AFRICA URBAN LAB

AFRICAN SCHOOL OF ECONOMICS | ZANZIBAR

Urbanization & Industrialization

Research Cluster Framing Paper

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AFRICA URBAN LAB

The AUL is a research center at the African School of Economics-Zanzibar focused on rapid urbanization across Africa.

OUR WORK

RESEARCH

We conduct frontier research on African urbanization, currently focusing on four research clusters: Urban Expansion & the Periphery; Innovative Urban Governance; Urbanization & Industrialization; and Cities, Culture, & Technology.

TRAINING

We provide short trainings and capacity building programs to the current generation of city officials, urban planners, and municipal leaders.

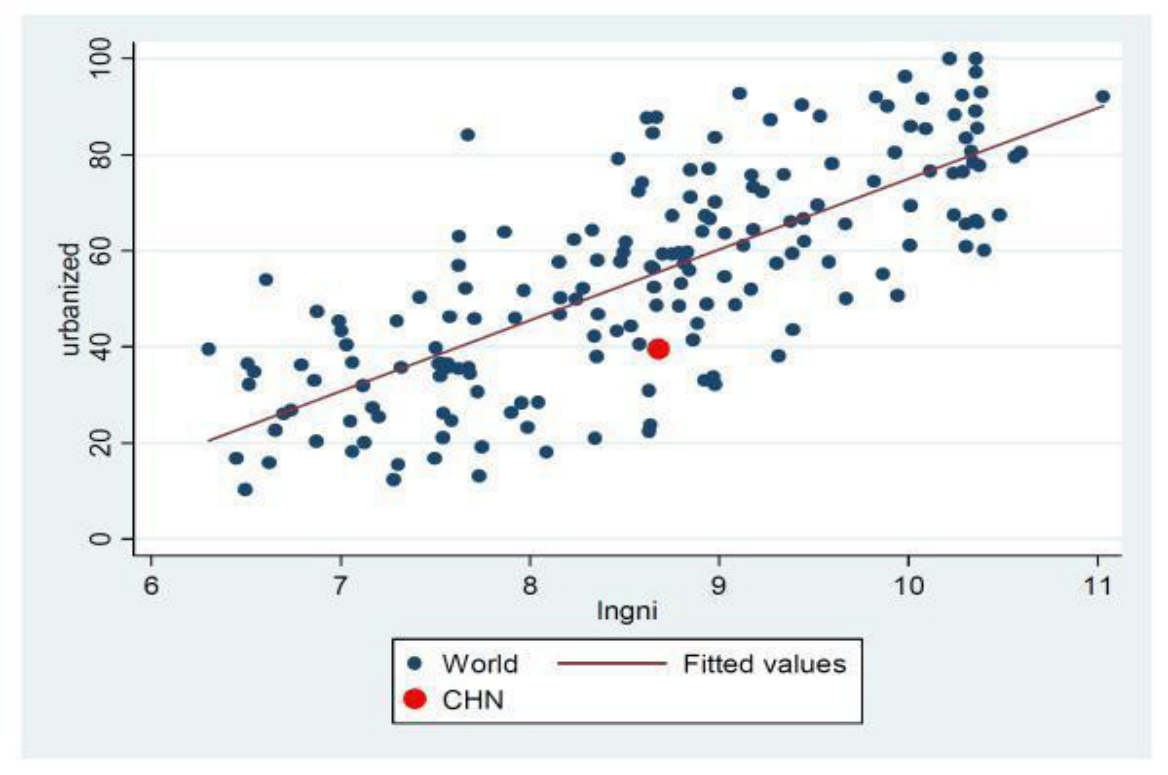
EDUCATION

We provide longer-term educational programs to the next generation of city builders, planners, and urban leaders.

1. Motivation

Historically, GDP per capita and urbanization have increased together. In fact, the correlation between urbanization and economic growth is so strong that urbanization is often used as a proxy for income per capita in comparisons across time and space (Gollin et al., 2016; Henderson, 2010; see Figure 1). Furthermore, countries that have experienced accelerated economic growth have simultaneously experienced accelerated urbanization (Romer, 2015; Pritchett, 2014).

Figure 1: Urbanization in 2004 and GDP per capita



Source: Henderson (2010)

Overall, the literature overwhelmingly suggests that cities drive productivity increases and economic growth. Outside the developed world, "urban density provides the clearest path from poverty to prosperity," (Glaeser, 2011: p. 1). In all countries for which we have data, cities, especially larger ones, generate a disproportionate share of national wealth (Glaeser, 2011). This wealth is translated into wide differences in human well-being between urban and rural areas:

> "In Nigerian and Indian villages, the floor in your home would most likely be made of dirt; in urban areas, floors are most commonly made of wood or stone. About one-half of rural Indians and one-third of rural Nigerians have no toilet facility...while virtually all urban residents have one, however rudimentary. Fewer than four in ten rural Nigerians can point to a power outlet inside their home, compared with eight out of ten urbanites," (Lagakos, 2020, p: 174).

