

【Grant-in-Aid for Transformative Research Areas (B) 】

Academic infrastructure development of administrative data from local governments and application for economic analysis



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Research Area Information	Number of Research Area : 22B101 Project Period (FY) : 2022-2024 Keywords : Local government administrative data, EBPM, Public Economics

Purpose and Background of the Research

● Outline of the Research

This research project aims to establish a system that allows many social science researchers to easily make academic use of administrative data from across the country while protecting personal information by cooperating with local governments nationwide and the participation of legal scholars and information engineers. It also aims to conduct empirical analysis in areas such as income risk and inequality, employment, and social security, and obtain implications for socially desirable policies based on tax and welfare data.

This research area consists of the data infrastructure team (A04) which oversees data development, and other research groups (A01-03) that conduct economic analyses using the data. Each research group communicates its research needs to the data infrastructure team and participating local governments and promote data development in a form that is easy to use for academic research.

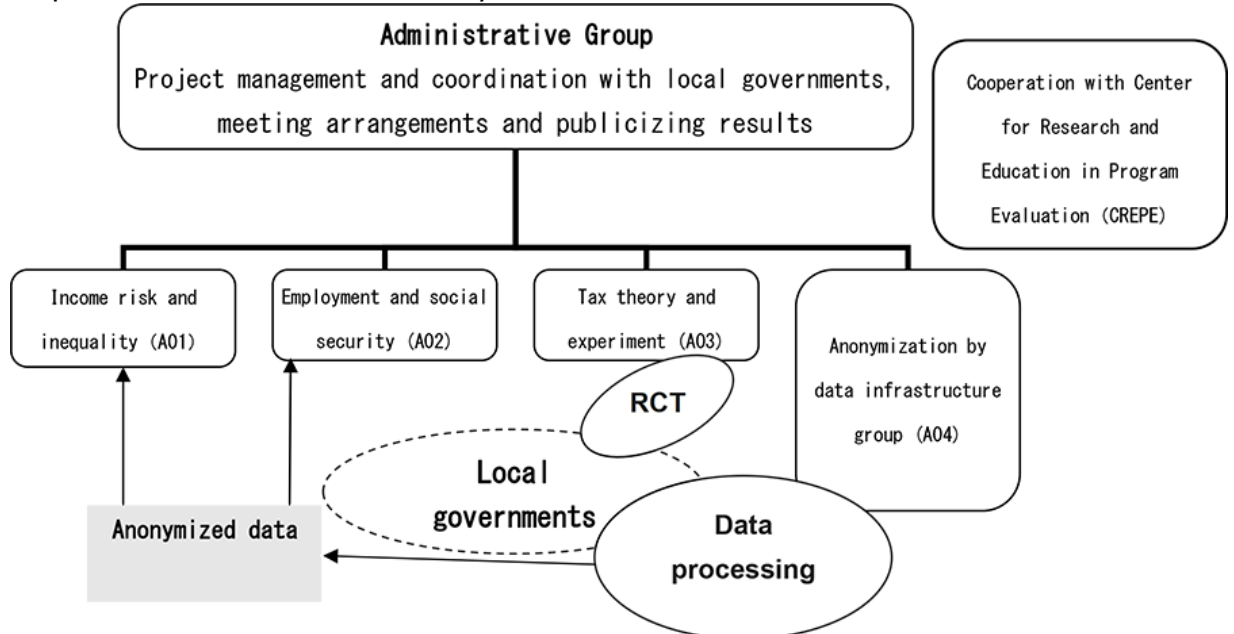


Figure 1. Organization to make administrative data available for research

● Usefulness of local government administrative data and obstacles to its utilization

To date, the data used for empirical analysis in the social sciences have mainly been based on surveys conducted on households selected from the population. However, administrative data from local and national governments have many advantages over information obtained from household or establishment surveys. However, thus far, the academic use of such administrative data has been impeded in Japan.

This is because administrative records contain sensitive personal information, technical solutions to overcome privacy concerns have not been shared or practiced.

Based on this recognition, this research area aims to promote the academic use of administrative data and raise the level of research in Japan to that of Europe and the United States.

● **Ripple effects and future development of this research area**

Detailed and accurate individual-level data on taxes, welfare, and education held by local governments can serve as a foundation for the development of a wide range of social science fields including economics, sociology, public administration, and education; however, the use of such data has not progressed because of the protection of personal information. Utilization of administrative data will enable analysis that is not possible with existing survey data, and will contribute to the revitalization of empirical social science.

Expected Research Achievements

● **Analysis of income risk and inequality using administrative tax data**

It is critical to understand the structure of income risks and inequality faced by households in detail to analyze desirable economic policies for redistribution and growth, and the economic conditions of these groups to evaluate solutions to income inequality and poverty. In this study, we use administrative tax data and detailed information on households held by local governments, analyze the economic risks faced by individuals with different attributes, and conduct quantitative evaluations of the economic policies and welfare effects caused by economic risks and policy changes.

● **Safetynet and employment, family**

Understanding households' responses to changes in the labor supply associated with life events and to changes in various systems, including tax and social security, is essential for designing appropriate policies. Administrative data on taxes provided by local governments makes it possible to accurately grasp the economic situation of individuals and households. Furthermore, by linking other data provided by local governments, such as users of daycare centers, the effectiveness of policies such as childcare support can be analyzed.

● **Optimal Taxation and Field Experiments**

We devise a model that organizes how we should design the progressivity of tax rates and deductions from the parameters of household behavior and income distribution that can be estimated from tax administrative data. In the field experiment on tax collection practices, we conduct a randomized controlled experiment to estimate the effects of tax collection measures in cooperation with local governments that desire to improve their tax collection rates and reduce their administrative burden, and discuss the results based on the theoretical framework.

● **Data infrastructure**

Our final goal is to build a framework that enables social scientists to access high-quality administrative data for statistical analyses. Providing academically valuable data, such as panel data on individuals and individual firms, runs the risk of disclosing sensitive information. Therefore, it is necessary to ensure legal compliance in data handling and technically ensure the non-disclosure of sensitive information. To conduct a balanced examination, our team consists of economists who fully understand the purpose of the analysis, legal scholars who deeply understand the rules and systems, and data scientists who have skills in not compromising privacy.