

Chapter XLVII

ICT Statistics for Broadband Promoting Regulatory Policy

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ABSTRACT

This chapter introduces the statistical analysis of a number of information and communication technologies (ICT) market indicators as a means to develop sound regulatory policies aiming to promote broadband take up. The chapter provides analysis of the concept of broadband, statistical analysis of ICT indicators, time series and cross-country series against broadband penetration, determination of conterminous factors with statistically significant influence over broadband penetration in European states, and derivation of calls for regulatory policy particular actions out of statistically significant relations. The overall aim of the chapter is to offer a way how ICT statistical data could be employed to suggest preconditions for possible practical solutions in the domain of broadband promotion and in this way to bring the rhetoric of statistics down to an operational level.

INTRODUCTION

The 21st century economy, or information economy, is based on information society on one hand and information infrastructure on the other hand (Toffler, citing Rytel, 2001). As Professor W. Melody argues, this economy is founded on information/communication networks and dependent on effective reforms in the telecom sector (Melody, 2003). With this in mind, we can state that broadband functions as a conductor or link delivering information and communication technologies (ICT) gains to every individual.

Much attention is delivered to the issue of statistics on the development of the ICT sector and adoption of ICTs in the highest political forums—the World Summit on the Information Society could be just one out of many examples. However, statistical data in the ICT domain is quite often used for comparison purposes solely, which does not allow employing its potential to the full extent. We would say that the true value of statistical data is delivered when statistics, properly applied, suggest preconditions for possible solutions. Therefore keeping this principle in mind, delivering due regard to importance of broadband

development for the information economy, and understanding the importance of regulatory intervention on the progress of the aforementioned processes, we will employ statistical data on ICT development and adoption to deduce eligible and possible regulatory policy guidelines fostering broadband development.

The overall aim of the research is to propose a way that ICT statistical data could be employed to suggest preconditions for possible practical solutions in the domain of broadband promoting regulatory policy, in this way bringing the rhetoric of statistics down to operational level. The chapter is organized as follows: first, analysis of broadband concept is performed; second, statistical analysis of ICT indicators' time series and cross-country series is executed; third, conterminous factors having statistically significant influence over broadband penetration in European states are determined; fourth, calls for regulatory policy actions out of this influence are identified; finally, guidelines for broadband promoting regulatory policy are provided.

Our research will be focused mainly on the EU states. This geographical and political area was chosen with regard to several arguments: first, there is a common political and regulatory framework in this area; second, development of the common market and observed processes of evolving pan-European ICT networks assimilate business modes or supply side of the sector; third, the demand side of the sector or usage patterns of consumers in the area are or are about to be harmonized as well. All this constitutes that the choice of EU area underlies avoidance of possible significant discrepancies due to specificities of national ICT policies and practices (this would be incurred if states from very different regions were chosen). We used the following methods: literature review, analysis and synthesis of statistical data, graphical, logical, and empirical analysis.

BACKGROUND

The broadband adoption and regulatory policy promoting the broadband take up is studied in a

number of researches. The role of the government in the development of alternative broadband networks is studied in the work by Gillett, Lehr, and Osario (2004), who provides a taxonomy distinguishing four categories of government action based on the nature of the government's role: (1) governments as broadband user, influencing the demand of broadband, (2) government as rule maker, influencing the regulatory framework that affects the commercial deployment of the infrastructure and services, (3) government as financier, influencing financial incentives to invest and deploy networks and acquire services, and (4) government as infrastructure developer, influencing the supply side of broadband market place. Based on the findings of the research on numerous U.S. cases, the authors conclude that public authorities play an important role for the wider adoption of broadband and that involvement in the development of broadband infrastructure is continuing to grow (Gillett et al., 2004).

Chlamtac et al. discusses possible models as to how the public sector can be involved in broadband projects: (1) raising awareness of the benefits of broadband, (2) carrying out tasks related to assessment of potential demand, (3) usage of public funds effectively in broadband projects, and (4) determination of level of involvement and modeling broadband deployment (Chlamtac et al., 2005, as cited in Tadayoni & Sigurdsson, 2006). Quite similarly, roles of councils/local governments in promoting broadband are distinguished by van Winden and Woets (2004), who investigate actions of local governments in different cities and discuss the particular benefits and risks of public sector involvement in broadband infrastructure deployment.

Tadayoni and Sigurdsson (2006) further applied and elaborated the taxonomy of Gillett et al. (2004) in their investigation of the technological, economic, and political/regulatory drivers and barriers of alternative broadband infrastructures, including the role of government in fostering their existence. Following the findings of presented case studies, the authors argue that lower market entry barriers and public sector involvement are the main two factors acting as drivers for alternative broad-

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