This is largely because cities have historically been drivers of industrialization. Industrialization refers to the structural changes that occur during the transition from a rural-agricultural to an urban-industrial economy. This process can be explained by both demand and supply factors. On the demand side, Engel's Law states that as incomes rise above subsistence levels, the share of income spent on food declines while expenditure on manufactured goods rises. On the supply side, while agricultural productivity and output growth are often limited, manufacturing faces fewer constraints. For example, agriculture can grow by 3 or 4% per year, while China sustained manufacturing output growth of 10-15%+ for three or four decades (Kroeber, 2016).

Economists known as *structuralists* argue that structural features of the economy—its industries, institutions, and relationships—play a crucial role in determining its growth potential. Nicolas Kaldor (1967) formalized many of the arguments and empirical evidence of the early structuralists. *Kaldor's First Law* states that the faster the growth rate of industrial output in the economy, the faster the overall growth rate of GDP. Data for nearly 50 countries and across 29 Indian states for the 1990s clearly supports the First Law (Dasgupta & Singh 2005, 2006).

Kaldor's Second Law holds that there is a strong positive correlation between the growth of industrial output and the growth of productivity in the industrial sector. For example, rapid industrial growth in many Asian countries after c.1960, such as Japan, South Korea, and Taiwan, was associated with rapid growth of productivity.

Kaldor's Third Law argues that faster growth of output in the industrial sector leads to faster growth of productivity in the whole economy due to dynamic economies of scale (also see Verdoorn's Law).[1] There is evidence that

1. Verdoorn's Law describes the positive relationship between productivity growth and output growth.

productivity growth by country and across different Indian states varies positively with the expansion of the industrial sector (Dasgupta & Singh, 2005).

Modern structuralists have added to these early arguments. Manufacturing uniquely allows for rapid convergence in labor productivity regardless of geography, policies, or other country-level influences. While the reasons for this remain somewhat unclear, it is likely due to the fact that manufacturing produces tradable goods, which can be easily integrated into global production networks. This integration facilitates the transfer and absorption of technology (Rodrik, 2013). Structuralists have also found that there is a close relationship between the sophistication level of manufactured production and economic growth (Hausmann et al., 2006).

Hausmann et al. (2006) show that as countries start exporting more complex goods, they experience faster GDP growth. This implies that industrial policy and strategic diversification into higher value-add industries supports long-term development by facilitating knowledge spillovers and productivity gains.

Other structuralists have focused on expanding, contextualizing, and adapting Kaldor's simple framing, which outlines the relationship between the share of manufacturing in an economy and economic growth, but doesn't offer especially actionable insights into the workings of complex modern structures. To explain the enormous differences in productivity and economic growth among developing countries, structural growth models must also "consider the interaction between ideas, institutions, populations, and human capital," (Jones & Romer, 2010: p. 242).

Structuralists have also drawn connections between urbanization, industrialization, and economic growth. In the past, as countries urbanized, especially when they crossed the 50% urbanization level, "factories came [with] the cities," (Gollin et al., 2016). *Agglomeration economies* describe the economic gains (higher output per worker, higher wages, higher profits, and higher incomes) that come with the geographic concentration of firms and people (Polese, 2009: p. 31). It is commonly accepted that higher wages and rent in large, dense urban areas are evidence of higher productivity (Puga, 2010).

Evidence suggests that larger cities are generally denser and more efficient, productive, and innovative (Bettencourt, 2021). As cities grow in size, they tend to exhibit "power-law scaling relations" on multiple margins, including wages and new inventions.

Sustaining growth and raising living standards requires raising agricultural and rural labor productivity as well as diversifying into higher-valued, higher-productivity manufacturing and services sectors. However, there is a puzzle in contemporary Africa: although countries with high rates of urbanization such as Gabon, Libya, Algeria, Angola and Nigeria are as urbanized as Uruguay, Taiwan, South Korea, Mexico, Malaysia, South Africa, and China, they have generated much less industrialization (Gollin et al., 2016).

Since the 1970s, the link between urbanization and industrialization has broken down in Africa (Gollin et al., 2016). Africa is urbanizing when strikingly poorer than other developing regions (Henderson, 2010, p. 156). Unable to afford the necessary infrastructure, African cities experience many of the downsides of density–such as contagion, crime, and congestion–rather than the economic and social benefits, including economic growth (Glaeser & Sims, 2015).

Cross-country comparisons show that as the urbanization rate approaches 60%, the industrialization rate (manufacturing share of GDP) rises to nearly 20% in non-African cities, but remains flat at about 10% in African cities (Lall et al.: 2017, p. 14). In fact, Rodrik (2016) rang alarm bells when he suggested that Africa was undergoing "premature de-industrialization" as evidenced by a falling share of manufactured output and employment at low incomes. The implications, he argued, could threaten both the rate and sustainability of economic growth and even the consolidation of democracy in Africa.

