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An empirical study on the impact of the Slave Trade on
Social Capital in Africa

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Sommario

Questo studio esamina il declino del capitale sociale in determinati paesi africani che hanno avuto un contatto significativo con il commercio transatlantico degli schiavi. Attraverso la fusione di due dataset, dimostro che gli individui i cui antenati sono stati pesantemente razzati o catturanti durante la schiavitù mostrano livelli di capitale sociale più basso oggi.

Le categorie utilizzate nel presente lavoro derivano da uno studio recente sul capitale sociale, (Durante, Ruben, & al., 2024). Le categorie presenti sono: la partecipazione sociale e politica, la fiducia interpersonale e istituzionale, e lo stato di diritto.

Per analizzare la relazione presente tra slave trade e social capital, utilizzo due metodologie, the OLS e la IV, incorporando lo strumento “distanza storica dalla costa degli antenati di un rispondente”. L’obbiettivo è dimostrare che le azioni intraprese nel passato portano a conseguenze che si protraggono nel tempo. Eventi storici, come il commercio degli schiavi, non hanno avuto effetti solo nel passato, ma continuano a manifestarsi nel presente.

Abstract

This study examines the decline of social capital in certain African countries that experienced significant contact with the transatlantic slave trade. By merging two datasets, I demonstrate that individuals whose ancestors were heavily raided or captured during the slave trade exhibit lower levels of social capital today. The categories utilized in the paper are derived from a recent study on social capital, (Durante, Ruben, & al., 2024).

The categories in my paper are social and political participation, interpersonal and institutional trust, and the rule of law.

To analyze the relationships between slave trade and social capital, I employ two methodologies: OLS and IV, incorporating the instrument “historic distance from the coast of a respondent’s ancestors”.

The objective is to demonstrate that actions taken in the past lead to consequences that persist over time. Historical events, such as the slave trade, have not only had effects in the past but continue to manifest themselves in the present.



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Introduction

The economy of sub-Saharan Africa has long been and continues to be a subject of intense academic debate. Numerous scholars have analyzed the phenomenon, each contributing their perspective and insights.

Eltis (1979) examines how the situation in the American colonies would have been significantly different without the presence of enslaved labor. He argues that without this labor force, the British economy would have developed more slowly, and the social dynamics might have evolved differently, potentially resulting in fewer conflicts and better relations between nations.

Similarly, Rodney (2018) contends that, in the absence of the slave trade, Africa would resemble modern-day Asia. According to the authors, contemporary Africa would have more diversified economies and be more integrated into global markets.

Walter and Rodney also suggest that internal conflicts would be fewer, corruption less prevalent, and states more cohesive. Without the loss of a significant portion of its population through death or enslavement, Africa's human capital would have been preserved, resulting in higher levels of education and a more robust labor force today.

Various studies have primarily focused on the existence of the slave trade, its consequences, and how the situation might have evolved if it had never occurred. While many scholars have explored the effects of the slave trade, few have specifically examined its relationship with social capital.

My study seeks to understand how the slave trade impacted social capital, and which subcategory of social capital was most affected. Nunn and Wantchekon (2011) demonstrated the impact of the slave trade on interpersonal trust, but other subcategories have been largely overlooked. My research focuses on analyzing the impact of the slave trade on the various subcategories of social capital.

Using data from the Afrobarometer, this study analyzes whether individuals from ethnic groups that were more heavily targeted during the slave trade also exhibit lower levels of social capital. This analysis is crucial as it reflects the broader context of the countries and ethnic groups involved.

The study aims to contribute to a deeper understanding of the connections between historical events and social dynamics, which, in turn, have a direct influence on contemporary economic conditions in



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Africa.

The expected outcome of my research is to demonstrate a negative relationship between the slave trade and the subcategories of social capital. Previous studies (Nunn & Wantchekon, 2011) have shown that a higher prevalence of the slave trade leads to adverse effects on trust, in the light of the new literature, trust is always regarded as one of the components of social capital, suggesting that similar negative impacts may extend to other subcategories and, consequently, to social capital overall.

I expect the slave trade to have a negative impact on social capital, not only because other authors (Nunn & Wantchekon, 2011) (Uttermark, 2020) have addressed this topic and explained it through their hypotheses, but also due to the numerous challenges the slave trade brought to African countries. These include a decline in human capital, the dismantling of local and state institutions, and increased levels of corruption. For these reasons, among others, I anticipate a negative effect on social capital. The first section, “literature review,” provides a detailed account of the slave trade and its effects. It is followed by a discussion of the analysis conducted by Nunn and Wantchekon (2011) on the relationship between the slave trade and trust. This section also explains the connection between trust and social capital as a basis for introducing the subcategories and their relationship to the slave trade, with an explanation of why I expect a negative relationship between the two variables. It concludes by examining the implications of this relationship for economic development.

The subsequent section “Data”, presents the datasets employed in the study, including their sources. It includes tables explaining the dependent variables, how they were transformed into dummy variables, and the rationale behind the dichotomization. This approach aims to equip readers with a clear understanding of the methodology applied in the analysis section.

The “Empirical Results” section outlines the two methods used to investigate the relationship between the slave trade and social capital: the OLS method and IV estimation. It features tables for each subcategory, showing coefficients, standard errors, and other statistical details necessary to interpret the findings and draw conclusions.

The final section “Conclusion” summarizes the key results and provides explanations for the observed relationships, highlighting the study's broader implications.



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1 Literature Review

1.1 Slave trade and economic growth

The presence of the slave trade for 400 years profoundly altered the trajectory of African development. During the centuries of the slave trade, there were four distinct and simultaneous slave trades across four routes: the Atlantic Ocean, the Indian Ocean, the Red Sea, and the Sahara Desert. Among these, the trans-Atlantic slave trade was the most significant in terms of the number of individuals enslaved although slavery had existed before this period, this event is notable due to its unprecedented volume. It is estimated that the volume of people affected was so vast that the population of Africa in 1850 would have been twice as large as it was, had it not been for the extensive human losses caused by the slave trade (Nunn N. , 2008)

Recent estimates suggest that approximately 11,863,000 individuals were exported during the entire period of the transatlantic slave trade (Lovejoy, 2009), with a relatively balanced trend in the demand for men and children, who were primarily sought for their labor capacity.

According to scholars, during the 18th century, most exports came from West Africa. However, in the 19th century, the number of individuals exported increased, with significant numbers also being taken from West Central and Southeastern Africa.

Nunn (2008) identifies two primary channels through which the slave trade is linked to current income levels and economic growth in Africa: social and ethnic fragmentation, and the weakening and underdevelopment of states. These shortcomings are also the reason why African countries continue to face significant challenges in integrating into the global economic landscape today.

In terms of market institutions and technology of manufacturing and agriculture, African economies in the mid-20th were lagging their European and North American counterparts and trailing Asian economies (Inikori, 2022). The level of development was notably low and underdeveloped, characterized by low productivity and poor-quality labor.

This was a consequence of both the imposition of foreign powers and the lack of a skilled workforce. Additionally, the region suffered from poor topographical quality; much of the infrastructure was



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inadequate, with few roads, many of which were in disrepair. As a result, traveling between villages often took twice as long (or even longer) compared to travel in 19th-century Europe.

1.2 The role of trust in Nunn and Wantchekon (2011)

Following Nunn and Wantchekon (2011) it is posited that Africa, without the legacy of slavery, could have achieved economic comparable to that of Asia or South America.

A negative relationship exists between the slave trade and economic development (Nunn & Wantchekon, 2011). Specifically, the persistence of the slave trade over 400 years has led to a significant adverse effect on contemporary economic development and economic well-being. It still has a profound impact, the substantial loss of active population caused by the slave trade led to a significant decline in economic growth. Additionally, the slave trade exacerbated inequalities, deteriorated living conditions, and increased health problems among the population.

Authors explain how the slave trade affected and influenced economic development and economic well-being through the channel of “trust”.

Nunn and Wantchekon’s paper “the slave trade and the Origin of Mistrust in Africa” investigates mainly the impact of the transatlantic and Indian Ocean slave trades on a culture of mistrust.

The authors argue that historical events associated with the slave trade have significantly shaped present-day interpersonal and institutional trust among individuals and groups in Africa. Their study builds upon previous work by Nunn, in which he examined the effects of the slave trade on African countries. In this paper, they utilize data from various sources and conduct different analyses (such as the OLS, IV, and falsification test) to empirically estimate the long-term effects of the slave trade on trust.

Their analysis spans the entire period of the slave trade, examining various methods of enslavement, such as kidnapping or seizure (40,3%), capture during warfare (24,3%), betrayal by relatives, friends, or acquaintances (19,4%), and judicial process Koelle, Wilhelm, & Africana (1854).

The paper includes illustrative examples from historical records to highlight the experiences of African villages during these centuries.



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A key concept that emerges from their analysis is the “gun-slave cycle”, introduced by Acemoglu, Daron, & Johnson (2001). Africans were compelled to engage in the slave trade to acquire military technology, which was essential to warfare and, more critically, for survival.

This necessity for survival heightened fears among European strangers and individuals within the same ethnic group, community, or village. Alarming, it extended to family members, as evidenced by the 19,4% of enslavements resulting from betrayals by relatives, friends, or family members. The pervasive fear and mistrust generated by the slave trade have had enduring effects, disrupting the fabric of social trust and contributing to the current state of distrust in many African societies.

Nunn & Wantchekon (2011) endeavor to explain and demonstrate the enduring long-term effects of the slave trade and the results it has produced. They aim to elucidate why individuals from different environments behave differently when faced with the same decisions and payoffs. Different backgrounds lead to the development of different “rules of thumb”, resulting in varied behaviors (Nunn & Wantchekon, 2011).

In the context of the slave trade, the environment of insecurity increased the relative returns of the rules of thumb based on mistrust. Numerous examples underscore the deep cultural permeation of the slave trade into many African societies, (Nunn N. , 2008), the author mentions that “generally, the consequences of internal conflict were increased political instability and in many cases the collapse of pre-existing forms of governments”.

Regarding trust, the slave trade has had a lasting influence on certain African communities, as mistrust is transmitted intergenerationally. Nunn & Wantchekon (2011) propose two main explanations for this phenomenon:

The first explanation, drawn from Guiso, Sapienza, & Zingales (2004) “multiple cultural equilibrium” theory, suggests that communities are trapped in a low-trust equilibrium. Historical precedents have established a norm that individuals cannot be trusted, resulting in a lack of interactions and pervasive mistrust.

The second explanation comes from Tabellini (2010). His work explains that individuals learn cooperative behaviors from their parents and, in turn, make political choices that reinforce weak institutions and corruption. This perpetuates mistrust across future generations, which is the second



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explanation of why mistrust is transmitted intergenerationally.

I want to explain and demonstrate why countries, where the slave trade was more prevalent, are also the ones that have experienced less development and remain more backward.

While the focus has primarily been on trust, highlighting how mistrust endures even though the slave trade ceased over a century ago, this is not the sole effect of the slave trade. His legacy continues to hinder the development of social capital in Africa.

Historically, it eroded social capital by depleting human resources, instilling fear within the population, and fostering corruption. Following the abolition of the slave trade, African countries were left without the foundational structures needed for sustainable development, resulting in low levels of trust, which in turn contributed to weak social capital and poor institutional quality.

1.3 Trust and Social Capital

It is crucial to understand that trust is a component of a broader category known as “social capital”. In examining the effects of the slave trade, it becomes evident that trust was significantly impacted. Nunn & Wantchekon (2011) discussed trust, which several studies consider a fundamental component of social capital (Durante, Ruben, & al., 2024) (Uttermark, 2020). Trust can be divided into “interpersonal trust” and “institutional trust”, both of which are critical components of social capital. Social capital encompasses several elements beyond trust, including social participation and political participation. Each plays a vital role in the overall health of social capital, and the absence or weakening of any one of these elements can lead to a decline in social capital.

The introduction of social capital into the analysis is important because it is a key determinant of economic development. Nunn’s focus on trust, while insightful, overlooks the broader implications of social capital. The slave trade, by undermining both interpersonal and institutional trust, also contributed to the erosion of social capital.

