Journal of Monetary Economics 72 (2015) 64–82

Contents lists available at ScienceDirect

Journal of Monetary Economics

journal homepage: www.elsevier.com/locate/jme

On the importance of the participation margin for labor market fluctuations ☆

Michael W.L. Elsby [a,*], Bart Hobijn [b], Ayşegül Şahin [c]

[a] School of Economics, University of Edinburgh, 31 Buccleuch Place, Edinburgh EH8 9JT, United Kingdom
[b] Federal Reserve Bank of San Francisco, United States
[c] Federal Reserve Bank of New York, United States

ARTICLE INFO

Article history:
Received 25 February 2013
Received in revised form
19 January 2015
Accepted 19 January 2015
Available online 29 January 2015

Keywords:
Worker flows
Unemployment
Business cycles
Labor force participation

ABSTRACT

Conventional analyses of labor market fluctuations ascribe a minor role to labor force participation. We show, by contrast, that flows-based analyses imply that the participation margin accounts for around one-third of unemployment fluctuations. A novel stock-flow apparatus establishes these facts, delivering three further contributions. First, the role of the participation margin appears robust to adjustments for spurious transitions induced by reporting error. Second, conventional stocks-based analyses are subject to a stock-flow fallacy, neglecting offsetting forces of worker flows on the participation rate. Third, increases in labor force attachment among the unemployed during recessions are a leading explanation for the role of the participation margin.

1. Introduction

What is the role of the labor force participation margin in shaping fluctuations in the unemployment rate? The majority of modern research has operated under the assumption that movements of individuals in and out of the labor force play only a minor role in unemployment fluctuations. From an empirical perspective, while there are clear, opposite cyclical patterns in rates of employment and unemployment, the labor force participation rate displays only a modest cyclicality in the United States (see, for example, Fig. 1). Mirroring this, recent theoretical models of labor market fluctuations, such as those informed by the search and matching tradition of Mortensen and Pissarides (1994), typically proceed under a two-state abstraction, focusing on the margin between employment and unemployment.[1]

This paper takes a closer look at the role of the participation margin in the evolution of unemployment over the business cycle. Our analysis yields a rich set of empirical findings that challenge the conventional practice of abstracting from this margin. First, standard estimates of worker flows among the three labor market states reveal that the moderate cyclicality of the stock of labor force participants masks substantial cyclicality in worker flows between unemployment and nonparticipation. Second, this channel is quantitatively significant: transitions at the participation margin account for around one-third of the cyclical variation in the unemployment rate. Third, the latter result is robust to conventional and practical adjustments of

☆ A supplementary appendix associated with this paper can be found in the online version at http://dx.doi.org/10.1016/j.jmoneco.2015.01.004.

* Corresponding author. Tel.: +44 131 650 8369.
E-mail address: mike.elsby@ed.ac.uk (M.W.L. Elsby).

[1] Theoretical papers that adopt a two-state abstraction are too numerous to cite. Recent exceptions to this tendency are cited in Krusell et al. (2010, 2011, 2012). Empirical research that has emphasized the roles of job loss and job finding over that of the participation margin is cited in Elsby et al. (2009).