Between 2000 and 2020, the share of Africa's GDP driven by manufacturing declined from 18% to 13% (Yeboua, 2025). Furthermore, in 2019, "only 12 African countries had a manufacturing sector worth over US$10 billion," (Yeboua, 2025: p. 5).

While Africa has experienced structural change in the decades since the 1960s, this has been driven by labor migrating from a stagnant agricultural sector into a growing, but lower-productivity, service sector (Badiane et al., 2012). Between 1960 to 1975, workers who left agriculture often found good jobs in manufacturing, increasing aggregate productivity. However, debt crises and economic recessions halted structural change in the 1980s. During the 1990s, when economic growth started reviving in Africa, workers resumed their departure from agriculture but mostly moved into non-tradeable services like retail and distribution, which have low productivity compared to manufacturing. However, even within manufacturing there were declines in manufacturing productivity (De Vries et al., 2013).

Data from the UN Commodity Trade Statistics Database between 1962-2008 for 625 commodities across Africa also shows that there was an increase in the degree of product sophistication during the 1960s and a slowdown during the 1970s and most of the 1980s. By 2000, the export sophistication of manufactured goods (and services) from African countries was far below the mean value for a group of nearly 100 other countries (Badiane et al., 2012).

Furthermore, firms have been largely unable to capitalize on the benefits of agglomeration economies in African cities, undermining their ability to scale. A case study of Dar es Salaam shows that, in 2015, despite boasting a population of 4.4 million, there were few indications of incipient industrialization. The city was structured around

packaging and selling imported consumer goods in malls, restaurants, and homes. Most manufacturing businesses remained stuck as micro-enterprises with less than five employees and declining production systems (Murphy & Carmody, 2019, p. 143).

Accordingly, promoting local industrialization, especially utilizing agro-inputs, is a government policy priority across the African continent. Research can help us better understand why the decoupling of urbanization and industrialization has occurred and how to more effectively harness the benefits of density, including agglomerationn economies, to promote employment-creating economic growth. The Urbanization & Industrialization research cluster at the Africa Urban Lab aims to rigorously answer these questions and pinpoint the most effective policy options to restore this link across the continent. This research cluster's agenda is guided by three sub-themes:

1. Fiscal Constraints in African Cities

2. State Capacity, Land Governance, & Industrial Policy

3. Labor Markets, Skills, & Industrialization

2. Research Themes

2.1 Fiscal Constraints in African Cities

African cities are "urbanizing while poor," and facing the attendant constraints on infrastructure investment and state capacity that typically accompany low incomes (Henderson & Turner, 2020: p. 152). In 2009, sub-Saharan Africa (SSA) was 37% urban with an average GDP per capita of $992 (Freire et al., 2014: p. 5). By comparison, in 1890, the US reached one-third urbanization with a GDP per capita of nearly $6,000 and reached 50% urbanization in the 1920s when its GDP per capita was closer to $10,000. The UK became one-third urbanized in 1861 with a GDP per capita around $5,000 and one-half urbanized in 1881 when its GDP per capita was closer to $6,000 (Glaeser, 2013: p. 10).

Urbanizing at low levels of income means that African governments lack the tax revenue to invest in the public infrastructure that is essential to leverage the economic and social benefits of rapid urbanization. The outcome of low-income and low-investment urbanization, "includes extensive informal employment, sprawling shack settlements, overloaded services, environmental degradation, social unrest, violent crime, and chronic traffic congestion," (Turok, 2016: p. 32). These issues further undermine the potential for industrial growth in African cities.

For example, inadequate investment in water and sanitation infrastructure contributes to poor health outcomes and economic inefficiencies. Historically, the construction of good sewage and water treatment has had a massive impact on both morbidity and mortality by reducing the incidence of diarrhea or illnesses such as cholera (Glaeser & Sims, 2015; Kesztenbaum & Rosenthal, 2017: p. 183). The absence of such infrastructure is not only harmful to human wellbeing, but it also stymies the growth of productive, healthy labor forces needed for industrial work.

Additionally, African cities suffer from poor public transport infrastructure. The reliance on informal, inefficient minibus systems exacerbates transportation inefficiencies, making the mobility of labor and goods expensive and unpredictable (Lall et al., 2017: p. 20). Without effective public transit systems, firms face high transportation costs, which erode the competitiveness of industries and further dampen economic activity.

High transport and living costs lead to inflated wages in African cities, which reduce the ability of firms to invest in expansion or innovation. A survey of 5,467 firms across 29 countries finds that in 2013, the labor cost per worker for Bangladesh was $835, lower than Ethiopia ($909), and significantly lower than Kenya ($2,118), Tanzania ($1,776), and Senegal ($1,561) (Gelb et al., 2017: p. 10). These inflated costs, driven by inadequate infrastructure, create a barrier to industrialization, as firms in African cities must spend more on wages and less on investment in capital, technology, or productivity-enhancing activities.

