

When Co-ethnicity Fails*

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Abstract

Why do communities with larger shares of ethnic and racial minorities have worse public goods provision? Many studies have emphasized the role of diversity in hindering public outcomes, but the question of causality remains elusive. We contribute to this debate by tracing the roots of both contemporary racial demography and public goods provision to the uneven historical expansion of the state. Focusing on new historical data from Brazil, we show that more remote municipalities with lower levels of state capacity in the past were more frequently selected by escaped slaves to serve as permanent settlements. Consequently, such municipalities have worse public services and larger shares of Afro-descendants today. These results highlight the pervasive endogeneity of the relationship between ethnic demography and public outcomes. The failure to account for context-dependent historical confounders raises concerns over the validity of previous findings regarding the social costs and benefits of any particular demographic composition.

Keywords: Race and Ethnicity; Demographic Change; Public Goods; State Capacity; Historical Legacies

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Introduction

Why do communities with larger shares of ethnic or racial minorities have worse public outcomes, such as lower public service provision?¹ To explain this empirical regularity, political scientists and economists have hypothesized the existence of a “diversity debit” or a “co-ethnicity advantage.”² Despite the scant evidence for a causal link between ethnic demographic patterns and socially inefficient outcomes, the sheer number of studies showing diversity to harm public goods provision, trust, and social cohesion suffices to convince the most skeptical reader. More recently, however, some of these findings have been challenged both empirically and theoretically. On the empirical side, scholars have demonstrated how the negative effects of diversity can result from a statistical artifact that, when accounted for, shows more *homogeneous* communities to have worse public outcomes than diverse ones.³ On the theoretical side, studies have noted the potential endogeneity of this relationship by highlighting how both ethnic diversity and poor service provision can result from historically weak nation-states.⁴

We contribute to this literature by shifting attention to the subnational level and examining the causal underpinnings of the recently uncovered “homogeneity debit.” To do so, we investigate one important common determinant of local ethnic demography and public goods provision: historical levels of local government’s state capacity. We argue that both the contemporary ethnic composition of communities *and* their ability to provide public services trace their origins (at least in part) to the distribution of local state capacity across the national territory in the past. Accordingly, the association between ethnic demography and public outcomes observed in the present does not necessarily reflect a causal relationship between these variables; rather it may indicate that the spatial distribution of both variables has been influenced by the historical reach and the strength of the state.

¹While the empirical focus of this paper is on public goods and services provision, we use the term “public outcomes” to emphasize that our argument is more general and can potentially be applied to other important measures of collective well-being (e.g., human development, social trust, conflict, etc.).

²Habyarimana et al. 2009.

³Abascal and Baldassarri 2015; Kustov and Pardelli 2018.

⁴Wimmer 2016.

In our analysis, we focus on the case of Brazil and rely on a new geocoded, historical dataset of 5,505 municipalities, including a variety of racial demography, public goods, state capacity, and economic geography variables. We show that localities that had lower state capacity more than a century ago have worse public goods provision *and* larger shares of Afro-descendants today.⁵ To illustrate one important channel through which historical state capacity influenced the initial geographic distribution of racial groups, we then focus on the location of *quilombos* (settlements of runaway slaves). Reflecting the fact that fugitive enslaved persons had strong incentives to select away from areas of strong state capacity, our results show that homogeneous communities of Afro-descendants were more likely to form in remote, inaccessible areas of the country. Due to the fact that these hard-to-reach communities inherited weaker state apparatuses, they have also been less capable of providing public services relative to their counterparts – despite displaying comparable levels of public spending today.

We then examine whether the logic of race-based geographic exclusion applies broadly, and propose a more general version of our argument that incorporates a set of additional mechanisms operating beyond *quilombo* territories. We also investigate the more general relationship between the distribution of state capacity, public goods provision, and the changes in racial demographic patterns across municipalities throughout the 20th century. Overall, our results suggest that the contemporary disadvantage of homogeneous Afro-descendant municipalities in public goods provision is a function of both the initial selection of Afro-descendants into lower state capacity areas and the remarkable persistence of these geographic inequalities over time. In other words, how municipal governments perform today depends critically on how these communities emerged in the first place.

These findings have implications for our understanding of the relationship between ethnic demography and public outcomes more broadly. Previous research has associated ethnic

⁵Scholars have long highlighted that the state’s capacity to govern can vary considerably across space (e.g., Herbst, 2000; Yashar, 2005). Weak state capacity across nominally governed areas may result from an incapable apparatus or from the virtual absence of state institutions.

homogeneity with a host of positive outcomes, arguing that it facilitates the aggregation of public preferences, collective action, and norm enforcement.⁶ More recently, however, scholars have also demonstrated that under certain circumstances, ethnic homogeneity can instead facilitate elite capture and thus lead to *reduced* public goods provision.⁷ This paper complements these recent findings on the homogeneity debit and proposes an alternative theoretical explanation for such patterns. We argue that the ability of different groups to tap into the potential benefits of co-ethnicity are strongly conditioned by whether these groups have historically benefited from (or been harmed by) their interactions with the state.

In summary, the direct effects of ethnic demography on public outcomes may be weaker than scholars have initially thought. In fact, the failure to account for past levels of state capacity and other relevant, context-specific, historical factors calls into question the strength and validity of previous findings regarding the social costs and benefits of any particular (diverse or homogeneous) ethnoracial demographic composition. In the best-case scenario, the observational analyses that have neglected historical forces and focused exclusively on present-day covariates may have overestimated the effects of ethnic demography; in the worst-case scenario, these studies may have characterized a spurious relationship as causal.

Ethnoracial Demography and Public Outcomes

Three Waves of Research on Ethnic Demography

The first *descriptive* question that much of the political economy research on ethnic demography has been concerned with is whether the relationship between diversity and various public outcomes is positive or negative. Accordingly, a standard approach in this literature has been to examine local or national-level outcomes, such as social spending, as a function of (as-if exogenous) ethnic fractionalization (ELF) or similar measures, after accounting for

⁶Habyarimana et al. 2009.

⁷Cruz et al. 2020.

a number of confounding variables. Following this strategy, scholars have found support for the “diversity debit” hypothesis across a wide variety of regions and outcomes.⁸ Although this literature is understandably hesitant to make policy prescriptions, one implication of these findings is that having a homogeneous demographic structure is beneficial to societies and their governance. The absence of (potentially) politically salient societal cleavages – whether based on religion, race, or language – makes cooperation among individuals easier to sustain and social cohesion more likely to emerge.⁹ The ease of intergroup coordination, in turn, makes communities more inclined to make investments with longer-term returns.¹⁰

More recently, however, the limitations of this approach have been brought to the fore. Scholars have emphasized the failure of previous work to account for the heterogeneous effects of diversity across different types of public goods,¹¹ units of analysis,¹² and institutional contexts.¹³ Furthermore, recent studies have problematized the adoption of the fractionalization index as the standard measure of diversity. In particular, by treating ethnic groups as equivalent, this variable fails to indicate which ones are represented in what proportions in the population and thus obscures important differences in the ways distinct groups relate to public outcomes.¹⁴ Altogether, what these studies have demonstrated is that even the (deceptively) simple exercise of determining the sign of the association between local demographic composition and public goods provision may produce contradictory findings, depending on the outcomes studied,¹⁵ the samples considered, and the measures used.

A second *theoretical* question that scholars have grappled with revolves around the mechanisms behind the “diversity debit:” why does it lead to socially inefficient outcomes? Innovative research has examined the reasons for these negative effects from both theoretical

⁸Stichnoth and Van der Straeten 2013; Dinesen et al. 2020.

⁹Easterly et al. 2006.

¹⁰Habyarimana et al. 2009.

¹¹Gisselquist 2014.

¹²Gerring et al. 2015.

¹³Lee 2018; Charnysh 2019.

¹⁴Rushton 2008.

¹⁵Kramon and Posner 2013.

and empirical perspectives.¹⁶ However, some of the empirical patterns we observe remain unexplained. According to the “in-group bias” or “parochial altruism” mechanisms, for instance, individuals benefit from the well-being of a fellow group member and attach lower (or even negative) utility to the welfare of the out-group.¹⁷ Although this channel helps to clarify why more diverse communities may contribute less to the public welfare, it fails to explain why a group of ethnically homogeneous localities systematically experiences worse outcomes than diverse localities. Likewise, mechanisms such as shared tastes and preferences, increased efficacy and findability, and facilitated social sanctions elucidate why more homogeneous communities find it easier to work collectively.¹⁸ However, these same mechanisms fail to account for the systematic divergence in the outcomes of equally homogeneous communities that differ only in the identity of the majority group, further emphasizing the idea that groups are not interchangeable.

A third stream of research has focused on addressing *endogeneity* concerns directly.¹⁹ Although scholars have long acknowledged the endogenous relationship of ethnic demography and public outcomes,²⁰ few studies have taken into account the historical processes that have influenced the distribution of ethnic groups across space, and even fewer studies have been able to identify plausibly exogenous sources of variation in ethnic demography.²¹ Because groups are rarely (if ever) randomly assigned to different territories, it is thus still unclear whether the relationships uncovered in previous observational research are in fact causal. One alternative interpretation is that public outcomes themselves cause particular demographic distributions to emerge. Another possibility is that a third (omitted) variable, such as the strength of the state at the national level, has influenced both contemporary ethnic diversity and public goods provision.²² As previously demonstrated, for instance, historically capable

¹⁶Alesina et al. 1999; Habyarimana et al. 2007; Lieberman and McClendon 2013.

¹⁷Alesina and La Ferrara 2005; Kustov 2021.

¹⁸Habyarimana et al. 2007.

¹⁹Portes and Vickstrom 2011.

²⁰Alesina and La Ferrara 2005.

²¹Charnysh 2019; Algan et al. 2016.

²²Singh and vom Hau 2016.

states have been able to provide public services more effectively while simultaneously being more successful at homogenizing their populations.²³

This paper contributes to this growing literature by further investigating the extent to which the contemporary relationship between ethnic demography and public outcomes can be attributed to common antecedent factors *at the subnational level*. Theoretically, the unit of analysis matters because the mechanisms at play differ from those that operate across countries.²⁴ Empirically, the study of subnational variation requires novel data, given that national level measures – such as Wimmer’s precolonial state centralization – provide no information about the distribution of state capacity across the territory.²⁵ Finally, investigating subnational patterns allows us to identify more precisely the ways in which the state has influenced the initial distribution of groups across space, while keeping other important confounders, such as culture and institutional environment, constant.

The Endogeneity of Ethnic Demography

Among the various historical forces that may have simultaneously influenced subnational demographic structures and public outcomes, in this paper, we focus on the territorial expansion of the state and its capacity across different areas. We argue that the willingness and ability of different ethnic groups to settle in more prosperous or better serviced areas within a given territory can be constrained by their socioeconomic status and by the type of relationship they have with the state. Although these constraints might be temporary, their effects can unfold over time in a cumulative manner. Thus, accounting for the contemporary compositional characteristics of communities or for other important proximate factors, such as average levels of social spending, might not be sufficient to address endogeneity concerns. To examine whether the association we observe between current ethnic demography and public outcomes can be attributed to more basic structural factors (see Figure 1), we explore

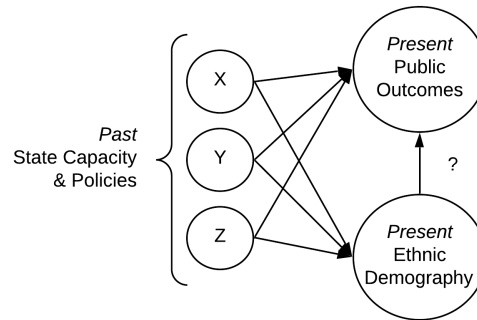
²³Wimmer 2016.