Interpersonal trust involves, the confidence individuals have in their fellow community members, while institutional trust pertains to confidence in governmental and other formal institutions.

The slave trade’s impact on both these dimensions reveals its broader effects on social capital.

The slave trade disrupted both interpersonal and institutional trust, thereby weakening the overall



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social capital. Previous research has identified a significant negative correlation between the presence of the slave trade and the development of social capital. Putnam R. D. (2000) suggests that low levels of social capital can often be found in regions where slavery was deeply entrenched in the 10th century. This is because slavery, as a system, was deliberately structured to erode and destroy social capital, dismantling trust and community cohesion.

Social capital is comprised of not only trust but also social and political participation. These additional components are influenced by historical factors such as the slave trade. Analyzing only trusts without considering the broader category of social capital misses' critical insights.

Understanding the full scope of social capital is essential for comprehensively evaluating its impact on economic development, especially in the context of historical injustices like the slave trade.

Nunn & Wantchekon's (2011) research primarily focused on interpersonal trust, which refers to an individual's capacity to trust others, including strangers, this concept is recognized also as "general trust" (Bhandari, Humnath, & ., 2009)

This type of trust is distinct from institutional trust. Their study examined the relationship between the historical presence of the slave trade and levels of trust. Specifically, they dichotomized the trust variable into five components: trust in their neighbors, trust in relatives, trust in people from the same ethnic group or tribe, trust in other ethnic groups, and trust in their elected local government council (Nunn & Wantchekon, 2011).

Of these five variables, only the last one pertains to institutional trust. At the same time, the other four fall under what is commonly categorized as interpersonal or general trust within the broader framework of social capital.

My contribution aims to analyze and demonstrate that the effects Nunn studied regarding the slave trade's impact on trust are, in fact, more appropriately examined within the context of social capital. By utilizing data from the Afrobarometer, I investigate the effects that the slave trade has had over time, and continues to have, on the five key categories of social capital,

This broader analysis helps to clarify how the legacy of the slave trade has influenced these crucial elements of social capital and, consequently, economic development.



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1.4 The structure of social capital

The concept of social capital has been widely studied and utilized in various fields of research.

Social capital refers to the networks, norms, and trust that enable participants to act together more effectively to pursue shared objectives, the term refers to the intangible assets of a community, such as shared values and mutual trust, that individuals rely on in their everyday lives (Field, 2008).

This concept was derived by scholars such as Putnam R. D. (2000) or Coleman (1998), which both offer comprehensive insights into the concept and its implications for economic development.

For others, Social Capital can be seen in the language of game theory, it is the excess propensity to play cooperative solutions in prisoners' dilemma games (Paldam, 2000).

In my paper, I include five categories that I consider most significant for understanding how social capital influences economic outcomes. These five categories represent the broadest aspect of how social capital functions within society (Durante, Ruben, & al., 2024).

These five categories are social participation, political participation, interpersonal (or general trust), institutional trust, and rule of law (civism).

Each of these categories captures essential dimensions of social capital that are pivotal for analyzing its impact on economic development and societal well-being.

As previously discussed, interpersonal trust is the confidence individuals place in others regarding their intentions, integrity, and reliability (Simpson, 2007). Research by Guiso, Sapienza, & Zingales (2004) indicates that interpersonal trust is the only one of the four key variables to exhibit a positive and significant impact on financial development. This underscores its critical role in shaping both personal and professional relationships and highlights its importance in the economic context, particularly about cooperation, performance, and overall development.

Social participation refers to the involvement of individuals in various social activities and community affairs, reflecting their capacity to engage within society. This includes activities such as volunteering, joining social organizations, and participating in public discussions.

It denotes how individuals contribute to and interact with their communities.

According to Nunn, a reduction in social participation can affect both interpersonal trust and economic development. Putnam R. D. (2000) argues that social participation is declining in modern



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society, leading to issues of social fragmentation and diminished democratic engagement.

Stronger social participation, therefore, correlates with greater community resilience. Additionally, social participation and interpersonal trust are found to be more strongly related to health outcomes (such as value-added and female labor market participation).

Institutional trust refers to the expectations individuals hold regarding their political institutions. It encompasses the belief that institutions act reliably and ethically, adhering to laws and norms while ensuring transparency, reliability, and fairness. This concept is crucial for the effective functioning of democratic systems and for maintaining social stability.

It encompasses trust in political institutions, judiciary systems, law enforcement, and public administration.

Putnam R. D. (2000) emphasized that institutional trust is fundamental for promoting civic engagement and effective governance.

Political participation refers to the various ways in which individuals engage in political processes and activities. It encompasses the propensity to participate in or support political parties, labor unions, and other political activities beyond voting, as attending political meetings, engaging in demonstrations, contacting elected officials, or being a member of a political party.

It involves a range of actions through which citizens express their political preferences and contribute to the functioning of the democratic system.

This can include formal activities such as discussing political issues and participating in protests.

Verba & Sidney (1995). argue that political participation enhances the representativeness of the political system, emphasizing the importance of ensuring that diverse voices are heard.

They introduced a “Civic Voluntarism Model (CVM)” which argues that political participation is shaped by three key factors: resources, psychological engagement, and recruitment network.

Resources enable individuals to engage in political activities, individuals with more resources are more likely to participate in politics.

Psychological engagement refers to the personal interest and understanding of politics that drive individuals to take part in the political process.



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Recruitment networks are social environments, such as workplaces or religious organizations.

Rule of law refers to the attitude individuals hold toward public institutions and social norms. This variable may appear like political participation; however, it pertains to distinct characteristics of individuals, specifically, their conduct in daily life regarding adherence to laws and institutions. Rule of law encompasses behaviors such as paying taxes and acknowledging the police as legitimate authorities, thus reflecting an individual's compliance with legal principles.

The presence of individuals who consistently respect the law fosters further development of social capital, enhancing institutional trust within the population, and contributing to improved quality of life and individual freedom.

Putnam R. D. (1993) argues that the rule of law enhances trust in institutions, which is crucial for democratic effectiveness. When individuals respect laws and institutions, they are more likely to engage in collective action and support the democratic process, this means an increase of political participation.

1.5 Social capital and economic development

The following section examines trust's crucial role in fostering economic development. Since trust is an integral component of social capital, I explore the importance of maintaining and developing social capital within communities to ensure sustainable economic growth.

Social capital is essential for economic development due to its impact on the efficiency and effectiveness of financial interactions. Social capital's influence on economic performance is significant because strong social capital reduces transaction costs by fostering a more cooperative and less costly environment for economic interactions Putnam R. D. (2000). This improves the efficiency of economic activities.

According to Knack, Stephen, & Philip (1997) trust and networks within a community reduce the need for formal contracts and monitoring, thus lowering the costs of doing business. When interpersonal or institutional trust is high, economic exchanges are smoother, and risk is minimized, this leads to more efficient markets and increased productivity. Trust is the critical factor in



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facilitating economic transactions and so reduces costs, it eliminates the need for enforcement of agreements.

Due to a reduction in transaction costs, facilitation of market exchanges, and promotion of access to credit, a higher level of interpersonal trust contributes to enhanced financial development within a country (Guiso, Sapienza, & Zingale, 2004). This trust facilitates more efficient resource allocation, diminishes enforcement costs in financial transactions, and improves risk management.

For instance, trusted relationships minimize the necessity for extensive monitoring and legal enforcement, thereby enabling both businesses and individuals to concentrate more on productive activities, which consequently stimulates economic growth.

Additionally, trust can support informal credit systems in economies where formal financial institutions are underdeveloped, thus broadening financial participation.

A second significant impact of strong capital is its ability to facilitate collective action. High levels of social capital enable communities to work together effectively to address common challenges, whether through informal networks or formal institutions. This collaborative capacity is critical for the provision of public goods, such as education, infrastructure, and healthcare services, all of which are essential for long-term economic growth (Ostrom & Elinor., 1990).

Ostrom's research highlights how social capital plays a vital role in allowing groups to manage common resources efficiently through cooperation. Similarly, Fukuyama & Francis (1996) argue that high-trust societies, like Japan, have a competitive economic advantage due to their ability to support large-scale organizations and firms, while low-trust societies are more prone to fragmentation and inefficiency.

This underscores the importance of maintaining and enhancing social capital for sustainable economic development.

Another important contribution brought by high social capital is the concept of enhanced information sharing. Various academic sources (Putnam R. D, 2000) (Fukuyama & Francis., 1996) (Bowles & Samuel, 1998) explore how high levels of trust and network connections within a community facilitate the exchange of information. These exchanges can lead to better-informed decision-making,



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quicker diffusion of innovations, and more efficient market operations.

One key source discussed in the work by Lin & Nan (2002) where argues that social capital enables individuals to access information and resources through their social networks.

Social capital facilitates information flow among members of a community, which can reduce information asymmetry and contribute to economic efficiency (Coleman & James, 1998).

These insights suggest that the flow of information is a crucial mechanism through which social capital contributes to economic development.

Increased information sharing also enhances creativity and innovation by bridging gaps within networks, thereby fostering the generation of new ideas and entrepreneurial activities (Fafchamps & Lund, 2003).

This process, in turn, boosts competitiveness, an essential component for both economic and personal development. By enabling individuals to access diverse information and collaborate across broader networks, social capital plays a crucial role in driving innovation and maintaining a competitive edge in a rapidly evolving economic landscape.

Building on the insights above, one can understand how detrimental the slave trade may have been in drastically reducing African social capital.

I anticipate the slave trade to hurt social capital for several reasons. For instance, Uttermark (2020) proposes two main hypotheses: the “inequality Hypothesis” and the “Attitudinal Hypothesis”. The first suggests that contemporary inequality arises from the entrenched legacy of slavery; the second argues that the institutional depth of slavery disrupted cultural foundations, influencing current levels of social capital. With these hypotheses, they aim to demonstrate that a negative relationship exists between the slave trade and social capital, with historical inequality playing a key role in reinforcing this relationship.

Although my study focuses on different geographical areas, the rationale supporting a negative relationship between the slave trade and social capital is quite similar. Nunn & Wantchekon (2011) already address the issue of trust specifically, while the broader concept of social capital can reasonably be linked to persistent inequality and institutional erosion rooted in the legacy of the slave trade. Additionally, other factors support this negative relationship, such as the persistence of



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corruption and a significant reduction in human capital, both of which further undermine social capital.

As is well known, a substantial number of individuals were exported from various countries in Africa during the transatlantic slave trade. The social capital that was lost with these individuals is incalculable, following Uttermark (2020), there is a clear negative association between social capital and historical slavery. Modern social capital in countries that relied heavily on slavery as a labor force shows significantly lower levels of social capital. The authors argue that the antagonist attitudes and mistrust that emerged in the post-slavery era and were transmitted across generations, continue to erode social capital to this day. The legacy of the slave trade has left profound challenges within the social fabric of affected regions. With the onset of the slave trade, the disintegration of social capital began, leading to increased conflicts between villages as communities sought to capture and sell individuals for profit. This resulted in a profound inability to develop, due to the absence of labor and the loss of essential knowledge necessary for organization, effectiveness, and efficiency.

Moreover, a population that no longer trusted each other became increasingly inclined to produce solely for survival and individual gain, thereby regressing in their stages of development.

Consequently, the effects of the slave trade on social capital are both external and internal. Externally, African countries were unable to share in the economic prosperity enjoyed by European nations at the time. Internally there was a significant decimation of the population, resulting in a loss of human capital and the emergence of internal conflicts driven by a complete breakdown of trust alongside the pressing need for profit.



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2 Data

The objective of this paper is to analyze the effects of the slave trade on social capital within African countries, utilizing Afrobarometer as the primary data source. Consequently, the analysis will focus on the countries included in the Afrobarometer survey.

2.1 The Afrobarometer

The analysis in this paper was conducted using data from two distinct sources. The first dataset originates from the work of Nunn & Wantchekon (2011) which they used to analyze the effect of the slave trade on trust. To this, I have added a second dataset from the third round of the Afrobarometer survey (2005). In this dataset, I took all relevant questions, and transformed the variables into dummy variables, dichotomizing them into values 1 and 0. A value of 1 was assigned when the response was positive, and a value of 0 when the response was negative.

