

## 【Grant-in-Aid for Scientific Research (S)】

### Humanities and Social Sciences (Social Sciences)



## Title of Project : Risk Management of Comprehensive Monetary/Fiscal Policy: Theory, Empirics, and Simulations

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Research Area : Economics

Keyword : Economic Policy

### 【Purpose and Background of the Research】

For more than a decade, government debt in Japan has been expanding, and the possibility of a government debt crisis has been an issue of serious debate. Currently, the Bank of Japan is conducting extensive quantitative and qualitative easing, but history suggests that excessively expansionary monetary policy often gives rise to asset bubbles, and the collapse of a bubble often triggers a financial crisis, which can eventually lead to a government debt crisis.

The purpose of this project is to develop systematic methods to do the following:

1. Estimate the risks of bubble collapses, financial crises, and government debt crises in advance
2. Derive a comprehensive and optimal monetary/fiscal policy mix that properly reacts to these risks
3. Control the damage caused by a financial or government debt crisis based on multi-layer financial network models

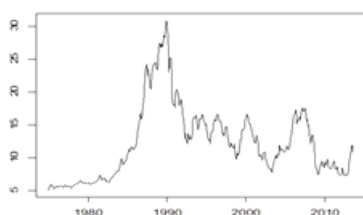


Figure 1 TOPIX 1975-2013

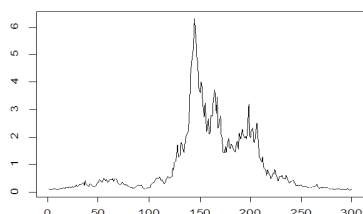


Figure 2 Simulated bubble process based on Kamihigashi (2010)

### 【Research Methods】

To develop methods to accomplish the three objectives listed above, partly based on the principle investigator's recent work (see Figure 2), we conduct theoretical, empirical, and simulation

analyses. To employ computationally costly simulation-based methods, we plan to utilize supercomputers. The overall scheme for the entire project team is as in Figure 3.

### 【Expected Research Achievements and Scientific Significance】

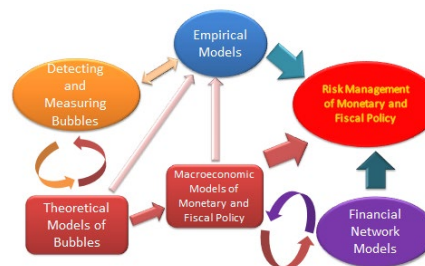


Figure 3 Research Scheme

The expected research achievements are systematic methods to accomplish the three objectives listed above at the level of basic research. Such methods are significant in view of the economic situations faced by Japan and the world.

### 【Publications Relevant to the Project】

- T. Kamihigashi, "Recurrent Bubbles," Japanese Economic Review 62, 27-62, 2011.
- T. Kamihigashi and J. Stachurski, "Stochastic Stability in Monotone Economies," Theoretical Economics 9, 383-407, 2014.
- T. Kamihigashi and J. Stachurski, "Perfect Simulation for Models of Industry Dynamics," Journal of Mathematical Economics 56, 9-14, 2015.

【Term of Project】 FY2015-2019

【Budget Allocation】 141,400 Thousand Yen

### 【Homepage Address and Other Contact Information】

<http://www.rieb.kobe-u.ac.jp/project/risk/index.html>