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Urbanisation and Social Cohesion

Theory and Empirical Evidence from Africa

Tekalign Gutu Sakketa

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Abstract

Africa is currently undergoing the most rapid urbanisation process globally, and this trend is forecast to persist in the coming decades. Many believe that this ongoing rapid urbanisation process is changing the social fabric and reshaping social cohesion. This study explores the theoretical channels through which urbanisation affects social cohesion and provides empirical evidence of their interrelationship. Specifically, the study asks: given the vast social, economic, cultural, political and environmental transformation associated with urbanisation, is there a link between urbanisation and social cohesion? Combining a novel national panel data set on social cohesion from Afrobarometer with urbanisation and other socioeconomic data from world development indicators, the study shows that urbanisation is negatively correlated with the three attributes of social cohesion, namely trust, inclusive identity, and cooperation for the common good. These associations persist even after controlling for country socioeconomic conditions and year fixed effects. Moreover, the magnitude of this association varies across attributes, with trust and inclusive identity showing a higher correlation than cooperation for the common good. Urbanisation-induced change in economic and environmental structure, such as employment, infrastructure, and pollution, are the main channels affecting social cohesion. Overall, the findings underscore the need for inclusive urban development and policies focused on ameliorating social fragmentation resulting from rapid urbanisation unfolding across Africa.

Keywords: Urbanisation, social cohesion, trust, inclusive identity, cooperation for the common good, Africa

Preface

This draft paper is part of IDOS research project Policies for Social Cohesion in Africa. Social cohesion or social solidarity within societies is a key success factor for sustainable development. However, social cohesion is also particularly under pressure in most world regions, including in African societies. The inter-disciplinary IDOS team aims to identify patterns of social cohesion in Africa, analyse factors that influence the degree of social cohesion (or its absence), and identify domestic and international policies that contribute to the creation and consolidation of social cohesion. This research is funded by the German Federal Ministry for Economic Cooperation and Development (BMZ).

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Abbreviations

BMZ	Federal Ministry for Economic Cooperation and Development/ Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung
CSO	civil society organisation
DMSP	Defense Meteorological Satellite Program
GDP	gross domestic product
GNI	gross national income
IDOS	German Institute of Development and Sustainability
SSA	Sub-Saharan Africa
SDG	Sustainable Development Goal
WDI	World Development Indicators

1 Introduction

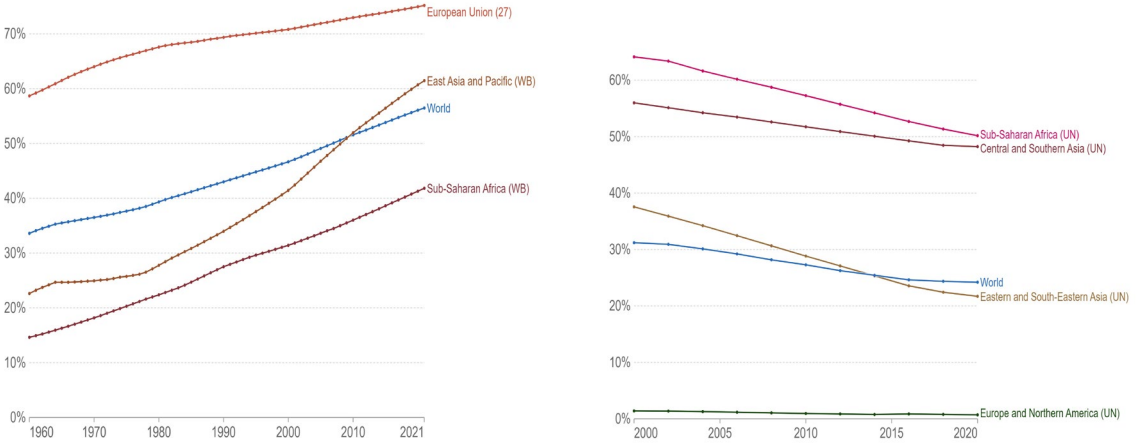
Africa is currentely undergoing the most rapid urbanisation process globally (Lall, Lebrand, Park, & Venables, 2021), with an annual growth rate of 3.5 percent in its urban population (Figure 1a). According to United Nations projections, by 2050, more than two-thirds of the world's population will reside in urban areas, with the fastest urban growth expected to occur in less urbanised regions such as Africa (UNDESA, 2011; Ritchie & Roser, 2018). However, recent urban growth in Africa has been uneven and diverse, with a prevalence of rapid growth, informal settlements (slums) with inadequate access to basic services, and environmental challenges (Duranton, 2015; van Vliet, 2019). For instance, the proportion of the urban population residing in slum areas in Sub-Saharan Africa (SSA) surpasses the global average (Figure 1b), and is as high as 90 percent in some countries, such as South Sudan (see Figure B2). The resulting uneven distribution of urbanisation has resulted in disparities in access to services and opportunities between urban and rural areas (de Bruin, Dengerink, & van Vliet, 2021), accompanied by significant challenges that impede social, economic and environmental development (Pilehvar, 2021; Kontgis et al., 2014); and above all it has changed the social fabric of societies.

Despite these challenges, well-managed urbanisation can bring important benefits for inclusive economic, cultural and social development, creating new ways of social interaction and cooperation to advance common interest that could foster social cohesion (Wan, Zhang, & Wei, 2022; Wang et al., 2021a; Black & Henderson, 1999). Given the vast social and economic transformation associated with this (conflicting) process of rapid urbanisation, understanding the effects of urbanisation on social cohesion, and identifying the key mechanisms through which this transformation could alter social cohesion, are key to facilitating sustainable urban growth that can be valuable for inclusive development on the continent.

However, the relationship between urbanisation and social cohesion, and the mechanisms through which it operates, remains little studied. Insufficiently developed theoretical framework and limited empirical evidence have hampered the design of effective policies to protect and foster urbanisation-induced social cohesion, particularly in SSA, where change in social structure because of rapid urbanisation is prevalent. To address this gap, this study explores the theoretical link between rapid urbanisation and social cohesion, and tests this link using both macro- and micro-level data from SSA. The study further identifies the mechanisms that explain (or determine) whether patterns of social cohesion in SSA are responsive to rapid urbanisation. In this study, social cohesion is conceptualised as the glue that holds society together and denotes the vertical and horizontal relations between individuals and the state as characterised by a set of attitudes and norms that include trust, inclusive identity, and cooperation for the common good, which serve to sustain societal unity (Chan, To, & Chan, 2006; Leininger et al., 2021). Urbanisation is captured in two ways: demographic change and night-time lights. The demographic measure of urbanisation refers to the share of a nation's population living in urban areas (World Bank, 2021), while night-time lights is annual composites of the stable lights band from satellites (Proville et al., 2017).[1] Detailed discussions on both measures are presented in Section 3.

1 There is no universal definition of what constitutes an urban area, and the definitions vary across countries in terms of the metrics used and threshold level to define them. We adopted national definitions as they are reported in World Development Indicators (WDI).

Figure 1: Urbanisation trends and patterns



(a) Share of population living in urban areas, 1960–2021 **(b) Share of urban population living in slums, 2000–2020**

Note: Urban populations are defined based on the definition of urban areas by national statistical offices. According to UN-HABITAT a slum household is defined as a group of individuals living under the same roof lacking one or more of the following conditions: access to improved water, access to improved sanitation, sufficient living area, and durability of housing.

Source: Our World in Data based on UN Population Division via World Bank and UN-HABITAT, CC BY, accessible at Ritchie and Roser (2018).

Despite lack of systematic evidence linking urbanisation to social cohesion, small but growing empirical evidence suggests mixed results of the effects of urbanisation on social cohesion. On the one hand, scholars have argued that urbanisation can lead to increased diversity and cultural exchange, and economic integration, which can contribute to a stronger sense of community and social cohesion (Ratcliffe & Newman, 2011). Cities often provide opportunities for people from different backgrounds to interact and form connections, which can help to promote understanding and acceptance of different cultures. The integration of urban markets into rural areas can facilitate the flow of agricultural goods to cities, and industrial goods and services to rural areas. For instance, connectivity to urban centres facilitates access to finance, inputs, information and off-farm employment that are crucial for rural communities (de Bruin et al., 2021). Such economic integration between rural producers and urban markets is expected to lead to changes in social interactions and relations, which may strengthen social cohesion.

On the other hand, urbanisation can lead to social fragmentation and isolation (Gizelis, Pickering, & Urdal, 2021). Rapid urbanisation can lead to overcrowding, poverty, and lack of affordable housing, which can contribute to social inequality and a sense of disconnection among residents (Fischer, 1982). Urbanisation can also lead to the displacement of rural residents, who may lose their livelihoods and their sense of community and belonging as well as devolution of culture (World Bank, 2021). Additionally, urbanisation can lead to the physical and social separation of different social groups, such as the wealthy and the poor, further exacerbating social fragmentation and isolation. For instance, urban bias strategies may widen rural–urban inequalities that can cause social instability and social tension, further threatening social cohesion that keep societies together (Lipton, 1977; Pilehvar, 2021). Furthermore, rapid urbanisation can strain the provision of public services, raise competition over scarce resources such as land and water with rural areas, and increase social tensions, further threatening social cohesion (Gizelis et al., 2021).

The above discussions suggest that although urbanisation can affect social cohesion either positively or negatively it is difficult to predict *a priori* if urbanisation has any measurable effects

on patterns of social cohesion. It should also be noted that the sign and magnitude of effects depend on several factors: institutional quality, urban planning and land administration, and the capacity to monitor progress, among others (Sakketa, 2023). Therefore, whether and how urbanisation can induce socioeconomic changes or shape the structural transformation that in turn alters social structure of human settlements and patterns of social cohesion is fundamentally an empirical question that is the central focus of this paper. As such, this study is designed to clarify this analytical ambiguity by exploring the complex relationship between urbanisation and social cohesion, and the channels through which the effects materialise.

Moreover, there are several reasons why there is scarce empirical evidence on the relationship between urbanisation and social cohesion, and why the current research findings are inclusive. Urbanisation has been defined and conceptualised in multiple ways, resulting in confusion and inconsistencies in definitions, conceptualisations, measurements and cross-country comparisons (Sakketa, 2023) which have limited the usefulness of policy-relevant analyses. The wide variety of interpretations and conceptualisations of social cohesion has had a similar effect (Chan et al., 2006; Leininger et al., 2021). The complexity and multifaceted nature of the effects of urbanisation on social cohesion is further compounded by the absence of consistent, temporally- and geographically-dispersed data on social cohesion. This paper builds on the recent work of Leininger et al. (2021) and Chan et al. (2006), which aimed to conceptualise and measure social cohesion in Africa along three key attributes: 1) trust (between groups and trust of individuals towards the state); 2) inclusive identity (feeling of belonging to a nation); and 3) cooperation for the common good. We will discuss these attributes further in Section 3.1.

In order to explore the association between different measures of social cohesion and the three attributes of social cohesion, the study made use of the new country-level social cohesion database produced by Leininger et al. (2021) from Afrobarometer survey and the V-Dem expert-based data. Specifically, the database drew upon social cohesion attributes from round five (2011–2013) and round eight (2019–2021). Overall, the findings suggest that urbanisation is strongly negatively correlated with social cohesion. In addition, the association is stronger with social trust and inclusive identity than with cooperation for the common good. Employment (or structural transformation), infrastructure/investment and environmental externalities tied with urbanisation are the main channels through which urbanisation seems to affect social cohesion. These findings suggest that effective urban planning and policies are needed to ensure that rapid urbanisation protects and/or fosters social cohesion in Africa, rather than exacerbating social fragmentation.

These findings contribute to two growing bodies of literature. The first relates to the broader debates about the possible implications of urbanisation in understanding societal transformations. Urbanisation leads to significant changes in the structure of societies, affecting social interactions and socio-cultural dynamics. Within this context, this study adds to the growing body of literature that explores the effects of such transformations on societal cohesion. In fact, emerging literature has shown that social cohesion is a crucial factor in maintaining positive well-being outcomes, including economic development and entrepreneurship (Guiso, Sapienza, & Zingales, 2006; Algan & Cahuc, 2010; Minhas & Sindakis, 2022). Research also confirms the opposite – that social divisions can have negative effects on economic outcomes. For example, ethnically divided communities tend to invest less in public goods (Alesina & Ferrara, 2000; Miguel & Gugerty, 2005), and ethnic fractionalisation has been found to be directly linked to deforestation (Alesina, Gennaioli, & Lovo, 2019). Moreover, low social cohesion as a result of ethnic diversity has been identified as a contributing factor to the low relative economic growth observed across different countries (Algan & Cahuc, 2010). By reversing the causal arrow, this paper contributes to the literature by exploring whether the growing urbanisation in Africa is related to social cohesion. Furthermore, it informs how countries can effectively harness the ongoing process of urbanisation to either foster or safeguard social cohesion.

The second body of literature links urbanisation to sustainable development (inclusive urban development), specifically to SDG 11 (Sustainable cities and communities). Theoretical and empirical results have shown that, if properly managed, urban settings create economic benefits such as a high density of economic activity, utilisation of human capital, improved trade activities, denser social connections and shared infrastructure, with knowledge spillovers (Black & Henderson, 1999; Fan, Jiang, & Mostafavi, 2020), all of which improve overall economic and well-being outcomes. In this regard, this study adds new insights on the important role of urbanisation-induced economic opportunities, specifically the role of social inclusion interventions such as job creation programmes, infrastructure development, and the need to minimise environmental impacts (such as pollution) as countries urbanise for enhancing social cohesion.

The remainder of this paper is organised as follows. Section 2 discusses the conceptual framework, focusing on the potential mechanisms through which urbanisation affects social cohesion. Section 3 describes the data and measurement of key variables of interest and of empirical estimation strategy. Section 4 presents the main descriptive and empirical results. Finally, Section 5 concludes with some policy implications.

2 Conceptual framework

Before discussing the theoretical connections between urbanisation and social cohesion, it is important to define what urbanisation and social cohesion are. In this study, urbanisation is defined broadly and comprehensively as a phenomenon that extends beyond the demographic transitions resulting in the rise of an increasing share of the population living in urban areas, encompassing additional factors such as economic, social and spatial transitions (Wan et al., 2022). For instance, annual composite night-time lights at national scale is considered as a proxy for urbanisation (Proville et al., 2017). As to social cohesion, the study adopts the following definition proposed by Leininger et al. (2021, p.3). “Social cohesion refers to the vertical and horizontal relations among members of society and the state that hold society together.” According to the authors, social cohesion is characterised by a cluster of attitudes and behavioural expressions, which entail trust, an inclusive identity, and cooperation for the common good. Figure B1 presents a summary of the three attributes of social cohesion, which operate in two different dimensions, as conceptualised in the paper. For detailed conceptual and measurement discussions on social cohesion, I direct the reader to this paper and Chan et al. (2006).

