding from China, multilateral institutions, and OECD countries, only 10% of the original plan has been completed a decade later. Furthermore, the roads that have been built primarily serve Sata's Patriotic Front party's strongholds, highlighting regional favoritism in foreign finance allocation. In contrast, Ethiopia, a highly centralized authoritarian regime, exhibits far less such favoritism.

Development agencies across the world allocate billions of dollars to the Global South (particularly Africa) every year, but this finance may not always reach the most disadvantaged communities. When and why is development finance distributed more in equitably in some contexts than others? To address potential misallocation and inequity of development finance, it is important to understand what determines the variation in subnational distribution from different sources to different recipient

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countries. This research question has significant policy implications for financiers and recipient countries in designing and implementing more equitable development finance projects.

Recent research suggests that financier conditionality could be a factor in determining the subnational distribution of development finance. Dreher et al. (2019) find that Chinese finance, which attaches less conditions and is more demand-driven, is more likely to be allocated to political leaders' birth regions and co-ethnic regions. In contrast, the World Bank's finance does not exhibit such a regional bias. However, empirical evidence also shows that traditional financiers, despite their stringent conditionality, may face inefficiencies or inequities in subnational delivery of goods and services (Dionne, 2017; Cheng, 2019). This can lead to disproportionate allocation of foreign aid to urban and wealthy households (Briggs, 2017, 2018, 2021), political leaders' co-partisan or co-ethnic strongholds (Briggs, 2012, 2014; Francken et al., 2012; Jablonski, 2014), areas with less infant mortality (Kotsadam et al., 2018), swing voters (Horowitz, 2016; Masaki, 2018), and constituencies with higher political agency (Barrett, 2015; Song et al., 2021). The "value of democracy" literature argues that the more democratic a recipient country is, the more equitable the subnational distribution of development finance is, as politicians are hold accountable to voters (Bueno de Mesquita et al., 2009; Montinola, 2010; Burgess et al., 2015).

This paper investigates the determinants of regional favoritism in development finance allocation from both the supply and the demand sides, examining how financiers' conditionalities and domestic political competition co-determine the allocation. I start by examining the cross-country pattern using geocoded AidData on Chinese and World Bank projects to 48 African countries between 1995 and 2017. I find that,, both Chinese finance and World Bank projects exhibit regional favoritism towards co-ethnic regions with political leaders, with the scale of this effect about half of that observed for Chinese finance. Moreover, an increase in the recipient countries' political competition leads to an increase in the level of regional favoritism. Building on this cross-country and cross-sector analysis, I then conducted in-depth within-country and within-sector analysis, leveraging 175 elite interviews in Beijing, Washington, D.C., Zambia, Ethiopia, and Ghana, and novel administrative data on roads—one of the biggest expenditures for both financiers and recipient countries—financed by all multilateral institutions, OECD bilateral financiers, and China in these three African regimes between 1995 and 2021. Ethiopia represents a case of autocracy, Zambia a hybrid regime, and Ghana a democracy.

This paper makes empirical and theoretical contributions in three ways. First, I argue that financiers' conditionalities only affects the degree, not the occurrence of regional favoritism in development finance distribution. I identify the institutional fragmentation and principal-agent problem within development agencies as the factors that explain why foreign financiers can only constrain but not prevent regional favoritism. I provide a quantitative measurement of the different degrees of regional favoritism susceptible to traditional financiers and China, complementing and extending previous research (Briggs, 2012; Jablonski, 2014; Dreher et al., 2019).

Second, this paper offers a more nuanced understanding of the demand-side factors that drive the subnational allocation of development finance in recipient countries. I demonstrate that the level of political competition is a key factor driving these different preferences. While autocratic leaders may only need to expend the rents to a small circle of close allies and could centralize development finance for national economic development goals, leaders in hybrid or democratic regimes may exacerbate competitive clientelism due to a shorter policymaking time horizon (Dionne, 2011; Abdulai and Hickey, 2016). By examining the political and institutional contexts of recipient countries, I identify three motivations for distribution based on distinct political survival strategies: pursuing long-term economic development goals (Ethiopia), rewarding co-ethnic supporters (Zambia), and swaying swing voters (Ghana). However, this paper does not suggest that all autocrats have long-term horizons or use development finance solely for economic development (Wright, 2008). Rather, it emphasizes that higher levels of democracy do not necessarily lead to more equitable distribution of development finance at regional levels. To address rent-seeking, political competition must be accompanied by a strengthening of legislative and judiciary independence, executive constraints, and civil society.

Last, this paper draws on mixed-method research to provide novel and rich empirical evidence on the subnational allocation of development finance from China, multilateral institutions, and OECD bilateral financiers. Through interviews with hard-to-access officials from Chinese banks, ministries, state council, and state-owned enterprises, and with current or former cabinet members, top officials at ministries of finance, central banks, line ministries, scholars, and civil society organization leaders in recipient countries, this paper covers the entire life cycle of development finance allocation. Additionally, novel road project data directly obtained from the central governments of Zambia, Ethiopia, and Ghana provides inflow information of all foreign financers simultaneously, enabling a comparison of distributive patterns across China, multilateral institutions, and OECD bilateral financiers while controlling for potential sectoral bias. This study offers a comprehensive analysis that goes beyond previous research, which typically only compares the World Bank and Chinese finance, and therefore risks comparing one single multilateral to one single bilateral financer.

The rest of the paper will be organized as follows: I start by presenting a theory of the distributive politics of development finance. Then I present my cross-country cross-sector evidence before delving into the findings from the case studies that elaborate the mechanism.

2. A theory of the distributive politics of development finance

This paper's core goal is to find out the key determinants of the regional distribution of development finance. I argue that the distributive outcome of development finance is the equilibrium of a two-level game between the negotiations among foreign financiers and recipient countries and between the bargaining among recipient governments and their domestic interest groups.

I identify the strictness of financiers' review and feasibility study during project preparation and domestic political competition as two critical factors that affect recipient governments' decisions on subnational allocation of development finance. I argue that in weak institutions with higher levels of political competition, political leaders face increased pressure to distribute public resources to targeted voters who can elect them as club goods. This further strengthens the existing patron-client networks that are often divided along ethno-regional lines due to colonial history in the African context. In regimes with low political competition, electoral cycles are less relevant to political leaders, who only need to satisfy a small group of winning coalitions with private goods.

I hypothesize that when development finance is allocated in domestic institutional setting with subdued regional favoritism, both Chinese and traditional financiers' finance should face little regional favoritism in their subnational allocation because political leaders have few institutional incentives to do so. In contrast, if the domestic institutional setting incentivizes political leaders to use rampant regional favoritism for their own political survival during electoral cycles, both Chinese and traditional financiers' finance is susceptible to more regional favoritism in their allocation, with traditional financiers' development finance allocation slightly less affected than China's due to their stricter external accountability.

In the following sections, I will elaborate on the causal mechanisms and concepts of the dependent variable and two key independent variables: financiers' conditionalities and domestic political competition.

Dependent variable: subnational allocation of development finance

My core outcome of interest is the amount of development finance allocated to subnational regions by various financiers. In the context of Africa, patron-client relationships often pervade formal political institutions in service delivery, with patronage networks established along ethno-regional lines due to the region's colonial history (Bayart, 1993; Berman, 1998; Hyden 2005). During colonial rule, states collaborated with local Native Authorities to collect tax and define ethnically based administrative units (Berman, 1998). Even after democratization in the 1990s, these patronage networks and resource allocation patterns based on coalitions of ethnically defined groups have persisted in postcolonial Africa (Posner, 2005). Development finance entering a recipient country in Africa must first navigate these patronage networks. Consequently, I consider comparing the development finance received by regions with different dominant ethnic groups as a crucial indicator to understand the determinants of development finance allocation in Africa.

Independent variable: financiers' conditionality

My focus is on two types of financiers: traditional financiers and Chinese creditors. Traditional financiers refer to multilateral development agencies and OECD bilateral financiers who attach strict conditionality and feasibility studies to their finance. In contrast, Chinese creditors are less externally accountable and more user-friendly. They are mainly driven by the lobby of Chinese contractors, and their goal is to take on as many projects as possible to maximize profits. Although Chinese creditors are not concerned about where the money goes, their finance aligns well with the preferences of recipient countries. While the scale of regional favoritism in allocating traditional financiers' funds may be smaller due to their stricter conditionalities, powerful political leaders of the recipient countries can still exert personal preferences in the negotiation process. When political competition builds up, executives may circumvent technocrats to make decisions on foreign-funded projects, resulting in traditional financiers also experiencing regional favoritism in project allocation.

Traditional financiers

In general, the selection process for a traditional financier-funded project involves the Ministry of Finance and the financier selecting a project from the recipient country's pipeline projects. The project is selected based on a development objective that fits the country partnership framework agreed by both the financiers and the recipient country (World Bank, 2023). The financiers work with the sectoral ministries on project implementation, which always starts with a thorough feasibility study, regular monitoring, and evaluation of the project. Finally, the sectoral ministries and financiers may work with local non-governmental organizations (NGOs), district and community-level governments, and private contractors and service suppliers before delivering the projects to their beneficiaries. Figure 1 shows a summary of the project implementation cycle of a traditional financier-funded project.

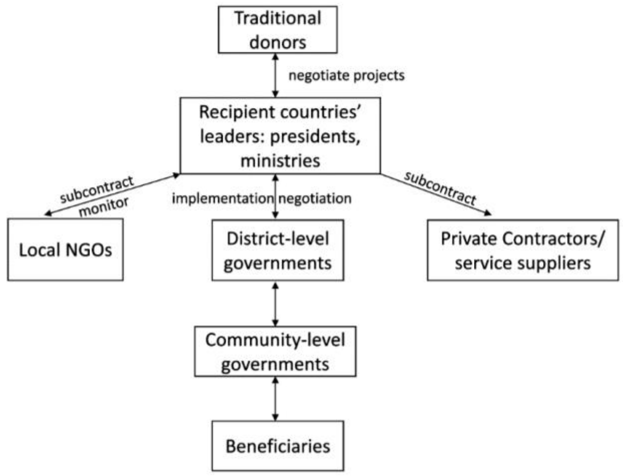

Figure 1. Actors in Traditional Financiers' Project Cycle
Source: Author's adaptation based on Dionne (2017)

Despite efforts by traditional financiers to attach conditions to their development finance, their projects can still be diverted by political interests in recipient countries due to the principal-agent problem in project delivery. This problem weakens the conditions during project delivery, and as a result, many of the World Bank's social and environmental safeguard policies are implemented half-heartedly, if at all. The World Bank projects are often subcontracted to several different actors, including local NGOs, district-level governments, and private contractors or service providers, leading to inefficient delivery to the intended beneficiaries (Dionne, 2017; Cheng, 2019). In addition, key decisions are often made in headquarters like Washington, D.C., or Brussels, where high-level decision-makers have little knowledge of what is happening on the ground. Task managers of multilateral institutions have strong career incentives to select or even propose projects that are easier to approve and implement, which require support from the recipient countries (Briggs, 2021).

China

China's overseas development finance is an extension of a development finance model that has played a significant role in China's own progress in recent decades (Chen, 2020). The structure of China's overseas development finance institution is fragmented, reflecting the "fragmented authoritarianism" characteristic of Chinese political and economic bureaucracies (Lieberthal et al., 2018; Zhang, 2019; Ye, 2020). Figure 2 provides an illustration of China's development finance institutional framework. The Department of Foreign Aid under the Ministry of Commerce (MOFCOM), which was officially responsible for foreign aid, faced administrative constraints and lacked control over other departments (Cheng, 2019). In an effort to address this fragmentation, the China International Development Cooperation Agency (CIDCA) was established in 2018 to facilitate coordination in China's development finance. However, the CIDCA's limited authority and rank have presented challenges in coordinating diverse projects from various ministries.[2] Despite being President Xi Jinping's flagship initiative, the Belt and Road Initiative (BRI)

[2] Interview with a senior official from MOFCOM, a scholar from Chinese Social Sciences Academy, and an official from the China Development Bank. Beijing, China. July, 2021. The chief director of the CIDCA, Luo Zhaohui, used to be the Chinese ambassador to India, thus making the rank of the CIDCA at deputy ministry level and lower than the Ministry of Foreign Affairs and Ministry of Commerce.

has not effectively resolved state fragmentation; instead, it has contributed to its persistence (Ye, 2020). This fragmentation has also played a role in the current debt crisis in Africa and the challenges faced in debt restructuring with the Paris Club under a unified framework (Bräutigam and Huang, 2023).

