RESEARCH UPDATE

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DOES INEQUALITY CAUSE FINANCIAL DISTRESS? EVIDENCE FROM LOTTERY WINNERS AND NEIGHBORING BANKRUPTCIES

The authors test the hypothesis that income inequality causes financial distress. To identify the effect of income inequality, they examine lottery prizes of random dollar magnitudes in the context of very small neighborhoods (13 households on average). The authors find that a C$1,000 increase in the lottery prize causes a 2.4% rise in subsequent bankruptcies among the winners' close neighbors. They also provide evidence of conspicuous consumption as a mechanism for this causal relationship. The size of lottery prizes increases the value of visible assets (houses, cars, motorcycles), but not invisible assets (cash and pensions), appearing on the balance sheets of neighboring bankruptcy filers.

Working Paper 16–04. Sumit Agarwal, National University of Singapore; Vyacheslav Mikhed, Federal Reserve Bank of Philadelphia Payment Cards Center; Barry Scholnick, University of Alberta.

CONSUMER RISK APPETITE, THE CREDIT CYCLE, AND THE HOUSING BUBBLE

The authors explore the role of consumer risk appetite in the initiation of credit cycles and as an early trigger of the U.S. mortgage crisis. They analyze a panel data set of mortgages originated between the years 2000 and 2009 and follow their performance up to 2014. After controlling for all the usual observable effects, the authors show that a strong residual vintage effect remains. This vintage effect correlates well with consumer mortgage demand, as measured by the Federal Reserve Board's Senior Loan Officer Opinion Survey, and correlates well to changes in mortgage pricing at the time the loan was originated. The authors' findings are consistent with an economic environment in which the incentives of low-risk consumers to obtain a mortgage decrease when the cost of obtaining a loan rises. As a result, mortgage originators generate mortgages from a pool of consumers with changing risk profiles over the credit cycle.

The unobservable component of the shift in credit risk, relative to the usual underwriting criteria, may be thought of as macroeconomic adverse selection.

Working Paper 16–05. Joseph L. Breeden, Prescient Models LLC; José J. Canals-Cerdá, Federal Reserve Bank of Philadelphia Supervision, Regulation, and Credit.

RELATIVE PRICE DISPERSION: EVIDENCE AND THEORY

The authors use a large data set on retail pricing to document that a sizable portion of the cross-sectional variation in the price at which the same good trades in the same period and in the same market is due to the fact that stores that are, on average, equally expensive set persistently different prices for the same good. The authors refer to this phenomenon as relative price dispersion. They argue that relative price dispersion stems from sellers' attempts to discriminate between high-valuation buyers who need to make all of their purchases in the same store and low-valuation buyers who are willing to purchase different items from different stores. The authors calibrate their theory and show that it is not only consistent with the extent and sources of dispersion in the price that different sellers charge for the same good, but also with the extent and sources of dispersion in the prices that different households pay for the same basket of goods and with the relationship between prices paid and the number of stores visited by different households.

Working Paper 16–06. Greg Kaplan, Princeton University and National Bureau of Economic Research; Guido Menzio, University of Pennsylvania and National Bureau of Economic Research; Leena Rudanko, Federal Reserve Bank of Philadelphia Research Department; Nicholas Trachter, Federal Reserve Bank of Richmond.

UNIONS IN A FRICTIONAL LABOR MARKET

The authors analyze a labor market with search and matching frictions in which wage setting is controlled by a monopoly union. Frictions render existing matches a form of firm-specific capital that is subject to a hold-up problem in a

unionized labor market. The authors study how this hold-up problem manifests itself in a dynamic infinite horizon model with fully rational agents. They find that wage solidarity, seemingly an important norm governing union operations, leaves the unionized labor market vulnerable to potentially substantial distortions because of hold-up. Introducing a tenure premium in wages may allow the union to avoid the problem entirely, however, potentially allowing efficient hiring. Under an egalitarian wage policy, the degree of commitment to future wages is important for outcomes: With full commitment to future wages, the union achieves efficient hiring in the long run but hikes up wages in the short run to appropriate rents from firms. Without commitment, and in a Markov perfect equilibrium, hiring is well below its efficient level both in the short and the long run. The authors demonstrate the quantitative impact of the union in an extended model with partial union coverage and multiperiod union contracting.

Working Paper 16–07. Leena Rudanko, Federal Reserve Bank of Philadelphia Research Department; Per Krusell, Stockholm University, Center for Economic and Policy Research, and National Bureau of Economic Research.

