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Infrastructure as a Catalyst for the Prosperity of African Cities

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Abstract

Improved infrastructure can deliver major benefits capable of achieving the Sustainable Development Goal to make cities and human settlements inclusive, safe, resilient and sustainable. Despite the importance of infrastructure in the functioning of African cities, there are few attempts at investigating its contribution from a city perspective. This paper investigates how the provision of infrastructure contributes to the prosperity of African cities, using Expert Opinion Survey from a diverse selection of cities. Trends in three components of infrastructure — water supply, road network and telecommunications are examined. Serious water shortage characterizes 79% of the African cities in the study. However, cities such as Gaborone and Algiers located in arid regions of Africa are better able to meet their water supply needs largely due to effective water governance and management. The dysfunctional nature of roads in African cities poses a major challenge to the prosperity of these cities. Compared to other components of infrastructure, telecommunications is ranked as the most developed form infrastructure in African cities. This is attributed to the spectacular growth in the mobile phone industry over the last one and half decades. The mobile phone industry acts a catalyst for growth in African cities. Further analysis of the Expert Opinion Survey shows that if developed and effectively managed, infrastructure can contribute to the prosperity of African cities by: driving economic growth; facilitating urban mobility; ensuring greater access to health and education; enhancing safety and security; guiding urban growth; enhancing environmental quality; improving slums conditions; and reducing intra-urban disparities.

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1. Introduction

Infrastructure is crucial for the development, functioning and prosperity of cities. It provides the underlying foundation for cities to thrive. Adequate infrastructure— in terms of improved water and sanitation, reliable and sufficient power supply, efficient transport networks and modern information and communications technology— contributes to the sustainability and economic growth of urban areas, promotes the competitiveness of local businesses, enhances the investment climate in of the city, improves the productivity of workers, and contributes to the overall attractiveness of the city. Physical infrastructure such as road network, power and communication facilities all enhance urban mobility, which is essential for economic growth and poverty reduction. Good infrastructure is vital in making firms more productive and competitive internationally and critical to the ability of countries and cities to reap the benefits of globalization as it is central to the behind the border agenda (Fay and Morrison, 2005).

The growth and hence prosperity of African cities will depend on the extent to which infrastructure is adequately provided, upgraded and maintained. Long-run growth requires an efficient system of urban centres producing industrial goods and high-value services, together with well-functioning transportation networks that can link national economies with regional and global markets (Foster and Briceno-Garmendia, 2010). The cities that have been most successful in attracting investment and increasing their competitiveness in a highly globalized world are those that have vastly improved the range and quality of their infrastructure.

Conversely, poor infrastructure is a major impediment to growth, poverty reduction and improved standards of living. Inadequate water and sanitation facilities will lead to deterioration of the urban environment. Deficient infrastructure can drive up the cost of doing business in urban areas and reduce firm productivity by as much as 40% (Escribano, *et. al.*, 2008). We are reminded that the negative effects of deficient infrastructure can be as large as those of crime, bureaucracy, corruption and financial market constraints (Foster and Briceno-Garmendia, 2010). African cities that fail to provide to adequate infrastructure will be adversely affected on many fronts; they are less likely to be prosperous and sustainable in terms of balancing economic and social development, and environmental protection (Choguill, 1996). Indeed, it will be difficult to see how African countries can achieve Goal 11 of the Sustainable Development Goals (SDGs) to: ‘‘Make cities and human settlements inclusive, safe, resilient and sustainable’’ (United Nations, 2015) if infrastructure is not adequately provided.

Rural-urban linkages in many African countries are hampered in part by deficient transport networks, poor electricity, and limited or non-existent coverage of information and communications technology. Since urban and rural development are interdependent, improved infrastructure can be instrumental in increasing rural productivity and facilitating access to markets; and in the process, promote economic integration of urban and rural areas as a basis for achieving inclusive growth and shared prosperity in both urban and rural areas. This has been witnessed in the Asia-Pacific region where improvements in transport and communication have brought urban and rural areas much closer together (Yap, 2002).

Despite the importance of urban infrastructure, there is a clear under-investment in most African cities as characterized by the backlog and state of deficient infrastructure. The global economic crisis and sluggish economic growth have created a precarious situation for cities worldwide where less funding is available for both new infrastructure and maintaining the current stock. In the US for instance, Community Block Grants from the Federal Government to cities were slashed by a quarter in 2008 (Copper, 2010). In the case of African countries— where there is often a mismatch between the infrastructure requirements of fast-growing cities and the ability of city authorities to provide the requisite financial resources— further cuts in infrastructure spending have exacerbated the problem of urban livability and have left cities in a state of dilapidation through the proliferation of slums and informal settlements, unsanitary environmental conditions, inadequate water and electricity supply and traffic congestion among others. In order to avoid such a situation, African cities will need to invest in infrastructure as a means of achieving inclusive growth and sustainable urbanization. It is important that infrastructure is provided to anticipate the rapid growth and expansion of cities, and also within the context of the role that infrastructure can play in driving the prosperity of cities.

Most attempts at investigating the impact or contribution of infrastructure in Africa have been at the cross-country level (Calderón, 2008; Escribano *et. al.* 2010; Calderón, and Servén, 2008; Estache and Woden, 2010); with very few attempts at the city level. Yet, the effects of improved infrastructure are readily felt in urban areas, especially those

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