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研究課題名(和文) 経済成長・人的資本・環境変化・資源利用の相互作用に関する研究

研究課題名(英文) Dynamic Interaction Between Economic Growth, Human Capital, Environment, and Resource

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研究成果の概要(和文)：本研究では、各国政策、経済構造、人的・動的資本、健康、嗜好、環境や資源との相互作用を説明できる経済理論を構築することにより、従来の経済理論では説明困難であった経済の複雑性を実証的に説明した。例えば、各国の教育制度、健康・環境政策が、現在の経済成長、人口変動、気象変動、生活環境の改善や富の蓄積と分配にどのような影響を与えるかがこの理論をもって検証可能となる。今後は、政府債務、ポートフォリオ選択、不動産価格および金価格、資源などの項目に関してもこの理論が応用可能か、継続して検証していく。なお、本研究の成果は51本に及び国際査読付ジャーナルを通じ発表した。

研究成果の概要(英文)：The project developed an integrated economic theory, which describes dynamic interactions of economic structure, human and physical capital, health, preference, environment and resources with different policies over space in a consistent framework. The theory explains some empirically found economic complexity, which traditional economic theories failed to explain. For instance, one of the issues the theory explains is how different education, health and environmental policies interact with economic growth, population change, environmental change, health improvement, and wealth accumulation and distribution in modern economies. The theory studies other important issues related to, for instance, government debts, portfolio choice, land and gold values, and resources. The project published 51 papers in international peer-review journals.

研究分野：theoretical economics

キーワード：general equilibrium human capital knowledge resource population change preference wealth income distribution

1 . 研究開始当初の背景

The most salient feature of contemporary economics is increasingly complicated interdependence among economic growth, economic structural changes, international trade, human capital accumulation with education, preference shifts, environmental change, and resource dynamics over time and space. These dynamic interactions are associated with externalities, congestion as well as returns to scale. Moreover, roles of the governments on the complexity of these dynamic interactions are changing rapidly in different parts of the world. To understand these dynamic interactions, it is crucial to take account of public spending and different taxes. As more countries are joining the globalizing processes in various fields, the world is economically so closely connected that changes in any economy may have significant global effects. This implies that it is necessary to consider economy as an integrated whole. Moreover, contemporary developments in mathematics and computer enable scientists to deal with complicated problems. This project was to develop a general theoretical framework for analyzing different economic issues within a compact framework.

2 . 研究の目的

Basing on my previous research on nonlinear dynamics, economics growth with endogenous knowledge and economic structure, growth with income and wealth distribution, growth with money, growth with education, environment and resource, and spatial economics and international economics, I studied *nonlinear dynamic interactions of economic development, human capital, health, preference and habit, environment, and resources* with different policies over space within a single comprehensive framework.

3 . 研究の方法

The project took five years. In the first two years, the project was concentrated on a comprehensive review of the current literature of economic growth, human capital with education, preference change, environmental economics, resource economics, public economics, and on constructing a general analytical framework. After reviewing the literature and providing the basic analytical framework, the rest of the project developed concrete and tractable models to explain various aspects of dynamic interactions among economic development, environment and resource.

4 . 研究成果

After reviewing the literature and building the basic models in 2013, the rest of the project developed concrete and tractable models to explain various aspects of human capital with education, preference change, environment, resource, multi-regional and multi-country economic growth and development, heterogeneous households, endogenous capital accumulation and technological change. I conducted analysis from models with simple structures to ones with complicated structures and interactions. The project developed an integrated economic theory, basing on my previous research on different fields in economics. The project's theoretical results provides insights into empirical studies. For instance, a large number of empirical studies on the environmental Kuznets curve for various pollutants find different relations - for instance, inverted U-shaped relationship, a U-shaped relationship, a monotonically increasing or monotonically decreasing relationship - between pollution and rising per capita income levels. The ambiguous or situation-dependent relations between environmental quality and economic growth and the inability of economic growth theory for properly explaining these observed phenomena implies the necessity of building more comprehensive economic theories like one proposed by this project. During the project period, I participated 10 international academic conferences with the financial support of the project and completed 51 papers related to interactions among growth, human capital, health, preference and habit, environment and resource for peer-review international journals.

5 . 主な発表論文等

(研究代表者、研究分担者及び連携研究者には下線)

[雑誌論文](計 51 件)

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6 . 研究組織

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