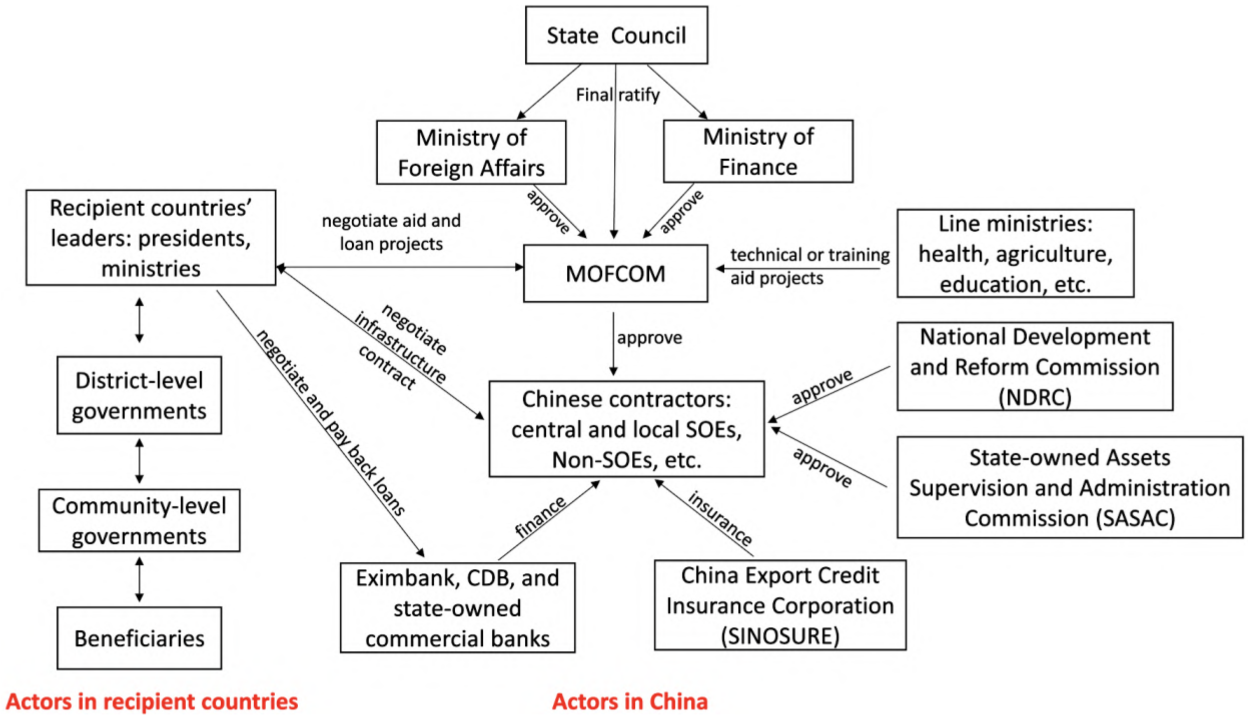

Figure 2. China's Development Finance Institutional Structure before 2018
Source: Author's research and adaptation based on Bräutigam (2011)

The fragmentation of Chinese development finance has resulted in a lack of an overarching plan from the supply side, leading to challenges in determining the allocation of funds at the subnational level. Most Chinese aid projects are ad-hoc and request-based (Bräutigam, 2011; Zhang and Smith, 2017). Furthermore, China's non-interference foreign policy contributes to the demand-driven nature of Chinese finance (Dreher et al., 2019). In the project selection process, state-owned enterprises (SOEs) play a significant role in identifying and initiating projects in targeting countries. Facing domestic overcapacity and the need to expand into overseas market, many SOEs, especially those focused on infrastructure construction, engage in fierce competition to secure contracts in host countries and are sometimes perceived as "greedy" by Chinese creditors.[3] While most BRI projects originate from the recipient countries' development goals, SOE leaders may leverage personal connections with Chinese banks to secure loans for borrower countries, sometimes involving bribery of officials at Chinese policy banks (Huang, 2021; Wong and Zhai, 2023). This observation is supported by Cheng (2019):

> "Chinese contractors and recipient country governments sometimes reach agreements "below the table" before seeking funding from Chinese banks. This has led to the waste of Chinese development finance and, to some extent, undermined the expected outcomes of China-financed projects…this mechanism struggles to avoid the influence of recipient countries' domestic political factors on project preferences (Page 19)."

[3] Interview with a retired senior official from Ministry of Commerce. Beijing, China. July 12, 2021.

The moral hazard associated with SOEs and the institutional fragmentation of China's development finance structure make it challenging for Chinese creditors to conduct thorough feasibility studies or risk evaluation for certain projects (Wen, 2021). For example, the Myitsone dam in Myanmar, a landmark project negotiated between China Power Investment and the Myanmar military government before the 2010 Myanmar election, proved to be financially and environmentally unsustainable. However, despite warnings from technocrats within the MOFCOM and the Ministry of Foreign Affairs, the risky project was pushed forward. It was eventually suspended due to local protests against environmental damage, resulting in a loss of US$12 billion (Zhang, 2019).

The limited personnel and capacity of Chinese development finance institutions also pose challenges in effectively overseeing the subnational distribution of China-financed projects overseas. There is a lack of country-specific staff to review loan projects, and policy banks often outsource project reviews to research institutions or private accounting firms that may lack regional expertise to comprehensively evaluate the environmental, social, political, and financial risks associated with each project. For instance, the China Export-Import Bank, which manages a portfolio similar to that of the World Bank, has only approximately 200 regular staff members overseeing all its overseas concessional loans (China Eximbank, 2011).[4] Similarly, the Department of Foreign Aid at the MOFCOM has around 200 staff members responsible for managing all of China's grants and zero-interest loan projects (Cheng, 2019). In contrast, the World Bank has over 15,000 staff members and numerous consultants dedicated to project assessment (World Bank, 2015). Consequently, the understaffing and lack of coordination have resulted in limited control over the subnational distribution of Chinese banks' funding, with projects primarily driven by the requests of political elites from recipient countries and the commercial interests of Chinese SOEs, while long-term planning is often overlooked (Zhang, 2019; Dreher et al., 2019).

Independent variable: domestic political competition

I argue that political competition plays a crucial role in affecting regional favoritism, as it indicates the degree of accountability of ruling coalitions to their voters. The 1990s saw a third wave of global democratization swept across Africa, with research suggesting that democracy can prevent regional favoritism by holding political leaders accountable for improving public welfare and incentivizing them to distribute public goods equitably (Bueno de Mesquita et al., 2009; Montinola, 2010; Hodler and Raschky, 2014). Africa's democratic transition may prompt governments to provide more verifiable public goods and services to citizens overall (Harding and Stasavage, 2014; Burgess et al., 2015). However, other studies find a null (Kramon and Posner, 2016) or positive relationship (Franck and Rainer, 2012; De Luca et al., 2018) between political competition and regional favoritism of development finance allocation. The literature on neopatrimonialism (Van de Walle, 2001) and competitive clientelism in Africa (Whitfield et al., 2015) suggests that democratization may increase patronage and clientelism.

Under different political and institutional settings, previous research has revealed at least three possible motivations for elites of host countries to distribute public resources: pursuing economic development, rewarding political strongholds, and swaying swing voters. Firstly, Kelsall (2013)'s "developmental patrimonialism" and Khan (2010)'s "potential developmental coalition" in political settlement theory suggest that an effective centralized structure allows the leadership to allocate

[4] Specifically, the internal credit and finance department has 110 regular stuff members, while the concessional loan department has 86 regular stuff members.

economic rents efficiently to sectors and areas most likely to enhance development. When the ruling coalition faces relatively weak competition from excluded coalitions and has a relatively long time horizon, it could discipline rent-seeking and channel resources for long-term development. Ethiopia prior to 2019 and Rwanda have been considered by many as such cases (Routley, 2014; Mann and Berry, 2015; Clapham, 2017).

Secondly, political elites may be motivated to reward their coethnic or co-partisan strongholds. In modern Africa, ethnicity is a highly politicized social construction inherited from the colonial state (Berman, 1998). As a result, the political authority of ethnic communities has taken shape based on patron-client networks that determine resource distribution in many African states. With the rise of political competition, the importance of ethno-regional identities has further intensified, with parties that emerge along ethnolinguistic lines competing to secure the most electoral constituencies at the national level (Lindberg 2003; Posner, 2005; Bangura, 2006; Eifert et al., 2010). In winner-take-all political systems, incumbents are incentivized to offer economic benefits to gain support, which often leads to the unequal distribution of public goods as patronage to constituencies with high vote shares or those that share the same ethnicity as the incumbent (Lindberg and Morrison, 2008; Kono and Montinola, 2009; Franck and Rainer, 2012; Jablonski, 2014; Harding, 2015; Kramon and Posner, 2016; Ejdemyr et al., 2018; Bandyopadhyay and Green, 2019).

Thirdly, incumbents may also distribute in an effort to sway swing voters. This strategy is often used in conjunction with efforts to mobilize the incumbent party's own strongholds for a broad-based targeting strategy, particularly in ethnically diverse societies where no single ethnic group comprises the majority of the population (Horowitz, 2016; Masaki, 2018; Brierley and Kramon, 2020). Empirical research also indicates that providing regional public goods can be electorally effective in swaying swing voters (Weghorst and Lindberg). However, it is likely that in a regime facing significant challenges from the opposition and needing to target broad-based voters, public goods provided by foreign financiers are more likely to be used for swaying swing voters than targeting core supporters. This is because the cost of winning the support of swing or opposition voters is much higher than the cost of mobilizing core supporters, for whom mass mobilization may be sufficient (Brierley and Kramon, 2020).

3. Research design

I employ a combination of cross-country and cross-sector analysis, as well as within-sector, within-country, and time-series analysis. I integrate AidData's geo-coded data on World Bank and Chinese projects across 48 African states from 1995 to 2017 with the Varieties of Democracy (V-Dem) database to analyze political competition levels. However, it's important to note that the World Bank and China fund different types of projects. The World Bank focuses on public administration, education, social protection, and health sectors, while Chinese finance is concentrated in transportation, power, mining, and information and communications technology (ICT) sectors. This sectoral difference may introduce selection bias when comparing the two at the aggregate level.

To mitigate potential selection bias, I analyze within-country, within-sector, and time-series data on the regional distribution of multilateral institutions, OECD countries, and China-financed roads in Ethiopia, Zambia, and Ghana. These countries were chosen due to variations in political competition intensity. Ghana is considered one of the most democratic countries in SSA, with regular power transitions between two parties (Freedom House, 2020). Zambia experienced a transition to a multi-party system but showed indications of democratic decay under the Patriotic Frontier (PF) government between 2011 and 2021. Ethiopia had a de-facto one-party regime led by the Ethiopian People's Revolutionary Democratic Front (EPRDF) between 1991 and 2019 (Lyons, 2019). The second reason for selecting these countries is their status as top recipients of development finance. Ethiopia received significant foreign aid, with aid to GDP increasing from 9.3 percent in 1982 to 42.9 percent in 2019 (Girma & Tilahun, 2022). Zambia received substantial commitments from China ($10.1 billion) and the World Bank ($1.83 billion) (World Bank, 2020; Boston University Global Development Policy Center, 2022). Ghana received Chinese development finance ($5.3 billion) and assistance from traditional financiers like the World Bank, AfDB, EU, MCC, and JICA, thanks to its democratic institutions (Ibid).

I choose to focus on the road sector within the three countries for several reasons. Firstly, roads constitute a significant portion of many African countries' public expenditures, necessitating external financing for their construction and maintenance. For instance, in Zambia, the road sector received 66.32 percent of Zambia's public investment projects from 2013 to 2021 (Ministry of Finance, 2021). Between 2008 and 2011, loans and grants from multilateral institutions, OECD countries, China, and South Africa accounted for around 48 percent of the total finance for road development in Zambia (Raballand et al., 2013). In Ghana, foreign financiers contributed 23.7 to road finance between 2015 and 2019, while in Ethiopia, external finance accounted for 15.8 percent of the total budget for road development between 1997 and 2021 (Ethiopian Road Authority, 2022). Secondly, road projects are expensive compared to other infrastructure ventures like hospitals and schools. Their high cost increases the potential for corruption and rent-seeking, affecting the allocation of development finance. Lastly, roads can be built in various locations, making them more fungible as public goods compared to infrastructure like hydroelectric dams. This flexibility opens up opportunities to observe potential regional favoritism in development finance allocation.

