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ELIMINATING SOCIAL SECURITY: IMPLICATIONS FOR LABOR SUPPLY AND CONSUMPTION DECISIONS

This paper incorporates home production into a dynamic general equilibrium model of overlapping generations with endogenous retirement to study Social Security reforms. As such, the model differentiates both consumption goods and labor effort according to their respective roles in home production and market activities. Using a calibrated model, the authors find that eliminating the current pay-as-you-go Social Security system has important implications for both labor supply and consumption decisions and that these decisions are influenced by the presence of a home production technology. Comparing their benchmark economy to one with differentiated goods but no home production, the authors find that eliminating Social Security benefits generates larger welfare gains in the presence of home production. This result is due to the self-insurance aspects generated by the presence of home production. Comparing their economy to a one-good economy without home production, the authors show that the welfare gains of eliminating Social Security are magnified even further. These policy analyses suggest the importance of modeling home production and distinguishing between both time use and consumption goods depending on whether they are involved in market or home production.

Working Paper 12-5, "Home Production and Social Security Reform," Michael Dotsey, Federal Reserve Bank of Philadelphia; Wenli

Li, Federal Reserve Bank of Philadelphia; and Fang Yang, State University of New York at Albany

INTERNATIONALLY INTEGRATED FINANCIAL MARKETS AND LEVELS OF PUBLIC DEBT

During the last three decades, the stock of government debt has increased in most developed countries. Also observed during the same period are a significant liberalization of international financial markets and an increase in income inequality in several industrialized countries. In this paper the authors propose a multi-country political economy model with incomplete markets and endogenous government borrowing and show that governments choose higher levels of public debt when financial markets become internationally integrated and inequality increases. The authors also conduct an empirical analysis using OECD data and find that the predictions of the theoretical model are supported by the empirical results.

Working Paper 12-6, "Financial Globalization, Inequality, and the Raising of Public Debt," Marina Azzimonti, Federal Reserve Bank of Philadelphia; Eva de Francisco, Towson University; and Vincenzo Quadrini, University of Southern California

DOCUMENTING THE PRESENCE OF A PRIVATE PREMIUM IN PUBLIC BONDS

This paper is the first to document the presence of a private premium in public bonds. The authors find that spreads are 31

basis points higher for public bonds of private companies than for bonds of public companies, even after controlling for observable differences, including rating, financial performance, industry, bond characteristics, and issuance timing. The estimated private premium increases to 40 to 50 basis points when a propensity matching methodology is used or when they control for fixed issuer effects. Despite the premium pricing, bonds of private companies are no more likely to default or be downgraded than are public bonds. They do not have worse secondary market performance or higher CDS spreads nor are they necessarily less liquid. Bond investors appear to discount the value of privately held equity. The effect does not come only from the lack of a public market signal of asset quality because very small public companies also pay high spreads.

Working Paper 12-7, "The Private Premium in Public Bonds," Anna Kovner, Federal Reserve Bank of New York, and Chenyang Wei, Federal Reserve Bank of Philadelphia

HOW INVENTORIES AFFECT TRADE, INFORMATION DISSEMINATION, AND PRICE FORMATION

The authors study trade between a buyer and a seller who have existing inventories of assets similar to those being traded. They analyze how these inventories affect trade, information dissemination, and prices. The authors show that when traders' initial leverages are moderate, inventories increase price and trade volume (a market "run-up"), but when leverages are high, trade is impossible (a market "freeze"). Their analysis predicts a pattern of trade in which prices and volumes first increase and then markets break down. Moreover, the presence of competing buyers may amplify the increased-price effect. The authors discuss implications for regulatory intervention in illiquid markets.