After performing this operation on all relevant questions for my analysis, I integrated these dummy variables into my existing dataset. This approach ensures sufficient data coverage to examine all dimensions of social capital.

The Afrobarometer surveys are comprehensive questionnaires administered to representative samples across various African countries, these surveys collect data on diverse topics such as demographics (age, gender, place of birth), employment status, perceptions of government effectiveness, levels of freedom within the country, and more. The questions are made in the native language.

The Afrobarometer questionnaire is instrumental for conducting various analyses, including mine, as it provides insights into different socio-political and economic aspects relevant to African nations.

The countries considered in the analysis are those that experienced a significant presence of the slave trade, specifically in West Africa, Eastern Africa, and Southern Africa, excluding West central regions and inland countries on the Red Sea. The countries included in the study are Benin, Botswana, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Uganda, Zambia and Zimbabwe.

My dataset includes a total of 21,822 respondents, with 3,575 observations lost during the merger due to data that did not find correspondence in the master dataset



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Figure 1: Number of respondents by country

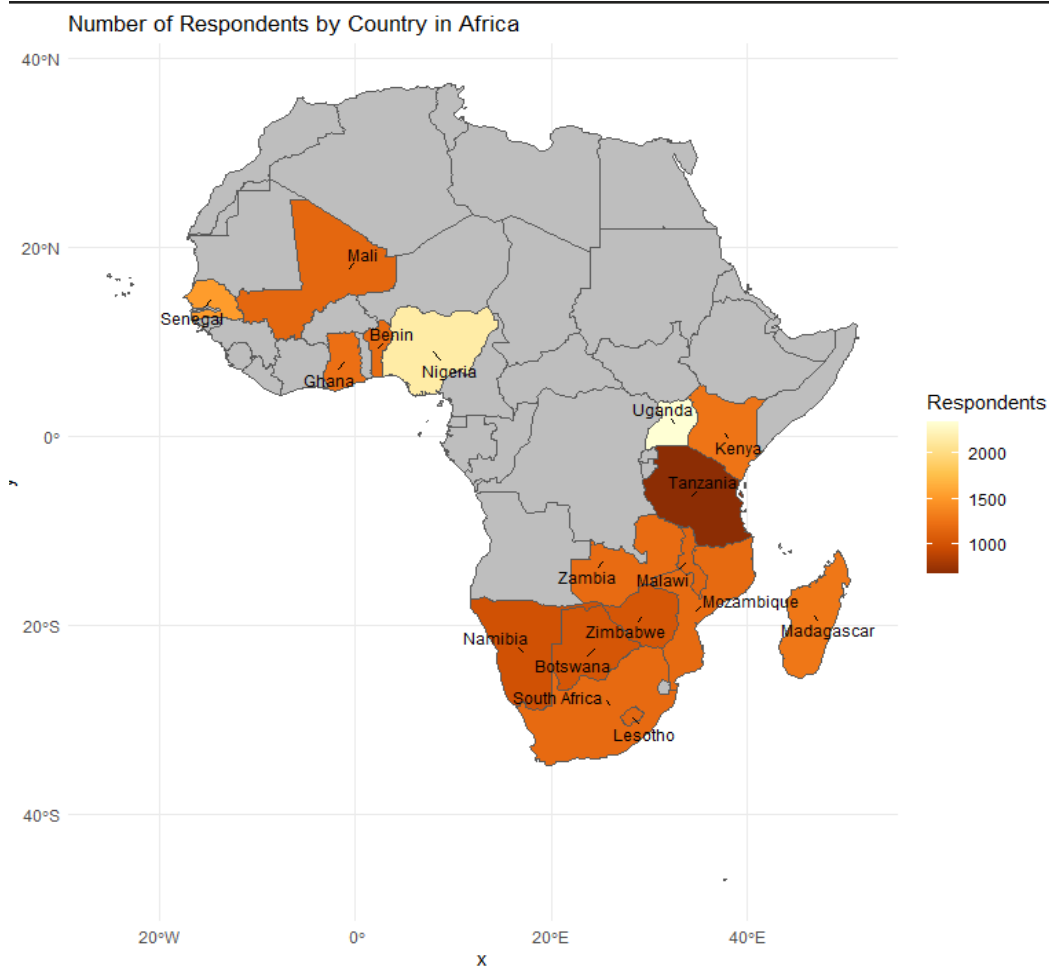


Figure 1 indicates the number of respondents per country, following the dataset it's possible that most respondents come from Uganda (2345) and Nigeria (2155), while the Countries with the least respondents are Tanzania and Namibia.



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2.2 The five categories of social capital in the Afrobarometer

Social capital has been extensively studied in previous research. In my analysis, I found the study conducted by Durante, Ruben, et al. (2024) to be particularly important. Their work provides a clear qualitative explanation of the concept of social capital and offers a thorough quantitative analysis of how its subcategories are interconnected and the broader impact of social capital on society.

Considering the dummy variables I created and their corresponding topics, I deemed it important to maintain the same subcategories outlined in the paper of Durante, Ruben, & al. (2024), while adding one that reflects another dimension of social capital (rule of law).

I included dummy variables corresponding to the survey questions. Each question has responses ranging from 0 to 4 (with some exceptions). The dummy variables take 0 for a negative response and 1 for a positive response. Responses such as “don’t know,” “refused to answer,” or “missing value” were excluded from the analysis.

After converting the survey questions into dummy variables, I selected the relevant ones for each of the four categories of social capital. The remaining dummy variables were used as control variables to prevent bias in the results. ¹

In analyzing the Afrobarometer questionnaire for questions related to social participation I focused on questions that pertain to the individual’s engagement within their community or ethnic group. For instance, these include inquiries about whether the respondent participates in religious activities or belongs to any social group.

In Durante, Ruben, & al. (2024), under the category of social participation, actions such as donating money to volunteer organizations, participating in voluntary associations, or engaging in civil rights, cultural, or recreational associations are considered important for this category.

¹ More information regarding the variables can be found in the appendix at the bottom of the paper, and in the summary statistics tables.



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Table 1: Social participation – from survey questions to indicator outcomes

| Dep. variable | Survey questions | Possible answers | Dichot. rule |
|-----------------------------|---|--|----------------------|
| SOCIAL PARTICIPATION | | | |
| Y_1^{soc} | Could you tell me whether you are an official leader, an active member, an inactive member, or not a member: A trade union or farmers association? | 0 : Not a member 1: Inactive Member 2: Active Member 3: Official Leader | 0 = 0 1, 2, 3 = 1 |
| Y_2^{soc} | Could you tell me whether you are an official leader, an active member, an inactive member, or not a member: A professional or business association? | 0 : Not a member 1: Inactive Member 2: Active Member 3: Official Leader | 0 = 0 1, 2, 3 = 1 |
| Y_3^{soc} | Could you tell me whether you are an official leader, an active member, an inactive member, or not a member: A community development or self-help association? | 0 : Not a member 1: Inactive Member 2: Active Member 3: Official Leader | 0 = 0 1, 2, 3 = 1 |
| Y_4^{soc} | Could you tell me whether you are an official leader, an active member, an inactive member, or not a member: any group | 0 : Not a member 1: Inactive Member 2: Active Member 3: Official Leader | 0 = 0 1, 2, 3 = 1 |

Question Q28 specifically asks whether the individual is a member of a given social group and what role they play within that group. The relevant survey questions include: “For each of the following groups, could you tell me whether you are an official leader, an active member, an inactive member, or not a member?” The groups listed are trade unions, farmers' associations, professional or business associations, and community development associations.

Similarly, question Q31 also falls under this category, asking whether the respondent has participated in specific activities, such as participating in a manifestation or strike.

Question 31 lists common civic actions and asks respondents whether they have participated in such activities. The response options are: “No, would never do this”, “No, but would do if had the chance”, “yes, once or twice”, “Yes, several times”, and “Yes, often”. The activities included in the question



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are attending a community meeting, joining others to raise an issue, and attending a demonstration or protest march. This type of question provides more information about how actively an individual is participating in important activities related to societal decision-making, which ultimately shapes the future of the community.

The most relevant questions concerning political participation focus on the individual's actual involvement in political life, such as listening to debates, knowing their representatives, donating money to support a political cause, or attending trade union meetings (Durante, Ruben, & al., 2024).



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Table 2: political participation – from survey questions to indicator outcomes

| Dep. variable | Survey questions | Possible answers | Dichot. rule |
|--------------------------------|---|---|----------------------|
| POLITICAL PARTICIPATION | | | |
| Y_1^{pol} | understanding that some [Ghanaians/Kenyans/etc.] could not register as voters for the [20xx] elections, which statement is true for you? | 1= registered to vote 2= not want to register 3= not find a place to register 4=prevented from registering 5= too young to register | 2,3,4,5 = 0 1 = 1 |
| Y_2^{pol} | During the past year, how often have you contacted any of the following persons for help to solve a problem or to give them your views: A Local Government Councillor? | 0= Never, 1= Only once, 2= A few times | 0 = 0 1, 2 = 1 |
| Y_3^{pol} | During the past year, how often have you contacted any of the following people for help to solve a problem or to give them your views: An official of a government ministry? | 0=Never, 1=Only once, 2=A few times | 0 = 0 1, 2 = 1 |
| Y_4^{pol} | During the past year, how often have you contacted any of the following people for help to solve a problem or to give them your views: A traditional ruler? | 0=Never, 1=Only once, 2=A few times | 0 = 0 1, 2 = 1 |
| Y_5^{pol} | Can you tell me the name of: Your Member of Parliament/National Assembly Representative? | 1=Know but can't remember, 2=Incorrect guess, 3=Correct name | 1,2 = 0 3 = 1 |
| Y_6^{pol} | Can you tell me the name of: Your Local Government Councillor? | 1=Know but can't remember, 2=Incorrect guess, 3=Correct name | 1,2 = 0 3 = 1 |

In the survey, Q32 asks individuals how often they have approached a specific person or entity to seek advice or share their opinion. The list includes local government councilors, Members of Parliament/National Assembly Representatives, officials of government ministries, and political party officials.

The available responses to the mentioned questions are: “Never”, “Only once”, “A few times”, and



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“Often”.

When discussing political participation, the individual’s knowledge of political life, such as their familiarity with political leaders or parties, is considered important. For this reason, I deemed it necessary to include questions Q43a and Q43b2, which ask: “Can you tell me the name of your member of parliament/national Assembly Representative?” and “Can you tell me the name of your Local Government Councilor?” the possible answers are: “know but can’t remember”, “incorrect name” and “correct name”.

These questions are essential to determine whether an individual has at least a minimal interest in the political life of their country or locality. They do not necessarily assess active political engagement, but rather whether the individual is aware of who represents them politically.

Following the Afrobarometer, I needed to identify the most relevant questions on interpersonal trust. For this category, it is essential to capture citizens’ perceptions regarding the trust they have in others within their community.

In their paper Durante, Ruben, & al. (2024) introduced two key items: “neighbor will give back wallet” and “stranger will give back wallet” which reflect the concept of general trust.



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Table 3: Interpersonal trust – from survey questions to indicator outcomes

| Dep. variable | Survey questions | Possible answers | Dichot. rule |
|----------------------------|---|---|----------------------|
| INTERPERSONAL TRUST | | | |
| Y_1^{interp} | How much do you trust each of the following types of people: Your relatives? | 0=Not at all, 1=Just a little, 2=Somewhat, 3=A lot | 0 = 0 1, 2, 3 = 1 |
| Y_2^{interp} | How much do you trust each of the following types of people: Your neighbors? | 0=Not at all, 1=Just a little, 2=I trust them somewhat, 3=I trust them a lot | 0 = 0 1, 2, 3 = 1 |
| Y_3^{interp} | How much do you trust each of the following types of people: People from your own ethnic group? | 0=Not at all, 1=Just a little, 2=I trust them somewhat, 3=I trust them a lot | 0 = 0 1, 2, 3 = 1 |
| Y_4^{interp} | How much do you trust each of the following types of people: from other ethnic groups? | 0=Not at all, 1=Just a little, 2=I trust them somewhat, 3=I trust them a lot | 0 = 0 1, 2, 3 = 1 |
| Y_5^{interp} | How much do you trust each of the following, or haven't you heard enough about them to say: Your local people? | 0=Not at all, 1=Just a little, 2=I trust them somewhat, 3=I trust them a lot | 0 = 0 1, 2, 3 = 1 |

In the Afrobarometer, the questions that align with this category are Q84, which was also used by Nunn in his study. These questions ask: “How much do you trust each of the following types of people: your relatives? Your neighbors? People from your ethnic group? or People from other ethnic groups?” the possible responses are “Not at all”, “Just a little”, “Somewhat”, and “A lot”.

