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NETWORK EXTERNALITIES IN TELECOMMUNICATION INDUSTRY: AN ANALYSIS OF SERBIAN MARKET

Abstract:

Telecommunication industry has probably the highest level of direct network effects. Direct externalities are related to the number of consumers using the same service, and indirect externalities stem from the availability of supporting services. Apart from network externalities, in telecommunication call externalities also exist when user of one network benefits from receiving free calls from users of other networks.

Serbian mobile phone telecommunication market was first a duopoly market with majority state-owned Telecom Serbia and privately owned Telenor. After that a third license was sold to VIP mobile. The two incumbents were well established in the market and have long time ago reached the critical mass of users. At the beginning, users of VIP mobile benefited mainly from call externalities and incumbents reacted by price discriminating between on-net and off-net calls aiming to deter entry of new rival in the market. The entrant succeeded in obtaining new users mainly by offering lower prices than incumbents. The subsequent decision of regulatory agency to permit changing operator without changing user's number levelled the playing field, reduced user's switching costs and the extent of user's lock-in.

The purpose of the paper is to analyse the current level of network and call externalities in Serbia using data from the Serbian mobile telephone market for the period 2003–2013 (number of subscribers, providers' market shares and mobile call prices per minute). We show that the number of subscribers that changed their operator increased with the growing size of the new comer's network installed base. Also, we have found that implicit price discrimination between on-net and off-net calls could be identified both in pre-paid and post-paid packages. In the former case, all operators offer cheap additional packages with large number of minutes for on-net calls. In the latter case, post-paid users can use additional large number of free minutes for on-net calls after they spent all the minutes available for calls to all networks from their existing subscription packages.

Keywords:

Network externalities, Call externalities, Price discrimination

JEL Classification: L14, L96