

Chapter 16

Internet Use and Economic Growth: Evidences From Lower Middle Income and Low Income Countries

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ABSTRACT

A good infrastructure is actually the base behind the growth of an economy. In the present age of globalization accessibility of information is a very important component of infrastructure. Studies carried out on the effect of internet on economic growth are mostly either on high income countries only or on a large number of countries belonging to different income groups. Keeping in mind the differential impact of internet on economic growth of countries with different initial conditions, we have attempted in this chapter a study on the impact of internet use on economic growth in 39 lower middle income and low income countries during 2002-2011. Applying panel data regression techniques we have found a positive significant impact of internet use on economic growth of low income countries. The emergence of crisis adversely affected this growth process, overruling the positive impact of internet use.

INTRODUCTION

Infrastructure is an essential element in the process of economic growth of a country. Infrastructure can be defined as all basic inputs and requirements for the proper functioning of the economy. In a wider sense infrastructure includes all public services from law and order through education and public health to transportation, communication, power and water supply as well as such agricultural overhead capital as irrigation and drainage systems (Hirschman, 1958: 83).

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In the present age of globalization one of the very important components of infrastructure is information and communication technology. An easy and widespread access of internet facilitates communication within and outside the country. Internet usage allows the generation and distribution of knowledge and ideas in markets increasingly relying on information as an input, facilitates the development and adoption of innovation processes, fosters competition for and development of new products, processes, and business models, thereby further facilitating macroeconomic growth (e.g., Lucas, 1988; Romer 1986, 1990; Aghion & Howitt, 1998; Barro, 1998, Ariyo & Jerome, 2004). Firms are able to communicate better, faster and at lower costs, reducing internal as well as external transaction costs and thus lowering production costs and enhancing productivity and generating economic growth. Internet also widens markets such as the labour market (Ziesemer 2002; Stevenson, 2008), market for physical as well as financial capital and the product market (Levin, 2011) by reducing search costs and facilitating access to information.

How a country benefits from the development of internet infrastructure in terms of increase in economic growth depends on a number of internal factors like the existing level of economic growth and the existing level of communication infrastructure of the country, degree of openness, policies towards opening up of the country etc. So, depending on the status of these factors the impact of internet infrastructure on economic growth may be different for countries with different levels of prosperity. Although there are a number of studies dealing with the role of infrastructure on economic growth, most of these are either on developed countries only or on a mixed set of countries. Studies dealing with the impact of internet infrastructure on economic growth of developing countries only are of a limited number.

In this chapter we attempt to analyze the impact of internet on economic growth for a set of 39 lower middle and low income countries for the period 2002-2011 using linear panel dynamic and static estimation procedures. The chapter is organized as follows. A brief review of literature is presented in section 2. Section 3 deals with the methodology and data. We have discussed our results in section 4. Section 5 concludes.

LITERATURE REVIEW

The literature on ICT infrastructure and growth are steadily growing. A study by the World Bank on infrastructure (World Development Report, 1994) focused the critical role of infrastructure in the development of an economy. According to some researchers ICT infrastructure lowers both fixed and variable costs of participating in markets (Norton, 1992). So, ICT infrastructure including telecommunication and their derived services provide huge benefits to an economy.

The first analysis of the impact of fixed telephone density on economic growth was done in the mid-1970s by the researchers of the World Bank. Gradually with the improvement in the quality of data and sophistication of econometric tools it requires further justification of the impact of ICT.

Atif, Endres and Macdonald (2012) carried out a study on the impact of broadband infrastructure on economic growth in 31 OECD countries over the period from 1998 to 2010. Applying panel static fixed effect model and basic linear dynamic model this paper finds the positive impact of broadband penetration on economic growth. Taking a sample of European Union countries like EU 12, EU 15 and EU 27, Sahin, Can and Demirbas (2014) tried to find out the effect of infrastructure on economic growth. This paper has considered different measures of infrastructure like telephone lines, air transport, rail lines, roads and energy production. Findings of the paper support positive impact of telecommunication investment on economic growth for all the sample groups. The other measures also have positive impact on

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