I obtained granular road project information directly from the relevant government agencies through my extensive fieldwork in Beijing, Washington, D.C., Ethiopia, Zambia, and Ghana from 2021 to 2022. Using this project-level information, I constructed three region-year panel datasets that track the amount of road finance received from China, multilateral institutions, and OECD bilateral financiers in each region. Additionally, I conducted semi-structured interviews with 175 key stakeholders. These stakeholders included decision-makers from multilateral financial institutions like the World Bank, IMF, European Union, and African Development Bank, as well as bilateral financiers such as China, Japan, the U.S., and Germany. In Ethiopia, Zambia, and Ghana, I interviewed top executives and technocrats in various government departments and ministries, including finance, transport, infrastructure, and central banks. I also conducted focus group interviews with district chief executives and technocrats in three districts of Ghana, representing swing-voter regions. Due to conflicts in Ethiopia, I couldn't travel outside Addis Ababa. In Zambia, I focused on interviewing central government officials due to the centralized funding decision for local public goods provision. To gain an independent perspective, I interviewed civil society organization leaders, local scholars at universities in Zambia, Ethiopia, and Ghana, and 15 Chinese contractors operating in these countries. More details about the interviewees and their organizations can be found in Table 1.

Table 1. Summary Statistics of Interviewees

Location of interview	Government official	Local NGO	Local scholar	OECD agency	Chinese contractor	Chinese creditor	Multilateral institution
Beijing	4	0	3	0	0	3	0
Washington, D.C.	0	0	1	0	0	0	3
Zambia	31	6	7	4	9	1	6
Ethiopia	19	3	3	1	3	0	8
Ghana	40	3	4	4	3	1	5
Subtotal	**94**	**12**	**18**	**9**	**15**	**5**	**22**
Total				**175**			

Source: Based on author's field research

4. Data and Research Design of Cross-Country and Cross-Sector Analysis

My theory suggests two hypotheses:

H1. External conditionality may constrain but cannot prevent regional favoritism in development finance distribution.

H2. A higher level of political competition exacerbates regional favoritism in development finance distribution.

To test these two hypotheses in a large-number analysis, I merged two databases to test whether there is a significant difference between the geographical targeting of Chinese and World Bank finance in countries with different levels of democracy. A summary of the descriptive statistics is shown in Table 2. The first dataset is the georeferenced district-level data of Chinese and World Bank projects in 48 African countries between 1995 and 2017 coded by Dreher et al. (2019). This panel dataset includes the total amount of Chinese and World Bank finance in USD at the first (ADM1) subnational level in each year. I use these as my key dependent variables.

I take the inverse hyperbolic sine (arcsine) transformation of the levels of Chinese and World Bank current development finance flows. This follows the methodology developed by applied econometricians by using the $(y) \ = ln\ (y + (y^2 + 1)^{\frac{1}{2}})$ (Bellemare and Wichman, 2020). By employing this technique, my estimation not only resembles a logarithm but also preserves the inclusion of significant zero-valued observations in my sample. This is crucial because if I were to solely use the logarithmic transformation, the undefined value of ln(0) would cause the loss of these meaningful observations. To ensure the robustness of my arcsine transformation, I also employ another common practice in estimating linear regression. This involves taking the logarithmic transform of 1 plus the outcome, as well as using the original levels of the outcome variables, instead of their logarithmic transformations, which allows for the inclusion of zero-valued observations.

Table 2. Descriptive statistics for district-year level of analysis

VARIABLES	N	mean	sd	min	max
World Bank Finance Flow (Log)	8,340	2.881	5.261	1	21.96
Chinese Finance Flow (log)	8,223	1.896	3.783	1	22.71
Ethnicity	8,340	0.107	0.309	0	1
Capital region	8,340	0.0791	0.270	0	1
Oil and gas region	8,340	0.0899	0.286	0	1
Port dummy	8,340	0.112	0.315	0	1
Road density	8,310	0.125	0.120	0	0.718
Area (log)	8,310	9.345	1.767	3.603	14.14
Mines (log)	8,340	0.532	0.984	0	5.817
Population in 2000 (log)	8,340	12.38	2.156	3.945	18.01
Nightlight intensity in 2000 (log)	8,340	-2.879	1.963	-4.605	4.146
Party competition across regions	8,340	0.183	0.985	-2.571	2.149
Regime of the World (V-Dem)	8,340	1.226	0.692	0	3
Freedom House Status	8,340	2.261	0.681	1	3
Political Competition(Polity2)	7,865	6.039	2.322	1	9
Polity Revised Combined Score	8,340	1.146	4.511	-7	9

Data source: my sample

Dreher et al.'s (2019) dataset, based on the ethnic identification of the Geo-Referencing of Ethnic Groups (GREG) project, includes a dummy variable (Coethnic district) that equals one if the ADM1-level district shares the same ethnic origin as the country's leader at the time. This measurement follows the same approach as used by Hodler and Raschky (2014), Alesina et al. (2016), and De Luca et al. (2018), among others. Additionally, the dataset includes variables indicating preexisting regional features that may affect a district's likelihood of receiving development finance, such as the average nighttime light intensity in 2000 (Light2000), the population in 2000 (Population2000), whether this district produces oil and gas (Oilgas), whether the region belongs to the capital city (Capitalregion), whether the district has a port (Ports), the sum of mineral facilities in each district (Mines); the total length of roads per square kilometer (Roaddensity), and the geographical size (Area) of a district calculated through its shapefile. Past research suggests that a district is more likely to receive foreign-financed projects if it is urban, resource-rich, populous, and has already developed some transportation infrastructure.

To measure each of the levels of political competition in each of the 48 African countries, I use the Varieties of Democracy (V-Dem) index, which covers 202 countries from 1789 to 2022 in the latest version of its dataset. Unlike traditional democracy indices such as the Polity score and the Freedom House, the V-Dem data constructs a set of indices to measure the components of democracy. I choose a categorical variable, Regime of the World (RoW). The RoW originally has four categories of regimes: closed autocracy, electoral autocracy, electoral democracy, and liberal democracy. For the simplicity of analysis, I combined my observations in electoral autocracy and electoral democracy into one category, hybrid regime. This leads to a total of three categories in my RoW variable: closed autocracy, hybrid regime, and liberal democracy. Since the RoW scores of 15 out of the 48 countries do not change over the sample years, the variation of regime types for these countries may be limited to the country level.

To test whether the geographical targeting of Chinese and World Bank finance is different in African countries with different regime types, my main estimation function is seen below in Equations 1 and 2.

$$Development\_Finance_{ict} = \partial_c + \delta_t + \beta_1 Coethnic_{ict} + \sum \gamma X_{ic} + \epsilon_{ict} \qquad (1)$$

$$Development\_Finance_{ict} = \partial_c + \delta_t + \beta_2 Coethnic_{ict} * Regime_{ct} + \delta Coethnic_{ict} + \theta Regime_{ct} + \sum \gamma X_{ic} + \epsilon_{ict} \qquad (2)$$

where $Development\_Finance_{ict}$ represents the inverse hyperbolic sine transformation of the levels of Chinese and World Bank current development finance flows to district *i* in country *c* in year t; ∂_c a country fixed effect; δ_t a year fixed effect; $Coethnic_{ict} * RoW_{ct}$ an interaction between the dummy variable of coethnic district *i* in country *c* in year *t* and the categorical variable $Poli\_Comp$ of country *c* in year t; X_{ic} the sets of time-invariant control variables; and ϵ_{ict} an error term. My main outcomes of interest are the coefficients β_1 and β_2: β_1 captures the difference between coethnic and non-coethnic regions of all regime types, while β_2 represents the difference in difference between coethnic and non-coethnic regions of various regime types. Given that my observations may not be independent of one another, I also clustered my analysis at the country-year level.

Equations 1 and 2 are based on district-year data aggregated from my raw project-level data, which captures the information on how sharing the same ethnic backgrounds with the political leaders affects a district to receive zero, less, or more development finance, as this district-year unit of analysis allows me to observe all districts, regardless of whether they received finance from China or the World Bank at all, and assign value 0 to districts that have not received any finance at all. To further identify the political affiliations of the districts that became the hosts of development finance projects, I reshaped my data into a project-district-year panel that includes a variable controlling project sector. I constructed a new categorical variable $Region_{ict}$ that classifies each African district from 1995-2017 into one of three values— stronghold, swing, or opposition—based on election outcomes at the regional level. Stronghold districts are those where the incumbent won over 60% of votes in the previous election, swing regions are those with 40-60% incumbent votes, and opposition are regions where the main opposition won over 60%). I will also create a dummy variable (financier) that equals 1 if it is a project financed by the World Bank and 0 if China. Using a multinomial logistic regression (MNL), the new estimation function for this project-district-year unit of analysis is:

$$\text{Prob } (Region_{ict} = j) = \frac{\exp{(\beta_j X_{ict})}}{1+\sum_{k=1}^{m}\exp{(\beta_k X_{ict})}} \quad for\, j = 1, 2, \text{ or } 3 \qquad (3)$$

$$\text{where } Region_{ict} = \begin{cases} 1, & if\ opposition\ (main\ opposition\ party\ vote \geq 60\%) \\ 2, & if\ stronghold\ (incumbent\ vote \geq\ 60\%) \\ 3, & if\ swing\ region\ (incumbent\ vote: 40 - 59\%) \end{cases}$$

In Equation 3, j indicates a specific choice in the set of all 3 alternatives, $\beta_j X_{ict}$ is the matrix of estimated coefficients and independent variables, k is one of the 3 choices, and m equals the number of all possible political affiliations of the region. I keep the key independent variables in Equation 3 the same as Equations 2 and 3, measuring the effects of financier type and regime type of a development finance project on the likelihood for it to be distributed to a stronghold, swing, or opposition region of the incumbent political leaders. Notably, it estimates the relative, rather than the absolute likelihood for a World Bank/Chinese-financed project to be falling into a region of particular political interest to the incumbent. The probabilities of all three categories sum to 100%. This moves beyond a simple co-ethnic/ non-coethnic dichotomy to understand the heterogeneous political survival strategies across African countries with different regime types. Table 3 shows the descriptive data of the project-district-year level of analysis.

Table 3. Descriptive statistics for project-district-year level of analysis

VARIABLES	N	mean	sd	min	max
year	14092	2006.741	5.446	1995	2017
log project amount	13367	15.514	1.498	8.045	22.522
source quality precision level	14092	2.583	1.467	1	5
incumbent vote share in previous presidential election	7669	56.836	24.985	.31	100
incumbent vote share in previous legislative election	8472	52.2	25.541	0	100
birth region of political leader	14092	.122	.328	0	1
capital region	14092	.162	.369	0	1
presidential election year	14092	.141	.348	0	1
legislative election year	14092	.172	.377	0	1
region	14092	2.262773	.6864541	1	3
financier is China	14092	.113	.316	0	1
country code	14092	23.316	12.223	1	45
sector	14092	9.272	4.434	1	15

Source: my sample

5. Findings from Cross-Country and Cross-Sector Analysis

5.1 Which districts received more finance and which received less (or none)?

Table 4 presents the results of Equation 1, which indicates that both Chinese and World Bank finance tend to be directed towards political leaders' coethnic regions. Ethnic favoritism is nearly twice as likely to occur in the allocation of Chinese financing compared to the World Bank. On average, the current flow of Chinese financing to coethnic regions is 108.7% higher than to non-coethnic regions, while the World Bank's financing flow to a coethnic region is 65.7% higher. This suggests that the World Bank's stricter conditionalities for development finance disbursement may reduce but not eliminate ethnic favoritism across all regimes. In addition, districts with higher levels of wealth, larger geographical areas, and higher average nighttime light intensity, as well as capital cities, are more likely to receive Chinese and World Bank financing. While Chinese financing tends to favor regions with more mineral facilities, the World Bank's financing increases significantly in port regions.

Table 4 also includes the results of Equation 2, which compares the coethnic and non-coethnic regions across different regime types, with the closed autocracy omitted due to collinearity. The difference in the World Bank's development financing flow between coethnic and non-coethnic regions is 139.8% higher in hybrid regimes and 268.6% higher in liberal democracies compared to closed autocracies. Similarly, the difference in the Chinese development financing flow to coethnic and non-coethnic regions in liberal democracies is 242.8% higher than in closed autocracies. Figure 3 plots the average marginal effects of coethnicity on development finance allocation across autocracy, hybrid regime, and democracy, showing that the gap between coethnic and non-coethnic regions in the amount of development financing they receive from both China and the World Bank is greater in regimes with a higher level of democracy score.

