CCI Research Agenda February 2022

# I Theme Five I Urban Geography and Economics





The Future of Development

Empowering new cities with better governance to lift tens of millions of people out of poverty.

The Charter Cities Institute is a non-profit organization dedicated to building the ecosystem for charter cities by:

-Creating legal, regulatory, and planning frameworks; -Advising and convening key stakeholders including governments, new city developers, and multilateral institutions; -Influencing the global agenda through research, engagement, and partnerships.





### Charter Cities as Urban Policy

The relevance of urban geography to charter cities should be clear. Charter cities are a policy aimed at generating broad economic growth in the Global South through novel, well-designed cities. Despite national ambitions, charter cities are manifested on the local level as new urban environments with their own communities. These cities must be livable so that they can attract the people and firms needed to become drivers of economic growth. This means planning well, providing efficient transportation, implementing incentives

for economic agglomeration, helping residents feel safe, and making local governance more accountable. Charter cities, as new master planned cities, may also be a more cost-effective approach to addressing certain urban problems than retrofitting existing infrastructure (Collier et al., 2018; Fernandes, 2011).

In this section, we review the key policy problems facing cities in the Global South. Understanding these issues will help charter city implementers anticipate and react to common urban challenges present in the developing world context. However, it is not within the scope of this paper to exhaustively review the urban geography literature. Rather, our goal is to demonstrate the importance of urban geography and economics to understanding both local conditions in developing cities and economic productivity more broadly.

We also focus on the experiences of cities in sub-Saharan Africa. While cities across the Global South face substantial urban problems, these issues are arguably amplified in the African context. Today, Africa is the fastest urbanizing region in the world, and it is expected to add 950 million people to its cities over the next 30 years (OECD & SWAC, 2020). African cities are also less productive and more fragmented than comparable cities in other Global South regions (Venables, 2017). Despite this focus, charter city implementers and researchers should, of course, still concern themselves with the unique urban geographies of non-African developing cities.





evidence suggests Recent we are divergence experiencing а between urbanization and economic growth in the Global South, especially in sub-Saharan Africa (Gollin et al., 2016; Fay & Opal, 2000; Page et al., 2020). In many African countries, cities are growing without comparable increase in а industrialization and income, which creates an "urbanization-productivity gap." This contrasts with the experiences of Europe and East Asia, where urbanization has historically been accompanied by greater productivity.

The causes of the divergence are not clear. Many scholars have rooted the problem in so-called "premature urbanization," implying that African cities are growing too quickly for these cities' level of development (Gollin et al., 2016; Henderson & Turner, 2020). When Latin America was as urbanized as Africa is today (in 1950), the region had a GDP per capita of \$1,860 (2005 USD). The Middle East was similarly at \$1,800 (in 1968), while East Asia averaged a GDP per capita of \$3,600 (in 1994). In contrast, Africa has an average GDP per capita of only \$1,000 (Page et al., 2020). According to Page et al. (2020), low GDP per capita means that African cities struggle to generate enough public and private investments to industrialize build or urban infrastructure. However, while the "premature urbanization" hypothesis may offer a macroeconomic explanation for why African cities perform poorly, it doesn't explain why urbanization is taking place so rapidly. More importantly, it doesn't explain how policymakers should respond.

Gollin et al. (2016) attempts to answer the first question. Their research suggests that economies dependent on resource exports are able to raise incomes independent of industrial production. This incentivizes urban economies that rely more on consumption than productivity, relative to cities in countries not as dependent on raw resources. In essence, those collecting rents from resource exports demand urban amenities, which are fulfilled by low-income urban migrants working in non-tradeable sectors. Consequently, employlabor more productive tradable ment in sectors contracts, since demand shifts labor towards service industries. Other scholars have pointed to a difference in incentives for rural-to-urban migration in Africa compared to the rest of the world (Lagakos, 2020). The standard economic theory of urban migration says better job opportunities and wages "pull" people into cities (Harris & Todaro, 1970). Urban migrants in sub-Saharan Africa, however, may also be heavily influenced by "push" factors. Fay and Opal (2000) argue that conflict and declining global agriculture prices may have driven rural populations towards cities. More recent research has shown that climate change is increasingly driving African also rural-to-urban migration (Henderson et al., 2017).