²⁴Gerring et al. 2015.

²⁵Soifer 2008; Giraudy 2012.

some of the historical forces that are known to have influenced spatial settlement patterns across Brazil.

Figure 1: The Endogenous Relationship of Ethnic Demography and Public Outcomes



X, Y, and Z represent the multiplicity of possible historical economic and political confounding variables that affect both ethnic demography and public outcomes.

While it is beyond the scope of this paper to propose a theoretical framework that exhaustively elucidates the co-determinants of subnational ethnic demography and public outcomes, we highlight a number of factors that may play a salient confounding role. The first and one of the most consequential drivers of group-specific settlement patterns lies in *geographic and climatic factors*, which can favor certain types of economic activity and labor organization and encourage greater state penetration and population growth in some areas as opposed to others.²⁶ Weather and crop characteristics, for example, have been shown to be significantly associated with taxation and education spending across U.S. counties.²⁷ Moreover, suitability for the cultivation of cotton in certain regions of North America has been shown to explain some of the spatial variation in the historical prevalence of slavery.²⁸ In other words, geographic characteristics have the potential to affect both the subnational distribution of ethnic groups and the levels of public goods provision.

Second, beyond the effects of climate and geography, *state policies* can differentially affect ethnic groups (i.e., engendering heterogeneous birth, death, intermarriage, and mi-

²⁶Michalopoulos 2012.

²⁷Ramcharan 2010.

²⁸Archarya et al. 2016.

gration rates) in ways that are systematically related to the strength and penetration of the state across the territory. Most prominently, the state can deliberately relocate some ethnic groups to less developed regions through explicit “demographic engineering” measures.²⁹ Alternatively, the adoption of less explicit directives may produce similar outcomes. Governments have been shown to rely on land use regulation, for instance, to help property owners at the expense of the poor in ways that simultaneously intensify racial segregation and differentially affect public goods provision.³⁰

More generally, even ostensibly “color-blind” state interventions (e.g., road construction, land reform, regional development programs, tax subsidies) may disproportionately impact some groups and, as a result, exacerbate pre-existing ethnic and spatial disparities.³¹ Whether deliberate or unintended, the overall effects of state policies are all the more consequential if we consider that even small initial compositional differences across groups (e.g., in their average income) give rise to heterogeneous behavioral responses that, in the long run, can magnify between-group disparities across multiple dimensions.³² In other words, the ethnically biased effects of state policies may persist long after the policies themselves have disappeared.

This paper focuses on the heterogeneous effects that the spatial reach of the state itself can have on different groups’ settlement choices.³³ We argue that the willingness and ability of ethnic groups to settle across space is influenced by the presence and strength of the

²⁹McNamee and Zhang 2019.

³⁰See, e.g., Trounstein (2018). Another type of “demographic engineering” can result from official ethnic (re-)classification in censuses (Melissa Nobles, 2000; Loveman et al., 2012) or administrative displacement through border changes (Posner, 2004).

³¹State policies may also drive changes in individuals’ ethnic (self-)identification, which in turn can spur shifts in *observed* demographic structures (Telles, 2014).

³²Abascal and Baldassarri 2015.

³³According to Mann (1984, 189), the infrastructural power of the state rests in its ability to “actually penetrate civil society, and to implement logistically political decisions throughout the realm.” Social scientists often refer to these capabilities as *state capacity*. Following other scholars, we conceive of state capacity as consisting of three main dimensions: administrative, coercive, and extractive (Tilly, 1975; Soifer, 2008; Hanson and Sigman, 2021). Because, among these, the ability to extract constitutes a necessary condition for the effective exercise of other state functions (Hendrix, 2010), our main specifications rely on taxation as our core measure of state capacity at the local level. Nonetheless, because state capabilities across extractive, administrative, and coercive dimensions may not always covary, we present additional analyses using alternative measures in Appendix.

state in different regions. To the extent that *ceteris paribus* individuals of different ethnic groups have similar preferences with respect to living in well governed areas while avoiding excessive taxation³⁴ and exploitation,³⁵ we should expect there to be no association between local state capacity and ethnic demography. However, when forced labor institutions or official ethnic discrimination policies are in place, the choices of the disadvantaged group are severely constrained and, as a result, an unbalanced territorial distribution of groups may emerge. Even in the absence of discriminatory policies and institutions, local state capacity can still correlate with ethnic demography if individuals' group membership coincides with their economic status, thus limiting their ability to move to specific areas.

In making this argument, we build on the growing literature conceiving of ethnic demography as a product of the same historical factors that make public goods provision more or less efficient in the present,³⁶ and we elucidate one of the channels through which this process may occur at the subnational level. While the mechanisms underlying the association between state capacity and increased public goods provision has been explored in the literature (Figure 2, *a*),³⁷ the relationship between state capacity and ethnic demography outcomes (Figure 2, *b*) is less clear, as it depends on the context and level of analysis. This is what we examine next, focusing in particular on the case of Brazil.

Endogenous Racial Demography in Brazil

Brazil constitutes a paradigmatic example of a modern democratic state that – despite not having adopted explicitly exclusionary policies in the past – has nevertheless maintained a society where the circumstances experienced by Afro-descendants are categorically worse than those of whites. Unlike the South African or the U.S. cases, Brazil's approach to racial cleavages, articulated in the 1891 constitution following the abolition of slavery in

³⁴Kleven et al. 2020.

³⁵Scott 2009.

³⁶Wimmer 2016; Singh and vom Hau 2016.

³⁷See, e.g., D'Arcy and Nistotskaya (2017); Fergusson et al. (2020); Gottlieb (2021). See also discussion below.

1888, was that of an “integrationist whitening strategy.”³⁸ Thus, much like indigenous groups in other parts of Latin America, Afro-descendants in Brazil were “formally considered equal members of society, but were effectively denied equal experiences – limited access to the state [...], resources, land, and dignity.”³⁹ The fact that the Brazilian state privileged specific identities and interests over others – together with its uneven spatial reach – not only approximates it to a number of other cases in Latin America, but also underlines its ability to generate theoretical insights about the mechanisms behind the emergence of restricted forms of citizenship in settings where individuals’ rights are not explicitly molded around ethno-racial lines.

Beyond its theoretical significance, the high degree of racial, spatial, and economic disparities in Brazil also make it particularly well-suited for the study of the relationship between ethnoracial demography and public outcomes. Specifically, Brazil provides sufficient variation in the local predominance of racial groups to allow for a clear empirical differentiation between distinct types of homogeneous communities — in other words, it allows us to disentangle co-ethnicity from group identity. According to its last census, the country has a near-equal proportion of African and European descendants (50.74% *negros*⁴⁰ and 47.73% *brancos*), and almost as many majority white as majority black municipalities.

Importantly, the country’s decentralized structure makes the municipality an ideal unit of analysis for our purposes. The municipality constitutes the smallest politically relevant administrative unit in the country, where decisions about local capacity investments and service provision are made.⁴¹ As such, they offer a large number of comparable cases that share the same electoral rules, broad institutional environment, and mandates while reflecting distinct histories of local state building. Since Brazil’s independence, the primary responsibility for investments in social overhead capital and public services – including the

³⁸Lieberman 2003.

³⁹Yashar 2005, 98.

⁴⁰This common classification includes both Brown (*pardos*, 43.13%) and Black (*pretos*, 7.61%) Census categories. Other categories include Asian (*amarelos*, 1.09%) and Indigenous (*indígenas*, 0.43%).

⁴¹Notably, one of our key variables of interest – past levels of local state capacity – is only measured at the municipal level, meaning we cannot detect any within-municipality variation in this measure.

outcome variables used in our study – has been in the hands of municipal governments. The fact that these localities had to finance public goods with their own resources, in turn, meant that without the ability to generate revenue effectively, they could not fulfill their mandated responsibilities.

As demonstrated by our previous research in Brazil, more *homogeneous* Afro-descendant municipalities currently have worse public goods provision than both diverse as well as homogeneous white ones, even after controlling for levels of public spending and poverty.⁴² These results suggest that intragroup behavioral strategies alone might not be sufficient to account for the systematic disparities we observe between equally homogeneous communities. Furthermore, they emphasize the need to examine the determinants of spatial variation in racial demography and the extent to which the latter is causally related to public outcomes. To address these questions and test whether the racial composition of municipalities and their public outcomes have common antecedent factors, we focus on the historical variation in local state capacity across Brazil.

Race-Based Selection into Low State Capacity and *Quilombos*

Among the numerous Afro-descendant communities that exist across Brazil's territory today, some were born from the donations of provision grounds to enslaved persons, others arose from migratory movements following the abolition of slavery, when ex-slaves fled from plantations to take up squatting claims on frontier lands. A number of the more recently formed communities emerged as a result of voluntary migration and involuntary displacement, themselves driven by a variety of forces that range from local economic growth to speculation and land grabs. Finally, many of today's majority Afro-descendant communities originated in permanent settlements for escaped slaves that were established throughout the 17th-19th centuries.

In this paper, we focus on runaway slave settlements, *quilombos* (or maroon communi-

⁴²Kustov and Pardelli 2018.

ties) and use their location as a reflection of one of the ways in which subnational variation in the capacity or even the very presence of the state may have shaped local demographic structures as well as subsequent public goods provision (see Figure 2, 2).⁴³ In particular, we build on the fact that these autonomous settlements were established and have persisted in hard-to-reach areas of low state presence and capacity precisely to avoid being “discovered and destroyed by punitive expeditions” (see Figure 2, *b1*)⁴⁴ – much like the Southeast Asian communities analyzed in Scott (2009). At the same time, the fact that these communities were predominantly composed of escaped slaves resulted in relatively higher shares of Afro-descendant populations in the surrounding areas (*b2*). Historically low levels of state capacity,⁴⁵ in turn, have made it harder for these localities to develop their municipal apparatuses and effectively produce public goods over time (*a*). We thus argue that this and other types of race-based selection into territories of low state capacity can give rise to a strong association between contemporary racial demography and public goods outcomes – one that can emerge even in the absence of a causal relationship between these variables (*c*).

Importantly, one of the reasons why *quilombola* communities were much more prevalent in Brazil than in other countries is due to the nature of its frontiers:

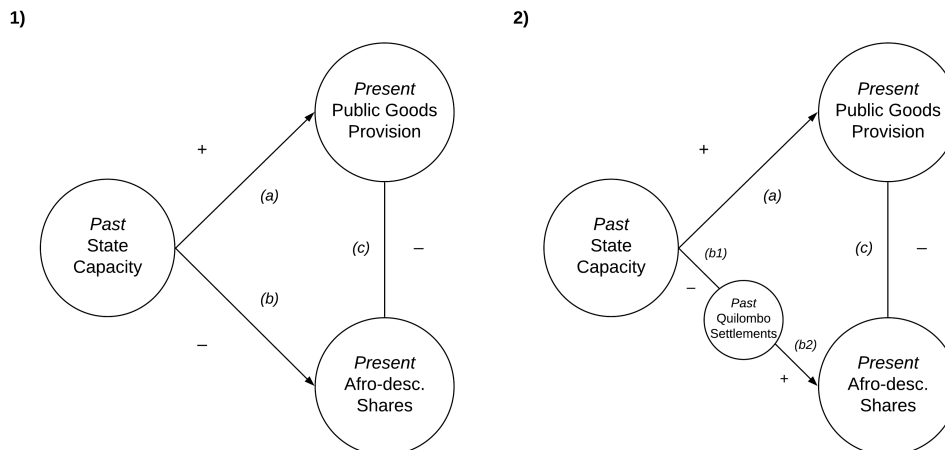
“Although all slave societies had runaway communities, Brazil probably had the most numerous, longest lasting, and most widespread distribution of such quilombos (sometimes also called mocambos) communities in the Americas. Such settlements were in existence for well over a century, and others would be continually founded until the end of slavery in the late nineteenth century. The reasons for the intensity of quilombo activity in Brazil have a great deal to do with both the size of the slave labor force introduced into the country and the open nature of the frontier in all regions of plantation or slave activity. [...] Unlike the 19th-century United States, the slave zones of Brazil were neither blocked by a hostile Indian frontier nor surrounded by white agricultural settlements, but rather were accessible to open frontiers everywhere just a few miles from the coast” (Klein and Luna, 2009, pp. 196).