In this analysis, we have two central hypotheses. First, urbanisation alters patterns of social cohesion by increasing diversity and thereby facilitating networking, which can either lead to increased social interactions or to social isolation and/or loss of social capital that weakens social cohesion. Second, urbanisation affects social cohesion through affecting economic, social, political and environmental transformations of countries that could result in change of social structure. In this section, I focus on the theoretical framework underlying the urbanisation–social cohesion nexus (the indirect effects). There is extensive discussion elsewhere regarding the effects of urbanisation on economic development (Turok & McGranahan, 2013; Cal & Menon, 2013; Bloom Canning, & Fink, 2008; Sakketa, 2023).

The causal framework underlying a priori assumptions about the urbanisation–social cohesion nexus is analytically complex. However, I expect urbanisation and its associated structural changes to affect social cohesion through the following mechanisms: 1) change in attitudes and values as a result of urbanisation-induced structural transformation; 2) economic mechanisms such as employment opportunities, trade, commerce; 3) infrastructure and other services associated with urbanisation; 4) social structure; and 5) externalities associated with urbanisation such as pollution, loss of biodiversity, among others, that affects well-being of societies, which in turn affects social cohesion.

The first proposed underlying theoretical link operates directly through the structural transformation resulting from demographic change induced by urbanisation because of migration into cities. Urbanisation results in demographic transition – a transition from a predominantly agricultural population living mostly in relatively small and dispersed rural settlements towards a predominantly urban-based population engaged mostly in industrial and service sectors (Turok & McGranahan, 2013). This would lead to a structural change, including shifts in values and attitudes that create new forms of conduct that can either undermine or enhance social cohesion (Pilehvar, 2021). Rapid urbanisation-inducing demographic change through migration has become one of the emerging drivers of social instability, and this is exacerbated by climate change (Gizelis et al., 2021; Goldstone, 2002). For instance, extreme weather events affect rural populations who rely on agriculture, forcing them to migrate to cities and leading to competition over resources and poor governance. This migration pressure can result in tensions that may ultimately lead to social disintegration. Emerging theoretical and empirical evidence, however, raises scepticism about any direct and broad link between climate change and organised violent conflict (Theisen, 2012).

The second related mechanism centres on economic mechanisms such as employment, increased productivity and growth, trade and commerce, and innovation associated with urbanisation. Previous research has shown that cities can be hubs for innovations, businesses and jobs, creating virtuous economic cycles for both rural and urban population (He & Zhang, 2022). As people shift out of agriculture to more diversified and remunerative activities, including those outside the rural areas, another virtuous economic and social dynamic is established, with more opportunities being generated, and this could attract poor rural households through remittances and increased demand for agricultural products. These virtuous economic cycles may result in frequent interaction, cooperation and better exchange of ideas. This in turn may enhance social interaction and cohesion. However, diversification can also create inequality, which may have the opposite effect. Hence, economic mechanisms induced by urbanisation can either improve or worsen social cohesion.

The third theoretical link, which is in itself a subset of the second, relates to the infrastructure and services provided by urban centres and vice-versa. Rural–urban linkage may result in frequent interaction, cooperation and better exchange of ideas through consumption linkages, urban–rural remittances, and generation of rural non-farm employment (Wang et al., 2021a). Urban areas mediate the flow of inputs, goods, services, ideas (including people) and innovations between rural and urban communities. For instance, urban areas provide individuals with greater access to education, healthcare and job opportunities, which can improve their social and economic status and enhance their social capital, hence greater social cohesion. Strong trust between urban and rural societies can lower migration costs and favour flows such as migration to and from urban areas to engage in employment opportunities and exit household poverty. This would further enhance social cohesion, especially between rural and urban population. However, unfettered migration into urban areas without appropriate infrastructure, such as transportation, housing, utilities, communication, healthcare and educational facilities, can lead to congestion, the formation of slums, and other diseconomies of scale. This would negatively affect social cohesion.

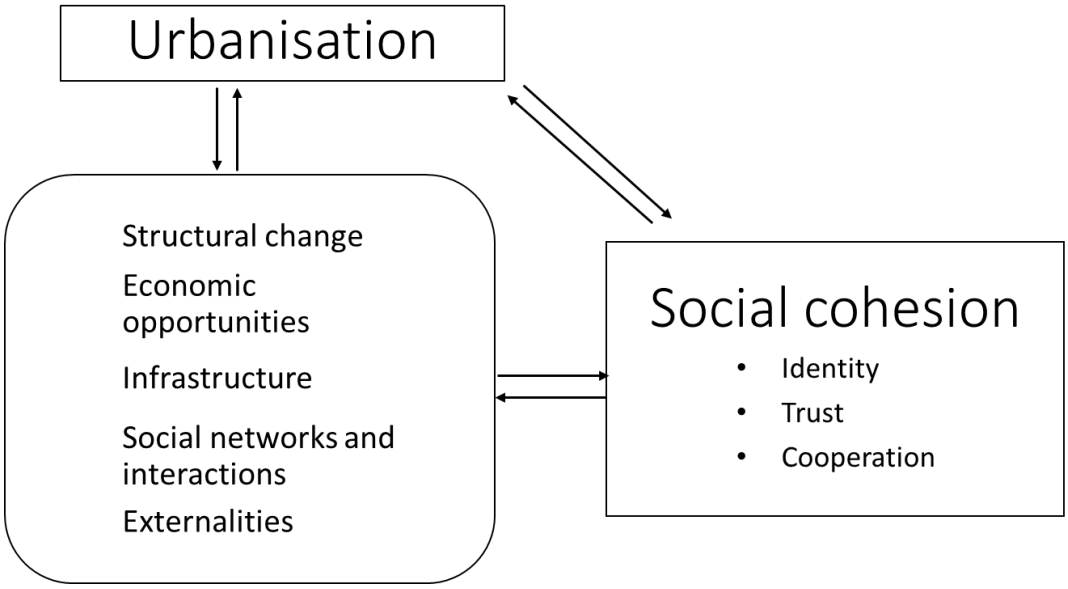
The fourth possible theoretical link through which urbanisation might affect social cohesion is social networks and interactions. Social capital, defined as the number of networks of social relationships, is widely believed important for promoting social cohesion (Guiso et al., 2006). Urbanisation can have both negative and positive effects on social capital, hence social cohesion. On the one hand, urbanisation could result in change in a social structure, such as the erosion of culture and identity, and a lack of social connectedness – weak social capital, as coined by Putnam (Putnam, 2001; Civelli, Gaduh, Rothernberg, & Wang, 2023). This transformation can weaken the cohesiveness of societies, become a vehicle for favouritism and could create potential conflicts between local cultural practices and broader societal values, leading to lack of trust towards government institutions. Living in more urbanised areas may

cause rural migrants and others in newly formed urban areas to have more sedentary lifestyles and thus spend less time on social interactions and community cooperation. On the other hand, linkages between migrants and urban dwellers provide accessible settings for social interaction among neighbours, societies and communities that enable them to form new networks and ties and can thereby strengthen social cohesion within neighbourhoods. Furthermore, urbanisation affects social identity (Ratcliffe & Newman, 2011). The notion of social identity refers to a person's perception of belonging to a particular group or community. On the one hand, urbanisation can enhance social identity by providing individuals with a greater sense of belonging and connectedness to their communities. On the other hand, urbanisation forces migrants to give up their previous rural identities and embrace new urban identities. This could eventually weaken social identity and lead to social disintegration if it creates social fragmentation and isolation (Pilehvar, 2021).

The final underlying mechanism through which urbanisation affects social cohesion is through the externalities created by urbanisation. Urbanisation contributes to higher greenhouse gas emissions and increased waste generation (Wang, Liu, Liao, & Wei, 2021b), which can contribute to the spread of diseases and creates an environment that undermines well-being (Reyes, Ahn, Thurber, & Burke, 2013), eroding community and government trust, cooperation and social identity. Projections indicate that rapidly urbanising regions, such as Africa, will experience and are expected to experience significant biodiversity loss (Simkin, Seto, McDonald, & Jetz, 2022; De Vos et al., 2023). This loss can in turn increase social tensions and instability, mistrust and a sense of cultural identity erosion, affecting the social fabric of societies (Berghöfer, Rode, Förster, Berghöfer, & Wittmer, 2022) in two key ways. First, the decrease in biodiversity raises the risk of flooding and loss of livelihoods, if regulatory mechanisms for ecosystem services are lacking. This can lead to a decline in vertical trust. Secondly, the direct harm caused by biodiversity loss to essential ecosystem services crucial for community livelihoods, including activities such as horticulture, agriculture, livestock farming, fishing, forestry, hunting and leisure activities, and more can adversely affect interactions between humans and nature. These interactions shape the identities of individuals and of communities (Clayton & Opotow, 2003; Berghofer et al., 2022) since environmental attributes play a significant role in shaping identity. As urbanisation disrupts these ecosystems, conflicts may arise, eroding trust in government institutions and affecting individual and collective memories tied to the environment.

In summary, while urbanisation could drive or impede sustainable economic development, the direct and indirect effects of urbanisation and the accompanying socioeconomic changes to social cohesion are *a priori* unclear. Figure 2 summarises the theoretical link and potential pathways discussed earlier. Therefore, it is important to turn to the empirical evidence and to look at the evidence across a variety of contexts and countries. Data limitations, which will be elaborated on in the next section, hinder us from explicitly testing all the mechanisms that have been discussed. Nevertheless, this theoretical framework yields valuable insights into the underlying reasons why we may anticipate a link between urbanisation and social cohesion. I now turn to the description the data set used in this study and the methods employed to analyse the data.

Figure 2: Conceptual Framework



Source: Author's own conceptualisation

3 Data and methods of analysis

Although the theoretical channels discussed earlier can be applicable to any context or country, the present empirical analysis focuses on the SSA region, primarily due to the prevalence of rapid urbanisation compared to all other regions and the lowest levels of social trust and lowest levels of peace within this region (Institute for Economics & Peace, 2020). Two additional reasons further motivate the focus on SSA. First, the three attributes of social cohesion and their measurement as discussed earlier are applicable to the African context. Second, the index is rooted in a definition of social cohesion that incorporates the core elements of existing and widely used definitions of social cohesion across disciplines (trust, identity, cooperation for the common good).

This study uses data from two main sources: Afrobarometer and World Development Indicators (WDI) datasets. The fifth (2012–2013) and eighth (2019–2021) rounds of Afrobarometer data is used to measure social cohesion and its three attributes (trust, inclusive identity, cooperation for the common good levels), following Leininger et al. (2021). The cooperation for the common good measure combines two indicators derived from the Afrobarometer data with one indicator from the V-Dem database. Urbanisation and other relevant socioeconomic data for the specific countries and years are from the WDI. Night-time light data and other greenhouse gas emission estimates are obtained from Proville et al. (2017). Figure 3 presents countries covered in Afrobarometer data, by survey round. Matching the two rounds of Afrobarometer data on social cohesion with the WDI dataset, resulted in 68 observations for 34 countries between 2011 and 2021.

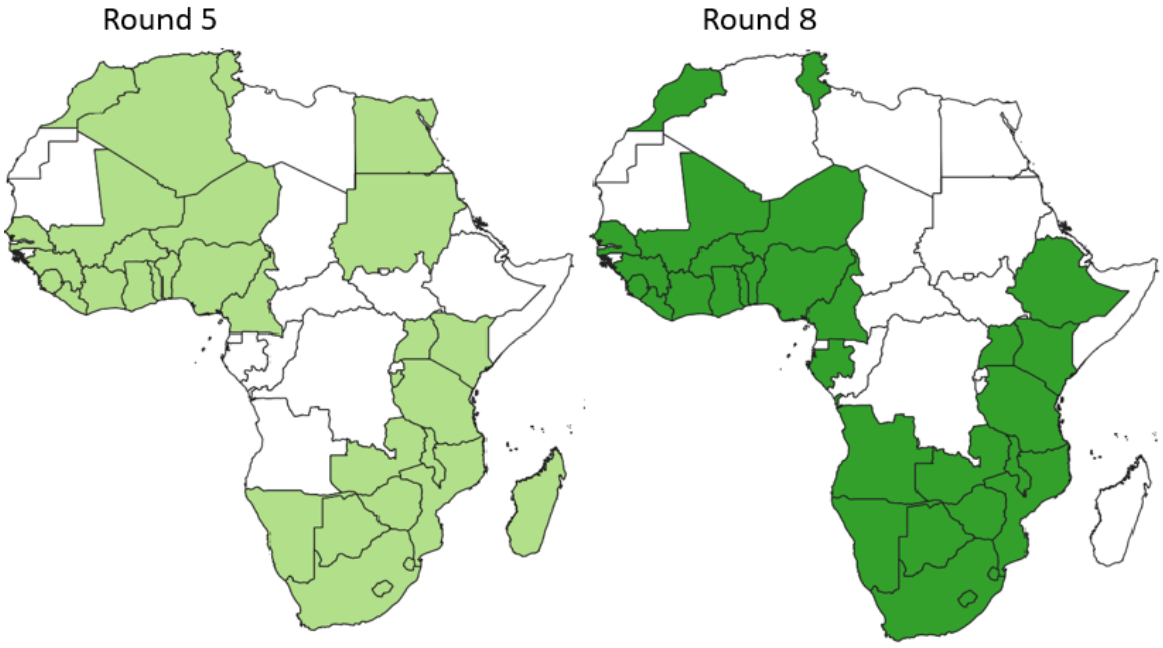
3.1 Key variables

The following discusses the construction of the main variables of interest and the methods of analysis.

3.1.1 Social cohesion

This section briefly describes how each attribute of social cohesion are is measured, and refers the reader to Leininger et al. (2021) for technical details and Chan et al. (2006) for further discussions. It is also important to highlight that these measurements have been employed in various contexts, such as in the analysis of social cohesion's effect on firm access to finance in Africa (Walle, 2023), the relationship between inequality and social cohesion (Burchi & Zapata-Román, 2022), and in the assessment and design of effective programmes and projects (UNDP, 2020), among other applications.