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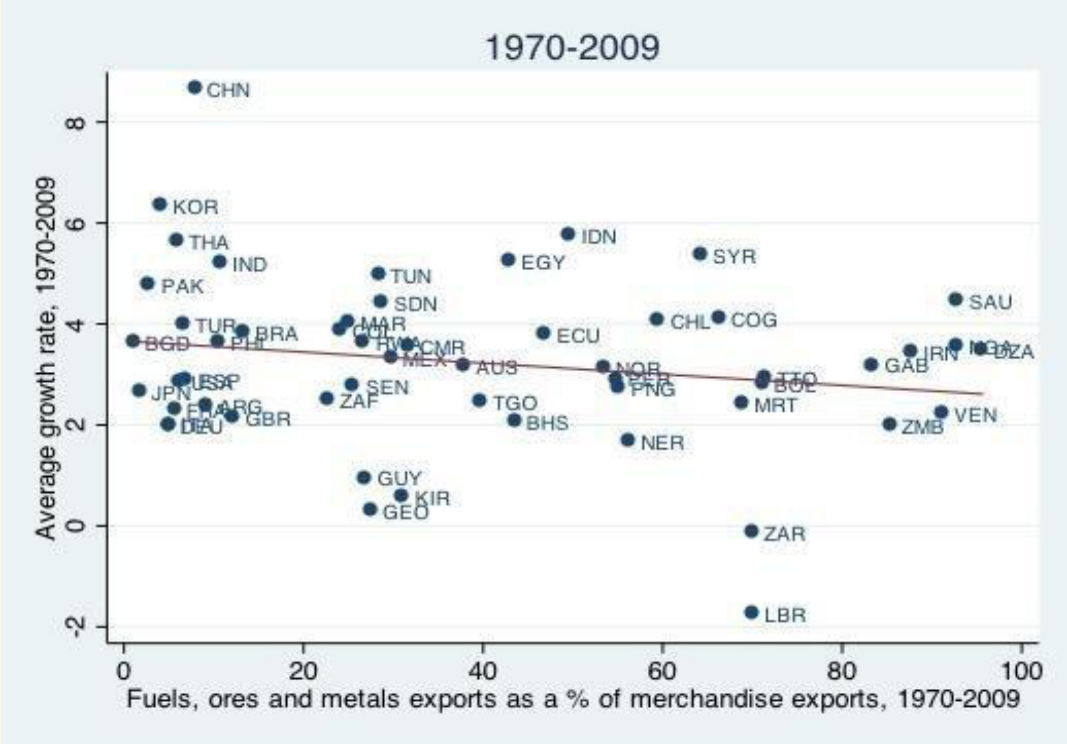
The overarching economic composition of a country also has a profound impact on the financial health of its cities. Many African economies are heavily reliant on resource exports, a condition often associated with the *resource curse*. While natural resource wealth can generate short-term revenue, it frequently undermines long-term economic diversification and reduces incentives for industrialization, leading to slower economic development. Figure 2 shows the relationship between economic growth and exports of fuels, ores, and metals as a fraction of total merchandise exports.

Figure 2: Statistical relationship between mineral exports and growth.



Source: Frankel (2012), p. 3.

This dependence on resource exports creates volatile and often unsustainable revenue streams for national and local governments. When global commodity prices are high, resource-rich governments may experience windfalls, leading to increased public spending, including in urban infrastructure and services. However, these booms are frequently followed by busts, resulting in fiscal shortfalls, cuts to essential services, and stalled urban investment projects. The cyclicality of resource revenues makes it difficult for cities to plan and finance long-term infrastructure development, which is crucial for industrialization.

Moreover, because resource wealth is often concentrated at the national level—either through state-owned enterprises or centralized revenue collection mechanisms—local governments in resource-rich countries may receive limited fiscal transfers or lack direct control over these funds. This results in cities that are fiscally constrained when it comes to investing in essential services like transportation, housing, and sanitation. It can also decrease incentives for cities to build out their own tax systems.

In raw-material, export-based consumption cities, political and economic elites are utilizing resource wealth to consume housing, vehicles, consumer goods, and food (Gollin et al., 2016). The process has a two-fold impact on domestic industry. First, the extra demand and prices in consumption-based sectors divert investment away from manufacturing. Second, increased land, property costs, and wages raise the costs faced by domestic industry (Turok, 2012).

Another global factor complicates the fiscal challenges of African cities: the rise of China. Although China provides cheap inputs and consumer goods to Africa, these products may displace local producers. For example, China may (directly) export textiles to Africa, competing with local producers, while also exporting textiles to the US, indirectly undermining African exports of textiles (Kaplinsky, 2008).[2] As a result, the influx of cheaper imports crowds out domestic industries, making it harder for cities to develop diverse, tax-generating industries to fund urban development.

High cost of living in African cities is often passed on to firms, which must pay higher wages (Lall et al., 2017). For example, the unit cost of labor in Djiboutiville, Djibouti is three times higher than Mumbai, India, and "20 percent higher in Dar es Salaam, Tanzania than in Dhaka, Bangladesh," (Lall et al., 2017: p. 25).