A thorough analysis of these questions and responses can provide a strong representation of the level of trust within the communities of the 17 countries I study. As observed by Nunn N. (2008), trust levels are generally low and one significant cause identified in their study is the extensive presence of the slave trade in these countries.



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I'm now using these measures within the framework of social capital. In addition to the four questions from Q84, I am also including Q83, which asks: "Would you say the most people can be trusted, or that you must be very careful in dealing with people?" the possible answers are: "You must be very careful" and "Most people can be trusted"

This question is like the previous one but more general. Through the response, it helps to determine whether the individual harbors a general distrust toward everyone in society, it does not have a specific focus, such as distrust of neighbors, but rather assesses whether the person perceives potential "dangers" wherever they go, or if the opposite is true.

These questions provide a well-rounded view of interpersonal trust by encompassing both specific and general forms of trust within communities, making them highly relevant for analyzing social capital.

The Afrobarometer reveals that many of the questions pertain to institutional trust. Important variables for analyzing institutional trust include "trust in the National Parliament," "Trust in the European Parliament," and "Trust in local government" (Durante, Ruben, & al., 2024).



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Table 4: Institutional trust – from survey questions to indicator outcomes

| Dep. variable | Survey questions | Possible answers | Dichot. rule |
|----------------------------|---|---|----------------------|
| INSTITUTIONAL TRUST | | | |
| Y_1^{instit} | How much do you trust each of the following, or haven't you heard enough about them to say: The President/Prime Minister? | 0=Not at all, 1=Just a little, 2=Somewhat, 3=A lot | 0 = 0 1, 2, 3 = 1 |
| Y_2^{instit} | How much do you trust each of the following, or haven't you heard enough about them to say: The Parliament/National Assembly? | 0=Not at all, 1=Just a little, 2=Somewhat, 3=A lot | 0 = 0 1, 2, 3 = 1 |
| Y_3^{instit} | How much do you trust each of the following, or haven't you heard enough about them to say: The Electoral Commission? | 0=Not at all, 1=Just a little, 2=Somewhat, 3=A lot | 0 = 0 1, 2, 3 = 1 |
| Y_4^{instit} | How much do you trust each of the following, or haven't you heard enough about them to say: Your Elected Local Government Council? | 0=Not at all, 1=Just a little, 2=Somewhat, 3=A lot | 0 = 0 1, 2, 3 = 1 |
| Y_5^{instit} | How much do you trust each of the following, or haven't you heard enough about them to say: Opposition Political Parties? | 0=Not at all, 1=Just a little, 2=Somewhat, 3=A lot | 0 = 0 1, 2, 3 = 1 |

I have included all the questions under Q55: “How much do you trust each of the following? Trust the president, Trust Parliament/National Assembly, Trust the Electoral Commission, trust your Local Council, trust the military; trust the police, trust Government newspapers, and Trust independent newspapers.” The possible responses are: “Not at all”, “Just a little”. “Somewhat”, and “A lot”.

As it's possible to see, the questions alternate between asking about trust in the government or its parts and then asking about trust in local councils.



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The Afrobarometer is filled with such questions, and I have also included questions Q65 and Q67. Q65 asks:” How well or badly would you say the current government is handling the following matters?” while Q67 asks:” How well or badly would you say your local government is handling the following matters”

This allows for a more comprehensive analysis to determine whether citizens have a higher perception of the national government and therefore greater trust in it, compared to their perception and trust in local councils.

These questions also help assess whether, both perceptually and conceptually, the government or local institutions are failing to work effectively to improve the lives of their citizens and the situations they face.



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Table 5: Rule of law – from survey questions to indicator outcomes

| Dep. variable | Survey questions | Possible answers | Dichot. rule |
|--------------------|--|---|----------------------|
| RULE OF LAW | | | |
| Y_1^{rule} | Which of the following statements is closest to your view? Choose Statement A or Statement B | A: It is important to obey the government in power no matter who you voted for. B: It is not necessary to obey the laws of a government that I did not vote for. | B = 0 A = 1 |
| Y_2^{rule} | Which of the following statements is closest to your view? Choose Statement A or Statement B | A: It is better to find lawful solutions to problems even if it takes longer. B: It is sometimes better to ignore the law and solve problems immediately using other means | B = 0 A = 1 |
| Y_3^{rule} | For each of the following statements, please tell me whether you disagree or agree: The courts have the right to make decisions that people always have to abide by. | 0=Not at all, 1=Just a little, 2=Somewhat, 3=A lot | 0 = 0 1, 2, 3 = 1 |
| Y_4^{rule} | For each of the following statements, please tell me whether you disagree or agree: The police always have the right to make people obey the law. | 0=Not at all, 1=Just a little, 2=Somewhat, 3=A lot | 0 = 0 1, 2, 3 = 1 |
| Y_5^{rule} | For each of the following statements, please tell me whether you disagree or agree: The tax department always has the right to make people pay taxes. | 0=Not at all, 1=Just a little, 2=Somewhat, 3=A lot | 0 = 0 1, 2, 3 = 1 |



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In the Afrobarometer survey, five questions categorized under “rule of law” are included: Q49, Q50, Q52b, Q52c, and Q52d. These questions are grouped under the heading “respect” and assess respondents’ agreement or disagreement with various statements. For instance, one question posits, “The police always have the right to make people obey the law”, while another states, “The courts have the right to make decisions that people always have to abide by” These inquiries explicitly evaluate whether individuals respect the authority of the police and the judiciary, thereby gauging citizens’ adherence to the law.

Such questions serve to illuminate the extent to which citizens acknowledge and respect legal authorities and their mandates

2.3 Slave export data

The estimates used for my analysis of the number of slaves taken from each ethnic group within Africa are derived from Nunn N. (2008). These estimates are constructed by combining data on the total number of slaves shipped from all African ports and regions with data on the ethnic origins of slaves, covering all four of Africa’s slave trades: trans-Atlantic, Indian Ocean, Red Sea, and Trans-Saharan, between 1400 and 1900. However, I will focus on only two of these four slave trades, as they provide sufficient detail on the number of slaves taken from each ethnic group to construct accurate estimates.

The Trans-Atlantic slave trade was the largest long-distance coerced movement of people in history and, before the mid-nineteenth century, served as the primary demographic source for repopulating the Americas following the collapse of the Amerindian population Eltis D. (1979). Most of the slaves taken during this trade were males deemed necessary for labor on plantations. In contrast, (Hooper & Eltis (2013) found that most slaves traded in the Indian Ocean World (IOW) were female, particularly girls and young women, who were valued for their sexual attractiveness and reproductive capacity. Additionally, IOW slaves were typically employed in a broader range of tasks and responsibilities than those in the Americas, where slaves were predominantly engaged in unskilled plantation and labor. Both studies highlight that the trans-Atlantic and Indian Ocean routes were the two largest in



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terms of slave exports, with the trans-Atlantic trade being particularly significant.

In estimating slave exports, Nunn N. (2007) utilized two primary types of data: the total number of slaves exported from each port or region in Africa, and information on the ethnic identities of slaves shipped from the continent. For the Transatlantic slave trade, the data were mainly sourced from (Eltis d. (1999), with gaps filled using Elbl (1997). Data for the other three routes (Indian Ocean, Red Sea, and Trans-Saharan trade) were compiled from studies by Austen (1979)

The records on the ethnicities of slaves involved in the trans-Atlantic trade amount to 80,656 individuals, representing 229 distinct ethnic groups. For the Indian Ocean trade, data cover 21,048 slaves from 80 different ethnicities. For the Red Sea and trans-Saharan trade, Nunn N. (2008) utilized various sources to obtain information on the ethnic origins of slaves. Additionally, Nunn N. (2008) includes a table that provides estimates of the total number of slaves exported from each African country between 1400 and 1900.



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3 Empirical analysis and results

3.1 Social capital dimension and control description

In this section, I present the empirical findings of my analysis, focusing on the causal impact of the number of slaves taken from specific ethnic groups on African social capital.

Given the negative relationship that Nunn & Wantchekon (2011) identified between the slave trade and trust outlined in previous chapters, it can be inferred that the slave trade had a broader detrimental impact on social capital. This suggests that this historical event, which spanned over 400 years and ended more than a century ago, continues to exert harmful effects on African society and culture, particularly in terms of social capital, and consequently, economic development.

To test my hypothesis, I analyze the relationship between the slave trade and social capital using, first, a standard OLS regression. A key challenge of OLS is the potential difficulty of accurately estimating the true causal effect, primarily due to the presence of omitted variables. This could lead to bias in the estimation, resulting in an incorrect assessment of the true causal effect (the challenge is accurately estimating the true causal effect of the slave trade).

Initially, I estimate the relationship between the number of slaves taken from an individual's ethnic group and the current level of social capital present within the 17 countries.

The following equation represents the social capital equation, considering all five categories.

$$Y_{i,e,d,c} = \alpha_c + \beta ST_e + X^l_{i,e,d,c} + \gamma_1 AM_{d,i} + \gamma_1 PR_{d,c} \varepsilon_{i,e,d,c} \quad (1)$$

$Y_{i,e,c,d}$ represents the social capital for individual “i”, from ethnic group “e” in district “d”, belonging from the country “c”.

At the outset, i indexes individuals, e indexes ethnic groups, c indexes country, and d indexes district.

The variable $Y_{i,e,c,d}$ denotes one of the four measures of social capital: social participation, political participation, interpersonal/general trust, institutional trust, and rule of law. These values can vary



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across both countries and individuals.

α_c represents country-fixed effects, capturing unobserved heterogeneity at the country level.

The coefficient of interest, β , represents the estimated relationship between the historical slave exports of an individual's ethnic group and their perception of the social capital present in their district and country. These variables and coefficients are pivotal in examining how historical factors, particularly the slave trade, continue to impact contemporary social and health outcomes in African societies, contributing valuable insights for policymaking and development strategies aimed at improving overall well-being.

The vector $X^I_{i,e,d,c}$ consists of individual-level covariates included as control variables. These covariates, as detailed in Nunn & Wantchekon (2011), encompass the respondent's age, age squared, a gender indicator variable, an urban residency indicator equals one if the respondents live in an urban location, five fixed effects for living conditions, ten fixed effects for educational attainment, 18 religion fixed effects, and 25 occupation fixed effects, sourced from the Afrobarometer data.

Additionally, $X^I_{i,e,d,c}$ includes ethnic fractionalization in the respondent's districts and the share of the district's population, designed to capture the ethnic composition of the respondent's residential area. This is crucial as individuals from ethnic minorities may face barriers to accessing healthcare facilities (impacting health outcomes) and may experience a lower presence of law enforcement, potentially leading to higher crime rates or corruption

In the paper, I introduced two additional types of controls that influence social capital at both the local and national (governmental) levels. These controls, along with the variables being analyzed, were sourced from the Afrobarometer.

The first control variable in the equation is " $AM_{d,i}$ ", which is associated with amenity controls. This variable captures the availability of services within an individual's area, district, or locality. It is designed to assess the convenience, safety, and potential development of individuals residing in that kind of area. Examples of services included in this variable are the presence of post offices, schools, or police stations. These are amenities that, if available, would contribute to enhancing the social capital of individuals in the district.

The second variable, $PR_{d,c}$, these controls variable, referred to as "problem controls", were



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introduced into the analysis to capture citizens' perceptions, both past and present, regarding the government's ability to address key issues as the economy, crime, sanitation, education, and other essential services. This variable also provides insight into whether the government is improving and evolving in its management of these critical sectors, which are necessary for the continuity and stability of the country. By incorporating these controls, the analysis can better capture the influence of various issues on social capital and provide a clearer picture of the relationship between the slave trade and the observed outcomes.

