AN EMPIRICAL ANALYSIS OF FIXED AND MOBILE BROADBAND DIFFUSION

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EXECUTIVE SUMMARY

Broadband communications lie at the heart of the developing information society. Widespread broadband diffusion encourages innovation, contributes to productivity and growth, and attracts foreign investment. As of December 2005, more than 166 countries had launched fixed broadband services and 68 economies had launched mobile broadband services (ITU, 2006).

In spite of the overall rapid growth in broadband diffusion, many countries are still in the early stages of fixed and mobile broadband deployment and are assessing policy strategies to promote faster adoption. Many countries have considered local loop unbundling[1] and facilities based competition as important policy initiatives to promote rapid fixed broadband diffusion. Experts differ on whether single or multiple standards promote faster diffusion of mobile communications.

There is a growing body of literature that addresses the factors contributing to fixed broadband diffusion at the national level. However, the results of empirical studies are not always consistent and insufficient data has prevented previous studies from capturing the nonlinear nature of broadband diffusion. In addition, there is no empirical study to our knowledge about influential factors of mobile broadband diffusion that investigates whether fixed broadband is a complement or a substitute for mobile broadband.

Using 1999-2005 OECD (Organization for Economic Cooperation and Development) data, the longest available panel to date, we estimate a logistic regression to capture the nonlinear nature and examine the influential factors of fixed broadband diffusion. We find that local loop unbundling, PC penetration, population density, and Internet content promote broadband diffusion. Platform competition is a significant driver of cable modem broadband, but not DSL diffusion.

Analyzing data from 2005 for a cross-section of 53 countries we also find that multiple standards policy, PC penetration, as well as first and second generation mobile penetration influence the diffusion of mobile broadband. Our results indicate that fixed broadband is neither a complement nor a substitute for mobile broadband yet.

[1] Local loop unbundling refers to the process of requiring incumbent operators to open, wholly or in part, the last mile of their telecommunications networks to competitors (ITU, 2003b; OECD, 2003).