One estimate shows that in the first decade of the 2000s, China's manufacturing, export-led economic growth lowered the export share of labor-intensive manufactured goods by between 1.5 and 5 percentage points–industries that could have provided both economic opportunities and tax revenue for cities. (Wood & Mayer, 2011). These are only average figures, while specific sectors were heavily affected in some countries. Lesotho, Kenya, and Swaziland, for example, were very heavily affected by Chinese exports of textiles and furniture to third markets (Kaplinsky & Morris, 2008).

However, while Chinese competition presents significant challenges, it also offers opportunities for African cities to address these fiscal constraints. China is investing heavily in African infrastructure, which is essential for

2. US imports of apparel from China did increase rapidly, especially from 2003 to 2007, alongside a sharp fall in clothing imports from Africa to the US (Sandrey and Edinger, 2011).

urban industrialization. Chinese financing for African infrastructure projects was estimated to have reached a level of roughly $5.1 billion in 2009, when China accounted for 34% of all aid to infrastructure in Africa. China was focused on pro-urban-industrialization sectors such as power generation and transmission and transportation (Lin & Wang, 2014: p. 13). Such Chinese investment tended to decline in the 2010s relative to these peaks.

The re-allocation of China's manufacturing to more sophisticated, higher value-added products may open new opportunities for labor-abundant, lower-income countries to produce the labor-intensive, light-manufacturing goods that China leaves behind (Lin & Wang, 2014: p. 15). One study notes that the relocation of China's light manufacturing to Africa and elsewhere is now "pending" (Lin & Xu, 2019). By 2012 China had jointly established six industrial zones in Africa. Over 80 companies have signed agreements and settled in those industrial zones, creating over 11,000 jobs for African workers (Lin & Wang, 2014: p. 15).

Ultimately, addressing the puzzle of urbanization without industrialization in Africa requires examination of the fiscal constraints of low-income urbanization, which remain a key challenge. Without a more diversified economy, the potential fiscal benefits of urbanization—such as increased tax revenues from industrial activity, business growth, and higher wages—remain locked in a cycle of scarcity. African cities cannot industrialize without fiscal resources, but they cannot acquire fiscal resources without a diversified, industrial base.

Future research should analyze the role of local government policies, regional economic dynamics, and global trade patterns in shaping urban fiscal capacity. It is important to identify strategies for improving tax collection systems, diversifying revenue streams, and attracting investment in key industrial sectors. Additionally, research should examine the impact of external factors such as foreign aid, Chinese infrastructure investments, and international trade agreements on the financial autonomy of African cities. By understanding how these elements interact, policymakers can better design interventions that foster both fiscal self-sufficiency and sustainable industrialization in Africa's rapidly urbanizing spaces.

Manufacturers leaving China have primarily relocated to countries in Southeast Asia. However, estimates suggest that "if only 1 percent of China's production of apparel was shifted to Africa, it would boost African production and exports of apparel by 47 percent," (Altenburg, 2019).

Sample Research Questions

- **How do fiscal constraints in African cities impact the ability of local governments to attract and sustain industrial investment?**
- **To the extent deindustrialization is occurring in some African countries, what are the underlying drivers?**
- **What are the causes and consequences of urbanization at low income levels?**
- **Are African cities suffering from a local form of the resource curse that hampers the emergence of the type of urbanization that spurs industrialization?**
- **What role do external investments, such as Chinese infrastructure projects or foreign aid, play in enhancing the fiscal capacity of African cities, and how can these investments be better leveraged for industrialization?**

2.2 State Capacity, Land Governance, & Industrial Policy

Partly because of low income levels, African governments have demonstrated limited state capacity to effectively implement land governance and industrial policy. This is evident not only at the state level, but also at the municipal level. Lack of capacity is shaped by a combination of financial constraints, weak institutional frameworks, and fragmented political leadership that often fails to address the complex demands of urban governance and structural transformation.

Land Governance

Strong property rights are widely considered crucial to end the phenomenon of urbanization without industrialization. Economists and international development experts argue that land use policy "determines whether a city becomes an engine or an obstacle for national economic growth," (Collier et al., 2018: p. 1). Lall et al. (2017) argue that "the first priority is to reform land markets and land use planning–to promote the most efficient uses of urban land, and to develop land at scale," (p. 28). There are three components to functioning land markets: security, marketability, and enforceability (Collier et al., 2018: p. 2).

In many African cities, tenure security comes from private actions, such as hiring private security firms, rather than the formal legal system (Collier et al. 2018: p. 2). The rules and protection of tenure is often conducted by landlords, chiefs, bureaucrats, and gangs (Lall et al., 2021: p. 122). These negotiated property rights are not secure. Even where formal titles exist, poorly maintained land records or contested rights of inheritance cause disputes (Lall et al., 2021: p. 121).

