[Joint research]

An integrated research on network industries

Joint investigators

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Foreword

This joint study project was conducted over a two-year period from Fiscal 2021 to Fiscal 2012. The research aims to extend previous research not only from a static perspective but also from a dynamic perspective by examining how firms' management strategies (strategic decisions other than market competition) in the network industry affect the equilibrium of oligopolistic markets. In the static economic environment, we explore the management strategies of firms in network industries. The business strategy of a firm refers to "building a positioning to achieve sustainable competitive advantage," and depending on the choice of strategy, the long-term rise or fall of the firm may be determined. In this study, we examine how firms facing oligopolistic competitive advantage. In addition, we intend to focus our analysis on the financial industry, which is a typical network industry. In particular, we will focus on the portfolio allocation of financial intermediaries in the presence of idiosyncratic risk under imperfect financial markets. The aim is to present a new view on the problem of risk allocation in equilibrium among financial intermediaries, considering the network nature of payment and settlement systems and other factors. The economic dynamic methodology can be categorized in two ways: as a discrete or continuous stream of time, and this research project will attempt to analyze the above static analysis from both of these perspectives.

Nakamura's study reconsiders how the strength of network externalities and the gap in product quality influence equilibrium market outcomes in a luxury market with vertical product differentiation under quantity competition.

Then, Toyofuku's paper reviews the financial network and systemic risk literature. The global financial crisis of the late 2000s provoked interest in the financial networks formed through indirect connections among banks.

Moreover, Hayashi's study provides new tools for establishing criteria for the unique existence or the nonexistence of periodic motions in the models described by Liénard systems of three types.

Finally, Miyazaki's research is related to the function spaces based on the Lebesgue space are indispensable in mathematical science, especially the theory of partial differential equations. In his research, he collects the fundamental properties and theorems in the Morrey space, and aims to state these theorems precisely and give their proofs in a unified viewpoint.

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