

# Chapter 15

## The Role of Governance in Teledensity and Economic Growth: GMM Estimation

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### **ABSTRACT**

*The objective of this chapter is to highlight the role played by governance in GDP growth and changes in telephone density in Sub-Saharan African (SSA) countries. The contribution of these two factors to aggregate output and telephone density is examined using the dynamic system GMM estimation that accounts for the endogeneity of GDP and telephone density. GMM estimations reveal that government effectiveness is positively associated with GDP growth, while political stability has a negative effect on telecommunications penetration. In addition, the estimations indicate that changes in telephone density have a positive effect on GDP growth. From a policy standpoint, the empirical model results suggest that telecommunications infrastructure-driven growth can be augmented if telecommunications infrastructure investment can generate a multiplier effect through job creation, both directly related and indirectly related to telecommunication infrastructure.*

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## 1. INTRODUCTION

One of the greatest challenges facing many Sub-Saharan African countries (hereafter SSA countries) today is the need to provide basic infrastructure that can stimulate and accommodate economic growth and uplift its citizens from poverty. SSA countries have faced increased pressure from the United Nations, World Bank, and other international organizations to improve access and use of telecommunications infrastructure because they perceive the flow of information in rural and urban areas as crucial in the fight against poverty and achievement of development goals, including those ascribed in the Millennium Development agenda. Internet broadband, mobile phones, and main telephone lines are among the primary telecommunication technologies that have been identified as vehicles for growth. In response, many SSA countries have over the last decade been implementing important regulatory and market reforms (in form of privatization and liberalization) that are aimed at improving and expanding access to telecommunications.

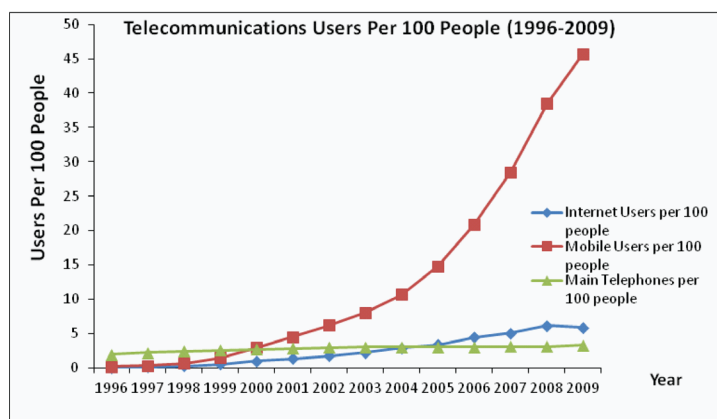
As a result of these reforms, the telecommunications industry in SSA has experienced phenomenal growth over the last ten years leading to increased foreign direct investment and adop-

tion of modern communication technologies. In particular, the mobile phone industry has been growing rapidly across the continent, such that today at least one out of four Africans have a mobile phone (See Figure 1). By contrast, the penetration rate for main telephone lines has been sluggish, and remains at only three main lines per 100 people. Recent data from the International Telecommunications Union (ITU, 2010) show that out of a total of 221 million total telephone subscribers in 2006, 198 million were mobile phone subscribers, which shows that SSA has the highest ratio of mobile phone to total telephone subscribers.

Investment in telecommunications infrastructure is not the panacea to all social and economic development challenges faced by SSA countries, but under the right conditions, telecommunications can play an integral role in promoting economic growth and development. There is ample evidence within the empirical literature that telecommunications infrastructure investments have a pervasive effect on the economy (Hardy, 1980; Madden and Savage, 1998; Norton, 1992; Roller and Waverman, 2001). Telecommunications investment provides an easy and effective communication platform for individuals and firms (both large and small) to quickly and efficiently exchange infor-

*Figure 1. Telecommunications users per 100 people (1996-2009)*

*Source: Authors calculation from World Bank Data (2010).*



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