Land rights related to security and marketability require legal protection, working through the police and courts. Legal protection in Africa is often undermined by overlapping and contradictory property rights systems based across formal, customary, and informal rights (Dercon et al., 2019: p. 12). For example, in Nairobi, unclear property rights in the Kibera slum area allowed well-connected bureaucrats to claim ownership over vast swathes of land (Collier et al., 2018: p. 2).

Furthermore, on average, formal property registration in Africa takes almost 60 days and costs 9% of the property value. For example, registration can take almost 300 days in Togo and can cost more than 20% of the property value in the Republic of Congo (Lall et al., 2017). As a result of the absence of formal land records for ownership and previous sales, land is not easily marketable. Therefore, it cannot be transferred to its highest value use, such as farmland to housing, and low-level housing to skyscrapers.

In response to these challenges, some African countries have announced bold land reform plans. Between 2005 and 2012, Rwanda pursued a nationwide program to issue land titles by demarcating plot boundaries in the presence of the whole community and recording plots using satellite and aerial photographs. Eleven million plots of land were formally registered over five years at a cost of only $6 per plot (Collier et al., 2018: p. 3; Dercon et al., 2019: p. 13). Before implementation, Rwanda was ranked 137th in the world for ease of property registration by the World Bank Doing Business Report, but rose to 4th upon completion (Dercon et al., 2019: p. 13).

Industrial Policy

Municipalities often lack the resources and technical capacity to drive localized industrial development. While national governments may set industrialization goals or encourage private sector investments, cities are typically left with little ability to develop targeted policies or create environments conducive to local industrial growth. Municipal governments may struggle to attract investment, especially in cities where the industrial infrastructure is outdated, or where local businesses lack the support needed to expand and innovate.

Furthermore, urban economic development strategies are often undermined by political fragmentation and weak governance. Municipal governments frequently lack the autonomy or financial resources to enact their own industrial policies, and when they do, these policies are often poorly coordinated with national objectives. This lack of coordination between national and municipal governance structures can stifle industrial development and urban economic growth, as policies may be misaligned with local conditions or fail to address the unique needs of specific urban areas.

The case of Zambia offers a compelling example. While there was some discussion about whether Zambia could utilize the global surge in copper prices in the 2000s to anchor urban development, particularly by "restructuring of the minerals sector," the results have been disappointing (Saunders & Caramento, 2017). Efforts to promote decentralization to local government have generally failed, with challenges in effectively transferring responsibilities away from central authorities (Resnick et al., 2019).

Since the boom in global copper prices in the early 2000s and the associated increase in copper production and exports, government efforts to leverage local content policies for urban industrialization have been unsuccessful. An increase of 10,000 metric tons in copper production has had no impact on local manufacturing, (Lippert, 2014). Less than 1% of the notional value of copper remained in the constituency in which it was mined (Lippert, 2014: p. 3). A 2014 estimate showed that of the approximately $1.75 billion procured by the Zambian mining industry annually, only $87 million (5%) was spent on locally manufactured goods (Caramento, 2020: p. 314).

The Cities in Motion Index, which evaluates urban performance across various dimensions including governance, ranks Nairobi 173rd, Douala 177nd, Accra 178th, Kampala 179th, and Lagos 183rd in the world, highlighting the need for improvement in governance capacity, efficiency, and enforcement (Berrone & Ricart, 2024).

Failure to tax the mining sector and promote local content can be traced back to capacity failures in the Ministry of Finance and entrenched local interests. Efforts to boost auditing and tax capacity, supported by the Norwegian Agency for Development Cooperation, were abandoned when Glencore Mopani Mine was found liable for $200 million in unpaid taxes in 2011 (Caramento, 2020: p. 313; Cheelo & Hinfelaar, 2020: p. 20). Push-back from the mining companies led to the program's closure in 2015 and the Norwegian Embassy's departure in 2016 (Cheelo & Hinfelaar, 2020: p. 22). Some prominent politicians who owned mine supply and contracting firms are believed to have used their political influence to undermine the programs, fearing competition would threaten their businesses (Caramento, 2020).

Without targeted efforts to strengthen local governance and build the capacity of municipalities, the prospects for effective land and industrial policy implementation will remain low, hindering the potential for sustainable urban and industrial development across the continent. Research should explore the impact of decentralized governance structures on urban development and industrialization, examining how local autonomy and capacity-building efforts can empower cities to take control of their growth and economic futures. Comparative case studies can also provide valuable insights into effective governance models that balance the need for local innovation with broader national development goals.

Sample Research Questions

- **Have any African cities successfully tackled the issue of land registration? How?**
- **Do African countries or cities have the capacity to promote urban industrialization?**
- **What impact does decentralized governance have on the capacity of local governments to drive industrial development and land management in rapidly growing African cities?**
- **In what ways can African cities learn from international case studies to build local institutional capacity for land governance and industrial policy, and how can these lessons be adapted to local contexts?**

2.3 Labor Markets, Skills, & Industrialization

A well-functioning labor market is essential for transforming urbanization into economic growth. The promise of urbanization—higher productivity, better wages, and industrial growth—depends on the ability of labor markets to connect workers with firms and facilitate skill development at scale. When workers can access and switch jobs quickly and affordably, and firms can hire from a broad and highly-skilled talent pool, cities become engines of productivity.