Table 4: Baseline estimation and ethnic favoritism across regime types

	Baseline Estimates		Regime of the World (V-Dem)		Control for party institutionalization	
	World Bank	China	World Bank	China	World Bank	China
Coethnic	0.657***	1.087***	-0.670	0.459	-1.488***	0.503
	(0.218)	(0.200)	(0.547)	(0.550)	(0.539)	(0.677)
Hybrid regime			0.789	-0.144	-0.0240	-0.137
			(0.725)	(0.203)	(1.163)	(0.265)
Liberal democracy			-1.316	0.415	-2.177	0.428
			(1.427)	(0.618)	(1.705)	(0.651)
Coethnic x Hybrid regime			1.398**	0.539	2.269***	0.537
			(0.615)	(0.598)	(0.609)	(0.720)
Coethnic x liberal democracy			2.686**	2.428**	3.558***	2.478**
			(1.072)	(1.092)	(1.089)	(1.184)
Party Institutionalization Index (V-DEM)					0.310	-0.627
					(2.368)	(1.260)
Light2000 (log)	0.351***	0.192***	0.347***	0.193***	0.355***	0.199***
	(0.0590)	(0.0412)	(0.0589)	(0.0412)	(0.0624)	(0.0437)
Population2000 (log)	0.230***	0.0461	0.230***	0.0422	0.249***	0.0448
	(0.0622)	(0.0409)	(0.0624)	(0.0409)	(0.0665)	(0.0437)
Capitalregion	2.221***	4.143***	2.230***	4.151***	2.332***	4.352***
	(0.263)	(0.329)	(0.263)	(0.329)	(0.279)	(0.347)
Mines (log)	-0.0150	0.200**	-0.00977	0.208**	0.0101	0.220**
	(0.0986)	(0.0851)	(0.0989)	(0.0852)	(0.104)	(0.0900)
Oilgas	0.0187	-0.191	0.0892	-0.140	0.0559	-0.180
	(0.300)	(0.217)	(0.298)	(0.213)	(0.313)	(0.224)
Area (log)	0.315***	0.117***	0.311***	0.118***	0.315***	0.131***
	(0.0653)	(0.0402)	(0.0652)	(0.0399)	(0.0694)	(0.0429)
Ports	0.547**	0.0965	0.538**	0.0509	0.614**	0.0963
	(0.267)	(0.220)	(0.263)	(0.212)	(0.282)	(0.227)
Roaddensity	0.762	0.462	0.716	0.442	0.806	0.539
	(1.175)	(0.835)	(1.173)	(0.832)	(1.252)	(0.889)
Country-Year FX	YES	YES	YES	YES	YES	YES
Constant	-4.182***	-0.721*	-4.719***	-0.577	-5.347***	-1.506*
	(0.604)	(0.399)	(0.846)	(0.438)	(1.551)	(0.775)
Observations	8310	8193	8310	8193	8039	7927
R-squared	0.218	0.211	0.221	0.213	0.226	0.214
Adjusted R-squared	0.212	0.204	0.215	0.206	0.219	0.207

Standard errors in parentheses
* p<0.10, ** p<0.05, *** p<0.01

Note: This table presents a baseline regression analysis that replicates the methodology used by Dreher et al., (2019), along with an analysis of the interaction between coethnicity and V-Dem's Regime of the World categorical variable (closed autocracy, hybrid regime, and liberal democracy). The dependent variables are calculated as the arcsine of the total current flow of Chinese or World Bank finance received by a district *i* in year *t*. Closed autocracy is omitted due to collinearity. The unit of observation is a district-year, with all districts being at the first level of the subnational administrative district (ADM1). The party institutionalization index is an interval index ranging from low to high (0-1), which measures political parties' attributes, such as their level and depth of the organization, links to civil society, cadres of party activists, and party supporters within the electorate (Coppedge et al., 2023). All regressions control for the country-year fixed effects, and standard errors are clustered at the country-year level and reported in parentheses. ***(**,*): significant at the 1% (5%, 10%) level.

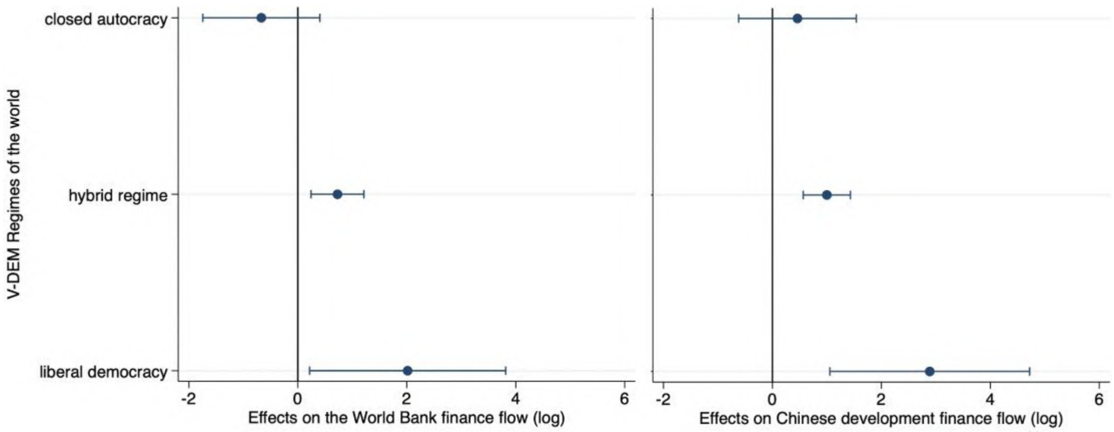

Figure 3. Marginal effects of regime type and ethnicity on the World Bank and China's road finance allocation, with 95% confidence intervals

Note: The dependent variables are calculated as the arcsine transformation of the total current flow of Chinese or World Bank finance received by a district *i* in year *t*.

Table 4 also presents control for an important confounding variable that could challenge my argument on political competition and ethnic favoritism in development finance allocation: the level of party institutionalization in each country. Previous studies indicate that in weak institutional contexts, where agencies of the national bureaucracy and political parties are less coherent, patronage serves as "political cement" binding policy and service delivery (Hutchcroft, 2014). In contrast, higher levels of party institutionalization in African countries could potentially lead to a reduction in the politicization of public resources and broader distribution of state resources (Sigman, 2022). However, my findings show that even after controlling for the country-year level of party institutionalization, ethnic favoritism in the allocation of Chinese and World Bank finance continues to increase with the political competition.

My study corroborates Dreher et al.'s (2019) results, demonstrating that a significant amount of Chinese development finance is allocated to African leaders' birth regions and coethnic regions. However, while Dreher et al. (2019) did not report on the allocation of World Bank's finance across coethnic and non-coethnic regions, my analysis reveals that ethnic favoritism in the subnational allocation of World Bank financing is prevalent across all regimes and more pronounced in African countries with higher levels of political competition, albeit on a smaller scale than Chinese finance. While Dreher et al. (2019) included regression of an interaction term between leaders' birth region dummy and the Polity score, they did not find significant results. My results suggest that ethnic origins may be more influential than birth origins in explaining Africa's political favoritism across countries with different levels of political competition.

This finding aligns with previous research on competitive clientelism in weak institutions. For instance, Driscoll (2018) discovered that political competition in Ghana can lead to greater patronage, with closely contested local elections encouraging local governments to provide more public sector jobs. My findings are also consistent with evidence showing that democratic transitions and highly competitive elections in weakly institutionalized democracies can prompt politicians to prioritize short-term benefits for their core supporters at the expense of long-term environmental concerns (Sanford, 2021). Notably, my study focuses on foreign development finance, which primarily flows through the central government before reaching local communities, providing influential politicians with greater opportunities to use public resources for their electoral gain than with domestic resources, such as public jobs and services, which are more community focused.

To ensure the robustness of these results, I employed polity 2 and freedom house status as interaction terms with coethnic regions. As shown in Table A.1 in the appendix, an increase of one unit in the polity 2 revised score is associated with a 48.0% rise in the World Bank's current development finance flows to coethnic regions on average. Moreover, the Freedom House status interaction implies that the gap in the World Bank's finance flow between coethnic and non-coethnic regions in autocratic regimes (coded as "not free") is 146.6% lower than in democratic regimes (coded as "free"). In addition, I used Dreher et al. (2019)'s ADM2 data with information on leaders' birth regions, and interacted it with regime types, as shown in Table A.2 of the appendix. The results for ADM2 data on birth regions are similar to the ADM1 data on coethnic regions, indicating that higher political competition has a significant impact on the regional favoritism in allocating both World Bank and Chinese financing.

Although I employed the inverse hyperbolic transformation (i.h.s) on my dependent variables to handle numerous zero-valued observations, it is important to highlight that recent studies in applied econometrics indicate that the estimated treatment effects for an arcsine-transformed outcome can be sensitive to the units that the outcome is measured. This sensitivity arises because i.h.s treatment effect captures both the unit change from zero to a positive value and the percentage increase resulting from the treatment for those with positive values (Mckenzie, 2023). Consequently, this aspect may impact the interpretation of my findings. To address this concern, I adopted two additional common practices for dealing with a substantial number of zeros. Firstly, I apply a logarithmic transformation of one plus the outcome variables, specifically, log (1+the total current flow of Chinese and World Bank annual finance flow to each district). Secondly, I used the level of the total annual current flow of Chinese or the World Bank finance into each district. As shown in Table A.2 in the appendix, the baseline estimation of Chinese and World Bank's development finance received by the coethnic region with the incumbent political leaders is still significantly higher than that of a non-coethnic region. Moreover, the scale of ethnic favoritism in Chinese finance is around twice that of the World Bank finance.

5.2 Among funded projects, what were the political affiliations of recipient districts?

While the analysis above provides an explanation for the distributive decisions based on the ethnic backgrounds of the district, one may argue that ethnicity is only one aspect of the potential political survival strategy for leaders. Furthermore, one may argue that in some African countries, ethnicity is not a critical factor in winning an election. The findings based on Equation 3 and the project-district-year data using multinomial logistic regression are shown in Figure 4, which suggests that a liberal democracy tends to use both Chinese and World Bank's projects to sway swing regions, as swing regions in democracies received the highest proportions of development finance projects. In hybrid regimes, however, the stronghold regions of the incumbent leaders received most projects. In autocracies, the difference in the likelihood of getting a World Bank and a Chinese project between an opposition region and a stronghold/swing region is smaller than in both hybrid regimes and democracies. This suggests that potentially due to a lack of political competition, the electoral outcome for a region matters less in the distributive decision-making for the political leaders. As for the financier's effects, if the World Bank's stricter project review process and conditions matter at all, it may work most effectively in democracies, where the biggest difference in allocation patterns between the World Bank and Chinese projects can be observed. In democracies, the probability for an opposition region to receive Chinese projects is almost 0, whereas that for a World Bank project is about 0.17.

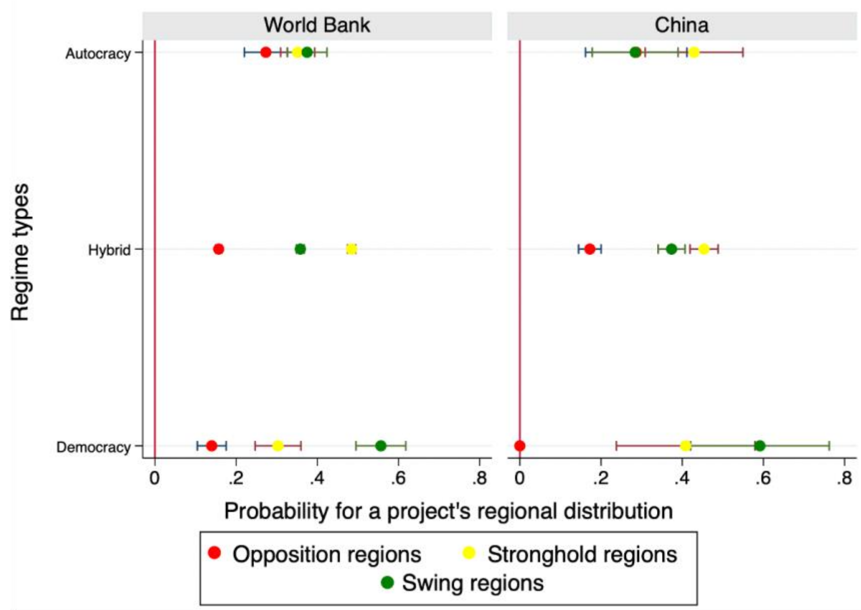

Figure 4. Predictive margins of financier and regime types on the probability for a region to receive Chinese or World Bank project (95% CIs)

5.3 Does project sector matter?

Another potential omitted variable is that the sector of the development finance project may matter. The different allocation pattern between Chinese and World Bank projects may result from the different fungibility of the sectors where their projects are concentrated in—while World Bank finance is concentrated in soft infrastructure such as education, health, and other social sectors, Chinese finance heavily tilts to hard infrastructure like transport, power, and construction sectors. I created a dummy variable hard infrastructure that equals 1 if the project is in agriculture, communications, energy, industry, mining, construction, transport and water supply, as well as 0 (denoting soft infrastructure) if it is in banking and financial services, business, education, emergency response, environmental protection, governance and civil society, health, social infrastructure and services, as well as water sanitation.

