Preface to the JER Special Issue on "Heterogeneity and Macroeconomics"
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Macroeconomics is defined as a branch of economics that studies the behavior of an overall economy. In reality, the economy consists of diverse economic agents, such as households, firms, and financial institutions. However, macroeconomics has traditionally studied the overall economy as if it consists of homogeneous households, homogeneous firms, and homogeneous financial institutions. This assumption is often called the "representative agent" assumption. In the past, this assumption was predominantly employed in macroeconomic analysis. There were two main reasons that this assumption was popular. The first is technological. Consider an overall economy that consists of households with various characteristics. When studying the aggregate consumption expenditures of such an economy, a researcher has to be able to solve the optimal consumption problems of various households and aggregate the individual consumption decisions into the aggregate consumption. Until the 1990s, the existing theoretical framework, the power of computers, and available numerical tools were insufficient to conduct such analysis. The second reason concerns the economic situation before the 1990s. When the degree of economic inequality was limited and there was a large middle class (as was the case of the post-war Japanese economy), assuming that we can analyze the macroeconomy as consisting of homogeneous households did not seem unreasonable. In an era when the main concern was the aggregate economic growth itself and the distribution of the dividends from growth was a secondary concern, assuming a "representative" household was a reasonable choice.

Macroeconomics has changed dramatically since then. This Special Issue is in line with the development of the so-called "heterogeneous-agent macroeconomics" starting in the late 1980s. This development is a result of the combination of many factors: a novel theoretical framework, a dramatic increase in the power of computers, and the advancement of numerical tools. Another important factor was the shift of focus in the policy questions towards more distributional issues. As for the former, since the pioneering work by Bewley (1986), İmrohoroğlu (1989), Huggett (1993), and Aiyagari (1994), models with heterogeneous households became more and more popular in macroeconomics. Similarly, macroeconomic models with heterogeneous firms and banks have started being widely used. Novel numerical methods were developed so that the models can be solved faster. These numerical methods enabled researchers to introduce richer heterogeneity, handle aggregate shocks, and estimate complex models. As for the latter, it became more natural for researchers to pay attention to different groups of households due to rising income and wealth inequality (Piketty and Saez, 2003). As documented in Kitao and Yamada (2025) in this Special Issue, inequality in terms of earnings, income, and wealth has also increased in Japan over the past three decades, and assuming homogeneous middle-class households in a macroeconomic model became less desirable.

Parallel to these developments was the general shift of emphasis within the economics profession to empirical research and the expansion of new datasets available for economists. In the context of macroeconomics, various micro-level datasets regarding consumption expenditures, wealth, labor market outcomes, healthcare expenditures, and firm characteristics have started being integrated into macroeconomic analysis. Some of these datasets are entirely new, and others have been available but were not widely used by macroeconomists. With the advancement of digitization and information technology, economists started using more and more novel datasets for their analysis. This volume includes multiple papers utilizing novel micro-level datasets in their analysis to answer important questions in macroeconomics.

Looking at the current situation of the Japanese economy, many current policy issues, such as the design of public health insurance, tax reforms, the sustainability of public pension and government debt, social safety nets, immigration restrictions, and labor market regulations, naturally require careful analysis using micro-level data combined with heterogeneous-agent macroeconomic models. This is because changes in these policies naturally affect different segments of population differently. As Editorial members of the Japanese Economic Review, we hope that this Special Issue will become a catalyst for encouraging more research focusing on heterogeneity and macroeconomics, especially in the context of the Japanese economy—we hope this Issue is a starting point for having more papers on these important research topics in the Japanese Economic Review. We believe that this Special Issue showcases excellent examples of frontier research in heterogeneous-agent macroeconomics. The Issue contains papers utilizing cutting-edge microeconomic datasets, advancing numerical methods, and tackling important policy questions. Last but not least, we would like to thank all contributors to this Special Issue, the excellent discussants at the conference for this Special Issue, and Yuichi Kitamura, the former Editor-in-Chief of the Japanese Economic Review, who encouraged and supported us in creating this Special Issue.

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