

Research Update

These papers by Philadelphia Fed economists, analysts, and visiting scholars represent preliminary research that is being circulated for discussion purposes.

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Home Equity in Retirement

Retired homeowners dissave more slowly than renters, which suggests that homeownership affects retirees' saving decisions. We investigate empirically and theoretically the life-cycle patterns of homeownership, housing and nonhousing assets in retirement. Using an estimated structural model of saving and housing decisions, we find, first, that homeowners dissave slowly because they prefer to stay in their house as long as possible but cannot easily borrow against it. Second, the 1996–2006 housing boom significantly increased homeowners' assets. These channels are quantitatively significant; without considering homeownership, retirees' net worth would be 28–44 percent lower, depending on age.

Working Paper 19-50. Makoto Nakajima, Federal Reserve Bank of Philadelphia Research Department; Irina A. Telyukova, Mulligan Funding.

Bayesian Estimation and Comparison of Conditional Moment Models

We provide a Bayesian analysis of models in which the unknown distribution of the outcomes is specified up to a set of conditional moment restrictions. This analysis is based on the nonparametric exponentially tilted empirical likelihood (ETEL) function, which is constructed to satisfy a sequence of unconditional moments, obtained from the conditional moments by an increasing (in sample size) vector of approximating functions (such as tensor splines based on the splines of each conditioning variable). The posterior distribution is shown to satisfy the Bernstein-von Mises theorem, subject to a growth rate condition on the number of approximating functions, even under misspecification of the conditional moments. A large-sample theory for comparing different conditional moment models is also developed. The central result is that the marginal likelihood criterion selects the model that is less misspecified, that is, the model that is closer to the unknown true distribution in terms of the Kullback-Leibler divergence. Several examples are provided to illustrate the framework and results.

Working Paper 19-51. Siddhartha Chib, Olin Business School, Washington University in St. Louis; Minchul Shin, Federal Reserve Bank of Philadelphia Research Department; Anna Simoni, CREST, CNRS, Ecole Polytechnique.

Financial Constraints of Entrepreneurs and the Self-Employed

Growth-oriented entrepreneurial start-ups generate more economic growth than other self-employed businesses, yet they only constitute a small fraction of start-ups. We examine whether financial constraints impede these types of start-ups by exploiting lottery wins as exogenous wealth shocks. We find that lottery-win magnitude increases winners' subsequent incorporation, implying that entrepreneurs face financial constraints, but not business registration, implying that financial constraints do not bind as much for the self-employed. Our results, that financial constraints bind for incorporations among men, for serial entrepreneurs, during economic booms, and in neighborhoods without local lenders, are important for understanding the financial impediments to entrepreneurial start-ups.

Working Paper 19-52. Vyacheslav Mikhed, Federal Reserve Bank of Philadelphia Consumer Finance Institute; Sahil Raina, University of Alberta; Barry Scholnick, University of Alberta and Federal Reserve Bank of Philadelphia Consumer Finance Institute Visiting Scholar.

Owner-Occupancy Fraud and Mortgage Performance

We use a matched credit bureau and mortgage dataset to identify occupancy fraud in residential mortgage originations, that is, borrowers who misrepresented their occupancy status as owner-occupants rather than residential real estate investors. In contrast to previous studies, our dataset allows us to show that—during the housing bubble—such fraud was broad based, appearing in the government-sponsored enterprise market and in loans held on bank portfolios as well, and increases the effective share of investors by 50 percent. We show that a key benefit of investor fraud was obtaining a lower interest rate, particularly for riskier borrowers. Mortgage borrowers who misrepresented their occupancy status performed substantially worse than otherwise similar owner-occupants and declared investors, and constituted one-sixth of the share of loans in default by the end of 2008. We show that these defaults were also significantly more likely to be “strategic,” further highlighting the contribution of fraud in the housing bust.

Supersedes Working Paper 15-45.

Working Paper 19-53. Ronel Elul, Federal Reserve Bank of Philadelphia Research Department; Aaron Payne, Federal Reserve Bank of Philadelphia Research Department; Sebastian Tilson.

