Прикладная эконометрика, 2024, т. 73, с. 102–118.
Applied Econometrics, 2024, v. 73, pp. 102–118.
DOI: 10.22394/1993-7601-2024-73-102-118

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Estimation of the indirect network effect: On the example of television advertising

The platform is an intermediary between groups of users whose direct interaction without the platform would be complicated or unachievable. A distinctive feature of platform markets is the presence of indirect network effects (or cross-platform effects), which consist of the fact that the demand of one group of users for platform services affects the demand of another group of users. In the presence of multidirectional network effects, an important platform's business decision is to determine the optimal volume of services that create negative network effects, since after a certain amount of effects the company starts to lose users on the other side of the platform. For the business model to be successful and profitable, the platform should take this relationship into account. This study makes a quantitative assessment of cross-platform network effects using data from the Russian television market. The author of the study obtained statistically significant positive audience effect and negative advertising effect.

Keywords: non-transactional platform; audience platform; indirect network effects; television market; advertising; Russia.

JEL classification: L10; L40; L51; L82.

1. Introduction

A platform is an intermediary between different groups of users whose direct interaction without the participation of the platform would be difficult or not possible at all. In this case, the platform's advantage, which generates its profit, is to reduce the transaction costs of such interactions. A distinctive feature of platform markets, reflecting their value, is the presence of indirect network effects. The essence of such effects is that the demand of one group of users for the services or products of the platform affects the demand of another group of users. Positive network effects act as economies of scale in consumption and create incentives to increase the size of the company. In the presence of multidirectional network effects, an important business decision of the platform is to determine the optimal volume of services that create negative network effects, since after a certain amount of them, the company starts to lose users on the other side of the platform. According to Gabszewicz et al. (2014), the first problem a TV channel faces is determining the optimal ratio between content and advertising (taking into account the legislative quantitative restrictions on the amount of advertising). The second problem is related to pricing: the "non-neutrality" of prices resulting from indirect network effects (the audience receives content for free, advertisers pay for advertising). In order for the business model to be successful and profitable, the platform should take into account the relationships between its users. Rochet and Tirole (2003)

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