Figure 5 plots the marginal effects of being a hard infrastructure on the regional allocation of the project, demonstrating that for the World Bank, project sector does not seem to matter for regional allocation, as the likelihood for a stronghold, swing, and an opposition region to receive hard infrastructure is about the same. However, for the Chinese projects, hard infrastructure is much more likely to be located in stronghold districts than opposition and swing regions. This may indicate that China-financed hard infrastructure may be the most fungible type of project across financier and project sector, and political leaders may want to use these most lucrative projects with (generally high project value to reward their patronage networks in their stronghold regions.

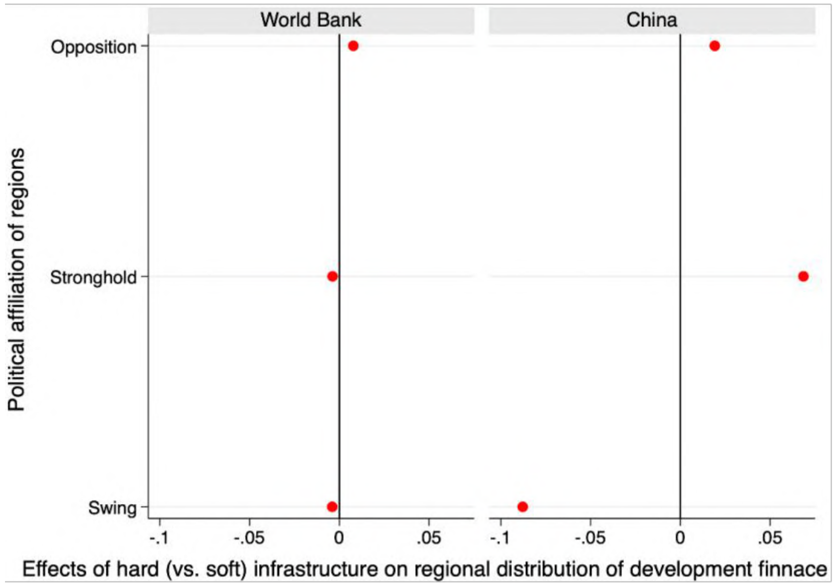

Figure 5.

6. Causal Mechanism: Within-Sector and Time-Series Analysis of Foreign-Financed Roads in Ethiopia, Zambia, and Ghana

I collected road projects data in Ethiopia, Zambia, and Ghana in the past 15 to 20 years, including information on regional location (ADM1), cost, and financiers. allowed me to construct a region-year panel dataset that records the road funds allocated to each region by year and by three types of financiers: China, multilateral institutions, and OECD countries. In Ethiopia, I obtained information from the Ethiopian Road Administration (ERA) for projects between 1999 and 2021, locating the roads through a google map search and consultation with road experts within the ERA. For Zambia, I acquired road data from the annual road work plans of Zambia's Road Development Agency (RDA) between 2006 and 2021. In Ghana, I collected urban road, feeder road, and highway project data from the Ministry of Roads and Highways between 2002 and 2021. Detailed summary statistics of these road projects can be found in Tables A.3, A.4, and A.5 in the appendix.

Using the region-year panel datasets, I compared the average per capita annual development finance inflows to coethnic regions and non-coethnic regions. Coethnic regions were defined as those sharing the same ethnolinguistic background as top incumbent cabinet members , such as the President, Vice Presidents, Ministers of foreign affairs, defense, finance, mines, and internal affairs, as the co-ethnic regions. These ministerial roles are widely considered top positions in Africanist literature (Lindemann, 2011; Francois, 2015). In Ghana, where politics is characterized by cross-ethnic coalitions, I construct a "swing region" dummy variable for specific regions. To address potential confounding factors such as economic productivity or population, I divide the subnational road fund by GDP per capita (in Zambia) or population (in Ghana and Ethiopia) in each region. Capital cities, which typically receive more resources, are excluded from the comparison.

7. Findings from Within-Sector and Time-Series Analysis

Table 5 is a summary of the main findings in my within-sector and time series analysis on the regional distribution of foreign-financed road projects in Ethiopia, Zambia, and Ghana.

Table 5. Summary of Main Findings in Ethiopia, Zambia, and Ghana

Country	Political Competition[5]	Regional Favoritism
Ethiopia (1991-2019)	Low	Low (prioritize national economic development plan)
Zambia (2011-2021)	Medium	High (reward coethnic regions)
Ghana (2000-2021)	High	High (sway broad-based swing regions)

Ethiopia (1991-2019): Centralized Rent Management and Subdued Regional Favoritism

During the rule of the EPRDF government from 1991 to 2019, Ethiopia was effectively a one-party regime with very low levels of political competition. As Table A.6 in the appendix shows, the EPRDF consistently won around 90 percent of the votes in the House of Representatives, except for the 2005 election. The EPRDF government created a *de jure* multiethnic coalition through the use of ethnic-based federalism as a means to justify its legitimacy. The EPRDF was made up of four regional parties: the Tigray People's Liberation Front (TPLF), the Oromo People's Democratic Organization (OPDO), the Amhara Democratic Party (ADP), and the Southern Ethiopian People's Democratic Movement (SEPDM). However, the TPLF elites, represented by Prime Minister Meles Zelewi (who died in office in 2012), controlled key executive committee roles of the EPRDF from 1991 to 2018.

Although there is a common belief that the TPLF, which was the key interest group within the EPRDF, benefited the most from development finance allocation, my empirical evidence on foreign-financed roads shows that the regional favoritism in the subnational allocation of development finance is relatively subdued under the EPRDF. Figure 6, which compares per capita road funds provided by China, multilateral institutions, and OECD countries between coethnic and non-coethnic regions, does not show a clear pattern of favoritism towards coethnic regions. In fact, coethnic and non-coethnic regions received the same amount of per capita road funds from multilateral institutions. The breakdown of the per capita road fund by each region (appendix) further shows that the Afar and Benishangul-Gumuz regions received the highest per capita road fund allocation, followed by Addis Ababa, Tigray, Amhara, and Oromia. This indicates that the distribution of road funds was based more on strategic and economic importance than on regional favoritism, given these regions' role in connecting Ethiopia with the Djibouti port and coffee production.

[5] Measured using the winning margin of the incumbent party at the national level, as shown in Tables A6, A7, and A8 in the appendix.

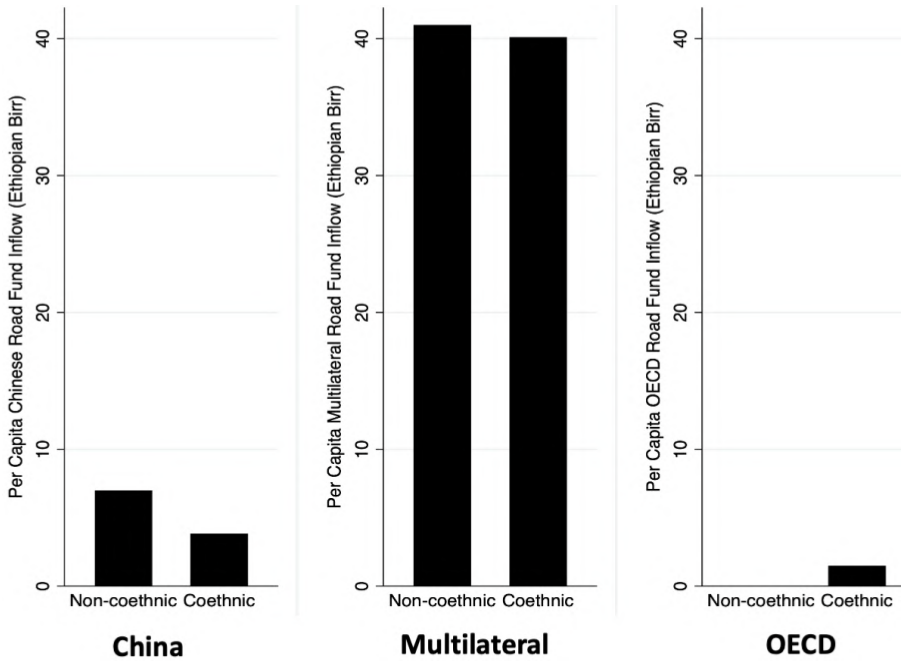

Figure 6. Per Capita Chinese, Multilateral, and OECD Road Fund Inflow by Coethnic and Non-Coethnic Regions, excluding Addis Ababa (1999-2021, Ethiopian Birr)

Data Source: ERA & Central Statistical Agency

In terms of Chinese road funds, the per capita allocation for non-coethnic regions is nearly twice that of co-ethnic regions, while the OECD road fund only flows to the four coethnic regions. Addis Ababa received the highest amount of per capita road funds from China, followed by Somali, Oromia, and SNNPR regions (appendix), while OECD countries-financed roads are concentrated in Addis Ababa, Oromia, SNNPR, and Amhara regions, with the Tigray region receiving no OECD-funded roads (appendix). However, it is worth noting that the total amount of bilateral OECD funds contributing to road development is small, with only South Korea, Japan, and Germany contributing. Overall, road funds from traditional financiers were funneled into the 5-year road development plan made by the EPRDF government. Therefore, the evidence suggests that regional favoritism was not a dominant factor in the distribution of development finance in Ethiopia under the EPRDF government.

According to interviews with executives at the ERA, there is "an international balance across different sources of funding in different regions."[6] The ERA head office generally presents a project proposal to the Ministry of Finance for funding, based on consideration of the road density, population, and economic productivity of a region. The proposal is then reviewed at the cabinet level, where it is checked to see if it aligns with the national development plan in 5 or 10 years.[7] This project review priority makes Ethiopia's selection of roads to be funded drastically different from Zambia, where roads are often proposed by the cabinet members to technocrats under the incentive of gaining support in a tightly contested presidential election.

[6] Interview with a former senior executive of the Ethiopian Road Administration. July 13, 2022. Addis Ababa, Ethiopia.

[7] Interview with a board member of the Ethiopian Road Administration. July 5, 2022. Addis Ababa, Ethiopia.

I argue that autocratic leaders are less likely to overpromise and overspend public resources for electoral cycles as they do not face the same electoral pressure as their counterparts in hybrid or democratic regimes. Furthermore, the EPRDF's state-building efforts through ethnic federalism allowed for a relatively balanced power-sharing among elites from the major four ethno-regional parties, both at the cabinet level and within the EPRDF's executive committee (Arriola and Lyons, 2016). This ensured a relatively equitable distribution of available public resources proportional to each region's population and tax revenue. Moreover, the TPLF-led EPRDF was able to develop a top-down decision-making and relatively strong state capacity, which helped Ethiopia centralize rents for national development. Therefore, the subdued regional favoritism in development finance allocation under the EPRDF resulted from a combination of weak political competition, strong state capacity, and balance in regional representation at the top decision-making body.

Development finance from both traditional financiers and China also follows a relatively balanced regional allocation and aligns with the priorities of EPRDF's national development plans. As long as the selection of projects fits within the country partnership framework jointly made between the traditional financiers and the Ethiopian government, financiers' funds follow the preferences of the Ethiopian governments. Given the relatively strong state capacity and lobbying power of the EPRDF government, traditional financiers either directly provide the government with sectoral budget support or finance projects identified as priorities by the national development plans. As for Chinese finance, the fierce competition across different Chinese construction companies means that to win a contract, the company needs to respect the needs of the EPRDF government and actively help the government lobby Chinese banks to finance the projects.[8]

Zambia under Patriotic Front (PF) government (2011-2021): rampant regional favoritism in development finance allocation

Zambia serves as an example of a flawed democracy, or a hybrid regime, where weak institutions, high political competition, and limited institutional balances have resulted in rampant regional favoritism in development finance distribution. As Table A.7 in the appendix shows, despite transitioning to multi-party democracy in 1991 under the third wave of democratization, Zambia's level of political competition in presidential elections remained low until 2008. In the 2001 presidential election, the Movement for Multi-Party Democracy (MMD) retained power due to a proliferation of new opposition parties that only garnered support in their candidates' home provinces (Larmer and Fraser, 2007).