Interestingly, evidence suggests that cities themselves actively make workers more productive, rather than simply attracting productive workers. A meta-analysis of 729 estimates taken from 34 studies spanning 1965 to 2002 finds that urban agglomeration has a positive impact on wages, education levels, and labor productivity (Melo et al., 2009: p. 332; Bryan et al., 2021: p. 10). This productivity boost occurs because cities provide more opportunities for learning-by-doing, career advancement, and exposure to cutting-edge practices. Workers in urban areas are more likely to switch jobs, allowing them to refine their skills, seek better pay, and find jobs that match their abilities more effectively.

Furthermore, firms also benefit from proximity to other firms, a phenomenon referred to as *localization economies* (Henderson, 1995). The clustering of similar firms will attract a pool of specialized workers, such as financiers or advertisers in New York and aerospace engineers in Seattle (Polese, 2009: p. 38). One study finds a positive association between city size and employment in new start-ups per capita (Duranton, 2014: p. 53). Cities allow smaller firms to grow into larger firms by providing easier access to workers, finance, markets, inputs, and specialist suppliers of services (accountancy, advertising, and marketing).

For many types of goods and services, unit production costs fall as the scale of production increases. Scale economies drive firms to produce ever-larger outputs in an ever-declining number of locations. As production and employment increase in a given location, a city emerges (Polese, 2009: p. 34). This helps explain the emergence of industrial cities in the nineteenth and early twentieth century such as Manchester (textiles), Detroit (automobiles), Los Angeles (Hollywood films), and Bangalore (software and IT).

Additionally, vibrant labor markets facilitate knowledge spillovers among firms and workers, especially high-skilled workers (Bertaud, 2014). Knowledge-intensive sectors, particularly research and innovation are much more concentrated in cities than labor-intensive, industrial production. One study found an elasticity of patenting per capita with respect to employment density is approximately 0.2 (Duranton, 2014: p. 10). This finding is consistent with the view that cities have historically been central to the process of innovation (Glaeser, 2011).

However, despite their rapid growth, many African cities face major constraints on labor market efficiency, preventing them from reaping the full benefits of urbanization. These challenges include spatial disconnects between workers and jobs, inadequate public transportation, skills mismatches, and persistent informality.

One of the primary challenges facing labor markets in African cities is the spatial disconnect between workers and jobs. Limited public transport infrastructure, high commuting costs, and fragmented urban planning hinder labor mobility. For example, a 2012 survey from Nairobi showed that 83% of all trips in the city involved walking, with only 11% of jobs accessible by foot and 20% by mini bus within a one-hour commute (Avner & Lall, 2016: p. 5). In practice, Nairobi functions as a series of urban villages which limits the potential for agglomeration externalities, and in turn, the economic benefits of urbanization.

Transport costs are exceptionally high in African cities compared to other regions. For example, Atkin and Donaldson (2015) estimated that the cost of transporting goods across a given unit of distance is about 3.5 times higher in Ethiopia compared to the US, and about 5.3 times higher in Nigeria. This raises questions about the barriers African cities face in integrating the latest transportation and communication technologies, and in building the needed transit networks that improve labor mobility.

A variety of explanations have been put forward to explain why African countries face such high transport costs, including regulatory barriers to entry in the transportation sector, inadequate infrastructure, high input prices, and cumbersome customs and clearance (Teravaninthorn & Raballand, 2009).

Another key issue is the skills gap. Many African cities experience a paradox of high unemployment alongside labor shortages in key industries (Kappel, 2021; African Center for Economic Transformation, 2023). Employers frequently report difficulty finding workers with the technical skills needed for industrial production, IT, and professional services, while large segments of the population remain underemployed or trapped in low-productivity informal work. For example, about 15% of firms in sub-Saharan Africa, on average, cite an inadequately educated workforce as a major obstacle to business expansion, despite high youth unemployment rates (World Bank, n.d.).

This disconnect stems from weak education and vocational training systems that fail to equip workers with marketable skills (African Center for Economic Transformation, 2023). While university enrollment in Africa has increased dramatically over the past two decades, many graduates enter the labor market without the technical or problem-solving skills required by modern industries. As a result, firms are unable to hire for high-skilled, technical jobs, especially in STEM fields, undermining their productivity. Employees may also be placed into positions that do not match their skill sets, leading to lower individual productivity (African Center for Economic Transformation, 2023).

Across 27 African countries, evidence shows that a 10-percentage-point increase in high school or university-educated workers boosts firm productivity in manufacturing by 4.2% and 4.8%, respectively (AUC/OECD, 2024).

Informality further complicates labor market dynamics. The International Labor Organization estimates that about 66% of employment in Sub-Saharan Africa takes place in the informal sector, meaning workers lack legal protections, job security, and opportunities for career advancement (Kathage, 2018). Informal employment dominates sectors such as retail, construction, and transport, limiting productivity growth and tax revenue generation. The challenge for policymakers is to create pathways for informal workers to transition into the formal economy, through measures such as skills training, microfinance access, and regulatory reforms that make it easier for small businesses to register and grow.