Figure 3: Countries covered in Afrobarometer survey during round 5 (2011–2013) and round 8 (2019–2021)



Source: Author

Trust: This refers both to the generalised (or horizontal) and to the vertical (or institutional) dimensions of trust. While the former refers to the capacity to trust people beyond one's immediate social or familial circles, the latter refers to trust in legal organisations of the government and state. Accordingly, generalised trust is measured by the percentage of respondents who indicate that most people can be trusted, whereas vertical trust is proxied by the average of the percentage of respondents who express high trust in three specific institutional indicators: parliament, courts and police. The trust score is, thus, computed by aggregating both the horizontal and vertical dimensions of trust, using geometric mean; it ranges between 0 and 1. The higher score represents more trust.

Inclusive identity: Inclusive identity also has both horizontal and vertical dimensions. While the horizontal dimension pertains to the communal identity of individuals living harmoniously with each other, the vertical dimension pertains to the sense of belonging to a national identity that exceeds the combined individuals and that bridges different identities of a society. Unlike other

attributes of social cohesion, inclusive identity is measured with a single index, without differentiating between horizontal and vertical dimensions. The Afrobarometer survey included a measure of the strength of respondents' feeling of national identity relative to their ethnic identity. The identity score also ranges between 0 and 1, with the higher values corresponding to strong feeling for national identity.

Cooperation for the common good: Cooperation encompasses positive social interactions that benefit society as a whole, beyond the interests of the individuals involved, while the "common good" refers to the conception of the material and immaterial living conditions of a collectivity. As with the other two attributes, it also has horizontal and vertical dimensions. The horizontal dimension refers to cooperation among individuals and groups, such as acts of solidarity. The vertical component, on the other hand, relates to cooperation between individuals and the state through public life and civic engagement. As to the measurements, the horizontal cooperation is measured using three indicators computed from the Afrobarometer data. To better reflect genuine cooperation for the common good, the indicators were adjusted to assign greater weight to spatial units with higher levels of ethnic diversity. The third indicator of horizontal cooperation is taken from the V-Dem database and denotes the degree of participation of citizens in civil society organisations (CSOs). The three indicators were re-scaled between 0 and 1.

For the vertical dimension of cooperation, two categories of indicators are used to compute the sub-index. The first category includes perception data from the Afrobarometer regarding the frequency of attending community meetings and the frequency of contacting local government councillors, members of parliament, officials of a government agency or ministry and traditional rulers. The second category of indicators utilise expert data from V-Dem on the extent of state repression towards CSOs and the extent to which CSOs are consulted by policy-makers. As with horizontal cooperation, the vertical cooperation index also ranges from 0 to 1. The overall cooperation score, like the trust score, is calculated by combining the horizontal and vertical dimensions using the geometric mean. This score ranges from 0 to 1, where higher values indicate greater cooperation.

3.1.2 Urbanisation

I capture urbanisation in two ways: demographic or structural change and night-time lights. The demographic measure of urbanisation refers to the share of a nation's population living in urban areas. I also used the average number of people per unit of area.[2] According to the UN, the latter is called "urban agglomeration population density" (UNDP, 2010; World Bank, 2021).

The preferred measure of urbanisation in this analysis is demographic, i.e., share of people living in urban areas. Given my interest in the link between urbanisation and social cohesion and the socioeconomic changes induced by urbanisation, one would imagine that urban settlements and their spatial patterns, i.e., population and area sizes, play a vital role in shaping how and the way in which people interact, cooperate and trust each other or institutions, and thereby shape societal cohesion. As a robustness check, a second measure of urbanisation is used: annual composites (sum of night-time lights values at national scales) of the stable night-time lights band data from the Defense Meteorological Satellite Program (DMSP) available from Proville et al. (2017) for round 5 (2011–2013). The digital number values range from 31 to 63.[3]

2 As previously stated, there is no universal definition of what constitutes urban and rural areas, and the definitions vary across countries in terms of the metrics used and threshold levels used to define them. We adopted national definitions as they are reported in WDI. For instance, in Ethiopia urban areas consists of at least 300 inhabitants per square kilometre and a minimum total population of 5000.

3 I do not report it here, but I also experimented with sectoral employment, such as share of labour force employed in agriculture from WDI.

This approach helps to reduce the inconsistencies in definitions, to harmonise measurements, and enable cross-country comparisons.

Finally, following Wan et al. (2022) I also classified countries into highly urbanised (greater than 50%), moderately urbanised (35% to 50%) and low urbanised (less than 35%), based on their level of urbanisation, to explore the possibility of heterogeneous effects of urbanisation on social cohesion.

In this study, I dig further into the role of the urbanisation process in shaping communities' social cohesion using Zambia as a case study country. I make use of uniquely detailed survey data in which households are being interviewed on urbanisation and its effects on their level of trust, cooperation for the common good and inclusive identity.

3.2 Method of analysis

In line with the conceptual framework discussed earlier, the main analysis focuses on the bilateral relationship between urbanisation and the different attributes of social cohesion, using graphical as well as statistical methods. Specifically, I use non-parametric models (mainly the scatter plots (the bivariate graphical analysis) and Pearson's correlation coefficients. However, whenever the data allows I also use regression analysis of the form specified in Equation 1 to control for other country socioeconomic characteristics that are also potentially important for social cohesion.

$$soco_{it} = \beta_0 + \beta_1 urban_{it} + \sigma X_{it} + \lambda_i + T_t + \epsilon_{it} \qquad (1)$$

Where the dependent variable, $soco_{it}$, is the outcome variable of interest (i.e. different dimensions of social cohesion) for country *i* in year *t* computed from Afrobarometer. The main independent variable is urbanisation rate ($urban_{it}$) for country *i* in year *t*.[4] Since the primary interest is to understand how urbanisation affects patterns of social cohesion, I also used the five year average of urbanisation rate, i.e. the average of the last five years prior to the year the dependent variable is measured in the Afrobarometer survey (from 2005–2013 for round 5 and 2015–2021 for round 8). This is because the effects of urbanisation may take time to materialise. X_{it} is a set of control variables such as education, globalisation, corruption, GDP per capita, income inequality as measured by Gini Coefficient, mobile cellular subscriptions and other variables expected to affect social cohesion, all extracted from the WDI. λ_i and T_t denote country and year fixed effects, respectively, whereas $_{it}$ denotes error term. The effect of urbanisation on social cohesion is given as β_1.

As to the parametric estimation strategy, I employ OLS, random and fixed effects estimators, depending on the statistical tests and suitability of data. Since most of the covariates considered here are highly endogenous also to social cohesion, it is difficult to find an instrumental variable for each of these endogenous variables.[5] As such, the estimates should be interpreted as correlations and not causations.

4 I also used its quadratic form (urban2it) as an additional independent variable and find qualitatively similar results. The inclusion of the quadratic term is to capture the non-linear effect of urbanisation, as suggested by He and Zhang (2022).

5 As an alternative estimation approach, I experimented with IV estimation using rainfall as an instrument for urbanisation. However, the results proved to be notably unstable. The basic idea is that most of urbanisation in Africa is driven by internal rural to urban migration due to weather conditions, forcing people to move from rural to urban.

To examine whether the mechanisms described earlier are the potential pathways through which the effects materialise, I use scatter plot analysis.

4 Results

In this section, I present some basic summary statistics, results from non-parametric models, mainly focusing on the bilateral relationship between urbanisation rate and the different dimensions of social cohesion, and regression results obtained by controlling for other country socioeconomic characteristics that are also potentially important for social cohesion.

4.1 Summary statistics

Table 1 presents the descriptive summary of urbanisation rate, the different attributes of social cohesion scores and other important socioeconomic variables averaged across countries and the two survey rounds, i.e. round 5 (2011–2013) and round 8 (2019–2021). The detailed variable construction used in the analysis is presented in Table A1. The top line in Table 1 shows that, on average, about 43% of people in the sample countries live in urban areas; and the majority of these urban populations (about 52%) live in slum areas. In addition, the urbanisation rate varies across countries, ranging from 11% (in Burundi) to 90% (in Gabon) (see also Figure B2).

The average scores for inclusive identity, general trust and cooperation for the common good are 0.44, 0.29 and 0.47, respectively. Among the different dimensions of vertical trust, trust in courts and police were reported to be higher than other dimensions of trust. Unlike trust scores, the average score for horizontal cooperation is higher than vertical cooperation (0.50 vs 0.43). Table A2 presents the Pearson's correlation coefficients between urbanisation level and the various indicators of social cohesion for the study countries.

As to other socioeconomic characteristics of the sample countries, agricultural employment constitutes the highest share of employment (about 44% of the total employment) whereas employment in industry is still low (about 14% of the total employment). It is also interesting to note that mobile cellular subscriptions per 100 people in the sample countries is about 86. Moreover, although young people aged 15 to 24 years ("youth") constitute the highest share of the population in the study countries, their average unemployment rate is 16%.

Table 1: Summary statistics for selected variables, round 5 (2011–2013) and round 8 (2019–2021)

	Observations	Mean	SD	Min	Max
Urbanisation					
Urban rate (% of total population)	67	43.12	16.704	11.19	90.09
Urban rate (past five years) (%)	67	41.95	16.49	10.4	89.33
Night-time lights (log DMSP) (round 5)	34	6.29	1.758	3.19	10.49
Social cohesion indicators					
Identity score	60	0.44	0.176	0.13	0.83
Trust people	67	0.17	0.093	0.03	0.56
Trust institutions	67	0.52	0.112	0.29	0.82
Trust parliament	66	0.48	0.131	0.22	0.84
Trust police	67	0.52	0.135	0.22	0.77
Trust courts	67	0.56	0.117	0.33	0.85
Trust score	67	0.29	0.095	0.11	0.61
Cooperation horizontal	60	0.5	0.07	0.34	0.64
Cooperation vertical	67	0.43	0.096	0.11	0.63
Cooperation score	60	0.47	0.065	0.35	0.62
Other socioeconomic indicators					
GDP per capita (log)	67	7.29	0.875	5.71	9.14
GNI (annual growth, %)	58	3.94	5.093	-14.94	20.69
Employment in industry (%)	48	14.49	8.263	3.25	33.46
Slums (% of urban pop)	23	51.9	12.498	23.95	69.24
Agglomeration	50	15.7	7.597	4.02	36.54
Employment in agriculture (%)	48	44.33	22.168	4.6	87.24
Health expenditure (% of GDP)	48	1.96	1.319	0.41	4.82
Net migration	67	-13753.5	51128.36	-185339	163449
Mobile cellular subscriptions	65	86.03	34.614	22.94	168.92
Current education expenditure (%)	16	90.33	7.685	77.39	99.06
Agricultural land (%)	58	48.64	19.228	3.75	85.64
Forest area (% of land area)	58	25.05	21.036	0.06	91.32
Youth unemployment (%)	67	15.51	13.717	1.04	50.17
Food insecurity (round 8)	27	58.79	17.7	19	86.7

Source: Author's computation based on Afrobarometer and WDI datasets. The night-time lights data (only for round 5) is from Proville et al. (2017) and detail methodological descriptions can be found at https://ngdc.noaa.gov/eog/dmsp/downloadV4composites.html. See Table A for a description of each variable.

4.2 Non-parametric analysis: Urbanisation and social cohesion

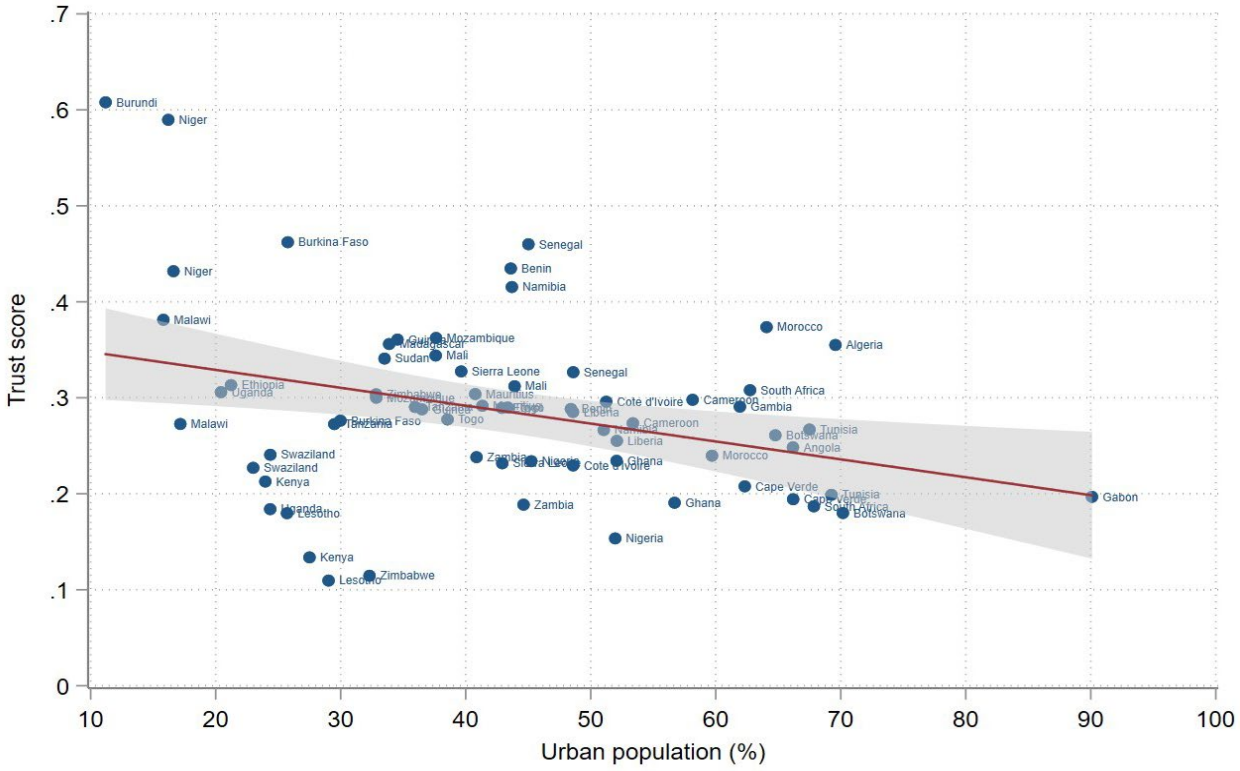
To examine the relationship between the different dimensions of social cohesion and urbanisation, I begin by estimating *two* non-parametric models: mainly the scatter plots (the bivariate graphical analysis) and Pearson's correlation coefficients.