Financial Consequences of Health Insurance: Evidence from the ACA's Dependent Coverage Mandate

We study the financial effects of health insurance for young adults using the Affordable Care Act's dependent coverage mandate as a source of exogenous variation. Using nationally representative, anonymized credit report and publicly available survey data on medical expenditures, we exploit the mandate's implementation in 2010 and its automatic disenrollment mechanism at age 26. Our estimates show that increasing access to health insurance lowered young adults' out-of-pocket medical expenditures, debt in third-party collections, and the probability of personal bankruptcy. However, most improvements in financial outcomes are transitory, as they diminish after an individual ages out of the mandate at age 26.

Supersedes Working Paper 18-03.

Working Paper 19-54. Nathan Blascak, Federal Reserve Bank of Philadelphia Consumer Finance Institute; Vyacheslav Mikhed, Federal Reserve Bank of Philadelphia Consumer Finance Institute.

Population Aging, Credit Market Frictions, and Chinese Economic Growth

We build a unified framework to quantitatively examine population aging and credit market frictions in contributing to Chinese economic growth between 1977 and 2014. We find that demographic changes together with endogenous human capital accumulation account for a large part of the rise in per capita output growth, especially after 2007, as well as some of the rise in savings. Credit policy changes initially alleviate the capital misallocation between private and public firms and lead to significant increases in both savings and output growth. Later, they distort capital allocation. While contributing to further increase in savings, the distortion slows down economic growth. Among factors that we consider, increased life expectancy and financial development in the form of reduced intermediation cost are the most important in driving the dynamics of savings and growth.

Supersedes Working Paper 19-21.

Working Paper 19-55. Michael Dotsey, Federal Reserve Bank of Philadelphia Research Department; Wenli Li, Federal Reserve Bank of Philadelphia Research Department; Fang Yang, Louisiana State University.

The Trade-Comovement Puzzle

Standard international transmission mechanism of productivity shocks predicts a weak endogenous linkage between trade and business cycle synchronization: a problem known as the trade-comovement puzzle. We provide the foundational analysis of the puzzle, pointing to three natural candidate resolutions: i) financial market frictions; ii) Greenwood–Hercowitz–Huffman preferences; and iii) dynamic trade elasticity that is low in the short run but high in the long run. We show the effects of each of these candidate resolutions analytically and evaluate them quantitatively. We find that, while i) and ii) fall short of the data, iii) goes a long way toward resolving the puzzle.

Appendix

Supersedes Working Paper 17-42.

Working Paper 20-01. Lukasz A. Drozd, Federal Reserve Bank of Philadelphia Research Department; Sergey Kolbin, Amazon; Jaromir B. Nosal, Boston College.

Capital Income Taxation with Housing

This paper quantitatively investigates capital income taxation in the general-equilibrium overlapping generations model with household heterogeneity and housing. Housing tax policy is found to affect how capital income should be taxed, due to substitution between housing and nonhousing capital. Given the existing U.S. preferential tax treatment for owner-occupied housing, the optimal capital income tax rate is close to zero (1 percent), contrary to the high optimal capital income tax rate found with overlapping generations models without housing. A low capital income tax rate improves welfare by narrowing a tax wedge between housing and nonhousing capital; the narrowed tax wedge indirectly nullifies the subsidies (taxes) for homeowners (renters) and corrects overinvestment to housing. Naturally, when the preferential tax treatment for owner-occupied housing is eliminated, a high capital income tax rate improves welfare as in the model without housing.

Supersedes Working Paper 10-11.

Working Paper 20-02. Makoto Nakajima, Federal Reserve Bank of Philadelphia Research Department.

Self-Fulfilling Debt Crises, Revisited

We revisit self-fulfilling rollover crises by exploring the potential uncertainty introduced by a gap in time (however small) between an auction of new debt and the payment of maturing liabilities. It is well known (Cole and Kehoe, 2000) that the lack of commitment at the time of auction to repayment of imminently maturing debt can generate a run on debt, leading to a failed auction and immediate default. We show that the same lack of commitment leads to a rich set of possible self-fulfilling crises, including a government that issues more debt because of the crisis, albeit at depressed prices. Another possible outcome is a “sudden stop” (or forced austerity) in which the government sharply curtails debt issuance. Both outcomes stem from the government’s incentive to eliminate uncertainty about imminent payments at the time of auction by altering the level of debt issuance. In an otherwise standard quantitative version of the model, including such crises increases the default probabilities by a factor of five and the spread volatility by a factor of 25.

