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Gross worker flows and unemployment dynamics in Japan ☆

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ABSTRACT

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This paper studies the dynamics of worker flows in Japan between 1980 and 2009. We construct gross worker flows data using the monthly Labor Force Survey. Our data enables us to examine the size and cyclical patterns of the flows and transition rates between employment, unemployment, and not being-in-the labor force. We find that the cyclical pattern of worker flows is similar to that found in other countries; however, worker flows in Japan are generally smaller than those in the US and European countries. We also decompose changes in unemployment into contributions from unemployment inflow and outflow rates. We find that both inflow and outflow rates significantly affect variations in unemployment. *J. Japanese Int. Economies* **26** (1) (2012) 44–61. Graduate School of International Relations, International University of Japan, 777 Kokusai-cho, Minami Uonuma-shi, Niigata 949-7277, Japan.

1. Introduction

Worker flows significantly affect labor market dynamics. Workers move between employment, unemployment, and not being-in-the labor force. Worker movements determine aggregate labor market indicators such as unemployment and employment. Worker transitions are also an important

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determinant of unemployment and employment fluctuations over business cycles. While the size and the cyclical pattern of gross worker flows has been studied in the US and European countries, there are few studies on Japanese worker flows.[1] In this paper we establish a set of stylized facts on worker flows and unemployment dynamics in Japan.

In the first part of our analysis, we establish a set of stylized facts on worker flows in the Japanese labor market. To do this, we construct worker flows data using the Labor Force Survey (LFS) over the past 30 years. Using the panel structure of the LFS, we estimate monthly worker flows, showing transitions between the labor market states: employment, unemployment, and not-in-the labor force. Using this worker flow data, we can examine the size and cyclical pattern of worker flows and transition rates.

This study documents key stylized facts on worker flows and the associated transition rates in Japan. There are large gross worker flows across labor market states. Around 3% of the working-age population changes labor market status in each month. The cyclical pattern of gross worker flows is similar to that found in the US and in European countries. Inflows and outflows of unemployment are countercyclical, and flows between employment and inactivity are procyclical. We find that the transition rate from employment to unemployment is countercyclical, while the transition rate from unemployment to employment is procyclical. Transition rates between employment and unemployment in Japan are much lower than in the US. In Japan, the monthly job finding and separation rates are about 14% and 0.4%, respectively, while they are around 25–32% and 3–5% in the US.[2]

In the second part of our analysis, we study how much of the observed unemployment fluctuations can be accounted for by variations in unemployment inflow and outflow rates. In the recent literature, a number of studies decompose variations in the unemployment rate into contributions from changes in unemployment inflow and outflow rates, assuming that the actual unemployment rate is close to its steady state value (Elsby et al., 2009b; Fujita and Ramey, 2009; Petrongolo and Pissarides, 2008; Shimer, 2007). While this steady-state assumption holds in the US, we find that the unemployment rate considerably deviates from its steady state value in Japan.[3] This suggests that the steady-state decomposition may lead to misleading results. Therefore, in this study, we decompose unemployment fluctuations into the contributions attributed to changes in inflows and outflows by using two alternative methods: the conventional steady-state decomposition method and a non-steady state decomposition method developed by Smith (2010).

We find that both inflow and outflow rates contribute substantially to unemployment fluctuations in Japan. The non-steady state decomposition reveals that changes in inflow and outflow rates account for about 54% and 40% of unemployment fluctuations, respectively. The results when using the steady-state decomposition are not significantly different from those of the non-steady state decomposition, although the steady-state decomposition overestimates the contribution of unemployment outflows to unemployment fluctuations. This suggests that understanding unemployment dynamics in Japan requires an understanding of the determinants of both the inflow and outflow rates. Furthermore, we find that the relative importance of inflow and outflow rates to unemployment fluctuations changes over time.

This study is related to the recent literature on unemployment dynamics. A number of studies examine the contributions of changes in inflow and outflow rates to the variations in the unemployment rate. While the literature focuses mostly on the US and European countries (Hall, 2005b; Shimer, 2007; Elsby et al., 2009b; Petrongolo and Pissarides, 2008), this study considers the case of Japan, which is less studied, and provides evidence for Japan using worker flow data from the LFS. Several studies also use gross flow flows data from the LFS and study Japanese labor market dynamics

[1] Following the pioneer work of Blanchard and Diamond (1990), a number of studies examine the size and cyclicality of gross worker flows in the US. See Bleakley et al. (1999), Davis and Haltiwanger (1999), Hall (2005a), Shimer (2007), and Finegan et al. (2008). Yashiv (2007) surveys the recent literature on US labor market dynamics. Burda and Wyplosz (1994) document a series of stylized facts on gross worker flows in Europe. Pissarides (1986), Bell and Smith (2002), Burgess and Turon (2005), and Gomes (2009) focus on the UK.

[2] The monthly job finding and separation rates in the US are taken from Yashiv (2007).

[3] Shimer (2007) demonstrates that the actual unemployment rate is closely approximated by its steady-state value in the US. Elsby et al. (2009a) show that the actual unemployment rate is virtually identical to the steady-state unemployment rate for the US.