

**Economic Analysis of a Multi-Sided Platform Business for Competition Law:
Market Characteristics, Pricing Schemes, and Their Policy Implications**

Chiou, Jing-Yuan*

Chen, Chia-Wen

Lee, Su-Hua

Tsai, Yun-Ting

Abstract

The business model of multi-sided platforms has gained significant attention in recent years, both in the competition policy sphere and in academic research. This article traces and summarizes key economic insights related to the main characteristics of multi-sided platforms, their pricing features (for both the monopoly platform and price competition between homogeneous platforms), and their implications for competition policy.

Indirect network effects are a crucial feature of multi-sided platforms. With simple numerical examples, indirect network effects are shown to lead to the following insights from the literature: (i) user concentration may bring efficiency gains, (ii) the price structure, i.e., the (relative) price imposed on each group of users becomes a crucial strategic dimension for multi-sided platforms, and (iii) price competition between homogeneous platforms may lead to market tipping and the emergence of dominant firm equilibrium, where all (single-homing) users interact on one platform, called the dominant platform, but the dominant platform obtains no profit in equilibrium.

Date submitted: January 19, 2023

Date accepted: March 21, 2023

* Chiou, Jing-Yuan, Associate Professor, Department of Economics, National Taipei University; Chen, Chia-Wen, Associate Researcher Fellow, Research Center for Humanities and Social Sciences, Academia Sinica; Lee, Su-Hua, Professor, Department of Law, National Taiwan University; Tsai, Yun-Ting, PhD student, Department of Law, National Taiwan University. This paper is based on the commissioned report “Economic Analysis of a Multi-Sided Platform Business for Competition Law.” We are grateful to two anonymous referees for valuable suggestions, and Chan, Ren-Ting, Huang, Wei-Ting, Huang, Wan-Ting, Wu, Hsin-Yen, Chen, Yen-Yu, Liao, Mingyou, and Chen, Yu-Hao for their help at different stages of the project. All errors are our own; comments are welcome and should be sent to: jychioua@gmail.com.

Based on these insights, this article discusses several implications of multi-sided platforms for competition analysis. Among others, (i) merger analysis may need to take into account efficiency gains brought about by user concentration; (ii) a monopoly platform, facing no entry threat and hence having no incentive to engage in predatory pricing, may nevertheless design a highly-skewed price structure and charge a price that is below the marginal cost to one group of users; and (iii) the dominant platform may obtain high, even 100% market shares and have a high price-cost margin on one side of the market, yet enjoy no or only a low profit overall and thus little market power. Ignoring these insights in a case concerning multi-sided platforms may lead to a misjudgment of the competitive effect. Finally, the article applies the properties of a multi-sided platform's pricing strategy to market power analysis, in particular the conceptual challenges to traditional market power indices such as revenue-based market shares and the Lerner index, and offers some thoughts on possible policy responses.

Keywords: Indirect Network Effects, Market Power Evaluation, Market Tipping, Multi-sided Platforms, Price Structure.