First, I explore the relationship between urbanisation and the three attributes of social cohesion (i.e. trust, identity, and cooperation) using the scatter plots for the sample. Then, I further explore the relationship between urbanisation and the different dimensions for each of the attributes, namely horizontal and vertical trust, identity and vertical cooperation for the common good. As described earlier in Section 3, the trust component of social cohesion, for instance, is composed of horizontal trust (trust in people) and vertical trust (trust in government institutions).

Relationship between urbanisation and trust

Based on the theoretical discussions in Section 2, one can expect the relationship to be either positive or negative. As shown in the Figure 4, a negative relationship between the overall trust and urbanisation rate is apparent in the raw data (rho=-0.33). The negative relationship holds after excluding Burundi and Niger, which are the two major outliers. The two countries exhibit higher levels of trust but the lowest level of urbanisation in the sample.[6]

Figure 4: Trust in people plotted against urbanisation in 2011–13 and 2019–21



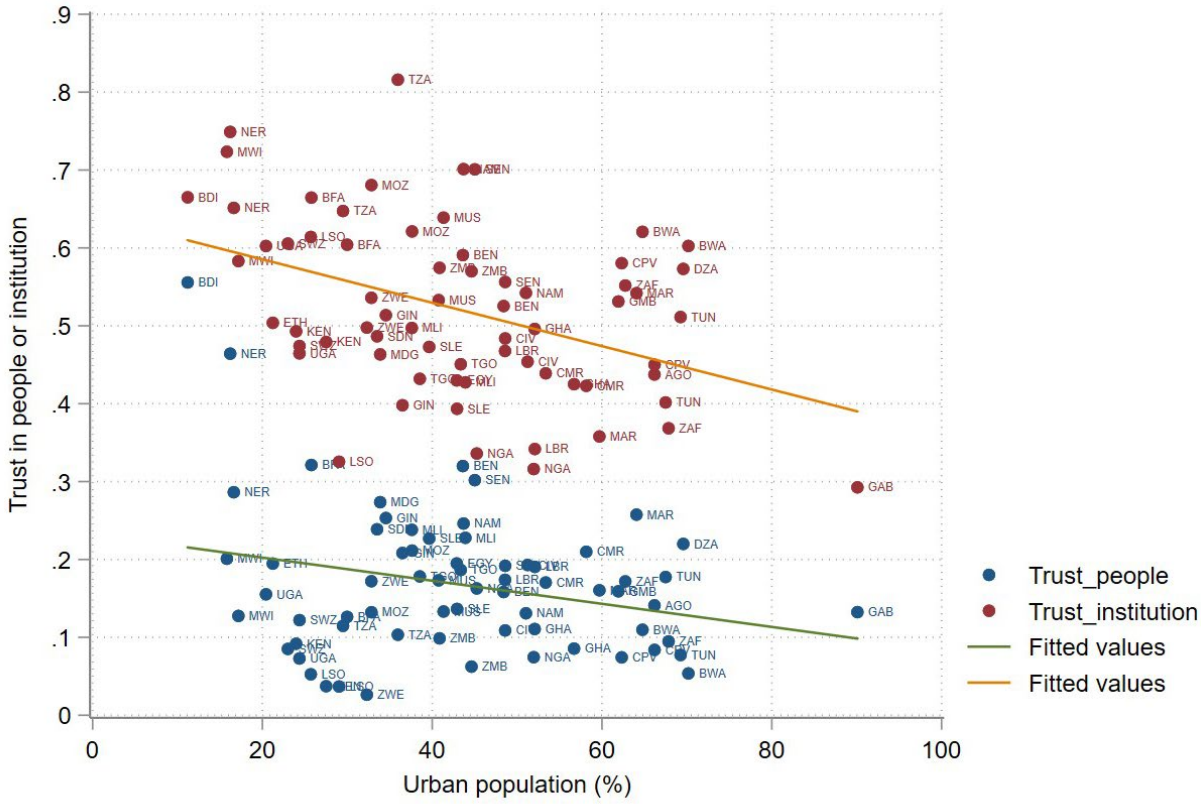
Note: This figure uses round 5 (2011–2013) and round 8 (2019–2021) of Afrobarometer data, while urbanisation data is from WDI. Trust scores are computed based on Leininger et al. (2021). The sample includes 34 SSA countries.

Source: Author

6 They exhibit twice the average of overall trust score and three times the average of trust in others, whereas their level of urbanisation is about 30% lower than the average urbanisation rate.

Even if we find a negative relationship between the aggregate trust and urbanisation rate for the sample countries, one may expect that the relationship may differ for the different components of trust measures, namely, horizontal (trust in people) and vertical (trust in institutions). To explore whether that is the case, I examine the relationship between these two components of trust and urbanisation rate as shown in Figure 5. As can be seen from the diagram, the direction of the relationship holds, although I find higher negative correlation with trust in institutions (rho=-0.42) than with trust in other people (rho=-0.29), which are also shown in Figure 5.[7] However, the majority of people in the sample countries trust their institutions more than they trust other people. Furthermore, by breaking down the vertical trust score into its components, I observed that urbanisation rate is more negatively correlated with trust in the parliament (rho=-0.52) than the other two components included in the vertical trust measure, namely trust in police (rho=-0.24) and courts (rho=-0.39), as shown in Figure 6.[8]

Figure 5: Trust in people and institutions plotted against urbanisation in 2011–13 and 2019–21



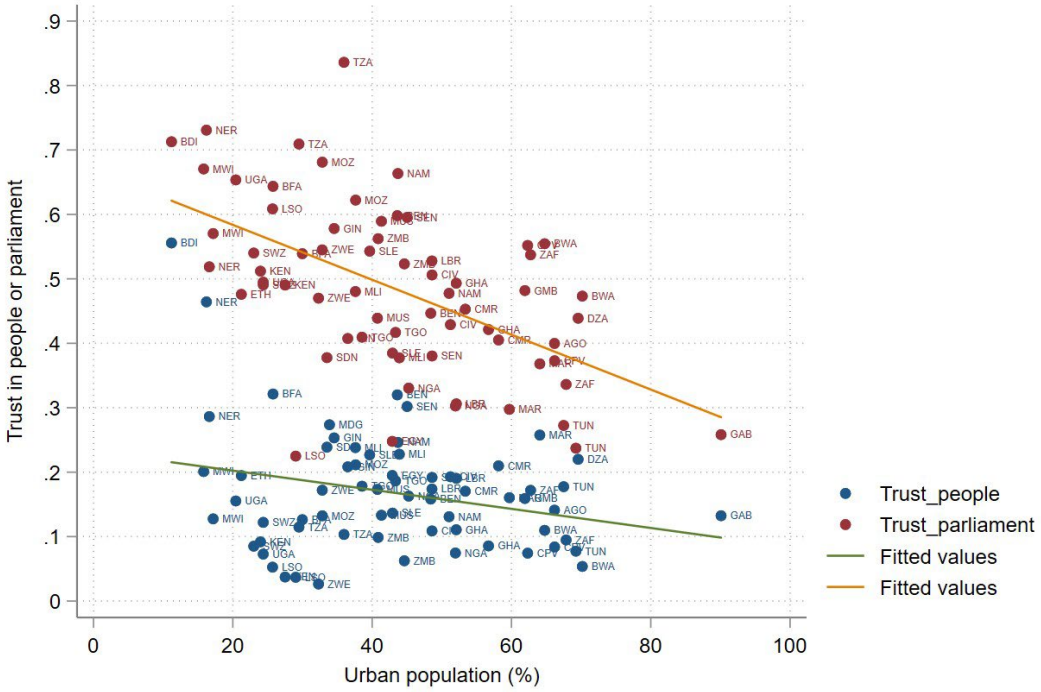
Note: This figure uses round 5 (2011–2013) and round 8 (2019–2021) of Afrobarometer data, while urbanisation data is from WDI. Trust scores are computed based on Leininger et al. (2021). Trust in institutions includes trust in police, courts and parliament. As such it refers to vertical trust. The sample includes 34 SSA countries.

Source: Author

7 The direction of association remain consistent after excluding the two outliers although the magnitude of correlation drops significantly for horizontal trust (rho =-0.04).

8 Excluding Tanzania and Lesotho, the magnitude of negative correlation between urbanisation and trust in parliament increases (rho=-0.61).

Figure 6: Trust in people and parliament plotted against urbanisation in 2011–13 and 2019–21



Note: This figure uses round 5 (2011–2013) and round 8 (2019–2021) of Afrobarometer data while urbanisation data is from WDI. Trust scores are computed based on Leininger et al. (2021). It is interesting to see that people in most African countries trust the parliament more than they trust each other. The sample includes 34 SSA countries.

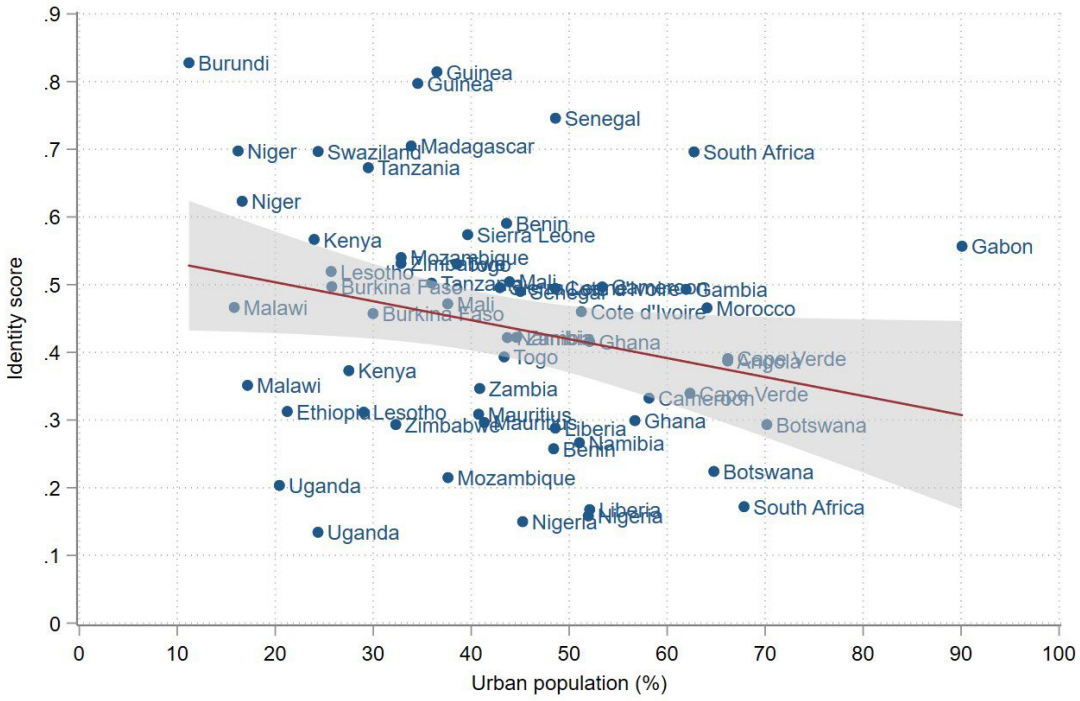
Source: Author

Relationship between urbanisation and inclusive identity

Figure 7 depicts the negative relationship between urbanisation rate and inclusive identity (rho=-0.26). The figure shows that the parts of Africa that have the highest share of population living in urban areas tend also to have a low level of inclusive identity, and this relationship holds even after excluding Burundi and Gabon. The use of night-time lights as an alternative measure of urbanisation also produces similar results.[9] One plausible explanation for this negative relationship is that specific group identities residing in peri-urban areas may consistently face disadvantages resulting from displacement or loss of livelihood as urban areas expand. In most African countries, urbanisation is driven by land expansion, leading to the displacement of certain groups as well as loss of livelihoods (Brondizio et al., 2023; Lall et al., 2021), potentially eroding their larger collective or national identity. Unfortunately, the lack of separate data on the horizontal and vertical dimensions of identity prevents us from further exploring this relationship separately. It is also plausible that the influx of rural people into urban areas might heighten sensitivity and hostility among urban residents towards migrants.

9 Again, the negative relationship holds and the magnitude of the relationship increases after excluding the outlier countries: Burundi and Gabon, Guinea and Senegal (rho=-0.32).

Figure 7: Inclusive identity plotted against urbanisation in 2011–13 and 2019–21



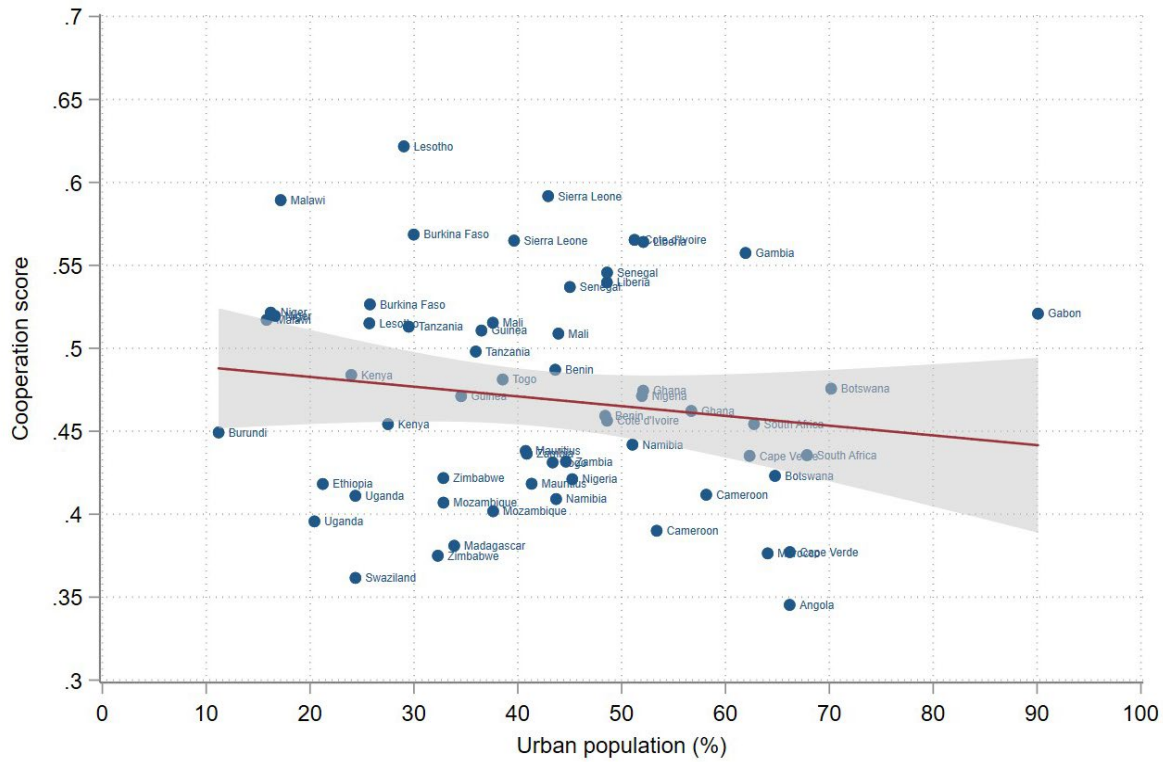
Note: This figure uses round 5 (2011–2013) and round 8 (2019–2021) Afrobarometer survey, while urbanisation data is from WDI. Identity score is computed based on Leininger et al. (2021) and denotes the mean share of respondents with national identity higher than ethnic group across groups. The sample includes 34 SSA countries.