In the 2011 and 2016 elections, political competition and ethnic salience peaked in Zambia, particularly during the latter when the incumbent party, the Patriotic Front (PF), won by a slim margin of only 2.72% of the national votes. The PF's presidential candidate Michael Sata used a populist strategy to win the 2011 election and appointed cabinets dominated by members from Bemba and Nyanja-speaking regions upon taking power (Cheeseman and Hinfelaar, 2010; Momba and Madimutsa, 2009). After the 2016 election, Lungu's cabinet was the first in Zambia's history to have all members from Bemba and Nyanja-speaking provinces, as Table A.9 in the appendix illustrates.[9] The PF publicly declared that the Northern population should receive more resources, resulting in systematic regional preferences in

[8] Interview with an expert working at a Chinese company that operated in Democratic Republic of Congo, Uganda, and Ethiopia. July 6, 2022. Addis Ababa, Ethiopia.
[9] Interview with an expert of Zambian history. May 5, 2022. Lusaka, Zambia.

resource allocation for political strongholds and excluding other regions.[10] Lungu even retired civil servants with last names from the opposition party's strongholds.[11]

The PF government also weakened Zambia's institutions and replaced evidence-based policymaking with personalistic decision-making. President Michael Sata eroded economic planning and policymaking, increasing political interference and choosing permanent secretaries based on political affiliations rather than merit. Sata borrowed heavily from Eurobonds and China with commercial interest rates to fund infrastructure development policies and sidelined technocrats who spoke out against sustainable borrowing (Zajontz, T., 2020). Top-down decisions came directly from the state house to instruct technocrats to take expensive infrastructure projects that did not necessarily satisfy cost-benefit analysis.[12] President Lungu eroded legislative and judiciary independence, attempting to pass a bill that would have allowed the PF to fully control the government (Ndulo, 2020). Lungu also set up a constitutional court and made it superior to the Supreme Court of Zambia, placing it directly under his management.[13] Civil society organizations were silenced,[14] and during the 2016 presidential election, Lungu used vote-buying, manipulation of the state media, and political violence (Goldring and Wahman, 2016; Habasonda, 2018; Lührmann et al., 2020).[15]

Regional favoritism in the distribution of development finance became rampant due to increased political competition and decreased executive constraints. All local elites and experts I interviewed said that ethnic favoritism during the PF government reached an unparalleled level by other governments in the post-independence era. For example, Sata launched the Link Zambia 8000 project, which envisaged an 8000km road network within 10 years. Road experts estimated that realistically it would cost over US$13 billion and take at least 30 years to achieve the goal.[16] Only 832 km of roads were built by the end of May 2022, 10% of the original plan. The completed sections were concentrated in the Nyanja and Bemba-speaking provinces, the ethnolinguistic strongholds of the PF government. .[17]

[10] Interview with a senior official, Ministry of Finance of Zambia. May 26, 2022. Lusaka, Zambia.

[11] Interview with a senior executive, Ministry of Infrastructure. May 24, 2022. Lusaka, Zambia.

[12] Interview with a senior executive, Bank of Zambia. May 12, 2022; Interview with a senior executive, Ministry of Finance of Zambia. May 11, 2022. Lusaka, Zambia.

[13] Interview with a Zambian politician. May 18, 2022. Lusaka, Zambia.

[14] Interview with a senior government official. Ministry of Finance of Zambia. June 8, 2022. Lusaka, Zambia.

[15] Interview with a Lecturer at University of Zambia. Lusaka, Zambia. May 4, 2022.

[16] Interview with a senior technocrat, Road Development Agency. May 27, 2022. Lusaka, Zambia.

[17] Interview with a top executive of the Road Development Agency of Zambia. May 23, 2022. Lusaka, Zambia.

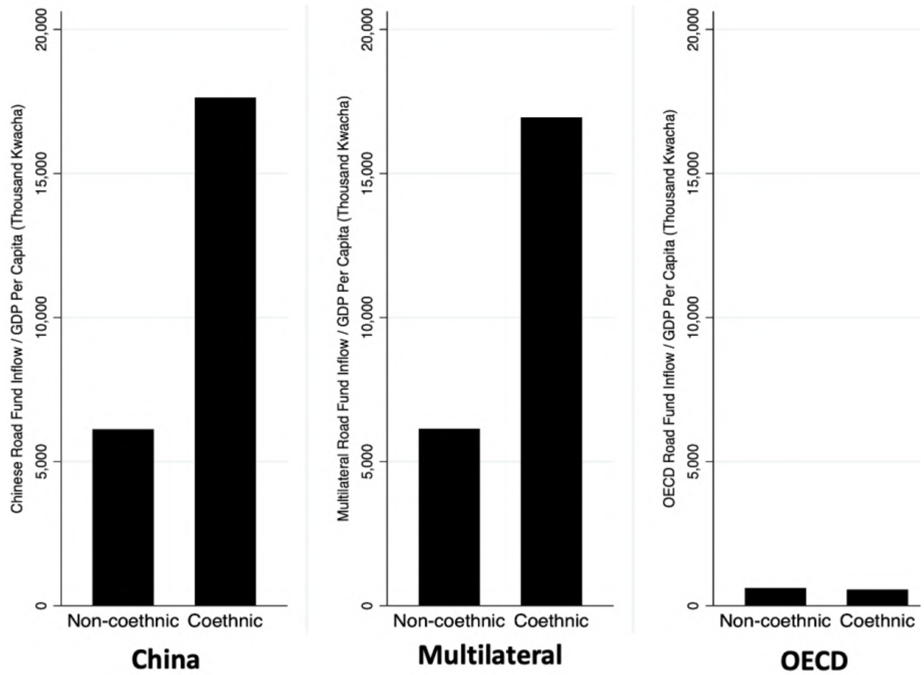

Figure 7. Chinese, Multilateral, and OECD Road Finance over GDP Per Capita by Coethnic and Non-Coethnic Provinces under PF Government, excluding Lusaka (2012-2021, Thousand Zambian Kwacha)

Data source: Road Development Authority & Central Statistical Office of Zambia

Figure 7 shows that coethnic regions in Zambia received more than twice the amount of road finance from China, divided by their regional GDP per capita, compared to non-coethnic regions. Chinese state-owned construction companies may access the list of pipeline projects from the RDA or directly ask Zambian politicians about the projects they want to do, often without detailed feasibility studies. These projects are often introduced financed by Chinese financial institutions at commercial rates and introduced halfway through the budget year, without sufficient debate and scrutiny in parliament, increasing the risk of Zambia's debt sustainability.[18] Similarly, coethnic regions also received more than twice the amount of road finance from multilateral financial institutions, when divided by regional GDP per capita, compared to non-coethnic regions. Traditional multilateral financiers still had to collaborate with the PF government to implement these projects, which was a much smoother process in the incumbent's coethnic regions.[19] For example, an official at Zambia's Ministry of Finance recalled a World Bank project that was initially proposed for the Lozi-speaking Western Province. However, the director responsible for negotiating the project suggested placing it in the Bemba-dominated Northern province, which was the co-ethnic region of the incumbent party, without providing any additional justification. As a result, the project was redirected to the Northern province.[20] This indicates significant regional favoritism in the distribution of multilateral finance.

However, road finance from OECD bilateral financiers is distributed more evenly, with non-coethnic regions even receiving slightly higher per capita allocations of road funds. This could be due to the use of NGOs by OECD financiers in project implementation, which helped bypass political interference

[18] Interview with a former board member of RDA. May 17, 2022. Lusaka, Zambia

[19] Interview with a local NGO leader. June 14, 2022. Lusaka, Zambia.

[20] Interview, Ministry of Finance. June 8, 2022. Lusaka, Zambia.

from the PF government. Therefore, OECD financiers' conditionality can potentially reduce regional favoritism if designed in a way that minimizes political interference from Zambia.

To summarize, Zambia's democratic transition has increased competition between parties and the salience of ethnic identities. Many Zambian parties were formed along ethnic lines after the democratic transition, putting pressure on political leaders to use public resources to support their co-ethnic patron-client networks for political survival during electoral cycles. When executive constraint deteriorates, regional favoritism in the distribution of development finance was also exacerbated. Zambia exemplifies how weak institutions with a high level of political competition and limited institutional independence can lead to rampant ethnic favoritism. Like Chinese creditors, multilateral institutions cannot escape political targeting through their projects when political competition intensifies and executive constraints loosen.

Ghana: High political competition and executive constraints facilitate the targeting of broad-based swing voters during electoral cycles

Ghana is an example of liberal democracy with one of the most institutionalized democracies and robust civil societies in Africa. Like Zambia, Ghanaian politicians face intense political competition and widespread clientelism. Data from Table A.8 in the appendix indicates that the winning margin between the two major parties decreased significantly from 28.11 percent in the 1992 presidential election to a mere 0.4 percent in the 2008 election. However, Ghana's stable party systems, robust civil societies, and relatively independent legislative institutions allow it to constrain the level of rampant political favoritism in the allocation of development finance, making it a better case than Zambia under the PF government. Additionally, Ghana's relatively balanced elite power-sharing and the political norm of building cross-ethnic coalitions nationwide incentivize administrations to focus on geographically broad-based swing voters rather than playing the ethnic card and targeting a few ethnic groups.

Ghana's political system has two important implications for its development finance allocation. Firstly, presidential elections mark the climax of political competition in Ghana, which puts pressure on incumbent politicians to increase their public expenditures to win political support. As a result, Ghana's total amount of development finance inflow generally follows the four-year electoral cycle. Secondly, the extreme level of political competition at the regional level, relatively more institutionalized democratic systems, and the geographical spread of ethnic groups across all regions incentivize both parties to win cross-ethnic supporters nationwide. The swing voters, which are broad-based, receive more development finance allocation than two parties' strongholds during the election periods.

Figures 8 shows World Bank and Chinese financial commitments to Ghana across all sectors from 2000 and 2022 The World Bank's financial commitments have spiked a year before or after presidential elections, indicating a possible link between election cycles and the use of financier-funded public goods to gain votes or reward supporters. For instance, the World Bank committed significantly more in 2001 and 2009, a year after the 2000 and 2008 elections, respectively, than in non-election-sensitive years. Similarly, commitments increased a year before the 2004 and 2016 elections. Four out of six presidential election periods have seen sudden increases in World Bank commitments, while the other two election periods were exceptions.

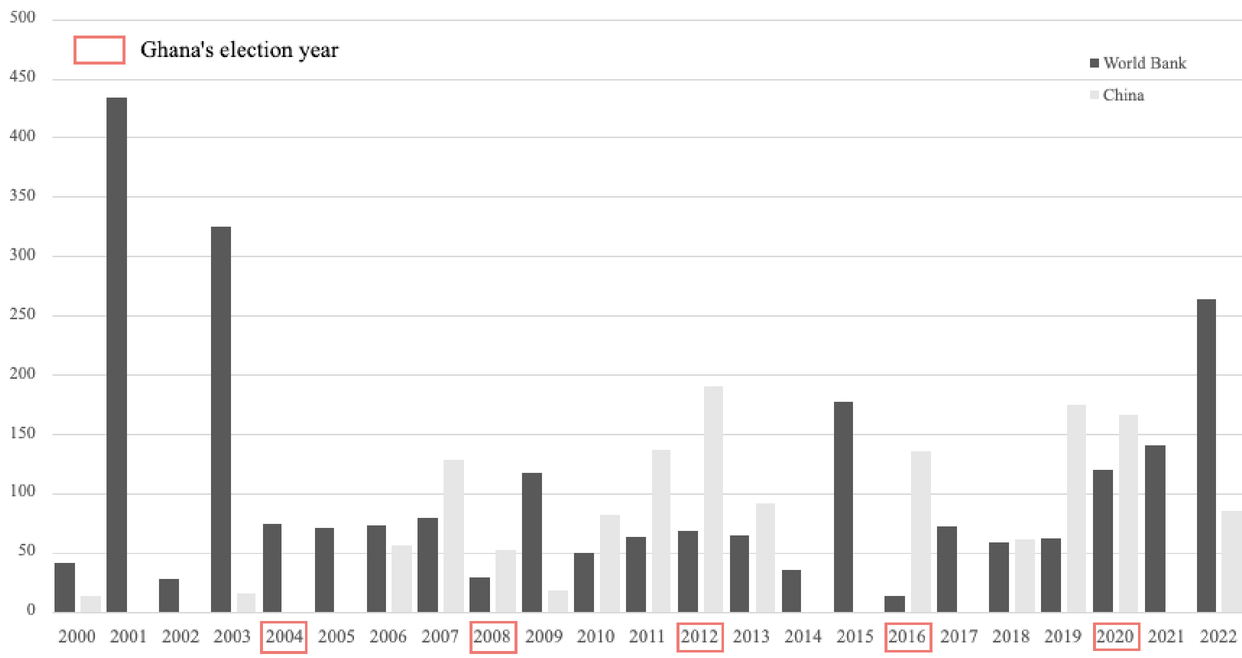

Figure 8. World Bank and China's annual commitment to Ghana, Million USD, 2000-2022

Data Source: World Bank Project Database and Boston University Global Development Policy Center (2022)

Chinese loan commitments to Ghana show a correlation with the country's electoral cycles, much like World Bank commitments. In the years before the 2004, 2008, and 2020, Ghana saw sudden spikes in Chinese loan commitments. During the 2000, 2012, and 2016 elections, there were significant loan commitments made. Though it is challenging to establish a causal relationship due to the limited observations, the fact that the non-election years (2002, 2006, 2010, 2014, and 2018) received less Chinese finance than three-year election periods (before, during, and after the election year) suggest that political pressures influence elites' demand for foreign-funded public projects.

