

【Grant-in-Aid for Specially Promoted Research】
Humanities and Social Sciences



Title of Project : Complex Dynamic Analysis on Economic Crisis and Social Infrastructure

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Research Area : Social Science, Economics

Keyword : Economic Crisis, Complex Dynamic Analysis, Market Quality, Judgment, Law and Institutions

【Purpose and Background of the Research】

Since the 2008 world financial crisis, the world economy is still struggling to recover from that crisis. At the same time, the Japanese economy suffers not only from the long stagnation since the early 1990s but also from the 2011 earthquake/ tsunami coupled with the huge nuclear accident. In these circumstances, it is highly important to investigate the process through which an economic crisis is created and how it can be overcome.

In our project, we introduce a new approach to crisis analysis by treating the creation of and recovery from an economic crisis as a complex dynamical phenomenon and relating it to market quality and the quality of social and private decision processes.

【Research Methods】

From this viewpoint, we conduct the research activities as follows:

1. To build theoretical models to explain the complex dynamical channel that relates the emergence of and recovery from a crisis to market quality and the quality of social and private decision processes.
2. To build data sets regarding financial activities, legal systems supporting markets, and education as to test various hypotheses derived from theoretical studies.
3. To establish the new policy paradigm to deal with crises by raising market quality and the quality of decision processes.

【Expected Research Achievements and Scientific Significance】

This research project provides the important opportunity for leading scholars on complex nonlinear dynamics, law and economics, game theory, and market quality to collaborate for the first time. Through this collaboration, we expect to achieve a number of scientific advances on the study of economic crisis, including:

1. the determinants of economic crises in complex economic dynamical systems.
2. the role of legal structures in the process in which market quality rises.
3. the design of institutions as adaptive complex systems that is crisis resilient.

Through these studies, we intend to establish a new market-quality-oriented policy paradigm that lets us overcome the current international and domestic economic crises.

【Publications Relevant to the Project】

- Yano, M., "The foundation of market quality economics," *The Japanese Economic Review* 60(1), 1-32, 2009.
- Yano, M., "The 2008 world financial crisis and market quality theory," *Asian Economic Papers*, 9(3), 172-192, 2010.
- Mattana, P., K. Nishimura, and T. Shigoka, "A Homoclinic bifurcation and global indeterminacy of equilibrium in a two-sector endogenous growth model," *International Journal of Economic Theory* 5, 25-47, 2009.
- Ota, S., and D. H. Foote, *Civil Justice System and Dispute Resolution in Contemporary Japan*, University of Tokyo Press, 2010 [in Japanese].
- Grant, S., A. Kajii, B. Polak, and Z. Safra, "Generalized Utilitarianism and Harsanyi's Impartial Observer Theorem," *Econometrica*, 78(6), 1939-1971, 2010
- Ono, Y., and A. Shibata, "Time Patience and Specialization Patterns in the Presence of Asset Trade," *Journal of Money, Credit and Banking* 42, 93-112, 2010.

【Term of Project】 FY2011-2015

【Budget Allocation】 441,500 Thousand Yen

【Homepage Address and Other Contact Information】

<http://www.market-quality.net/spr-jp/>