Source: Author

Relationship between urbanisation and cooperation for the common good

The final attributes of social cohesion, cooperation for the common good, is measured through the aggregated score as well as its horizontal and vertical dimensions. Panel (a) in Figure 8 shows the scatter plot of cooperation for the common good using aggregate score and share of people living in urban areas. Once again, I observed a negative relationship between urbanisation and the aggregate score for cooperation for the common good (rho=0.09). However, in comparison to other attributes of social cohesion, cooperation for the common good displayed a weak correlation.

Figure 8: Cooperation for the common good plotted against urbanisation in 2011–13 and 2019–21



Note: This figure uses round 5 (2011–2013) and round 8 (2019–2021) Afrobarometer survey while urbanisation data is from WDI. Cooperation score is computed based on Leininger et al. (2021). The sample includes 34 SSA countries.

Source: Author

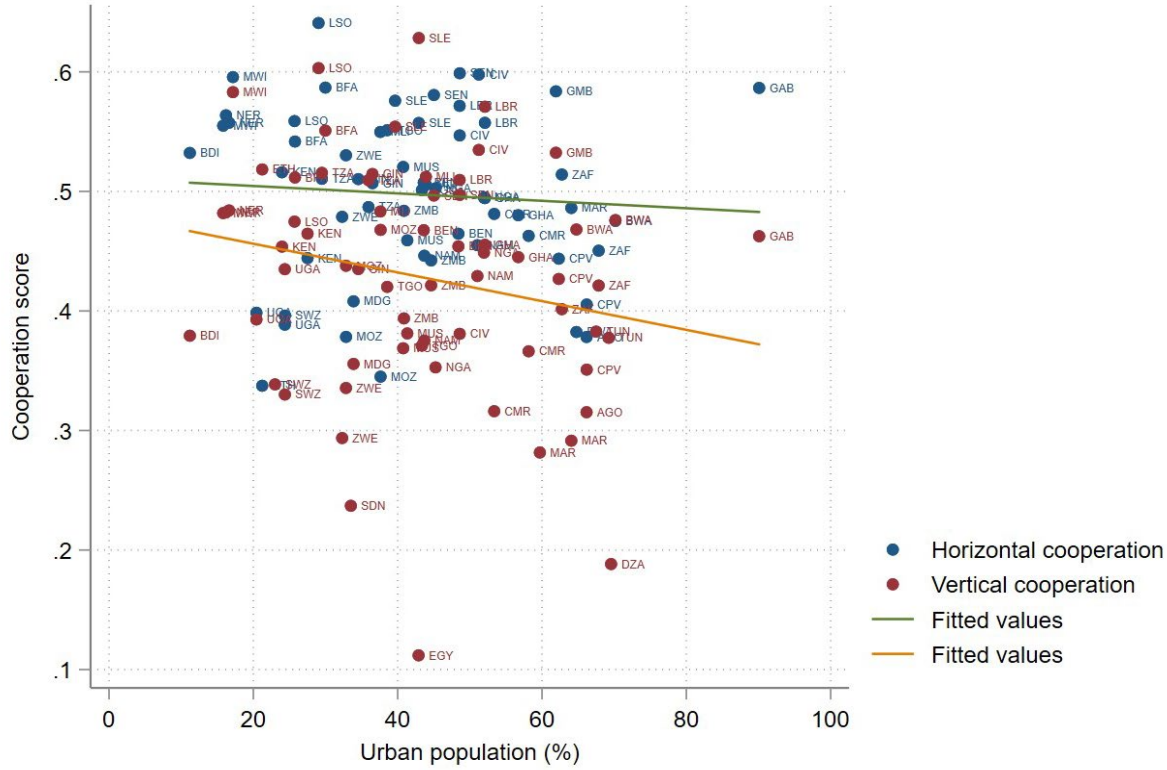
Upon disaggregating cooperation for the common good into its horizontal and vertical dimensions, the relationship with horizontal cooperation did not exhibit a strong systematic pattern (rho=-0.07).[10] In contrast, the negative correlation with vertical cooperation becomes substantially stronger in high urbanisation scenarios (rho=-0.18) (Figure 9). These findings suggest that while urbanisation is negatively correlated with cooperation for the common good in general, the effects vary significantly, depending on the dimensions of cooperation for the common good; high urbanisation rates show a more substantial negative correlation with vertical cooperation. The use of night-time lights as an alternative measure of urbanisation also revealed a significant negative correlation between urbanisation and vertical cooperation.

Furthermore, by categorising countries based on their level of urbanisation, I find that yjr correlation coefficient varies by level of urbanisation. By categorising countries based on their degree of urbanisation, I find that the correlation coefficient varies across different levels of urbanisation, suggesting a heterogeneous effect of urbanisation. For instance, I find a positive correlation between high urbanisation and inclusive identity, while there is negative correlation for moderate urbanisation and a very weak correlation for low urbanisation. As to the relationship with cooperation for the common good, I find a negative correlation for both low and high urbanisation, with little to no correlation with moderate urbanisation. When it comes to trust, I

10 The correlation coefficient increases to -0.15 once I exclude outliers such as Gabon. Analysis by survey round suggests that vertical cooperation maintains a negative correlation with urbanisation, while horizontal cooperation shows a positive correlation with urbanisation during round 8, contrasting with round 5.

find high and negative correlation with low urbanisation, while only weak correlations are apparent in regions with moderate and high urbanisation levels.

Figure 9: Horizontal and vertical cooperation plotted against urbanisation in 2011–13 and 2019–21



Note: This figure uses round 5 (2011–2013) and round 8 (2019–2021) Afrobarometer survey while urbanisation data is from WDI. Cooperation scores are computed based on Leininger et al. (2021). The sample includes 34 SSA countries.

Source: Author

4.3 Regression results

The earlier bivariate correlation analyses do not take into account the potential effects of the socioeconomic conditions of countries, which might influence the relationship between the two variables of interest: urbanisation and social cohesion. To deal with that, I further examine the relationship between the two phenomena by controlling for other socioeconomic indicators – country and year fixed effects – which are also potentially important in determining the evolution of social cohesion. In doing so, I estimated the main specification provided in equation 1 using OLS, RE and FE. In all the models, I observed negative relationships between urbanisation and social cohesion indicators (both for the aggregate measures and each dimensions), with the exception of trust in parliament and vertical cooperation (see Table 2, columns 4 and 9). The relationship turns positive for these two indicators after controlling for year fixed effects (that potentially captures unobserved time trends between countries). Since the last round (8) was collected during or after the outbreak of Covid-19, it may have caused unobserved time-varying differences between countries that can bias the coefficient estimates. It is worth mentioning that controlling for socioeconomic characteristics and country fixed effects in the regressions does

not alter the negative estimated relationships for all outcomes.[11] Moreover, the estimated coefficients are high and statistically significant for inclusive identity and trust measures. It is also interesting to note that the negative correlation between urbanisation and social cohesion reduces over time; this could be due to the fact that as urbanisation increases over time, investment in infrastructure such as education increases (as evidenced by strong positive correlation with education expenditure, industrial employment, etc), thereby improving cooperation between economic entities. In Section 4.4, I will further explore the underlying mechanisms through which these effects materialise.

11 Omitting outlier countries does not make any difference.

Table 2: Relationship between urbanisation and social cohesion in Africa

	Dependent variable is the different dimensions of social cohesion indicators indicated in columns 1 to 10:									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Identity	Trust-people	Trust-institution	Trust-parliament	Trust-Police	Trust-courts	Trust-general	Cooperation-horizontal	Cooperation-vertical	Cooperation-general
Panel A: OLS estimates										
Urbanisation	-0.053**	-0.021*	-0.003**	-0.004**	-0.009	-0.004**	-0.021*	-0.007	0.001	0.001
	(0.019)	(0.013)	(0.001)	(0.001)	(0.015)	(0.001)	(0.011)	(0.013)	(0.009)	(0.012)
Observations	60	63	63	63	63	63	63	60	63	60
R-Squared	0.98	0.95	0.96	0.98	0.96	0.94	0.97	0.94	0.97	0.93
F-stat	10.87	4.24	5.01	10.43	4.85	3.49	6.06	3.31	8.07	3.27
Panel B: RE estimates										
Urbanisation	-0.053**	-0.021*	-0.003*	-0.002	-0.009	-0.02	-0.021*	-0.007	0.001	0.001
	(0.019)	(0.013)	(0.002)	(0.011)	(0.015)	(0.015)	(0.011)	(0.013)	(0.009)	(0.012)
Observations	60	63	63	60	63	63	63	60	63	60
Countries	30	34	34	34	34	34	34	30	34	30
R-squared	0.78	0.62	0.76	0.91	0.53	0.69	0.76	0.22	0.66	0.45
Panel C: FE estimates										
Urbanisation	-0.053***	-0.021**	-0.009	-0.002	-0.009	-0.02	-0.021***	-0.007	0.001	0.001
	(0.009)	(0.01)	(0.015)	(0.011)	(0.018)	(0.018)	(0.007)	(0.01)	(0.008)	(0.01)
Observations	60	63	63	60	63	63	63	60	63	60
Countries	30	34	34	34	34	34	34	30	34	30
R-squared	0.78	0.62	0.76	0.91	0.54	0.69	0.76	0.22	0.66	0.45

Note: The regression uses round 5 and 8 of the Afrobarometer survey, while urbanisation data and other controls are from WDI. In all the models we control for round and country fixed effects, in addition to other socioeconomic characteristics of countries such as GDP per capita, GNI, agricultural land (%), net migration and telecom coverage. Robust standard errors are in parentheses. Statistical significance* $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$.

Source: Author

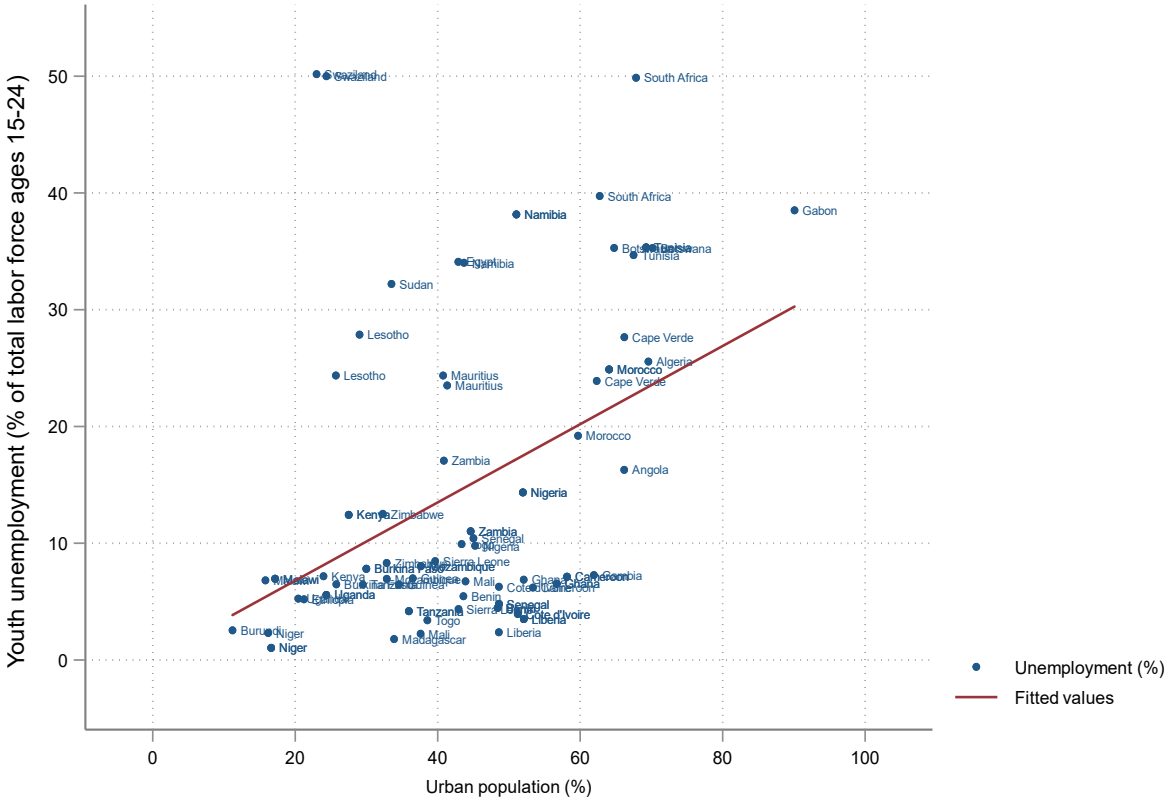
4.4 Underlying mechanisms

As discussed earlier in Section 2, urbanisation brings a lot of challenges and opportunities that directly or indirectly affect societal relations within and between groups and societies. Overall, the different results suggest that urbanisation is highly negatively correlated with social cohesion. Specifically, I find robust relationship with trust and inclusive identity, while the association with cooperation is weaker. Broadly speaking, urbanisation is characterised by two primary aspects: 1) the migration of individuals from rural to urban areas in pursuit of job opportunities and non-agricultural work, resulting in increased population density and changes to land usage, and 2) the resulting changes to people's way of life, including shifts in values and attitudes that create new forms of conduct that can either undermine or enhance social cohesion (Pilehvar, 2021). In this context, I have explored the relevance of each of the mechanisms discussed earlier in Section 2. After testing each of the mechanisms, I have identified the following three potential underlying mechanisms that are relevant to explaining the link between the two. I use the bivariate graphical analysis to plot the pattern.