⁴³Although every *quilombo* arguably represented a form of resistance to slavery, not all of them were established by runaway slaves. Indeed, a number of communities were formed by enslaved persons who inherited the land; others were created in territories that had been abandoned by farmers after an economic downturn; and some were established by freed slaves who purchased their own plots, invaded unclaimed lands, or received land in exchange for services rendered to the state (Moura, 2001).

⁴⁴Bethell 1984.

⁴⁵Specifically, here we refer to the spatial presence and strength of the state during the Empire, i.e., prior to the advent of the Republic and the move toward greater decentralization and municipal autonomy.

Figure 2: Endogenous Racial Demography and Public Goods Provision in Brazil



The diagram illustrates how, as a result of past state capacity (e.g., via Quilombos), present racial demography and public goods provision can be strongly related, even in the absence of a causal link.

Predictably, such escapes provoked the fierce reaction of slave owners, who would frequently resort to local militia groups and paid mercenaries to recapture runaway slaves and destroy their communities. There is little question, however, that the assistance of the state was indispensable in safeguarding slaveowners' interests. Municipal police forces and local courts played a crucial role in guaranteeing the enforcement of contracts, while local authorities conducted investigations and organized frequent expeditions.⁴⁶ As a result, to increase their chances of survival, *quilombola* communities sought withdrawal as much as possible, settling in remote regions with dense forests and difficult access.⁴⁷

The significance of the quilombo mechanism notwithstanding, one may still wonder whether the logic of race-based geographic exclusion studied here applies more broadly. Although our main focus here is on former slave settlements, a more general version of our argument incorporates a set of additional mechanisms that operate beyond *quilombo* terri-

⁴⁶Gomes 2004.

⁴⁷Although it made more sense for them to be isolated, cases of quilombos established in the vicinity of farms, villages, and cities are not uncommon. However, these "suburban quilombos" necessarily had to be mobile, as Reis (1996) notes, because the proximity of urban centers facilitated denunciation and repression. Since mobile or less remote communities were more likely to be found and destroyed by the anti-*quilombos* expeditions organized by landowners and local authorities, the distribution of *quilombos* we observe today is probably the result of both self-selection and biased attrition. The fact that more isolated communities were more likely to survive, however, does not affect our argument about the overlap of low state capacity areas and *quilombos*' locations.

tories. In particular, we highlight the role of immigration, law enforcement, and access to land. These three alternative pathways suggest distinct ways in which local state capacity continued to play a central role in the spatial distribution of ethnic groups in the decades after emancipation. In the Appendix, we elaborate on these channels of influence and provide suggestive evidence in support of their empirical relevance.

In summary, due to such mechanisms of race-based selection into more remote regions, of which *quilombos* constitute but one example, we expect areas with lower state capacity in the past to display both greater shares of Afro-descendants and lower levels of public goods provision today.

Data

We use an original dataset of 5,505 Brazilian municipalities as defined by the 2000 census,⁴⁸ including contemporary and historical racial demography, public goods, state capacity, and geography variables. Given our main aim of highlighting the historical roots of present variation in both racial demography and the public goods provision, these factors constitute our two main dependent variables.

To measure variation in racial demography across the country, we use individual-level census data and construct the Afro-descendant group share for each municipality.⁴⁹

For our second dependent variable, we utilize a composite measure of public goods provision, which reflects the basic set of services that contemporary states are expected to provide: essential infrastructure (e.g., piped water, electricity, sewage), public health services, and educational opportunities.⁵⁰ Specifically, we use the percentage of the local population with

⁴⁸While our analysis relies on contemporary census data from 2000 due to increased data availability, we replicate all of our main specifications using data from the 1991 and 2010 censuses and see no change in our results (see Appendix).

⁴⁹Our main indicator is based on the sum of two (out of five) Census racial categories (*pardos* and *pretos*), but results are robust to considering individual categories as separate groups. Some of our additional empirical specifications also include historical Afro-descendant shares from 1872, 1940, 1980, 1990, and 2010. Note that the 1920 Census did not collect “color” or “race” information.

⁵⁰Centeno et al. 2017; Carlitz 2019.

access to each of these services, and two indices reflecting the quality of locally provided education and healthcare – each comprising five subcomponents.⁵¹

Our first independent variable measures historical levels of local state capacity as reflected by tax revenues per capita across municipalities in 1923 (logged).⁵² To test our argument regarding the self-selection of Afro-descendants into remote, low state capacity areas, we use the density of *quilombos*⁵³ within the boundaries of each municipality as our second independent variable. Our dataset includes all the communities officially recognized as *quilombola* descendants.⁵⁴

Our covariates include a set of geographic characteristics that can influence the ability of local governments to effectively provide public services – these include the size of the locality, altitude, rainfall, sunshine, distance from the coast, and distance from the capital (for summary statistics, see Table A1).⁵⁵ Because empirical specifications with historical variables are prone to spatial autocorrelation,⁵⁶ besides conditioning on the set of pretreatment covariates described above, we control for latitude and longitude, include state fixed effects, and report robust standard errors clustered at the level of the 1872 (or 1920) municipality

⁵¹We focus on these specific outcomes for three main reasons. First, and most important, the provision of all these services rests in the hands of local governments. Second, the nature of these outcomes – commonly described as *universal* access goods – allows us to rule out the possibility that variation in performance results from the fact that certain communities simply did not value these public services or preferred to deploy local capabilities toward different ends. Finally, because state performance can vary significantly from one issue area to another, examining a number of public services allows us to capture the full range of (local) governmental action. For variable construction details, see Appendix.

⁵²Because Brazilian *municípios* have changed significantly over time, we use ‘area interpolation’ methods to map past data onto contemporary boundaries. The number of Brazilian municipalities increased from 641 in 1872, to 1,304 in 1920, and 5,505 in 2000. Adopting an area-weighting method allows us to estimate past state capacity within modern-day localities. For details, see Appendix.

⁵³As specified in Decree 4887 (November 20, 2003) adjusting Article 68 of the Constitution, *quilombos* are defined as “ethnoracial groups, according to criteria of self-attribution, with their own historical trajectory, characterized by specific territorial relations with the presumption of Black ancestry related to the historical resistance and endured oppression.”

⁵⁴For details, see Schwartz (1996). The data were obtained from the Afro-Brazilian Communities Information System (SICAB).

⁵⁵For details, see Naritomi et al. (2012). Due to the potential for posttreatment bias, our main specifications do not include either contemporary or historical income levels as covariates. In spite of this, in Appendix Table A2 we replicate our main analyses with an additional control for municipal output per capita (logged). These results are consistent with our main results above, although we caution that the estimates may be biased.

⁵⁶Kelly 2019; Pepinsky et al. 2020.

as reflected by the corresponding ‘Minimum Comparable Areas’ (AMCs).⁵⁷ We also adopt Conley standard errors with a conservative 200km threshold and run alternative models that account for spatial interdependence, and we see no change in the underlying results.

Finally, to strengthen confidence in our results, we replicate our analyses adopting a number of alternative measures of local state capacity. Specifically, we use the number of public officials in 1920 municipalities to capture the administrative dimension of state strength. Additionally, we use the density of railroads⁵⁸ in 1920 and a direct measure of geographic remoteness – defined as the average travel time required to reach the nearest city from a particular municipality.⁵⁹ For better presentation of our results, all variables used in the analysis were standardized between 0 and 1.

Analysis and Results

As a starting point for our analysis, we replicate the results from previous research showing the disadvantage of more homogeneous Afro-descendant municipalities in providing and accessing public services. As shown in Figure 3 (and Table A3), the share of Afro-descendants is strongly and negatively correlated with public goods provision, explaining a staggering 23-56% of the variation in these outcome measures across Brazilian municipalities (Figure 2, *c*). As previously documented, a significant part of this gap across communities remains even after accounting for all standard political economy and public finance covariates, including government spending and average income levels.⁶⁰

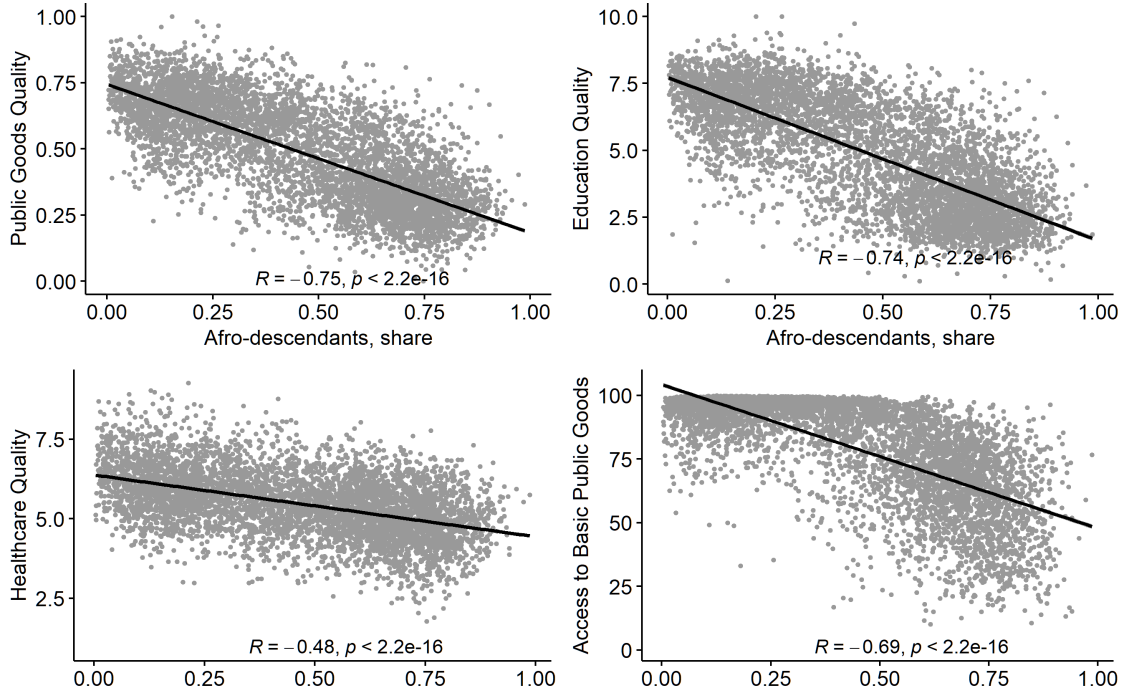
⁵⁷Ehrl 2017.

⁵⁸While this variable captures the relative penetration of state infrastructure across the country, it may be more sensible to view it as an output of state performance rather than state capacity per se.

⁵⁹The advantage of this measure, adapted from Poyart et al. (2018), is that it is based on new digital maps that take into account a number of salient geographic attributes in addition to distance, including roads, railways, rivers, water bodies, land cover types, and topography. The disadvantage is that, since it is based on present maps, it is more likely to be endogenous to past public outcomes.

⁶⁰Kustov and Pardelli 2018.

Figure 3: The “Homogeneity Debit” of Afro-descendant Municipalities in Brazil



Each dot represents a municipality in 2000. For variable descriptions, see Appendix.