Nonetheless, cities continue to offer greater access to jobs and hope of a better life. Mobile labor migrates to where welfare is highest, so households across Africa are voting with their feet and moving to cities in massive numbers (Duranton, 2014: p. 50). Urban populations in Africa are expected to triple by 2050, presenting both challenges and opportunities for labor market development.

Between 2025-2030, Africa will lead the world in urban growth, with all five of the world's fastest-growing urban populations: Burundi: 5.17%, Niger: 5.11%, Uganda: 5.10%, Malawi: 4.62%, and Tanzania: 4.59% (UN, 2018).

Future research should explore how urban form, transport networks, and mobility barriers affect employment search costs, especially for low-income workers. It is also important to investigate the role of vocational training and technical education in bridging the skills gap and preparing workers for employment in high-productivity sectors. Finally, understanding how informal workers transition into formal employment, whether through targeted upskilling, apprenticeship programs, or policy reforms, can provide critical insights for fostering inclusive economic transformation.

If African cities can reduce transport costs, improve skill formation, and address informality, they have the potential to evolve into productive, globally competitive urban economies. However, if labor market inefficiencies persist, urbanization may lead to rising underemployment and economic exclusion rather than industrialization and growth. It is imperative that African cities not only supply new economic opportunities for the millions of coming urbanites, but also that they efficiently match workers to jobs, support upskilling, enable switching, and offer legal protections.

Sample Research Questions

- **Do African cities have well-functioning labor markets?**
- **Are African cities benefiting from the advantages of diversity and matching?**
- **Do African cities offer the benefits of 'localization economies' in industrial clusters?**
- **Do African cities promote the transition of small firms into larger firms?**
- **Do firms and workers benefit from knowledge spillovers in African cities?**
- **Wages in African cities are higher than in rural areas, does this reflect higher productivity or higher costs of African cities? If higher productivity, how large are the productivity benefits of African cities?**

3. Conclusion

Light manufacturing (including agri-business) is labor-intensive and allows low-income countries to compete by leveraging their relatively low labor costs. Light manufacturing associated with urbanization has historically been a crucial stepping stone for many successful developing countries, including China, Vietnam, Mauritius, South Korea, and Japan (Dinh & Monga, 2013). However, cities in Africa have largely grown without accompanying industrialization, despite large labor markets. The key question is why?

Empirical studies have identified the following constraints to African manufacturing: small firm size (larger firms can afford the fixed costs associated with accessing international markets) (Bigsten et al., 1999); availability and cost of credit to the private sector (Ndikumaru, 2000); overvalued exchange rates (Elbadawi, 1999); low investment productivity (Devarajan et al., 2003); poor quality of electricity and transport infrastructure (Escribano et al., 2005); inability to utilize modern technology (Diao et al., 2021; Lall, 1995); and bad trade logistics (documentation, transit time, port handling, customs clearance) (Freund & Rocha, 2011; Longo & Sekkat, 2004). These challenges can be broadly grouped into three categories: (1) fiscal constraints, (2) low state capacity, and (3) inefficient labor markets and skills gaps.

The case of Tanzania offers a prime example of how all these dynamics intersect and undermine one another. In the 1990s, Tanzania attempted to spur productive structural transformation by lifting workers out of low-productivity agriculture (which employed 75% of the workforce) or the informal urban sector into high-productivity employment activities (Dinh & Monga, 2013). Despite macroeconomic reforms, such as exchange rate liberalization and external trade, the share of manufacturing in GDP shrank from 13% in the 1970s to 9.8% in 2010 (Dinh & Monga, 2013: p. 16). Only 5% of annual new entrants to the labor market found work in the formal and modern sectors (Dinh & Monga, 2013: p. 17).

The study identified seven key constraints to light manufacturing: the anti-export bias of tariff policy; weak trade logistics; inadequate power supply; inadequate transportation infrastructure; lack of entrepreneurial skills and business development; lack of access to finance and the absence of venture capital; and difficult access to industrial land (Dinh & Monga, 2013). This case demonstrates several of the challenges discussed in the sections above. Tanzania lacked the fiscal resources to invest in the infrastructure necessary to support industrialization. The country also suffered from low state capacity and ability to effectively implement reforms. Finally, skills gaps undermined the productivity and competitiveness of firms.

Ultimately, the challenge of urbanization without industrialization in Africa is a consequence of policy choices, structural constraints, and global economic dynamics. By addressing the fiscal, institutional, and labor market barriers identified in this framing paper, African cities may be able to transition from being sites of consumption and informality to engines of productive economic transformation. Research will play a key role in identifying and testing strategies that reconnect urbanization with industrialization, ensuring that the continent's cities become drivers of broad-based economic growth, job creation, and long-term prosperity.

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