The first underlying mechanism that is found to alter patterns of social cohesion as a result of urbanisation is change in economic structure, i.e. shift of employment from agriculture to industry and services (indicator of migration from rural to urban areas) and the associated economic benefits. Urbanisation in most SSA countries is driven by migration and agricultural land conversion (Wang et al., 2021b). As urbanisation increases (i.e. urban population share increases), the proportion of people employed in the agricultural sector tends to decline, while employment in the industrial or service sectors increases (see Figure B4). For instance, the correlation between urbanisation and employment in either agriculture or industry is significant, with agricultural employment exhibiting a much higher correlation coefficient (rho=-0.73 vs 0.58). This suggests that if the employment capacity of industrial or service sectors (reflection of employment opportunities related to urbanisation) is not sufficiently high compared to the reduction in agricultural employment, it can lead to a rise in the overall unemployment rate in urban areas, creating marginalisation and a sense of exclusion among people, as reflected by the positive association between youth unemployment and urbanisation, as shown in Figure 10. This, in turn, can negatively affect societal cohesion on a broader scale and specifically inclusive identity, the most prevalent condition in many SSA countries (Sakketa, 2023), and trust. For instance, previous studies identify a positive correlation between employment and social cohesion (Wietzke, 2015). Conversely, the absence of jobs or job loss (Brondizio et al., 2023) is associated with decreased trust and reduced civic engagement, irrespective of the national income level. Since a substantial proportion of urbanisation arises from informal settlements/slums and inadequate infrastructure, the absence of sufficient institutions and policies to oversee land conversions and address challenges such as displacement, urban sprawl and land grabbing may well contribute to the emergence of social conflicts and the exacerbation of marginalisation (Sakketa, 2023).[12] In more severe scenarios, the absence of employment opportunities, particularly among the youth, can ignite social unrest, violence and criminal activities. An example of this occurred in Ethiopia in 2016 and 2017 when the government proposed a master plan to expand the capital city's territory by approximately a factor of three.

12 For instance, the correlation between urbanisation and share of the population who cannot afford a healthy diet is about -0.66; and correlation between urbanisation and incidence of malaria is 0.42 and in slums is much higher at 0.59.

Figure 10: Youth unemployment plotted against urbanisation in 2012 and 2020



Note: Unemployment and urbanisation data are from WDI. This figure focuses on the 2011–2013 (round 5) and 2019–2021 (round 8), and both employment data and urbanisation data are from WDI. The sample includes 34 SSA countries.

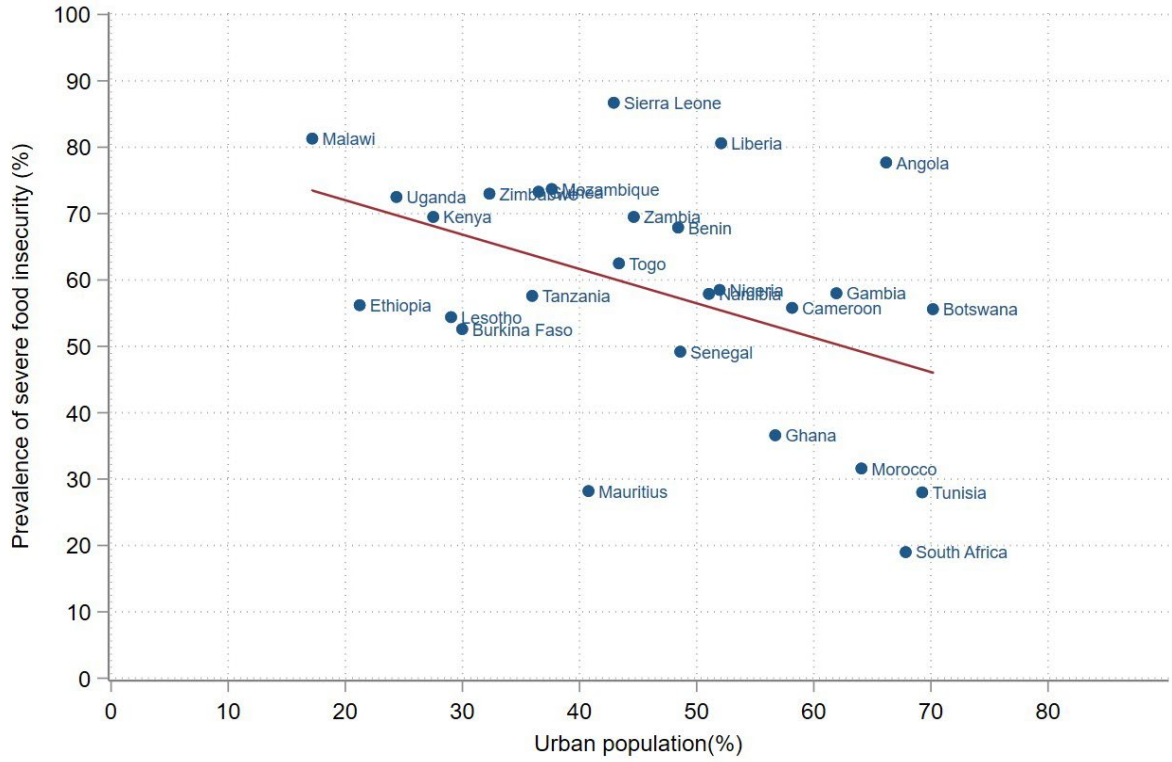
Source: Author

The second underlying mechanism found to be relevant is the development of infrastructure associated with expansion of urban areas. On the one hand, urbanisation can lead to better delivery of public service as a result of better healthcare, education and other important infrastructure. This would in turn increase people's trust in government institutions, promote inclusion and enhance vertical cooperation. For instance, expansion of education or health with urbanisation can increase societal inclusion by reducing income inequality and marginalisation. I find that urbanisation is highly positively correlated with health expenditure, and GDP growth or night-time lights; and negatively correlated with prevalence of moderate or severe food insecurity in the total population (see Figure 11).[13] The development of infrastructure is also crucial for facilitating trade, flow of technologies and business networks between rural and urban areas, which enhances interaction, cooperation, tolerance, and trust. On the other hand, rapid and unplanned urbanisation coupled unfettered migration into urban areas without appropriate infrastructure can lead to congestion, social inequality, strained resources and the formation of slums. This is not surprising given that the majority of urban people in most African countries live in slum areas where the development of infrastructure for service delivery is poor (see Figure B2). In addition, accumulation of wealth among a few groups and societies, and spatial segregation caused by urbanisation, can also create inequalities and divisions within society,

13 Although data limitation does not allow a test of specific infrastructure, I also find that the correlation between urbanisation and life satisfaction is positive and very high, 0.51 (0.65 with night-time lights); suggesting that urbanisation leads to improved life satisfaction if accompanied with better infrastructure such as access to electricity. See also Figure B6

particularly if certain groups are excluded from participating in economic activities (Pradhan, Arvin, & Nair, 2021). The negative correlation between social cohesion indicators, especially that of vertical trust and cooperation with electricity consumption and other infrastructure, suggests poor redistribution and marginalisation, which can hinder social integration (see for instance Figure B7).

Figure 11: Prevalence of severe food insecurity in the population plotted against urbanisation, 2011–2013



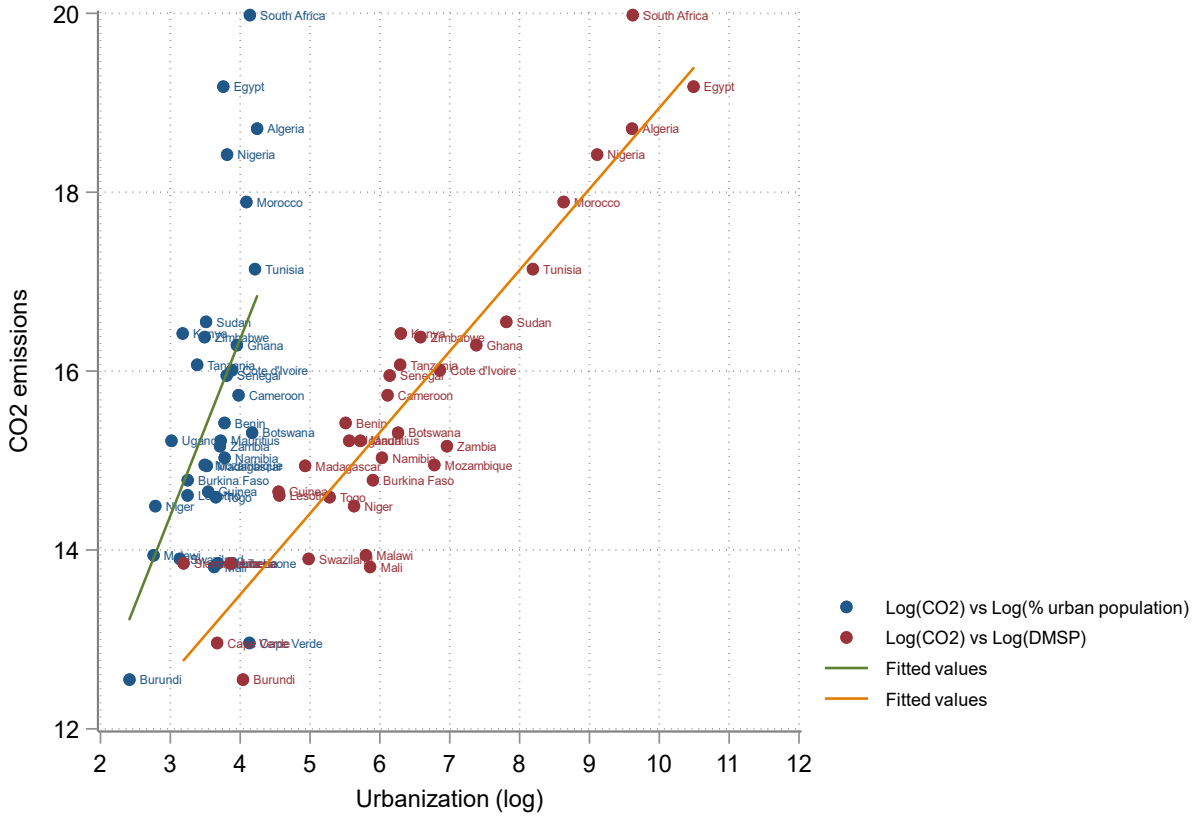
Note: Both food insecurity and urbanisation data are from WDI. The sample includes 34 SSA countries.

Source: Author

The third underlying mechanism is the externalities generated as urban areas expand.

Rapid urbanisation often leads to negative externalities such as waste disposal, causing increased incidence of the outbreak of disease, increased pollution, biodiversity loss, and the deterioration of soil and water conservation as well as depletion of natural resources. Such externalities not only affect the quality of life of both urban and rural areas but can also lead to health, economic and social problems, creating social disparities and social divisions (Sakketa, 2023). To see if this is the case, I examine the relationship between environmental externalities, proxied by CO_2 emissions and urbanisation, and find strong positive correlation between the two (rho=0.51) (see Figure 12). The negative association between CO_2 emissions and social cohesion indicators also suggests that indeed environmental externalities negatively affect both vertical trust (rho=-0.42) and cooperation for the common good (rho=-0.57) (see Figure B5). In addition, we find strong positive correlation between urbanisation and incidence of malaria (much higher with slums).

Figure 12: Urbanisation (log of population or night-time light) plotted against CO_2 emissions (log)

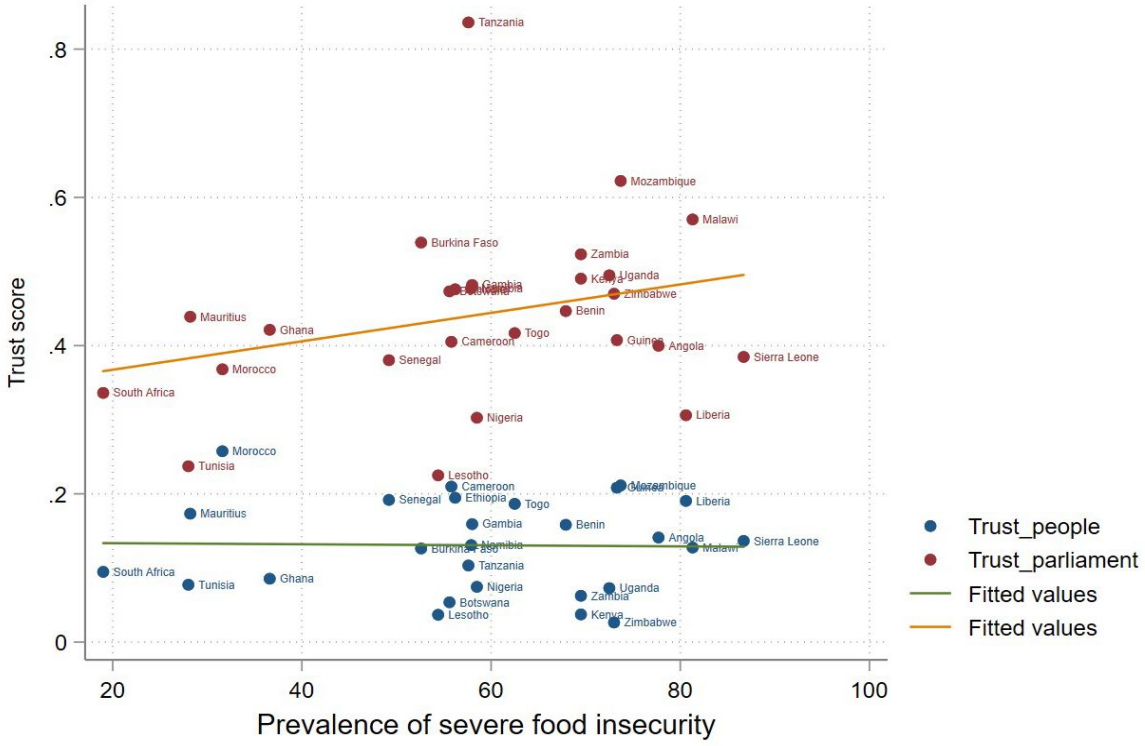


Note: The blue dots indicate log urbanisation measured percentage of urban population using round five only (2011–2013) of WDI data. The light red indicates urbanisation measured in night-time lights (log of DMSP) for the same round (Proville et al., 2017). The sample includes 33 SSA countries.