Our main empirical strategy is to model both present racial demography and public outcomes as a function of past state capacity while accounting for stable geographic characteristics. Our main results in Table 1 show that tax revenues per capita in 1920 are strongly associated with increased public goods provision⁶¹ and lower Afro-descendant shares across Brazilian municipalities today. In particular, local taxes per capita 100 years ago alone explain approximately 19-22% of the variation in these contemporary outcomes.⁶² Furthermore, these relationships persist even after we account for state fixed effects and a range of geographic factors. Overall, this analysis provides support for the idea of past state capacity as a common antecedent factor predicting both present-day demographic structures and public outcomes, as illustrated in Figure 2 (*a* and *b*), and points to the endogeneity of the relationship between these variables.⁶³

We then use a number of alternative measures of local capacity reflecting non-fiscal as-

⁶¹Table A4 shows the results for each public good component separately.

⁶²These estimates likely constitute a lower bound, given that our historical variables are less spatially disag-

Table 1: Present Public Goods Outcomes and Racial Demography as a Function of Past State Capacity

	Public Goods, 2000		Afro-descendants %, 2000	
	(1)	(2)	(3)	(4)
Fiscal Capacity, 1923	0.770*** (0.085)	0.144*** (0.025)	-0.937*** (0.121)	-0.115** (0.038)
State FE	No	Yes	No	Yes
Geographic controls	No	Yes	No	Yes
Observations	5,417	4,932	5,457	4,928
Adjusted R ²	0.221	0.804	0.189	0.785

All models are OLS regressions based on original data. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, *p<0.05; **p<0.01; ***p<0.001. All models are tested for spatial autocorrelation and the adoption of Conley standard errors does not alter the obtained results.

pects of state strength – including its administrative and infrastructural dimensions – as well as a measure of its geographic penetration across the territory. The first specification uses the size of the state’s bureaucratic apparatus across municipalities in 1920 as a dependent variable. The second and the third models, in turn, adopt the number of railroads within each municipality and geographic remoteness (reverse coded) as alternative (even if somewhat imperfect) proxies for local state capacity. As Table A5 in Appendix A indicates, although some of the estimates are slightly weaker, overall our results remain substantively unchanged. Municipalities that had fewer public officials and less accessible territories a hundred years ago have greater shares of Afro-descendants in the population and worse public outcomes today.

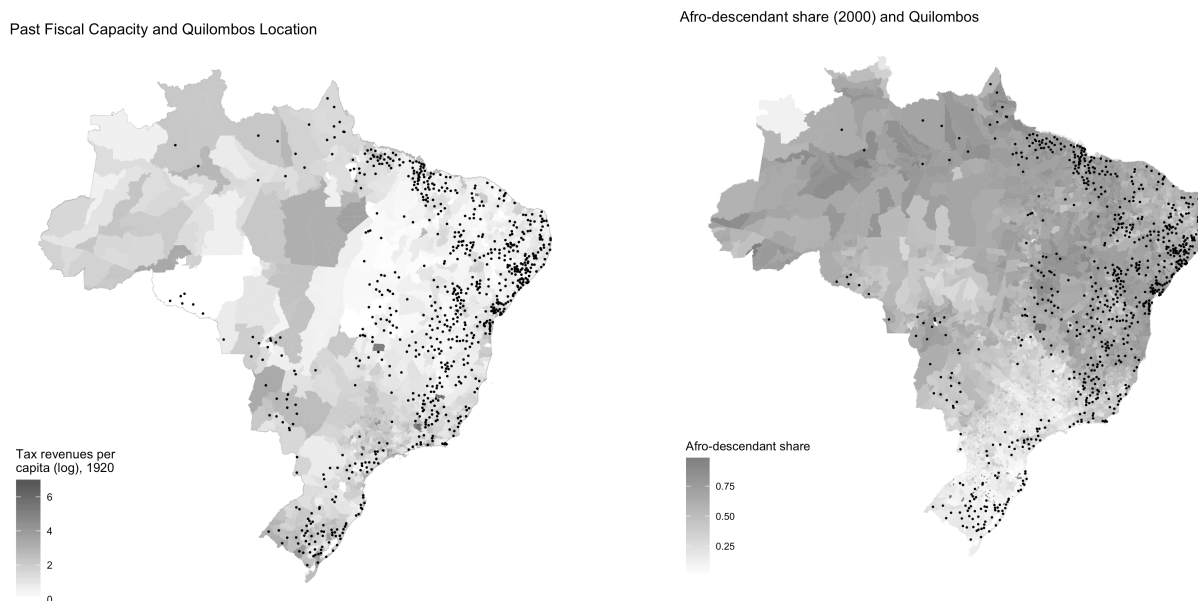
While there are arguably a host of mechanisms through which spatial variation in state capacity may have differentially influenced the demographic trajectories of ethnic groups

gregated than contemporary ones due to changes in administrative boundaries over time.

⁶³Note that our argument does not rely on the assumption that past state capacity is exogenous. In fact, subnational variation in the capacity of the state is likely influenced by other historical and geographic forces. What matters for our argument is that it constitutes one of the common antecedent factors for both contemporary racial demography and public goods provision.

(see below), here we focus on one in particular: the formation of *quilombola* settlements across the country. Specifically, we hypothesize that some part of the association we observe between public goods provision and Afro-descendant shares today stems from the fact that, historically, maroon communities self-selected into hard-to-reach areas where the state’s capacity was minimal (see Figure 4).

Figure 4: Past State Capacity, the Location of *Quilombos*, and Racial Demography



We first test whether the location of *quilombola* settlements is associated with lower levels of local capacity in the past, as measured by tax revenues in the 1920’s – the earliest point in time for which we have spatially disaggregated data and full national coverage (Figure 2, *b1*). The simple bivariate correlation between these variables is -0.22 . As indicated in Table 2, a negative and statistically significant relationship continues to hold after we include state fixed effects and account for a variety of geographic factors.

We then examine whether municipalities with a higher density of *quilombos* have greater shares of Afro-descendants in the population today (Figure 2, *b2*). The bivariate correlation between these variables is positive (0.23) and remains strong even after we account for the full set of covariates (see Table 3). These results suggest that Brazilian municipalities

with more *quilombos* were less likely to have strong state apparatuses in the past and have a systematically different demographic composition today. To further corroborate these findings, we also examine the association between the location of quilombo settlements and both the proportion of Afro-descendants, as well as a binary measure indicating the presence of state officials across the territory in 1872 – sixteen years before the abolition of slavery (see Table A6). Although the data used in these specifications is somewhat coarser and more prone to measurement error, they show the same patterns observed in previous models.

Table 2: Quilombos and Past State Capacity

	Fiscal Capacity, 1923	
	(1)	(2)
Quilombo Presence	-0.115*** (0.024)	-0.042** (0.015)
State FE	No	Yes
Geographic controls	No	Yes
Observations	5,505	4,971

All models are OLS regressions based on original data. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, ⁺p<0.1; *p<0.05; **p<0.01; ***p<0.001. All models are tested for spatial-autocorrelation and the adoption of Conley standard errors does not alter the obtained results.

Race-based Selection Beyond *Quilombos*

One important question concerns the extent to which the *quilombos* mechanism explains the correlation we observe between demography and public outcomes in the full sample of municipalities. On the one hand, it is possible that our data only captures those *quilombos* that had sufficiently high levels of social cohesion or organizational capacity, which allowed them to seek official certification. In this case, our results may underestimate the role of past settlement choices in the broader sample of Afro-descendant communities. On the other hand, it is also possible that only those *quilombos* that encountered particularly critical chal-

Table 3: Quilombos and Present Shares of Afro-descendants

	Afro-descendants %, 2000	
	(1)	(2)
Quilombo Presence	0.545*** (0.058)	0.098*** (0.021)
State FE	No	Yes
Geographic controls	No	Yes
Observations	5,457	4,928

All models are OLS regressions based on original data. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, ⁺p<0.1; *p<0.05; **p<0.01; ***p<0.001. All models are tested for spatial-autocorrelation and the adoption of Conley standard errors does not alter the obtained results.

lenges to their survival sought recognition from the state in an attempt to ameliorate their situation. If this is the case, our results may instead overestimate the detrimental effects of self-selection into remote areas. Similarly, if we consider that receiving official recognition as a *quilombo* allows communities to reach better economic outcomes,⁶⁴ our results may underestimate the strength of the association in the broader sample. Alternatively, if *quilombola* communities have taken active measures to resist urbanization and incorporation by the state, certification may be associated with particularly low levels of public goods provision, making our findings biased in the opposite direction.

In practice, our data likely include cases of all these different trajectories, the relative prevalence of which cannot be easily ascertained. However, since we argue that maroon settlements constitute only one of the channels through which past state capacity has influenced local demographic structures, extending our analysis beyond *quilombola* communities should yield similar results. We, therefore, replicate Table 1 by excluding municipalities with *quilombos* altogether. As Table A7 shows, although the estimates in these models are somewhat smaller, our substantive findings remain unchanged.

⁶⁴As Lyons (2011, 118) emphasizes, “[r]ecognition as a quilombo is the precursor for services like roads, water, sanitation, education, and health care; becoming a quilombo bears the hope of being distinguished among the myriad poor, rural communities throughout Brazil in the eyes of mayors, municipal councils, government foundations, and non-government organizations.”

To sustain and illustrate the broader spatial and temporal applicability of our argument – beyond the *quilombos* channel – in Appendix C we explore three additional mechanisms through which local state capacity may have influenced demographic patterns in Brazil: (1) the promotion of European immigration; (2) the selective use of law enforcement; and (3) the restriction of access to land. We then investigate whether these channels are empirically relevant. Table C1 shows that local state capacity is in fact associated with the concentration of immigrants in the population, the size of the coercive state apparatus, and the average land price (per acre) across *municípios*. Table C2, in turn, shows that each of these variables has a strong negative association with the contemporary share of Afro-descendants in the population. Together, these results provide suggestive evidence in line with the idea that historically more capable municipalities attracted more immigrant workers, displayed higher land prices, and sustained larger repressive apparatuses, which in turn seem to also have hampered the settlement of Afro-Brazilians in these localities over time.⁶⁵

Finally, one could still argue that there are other, more fundamental, historical factors at play affecting both state capacity and racial demography. In particular, the local prevalence of slavery may have influenced the strength of the state across localities.⁶⁶ Although this line of reasoning would still be consistent with our argument regarding the endogenous association between ethnic demography and public outcomes, it might lead to a different interpretation of the causal pathways at work. We consider this possibility in detail in Appendix D using 1872 Census data on the share of (free and enslaved) Afro-descendants across municipalities.⁶⁷ These results suggest that the local prevalence of slavery fails to be consistently associated with subsequent demographic and public goods outcomes.

⁶⁵While it is common for the mechanisms of reproduction to differ from the generative mechanism that give rise to specific outcomes, in our case they all have one thing in common: each is inevitably and inextricably associated with the reach of the state and its capacity to implement political decisions throughout the territory. For further discussion, see Appendix C.

⁶⁶Suryanarayan and White 2021.

⁶⁷Even though the slave trade ended in 1850, slavery lasted until 1888. Due to an active level of manumission and self-purchase arrangements, approximately 75% of Afro-descendants (or 43% of Brazil's total population) were free by the time the country's first Census was conducted in 1872. In comparison, only 6 percent of African Americans in the U.S. South were free prior to emancipation (Schwartz, 1996).