Before delving into the detailed explanation of these variables, it is crucial to acknowledge the foundational work of Murdock (1959), particularly his "ethnographic atlas". Murdock's comprehensive catalog of ethnic and tribal characteristics of African populations is indispensable for distinguishing between different ethnic groups across various countries. His data forms the basis for linking the ethnic origins of slaves to their current geographic locations, aiding in the construction of essential control variables and ethnic fractionalization measures utilized in my Stata analyses. Notably, my dataset incorporates two distinct variables derived from Murdock's work.

In my analysis, there is a variable called "ethnic fractionalization", which captures the ethnic fractionalization of the district where the respondent resides, and reflects the ethnic composition of their local area, while Easterly & Levine (1997) found a relationship between the ethnic fractionalization and income, Nunn & Wantchekon (2011) introduced this variable to show that individuals belonging to ethnic minorities may have lower levels of trust in others. Moreover, ethnic fractionalization can adversely affect institutions and health due to increased ethnic divisions, which often lead to conflicts, restricted access to resources, and reduced cooperation, thereby diminishing human capital formation. Consequently, this can lead to lower levels of trust, weaker institutional quality, and poorer health outcomes, ultimately contributing to social capital reduction.

Using data from Murdock (1959) and his ethnographic atlas, I have derived two additional measures: the precolonial settlement patterns of ethnic groups and the pre-colonial jurisdictional hierarchy beyond the local community.

The last two measurements are also utilized in the Nunn & Wantchekon (2011) analysis and are essential for studying the potential effects of the slave trade.



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Referring to the paper by Nunn & Wantchekon (2011), they introduced additional control variables to confirm the relationship between their variables and exclude causality and endogeneity, which are also essential for my analysis. I have incorporated as many variables related to the quality of institutions as possible.

Based on the data description and construction detailed in the paper, the control variables from Nunn & Wantchekon (2011) include: (i) a measure of European influence during the colonial period using information on the location of railway lines (this indicator variable equals one if any part of the railway network was built on land historically inhabited by the ethnic group, indicating their connection to colonial railway networks); (ii) an indicator variable that equals one if a European explorer traveled through land historically occupied by an ethnic group, using the same source; (iii) a variable to capture European missionary contact during the colonial period, calculated using information on the historical location of missions from Roome (1924), measuring the number of missions per square kilometer for each ethnic group.

I explain the covariates I considered necessary to exclude endogeneity and achieve the best possible results from my OLS analysis.

I have incorporated additional significant variables from the dataset analysis. Under the category “local colonial controls” I have included the Malaria Ecology Index, introduced by Kiszewski, et al. (2004), which measures the average presence of malaria in a land historically inhabited by each ethnic group, this assists the analysis by indicating an ethnic group’s initial disease environment.

Despite the use of a range of control variables, there remains the issue of potential unobserved variables that could affect the analysis.

To address this, I conducted a second analysis using the Instrumental variables (IV) method. This approach mitigates endogeneity by identifying instruments correlated with the explanatory variables but not directly related to the outcomes. This enhances the robustness of the findings and reduces biases in the estimates. Furthermore, a substantial number of control variables, drawn from the Afrobarometer, allows for a more rigorous and comprehensive analysis.



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3.2 OLS results

In this section, I present Tables derived from the OLS method, incorporating the use of control variables. This subsequent analysis aims to provide a more nuanced understanding of the effects of the slave trade by accounting for potential confounding factors.

In the Appendix, I show OLS tables without the use of controls.²

In the first Tables, I employed the OLS, where the dependent variables were transformed into dummy variables, taking the value of 1 when the original value was positive and 0 when it was negative. Furthermore, my variables of interest are logarithmic, shifting the interpretation from absolute to percentage changes.

In my estimating equation, the coefficient β represents the effect of a 1% change in the slave trade on the probability that the dummy variable measuring a specific aspect of social capital equals 1. Specifically, in Table 1, a 1% increase in the slave trade corresponds to a reduction of 0,0036/100 in the probability that someone could not register as voter for the elections (in the probability that “ $Y_1^{political}$ ” variable equals 1). A 1% increase in the slave trade results in a reduction of approximately 0,36 percentage points in the likelihood of the “opportunity of not being able to register for elections” variable being positive.

One of the main issues with the LPM is that the estimated probabilities can fall below 0 or exceed 1, which is not interpretable since the model is linear.

The analysis focuses on the trans-Atlantic and Indian Ocean slave trades, omitting the Red Sea and trans-Saharan trades to avoid biased results. Consequently, the study examines 17 countries, excluding those predominantly involved in the latter two trades to prevent estimation issues.

For the initial phase of my analysis, the results are presented for each category of social capital.

² In the appendix, the Tables (1 to 10) present the results without the use of controls. Interested readers can observe the differences in both the OLS (1 to 5) and IV (6 to 10) analyses to see how the inclusion of controls has contributed to the results.



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Table 1: Slave trade and political participation

| VARIABLES | (1) Y_1^{pol} | (2) Y_2^{pol} | (3) Y_3^{pol} | (4) Y_4^{pol} | (5) Y_5^{pol} | (6) Y_6^{pol} |
|------------------------|-----------------------|-----------------------|-----------------------|----------------------|---------------------|----------------------|
| log(slave export/area) | -0.00358 (0.00466) | -0.00566 (0.00676) | -0.00259 (0.00448) | -0.0121 (0.0108) | -0.0181 (0.0135) | -0.00926 (0.0183) |
| Constant | 0.482*** (0.0517) | -0.206*** (0.0741) | -0.228*** (0.0500) | -0.202** (0.0852) | 0.113 (0.0979) | 0.402*** (0.118) |
| Observations | 16,33 | 16,829 | 16,833 | 16,829 | 16,855 | 16,851 |
| R-squared | 0.089 | 0.165 | 0.085 | 0.160 | 0.287 | 0.146 |
| Country FE | YES | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES | YES |
| Problems_controls | YES | YES | YES | YES | YES | YES |
| Colonial controls | YES | YES | YES | YES | YES | YES |

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ Notes: The table reports OLS estimates. The unit of observation is an individual. Standard errors are adjusted at the ethnicity and district levels. The district controls include ethnic fractionalization in the district. The amenity controls reflect the presence of local services within a region, including facilities such as police stations or healthcare services. The problem controls assess the government's capacity to address specific issues, such as economic challenges. The ethnicity-level colonial controls encompass various factors: malaria prevalence, a 1400 urbanization indicator, eight fixed effects capturing the sophistication of precolonial settlement, the number of political hierarchies extending beyond local communities in the precolonial period, an indicator for integration with the colonial rail network, an indicator for early contact with European explorers, and the density of missions per square kilometer during colonial rule. Colonial population density is measured as the natural logarithm of an ethnic group's population density during the colonial period.

In Table 1 all coefficients are negative, and none of them are statistically significant.

These negative coefficients indicate a reduction in political participation across all dimensions considered an increase in the slave trade, which is associated with a decrease in political participation.

The magnitudes of these coefficients are small, rendering none of them significant.



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Table 2: Slave trade and social participation

| VARIABLES | (1) Y_1^{soc} | (2) Y_2^{soc} | (3) Y_3^{soc} | (4) Y_4^{soc} |
|------------------------|-------------------------|-----------------------|---------------------|---------------------|
| log(slave export/area) | -0.0303*** (0.00800) | -0.00219 (0.00590) | -0.0133 (0.0105) | -0.0153 (0.0108) |
| Constant | -0.00601 (0.0661) | -0.0310 (0.0409) | 0.00943 (0.0751) | 0.0526 (0.0787) |
| Observations | 17,727 | 17,652 | 17,714 | 17,898 |
| R-squared | 0.102 | 0.098 | 0.116 | 0.143 |
| Country FE | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES |
| Problems_controls | YES | YES | YES | YES |
| Colonial controls | YES | YES | YES | YES |

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ Notes: The table reports OLS estimates. The unit of observation is an individual. Standard errors are adjusted at the ethnicity and district levels. The district controls include ethnic fractionalization in the district. The amenity controls reflect the presence of local services within a region, including facilities such as police stations or healthcare services. The problem controls assess the government's capacity to address specific issues, such as economic challenges. The ethnicity-level colonial controls encompass various factors: malaria prevalence, a 1400 urbanization indicator, eight fixed effects capturing the sophistication of precolonial settlement, the number of political hierarchies extending beyond local communities in the precolonial period, an indicator for integration with the colonial rail network, an indicator for early contact with European explorers, and the density of missions per square kilometer during colonial rule. Colonial population density is measured as the natural logarithm of an ethnic group's population density during the colonial period.

Table 2 presents the results for social participation. Only one variable, "member of a trade union" (Y_2^{soc}), exhibit significant coefficients, while the others are not statistically significant. I observe a negative effect on "member of a trade union", "member of a professional or business association", "member of a community development or self-help association", and "member of any groups". Regarding the other variables, the effects align with my expectations, but the coefficients are only marginally significant.



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Table 3: slave trade and interpersonal trust

| VARIABLES | (1) Y_1^{interp} | (2) Y_2^{interp} | (3) Y_3^{interp} | (4) Y_4^{interp} | (5) Y_5^{interp} |
|------------------------|-------------------------|------------------------|------------------------|------------------------|-----------------------|
| log(slave export/area) | -0.0433*** (0.00859) | -0.0366*** (0.0112) | -0.0781*** (0.0166) | -0.0843*** (0.0158) | -0.0361** (0.0143) |
| Constant | 0.768*** (0.0567) | 0.557*** (0.0609) | 0.650*** (0.107) | 0.454*** (0.0973) | 0.334*** (0.106) |
| Observations | 16,803 | 16,669 | 12,581 | 11,617 | 12,439 |
| R-squared | 0.095 | 0.075 | 0.171 | 0.235 | 0.287 |
| Country FE | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES |
| Problems_controls | YES | YES | YES | YES | YES |
| Colonial controls | YES | YES | YES | YES | YES |

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ Notes: The table reports OLS estimates. The unit of observation is an individual. Standard errors are adjusted at the ethnicity and district levels. The district controls include ethnic fractionalization in the district. The amenity controls reflect the presence of local services within a region, including facilities such as police stations or healthcare services. The problem controls assess the government's capacity to address specific issues, such as economic challenges. The ethnicity-level colonial controls encompass various factors: malaria prevalence, a 1400 urbanization indicator, eight fixed effects capturing the sophistication of precolonial settlement, the number of political hierarchies extending beyond local communities in the precolonial period, an indicator for integration with the colonial rail network, an indicator for early contact with European explorers, and the density of missions per square kilometer during colonial rule. Colonial population density is measured as the natural logarithm of an ethnic group's population density during the colonial period.

Table 3 represents work that closely resembles that conducted by Nunn N. a., (2011), with the results consistent with those presented in their paper. All coefficients are negative and statistically significant across the variables analyzed.

Providing compelling evidence that higher levels of slave exports correlate with diminished interpersonal trust across different dimensions. The consistent coefficients indicate a lasting impact of historical factors on contemporary social capital.

There is approximately a reduction of 4 percentage points in “trust in relatives” (Y_1^{interp}), in “trust in neighbors” (Y_2^{interp}), and in “trust in the elected local council” (Y_5^{interp}). In contrast, there is an



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approximate reduction of 8 percentage points in “trust people from your ethnic group” and “trust in people from other ethnic groups”

Table 4: Slave trade and institutional trust

| VARIABLES | (1) Y_1^{instit} | (2) Y_2^{instit} | (3) Y_3^{instit} | (4) Y_4^{instit} | (5) Y_5^{instit} |
|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| log(slave export/area) | -0.0382** (0.0170) | -0.0210 (0.0162) | -0.0358** (0.0161) | -0.0441** (0.0143) | 0.00666 (0.0101) |
| Constant | 0.377*** (0.126) | 0.246** (0.112) | 0.175 (0.112) | 0.334*** (0.106) | 0.247*** (0.0804) |
| Observations | 13,901 | 12,362 | 12,082 | 12,439 | 13,212 |
| R-squared | 0.385 | 0.295 | 0.311 | 0.287 | 0.107 |
| Country FE | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES |
| Problems_controls | YES | YES | YES | YES | YES |
| Colonial controls | YES | YES | YES | YES | YES |

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ Notes: The table reports OLS estimates. The unit of observation is an individual. Standard errors are adjusted at the ethnicity and district levels. The district controls include ethnic fractionalization in the district. The amenity controls reflect the presence of local services within a region, including facilities such as police stations or healthcare services. The problem controls assess the government’s capacity to address specific issues, such as economic challenges. The ethnicity-level colonial controls encompass various factors: malaria prevalence, a 1400 urbanization indicator, eight fixed effects capturing the sophistication of precolonial settlement, the number of political hierarchies extending beyond local communities in the precolonial period, an indicator for integration with the colonial rail network, an indicator for early contact with European explorers, and the density of missions per square kilometer during colonial rule. Colonial population density is measured as the natural logarithm of an ethnic group’s population density during the colonial period.

