

**25 – Recovery as Quickly as Possible?**  
**A Discussion of Recession and Recovery in the Economy with Stock Pollutants**  
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When financial crises, natural disasters, pandemics, or conflicts force the economy into a major recession, discussions will be held on how to recover as soon as quickly. What does ‘recovery as quickly as possible’ mean? How does it mean to proceed with recovery? In economics, we should focus on the net social benefits of economic activity and consider the maximization of the sum of its discounted present value to determine the path of efficient economic activity in the long run. The speed of recovery is determined as a result of solving such problems. We do not consider the problem of the fastest speed of recovery as the objective, because speeding up the recovery process does not come for free.

In this study, we run numerical simulations of recovery from a major recession in a hypothetical dynamic model of economic activity with pollution to examine whether economics can justify ‘recovery as quickly as possible’. It is not clear that everything will return to normal once the economic level returns to its original level. If the pollutants accumulate as stock pollutants, even if the economic level is the same, the level of the stock of contamination may be different. Rapidly increasing economic activity can also significantly increase pollution emissions in a short period of time. In particular, in the case of environmental problems where environmental damage is dramatically increased by crossing a certain threshold, quick recovery comes at a great cost.

Since the discussion in this study is based on the several hypothetical scenarios, our conclusions do not explain the actual recovery of a particular area as it is. Nevertheless, some of the findings on the property of quick recovery suggested by this study will provide important perspectives in the discussion of the recovery from a major recession.

**Biographical note**

Eiji Sawada is a faculty of economics at the Kyushu Sangyo University in Japan and is teaching environmental economics and microeconomics. His main research interest is the environmental economic theory and its application. Current research projects in progress are 1) A study on Regional Wetland Conservation Considering the Structure of the Flyway Network (2020 - 2022), 2) Comparison of Woody Biomass Economy between Japan and China: From the Viewpoint of Space, Region and Policy (2019 - 2021).