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Title: An Analysis on Causes of Japan's economic stagnation by Baumol's Disease and Macroeconomic Growth Model

## Abstract

The 'lost two decades' of Japan was widely featured as the gloomy real output growth, the declining capital investment growth, the shrinking demand growth as well as stagnating labour productivity growth. To asset the main causes and search for the potential solutions, Baumol's Disease, as well as a designed complex system model combining conventional equilibrium growth mode have been estimated based on the data from 1973-2012 from REITI in this research.

Firstly, this research investigates whether Japanese economy is suffering from the structural unbalance associated with Baumol's Diseases by collecting the data in lowest sector level. A shift-share analysis in Total Factor Productivity Growth and its correlation with gross output, labour input and wage growth has been done by following the method that Nordhuas(2006) used in Baumol's disease analysis. The result indicates that the syndrome of Baumol's diseases is weak in Japanese economy.

To seek for the reasons of Japan's stagnation, a designed complex system model combining conventional equilibrium growth mode containing variables both from the demand-side and supply-side has been applied in the second part of the research, to discuss whether a growth in exogenous real wage can lead a progress in Japan's future economy or not, when firms are not willing to invest even though the capital productivity growth is increasing. The conclusion is that a stimulation in the demand side by improving the real wage income might give workers more optimistic expectation for the future. Low wages for a developed economy is much less than good news, it might stagnate the labor productivity growth either through reducing the demand-pull innovation or depressing labor saving investment on technology progress.

## **Key Words**

Japan's lost decades, secular stagnation, Baumol's disease, endogenous growth model, demand and supply balance.