Persistence of State Capacity

A growing empirical literature has demonstrated that historical institutions play an important role in determining the quality of contemporary public administration (Charron et al., 2012; Becker et al., 2016; Dincecco, 2017). Specifically, scholars have shown that differences in the stock of fiscal capacity acquired by states in the past has a strong lingering effect on contemporary tax outcomes (D’Arcy and Nistotskaya, 2018). In Table A8, we confirm empirically the implied association between past and present levels of local capacity ($r = 0.52$) across Brazilian municipalities, using both taxes per capita and an indicator of whether *municípios* have a cadastral map of real estate properties as outcomes. Tables A9 and A10 replicate these results using data from 1985 (1991) and 2010. Nonetheless, this observed temporal persistence, especially in light of Brazil’s changing political and economic conditions over the last century, raises the question of which mechanisms may have been at work in this particular case.

Most path-dependent arguments call attention to the factors that establish certain directions of change and foreclose others in a way that shapes long-term trajectories. The role of timing and sequencing, in particular, has often been evoked to explain the existence of different institutional paths.⁶⁸ Most important for our purposes, D’Arcy and Nistotskaya (2017) argue that the key to understanding contemporary variation in state performance is the timing of democratic transitions. If democratization happens *after* a certain level of institutional capacity has been attained, democracy enables states to further extend bureaucratization, taxation, and public goods provision. By contrast, if it takes place before a strong administrative apparatus is established, rather than promoting additional state development, democracy impedes the strengthening of state structures. The idea is that, in order to develop the ability to monitor and punish free-riding, states must be able to override the welfare-undermining preferences of individuals, which can only happen before states become responsive to citizens’ preferences. Thus, if democracy precedes (sufficient) bureaucratiza-

⁶⁸Cyr and Mahoney 2013.

tion, the state remains trapped in an equilibrium of low effectiveness. In the case of Brazil, the effect of timing and sequencing may thus have been reflected in the differential influence of democracy on the ability of high- and low-capacity municipal governments to strengthen their apparatuses over time.

Besides considering the role of timing and sequence, demonstrating path dependence also requires spelling out its self-reinforcing dynamics.⁶⁹ Electoral mechanisms, in particular, have often been highlighted as important channels through which state capacity equilibria may persist over time. Key to these arguments is the idea that citizens' expectations about the state shape the strategic choices of politicians, which in turn perpetuate specific outcomes. Gottlieb and Hollenbach (2020), for instance, argue that in settings where fiscal capacity is low, citizens have little reason to believe they can benefit from a tax increase and, as a result, are less likely to support greater spending and the expansion of fiscal capacity.⁷⁰ To avoid being punished at the ballot box, incumbents in low-capacity settings thus prefer to target benefits to narrow constituencies and refrain from investing in developing state capabilities. Conversely, when capacity levels are high, voters who benefit from public goods favor increased taxation and spending, creating an electoral incentive that encourages further capacity expansion. These incentives lead to two distinct equilibria: a low-capacity one in which incumbents do not strengthen state capabilities and continue to favor personalistic exchanges; and a high-capacity equilibrium in which incumbents expand revenue-raising capabilities and spend more on broad-based public services.⁷¹ Importantly for our argument, the authors show that this strategic behavior helps explain the stickiness of weak fiscal capacity across Brazilian municipalities.

⁶⁹Pierson 2004; Bennett and Elman 2006; Beyer 2010; Vergne and Durand 2010.

⁷⁰Scholars have also shown that conditions marked by a "felt absence of the state" can inhibit claim-making by reinforcing low expectations and demobilizing citizens (Kruks-Wisner, 2018). Others have instead highlighted that the formation of strong social institutions among settlers of remote areas may be responsible for their increased resistance to the extension of state power (Foa and Nemirovskaya, 2016).

⁷¹A related argument in the literature posits that increased taxation may itself improve government performance by raising citizens' accountability demands. Previous work has shown that taxation makes voters more willing to exert effort to monitor government performance, and more inclined to enact costly sanctions against incumbents (Paler, 2013; Martin, 2016).

Table A11 in Appendix A provide suggestive evidence that is line with these mechanisms. Using data from the nationally representative 2005 Latinobarómetro survey,⁷² we investigate whether residents of historically capable municipalities report higher levels of confidence in their local government and express more positive attitudes about taxation today. If living in localities with increased capacity is indeed reflected in improved experiences with the state, we expect residents of these municipalities to be more likely to trust the local government to employ public resources effectively. Consequently, citizens should also be more willing to support tax increases, enhancing the incentives of politicians to invest in fiscal capacity. In line with these expectations, the results show past capacity levels (measured circa 80 years before the survey) to have a significant positive association with individuals' tax attitudes⁷³ and reported confidence in the local government today.

While this analysis does not rule out other potential explanations for the path-dependent nature of local capacity, it offers suggestive evidence in support of a plausible mechanism of persistence and highlights an important implication of our findings regarding the self-selection of groups into remote areas: that if left to their own devices, low-capacity localities may find it difficult to depart from a trajectory of non-investment.⁷⁴ As the concrete experiences of individuals condition their expectations of state effectiveness, they make specific institutional configurations self-enforcing. In this sense, contemporary variation in the strength of local state institutions and the level of public goods provision is at least partially rooted in the cumulative effects of long-term interactions between citizens and the state.

⁷²Latinobarómetro 2005.

⁷³Residents of historically more capable areas are more likely to consider taxes as “too low.”

⁷⁴The specifications in Tables A8, A9, and A10 show that the association between past capacity and present outcomes has become progressively weaker in recent decades, suggesting the presence of a dissipation mechanism. Among such mechanisms, we highlight the potential role of a system of intergovernmental fiscal transfers adopted by the federal government in the late eighties, which seems to have initiated a process of national convergence in local state capacity.

Persistence of Race-Based Selection

Whereas scholars have long explored and empirically demonstrated the path-dependent nature of state capacity, the question of whether racial demographic structures persist over time remains less clear. In this section we provide some preliminary evidence regarding changes in the racial distribution of municipalities across Brazil between 1940 and 2000 and the extent to which they relate to prior levels of state capacity.

Table 4 replicates the analyses in Table 1 for the period between 1940-2000. As the results illustrate, the share of Afro-descendants is consistently negatively correlated with prior levels of local state capacity (as captured by tax revenues per capita in 1920) across all available time periods (1940-2000).⁷⁵ These associations suggest that – despite potential changes in self-identification⁷⁶ and population mobility – the spatial coincidence between Afro-descendant majorities and weaker municipal capacity has persisted over time.

Table 4: Racial Demography as a Function of Past State Capacity (1940-2000)

	Afro-des. % (1940)		Afro-des. % (1980)		Afro-des. % (2000)	
	(1)	(2)	(3)	(4)	(5)	(6)
Fiscal Capacity, 1923	-0.749*** (0.123)	-0.065 (0.049)	-1.114*** (0.136)	-0.135** (0.050)	-0.937*** (0.121)	-0.115** (0.038)
State FE	No	Yes	No	Yes	No	Yes
Geographic controls	No	Yes	No	Yes	No	Yes
Observations	5,503	4,970	5,505	4,971	5,457	4,928
Adjusted R ²	0.118	0.733	0.192	0.783	0.189	0.785

All models are OLS regressions based on original data. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, ⁺p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Along with the general population growth over the last century, the share of Afro-

⁷⁵Not all census years provide information on individuals' 'color' or 'race.'

⁷⁶Racial boundaries in Brazil are commonly described as 'fluid.' However, previous research has shown that this fluidity is in fact confined to movement between "black" and "mixed race" categories (Andrews, 1991; Telles, 2002; Magno de Carvalho et al., 2004). Because our analyses focus on the white-nonwhite cleavage, fluctuations in self-categorization should not affect our findings. Nevertheless, in Appendix E, we further investigate this issue empirically and find no systematic biases in racial self-classification among individuals residing in historically less capable municipalities.

descendants in the median municipality has increased from 34% in 1940 to 49% in 2000. Nonetheless, during the same period, 25% of municipalities have not experienced much change in their racial demographic composition, and 23% have seen a relative decrease in their Afro-descendant shares. If our argument is correct, we should expect municipalities with higher levels of state capacity in the past to experience relatively lower growth (or even an outright decline) in the share of Afro-descendants over time. To measure demographic change, we follow the existing literature⁷⁷ and construct two separate variables indicating the absolute and the relative change in the share of the Afro-descendant population from 1940 to 2000 across municipalities. While the former variable simply denotes the difference in Afro-descendant shares between 1940 and 2000 in a given municipality, the latter captures the relative growth rate of Afro-descendants as a fraction of the group’s baseline share.⁷⁸ To account for different baseline Afro-descendant shares in 1940, we also include those as a control variable in some specifications (along with all the geographic controls used in our baseline specifications).

As Table 5 shows, both the absolute and the relative change in the proportion of Afro-descendant populations from 1940 to 2000 is negatively associated with state capacity levels in 1920. As a robustness check, we also examine the relationship between past state capacity and more proximate demographic changes (1940-1980), and obtain similar results (see Table A12).

Overall, these analyses suggest that besides influencing the initial settlement choices of different groups, local state capacity has also been associated with subsequent *changes* in the demographic composition of municipalities over time. This path-dependent nature of local demographic structures together with the stickiness of local state capacity may, in turn, help elucidate the persistent negative association between racial demography and public outcomes in Brazil over time.

⁷⁷Hill et al. 2019.

⁷⁸For example, if two municipalities had, respectively, 10% and 70% of Afro-descendants in 1940 and 20% and 80% in 2000, the absolute change would equal 10% (0.2-0.1 and 0.8-0.7) in both cases. However, the relative change would be 100% in the first case ($\frac{0.2-0.1}{0.1}$) but 14% in the second ($\frac{0.8-0.7}{0.1}$).

Table 5: Racial Demographic Change as a Function of Past State Capacity (1940-2000)

	Abs. Δ (1940-2000)			Rel. Δ (1940-2000)		
	(1)	(2)	(3)	(4)	(5)	(6)
Fiscal Capacity, 1923	-0.195*** (0.047)	-0.049 (0.043)	-0.093** (0.032)	0.214 (0.350)	-0.601+ (0.361)	-0.824* (0.347)
Afro-descendants %, 1940			-0.672*** (0.023)			-3.432*** (0.218)
State FE	No	Yes	Yes	No	Yes	Yes
Geographic controls	No	Yes	Yes	No	Yes	Yes
Observations	5,455	4,927	4,927	5,455	4,927	4,927
Adjusted R ²	0.018	0.276	0.569	0.0002	0.204	0.339

All models are OLS regressions based on original data. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, +p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Discussion: Generalizability of the Argument

It is clear from the preceding analysis of Brazilian municipalities that the spatial distribution of racial groups and past state capacity are intimately related, with the latter accounting for a substantial part of the effect of demographic patterns on contemporary public outcomes. While we do not claim that the mechanisms we focus on here are widespread, we believe that the idea of differential group-based incentives to select away from (or toward) the grip of the state is generalizable. Therefore, below we consider how our argument regarding the endogeneity of ethnic demography to state capacity may apply to other types of outcomes, different contexts, and to levels of analysis beyond subnational units.

First, although this paper focuses on the association between state capacity and public goods provision in particular, our argument regarding the endogeneity of ethnic demography may be extended to other public outcomes. One prominent example of a thesis that has attracted considerable attention is that concerning the detrimental effects of ethnic diversity on social capital, trust, and cohesion.⁷⁹ Recent evidence, however, has shown that prior invest-

⁷⁹Alesina and La Ferrara (2002) find that racial fragmentation has a significant negative effect on the proportion of trusting respondents in the U.S., even after controlling for inequality and individual characteristics. Stolle

ments in state capacity can promote persistently higher levels of social capital.⁸⁰ Therefore, to the extent that ethnic diversity is itself influenced by state capacity, as demonstrated here, its previously uncovered effects on social capital may be spurious.

