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Fiscal stimulus and labor market dynamics in Japan ☆

Ryuta Ray Kato, Hiroaki Miyamoto *

International University of Japan, 777 Kokusai-cho, Minami Uonuma-shi, Niigata 949-7277, Japan

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ABSTRACT

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The paper studies the effects of fiscal expansion on the Japanese labor market. First, using a structural VAR model, we find that the unemployment rate falls and employment rises following an increase in government spending. We also find that fiscal expansion affects flows in and out of unemployment. While an increase in government spending increases the job-finding rate, it reduces the separation rate. We then incorporate search and matching frictions into a standard dynamic general equilibrium model, and study whether the model can explain what we observed in data. While the model fails to predict the exact size of the impact of government spending shocks on the Japanese labor market variables, it can consistently capture the empirical pattern of responses of labor market variables to shocks. *J. Japanese Int. Economies* **30** (2013) 33–58. International University of Japan, 777 Kokusai-cho, Minami Uonuma-shi, Niigata 949-7277, Japan.

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* Corresponding author. Address: International University of Japan, Graduate School of International Relations, 777 Kokusai-cho, Minami Uonuma-shi, Niigata 949-7277, Japan. Fax: +81 25 779 1187.

E-mail address: hmiyamot@iuj.ac.jp (H. Miyamoto).

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1. Introduction

An important objective of fiscal policies is to boost output and to reduce unemployment in recessions. It is crucial to understand the effects of fiscal expansion on employment and unemployment, both empirically and theoretically. While there is an active debate on the effects of fiscal policies on the labor market among policy makers, the debate on fiscal policies among economists has rather focused on the size of the output and consumption multipliers of government spending. Recently, a number of studies investigate the effects of fiscal expansion on the labor market (Yuan and Li, 2000; Monacelli et al., 2010; Brückner and Pappa, 2012). However, these studies mainly focus on the U.S., and less is known about the effects of fiscal expansion on labor markets in the other countries. Especially, there has no study on the Japanese case. Given the fact that Japan's budget deficits and public debts have grown through the series of fiscal stimulus packages and also that Japan is the most indebted nation among OECD countries, it is crucial to examine the effectiveness of fiscal policies in the Japanese economy.[1] In this paper, we study the effects of fiscal expansion on labor market dynamics in the Japanese economy both empirically and theoretically.

Recently, Brückner and Pappa (2012) find that a fiscal expansion can lead to a significant increase in unemployment for many OECD countries by using a structural VAR model. Their seemingly paradoxical result has led to reconsideration of the impact of government spending on the labor market in the RBC and the New Keynesian models (Faia et al., 2013). In the first part of our analysis, we thus examine the effects of government spending on the Japanese labor market by using structural VAR models,[2] to investigate to the extent how much the paradoxical result holds in Japan.

In order to provide a detail on the transmission of fiscal policy to the labor market, we study the effects on variables such as the unemployment rate, inflow and outflow rates of unemployment, the intensive and extensive margins of work, labor force participation, vacancies, and the real wage. Furthermore, given the fact that government consumption and investment expenditures have behaved differently in the past 20 years in Japan, we differentiate between government's purchases of consumption and investment goods in our empirical analysis. In contrast to Brückner and Pappa (2012), our empirical analysis demonstrates that an increase in government spending increases employment and vacancies posted, and reduces unemployment. These responses are accompanied by an increased outflow rate of unemployment and a decreased inflow rate of unemployment. Furthermore, our empirical analysis demonstrates that the effectiveness of fiscal policy in reducing unemployment in the post-2000s is larger than that in the pre-2000s.

In the second part of our analysis, we develop a dynamic stochastic general equilibrium (DSGE) model with search frictions in the labor market and study the effects of fiscal expansion on the labor market. Specifically, we incorporate search and matching frictions à la Mortensen and Pissarides (1994) into a standard real business cycle model. Instead of assuming all government spending is wasteful as in the standard DSGE model, we assume that the government supplies goods that are of value to a household. Furthermore, we also distinguish between government consumption and productive government investment. The parameters in the model are calibrated to match certain facts of the Japanese economy.

Our model can generate a similar pattern of responses of labor market variables to government spending shocks to that of SVAR models. The numerical analysis demonstrates that positive government spending shocks lead to a significant fall in the unemployment rate and increases in both vacancies and employment. Furthermore, our model succeeds in capturing empirical responses of private consumption to government spending shocks, which is in contrast with the standard DSGE model.[3]

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[1] Through a combination of fiscal stimulus spending and increasing social security payouts, gross public debt has exceeded 219% of GDP as of 2012 in Japan. A number of studies have examined the sources and consequences of the fiscal deficit in Japan. See, for example, Asako et al., 1991), Ihori et al., 2003) and Fukuda and Yamada (2011).

[2] A number of studies investigate the effect of fiscal policy on macroeconomic variables such as output, private consumption, and private investment in Japan by using VAR models (Ramaswamy and Rendu, 2000; Bayoumi, 2001; Kuttner and Posen, 2002; Ihori et al., 2003; Miyazaki, 2010).

[3] The standard dynamic general equilibrium model fails to trance the empirical response of private consumption to government spending shocks. See for example Baxter and King (1993).