## Building Adaptive Cities

To answer the other question—how should we respond to the urbanization-productivity gap?—we should look at cities themselves. This is not to say that macroeconomic interventions cannot help address the challenges of African urbanization. Rather, we argue that localized urban policy interventions are more tractable. Phrased another way, instead of trying to slow African urbanization through macroeconomic policies, we can design cities that adapt to it more effectively. It follows that this will require relatively more city-specific solutions.

One of the largest microeconomic causes of the African urbanization-productivity gap is spatial fragmentation (i.e., difficulty in

accessing all parts of the city due to low connectivity in infrastructure and urban sprawl) (Venables, 2017). The main economic benefit of cities is agglomeration, since it helps firms and people access each other. However, African cities are 23% more fragmented than those in East Asia and Latin America (Page et al., 2020). This inhibits urban agglomeration, as firms find it more difficult to access markets or to learn from their competitors, and people struggle to access jobs, healthcare, education, and other urban amenities. Stokenberga and Gonzalez (2021) go as far as to say that fragmentation, as represented by low transit connectivity, is one of the main constraints to health and educational improvements in African cities. Fragmentation also makes cities more costly by raising transportation, infrastructure, utilities, and other costs of service provision. Nakamura et al. (2019) for instance, find that African cities are 25 to 28% more costly than they should be given their income levels. Breaking this down, they find that housing is 55%, transportation is 42%, and communications is 46% more costly than we should expect.

Poor local policies also exacerbate the non-economic social costs of urban density by, for example, worsening traffic congestion, air pollution, crime, and contagious disease. Cullen and Levitt (1999) find that urban crime drives out educated residents in US cities, and Biagi and Detotto (2014) document the negative impact of crime on tourism in Italy. On pollution, Fan and Grainger (2019) find that a 1% increase in air pollutants (PM2.5) in China decreases the number of hours worked by 1%.

Many of these issues are exacerbated in the fragmented cities of Africa and the Global South more broadly. Yet, as Bryan et al. (2020) note in their literature review on developing cities, the social costs of African cities have been relatively underexplored. Rather, they argue that much of the urban economics literature has focused on the developed world. This poses issues for policy-making, as solutions suitable for the Global North may not apply in the South. For instance, Bryan et al. (2020) suggests that the failure of congestion pricing in London mav not be replicated in Global South cities. More recently, Gendron-Carrier et al. (2021) find that underground subways in polluted cities have yielded greater economic benefits in the form of reduced mortality from air pollution than they do in less polluted cities.



# Further Research

Drawing from the research agenda established by Bryan et al. (2020), we propose four research sub-themes in urban geography and economics that most directly relate to CCI's model of charter cities.

### **Urban Agglomeration**

First, we need to better understand the local determinants of urban agglomeration in Africa. Although Bryan et al. (2020) highlight the substantial evidence showing the generalized economic benefits of agglomeration, they also note that "for most developing world cities, the pressing policy questions are smaller." African urban policymakers, and by extension charter city implementers, need to know how to make African cities more productive with targeted urban planning and policies. Bryan et al. (2020) suggests looking at how transportation networks and regulatory changes can incentivize less fragmentation and more efficient firm agglomeration.

While there is already a large literature of economic agglomeration in formal markets, there is less attention paid to the agglomeration effects of urban slums and informal markets. That is, why do slums form, how do they evolve, what benefits (and costs) do they bring, and what policies can improve them? These are particularly relevant questions for the study of Global South urban producitivity. Marx et al. (2013) pessimistically characterize slums as poverty traps, and note that past efforts at land reforms and infrastructure upgrading in informal settlements have largely failed. Yet, in some contexts, targeted urban help policies may generate productivity and human capital in informal settlements. Zanoni et al. (2021) use a fuzzy regression discontinuity model to find that an infrastructure upgrading program in Uruguayan slums led to some reduction in student absenteeism. Even Marx et al. (2013) admit that slum policies may be effective if holistically paired with "big push" investments and governance reforms.