Second, if the logic of our argument is correct, it should be applicable to any country with significant local variation in state capacity where (1) the population is differentiated along ethnic or other “visible” and “sticky” descent-based categories;⁸¹ (2) there are strong status differences between groups, which coincide with durable socioeconomic and political inequalities;⁸² (3) groups have differential incentives to avoid areas of strong state capacity – that would have otherwise been preferable – even if only temporarily. Given the historical legacies of colonialism, slavery, feudalism, and caste which have prompted the emergence of hierarchical distinctions among ethnic groups around the world, we believe that the overlap of geographic and racial inequalities we observe in Brazil is far from unique.⁸³

Finally, our argument relies on mechanisms that are directly tied to subnational contexts, where boundaries tend to be more permeable than those at the national level. Nonetheless, future studies can examine whether, for example, stronger states tend to exhibit more restric-

et al. (2008) report a negative association between diversity, and social trust and Fieldhouse and Cutts (2010) find a negative effect of neighborhood diversity on social capital (although they highlight that it is only a small fraction of the negative effect of poverty). For a recent meta-analysis corroborating these findings, see Dinesen et al. (2020). For critical reviews of this literature, see Portes and Vickstrom (2011); Abascal and Baldassarri (2015).

⁸⁰Jensen and Ramey 2020.

⁸¹See, e.g., Chandra (2006). As noted before, the conditions that account for the emergence of an association between racial demography and state capacity may not necessarily coincide with the factors that explain the persistence of this relationship over time. Nevertheless, that identity categories are “visible” and “sticky” matters for persistence since other cleavages may be more malleable and, thus, susceptible to state-driven assimilation and homogenization – which would in turn render any empirical association between state capacity and group markers unobservable. Similarly, that the state privileges certain identities over others and that groups are “ranked” in society also matter for persistence, as status differences are often accompanied by discrimination, which itself impedes the dissipation of between-group disparities. Finally, to the extent that weak capacity not only precludes the efficient provision of public goods but also limits the ability of local governments to enhance their own capabilities, by leaving localities to their own devices, decentralization may also play a role in nourishing and preserving subnational territorial inequalities.

⁸²Tilly 1999; Stewart 2005.

⁸³Elsewhere in Latin America, subnational territories are similarly marked by distinct nation-building trajectories, which often accompanied and abetted the construction of racial cleavages. Beyond the cases of Jamaica and Cuba discussed in Appendix C, other examples of the convergence of race and geography include the Andean highlands and Colombia’s Chocó region, associated with the prevalence of indigenous and Afro-descendant populations respectively (see, e.g., Wightman, 1990; Wade, 1995; Larson, 2004).

tive immigration policies, which in turn systematically reduce the willingness and ability of certain groups to migrate to these regions,⁸⁴ confounding any association we might observe between diversity and public outcomes across countries.

Conclusion

In this paper, we present evidence that the observed negative association between the contemporary share of Afro-descendant population and public outcomes across Brazilian municipalities is in part due to a common antecedent factor: the uneven distribution of state capacity more than 100 years ago. As a consequence of slavery, Afro-descendant populations were constrained in their movements across the territory and had to seek and settle in isolated areas with low state presence and capacity where they had a chance of forming viable frontier communities. As a result, the performance of these more remote majority-black localities today does not match that of their neighbors, which benefited from a stronger state infrastructure early on, despite displaying similar levels of government spending in the present.

Our findings speak to the literature that emphasizes the endogeneity of linguistic diversity and state capacity across countries.⁸⁵ In particular, our argument aligns with the notion that sees ethnic-demographic patterns as deeply intertwined with, and even as a consequence of, state strength. However, it also complements this literature by elucidating the mechanisms that operate across *subnational* (rather than national) entities and in relation to *racial* (rather than linguistic) cleavages, which are arguably less susceptible to change.

Our results also speak to the literature on the legacies of slavery.⁸⁶ As indicated by our additional analyses, the long-term effects of slavery’s presence (and intensity) across space may be obscured by subsequent countervailing forces and by its broader indirect effects in nominally ‘unaffected’ areas. In fact, some of the municipalities that had higher shares of

⁸⁴Kustov 2019; Rosenberg 2019.

⁸⁵Wimmer 2016.

⁸⁶Nunn 2008; Archarya et al. 2016; Dell and Olken 2021.

slaves in the 1870s were also those that experienced larger inflows of immigration in the post-abolition period; and places where slave labor was almost nonexistent throughout the nineteenth century are those with some of the weakest public outcomes today. As a result, the historical shares of enslaved persons do not provide much analytical leverage to understand long-term outcomes in this case.

Our paper is not without limitations. First, although we do not make any strong causal claims with regard to the role of state capacity in shaping demography, our measure of past state capacity may itself be endogenous. While we do corroborate our findings with additional indicators and measures, it is possible that local state capacity in 1920 (or even 1872) was itself affected by prior racial-demographic factors.⁸⁷ Second, and related, our data do not allow us to fully elucidate how past levels of state capacity persisted over time or to identify all the ways in which it affected racial demography patterns – a number of different mechanisms are likely simultaneously at play.⁸⁸ Nonetheless, these limitations do not challenge our main argument regarding the systematically biased distribution of ethnic groups across space, and the resulting pervasive endogeneity of ethnic demography and public outcomes.

Overall, this paper shows that the observed effects of contemporary demographic composition can be, at least in part, a (by)product of its history. To that end, our findings call for a greater focus on the role of the state in creating and reinforcing historical disparities between ethnic and racial groups. Investigating the ways in which present outcomes depend upon past choices is therefore a critical task for future observational studies positing ethnic demography as a consequential determinant of public outcomes. While our study does not rule out the possibility that ethnic demography has an independent effect on public goods provision, trust, or social capital, it highlights that group identity can itself be tied to distinct histories and experiences with the state.

⁸⁷Suryanarayan and White 2021.

⁸⁸As discussed above, there are numerous ways in which greater state capacity may have perpetuated and even exacerbated initial group-based disparities and related settlement patterns (through high taxes, land regulation, discouraged or subsidized immigration, law enforcement mechanisms, etc.).

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Supplementary Material

When Co-ethnicity Fails

Appendix A

Table A1: Summary Statistics

Statistic	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Afro-descendants % (2000)	0.46	0.25	0.004	0.23	0.68	0.99
Afro-descendants % (1980)	0.48	0.29	0.001	0.19	0.75	1.00
Afro-descendants % (1940)	0.36	0.25	0.005	0.12	0.57	0.93
Tax Revenues PC (logged, 2000)	2.55	1.16	0.00	1.66	3.35	8.90
Education Quality (2000)	4.93	2.07	0.11	3.03	6.77	10.00
Healthcare Quality (2000)	5.49	1.02	1.78	4.80	6.16	9.27
Access to Electricity (2000)	86.64	17.02	10.30	80.18	98.92	100.00
Access to Piped Water (2000)	66.75	29.14	0.04	41.69	93.54	100.00
Access to Garbage Collection (2000)	80.91	23.04	0.19	73.35	97.07	100.00
Tax Revenues PC (logged, 1923)	1.24	0.79	0	0.6	1.7	7
Number of Quilombos (logged)	1.11	1.38	0.00	0.00	1.95	5.79
Railroads Number (logged)	0.25	0.47	0.00	0.00	0.32	4.68
Geographic Remoteness (logged)	3.99	1.01	0.00	3.47	4.53	8.28
Area Size (logged)	6.20	1.28	1.06	5.32	6.94	11.99
Altitude	4.12	2.93	0.00	1.53	6.32	16.28
Rainfall	12.80	3.96	3.00	12.00	15.00	33.00
Sunshine	21.33	3.26	12.00	18.00	24.00	30.00
Distance to Coast (logged)	5.37	1.33	0.003	4.76	6.24	7.91
Distance to Capital (logged)	5.27	0.87	0.00	4.81	5.88	7.30
Longitude	-46.17	6.40	-72.90	-50.79	-41.35	-34.81
Latitude	-16.40	8.27	-33.69	-22.80	-8.43	4.60

Full Sample (n = 5505)

Table A2: Present Public Outcomes and Racial Demography as a Function of Past State Capacity (Accounting for Municipal Income Per Capita in 1920)

	Fiscal Capacity, 2000			Public Goods, 2000			Afro-descendants %, 2000		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Fiscal Capacity, 1923	0.592*** (0.085)	0.177*** (0.025)	0.214*** (0.028)	0.770*** (0.121)	0.144*** (0.038)	0.128** (0.040)	-0.937*** (0.026)	-0.115*** (0.019)	-0.095*** (0.022)
State FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Geographic controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
GDP PC, 1920 (log)	No	No	Yes	No	No	Yes	No	No	Yes
Observations	5,304	4,803	4,803	5,417	4,932	4,932	5,457	4,928	4,928
Adjusted R ²	0.271	0.612	0.614	0.221	0.804	0.804	0.189	0.785	0.785

All models are OLS regressions. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, ⁺p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Table A3: Present Public Goods Outcomes and Afro-descendant Shares of Population

	Education, 2000		Health, 2000		Access to Basic Goods, 2000	
	(1)	(2)	(3)	(4)	(5)	(6)
Afro-descendants %, 2000	-0.617*** (0.021)	-0.255*** (0.019)	-0.222*** (0.016)	-0.100*** (0.020)	-0.628*** (0.016)	-0.257*** (0.020)
State FE	No	Yes	No	Yes	No	Yes
Geographic controls	No	Yes	No	Yes	No	Yes
Observations	5,457	4,928	5,457	4,928	5,369	4,889
Adjusted R ²	0.547	0.744	0.172	0.321	0.480	0.750

All models are OLS regressions. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, ⁺p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Table A4: Present Public Goods Outcomes and Past State Capacity

	Education, 2000		Health, 2000		Access to Basic Goods, 2000	
	(1)	(2)	(3)	(4)	(5)	(6)
Fiscal Capacity, 1923	0.766*** (0.092)	0.073** (0.025)	0.079 ⁺ (0.041)	-0.097*** (0.027)	0.906*** (0.094)	0.249*** (0.035)
State FE	No	Yes	No	Yes	No	Yes
Geographic controls	No	Yes	No	Yes	No	Yes
Observations	5,505	4,971	5,505	4,971	5,417	4,932
Adjusted R ²	0.180	0.726	0.004	0.320	0.217	0.741

All models are OLS regressions. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, ⁺p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Table A5: Present Public Goods Outcomes and Racial Demography as a Function of Past State Capacity (Alternative Measures)

	Public Goods, 2000		Afro-descendants %, 2000	
	(1)	(2)	(3)	(4)
<i>Panel A</i>				
Public Admin. Officials, 1920	0.063 (0.087)	0.109*** (0.019)	-0.061 (0.105)	-0.137*** (0.029)
Observations	5,417	4,932	5,457	4,928
Adjusted R ²	0.001	0.802	0.001	0.786
<i>Panel B</i>				
Railroads, 1920	0.467*** (0.064)	0.118*** (0.018)	-0.385*** (0.093)	-0.074* (0.030)
Observations	5,417	4,932	5,457	4,928
Adjusted R ²	0.061	0.803	0.024	0.784
<i>Panel C</i>				
Geographic Remoteness (Reverse Coded)	0.782*** (0.057)	0.242*** (0.030)	-0.763*** (0.073)	-0.095* (0.043)
Observations	5,135	4,683	5,162	4,670
Adjusted R ²	0.255	0.805	0.142	0.778
State FE	No	Yes	No	Yes
Geographic controls	No	Yes	No	Yes

All models are OLS regressions. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, ⁺p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Table A6: Quilombos, Past State Capacity and Share of Afro-descendants

	Bureaucracy Presence 1872		Afro-descendants % 1872	
	(1)	(2)	(3)	(4)
Quilombo Presence	0.122 (0.074)	-0.092* (0.036)	0.131** (0.047)	0.109*** (0.029)
State FE	No	Yes	No	Yes
Geographic controls	No	Yes	No	Yes
Observations	5,465	4,935	5,461	4,933
Adjusted R ²	0.002	0.337	0.006	0.231

All models are OLS regressions. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, ⁺p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Table A7: Public Outcomes and Racial Demography as a Function of Past State Capacity (excluding *Quilombo* Municipalities)

	Public Goods, 2000		Afro-descendants %, 2000	
	(1)	(2)	(3)	(4)
Fiscal Capacity, 1923	0.758*** (0.088)	0.129*** (0.027)	-0.926*** (0.123)	-0.115** (0.042)
State FE	No	Yes	No	Yes
Geographic controls	No	Yes	No	Yes
Observations	4,656	4,223	4,675	4,209
Adjusted R ²	0.219	0.804	0.187	0.776

All models are OLS regressions. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, *p<0.05; **p<0.01; ***p<0.001.

