Chapter 6
Financial Analysis of the ICT Industry:
A Regulatory Perspective

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ABSTRACT

Analysis of financial issues for the information and communication technology (ICT) sector is an essential element to study the progress of the sector, and especially the analysis should relate to the regulatory perspective of the country, if it would judge the overall e-government scenario of that country. Along this context, this chapter attempts to quantify the technical efficiency of the ICT sector in 45 countries during 2002-03, and in 52 countries during 2006-07 by using DEA method; Malmquist index of productivity growth in the ICT sector in 45 countries between these two periods; the proportions of the productivity growth attributable to efficiency change and technical change; and the effect on total factor productivity (TFP) of catching-up, the export ratio, broadband policy, and technical readiness using a regression analysis. As a result, the chapter finds that the ICT sectors in South Korea and Argentina were relatively efficient in 2002-03, while in 2006-07, the ICT sectors in Bahrain, Brazil, and Sweden showed relative efficiency. Furthermore, the productivity growth in the ICT sector in developing and newly industrialized countries is slightly higher than the growth in developed and transition countries, suggesting the catching-up of developing and newly industrialized countries. This catching-up effect is also confirmed in the regression analysis. Finally, this chapter concludes that, technological readiness, which is a measure of the agility with which an economy adopts existing technologies, has a positive impact on TFP growth.

DOI: 10.4018/978-1-60566-671-6.ch006

INTRODUCTION

Trade in services has been growing faster than merchandise trade and growth rate in GDP across countries. The major contributor of this differential growth is the substantial contribution of the Information and Communication technologies (ICT) sector in terms of its revenues, exports and productivity. In India trade in IT (Information Technology) services has grown at rates four times the rate of growth of GDP since 1990s. While the major markets of India are the US and other OECD Countries India is keen on integrating with the most fast growing economies of the World like the East Asian Economies.Exports of IT Sector from India likely to touch 60 billion US $ by 2010. The IT sector revenues are growing at 30% a year with domestic component catching with the external sector. Most of the success of the IT sector(like IT Enabling Sector) is intertwined with the success of the telecommunication industry, internet and web based innovations, among other communication and media sectors(ICT Sector) There are however common set of problems faced by ICT sectors particularly in the South Asian countries. These problems include limited access to ICT technologies and low tele-density especially in rural areas, inadequate quality and skills of graduates, rising salaries not commensurate with increase in productivity, weak infrastructure which result in frequent power shortages, low level of PC use and internet penetration, low level of domestic technology development in microprocessors, limited bandwidth, inadequate availability of venture capital for the small scale units (taxed in India), high attrition rates in BPO companies, e-security, improper content design of e- governance programs, Use of ICT Technologies by anti-social elements, and limited domestic market for knowledge based technology and products. The South Asian governments have an important role to address them in times to come.

In this chapter we focus on the issues of Regulation of the ICT sector and pin point areas of cooperation on raising ICT usage and efficiency of ICT sector (among many issues pertaining to the ICT Sector).Our productivity and efficiency indices from DEA and Malmquist exercise will measure how best countries are able to transform their ICT Readiness and ICT Environment into high ICT Usage. Out of population of more than 1000 million we have in India 40 million internet connections, 187 million mobile connections, 60 million fixed telephone lines, 40 million PCs, 20 million broadband connections by 2010(Data from Telecommunication Regulatory Body website). 10 million mobiles subscribers are added every month in India though.

Information technology (IT) essentially refers to computer software (operating systems, programming tools, utilities, applications, and internal software development); computer services (information technology consulting, computer and network systems integration, Web hosting, data processing services, and other services); and hardware (computers, storage devices, printers, and other peripherals). Communication Technology is the term used to describe telecommunications equipment, through which information can be sought and accessed, for example, phones, faxes, modems and computers. The IT, telecommunication and other Communication technologies together are called Information and Communication Technologies (ICTs).

The three dimensions of ICTs, therefore, are electronic infrastructure (hardware part), electronic content (information produced, processed, stored, distributed or retrieved using the technology), and electronic access of technologies (ownership, internet access and e-literacy). From a dynamic perspective the three dimensions can reinforce one another. This is particularly relevant in network technologies such as Internet or telephone. These ICTs, however, change processes or behavior and play an important role in social and economic transformation. There are five roles that ICT can play as driver of change: efficiency enhancing, transparency enhancing,