



ELSEVIER

Available online at www.sciencedirect.com

SCIENCE @ DIRECT®

Journal of Monetary Economics 50 (2003) 1751–1768

Journal of
MONETARY
ECONOMICS

www.elsevier.com/locate/econbase

Labor-supply shifts and economic fluctuations[☆]

Yongsung Chang^{a,*}, Frank Schorfheide^b

^a *Research Department, Federal Reserve Bank of Richmond, P.O. Box 27622, Richmond, VA 23261, USA*

^b *Department of Economics, University of Pennsylvania, 3718 Locust Walk, Philadelphia, PA 19104-6297, USA*

Received 24 October 2001; received in revised form 16 January 2003; accepted 2 February 2003

Abstract

We propose a new VAR identification scheme that distinguishes *shifts of* and *movements along* the labor demand schedule to identify labor-supply shocks. According to our VAR analysis of post-war US data, labor-supply shifts account for about 30 percent of the variation in hours and about 15 percent of the output fluctuations at business cycle frequencies. To assess the role of labor-supply shifts in a more structural framework, estimates from a dynamic general equilibrium model with stochastic variation in home production technology are compared to those from the VAR.

© 2003 Elsevier B.V. All rights reserved.

JEL classification: E32; C52; J22

Keywords: Labor-supply shifts; VAR identification; Home production; Bayesian econometrics

[☆] Marco Airaud provided excellent research assistance. We wish to thank Larry Christiano, Frank Diebold, Martin Eichenbaum, John Geweke, Michael Kiley, Richard Rogerson, and Chris Sims for helpful comments and suggestions. Thanks also to seminar participants at the NBER Summer Institute, University of Pennsylvania, Princeton, Rochester, ISBA Regional Meeting, USC, Econometric Society Meetings, the Federal Reserve Bank of Cleveland, and the Board of Governors. The second author gratefully acknowledges financial support from the University of Pennsylvania Research Foundation. The GAUSS programs to implement the empirical analysis are available at <http://www.econ.upenn.edu/~schorf>.

The views expressed herein are those of the authors and not necessarily those of the Federal Reserve Bank of Richmond or the Federal Reserve System.

*Corresponding author. Tel.: 804-697-8257;.

E-mail address: yongsung.chang@rich.frb.org (Y. Chang).

1. Introduction

A leading question in macroeconomics is the identification of forces that cause the cyclical allocation of time. Modern dynamic general equilibrium analysis emphasizes shifts in labor demand due to technological change. Empirical studies on the decomposition of sources of business cycles by Shapiro and Watson (1988) and Hall (1997) have called for an attention to labor-supply shifts. This paper examines the importance of labor-supply shifts as a source of economic fluctuations.

First, we develop and apply a new identification procedure for vector autoregressions (VAR). It decomposes the fluctuations of aggregate hours and output into *movements along* the labor demand schedule and *shifts of* the schedule itself. The former is interpreted broadly as response to a labor-supply shock. Our VAR identification is based on the notion that an increase in hours due to a labor-supply shock leads to a fall in labor productivity, as the production capacity is fixed in the short run and the economy operates along the decreasing marginal-product-of-labor schedule. We place a prior distribution on the slope of the short-run labor-demand curve and on the reduced-form VAR parameters and conduct Bayesian inference.

Second, we impose additional restrictions by estimating a fully specified dynamic stochastic general equilibrium model (DSGE). The DSGE model potentially yields a more precise estimate of the relative importance of labor supply shifts. We consider an aggregate home production model (Benhabib et al., 1991; Greenwood and Hercowitz, 1991) in which labor-supply shifts are caused by the stochastic variation in home production technology.

The main empirical findings can be summarized as follows. Based on the VAR variance decomposition, temporary shifts in labor supply are an important source of hours fluctuations. They account for about 30 percent of the cyclical variation of hours worked. The DSGE model attributes more than 50 percent of the variation of hours to temporary labor-supply shifts. This larger estimate, however, may partly be due to misspecified over-identifying restrictions as the time-series fit of the DSGE model is significantly worse than the VAR fit. According to both VAR and DSGE model, labor-supply shocks are less important for aggregate output as they explain only about 15 percent of its variation at business cycle frequencies.

Our estimates of the contribution of labor-supply shifts to economic fluctuations are somewhat smaller than those reported by Shapiro and Watson (1988) and Hall (1997). Shapiro and Watson (1988) identify labor-supply shocks through the stochastic trend in hours worked. While the empirical evidence on the stationarity of hours worked is not conclusive, we assume hours are stationary, which is consistent with a large class of dynamic equilibrium models. In Hall (1997), Parkin (1988), and Baxter and King (1991) labor-supply shocks (or preference shocks) are identified as deviations from the optimality condition associated with the labor supply of competitive households. However, these residuals also reflect the extent to which a representative-agent model is inconsistent with aggregate

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات