

論文の要旨

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論文題目

Essays on the effects of fiscal and monetary policy

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After the collapse of asset price bubble burst in the early 1990s, Japan's economy experienced a deep prolonged slump and deflation so called "lost decade". Real GDP growth unceasingly dropped, from a peak of 6.8% in 1988 to -0.5 in 1993, averaging 1.0% per year during 1991-2002, compared to the G7 average of 2.4%. Krugman (1999) holds that Japan's Great Recession is an example of a liquidity trap. Liquidity traps can be broadly defined as phenomena in which an increased money supply fails to lower interest rates. The classic Keynesian response to a liquidity trap is fiscal expansion. In a textbook IS-LM model, expansionary fiscal policy leads to higher aggregate demand and economic growth and creates inflation.

With respect to the effectiveness of monetary policy when zero lower bound binds, some literature imply that monetary policy has effect on stimulating the economy even when there is a zero bound constraint. In theory, if the central bank is capable to commit to future policy actions, it can work around the zero bound constraint by promising monetary easing in the future once the zero bound constraint lapses. (Krugman 1998, Reifschneider and Williams 2000, Eggertsson and Woodford 2003). Empirically, the analysis shows that the monetary policy announcements have impact on asset prices primarily through the effects on financial market

expectations of future monetary policy, rather than changes in the current federal funds rate target. (Gurkaynak, Sack, and Swanson 2005) As a result, the theoretical and empirical evidences both suggest that monetary policy still has room to affect the economy even when the short term nominal interest rates is at zero.

This study aimed to investigate the effectiveness of fiscal and monetary policy on stimulating Japan's economy under the circumstance of zero lower constraint. The Chapter I explained liquidity trap theory and reviewed the circumstances of Japan's economy at the time it collapsed into long-run recession, falling victim to a liquidity trap because of the stock market bubble bursting in the early 1990s. Moreover, the author summarized monetary and fiscal policy conduct in Japan following the recession and discussed the fiscal and monetary stimulus for Japan's recovery.

Chapter II employed a DSGE model with both "impatient" agents so called borrowers and "patient" agents so called savers and established a situation when the economy fell in a liquidity trap caused by a sudden reduction in the quantity of debt. The main findings are as follows. First, a temporary fiscal stimulus is effective during zero lower bound periods. Second, a temporary rise in government spending would not crowd out private expenditure and it would lead to the increase in debtors with liquidity constraint. Furthermore, in this chapter, it examined a controversial relationship between unemployment and the debt-to-GDP ratio. There appears to be a trade-off between unemployment and the ratio: Expansionary fiscal policies reduce unemployment but lead to a higher debt-to-GDP ratio. This study has shown that the trade-off relationship may not exist if the short-term nominal interest rate is zero and if a negative economic shock is temporary.

In Chapter III, the author used a calibrated textbook-style macroeconomic model

designed by Ball (2006) to examine the Japanese economy and predicted Japanese economic trends. The assumptions and value of parameters came from Ball (2006) and Jinushi, Kuroki and Miyao (2002), with data based on the circumstances in 2003. The simulation results tended to favor fiscal expansion. In assuming that monetary policy follows a Taylor rule once the interest rate turn positive, potential GDP rises, and the interest rate also become positive. After recovery, the Taylor rule leads the economy on a path of steady potential output and inflation. Furthermore, because of high growth and inflation, the debt-income ratio declines. Even after updating the data to 2013, the conclusion remained the same. The results mostly supported the view that fiscal expansions can suppress the increase in the debt-income ratio resulted from the expansionary fiscal policy leads to a less severe drop in nominal GDP (the denominator in the ratio).

Chapter IV turned to analyze the effect of monetary policy with the zero lower bound constraint. This chapter implemented a typical medium scale DSGE model with the stickiness of prices and wages and adjustment costs of investment. To cope with the occasionally binding constraint, I added the HP algorithm created by Holden and Paetz (2012) to the model to ensure the nominal interest rates keep being zero. The results showed under the ZLB constraint, the monetary stimulus under the Taylor rule is still effective on aggregate demand even though the effects are not as significant as without the zero lower bound constraint on nominal interest rates.

Chapter V summarized the methods that applied in each chapter and concluded the main findings. Furthermore, it pointed out the limitations of the research and raised the improvability for the future study.