Table A8: Past and Present State Capacity

	Fiscal Capacity, 2000		Cadastral Map (binary), 2000	
	(1)	(2)	(3)	(4)
Fiscal Capacity, 1923	0.592*** (0.045)	0.177*** (0.031)	0.365*** (0.028)	0.106** (0.034)
State FE	No	Yes	No	Yes
Geographic controls	No	Yes	No	Yes
Observations	5,304	4,803	5,503	4,969
Adjusted R ²	0.271	0.612	0.030	0.140

All models are OLS regressions. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, +p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Table A9: Present Public Outcomes and Racial Demography as a Function of Past State Capacity (1985-1991)

	Fiscal Capacity, 1985		Access to Basic Goods, 1991		Afro-descendants %, 1991	
	(1)	(2)	(3)	(4)	(5)	(6)
Fiscal Capacity, 1923	0.713*** (0.069)	0.235*** (0.043)	1.174*** (0.115)	0.375*** (0.059)	-1.049*** (0.124)	-0.123** (0.045)
State FE	No	Yes	No	Yes	No	Yes
Geographic controls	No	Yes	No	Yes	No	Yes
Observations	5,505	4,971	4,592	4,435	4,442	4,441
Adjusted R ²	0.284	0.658	0.273	0.684	0.188	0.775

All models are OLS regressions. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, +p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Table A10: Present Public Outcomes and Racial Demography as a Function of Past State Capacity (2010)

	Fiscal Capacity, 2010		Public Goods, 2010		Afro-descendants %, 2010	
	(1)	(2)	(3)	(4)	(5)	(6)
Fiscal Capacity, 1923	0.382*** (0.039)	0.103*** (0.026)	0.429*** (0.054)	0.062*** (0.016)	-0.898*** (0.126)	-0.119** (0.037)
State FE	No	Yes	No	Yes	No	Yes
Geographic controls	No	Yes	No	Yes	No	Yes
Observations	5,437	4,911	5,501	4,970	5,502	4,970
Adjusted R ²	0.169	0.489	0.146	0.739	0.194	0.812

All models are OLS regressions. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, ⁺p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Table A11: Past Fiscal Capacity, Contemporary Attitudes Toward Taxation and Reported Confidence in the Local Government

	Attitudes toward Taxation		Confidence in the Local Government	
	(1)	(2)	(3)	(4)
Fiscal capacity, 1923	0.944 (0.766)	1.125* (0.555)	0.665** (0.225)	0.623* (0.317)
State FE	No	Yes	No	Yes
Additional controls	Yes	Yes	Yes	Yes
Observations	1,116	1,116	1,124	1,124
Adjusted R ²	0.026	0.111	0.024	0.042

All models are OLS regressions and include the following controls: education, economic status and age of the respondent, municipal population, and basic local geographic characteristics (rainfall and sun). Attitudes toward taxation include five response categories going from “too high” (1) to “too low” (5); confidence in the local government includes four response categories going from “no confidence at all” (1) to “a lot of confidence” (4). Municipality-clustered standard errors in parentheses, ⁺p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Table A12: Racial Demographic Change as a Function of Past State Capacity (1940-1980)

	Abs. Δ (1940-1980)			Rel. Δ (1940-1980)		
	(1)	(2)	(3)	(4)	(5)	(6)
Fiscal capacity, 1923	-0.365*** (0.049)	-0.070 (0.052)	-0.111* (0.045)	-0.618+ (0.326)	-0.842** (0.327)	-1.062** (0.333)
Afro-descendants %, 1940			-0.633*** (0.028)			-3.358*** (0.240)
State FE	No	Yes	Yes	No	Yes	Yes
Geographic controls	No	Yes	Yes	No	Yes	Yes
Observations	5,503	4,970	4,970	5,503	4,970	4,970
Adjusted R ²	0.051	0.324	0.524	0.004	0.182	0.332

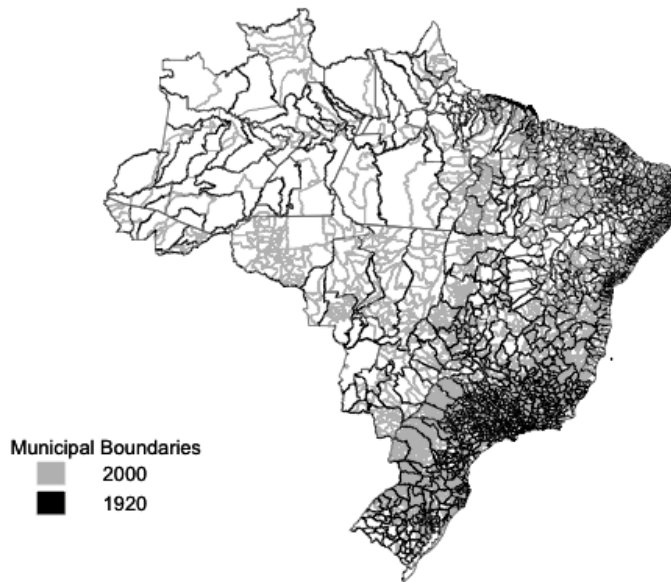
All models are OLS regressions. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, +p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Table A13: Past Racial Demography (1872) and Quilombos

	Quilombo Presence		
	(1)	(2)	(3)
Total Afro-descendants %, 1872	0.044*** (0.012)		
Free Afro-descendants %, 1872		0.056*** (0.013)	
Enslaved Afro-descendants %, 1872			-0.094* (0.038)
State FE	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes
Observations	4,955	4,955	4,955
Adjusted R ²	0.161	0.165	0.162

All models are OLS regressions. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, +p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Figure 1: **Municipal Boundaries, 1920 and 2000**



Appendix B

Explanatory and Outcome Variables

Racial Demography. All demographic variables were constructed using microdata and municipal-level data from the 2000, 2010, 1991, 1980, 1940, and 1872 Censuses from the Instituto Brasileiro de Geografia e Estatística (IBGE).

Public Goods. Our composite measure of public goods is an average of municipal public (education and healthcare) service quality and access to basic public goods. The quality indices come from a comprehensive study conducted by Arretche, Fusaro, and Vaughan in the Centro de Estudos da Metrópole (CEM) and take into account a set of more than 10 indicators to build two overall measures of education and healthcare quality at the municipal level.⁸⁹ Our measures of access to

⁸⁹For instance, the health index comprises, among other variables, infant mortality rate, hospitalization rate

basic public goods reflect the percentage of the local population that has access to garbage collection, electricity, and piped water. These variables are built using microlevel data available in the 2000, 2010 and 1991 Censuses.

State Capacity. The data on local fiscal capacity across municipalities in 1923 were entered from Brazil’s 1926 statistical yearbook of public finances (Pardelli, 2019). The number of public administrative and law enforcement officials in 1920, as well as the data on the presence of public officials (binary) in 1872 were obtained from the respective censuses.

Geographic remoteness is defined as the average travel time required to reach the nearest city (>50000 people) via surface transport in a particular municipality. For details on methodology and calculations, see Poyart et al. (2018). The number of railroad stations within each municipality in 1920 was collected from IPEA.

Contemporary measures of taxation per capita (1985, 2000, 2010), were compiled from *Finanças do Brasil* (FINBRA) and from the *Sistema de Informações Contábeis e Fiscais do Setor Público Brasileiro* (SICONFI). We use the existence of cadaster maps across municipalities (from *Pesquisa de Informações Básicas Municipais* 2004) as a measure of contemporary information capacity, given the importance of these instruments for land registration and property tax collection.

To estimate the past levels of state capacity within modern-day administrative boundaries, we adopt the approach used by Archarya et al. (2016) to address changes in U.S. county boundaries between 1860 and 2000. Following this method, the total amount of taxes per capita collected in 1923 is divided among the relevant municipalities in 2000 such that the proportion of taxes from 1923 municipality i that is assigned to 2000 municipality j is based on the size of their overlapping areas (see Figure 1).

Geographic controls. The data come from the National Institute of Geology (INGEO) and include *Area size (logged)*, *Altitude*, *Distance to Coast (logged)*, *Distance from the Capital (logged)*, *Rainfall*, *Sunshine*, *Latitude* and *Longitude*. For details, see Naritomi et al. (2012).

and vaccine coverage. The education index consists of coverage below 6 years of age, failure and abandonment rates, proportion of municipal schools with below-average grades on the national standardized test, etc. For more detailed information, see <http://web.fflch.usp.br/centrodametropole>.

Appendix C

Race-Based Selection Mechanisms Beyond *Quilombos*

This section elaborates on three additional mechanisms through which higher local state capacity in the past may have led to lower shares of Afro-descendants in the present across Brazilian municipalities. The first mechanism behind the gradual displacement of Afro-descendants to more peripheral areas focuses on the role of labor market discrimination and increased competition with European immigrants. The proclamation of the Republic in the year after abolition was accompanied by a national campaign in which the “whitening” of the national population through the promotion of immigration assumed a prominent role. Because foreign workers generally enjoyed preference in hiring, scholars have shown that their presence in large numbers displaced and marginalized Afro-Brazilian workers, forcing them to retreat to more depressed areas in the country (Holloway, 2017). However, black-white labor market competition was not prevalent everywhere, as immigrant workers were sometimes insufficient to satisfy the local labor demand. Notably, the location of foreign laborers was itself not random. It depended, first, on the ability of state governments to actively sponsor and finance immigration.⁹⁰ Second, immigrants tended to concentrate in the most attractive areas of each state (Andrews, 1991). In this sense, the prevalence of this mechanism itself cannot be dissociated from the reach of the state and its capacity to implement political decisions across space.

The second mechanism emphasizes the use of the repressive apparatus of the state. In areas where immigration did not provide an expanded pool of workers, other forms of planter-state cooperation emerged to resolve the problem of labor recruitment and social control. One of the central aspects of this partnership consisted in “planters’ increased reliance on criminal law and other state enforcement mechanisms” (Huggins, 1984, 53) as a means of generating cheap labor and controlling the newly emancipated black population. Much like the Black Codes in the post-bellum U.S., this response offered a way of “fixing blacks into a subordinate social status” and providing for a “manageable and inexpensive labor force through the use of vague criminal statutes

⁹⁰As underlined by Andrews (1991, 59): “São Paulo’s labor market in the years immediately following the abolition of slavery was one shaped by an unusual [...] degree of state direction and intervention. This was intervention seemingly devoid of any racial content, but in fact by choosing to invest funds in European workers, [...] the province’s planters, and the state apparatus which they controlled, had made their ethnic and racial preferences in workers crystal clear.”

prohibiting vagrancy and loitering.”⁹¹ Idleness thus came to be equated with crime and associated with dangerous threats to order, public safety, and private property. These ideas were then utilized to justify increased state regulation, policing, and repression. However, the ability of the state to arrest, impose sanctions, and enforce vagrancy statutes was not everywhere equal. Therefore, coercive capacity – bound as it was to disproportionately target Afro-descendant populations – likely discouraged black and mixed-race individuals from settling in the places where it was strongest.