Source: Author

The fourth underlying mechanism is whether food insecurity of the general population deteriorates with urbanisation, which, in turn, potentially affects societal cohesion. If urbanisation is the result of crop land conversion and displacement of rural people as a result of horizontal growth (Lall et al., 2021), one may assume that it increases food insecurity. However, Figure 11 suggests that higher urbanisation is associated with a low prevalence of severe food insecurity in the total population. This could be partly due to the fact that urban population is over-sampled in Afrobarometer data, since poverty in general and food insecurity in particular is higher in rural areas than in urban areas (World Bank, 2021). Exploring further the relationship between social cohesion indicators and prevalence of food insecurity, I find that food insecurity is positively correlated with vertical trust and cooperation for the common good, while demonstrating limited or negligible association with horizontal trust and cooperation (Figures 14). This suggests that when faced with significant food insecurity, individuals exhibit a greater tendency to place their trust in government institutions and display increased cooperation with governmental entities. This phenomenon appears to enhance the vertical components of social cohesion. Thus, the overall result is that while urbanisation ameliorates conditions of food insecurity, such amelioration does not necessarily improve horizontal societal relations in the same way as it does vertical relations.

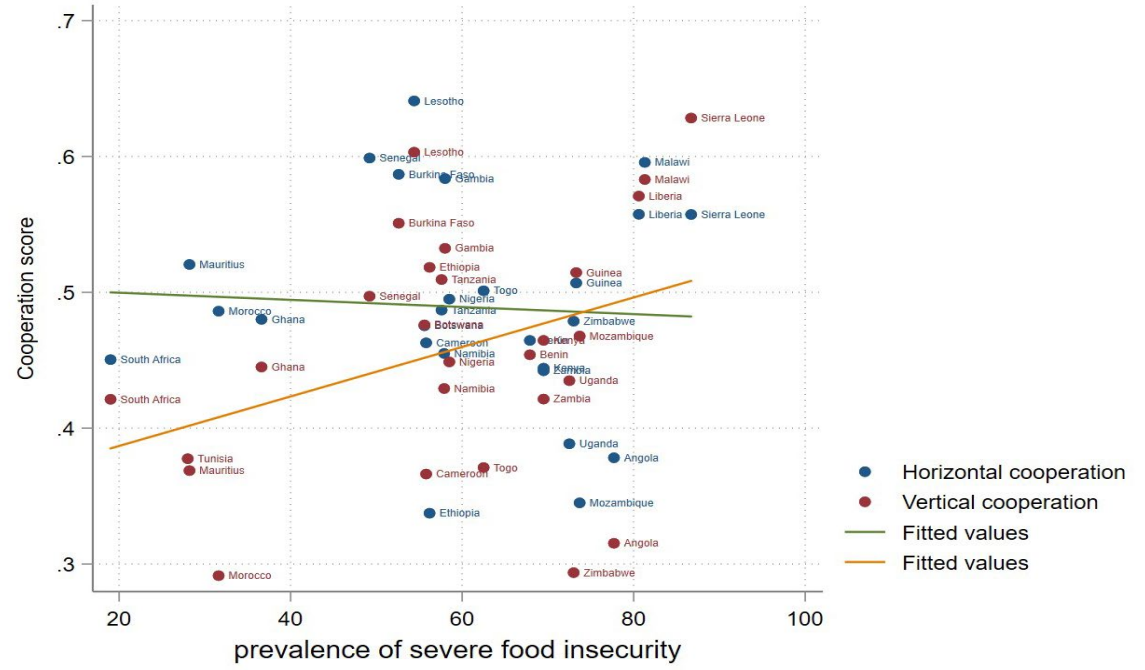
Figure 13: Trust in people and parliament plotted against prevalence of food insecurity in the total population, 2019–2021



Note: This figure uses round 8 (2019–2021) of Afrobarometer data, while food insecurity data are from WDI. Trust scores are computed based on Leininger et al. (2021). The sample includes 34 SSA countries.

Source: Author

Figure 14: Horizontal and vertical cooperation plotted against prevalence of food insecurity in the total population, 2019–2021



Note: This figure uses round 8 (2019–2021) of Afrobarometer data, while urbanisation and food insecurity data are from WDI. Cooperation scores are computed based on Leininger et al. (2021). The sample includes 34 SSA countries.

Source: Author

5 Conclusions and policy implications

The relationship between urbanisation and social cohesion is not straightforward. In this paper, I explore it in Africa, where urbanisation-induced change in social structure is prevalent and active in recent decades. I create a novel panel dataset (spanning eight years) combining information on social cohesion from Afrobarometer and the V-Dem expert-based data at the country level with urbanisation and other socioeconomic data from the World Development Indicators. I also employed alternative measures of urbanisation such as night-time lights derived from satellite data.

Overall, although causality cannot be drawn, the empirical results align with the conceptual framework discussed in Section 2, suggesting a potentially negative impact of urbanisation. Specifically, this study points to two important results. First, urbanisation is negatively correlated with the three attributes of social cohesion, and especially with two of them, namely trust and inclusive identity. These correlations remain after we include country socioeconomic conditions and year fixed effects in our regression specifications. The results are robust to the use of an alternative measurement of urbanisation, specifically night-time lights, and to the exclusion of outlier countries. Second, the results suggest that economic mechanisms such as employment, infrastructure (such as utilities, roads, healthcare, education), and externalities such as pollution are the main underlying mechanisms through which urbanisation improves or worsens social cohesion. In light of the prevailing and persistent urbanisation-induced change in social structure in Africa, coupled with growing slums, the study provides novel evidence and thereby contributes to the larger debate on the social cohesion implications of urbanisation and in doing so it enhances our understanding of the economic mechanisms associated with urbanisation.

The results suggest important policy implications. First, if urbanisation, accompanied by economic opportunities and infrastructure development that minimises the negative externalities often associated with rapid urban growth such as pollution and biodiversity loss, can create opportunities to improve social cohesion, then this can be leveraged for a country's development (Civelli et al., 2023). Put differently, urban policies that aim to create employment opportunities, provide inclusive infrastructure such as roads and utilities, and promote environmental sustainability, can be a valuable complement to effective urbanisation policies to strengthen social cohesion. For instance, investing in critical urban infrastructure projects that promote employment opportunities and social mobility through environmentally friendly industries and innovations that reduce negative environmental externalities associated with urbanisation, can play a pivotal role in mitigating economic and social marginalisation among various groups, thereby fostering social cohesion. Therefore, policies aimed at urban expansion should also include investment in these underlying mechanisms so that urbanisation has the potential to improve overall social cohesion.

Second, the results reveal the necessity of designing appropriate policies and institutional setup that help foster inclusive urban development, and the need to align urban growth with economic demand. This alignment should be reinforced by the implementation of comprehensive plans, policies and investments that help avoid uncontrolled sprawl as well as dysfunctional accountability mechanisms. Given that the majority of projected urban growth will occur in intermediate and small cities rather than megacities, effective urban management is crucial in these smaller and intermediate urban centres (UN-Habitat, 2022). For instance, strengthening institutional reforms in the areas of land markets, clarifying land and property rights, strengthening land use planning institutions, and demonstrating strong political commitments and leadership are key steps. This, in turn, has the potential to enhance societal trust in governmental institutions and improve future civic engagement and collective action among citizens, as well as between citizens and the government.

Finally, the policy implications of social cohesion for development are substantial and multifaceted. Although widely contested, emerging empirical evidence suggests that lack of social trust, for instance, negatively affects economic development or social outcomes such as education and entrepreneurship (Minhas & Sindakis, 2022). Hence, if rapid urbanisation affects negatively those social cohesion attributes, it has implications for societal peace and, hence, the economic transformation of African countries.

Unfortunately, one of the limitations of this study is its inability to establish strong causality. Addressing questions of causality would require more data and further research. Another limitation, closely tied to the first, is the reliance on data from only two rounds; this limits the potential for robust and causal analysis, which requires more frequent long-term observations. Lastly, the study is constrained by a relatively small sample size (33–34 countries) out of the 54 states, limiting the capacity to conduct heterogeneity analysis and to test the various mechanisms under discussion. Although constrained by these limitations, the study provides the stated new insights.

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Appendix A: Additional tables

Table A1: Variable construction

Variable	Description
Urbanisation measures	
Urban populations	Share of populations living in urban areas(% of total population)
Urban populations (5avg)	Share of populations living in urban areas(% of total population), average of the last five years
Social cohesion measures	
Identity score groups (0 to 1)	Mean share of resp. national identity HIGHER than ethnic group across
Trust people	Trust toward people, mean score (0 to 1)
Trust institution	Trust towards institutions (composed of trust in parliament, courts and police) (0 to 1)
Trust parliament	Trust towards parliament (0 to 1)
Trust police	Trust towards police (0 to 1)
Trust courts	Trust towards courts (0 to 1)
Trust score	Overall trust score (composed of trust in parliament, courts and police) (0 to 1)
Food insecurity	Prevalence of moderate or severe food insecurity in the total population (%)
Cooperation horizontal	Average horizontal cooperation score (0 to 1)
Cooperation vertical	Average vertical cooperation score (0 to 1)
Cooperation score	Overall cooperation score (Computed from vertical and horizontal cooperation) (0 to 1)
Other socioeconomic indicators	
GDP per capita(log)	GDP per capita (constant 2015 US$) in logarithm
GNI (annual growth)	GNI growth (annual %)
Employment in industry	Employment in industry (% of total employment, ILO estimates)
slums	Population living in slums(% of urban population)
Agglomeration	Population in urban agglomerations of more than 1 million (% of total population)
Employment in agriculture	Employment in agriculture (% of total employment) (modeled ILO estimate)
Net migration	Net migration
mobile	Mobile cellular subscriptions (per 100 people)
Agricultural land	Agricultural land (% of land area)
Forest area	Forest area (% of land area)
Youth unemployment	Youth total unemployment (% of total labor force ages 15-24, ILO estimates)
Night-time lights (Log DMSP)	Annual composites nightlights band from the Defense Meteorological Satellite Program (DMSP)(log)

Source: Author's computation based on Afrobarometer and WDI datasets. Night-time lights data is from Proville et al. (2017) and its detailed methodological description can be found at https://ngdc.noaa.gov/eog.

Table A2: Pearson's correlation between urbanisation and social cohesion indicators, rounds 5 and 8

	Urban rate	Urban rate(5avg)	identity_score	trust_people	trust_inst	trust_parl	trust_police	trust_courts	trust_score	coop_horiz	coop_vert	coop_score
Urban rate	1											
Urban rate (5avg)	0.999***	1										
identity_score	-0.251	-0.247	1									
trust_people	-0.290*	-0.293*	0.493***	1								
trust_inst	-0.420***	-0.429***	0.273*	0.342**	1							
trust_parl	-0.523***	-0.534***	0.311*	0.333**	0.903***	1						
trust_police	-0.247	-0.252	0.313*	0.422***	0.880***	0.639***	1					
trust_courts	-0.387**	-0.393**	0.104	0.155	0.935***	0.833***	0.724***	1				
trust_score	-0.348**	-0.354**	0.489***	0.954***	0.579***	0.535***	0.625***	0.395**	1			
coop_horiz	-0.0845	-0.0765	0.363**	0.229	-0.0837	-0.134	0.00794	-0.112	0.167	1		
coop_vert	-0.194	-0.193	0.0725	0.0222	0.0238	0.0249	0.0351	0.00218	0.0344	0.480***	1	
coop_score	-0.162	-0.157	0.238	0.129	-0.027	-0.0516	0.0268	-0.0554	0.106	0.831***	0.886***	1

Statistical significance* $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$.

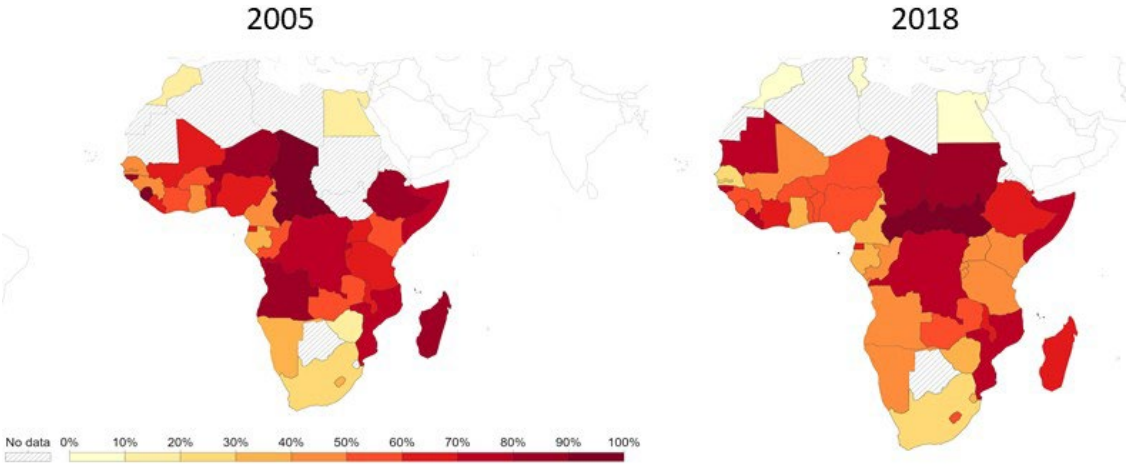
Source: Author

Appendix B: Additional figures

Figure B1: Constitutive elements of social cohesion

Source: Leininger et al. (2021)

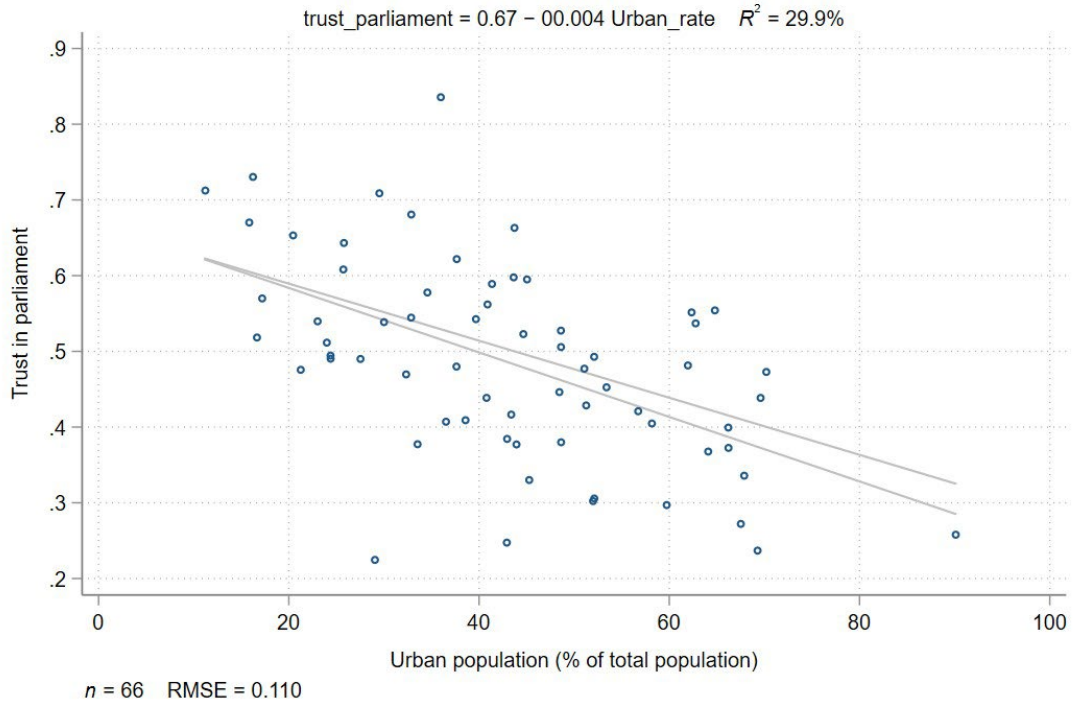
Figure B2: Share of urban population living in slums, 2005 and 2018



Note: According to UN-HABITAT a slum household is defined as a group of individuals living under the same roof lacking one or more of the following conditions: access to improved water, access to improved sanitation, sufficient living area, and durability of housing

Source: UN-HABITAT, CC BY, via OurWorldInData.org/urbanisation.