The results presented in Table 4 are mixed. Four coefficients are negative and three of them are statistically significant, while one is negative but not statistically significant. Notably, there is a positive coefficient that is not significant, and it has a lower coefficient compared to the others. Specifically, higher historical rates of slave exports are associated with lower levels of trust in the



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president (“ Y_1^{instit} ”), in the parliament (“ Y_3^{instit} ”), and in the elected government council (“ Y_4^{instit} ”). The reduction for all three variables is approximately 4 percentage points.

Table 5: Slave trade and rule of law

| VARIABLES | (1) Y_1^{rule} | (2) Y_2^{rule} | (3) Y_3^{rule} | (4) Y_4^{rule} | (5) Y_5^{rule} |
|------------------------|------------------------|------------------------|----------------------|----------------------|----------------------|
| Log(slave export/area) | 0.00924** (0.00440) | 0.0309*** (0.00866) | -0.0207* (0.0115) | -0.0129 (0.0101) | -0.0206* (0.0120) |
| Constant | 0.727*** (0.0394) | 0.623*** (0.0582) | 0.623*** (0.0763) | 0.573*** (0.0780) | 0.478*** (0.0901) |
| Observations | 17,775 | 17,730 | 17,179 | 17,499 | 15,572 |
| R-squared | 0.056 | 0.076 | 0.042 | 0.064 | 0.065 |
| Country FE | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES |
| Problems_controls | YES | YES | YES | YES | YES |
| Colonial controls | YES | YES | YES | YES | YES |

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ Notes: The table reports OLS estimates. The unit of observation is an individual. Standard errors are adjusted at the ethnicity and district levels. The district controls include ethnic fractionalization in the district. The amenity controls reflect the presence of local services within a region, including facilities such as police stations or healthcare services. The problem controls assess the government’s capacity to address specific issues, such as economic challenges. The ethnicity-level colonial controls encompass various factors: malaria prevalence, a 1400 urbanization indicator, eight fixed effects capturing the sophistication of precolonial settlement, the number of political hierarchies extending beyond local communities in the precolonial period, an indicator for integration with the colonial rail network, an indicator for early contact with European explorers, and the density of missions per square kilometer during colonial rule. Colonial population density is measured as the natural logarithm of an ethnic group’s population density during the colonial period.

In Table 5, I observe the results related to the rule of law, which appear to be somewhat unexpected. On one hand, there is a marginally significant reduction in two variables, “court’s decision” (Y_3^{rule}) and “tax department law” (Y_5^{rule}), along with a non-significant reduction in a third variable, “police rights” (Y_4^{rule}). On the other hand, there are statistically significant positive effects for the first two variables, “Government law” (Y_1^{rule}) and “compliance with the law” (Y_2^{rule}).



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All these variables pertain to the extent of respect citizens have towards government institutions, the law, the courts, the police, and the tax department. The first two variables are closely associated with the government and the prevailing legal framework in the country, while the latter three reflect citizens' agreement or disagreement with whether certain entities, such as the courts, should have specific powers (e.g. the authority to enforce the law).

Upon completing the OLS analysis with the inclusion of control variables, I observed that not all coefficients were negative, and some of the negative coefficients showed low statistical significance. Additionally, I identified a few variables with positive coefficients that were highly significant, as well as others that were not statistically at all.

There are omitted variables that I'm unable to measure, which may be potentially linked both the slave trade and social capital. This creates an endogeneity concern, as unobserved factors correlated with the slave trade and my outcome of interest could bias the results. To address this issue, I employ an instrumental variable (IV) approach. The inclusion of control variables is crucial, as demonstrated by the differences between the OLS analysis with controls (previous section) and the OLS analysis without controls (appendix).



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3.3 Instrumental Variable Results

In this section, I aim to establish whether the observed correlations identified thus far indicate causal relationships.

To ensure the robustness of my results, I introduce an IV analysis. Using the IV method is advantageous for my study, particularly because a larger sample reduces the likelihood of bias.

The instrument I will use is the distance of an individual ethnic group from the coast during the slave trade. This instrument is correlated with the number of slaves taken from an ethnic group but uncorrelated with any characteristics of the ethnic group that might affect the quality of institutions and the health of descendants. This distance measure is constructed using data from Murdock (1959) and is the same instrument employed by Nunn in his analysis.

The instrument must satisfy two key properties: relevance and validity.

Regarding relevance, the instrument should be both empirically and historically significant. Historically, the slave trade originated along the coast, and its historical relevance has been supported by previous studies; Lovejoy (2010) contributes to this discussion by explaining that the slave trade began along the coast and subsequently devastated adjacent inland areas. The slave trade predominantly originated from the African coast, with the most severely impacted regions being those engaged in the trans-Atlantic trade rather than the Indian Ocean trade, particularly the coastal areas. History and first-stage results show that places closer to the coast had more slaves taken (Miller, 1997).

For the instrument to be effective, it must be uncorrelated with other factors, not just social capital. Its effects on these variables should be indirect, mediated through the slave trade.

Nunn & Wantchekon (2011) confirm that there is no direct correlation affecting initial development via preexisting trade, emphasizing the importance of considering African History.

This relevance can be empirically tested and is evident in the first-stage results, as shown in the tables below.

The more challenging aspect is validity, for the instrument “Distance from the Coast” to be a valid instrument, it must satisfy the condition of exogeneity. This means that distance from the coast should affect social capital only through its impact on the slave trade and not through any other unrelated



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pathways. The historical distance of an ethnic group from the coast must be uncorrelated with other factors, apart from the slave trade.

For instance, one might consider initial prosperity as a variable that could influence both a group's vulnerability to the slave trade and its subsequent levels of trust, typically this instrument could be linked to overseas trade, however, as noted by Nunn & Wantchekon (2011), this is less of a concern in the context of African history, where there was no significant overseas trade in the regions studied before the onset of the Transatlantic and Indian Ocean slave trades.

There are still several factors that might challenge the exclusion restriction.

Being closer to the coast could imply a greater distance from the Saharan trade networks, which may have shaped long-term trust through involvement in inland trade. To address this, controls are included for the distance to the nearest city and trade route within the Saharan trade network.

Nunn & Wantchekon (2011) introduces the opinion that distance from the coast could be associated with other forms of European engagement, such as colonial rule, which followed the era of the slave trade. To address this, it's important to include another set of ethnicity-level controls related to colonial contact.

In the IV analysis for social capital, I present tables for each category within the social capital. The next tables contain the IV estimates of the effect of the slave trade on social capital. These tables estimate the social capital while controlling for local baseline variables, ethnicity level colonial controls, colonial population density controls, district controls, amenity controls, colonial controls, and problems controls.

In the first stage, historical distance from the coast strongly correlates with the volume of slave exports. Consistent with expectations, ethnic groups farther from the coast historically exported fewer slaves.

The tables in the IV analysis will be divided into two sections: the first stage and log exports/area.

The first stage part estimates the historical distance from the coast, showing a negative correlation with slave exports.

The first stage is consistent across all tables. It is important to note that a coefficient of -0,00138 (see Table 6) indicates that for every additional kilometer of distance from the coast, there is a reduction



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of 0,14 in the slave trade. Consequently, an increase of 100 kilometers from the coast corresponds to a 14% decrease in the slave trade.

Table 6: Slave trade and political participation: IV estimates

| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---------------------|---------------------------|----------------------|-----------------------|-----------------------|----------------------|---------------------|---------------------|
| | Log(exports/area) | Y_1^{pol} | Y_2^{pol} | Y_3^{pol} | Y_4^{pol} | Y_5^{pol} | Y_6^{pol} |
| distance from coast | -0.00138*** (0.000288) | | | | | | |
| log exports/area | | -0.0231* (0.0125) | -0.0281 (0.0175) | -0.0350** (0.0166) | -0.0154 (0.0260) | -0.0375 (0.0242) | -0.0236 (0.0298) |
| Constant | 1.642** (0.651) | 0.515*** (0.0535) | -0.187*** (0.0726) | -0.135*** (0.0520) | -0.208** (0.0867) | 0.148 (0.108) | 0.448*** (0.128) |
| Observations | 20,020 | 18,269 | 18,903 | 18,905 | 18,913 | 18,941 | 18,939 |
| R-squared | 0.754 | 0.088 | 0.161 | 0.078 | 0.153 | 0.282 | 0.146 |
| Country FE | YES | YES | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES | YES | YES |
| Colonial controls | YES | YES | YES | YES | YES | YES | YES |
| Problems_controls | YES | YES | YES | YES | YES | YES | YES |

Robust standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1 Notes: the table presents IV estimates. The first-row displays only the first-stage value along with its standard error. Subsequently, the table reports the coefficients for each variable. The controls are described in the previous table.

Table 6 illustrates the relationship between slave trade and political participation. It is observed that only the variables “no voters” (Y_1^{pol}) and “contact Gov ministry” (Y_3^{pol}) are negative and marginally significant. In comparison to the OLS analysis, the values in this table exhibit greater significance. The significance of this coefficient validates the use of distance from the coast as a relative instrument for measuring the impact of the historical slave trade on political participation.



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Conversely, the other variables remain negative, as shown Table 1, their significance does not increase

Table 7: Slave trade and social participation: IV estimation

| VARIABLES | (1) Log(exports/area) | (2) Y_1^{soc} | (3) Y_2^{soc} | (4) Y_3^{soc} | (5) Y_4^{soc} |
|---------------------|---------------------------|-----------------------|------------------------|------------------------|-----------------------|
| distance from coast | -0.00138*** (0.000288) | | | | |
| log exports/area | | -0.109*** (0.0276) | -0.0626*** (0.0240) | -0.0886*** (0.0309) | -0.117*** (0.0361) |
| Constant | 1.642** (0.651) | 0.0903 (0.0934) | 0.0586 (0.0686) | 0.116 (0.0985) | 0.172 (0.121) |
| Observations | 20,020 | 19,800 | 19,705 | 19,787 | 20,020 |
| R-squared | 0.754 | 0.088 | 0.088 | 0.104 | 0.128 |
| Country FE | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES |
| Colonial controls | YES | YES | YES | YES | YES |
| Problems_controls | YES | YES | YES | YES | YES |

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1 Notes: the table presents IV estimates. The first-row displays only the first-stage value along with its standard error. Subsequently, the table reports the coefficients for each variable. The controls are described in the previous table.

Table 7 presents the relationships between the slave trade and social participation, revealing notable coefficient changes. The four variables “member of a trade union” (Y_1^{soc}), “member of a professional association” (Y_2^{social}), “member of a self-help association” (Y_3^{soc}), and “member of any groups” (Y_4^{soc}) retain negative coefficients, the results are highly significant, indicating that the relationship exists and that the slave trade harms social participation across the 17 countries analyzed.