### Costs of Urban Density

Second, we need to develop tools to curb the social costs of urban density and crowding (e.g., congestion, crime, contagious disease, etc). Crucially, when it comes to these challenges, charter cities must differentiate themselves from the urban dysfunction prevalent in many cities of the Global South. If charter cities are as crime-ridden, polluted, and crowded as other cities, then they cannot fulfill their role as attractive engines of economic growth or as initiators of broad institutional and cultural transformation.

### Land Use

Third, charter city implementers must be conscious of land use policies. Cities are inherently spatial entities, so their effectiveness is dependent on how land is allocated. For instance, while a linear model may predict increased public transit will increase welfare by reducing commute times, they can also have negative distributional consequences when examined spatially. Tsivanidis (2019), for example, finds that while the bus rapid transit system in Bogota led to a 20 to 40% gain in welfare, it also increased segregation between high and low-skilled workers. Revealing these nuances was only possible when taking into account the spatial land patterns the use of infrastructure.

Relatedly, land rights allocation and formality plays a substantial role in the fragmented nature of African cities. When land rights are obscure, cities are incentivized to "build outwards" in order to avoid land-related conflict or legal disputes. Reforming these policies, however, can increase government revenue and improve the government's ability to plan effectively. Rwanda's digitization of land titles, for instance, led to a five-fold increase in

land-related public revenue (Dercon et al., 2019). Interestingly, land rights can be structured in a variety of ways, and the implication of these models are not always clear. China, for instance, uniquely grants the majority of land ownership to the government. Rather than selling land to private owners, the government sells the right to use the land over a fixed term. This allows for more effective centralized urban planning, but at the tradeoff of potentially misallocating resources. Singapore has followed a hybrid model, in which the government offers subsidized housing to its citizens in the form of long-term leases. While land ownership is still possible, over 90% of Singapore's land remains government-owned (Economist, 2017). How would similar top-down land policies work in Africa?

While reforming national land rights may be a difficult task, charter cities do offer a policy blank slate to test new ownership models. Understanding the successes and failures of existing structures will help inform this process. In the current charter cities model for instance, real estate developers are incentivized to manage effective cities by being given the opportunity to profit from future land value increases. However, a similar structure in Hong Kong, in which the transit agency is able to profit from property rents, may have incentivized the restriction of accessible land. This arguably contributes to Hong Kong's housing shortage. What implications does this have for the charter cities model?

### **Urban Politics**

The final sub-theme is politics. Arguably, the way cities are configured, both in their demographic composition and physical organization, is consequential to how effectively people are governed. For instance, Post (2018) reviews classical works theorizing the relationship between urban agglomeration, ethnic diversity, and politics. Urban heterogeneity has prompted some scholars to predict ethnic-based political conflict to follow from greater urbanization, while others more optimistically expect cities to encourage tolerance for diversity, and by extension, democracy. Bryan et al. (2020) also note that dictators are more likely to face revolutions in urbanized countries. In either case, the structural form of cities have consequences for political dynamics. As Alison Post (2018) notes, this is particularly true in the contemporary period, in which more empowered municipal governments have become a more important bridge between the citizenry and the state.

Bryan et al. (2020) also discuss the role of public management in urban outcomes. This concerns questions around making urban governments in developing world cities more effective at managing public services and collecting revenues despite lower state capacity. It also concerns the choice to distribute service responsibilities between public and private entities; while private firms are theoretically better incentivized to provide effective services, Bryan et al. (2020) note that the empirical evidence has been mixed. The role public-private partnerships can play as a middle road approach is only recently being explored by scholars.

### **Examples of Research Questions:**

-Do transit corridors incentivize economic development in African cities?

-What is the productivity impact of urban crime in African cities?

-How can public-private partnerships mobilize private sector resources when public sector capacity is low?

-How does use rights vs. freehold ownership affect economic outcomes?

-How does the form of land acquisition (e.g., eminent domain, public purchasing, etc) affect the prospects of urban development?

-Do push and pull urbanization induce the same 'types' of individuals to migrate to cities, or do they incentivize migration in different subpopulations?

-How does land-use regulation (heavy vs. light regulatory approach) affect economic outcomes?



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