Working Paper 12-8, "Market Run-Ups, Market Freezes, Inventories, and Leverage," Philip Bond, University of Minnesota, and Yaron Leitner, Federal Reserve Bank of Philadelphia

TESTING FOR BIAS IN EXPECTATIONS AS MEASURED BY ECONOMIC FORECASTS

Economists have tried to uncover stylized facts about people's expectations, testing whether such expectations are rational. Tests in the early 1980s suggested that expectations were biased, and some economists took irrational expectations as a stylized fact. But, over time, the results of tests that led to such a conclusion

were reversed. In this paper, the author examines how tests for bias in expectations, measured using the Survey of Professional Forecasters, have changed over time. In addition, key macroeconomic variables that are the subject of forecasts are revised over time, causing problems in determining how to measure the accuracy of forecasts. The results of bias tests are found to depend on the subsample in question, as well as what concept is used to measure the actual value of a macroeconomic variable. Thus, the author's analysis takes place in two dimensions: across subsamples and with alternative measures of realized values of variables.

Working Paper 12-9, "Forecast Bias in Two Dimensions," Dean Croushore, University of Richmond, and Visiting Scholar, Federal Reserve Bank of Philadelphia

DESCRIBING A NEW KEYNESIAN MODEL WITH A ZERO LOWER BOUND ON NOMINAL INTEREST RATES

Motivated by the recent experience of the U.S. and the Eurozone, the authors describe the quantitative properties of a New Keynesian model with a zero lower bound (ZLB) on nominal interest rates, explicitly accounting for the nonlinearities that the bound brings. Besides showing how such a model can be efficiently computed, the authors found that the behavior of the economy is substantially affected by the presence of the ZLB. In particular, the authors document 1) the unconditional and conditional probabilities of hitting the ZLB; 2) the unconditional and conditional probability distributions of the duration of a spell at the ZLB; 3) the responses of output to government expenditure shocks at the ZLB; 4) the distribution of shocks that send the economy to the ZLB; and 5) the distribution of shocks that keep the economy at the ZLB.

Working Paper 12-10, "Nonlinear Adventures at the Zero Lower Bound," Jesús Fernández-Villaverde, University of Pennsylvania; Grey Gordon, University of Pennsylvania; Pablo Guerrón-Quintana, Federal Reserve Bank of Philadelphia; and Juan F. Rubio-Ramírez, Duke University

REGULATING BANK LENDING PRACTICES AND THE OPTIMAL PROVISION OF PRIVATE LIQUIDITY

The authors show that the regulation of bank lending practices is necessary for the optimal provision of private liquidity. In an environment in which bankers cannot commit to repay their creditors, the authors show that neither an unregulated banking

system nor narrow banking can provide the socially efficient amount of liquidity. If the bankers provided such an amount, then they would prefer to default on their liabilities. The authors show that a regulation that increases the value of the banking sector's assets (e.g., by limiting competition in bank lending) will mitigate the commitment problem. If the value of the bank charter is made sufficiently large, then it is possible to implement an efficient allocation. Thus, the creation of a valuable bank charter is necessary for efficiency.

Working Paper 12-11, "Private Liquidity and Banking Regulation," Cyril Monnet, University of Bern, and Daniel R. Sanches, Federal Reserve Bank of Philadelphia

HOW MUCH MONEY DID THE IMPLEMENTATION OF CHECK 21 SAVE?

The authors estimate the cost savings to the U.S. payment system resulting from implementing Check 21. This legislation initially permitted a paper substitute digital image of a check, and later an electronic digital image of a check, to be processed and presented for payment on a same-day basis. Check 21 has effectively eliminated the processing and presentment of original paper checks over multiple days. By shifting to electronic collection and presentment, the Federal Reserve reduced its per item check processing costs by over 70 percent, reducing estimated overall payment system costs by \$1.16 billion in 2010. In addition, payment collection times and associated float fell dramatically for collecting banks and payees with consequent additional savings in firm working capital costs of perhaps \$1.37 billion and consumer benefits of \$0.64 billion.