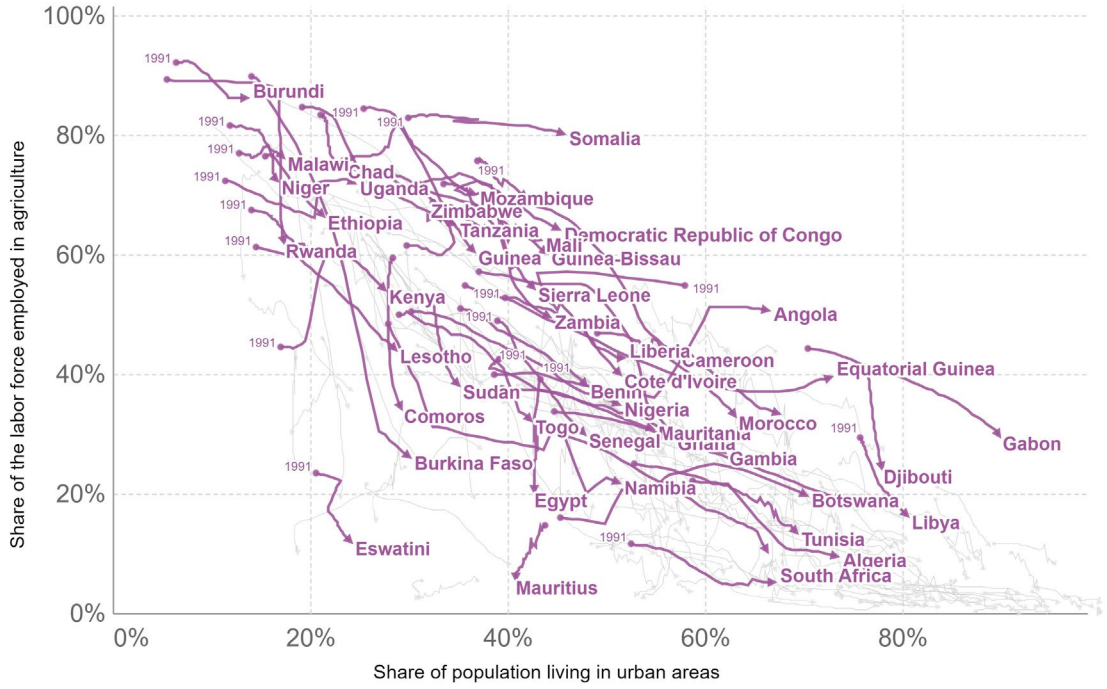
Figure B 3: Trust in parliament plotted against urbanisation in 2011–13 and 2019–21



Note: Trust in institutions include trust in police, court and parliament. As such it refers to vertical trust.

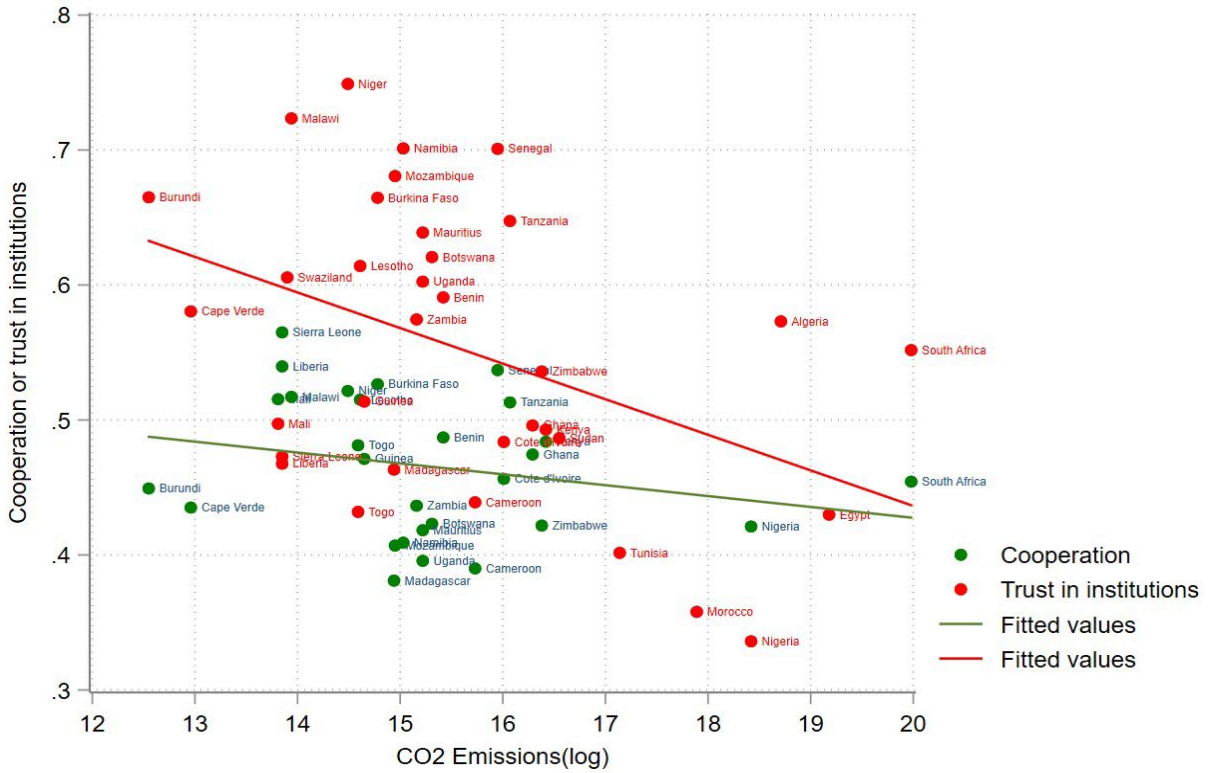
Source: Author

Figure B4: Employment in agriculture vs urban population, 1991–2019



Source: Ritchie and Roser (2018), CC BY.

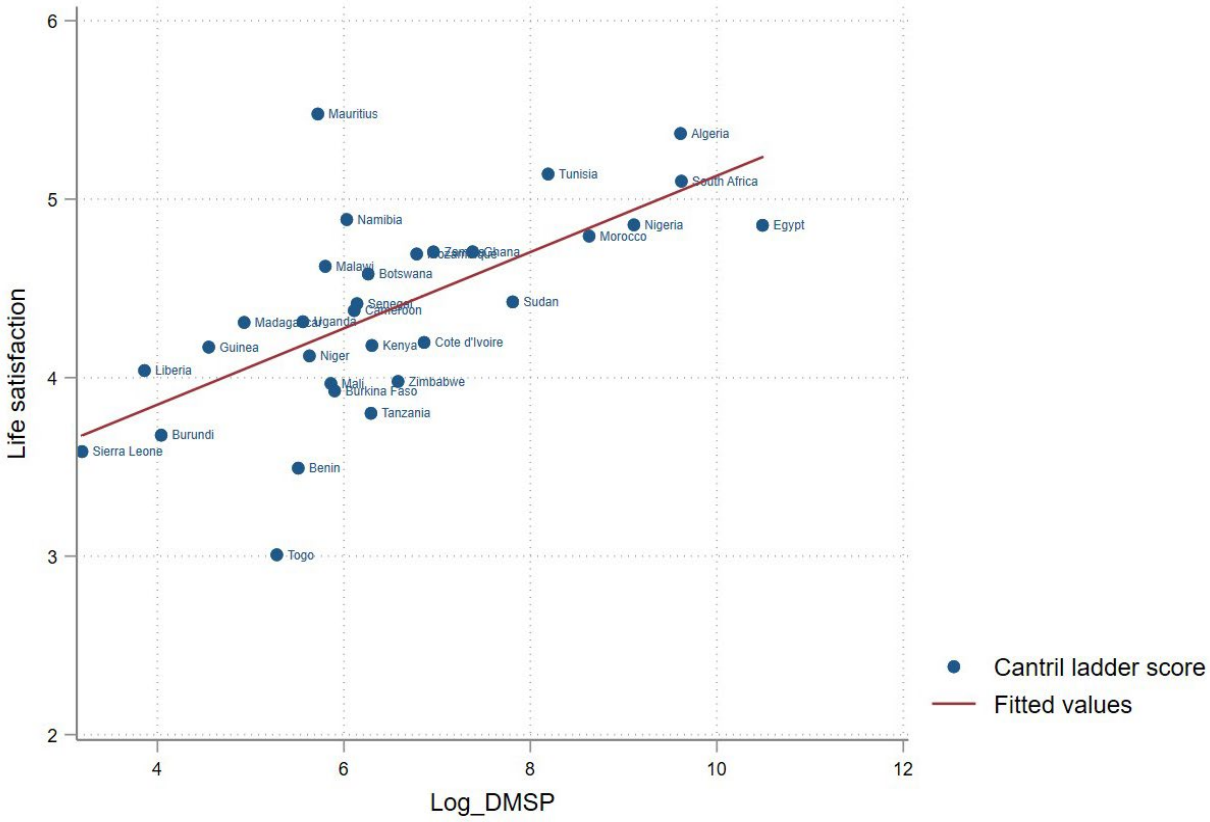
Figure B5: Vertical trust and cooperation for the common good plotted against CO2 emissions (log)



Note: Trust in institutions and cooperation for the common good is from Afrobarometer data using round 5 (2011-2013) whereas the CO2 emission data is from Proville et al. (2017). The sample includes 33 SSA countries.

Source: Author

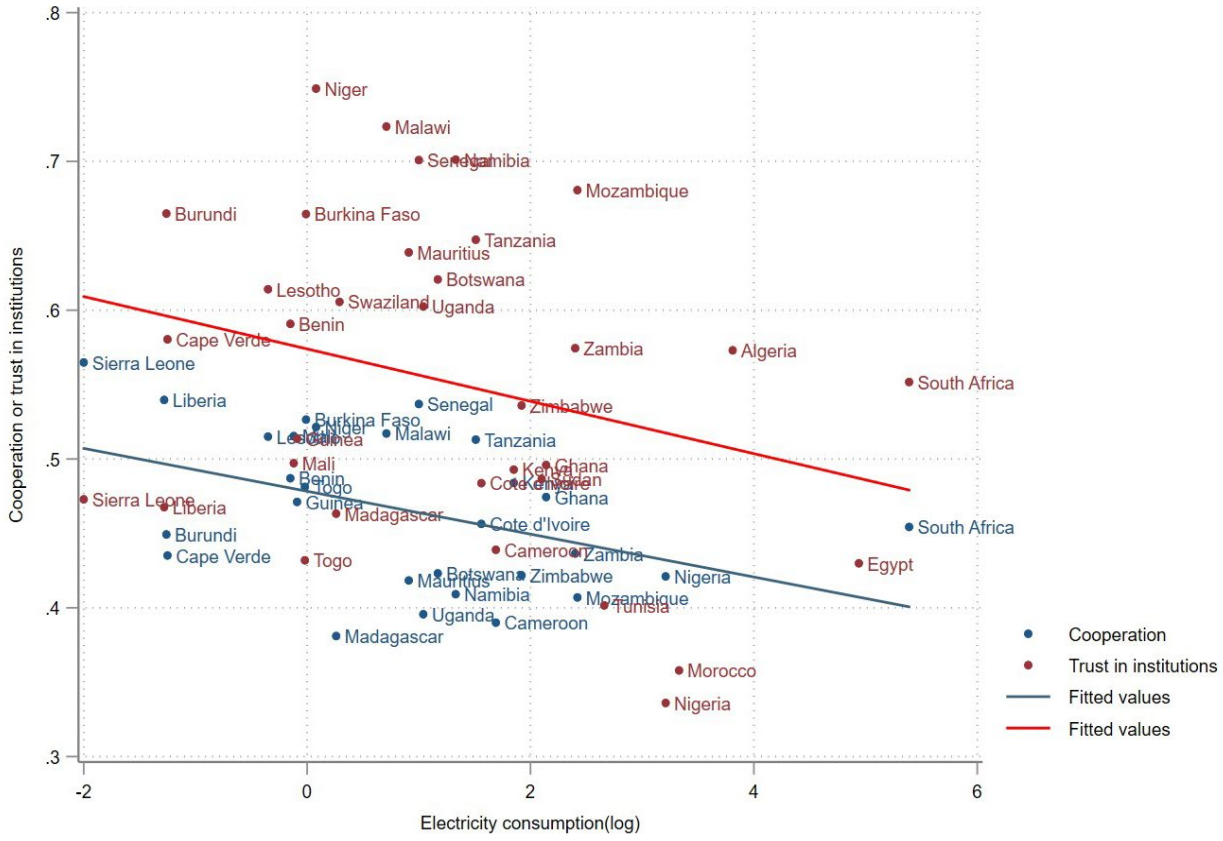
Figure B6: Log DMSP (night-time light) plotted against life satisfaction



Note: Life satisfaction (Cantril ladder score) data is from the Gallup World Poll, whereas the urbanisation data (night-time light measured in log of DMSP for round 5 only (2011–2013)) is from Proville et al. (2017). The sample includes 33 SSA countries.

Source: Author

Figure B7: Horizontal and vertical cooperation plotted against electricity consumption, 2011–2013



Note: This figure uses round 5 (2011–2013) of Afrobarometer data, while electricity consumption data is from Proville et al. (2017). The sample includes 34 SSA countries.

Source: Author