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TABLE 8: Slave trade and interpersonal trust: IV estimation

| VARIABLES | (1) Log(exports/area) | (2) Y_1^{interp} | (3) Y_2^{interp} | (4) Y_3^{interp} | (5) Y_4^{interp} | (6) Y_5^{interp} |
|---------------------|---------------------------|------------------------|------------------------|-----------------------|-----------------------|-----------------------|
| Distance from coast | -0.00138*** (0.000288) | | | | | |
| log exports/area | | -0.0680*** (0.0226) | -0.0860*** (0.0303) | -0.0730** (0.0363) | -0.0846** (0.0396) | -0.0455 (0.0283) |
| Constant | 1.642** (0.651) | 0.843*** (0.0576) | 0.688*** (0.0726) | 0.672*** (0.104) | 0.491*** (0.104) | 0.430*** (0.103) |
| Observations | 20,020 | 18,857 | 18,676 | 14,151 | 13,048 | 13,764 |
| R-squared | 0.754 | 0.079 | 0.058 | 0.161 | 0.222 | 0.261 |
| Country FE | YES | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES | YES |
| Colonial controls | YES | YES | YES | YES | YES | YES |
| Problems_control | YES | YES | YES | YES | YES | YES |

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1 Notes: the table presents IV estimates. The first row displays only the first-stage value along with its standard error. Subsequently, the table reports the coefficients for each variable. The controls are described in the previous table.

Table 8 yields result consistent with those observed in the OLS analysis. It is evident that all variables, except one, remain negative and highly significant. These findings closely align with the values reported by Nunn & Wantchekon (2011).

The reduction in the coefficients ranges from approximately 6 to 8 percentage points for the first four variables.



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Table 9: Slave trade and institutional trust: IV estimation

| VARIABLES | (1) Log(exports/area) | (2) Y_1^{instit} | (3) Y_2^{instit} | (4) Y_3^{instit} | (5) Y_4^{instit} | (6) Y_5^{instit} |
|---------------------|---------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Distance from coast | -0.00138*** (0.000281) | | | | | |
| log exports/area | | -0.0568 (0.0446) | -0.0104 (0.0294) | -0.0471 (0.0346) | -0.0555 (0.0283) | 0.00581 (0.0285) |
| Constant | 2.735*** (0.622) | 0.493*** (0.139) | 0.338*** (0.123) | 0.284** (0.116) | 0.430*** (0.103) | 0.235*** (0.0832) |
| Observations | 21,136 | 15,428 | 13,644 | 13,304 | 13,764 | 14,597 |
| R-squared | 0.678 | 0.307 | 0.250 | 0.264 | 0.261 | 0.107 |
| Country FE | YES | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES | YES |
| Colonial controls | NO | YES | YES | YES | YES | YES |
| Problems_controls | NO | YES | YES | YES | YES | YES |

Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ Notes: the table presents IV estimates. The first row displays only the first-stage value along with its standard error. Subsequently, the table reports the coefficients for each variable. The controls are described in the previous table.

Table 9, which describes the relationship between the slave trade and institutional trust, reveals negative results for all variables except for the last one. When comparing these findings with those presented in the OLS section, specifically in Table 4, it becomes evident that the results were more significant, In the earlier analysis, with this significance diminished in Table 9.

Now, let me examine the final table in the paper, which focuses on the rule of law and includes control variables.

I anticipate a negative coefficient and seek to determine whether the two variables that previously exhibited positive coefficients have changed signs from positive to negative using the IV method.



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Table 10: Slave trade and rule of law: IV estimate

| Variables | (1) Log(exports/area) | (2) γ_1^{rule} | (3) γ_2^{rule} | (4) γ_3^{rule} | (5) γ_4^{rule} | (6) γ_5^{rule} |
|---------------------|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Distance from coast | -0.00138*** (0.000288) | | | | | |
| log exports/area | | 0.00617 (0.00990) | 0.0125 (0.0191) | -0.0177 (0.0176) | -0.00905 (0.0197) | -0.0279 (0.0200) |
| Constant | 1.642** (0.651) | 0.782*** (0.0355) | 0.698*** (0.0598) | 0.681*** (0.0608) | 0.600*** (0.0657) | 0.525*** (0.0858) |
| Observations | 20,020 | 19,819 | 19,744 | 19,004 | 19,432 | 17,166 |
| R-squared | 0.754 | 0.052 | 0.067 | 0.034 | 0.053 | 0.056 |
| Country FE | YES | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES | YES |
| Colonial controls | YES | YES | YES | YES | YES | YES |
| Problems_controls | YES | YES | YES | YES | YES | YES |

Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ Notes: the table presents IV estimates. The first-row displays only the first-stage value along with its standard error. Subsequently, the table reports the coefficients for each variable. The controls are described in the previous table.

We observe that the previously positive coefficients in the analysis remain positive but lose their significance, suggesting potential bias in the results and indicating that there is no evidence of a positive relationship between the slave trade and these variables. Conversely, while other variables continue to exhibit negative coefficients, their significance remains low. The significance levels in this final table are not particularly high, the results maintain a degree of reliability.

In developing the dataset and programming framework, I have identified the potential to introduce several falsification tests. These tests would serve to reassure the reader that the variables and instruments employed are suitable and robust.

I conducted three tests to confirm that my instruments sufficiently correlate with the endogenous regressors and are adequately strong.



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The first test is the Underidentification test, which assesses whether the model is identified.³ In my case, the p-value is below 0,05 for all my variables, indicating that the model is indeed identified.

I also conducted the weak identification test to verify whether the instrument is weak. If the instrument is weak, the IV estimates may be biased and inconsistent.⁴ In my analysis, the Cragg-Donald F-statistic is above 10 for all variables indicating that the instruments are sufficiently strong across the board, thus reducing the likelihood of biased IV estimates.

The last test conducted is the Hansen J statistic, a statistical test used to assess the validity of instrumental variables in the context of IV regression models.⁵

In my case, it is low indicating that I reject the null hypothesis, suggesting that the instruments are valid, and the overidentifying restrictions in the model are perfectly satisfied.

³ This kind of test tell us if the instrument has sufficient information to estimate the model's parameters. The null hypothesis is that the model is Underidentified, while the alternative hypothesis is that the model is identified. A p-value <0,05 leads to the rejection of the null hypothesis.

⁴ The null hypothesis in this test posits that the instrument is weakly correlated with the endogenous regressor, while the alternative hypothesis asserts that the instrument is strongly correlated. A commonly used F-statistic for this test is the Cragg-Donald F-statistic. If the F-statistic is below 10, the instrument is considered weak, whereas a higher F-statistic suggests stronger instruments.

⁵ It helps to determine whether the instruments used in the regression are valid, particularly in over-identified models.



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4 Conclusions

This paper consists of a literature review of the work by Nunn & Wantchekon (2011) , with the addition of a quantitative analysis that broadens the focus beyond trust to encompass social capital. The aim is to determine whether the transatlantic slave trade has a negative effect solely on trust or if it also impacted other aspects of society.

In addition to reviewing the findings of Nunn & Wantchekon (2011), this study seeks to analyze the effect of the slave trade on social capital, divided into its constituent categories.

Nunn & Wantchekon (2011) demonstrated that low levels of trust within Africa can be traced back to the legacy of the slave trade. Trust in relativism neighbors, co-ethnics, and local government is lower among individuals whose ancestors were heavily impacted by the slave trade. I have reviewed and expanded upon their analysis by incorporating new variables to conduct a similar examination. To determine whether this relationship is causal, I employed a range of methodological strategies. By merging two datasets, I conducted an initial OLS analysis, followed by an IV analysis, that used the historical distance from the coast of an individual's ethnic group as an instrument for slave exports. Both methods included controls.

The findings related to trust align with those of Nunn & Wantchekon (2011) , confirming a negative relationship between the slave trade and trust.

For each subcategory of social capital, the results differ from those found for trust.

Political participation and social participation seem to be similar to the trust results. Although all variables, except one, display negative coefficients, not all have sufficient statistical significance to provide definitive conclusions for these categories.

The effects of the slave trade likely influenced the political and social participation of the citizens analyzed in the study.

In contrast, I found insufficient evidence to support similar conclusions for the last two categories. For institutional trust, while most values are negative, none reach a good level of significance, indicating that the slave trade may not have harmed institutional trust.

Rule of law shows even less significant results, with some positive values.

This study offers a foundation for future research, suggesting that trust may be negatively correlated



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with the slave trade, even though the latter remains linked to numerous issues. The slave trade profoundly impacted many African societies. Through this study, I aim to demonstrate that with the inclusion of further data, it would be possible to pinpoint which areas were most affected. This approach would, in turn, help identify areas requiring focused intervention to restore the economic development Africa lost over centuries due to these historical legacies.

This study also serves to reflect on the concept of “path dependency”, which posits that the decisions I encounter are influenced by past trajectories and prior choices, as well as the significance of the transmission of cultural and social beliefs.



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Appendix:

One of the surveys utilized, conducted by Nunn and Wantchekon, is available online, and directly provided by the authors. I downloaded this survey and analyzed it using SPSS, making necessary adjustments to suit the requirements of my analysis before transferring the data to Stata. Subsequently, I generated variables based on the Afrobarometer Survey Round 2005 (insert link), where each question was interpreted and transformed into a dummy variable. A value of 1 indicates positive responses, while a value of 0 indicates negative responses. This process allowed for the creation of a dataset that includes the dependent variables featured in the paper, as well as control variables consistently mentioned in the text. Once both datasets were organized and refined, I merged them to facilitate further analyses using Stata.

The construction of Figure 1 was accomplished using Stata, leveraging the observations present in the dataset along with the various locations of the respondents. This approach allowed for a visual representation of the distribution of our analysis, highlighting the regions where the transatlantic slave trade was most prevalent.

The following tables present the OLS and IV analyses for the categories of social capital without the inclusion of controls. This format allows the reader to observe the differences and "responses" of the variables, illustrating how they change or remain consistent in the absence of controls.



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OLS: Below are presenting the results of OLS regressions without including controls.

TABLE 1: SLAVE TRADE AND POLITICAL PARTICIPATION: Without controls

| VARIABLES | (1) Y_1^{pol} | (2) Y_2^{pol} | (3) Y_3^{pol} | (4) Y_4^{pol} | (5) Y_5^{pol} | (6) Y_6^{pol} |
|------------------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|---------------------|
| log(slave export/area) | -0.00416 (0.00379) | -0.0114* (0.00642) | -0.00649 (0.00467) | -0.00872 (0.0114) | -0.0259* (0.0154) | -0.0120 (0.0204) |
| Constant | 0.460*** (0.0410) | -0.276*** (0.0446) | -0.246*** (0.0339) | -0.146** (0.0584) | 0.0593 (0.0718) | 0.423*** (0.102) |
| Observations | 17,128 | 17,661 | 17,67 | 17,664 | 17,668 | 17,676 |
| R-squared | 0.086 | 0.163 | 0.084 | 0.151 | 0.283 | 0.139 |
| Country FE | YES | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES | YES |
| Problems_controls | NO | NO | NO | NO | NO | NO |
| Colonial controls | NO | NO | NO | NO | NO | NO |

Robust standard errors in parentheses

***p<0.01, **p<0.05, * p<0.1



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TABLE 2: SLAVE TRADE AND SOCIAL PARTICIPATION: without controls

| VARIABLES | (1) Y_1^{soc} | (2) Y_2^{soc} | (3) Y_3^{soc} | (4) Y_4^{soc} |
|------------------------|-------------------------|------------------------|-----------------------|-----------------------|
| log(slave export/area) | -0.0262*** (0.00726) | -0.00219 (0.00506) | -0.0255** (0.0104) | -0.0267** (0.0108) |
| Constant | -0.0931*** (0.0332) | -0.0855*** (0.0296) | -0.110** (0.0527) | -0.0843 (0.0514) |
| Observations | 18,548 | 18,471 | 18,532 | 18,744 |
| R-squared | 0.093 | 0.093 | 0.112 | 0.134 |
| Country FE | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES |
| Problems_controls | NO | NO | NO | NO |
| Colonial controls | NO | NO | NO | NO |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1



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TABLE 3: SLAVE TRADE AND INTERPERSONAL TRUST: without controls

| VARIABLES | (1) Y_1^{interp} | (2) Y_2^{interp} | (3) Y_3^{interp} | (4) Y_4^{interp} | (5) Y_5^{interp} |
|---------------------------|-------------------------|-------------------------|------------------------|------------------------|-----------------------|
| log(slave export)/area | -0.0392*** (0.00814) | -0.0367*** (0.00965) | -0.0671*** (0.0175) | -0.0761*** (0.0165) | -0.0353** (0.0145) |
| Constant | 0.777*** (0.0336) | 0.582*** (0.0384) | 0.691*** (0.0823) | 0.452*** (0.0842) | 0.403*** (0.0767) |
| Observations | 17,635 | 17,499 | 13,222 | 12,231 | 13,022 |
| R-squared | 0.089 | 0.069 | 0.164 | 0.228 | 0.287 |
| Country FE | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES |
| Problems_controls | NO | NO | NO | NO | NO |
| Colonial controls | NO | NO | NO | NO | NO |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1



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TABLE 4: SLAVE TRADE AND INSTITUTIONAL TRUST: without controls

| VARIABLES | (1) γ_1^{instit} | (2) γ_2^{instit} | (3) γ_3^{instit} | (4) γ_4^{instit} | (5) γ_5^{instit} |
|------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| log(slave export/area) | -0.0341* (0.0174) | -0.0245 (0.0167) | -0.0360** (0.0171) | -0.0353** (0.0145) | 0.00411 (0.00957) |
| Constant | 0.347*** (0.0854) | 0.293*** (0.0892) | 0.303*** (0.0828) | 0.403*** (0.0767) | 0.202*** (0.0487) |
| Observations | 14,565 | 12,969 | 12,701 | 13,022 | 13,888 |
| R-squared | 0.375 | 0.297 | 0.312 | 0.287 | 0.104 |
| Country FE | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES |
| Problems_controls | NO | NO | NO | NO | NO |
| Colonial controls | NO | NO | NO | NO | NO |

Robust standard errors in parentheses

***p<0.01, **p<0.05, * p<0.1



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TABLE 5: SLAVE TRADE AND RULE OF LAW: without controls

| VARIABLES | (1) γ_1^{rule} | (2) γ_2^{rule} | (3) γ_3^{rule} | (4) γ_4^{rule} | (5) γ_5^{rule} |
|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| log(slave export)/area | 0.0122** (0.00597) | 0.0292*** (0.00853) | -0.0148 (0.0131) | -0.0135 (0.00984) | -0.0213 (0.0133) |
| Constant | 0.778*** (0.0305) | 0.661*** (0.0498) | 0.577*** (0.0712) | 0.606*** (0.0521) | 0.526*** (0.0727) |
| Observations | 18,609 | 18,552 | 17,973 | 18,314 | 16,294 |
| R-squared | 0.055 | 0.072 | 0.039 | 0.061 | 0.063 |
| Country FE | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES |
| Problems_controls | | | | | |
| Colonial controls | NO | NO | NO | NO | NO |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1



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IV: Below are presenting the results of IV regressions without including controls.

TABLE 6: SLAVE TRADE AND POLITICAL PARTICIPATION: without controls

| VARIABLES | 1 | (1) | (2) | (3) | (4) | (5) | (6) |
|---------------------|---------------------------|---------------------------|-----------------------|------------------------|----------------------|---------------------------|-------------------------|
| | Log(exports/area) | Y_1^{pol} | Y_2^{pol} | Y_3^{pol} | Y_4^{pol} | Y_5^{pol} | Y_6^{pol} |
| Distance from coast | -0.00125*** (0.000281) | - 0.0293** (0.0132) | -0.0428** (0.0186) | -0.0428*** (0.0161) | -0.00761 (0.0237) | - 0.0689** (0.0346) | -0.0500 (0.0388) |
| Constant | 2.735*** (0.622) | 0.540*** (0.0479) | -0.193*** (0.0647) | -0.110* (0.0587) | -0.111 (0.0752) | 0.163 (0.121) | 0.516** * (0.151) |
| Observations | 21,136 | 19,325 | 19,996 | 20,001 | 20,007 | 20,002 | 20,008 |
| R-squared | 0.678 | 0.085 | 0.159 | 0.076 | 0.145 | 0.277 | 0.138 |
| Country FE | YES | YES | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES | YES | YES |
| Colonial controls | NO | NO | NO | NO | NO | NO | NO |
| Problems_controls | NO | NO | NO | NO | NO | NO | NO |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1



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TABLE 7: SLAVE TRADE AND SOCIAL PARTICIPATION: without controls

| VARIABLES | 1 Log(exports/area) | (2) γ_1^{soc} | (3) γ_2^{soc} | (4) γ_3^{soc} | (5) γ_4^{soc} |
|---------------------|----------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Distance from coast | -0.00125*** (0.000281) | -0.0634** (0.0259) | -0.0638*** (0.0226) | -0.0779*** (0.0286) | -0.0881*** (0.0337) |
| Constant | 2.735*** (0.622) | 0.0135 (0.0713) | 0.0792 (0.0771) | 0.0400 (0.0834) | 0.0834 (0.0951) |
| Observations | 21,136 | 20,879 | 20,771 | 20,860 | 21,136 |
| R-squared | 0.678 | 0.086 | 0.080 | 0.104 | 0.126 |
| Country FE | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES |
| Colonial controls | NO | NO | NO | NO | NO |
| Problems_controls | NO | NO | NO | NO | NO |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1



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TABLE 8: SLAVE TRADE AND INTERPERSONAL TRUST: without controls

| VARIABLES | 1 Log(exports/area) | (1) Y_1^{interp} | (2) Y_2^{interp} | (3) Y_3^{interp} | (4) Y_4^{interp} | (5) Y_5^{interp} |
|---------------------|---------------------------|------------------------|------------------------|-----------------------|-----------------------|---------------------------|
| distance from coast | -0.00125*** (0.000281) | -0.0804*** (0.0244) | -0.0924*** (0.0301) | -0.109*** (0.0329) | -0.122*** (0.0374) | - 0.0736** (0.0286) |
| Constant | 2.735*** (0.622) | 0.892*** (0.0691) | 0.742*** (0.0804) | 0.814*** (0.0930) | 0.603*** (0.105) | 0.571*** (0.0878) |
| Observations | 21,136 | 19,952 | 19,765 | 15,012 | 13,841 | 14,522 |
| R-squared | 0.678 | 0.069 | 0.050 | 0.154 | 0.213 | 0.261 |
| Country FE | YES | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES | YES |
| Colonial controls | NO | NO | NO | NO | NO | NO |
| Problems_controls | NO | NO | NO | NO | NO | NO |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1



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TABLE 9: SLAVE TRADE AND INSTITUTIONAL TRUST: without controls

| VARIABLES | 1 | (1) | (2) | (3) | (4) | (5) |
|---------------------|---------------------------|----------------------|----------------------|-----------------------|-----------------------|----------------------|
| | Log(exports/area) | γ_1^{instit} | γ_2^{instit} | γ_3^{instit} | γ_4^{instit} | γ_5^{instit} |
| distance from coast | -0.00125*** (0.000281) | -0.107** (0.0480) | -0.0557* (0.0288) | -0.0838** (0.0373) | -0.0736** (0.0286) | -0.0109 (0.0275) |
| Constant | 2.735*** (0.622) | 0.612*** (0.129) | 0.457*** (0.1000) | 0.519*** (0.111) | 0.571*** (0.0878) | 0.239*** (0.0837) |
| Observations | 21,136 | 16,303 | 14,419 | 14,099 | 14,522 | 15,472 |
| R-squared | 0.678 | 0.291 | 0.253 | 0.265 | 0.261 | 0.104 |
| Country FE | YES | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES | YES |
| Colonial controls | NO | NO | NO | NO | NO | NO |
| Problems_controls | NO | NO | NO | NO | NO | NO |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1



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TABLE 10: SLAVE TRADE AND RULE OF LAW: without controls

| VARIABLES | 1 Log(exports/area) | (1) Y_1^{rule} | (2) Y_2^{rule} | (3) Y_3^{rule} | (4) Y_4^{rule} | (5) Y_5^{rule} |
|---------------------|---------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| distance from coast | -0.00125*** (0.000281) | 0.0271* (0.0138) | 0.0195 (0.0158) | -0.0248 (0.0181) | -0.0228 (0.0197) | -0.0381* (0.0227) |
| Constant | 2.735*** (0.622) | 0.790*** (0.0453) | 0.724*** (0.0575) | 0.681*** (0.0612) | 0.689*** (0.0547) | 0.607*** (0.0769) |
| Observations | 21,136 | 20,906 | 20,822 | 20,031 | 20,492 | 18,103 |
| R-squared | 0.678 | 0.049 | 0.063 | 0.030 | 0.049 | 0.055 |
| Country FE | YES | YES | YES | YES | YES | YES |
| Base controls | YES | YES | YES | YES | YES | YES |
| Amenity_controls | YES | YES | YES | YES | YES | YES |
| Colonial controls | NO | NO | NO | NO | NO | NO |
| Problems_controls | NO | NO | NO | NO | NO | NO |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1



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SUMMARY STATISTICS FOR SLAVE TRADE AND SOCIAL CAPITAL VARIABLES:

| | | Observ. | Mean | Std. Dev. | Min . | Max. |
|--------------------------------|----------------|---------|-------|-----------|-------|------|
| POLITICAL PARTICIPATION | | | | | | |
| (1) | Y_1^{pol} | 23,151 | 0,874 | 0,333 | 0 | 1 |
| (2) | Y_2^{pol} | 24,207 | 0,254 | 0,435 | 0 | 1 |
| (3) | Y_3^{pol} | 24,205 | 0,113 | 0,316 | 0 | 1 |
| (4) | Y_4^{pol} | 22,958 | 0,233 | 0,423 | 0 | 1 |
| (5) | Y_5^{pol} | 24,233 | 0,598 | 0,491 | 0 | 1 |
| (6) | Y_6^{pol} | 24,243 | 0,651 | 0,487 | 0 | 1 |
| SOCIAL PARTICIPATION | | | | | | |
| (2) | Y_1^{soc} | 25,053 | 0,203 | 0,402 | 0 | 1 |
| (3) | Y_2^{soc} | 24,937 | 0,136 | 0,334 | 0 | 1 |
| (4) | Y_3^{soc} | 25,042 | 0,271 | 0,443 | 0 | 1 |
| (5) | Y_4^{soc} | 25,321 | 0,803 | 0,411 | 0 | 1 |
| INTERPERSONAL TRUST | | | | | | |
| (1) | Y_1^{interp} | 18,219 | 0,691 | 0,463 | 0 | 1 |
| (2) | Y_2^{interp} | 16,566 | 0,407 | 0,501 | 0 | 1 |
| (3) | Y_3^{interp} | 22,871 | 0,867 | 0,341 | 0 | 1 |
| (4) | Y_4^{interp} | 22,662 | 0,785 | 0,411 | 0 | 1 |
| (5) | Y_5^{interp} | 17,305 | 0,403 | 0,491 | 0 | 1 |



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INSTITUTIONAL TRUST

| | | | | | | |
|-----|----------------|--------|-------|-------|---|---|
| (1) | Y_1^{instit} | 19,344 | 0,567 | 0,501 | 0 | 1 |
| (2) | Y_2^{instit} | 17,128 | 0,441 | 0,497 | 0 | 1 |
| (3) | Y_3^{instit} | 16,789 | 0,432 | 0,496 | 0 | 1 |
| (4) | Y_4^{instit} | 17,201 | 0,503 | 0,495 | 0 | 1 |
| (5) | Y_5^{instit} | 18,306 | 0,201 | 0,401 | 0 | 1 |

RULE OF LAW

| | | | | | | |
|-----|--------------|--------|-------|-------|---|---|
| (1) | Y_1^{rule} | 25,025 | 0,881 | 0,326 | 0 | 1 |
| (2) | Y_2^{rule} | 24,961 | 0,814 | 0,391 | 0 | 1 |
| (3) | Y_3^{rule} | 23,996 | 0,756 | 0,431 | 0 | 1 |
| (4) | Y_4^{rule} | 24,521 | 0,751 | 0,433 | 0 | 1 |
| (5) | Y_5^{rule} | 21,622 | 0,741 | 0,439 | 0 | 1 |

SLAVE EXPORTS VARIABLE

| | | | | | | |
|-----|--|--------|------|------|---|------|
| (1) | $\ln(1+\text{exports/area})$ | 21,702 | 0,54 | 0,95 | 0 | 3,7 |
| (2) | exports/area | 21,702 | 2,67 | 7,68 | 0 | 37,7 |
| (3) | slave exports (millions) | 21,702 | 0,09 | 0,21 | 0 | 0,9 |