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SUPPLY-SIDE POLICIES, LOW AGGREGATE DEMAND, AND THE ZERO LOWER BOUND

This paper examines how supply-side policies may play a role in fighting a low aggregate demand that traps an economy at the zero lower bound (ZLB) of nominal interest rates. Future increases in productivity or reductions in mark-ups triggered by supply-side policies generate a wealth effect that pulls current consumption and output up. Since the economy is at the ZLB, increases in the interest rates do not undo this wealth effect, as will be the case outside the ZLB. The authors illustrate this mechanism with a simple two-period New Keynesian model. They discuss possible objections to this set of policies and the relation of supply-side policies to more conventional monetary and fiscal policies.

Working Paper 11-47, "Supply-Side Policies and the Zero Lower Bound," Jesús Fernández-Villaverde, University of Pennsylvania, and Visiting Scholar, Federal Reserve Bank of Philadelphia; Pablo Guerrón-Quintana, Federal Reserve Bank of Philadelphia; and Juan F. Rubio-Ramírez, Duke University, and Visiting Scholar, Federal Reserve Bank of Philadelphia

FINDING THE OPTIMAL LABOR MARKET-POLICY MIX OVER THE BUSINESS CYCLE

The authors examine the optimal labor market-policy mix over the business cycle. In a search and matching model with risk-averse workers, endogenous hiring and separation, and unobservable search effort, they first show how to decentralize the constrained-efficient allocation. This can be achieved by a combination of a produc-

tion tax and three labor-market policy instruments, namely, a vacancy subsidy, a layoff tax, and unemployment benefits. The authors derive analytical expressions for the optimal setting of each of these for the steady state and for the business cycle. Their propositions suggest that hiring subsidies, layoff taxes, and the replacement rate of unemployment insurance should all rise in recessions. They find this confirmed in a calibration targeted to the U.S. economy.

Working Paper 11-48, "Optimal Labor-Market Policy in Recessions," Philip Jung, University of Mannheim, and Keith Kuester, Federal Reserve Bank of Philadelphia

WHY HAS THE U.S. NONFINANCIAL CORPORATE SECTOR BECOME A NET LENDER?

The authors document that the U.S. nonfinancial corporate sector became a net lender in the 2000s, using aggregate and firm-level data. They develop a structural model with investment, debt, and equity. Debt is fiscally advantageous but subject to a no-default borrowing constraint. Equity allows the firm to suspend dividends when the cash flow is negative. Firms accumulate financial assets for precautionary reasons, yet value equity as partial insurance against shocks. The calibrated model replicates the prevalence of net savings in the period 2000-2007 and attributes the rise in corporate savings over the past 40 years to lower dividend taxes.

Working Paper 12-1, "The Macroeconomics of Firms' Savings," Roc Armenter, Federal Reserve Bank of Philadelphia, and Viktoria Hnatkovska, University of British Columbia and the Wharton School

ASSESSING VARIOUS APPROACHES TO MODELING THE SEPARATION MARGIN

This paper assesses how various approaches to modeling the separation margin affect the ability of the Mortensen-Pissarides job matching model to explain key facts about the aggregate labor market. Allowing for realistic time variation in the separation rate, whether exogenous or endogenous, greatly increases the unemployment variability generated by the model. Specifications with exogenous separation rates, whether constant or time-varying, fail to produce realistic volatility and productivity responsiveness of the separation rate and worker flows. Specifications with endogenous separation rates, on the other hand, succeed along these dimensions. In addition, the endogenous separation model with on-the-job search yields a realistic Beveridge curve correlation and performs well in accounting for the productivity responsiveness of market tightness. While adopting the Hagedorn-Manovskii calibration approach improves the behavior of the job finding rate, the volume of job-to-job transitions in the on-the-job search specification becomes essentially zero.

Working Paper 12-2, "Exogenous vs. Endogenous Separation," Shigeru Fujita, Federal Reserve Bank of Philadelphia, and Garey Ramey, University of California, San Diego

ESTIMATING A DSGE MODEL TO EXPLAIN VARIABILITY IN OUTPUT IN SMALL DEVELOPED ECONOMIES

Using an estimated dynamic stochastic general equilibrium model, the author shows that shocks to a common international stochastic trend explain, on average, about 10 percent of the variability of output in several small developed economies. These shocks explain roughly twice as much of the volatility of consumption growth as the volatility of output growth. Country-specific disturbances account for the bulk of the volatility in the data. Substantial heterogeneity in the estimated parameters and stochastic processes translates into a rich array of impulse responses across countries.

Working Paper 12-3, "Common and Idiosyncratic Disturbances in Developed Small Open Economies," Pablo Guerrón-Quintana, Federal Reserve Bank of Philadelphia

BAYESIAN METHODS FOR ESTIMATING NEW KEYNESIAN DSGE MODELS

The authors survey Bayesian methods for estimating dynamic stochastic general equilibrium (DSGE) models in this article. They focus on New Keynesian (NK) DSGE models because of the interest shown in this class of models by economists in academic and policy-making institutions. This interest stems from the ability of this class of DSGE model to transmit real, nominal, and fiscal and monetary policy shocks into endogenous fluctuations at business cycle frequencies. Intuition about these propagation mechanisms is developed by reviewing the structure of a canonical NKDSGE model. Estimation and evaluation of the NKDSGE model rests on being able to detrend its optimality and equilibrium conditions, to construct a linear approximation of the model, to solve for its linear approximate decision rules, and to map from this solution into a state space model to generate Kalman filter projections. The likelihood of the linear approximate NKDSGE model is based on these projections. The projections and likelihood are useful inputs into the Metropolis-Hastings Markov chain Monte Carlo simulator that the authors employ to produce Bayesian estimates of the NKDSGE model. The authors discuss an algorithm that implements this simulator. This algorithm involves choosing priors of the NKDSGE model parameters and fixing initial conditions to start the simulator. The output of the simulator is posterior estimates of two NKDSGE models, which are summarized and compared to results in the existing literature. Given the posterior distributions, the NKDSGE models are evaluated with tools that determine which is most favored by the data. The authors also give a short history of DSGE model estimation as well as point to issues that are at the frontier of this research.

Working Paper 12-4, "Bayesian Estimation of DSGE Models," Pablo Guerrón-Quintana, Federal Reserve Bank of Philadelphia, and James Nason, Federal Reserve Bank of Philadelphia