Working Paper 12-12, "Getting Rid of Paper: Savings from Check 21," David B. Humphrey, Florida State University, and Visiting Scholar, Federal Reserve Bank of Philadelphia, and Robert Hunt, Federal Reserve Bank of Philadelphia

MARKET DISCIPLINE, RISK-TAKING, AND BANK STABILITY

Self regulation encouraged by market discipline constitutes a key component of Basel II's third pillar. But high-risk investment strategies may maximize the expected value of some banks. In these cases, does market discipline encourage risk-taking that undermines bank stability in economic downturns? This paper reviews the literature on corporate control in banking. It reviews the techniques for assessing bank performance, interaction between regulation and the federal safety

net with market discipline on risk-taking incentives and stability, and sources of market discipline, including ownership structure, capital market discipline, product market competition, labor market competition, boards of directors, and compensation.

Working Paper 12-13, "A Primer on Market Discipline and Governance of Financial Institutions for Those in a State of Shocked Disbelief," Joseph P. Hughes, Rutgers University, and Loretta J. Mester, Federal Reserve Bank of Philadelphia

EXAMINING HOW SENIORITY CAN MITIGATE THE DEBT DILUTION PROBLEM

An important source of inefficiency in long-term debt contracts is the debt dilution problem, wherein a borrower ignores the adverse impact of new borrowing on the market value of outstanding debt and, therefore, borrows too much and defaults too frequently. A commonly proposed remedy to the debt dilution problem is seniority of debt, wherein creditors who lent first are given priority in any bankruptcy or restructuring proceedings. The goal of this paper is to incorporate seniority in a quantitatively realistic, infinite horizon model of sovereign debt and default and examine, both theoretically and quantitatively, the extent to which seniority can mitigate the debt dilution problem.

Working Paper 12-14, "Debt Dilution and Seniority in a Model of Defaultable Sovereign Debt," Satyajit Chatterjee, Federal Reserve Bank of Philadelphia, and Burcu Eyigungor, Federal Reserve Bank of Philadelphia

FORGIVING STUDENT LOANS WHEN BORROWERS DON'T COMPLETE COLLEGE

Participants in student loan programs must repay loans in full regardless of whether they complete college. But many students who take out a loan do not earn a degree (the dropout rate among college students is between 33 to 50 percent). The authors examine whether insurance, in the form of loan forgiveness in the event of failure to complete college, can be offered, taking into account moral hazard and adverse selection. To do so, they develop a model that accounts for college enrollment and graduation rates among recent U.S. high school graduates. In their model, students may fail to earn a degree because they either fail college or choose to leave voluntarily. The authors find that if loan forgiveness is offered only when a student fails college, average welfare increases by 2.40 percent (in consumption equivalent units) without much effect on

either enrollment or graduation rates. If loan forgiveness is offered against both failure and voluntary departure, welfare increases by 2.15 percent, and both enrollment and graduation are higher.

Working Paper 12-15, "Insuring Student Loans Against the Financial Risk of Failing to Complete College," Satyajit Chatterjee, Federal Reserve Bank of Philadelphia, and Felicia Ionescu, Colgate University

TRADE WEDGES AND FLUCTUATIONS IN INTERNATIONAL TRADE

The large, persistent fluctuations in international trade that cannot be explained in standard models by changes in expenditures and relative prices are often attributed to trade wedges. The authors show that these trade wedges can reflect the decisions of importers

to change their inventory holdings. They find that a two-country model of international business cycles with an inventory management decision can generate trade flows and wedges consistent with the data. Moreover, matching trade flows alters the international transmission of business cycles. Specifically, real net exports become countercyclical and consumption is less correlated across countries than in standard models. The authors also show that ignoring inventories as a source of trade wedges substantially overstates the role of trade wedges in business cycle fluctuations.

Working Paper 12-16, "Trade Wedges, Inventories, and International Business Cycles," George Alessandria, Federal Reserve Bank of Philadelphia; Joseph Kaboski, University of Notre Dame; and Virgiliu Midrigan, New York University