Abstract

The role of telecommunications infrastructure in economic growth is well documented in the development literature. The link between the two is multiple and complex, because not only does it affect production and consumption directly, but it also creates many direct and indirect positive externalities, and involves large flows of expenditure thereby creating additional employment opportunities in the economy. Over this background, the study makes an attempt to investigate the regional disparities in telecommunications infrastructure and economic growth across G-20 countries (Australia, Canada, France, Germany, Italy, Japan, the Korean Republic, the United Kingdom, the United States, Argentina, Brazil, China, India, Indonesia, Mexico, the Russian Federation, Saudi Arabia, South Africa, and Turkey and the European Union) over the period 1961-2012. The study also examines the causal nexus between telecommunications infrastructure and economic growth in the G-20 countries. The study focuses on the index of telecommunications infrastructure and their individual components. Analyses have been done for individual countries as well as for the groups (i.e. G-20 Developing Group, G-20 Developed Group, and G-20 Total). The countries have been selected on the basis of purchasing power parity classification of the World Bank. The study adopts the principal component analysis for composite index formation, while the coefficient of variation is used for analyzing regional disparities. The Granger causality test is applied for studying the causal nexus between telecommunications infrastructure and economic growth. The empirical analysis finds that there exist inter-regional disparities in the availability of telecommunications infrastructure and economic growth in the G-20 countries. The Granger causality test shows that telecommunications infrastructure has substantial impact on economic growth. It also shows that both telecommunications investment and macroeconomic determinants have the effect on telecommunications infrastructure-economic growth nexus. It is, thus, necessary to have sufficient availability of telecommunications infrastructure and the telecommunications investment and their integration in the G-20 countries for achieving higher economic growth. The deficiency of same brings in different policy implications in the G-20 countries.

Keywords: Telecommunications infrastructure, Economic growth, Principal component analysis, Granger causality test, G-20