The subnational allocation of development finance is influenced by Ghana's political system, which is dominated by two parties, the National Democratic Congress (NDC) and New Patriotic Party (NPP). While the NDC initially had a stronghold in the Ewe-dominated Volta region and Muslim-dominated North, the NPP was dominated by the Akan group in the Ashanti region. However, due to the internal fragmentation within each ethnic group, both parties have had to build cross-ethnic coalitions and attract supporters nationwide for political campaigns. Additionally, the significant variations in ethno-regional backgrounds of Ghana's top leadership since independence, as well as the administrative and legislative institutionalization of regional balance at the cabinet level, also contributed to the subdued regional favoritism in development finance allocation.

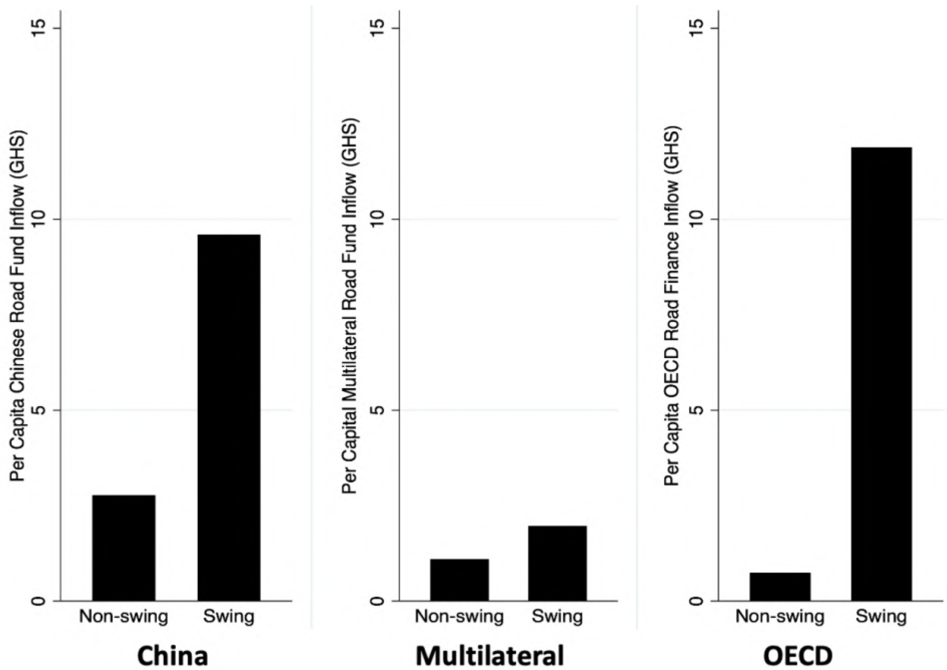

Figure 9. Per Capita Chinese, Multilateral, and OECD Road Fund by Swing and Non-Swing Regions, excluding Accra (2002-2021, Ghanian Cedi)

Data Source: Ministry of Roads and Highways & Central Statistical Office of Ghana

Figure 9 demonstrates the per capita road funding allocated to both swing and stronghold regions by China, multilateral institutions, and OECD bilateral financiers, respectively. The data indicates that in comparison to stronghold regions (with a value of 0), swing regions (with a value of 1) receive almost twice as much road finance per person from multilateral financial institutions. This ratio increases to almost 4 to 1 and 10 to 1, respectively, for Chinese and OECD bilateral finance. Despite different levels of financing from various sources, the same distributive pattern persists across different financiers, with swing regions consistently receiving higher per capita road finance than non-swing regions. These findings are in line with the results of my qualitative interviews, which suggest that swing regions attract more resource allocation due to their crucial role in building cross-ethnicity coalitions. This is vital to winning a national election.

A major threat to my argument is that swing regions receiving more foreign-financed roads could be due to their higher economic productivity than political rationales. To address this concern, I analyzed the per capita amount of road finance by regions between 2002 and 2021 (see appendix). While the Greater Accra region received the most road finance, the Western region had the largest per capita amount of road finance from multilateral institutions and OECD countries, and was the second-largest recipient of China's road finance per person, despite having fewer licensed mines than the Ashanti and Eastern regions (Minerals Commission of the Government of Ghana, 2022). Therefore, the evidence suggests a preference for politically swing regions in terms of per capita road finance, rather than economic productivity. Moreover, the swing regions in Ghana are broad-based, representing more than half of the country's regions, which makes the foreign-financed roads public goods that benefit a wide range of citizens, rather than club goods that only benefit one ethnicity.

Additionally, a robust civil society and relatively independent legislative institutions in Ghana's development finance allocation. The example of China's Sinohydro Co. Ltd. and the Government of Ghana's Master Project Support Agreement (MPSA) for 2 billion USD illustrates how the government allocated China-funded road projects across different regions, despite the actual bauxite mine being concentrated in the Ashanti region. In this agreement, Sinohydro finances 85 percent of the total construction cost through deferral of payments, which allows the Government of Ghana to repay using the revenue generated from selling refined bauxite following a deferred schedule stipulated respectively for each project (Parliament of Ghana, 2018). Table A.10 in the appendix shows a wide regional coverage of the 10 projects initiated in Phase I. The project was originally proposed by the Minister of Finance, but it faced widespread backlash due to potential environmental damage of bauxite mining activities. The Minister of Finance then proposed a road project in each region to “buy love” in Parliament,[21] reflecting that, compared to Zambia and Ethiopia, Ghanaian decision-makers need to take civil society and legislative institutions into consideration when allocating development finance.

In summary, resource allocation in Ghana is guided by the principle of providing a fair share of resources to all 16 regions.[22] Over the 30 years of Ghana's democratic transition, negotiations between the incumbent and opposition parties have led to a peaceful alternation of power and a more equitable distribution of resources. This approach has resulted in an "everybody gets something" outcome, ensuring the fair allocation of development finance.[23] Regarding the role of financiers’ preferences, traditional financiers generally support the government’s project proposals as long as they meet their development objectives, resulting in regional allocation that aligns with the government’s preferences, which are more in swing regions. Chinese contractors and financiers are demand-driven and do not play a significant role in project selection, making their allocation even more aligned with the government’s preferences than traditional financiers.

8. Conclusion

The distribution of foreign development finance at the subnational level varies significantly among developing countries. Why do certain countries experience a high level of regional favoritism in the allocation of foreign finance, while others face comparatively less regional targeting? In this paper, I present a theory of the distributive politics of development finance, which aims to explain the regional distribution of development finance within recipient countries from both the demand and supply perspectives.

I argue that two key variables, financiers’ conditionality and recipient countries’ political competition, play a crucial role in influencing the subnational allocation of development finance. These variables capture the level of external and internal accountability faced by political leaders in their decisions regarding resource allocation. Despite the existence of financiers’ conditionality, I contend that

[21] Interview with a senior executive of the Center for Democratic Development in Ghana and Afrobarometer. August 11, 2022. Accra, Ghana.

[22] Senior executive of National Democratic Institute (NDI) and Ghana Center for Democratic Development (CDD-Ghana). July 21, 2022. Addis Ababa, Ethiopia.

[23] Ibid.

regional favoritism in the allocation of foreign development finance may still occur due to the principle-agent problem and institutional fragmentation commonly found within development agencies.

Furthermore, I argue that the allocation decisions of recipient countries' elites are primarily driven by the need to secure political support and maintain power, but the strategies employed vary due to differing levels of political competition and institutional arrangements. Generally, high levels of domestic political competition lead to shorter time horizons for political leaders, who aim to expend resources based on electoral cycles and maximize their chances of winning presidential elections. In the context of Ethiopia's authoritarian regime, the challenge lies in ensuring loyalty and support from non-coethnics within the state. The EPRDF established the system of ethnic federalism and used economic growth to justify its authoritarian rule. In Zambia, the focus is on allocating finance to maintain the support of co-ethnics, prioritizing loyalty within the ethnic group. On the other hand, in Ghana, preserving power involves attracting swing voters through non-ethnic coalitions, resulting in the distribution of finance aimed at broad-based support.

This paper contributes to the literature on the distributive politics of development finance through a mixed-method research approach. It combines a comprehensive analysis of the regional distribution of Chinese and World Bank finance across 48 African countries with detailed case studies and process tracing. By incorporating both quantitative and qualitative data, this paper controls for potential selection biases inherent in sectoral features of development finance provided by all foreign financiers. This goes beyond previous research that only compares Chinese and World Bank finance at the aggregate level. Moreover, the extensive fieldwork conducted in Beijing, Washington, D.C., Zambia, Ethiopia, and Ghana, offers insights into the entire life cycle of development finance allocation. Information gathered from diverse stakeholders through careful triangulation sheds light on the otherwise opaque decision-making process of the elite.

Theoretically, this paper has implications for understanding the limit of China's global economic strategy. My findings challenge the popular belief that the BRI gives Beijing complete control over fund allocation in recipient countries to serve for its grand strategy in foreign policy. Drawing on comprehensive quantitative and qualitative data from both within and outside China, this paper demonstrates that Beijing faces severe challenges in exercising control over project selection through its development finance. Firstly, the fragmented nature of Chinese development institutions has become even more pronounced under the BRI. Secondly, the lack of capacity, including a shortage of staff members with regional and financial expertise, combined with information asymmetry on the recipient country's side, severely hampers China's ability to direct funds effectively. Thirdly, the significant role of SOEs in Chinese development finance introduces a moral hazard problem, as SOEs prioritize maximizing profits over considering financial, political, and environmental risks. Consequently, the allocation of Chinese finance largely reflects the preferences of the political leaders in recipient countries.

Furthermore, this paper contributes to the literature on foreign aid and international organizations by highlighting the limitations of imposing strict conditionality on development finance. Traditional financiers, including multilateral institutions and OECD bilateral donors, struggle to fully prevent regional favoritism in fund allocation due to the principal-agent problem inherent in aid delivery. While the principals of development finance are the taxpayers of member countries or bilateral donors, the agents responsible for negotiating fund allocation with recipient countries may have conflicting incentives. For instance, World Bank task team leaders' career advancement relies on project proposals being approved, which may lead to disproportionate allocation to urban and wealthier regions despite the World Bank's poverty alleviation goals (Briggs, 2021). This misalignment of incentives is challenging for taxpayers to address due to costly information.

Lastly, this paper sheds light on the institutional constraints of resource misallocation under weak institutions, particularly in Africa. Contrary to the "value of democracy" literature, which suggests that increased political competition resulting from democratization leads to a more equitable distribution of public resources (Montinola, 2010; Burgess et al., 2015), I argue that it can actually exacerbate existing patron-client relationships in the presence of weak institutions. This corroborates with previous literature showing that political leaders utilize foreign aid for political targeting, aided by the emergence of new parties aligned along ethnic or regional lines (Briggs, 2012; Jablonski, 2014). I contend that this phenomenon occurs partially due to the emergence of new parties aligning with ethnic or regional lines, leveraging these divisions for political mobilization, as documented by Posner (2005).