http://dx.doi.org/10.1016/j.jmoneco.2015.01.004
0304-3932/

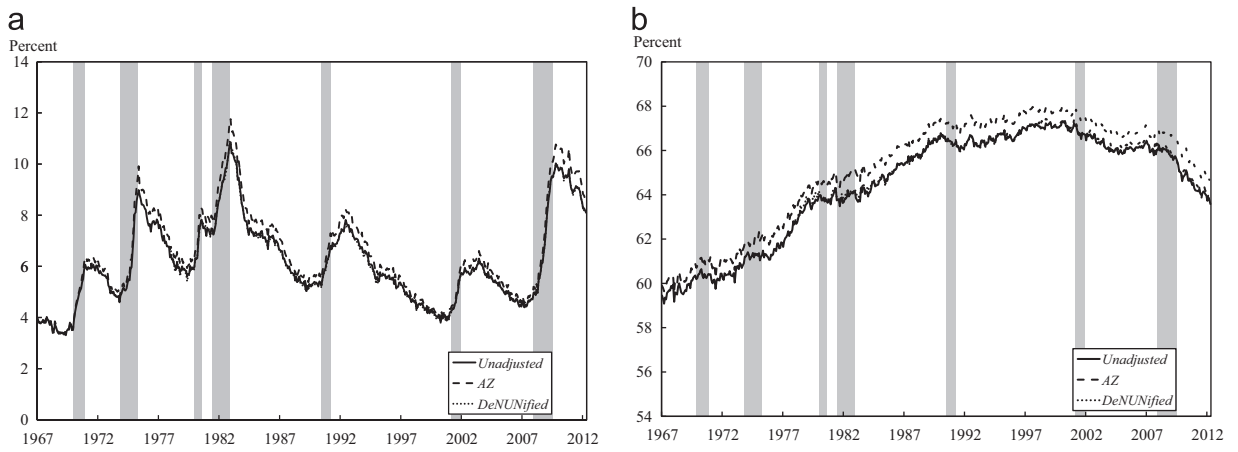

Fig. 1. Unemployment and labor force participation rates: unadjusted and adjusted for spurious transitions.

data for spurious transitions, and for time aggregation. Fourth, inferences from conventional, stocks-based analyses of labor force participation are instead shown to be subject to a stock-flow fallacy, neglecting the offsetting forces of worker flows that underlie the modest cyclicality of the participation rate. Finally, new estimates of heterogeneity in worker flows across labor market histories reveal that an important part of the contribution of the participation margin, and therefore of unemployment fluctuations in general, can be traced to a novel channel based on cyclical shifts in the composition of labor market attachment among the unemployed.

The starting point for our analysis is the standard data source for worker flows in the United States: the longitudinally linked monthly Current Population Survey (CPS) microdata, known as the "gross flows." Section 2 updates these estimates and reviews their basic cyclical properties. This confirms the countercyclicality of the employment-to-unemployment transition probability, and the procyclicality of the unemployment-to-employment transition probability, that have been widely documented in previous literature. But, it also highlights an often-neglected feature of the gross flows that is crucial to our findings: During recessions, unemployed workers are less likely to flow out of the labor force, and nonparticipants are more likely to flow into unemployment. Both forces will contribute to the rise in the level of unemployment that accompanies recessions. The remainder of this paper investigates the robustness of this observation, provides an accounting framework that allows one to quantify its magnitude, and explores potential explanations.

We first consider robustness. A particular concern is that gross flows data are susceptible to classification errors in recorded labor market status (National Commission on Employment and Unemployment Statistics, 1979). While such errors may largely cancel in measured labor market stocks, they can accumulate in estimates of worker flows, inducing spurious measured transitions. Prior research has found these errors to be substantial, especially for transitions between unemployment and nonparticipation (Abowd and Zellner, 1985; Poterba and Summers, 1986; Chua and Fuller, 1987). It is natural to worry, then, that such measurement errors might be responsible for the cyclical behavior of participation flows.

In Section 3, this possibility is taken seriously by exploring alternative adjustments for misclassification. Two approaches are considered. First, following Blanchard and Diamond (1990), the gross flows data are adjusted using Abowd and Zellner (1985) estimates of misclassification probabilities based on resolved labor force status in CPS reinterview surveys. Since these estimates are inferred under a particular assumption about the nature of classification errors, however, we also examine a second, more practical adjustment of the data: Sequences of recorded labor market states are recoded to eliminate high-frequency reversals of transitions between unemployment and nonparticipation. One example of the latter is consecutive monthly transitions from nonparticipation to unemployment and then back to nonparticipation again. Since our method involves "ironing out" such *NUN* sequences, these adjusted flows will sometimes be referred to as "*deNUNified*" flows, but the approach also recodes *UNU* sequences analogously.

As foreshadowed in prior literature, these adjustments substantially reduce estimated flows that involve transitions in and out of the labor force. However, the adjusted flows under both the more practical recoding approach and the Abowd and Zellner (1985) adjustment line up closely, despite their being based on different motivations, and paint a consistent picture of the cyclicality of worker flows at the participation margin: While the countercyclicality of the nonparticipation-to-unemployment rate is diminished somewhat by both conventional and practical adjustments for classification error, the procyclicality of the rate of outflow of unemployed workers to nonparticipation appears to be a robust feature of the dynamics of the U.S. labor market. This picture is reaffirmed in Section 4, which further adjusts worker flows for time aggregation bias associated with multiple transitions that are missed between the discrete, monthly surveys implemented in the CPS.

Given the apparent robustness of this result, we then turn to consider its quantitative magnitude in accounting for labor market fluctuations. Section 5 devises a novel accounting framework that allows one to decompose the time-series variation in each of the labor market stocks into components accounted for by each of the worker flow hazards.