SMALL BUSINESS LENDING: CHALLENGES AND OPPORTUNITIES FOR COMMUNITY BANKS

The recent decline in small business lending (SBL) among U.S. community banks has spurred a growing debate about the future role of small banks in providing credit to U.S. small businesses. This paper adds to that discussion in three key ways. First, the authors' research builds on existing evidence that suggests that the decline in SBL by community banks is a trend that began at least a decade before the financial crisis. Larger banks and nonbank institutions have been playing an increasing role in SBL. Second, the authors' work shows that in the years preceding the crisis, small businesses increasingly turned to mortgage credit — most notably, commercial mortgage credit — to fund their operations, exposing them to the property crisis that underpinned the Great Recession. Finally, the authors' work illustrates how community banks face an increasingly dynamic competitive landscape, including the entrance of deep-pocketed alternative nonbank lenders that are using technology to find borrowers and underwrite loans, often using unconventional lending practices. Although these lenders may pose a competitive threat to community banks, the authors explore emerging examples of partnerships and alliances among community banks and nonbank lenders.

Working Paper 16–08. Julapa Jagtiani, Federal Reserve Bank of Philadelphia Supervision, Regulation, and Credit; Catharine Lemieux, Federal Reserve Bank of Chicago.

TERM STRUCTURES OF INFLATION EXPECTATIONS AND REAL INTEREST RATES

In this paper, the author uses a statistical model to combine various surveys to produce a term structure of inflation expectations — inflation expectations at any horizon — and an associated term structure of real interest rates. Inflation expectations extracted from this model track realized inflation quite well, and in terms of forecast accuracy, they are at par with or superior to some popular alternatives. Looking at the period 2008-2015, the author concludes that long-run inflation expectations remained anchored, and the policies of the Federal Reserve provided a large level of monetary stimulus to the economy.

Working Paper 16–09. S. Borağan Aruoba, Federal Reserve Bank of Philadelphia Research Department Visiting Scholar.

SCREENING AND ADVERSE SELECTION IN FRICTIONAL MARKETS

In this paper, the authors incorporate a search-theoretic model of imperfect competition into an otherwise standard model of asymmetric information with unrestricted contracts. They develop a methodology that allows for a sharp analytical characterization of the unique equilibrium and then use this characterization to explore the interaction between adverse selection, screening, and imperfect competition. On the positive side, the authors show how the structure of equilibrium contracts — and, hence, the relationship between an agent's type, the quantity he trades, and the corresponding price — is jointly determined by the severity of adverse selection and the concentration of market power. This suggests that quantifying the effects of adverse selection requires controlling for the market structure. On the normative side, the authors show that increasing competition and reducing informational asymmetries can be detrimental to welfare. This suggests that recent attempts to increase competition and reduce opacity in markets that suffer from adverse selection could potentially have negative, unforeseen consequences.

Working Paper 16–10. Benjamin Lester, Federal Reserve Bank of Philadelphia Research Department; Ali Shourideh, University of Pennsylvania Wharton School; Venky Venkateswaran, New York University Stern School of Business; Ariel Zetlin-Jones, Carnegie Mellon University.

A NARRATIVE APPROACH TO A FISCAL DSGE MODEL

Structural DSGE models are used both for analyzing policy and the sources of business cycles. Conclusions based on full structural models are, however, potentially affected by misspecification. A competing method is to use partially identified VARs based on narrative shocks. This paper asks whether both approaches agree. First, the author shows that, theoretically, the narrative VAR approach is valid in a class of DSGE models with Taylor-type policy rules. Second, the author quantifies whether the two approaches also agree empirically, that is, whether DSGE model restrictions on the VARs and the narrative variables are supported by the data. To that end, the author first adapts the existing methods for shock identification with external instruments for Bayesian VARs in the SUR framework. The author also extends the DSGE-VAR framework to incorporate these instruments. Based on a standard DSGE model with fiscal rules, the author's results indicate that the DSGE model identification is at odds with the narrative information as measured by the marginal likelihood. The author traces this discrepancy to differences both in impulse responses and identified historical shocks.

Working Paper 16–11. Thorsten Drautzburg, Federal Reserve Bank of Philadelphia Research Department.

CAN CURRENCY COMPETITION WORK?

Can competition work among privately issued fiat currencies such as Bitcoin or Ethereum? Only sometimes. To show this, the authors build a model of competition among privately issued fiat currencies. The authors modify the current workhorse of monetary economics, the Lagos-Wright environment, by including entrepreneurs who can issue their own fiat currencies in order to maximize their utility. Otherwise, the model is standard. The authors show that there exists an equilibrium in which price stability is consistent with competing private monies but also that there exists a continuum of equilibrium trajectories with the property that the value of private currencies monotonically converges to zero. These latter equilibria disappear, however, when the authors introduce productive capital. They also investigate the properties of hybrid monetary arrangements with private and government monies, of automata issuing money, and the role of network effects.

Working Paper 16–12. Jesús Fernández-Villaverde, University of Pennsylvania, National Bureau of Economic Research, and Center for Economic Policy and Research; Daniel Sanches, Federal Reserve Bank of Philadelphia Research Department.