Finally, a third possible mechanism emphasizes uneven access to land. Scholars focusing on postemancipation experiences have underscored how the aspirations of the formerly enslaved populations were essentially peasant in nature: access to land, the formation of families, and a certain degree of autonomy in everyday life (Slenes, 1999). In line with the mechanisms highlighted earlier, “free Brazilians and Africans preferred to remain in the subsistence sector, working their own plots of land” (Andrews, 1991, 54). However, the acquisition and occupation of land was not a trivial matter. Because it provided workers with an independent survival alternative, planters sought to limit land access through legal and extra-legal means as much as possible (Dean, 1971; Mangonnet, 2021). Land evictions, seizures, and encroachment were common (Huggins, 1984; Levine, 1978), making migration to ever more remote, unoccupied areas a continuing necessity. Access to land in high state capacity areas was more difficult for at least two reasons: first, their closeness to valuable state infrastructure (i.e., roads, bridges, etc.) made acreage more expensive in these regions; second, the chances that squatters would eventually be displaced by the speculative interests of neighboring landowners were greater. As a result, many Afro-descendants sought out peripheral regions to gain access to land. According to Marques (2009), who studies the case of Paraná, although many decided to settle in or close to urban centers, most of the migrants of direct descent from former enslaved people have settled in unclaimed areas on the frontier of agricultural expansion.

The literature suggests that these dynamics of freedmen seeking out more remote areas are not confined to the case of Brazil. In Jamaica, for example, according to Holt (1992), the postemancipation peasantry migrated to peripheral areas and bought small properties where they relied on subsistence agriculture and the sale of surplus production in nearby markets. While Afro-Jamaican peasants initially established their settlements near large estates, over time “the search for available land took settlers further and further into the interior of parishes.” (Holt, 1992, 166). In the case of Cuba, the eastern side of the island seems to have attracted most migrants after full emancipation. According to (Scott, 2000, 247), “a major shift eastward in the population of color can be discerned

⁹¹Shelden (1981, 365), on late-nineteenth-century Tennessee. Quoted in Huggins (1984).

in the pattern of population distribution at different census dates between 1862 and 1899.” The east offered greater access to land in part due to its mountainous interior, which was not conducive to large-scale sugar production, leaving room for the development of a nonplantation sector.

To assess whether these three channels of influence are empirically pertinent, we carry out two different analyses. First, we examine whether past levels of state capacity are indeed associated with (1) higher proportions of immigrants in the population, which would in turn increase labor market competition and discrimination; (2) stronger coercive capacity, which (if selectively employed) would discourage the settlement of Afro-descendants; and (3) increased land prices, which make land acquisition more difficult and squatting riskier. As Table C1 shows, we find support for each of these hypotheses. Second, we investigate whether these mechanisms (all measured in 1920) are themselves associated with lower shares of Afro-descendants across *municípios* today. The estimates in Table C2 provide suggestive evidence in line with the idea that greater shares of immigrant workers, higher land prices, and larger repressive apparatuses have also hampered the settlement of Afro-Brazilians across localities.

Table C1: Past State Capacity and Average Land Value, Law Enforcement Apparatus, and Share of Immigrants

	Land Value per acre, 1920		Law Enforcement Officials, 1920		Immigrants (%), 1920	
	(1)	(2)	(3)	(4)	(5)	(6)
Fiscal Capacity, 1923	0.709*** (0.060)	0.370*** (0.075)	0.454*** (0.060)	0.480*** (0.075)	0.183*** (0.031)	0.171** (0.053)
State FE	No	Yes	No	Yes	No	Yes
Geographic controls	No	Yes	No	Yes	No	Yes
Observations	5,438	4,917	5,505	4,971	5,505	4,971
Adjusted R ²	0.209	0.721	0.172	0.485	0.221	0.444

All models are OLS regressions. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, +p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Table C2: Past Land Value, Law Enforcement Apparatus, Share of Immigrants and Contemporary Share of Afro-descendants

	Afro-descendants %, 2000					
	(1)	(2)	(3)	(4)	(5)	(6)
Land Value, 1920	-0.582*** (0.077)	-0.222*** (0.033)				
Law Enforcement Officials, 1920			-0.091 (0.093)	-0.090** (0.027)		
Immigrants (%), 1920					-1.998*** (0.439)	-0.095* (0.047)
State FE	No	Yes				
Geographic controls	No	Yes				
Observations	5,390	4,874	5,457	4,928	5,457	4,928
Adjusted R ²	0.171	0.792	0.002	0.784	0.131	0.783

All models are OLS regressions. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, ⁺p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Appendix D

Slavery Prevalence as a Competing Endogeneity Source

First, in Table D1 we examine whether past local shares of Afro-descendants (1872) are related to contemporary ethnic demography and public goods measures (2000). Although the overall association between the two demographic measures is positive, the correlation coefficient is surprisingly weak (0.28).⁹² At the same time, the correlation between past demographic shares and present public goods is not statistically significant when we include state fixed effects and standard geographic covariates.

Second, in Table D2, we investigate whether racial demography in 1872 is associated with the (temporally more proximate) levels of state capacity in 1923. The raw correlation between Afro-descendant shares and tax revenues per capita 50 years later is -0.23, but it does not hold after including state fixed effects and geographic controls.

Third, in Tables D1 and D2, we further breakdown the Afro-descendant population into free and enslaved revealing two opposing associations. On the one hand, the share of *enslaved* Afro-descendants has a strong *negative* relationship with current Afro-descendant shares and *positive* relationship with past state capacity (although not statically significant) and present public goods.

⁹²Archarya et al. (2016) find, e.g., the U.S. Blacks shares in 1860 and 2000 have a correlation of 0.77.

On the other hand, the proportion of *free* Afro-descendants has a *positive* relationship with current Afro-descendant shares and *negative* relationship with past state capacity and present public goods.

Although at first glance these findings may seem counterintuitive, they are consistent with the series of migratory movements that followed the abolition of slavery. The significant negative association between the intensity of slavery and the current proportion of Afro-descendants may be explained by two concurrent forces. First, as historians have often highlighted, once slavery was abolished, former slaves fled from plantation areas, leaving the estates en masse and occupying frontier lands (Klein and Luna, 2009). Second, this wholesale abandonment of farms by ex-slaves engendered an acute labor shortage, which planters sought to resolve by resorting to European immigration. Consequently, the areas where slavery was more prevalent in the last decades of the nineteenth century were precisely those that tended to become more urbanized in later years. This may explain why the prevalence of slavery in 1872 shows a weak positive association with tax revenues in 1923 (Table D2, column 3) and with contemporary public goods (Table D1, column 6).

But what about the areas with high shares of free Afro-descendants in 1872? These areas likely include the remote localities in which runaway slaves established their communities and also the rural areas in which Brazil's large freedmen population lived. Although the latter were not subject to the same necessity of runaway slaves to self-select into hidden, hard-to-reach regions, free Afro-descendants were also constrained in their choices of where to settle (see Appendix C) . This is reflected in the negative association between this variable and the level of state capacity in the early twentieth century (Table D2, column 2) and in the fact that these communities are more likely to have remained majority-black to this day (Table D1, column 2). This interpretation is further corroborated by the results shown in Table A13, where we examine the relationship between the 1872 demographic variables and the concentration of *quilombos*. Namely, localities with a greater share of free Afro-descendants have a larger number of quilombos, whereas those where slavery was more prevalent have a lower number of such communities.

In summary, while the institution of slavery has undoubtedly had a strong and lasting detrimental impact on the nation as a whole, its role as a common antecedent factor of both contemporary *local* demographic structures and public goods outcomes is more ambiguous. In particular, the local prevalence of slavery is not only deeply intertwined with subsequent inflows of immigrants—which made localities more diverse—but it also coincides spatially with some of the zones that received the largest amounts of investment in subsequent decades. We hope future work will help elucidate the long-term consequences of these countervailing forces.

Table D1: Past Racial Demography, Present Racial Demography, and Public Goods

	Afro-descendants % 2000			Public Goods 2000		
	(1)	(2)	(3)	(4)	(5)	(6)
Total Afro-descendants %, 1872	0.062* (0.027)			-0.021 (0.015)		
Free Afro-descendants %, 1872		0.086*** (0.021)			-0.032* (0.014)	
Enslaved Afro-descendants %, 1872			-0.171*** (0.044)			0.068** (0.024)
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,913	4,913	4,913	4,919	4,919	4,919
Adjusted R ²	0.784	0.787	0.786	0.800	0.800	0.800

All models control for the set of geographic variables mentioned in the text, and for the size of the local population. Clustered standard errors are given in parentheses, ⁺p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Table D2: Past Racial Demography and Fiscal Capacity

	Fiscal Capacity, 1923		
	(1)	(2)	(3)
Total Afro-descendants %, 1872	0.001 (0.024)		
Free Afro-descendants %, 1872		-0.011 (0.019)	
Enslaved Afro-descendants %, 1872			0.056 (0.036)
State FE	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes
Observations	4,955	4,955	4,955
Adjusted R ²	0.464	0.465	0.466

All models are OLS regressions. For variable descriptions, see Appendix. Clustered standard errors are given in parentheses, ⁺p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Appendix E

Past Levels of State Capacity and Present Racial Self-Identification

Previous research has underlined that racial and ethnic boundaries in Brazil are more fluid and that individuals can move more freely across groups when compared to countries like the United States (Degler, 1986). This feature of the Brazilian case raises questions about a potential alternative explanation to our results. Specifically, if low levels of state capacity and public goods provision exacerbate a sense of exclusion among the inhabitants of remote areas – increasing the likelihood that individuals self-identify as Afro-descendants due to, for example, the enhanced significance of a linked-fate mechanism – then this would suggest a different interpretation for the negative associations we observe.

To investigate whether any systematic biases exist in the way inhabitants of historically less capable municipalities self-identify, we rely on the overall agreement between self- and interviewer classification in a nationally representative survey (Bailey et al., 2013; Telles and Lim, 1998). Using data from the 2002 *Pesquisa Social Brasileira* (PESB), we examine whether past state capacity is in any way associated with the incidence of mismatches in racial classifications across localities (PESB, 2002). Specifically, we look at whether individuals self-identify as black or brown while the interviewer classifies them as white (*black bias*, columns 1 and 2); and, vice versa (*white bias*, columns 3 and 4). The overall disagreement between self- and interviewer classification was 25% in this survey – which coincides with the 21% disagreement found by Telles and Lim (1998) using a national sample from 1995. However, we find no significant association between these mismatches and the state capacity level of the localities where individuals reside. This result provides suggestive evidence that our results are not driven by an increased tendency of individuals to self-identify as Afro-descendant in areas of historically weak state capacity.

Table E1: Mismatches in Self- and Interviewer Racial Classification and Local State Capacity

	Mismatch Black Bias (1)	Mismatch White Bias (2)	Mismatch Black Bias (3)	Mismatch White Bias (4)
Fiscal Capacity, 1923	-0.005 (0.034)	0.002 (0.043)	-0.044 (0.042)	-0.013 (0.040)
State FE	No	Yes	No	Yes
Observations	2,246	2,246	2,120	2,120

All models are OLS regressions. Standard errors clustered at the 2000 municipality level given in parentheses, ⁺p<0.1; *p<0.05; **p<0.01; ***p<0.001.

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