

Policy Brief

Broadband Diffusion and Public Policy: A Panel Data Analysis

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1. Summary of Results

The paper shows that the deregulation of the “Revision and enforcement of Telecommunications Business Law (April 2001),” whose coefficient is 1.5998 with a 1% significance level, mainly promoted Japanese ADSL. As for factors related to competition, “Entrance of Yahoo!BB into the market” had an important effect with coefficient of 1.2913 at a 1% significance level. Regarding technological factors, “12Mbps services started” was the most effective at diffusing ADSL (0.6720 with a 1% significant level), as high-speed services are not necessarily demanded by users. From these discussions, we can now interpret Figure below, where we see there are three big jumps in its growth: before June 2001, from September 2001 to January 2002, and from October 2002 to January 2003. From the results of our analysis, three factors contributed to these jumps: “Revision and enforcement of Telecommunications Business Law” in April 2001, “Entrance of Yahoo!BB into the market” in September 2001, and “12Mbps services started” in October/November 2002. These factors coincide with the three big jumps in the number of ADSL subscribers. It follows thus that the first sharp increase was due to deregulation, the second jump was caused by an increase in market competition inspired by previous deregulations, and the third one by technological development.

(Unit: JPY/1Mbps)

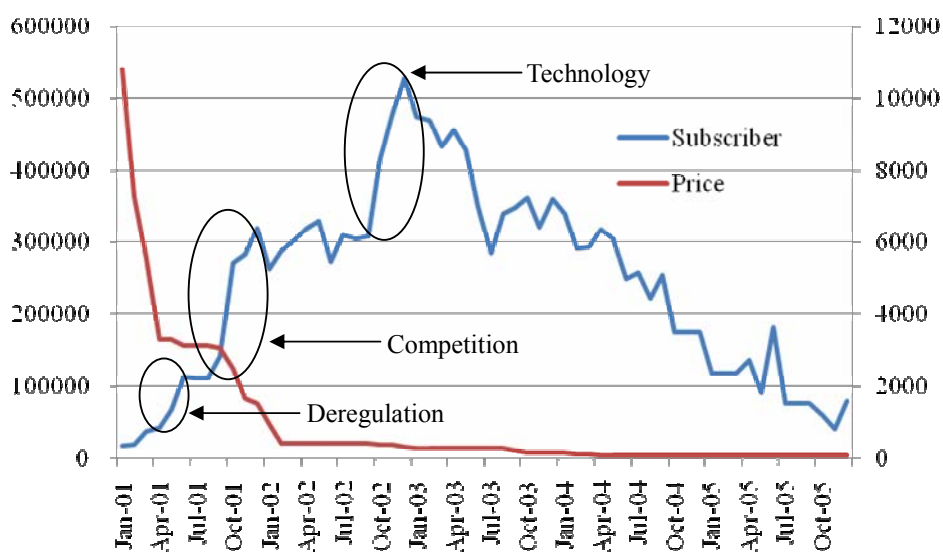


Figure: Factors Promoting Japanese ADSL

Another result is related to the elasticity of prices, which is not so elastic as a whole, but on those of the carriers, which are different from one to another. NTT (without ISP) has the smallest

elasticity (-0.5635) with a 1% significance level, while Yahoo!BB (with ISP) the largest (-0.7728) with a 1% significance level. This difference might come from their pricing, or perhaps from their marketing strategies, or the managerial organization, such as whether they provide ISP services or not.

2. Policy Recommendations

2.1. Deregulation

The implementation of unbundling and rules of connection fee between the carriers with essential facilities and without them contributed the diffusion of Japanese ADSL. This implementation mainly caused new participation of other competitors, such as Yahoo!BB's which was the most important factor for diffusion. Basically, these policies are related to the improvement of rules for competition.

On the other hand, unbundling policy was mentioned to be invalid for such country as US, where CATV is also diffused as well as DSL according to the previous researches. That is, the valid policies are related to the characteristics of the countries, and thus our suggestion might be limited, because our research studied only Japanese cases. But these results are helpful and further researches on international comparison enables further suggestions.

2.2. Competition

According to this paper and previous researches, the most important factor promoting Japanese ADSL was emphasized by the market entrance of Yahoo!BB, which started its service with much lower price than that of the level at that time. This implication is not only explained by the factors of competitive policies, but also revolutionary service of Yahoo!BB has to be focused. Therefore, it is important to consider how to invite such powerful carriers into the market, as well as well as the deregulations.

2.3. Technology

On technology, middle-speed connection services, such as 12Mbps and 24Mbps, contributed to the ADSL diffusion in Japan. This implication is very simple, because users are said to be satisfied with such connection speed. This result showed that high-speed connection services of ADSL might not be demanded, and users had better migrate from ADSL to FTTH. Rather than that, the problem of transmission loss has to be discussed. Users are concerned with the quality of connection more than its speed. Thus technological structure as well as the policy that guarantee the quality of connection is necessary. Now "Next Generation Network," that is a related technology of the quality of connection, is studied by carriers and MIC.