

The ESRI Short-Run Macroeconometric Model of the Japanese Economy:
Basic Structure, Multipliers, and Economic Policy Analyses (2008 version)

Abstract

This paper describes the basic structure and multipliers of the 2008 revised version of *The ESRI Short-Run Macroeconometric Model of the Japanese Economy*, which was first released in 1998 (Hori et al. (1998)).

The model is basically a demand-oriented, traditional Keynesian-type model with an IS-LM-BP framework; however, it adopts recent developments in econometrics, such as co-integration, and error correction to ensure long-run equilibrium. The use of the new techniques contributes toward the stabilization of the long-run behaviors in the model. The short-run properties, on the other hand, have not changed significantly from the previous versions.

The key revised point of the 2008 version is to modify the function form of private non-residential investment and the labor force. The former is modified short-term items to show the short-term dynamic process more clearly, and the latter is modified to describe the recent trends of the labor force ratio and the population over 15 years of age, and those gender gaps.

The following are some of the multipliers of our policy simulations. The peak of fiscal multiplier, i.e., the effect of government investments on GDP, is about 1.1 in Japan. The effect of income tax reduction is smaller due to its leak to household savings. These characteristics of multipliers are not significantly different between the 2006 and 2008 versions. But because the effects of monetary policy don't become evident as time passes, this is a small difference from the previous one.

Effects of Macroeconomic Policies in Japan on Real GDP

	Effect of Government Investments (1 % of Real GDP)	Effect of Income-Tax Reduction (1 % of Nominal GDP)	Effects of Short-Run Interest Rate Rise (1 %)
1 st Year	1.00	0.23	-0.40
2 nd Year	1.10	0.60	-0.43
3 rd Year	0.94	0.60	-0.63