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10. Appendix

10.1 Figures

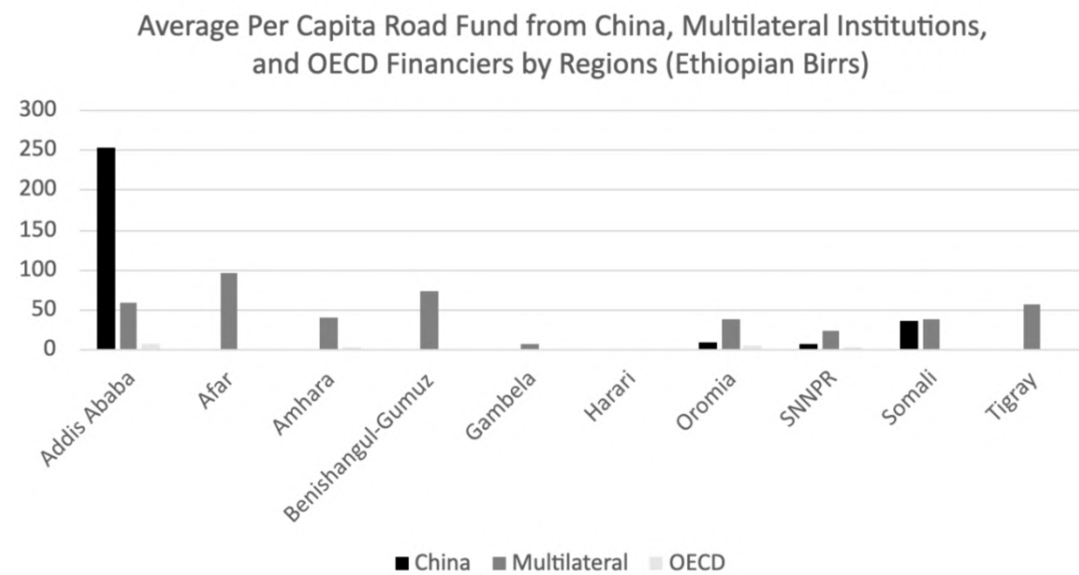

Figure A.1 Per Capita Chinese, Multilateral, and OECD Road Finance Inflow by Regions, 1999-2021

Data Source: Ethiopian Road Authority & Central Statistical Agency

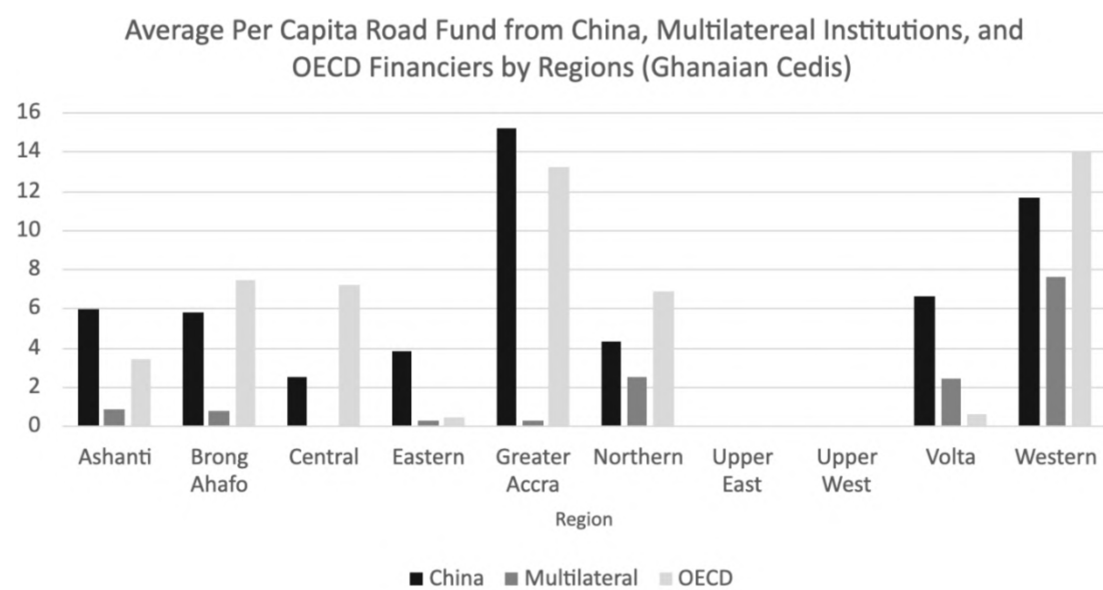

Figure A.2 Per Capita Chinese, Multilateral, and OECD Road Finance Allocation by Region, 2002-2021

Data source: Author's compilation based on data collected from the Ministry of Roads and Highways & Central Statistical Office of Ghana

10.2 Tables

Table A.1 Ethnic Favoritism across Regimes with Polity 2 Score and Freedom House Status

	Polity 2 Revised Score		Freedom House Status	
	World Bank	China	World Bank	China
Coethnic	0.479*	1.054***	1.287*	1.703**
	(0.213)	(0.205)	(0.587)	(0.587)
Polity 2 Score	0.0232	-0.00297		
	(0.0638)	(0.0266)		
Coethnic x Polity2 Score	0.146***	0.0281		
	(0.0392)	(0.0423)		
Freedom House: Partly Free			-0.344	-0.231
			(-0.39)	(-0.61)
Freedom House: Not Free			-0.617	-0.201
			(-0.66)	(-0.49)
Coethnic x Partly Free			-0.227	-1.002
			(0.670)	(0.651)
Coethnic x Not Free			-1.466*	-0.356
			(0.675)	(0.693)
Light2000 (log)	0.352***	0.193***	0.350***	0.195***
	(0.0589)	(0.0412)	(0.0590)	(0.0411)
Population2000 (log)	0.235***	0.0471	0.237***	0.0378
	(0.0626)	(0.0410)	(0.0624)	(0.0411)
Capitalregion	2.264***	4.151***	2.237***	4.133***
	(0.264)	(0.329)	(0.263)	(0.329)
Mines (log)	-0.0102	0.202*	-0.0169	0.206*
	(0.0976)	(0.0853)	(0.0981)	(0.0854)
Oilgas	0.0529	-0.185	0.0380	-0.177
	(0.298)	(0.216)	(0.298)	(0.215)
Area (log)	0.315***	0.116**	0.316***	0.118**
	(0.0651)	(0.0402)	(0.0652)	(0.0402)
Ports	0.506	0.0898	0.534*	0.0804
	(0.265)	(0.219)	(0.264)	(0.217)
Roaddensity	0.447	0.402	0.620	0.472
	(1.168)	(0.826)	(1.167)	(0.837)
Country-Year FX	YES	YES	YES	YES
Constant	-4.177***	-0.719	-3.846***	-0.430
	(0.604)	(0.399)	(0.955)	(0.512)
Observations	8310	8193	8310	8193
R-squared	0.220	0.211	0.219	0.212
Adjusted R-squared	0.213	0.204	0.213	0.205

Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Note: The dependent variables are calculated as the arcsine transformation of the total current flow of Chinese or World Bank finance received by a district *i* in year *t*. All regressions control for the country-year fixed effects. Standard errors are clustered at the country-year level and reported in parentheses. ***(**,*): significant at the 0.1% (1%, 5%) level.

Table A.2 Effects of Coethnicity Using Logarithm of 1 Plus Outcome and the Level as Dependent Variables

	Logarithm of 1 plus outcome		Level of outcome	
	World Bank	China	World Bank	China
	(1)	(2)	(3)	(4)
Ethnicbirthregion	0.657***	1.087***	6053787.7***	14427979.5**
	(0.218)	(0.200)	(1588446.0)	(5857796.8)
Light2000 (log)	0.351***	0.192***	388778.3	1641602.9**
	(0.0590)	(0.0412)	(361887.7)	(756358.2)
Population2000 (log)	0.230***	0.0461	1995049.0**	507403.5
	(0.0622)	(0.0409)	(846728.2)	(856544.6)
Capitalregion	2.221***	4.143***	11511089.9***	26256192.9***
	(0.263)	(0.329)	(2699587.5)	(8540859.9)
Mines (log)	-0.0150	0.200**	-383221.3	1420166.8
	(0.0986)	(0.0851)	(1054071.5)	(2360870.8)
Oilgas	0.0187	-0.191	-1384320.8	1804508.9
	(0.300)	(0.217)	(1976763.2)	(5310852.1)
Area (log)	0.315***	0.117***	118108.7	1847996.2*
	(0.0653)	(0.0402)	(415515.5)	(1002814.8)
Ports	0.547**	0.0965	5567084.0**	3867429.4
	(0.267)	(0.220)	(2259670.8)	(5190162.2)
Roaddensity	0.762	0.462	-16310505.8**	-14825251.0
	(1.175)	(0.835)	(7343453.0)	(9739909.9)
Country-Year FX	YES	YES	YES	YES
Constant	-5.182***	-1.721***	-24545193.7***	-22079036.1**
	(0.604)	(0.399)	(7082313.4)	(10236211.0)
Observations	8310	8193	8310	8193
R-squared	0.218	0.211	0.103	0.047
Adjusted R-squared	0.212	0.204	0.095	0.039

Standard errors in parentheses
* p<0.10, ** p<0.05, *** p<0.01

Note: The outcome variables for estimations 1 and 2 are calculated as the logarithmic transformation of one plus the total current flow of Chinese or the World Bank finance received by a district *i* in year *t,* while estimations 3 and 4 are just the level of the total current flow of Chinese or the World Bank finance received by a district *i* in year *t.* All regressions control for the country-year fixed effects. Standard errors are clustered at the country-year level and reported in parentheses. ***(**,*): significant at the 1% (5%, 10%) level.

Table A.3 Summary of Cost of Road Projects by Financiers in Zambia, 2006-2021 (Million, Zambian Kwacha)

Source of Road Fund	Mean	Standard Deviation	Frequency
China	66210.3	129504.6	264
Multilateral Institutions	23321.5	47910.3	611
OECD Countries	12778.5	24681.1	64
Total	13217.1	44874.7	939

Source: My Sample

Table A.4 Summary of Cost of Road Projects by External Financiers in Ethiopia, 1999-2021 (Million, Ethiopian Birr)

Source of Road Fund	Mean	Standard Deviation	Frequency
China	2472.4	2246.7	11
Multilateral Institutions	594.1	690.2	108
OECD Countries	305.7	354.4	11
Total	728.6	1042.0	130

Source: My Sample

Table A.5 Summary of Cost of Road Projects by External Financiers in Ghana, 2002-2021 (Million, Ghanaian Cedis)

Source of Road Fund	Mean	Standard Deviation	Frequency
China	227.2	145.8	15
Multilateral Institutions	22.2	27.5	33
OECD Countries	119.1	117.4	26
Total	97.8	146.2	74

Source: My Sample

Table A.6 Ethiopia's House of People's Representatives elections between 2000-2020

Election Year	EPRDF share of the vote (%)
2000	87.93
2005	60.00
2010	91.22
2015	91.59

Data source: EISA (2021)

Table A.7 Zambia's presidential elections between 1991-2021

Election year	Winning margin against the biggest opposition (% of the vote)	Winning Party	Previous Incumbent	Notes
1991	48.36	MMD	UNIP	
1996	47	MMD	MMD	
2001	1.95	MMD	MMD	
2006	13.61	MMD	MMD	
2008	1.99	MMD	MMD	Unscheduled presidential elections due to President Mwanawasa's death
2011	6.7	PF	MMD	
2015	1.68	PF	PF	Presidential by-election due to President Sata's death in 2014
2016	2.72	PF	PF	

Data source: Author's calculation based on data from (EISA, 2021)

Table A.8 Ghana's presidential elections between 1992-2020

Election year	Winning margin against the biggest opposition party (% of the vote)	Winning Party	Previously incumbent Party
1992	28.1	NDC	-
1996	17.7	NDC	NDC
2000	13.8	NPP	NDC
2004	7.8	NPP	NPP
2008	0.4	NDC	NPP
2012	3.0	NDC	NDC
2016	9.2	NPP	NDC
2020	3.9	NPP	NPP

Data source: Author's calculation based on data from (EISA, 2022)

Table A.9 Distribution of Cabinet Members Among Major Language Groups Versus Populations, 2015-2022

Ethno-Linguistic Group	Population (%)	Sata's Cabinet (PF) %	Lungu's Cabinet (PF) %	Hichilema's Cabinet (UPND) %
Bemba	33.4	47.4	59.4	33.3
Nyanja	14.7	4.3	21.9	7.4
Tonga	11.4	16.5	0	22.2
Lozi	5.5	6.0	6.3	11.1
North-Western	1.9	2.1	6.3	11.1
Others	33.1	23.7	6.1	14.9

Data source: Kapesa et al. (2020) and Sishuwa (2021)

Table A.10 Sinohydro Master Project Support Agreement Phase I

Lot No.	Region	Description	Total Financed Amount (USD)
1	Greater-Accra	Accra Inner City Roads	94,150,334.30
2	Ashanti	Kumasi Inner City Roads	95,788,094.82
3	Northern	Tamale Interchange Project	46,403,732.51
4	Western	PTC Roundabout Interchange Project, Takoradi	68,948,113.80
5	Greater-Accra	Adenta- Dodowa Dual Carriageway	84,083,028.92
6	Bono	Sunyani Inner City Roads	57,960,394.40
7	Western / Central	Western Region and Cape Coast Inner City Roads	46,978,061.00
8	Ashanti / Western Northern	Upgrading of Selected Feeder Roads in Ashanti and Western Regions	53,681,293.62
9	Central	Rehabilitation of Ajumako - Afranse – Swedru	39,987,137.12
10	Volta	Construction of Hohoe-Jasikan–Dodi-Pepesu	58,657,689.25

Data Source: Ministry of Roads and Highways of Ghana