Working Paper 20-03. Mark Aguiar, Princeton University and Visiting Scholar, Federal Reserve Bank of Philadelphia Research Department; Satyajit Chatterjee, Federal Reserve Bank of Philadelphia Research Department; Harold L. Cole, University of Pennsylvania and Visiting Scholar, Federal Reserve Bank of Philadelphia Research Department; Zachary Stangebye, University of Notre Dame.

Concentration in Mortgage Markets: GSE Exposure and Risk-Taking in Uncertain Times

When home prices threaten to decline, lenders bearing more of a community’s mortgage risk have an incentive to combat this decline with new lending that boosts demand. We test whether this incentive drove the government-sponsored enterprises (GSEs) to guarantee riskier mortgages in early 2007, as the chance of substantial declines grew from small to significant. To identify the effect we relate new risky lending to regional variation in the GSEs’ exposure and the interaction of this variation with home-price elasticity. We focus on the GSEs’ discretion across potential purchases by reference to the credit-score threshold that triggers manual underwriting. We conclude that this incentive helps explain the GSEs’ expansion of risky lending shortly before the financial crisis.

Working Paper 20-04. Ronel Elul, Federal Reserve Bank of Philadelphia Research Department; Deeksha Gupta, Carnegie Mellon University and Visiting Scholar, Federal Reserve Bank of Philadelphia Research Department; David Musto, University of Pennsylvania and Visiting Scholar, Federal Reserve Bank of Philadelphia Research Department.

Health Insurance as an Income Stabilizer

We evaluate the effect of health insurance on the incidence of negative income shocks using the tax data and survey responses of nearly 14,000 low-income households. Using a regression discontinuity (RD) design and variation in the cost of nongroup private health insurance under the Affordable Care Act, we find that eligibility for subsidized Marketplace insurance is associated with a 16 percent and 9 percent decline in the rates of unexpected job loss and income loss, respectively. Effects are concentrated among households with past health costs and exist only for “unexpected” forms of earnings variation, suggesting a health-productivity link. Calculations based on our fuzzy RD estimate imply a \$256 to \$476 per year welfare benefit of health insurance in terms of reduced exposure to job loss.

Working Paper 20-05. Emily Gallagher, University of Colorado Boulder and Federal Reserve Bank of Philadelphia Consumer Finance Institute Visiting Scholar; Nathan Blascak, Federal Reserve Bank of Philadelphia Consumer Finance Institute; Stephen P. Roll, Washington University in St. Louis; Michal Grinstein-Weiss, Washington University in St. Louis.

The Role of Startups for Local Labor Markets

There are substantial differences in startup activity across U.S. local labor markets. We study the causes and consequences of these differences. Startup productivity shocks are found to drive much of these cross-city differences in startup activity: They explain half of the forecast error variance of startup job creation, accounting for 40 percent of population growth and long-run changes in employment. Shocks to barriers to firm entry have economywide effects similar to those of startup productivity shocks but operate largely through the number of startups, rather than their size. We use a novel spatial panel VAR, identifying shocks using shift-share external instruments.

Appendix

Working Paper 17-31 Revised. Gerald Carlino, Federal Reserve Bank of Philadelphia Research Department; Thorsten Drautzburg, Federal Reserve Bank of Philadelphia Research Department.

Debt Collection Agencies and the Supply of Consumer Credit

This paper finds that stricter laws regulating third-party debt collection reduce the number of third-party debt collectors, lower the recovery rates on delinquent credit card loans, and lead to a modest decrease in the openings of new revolving lines of credit. Further, stricter third-party debt collection laws are associated with fewer consumer lawsuits against third-party debt collectors but not with a reduction in the overall number of consumer complaints. Overall, stricter third-party debt collection laws appear to restrict access to new revolving credit but have an ambiguous effect on the nonpecuniary costs that the debt collection process imposes on borrowers.

Supersedes Working Paper 15-23.

Working Paper 20-06. Viktor Fedaseyev, China Europe International Business School and Federal Reserve Bank of Philadelphia Consumer Finance Institute Visiting Scholar.

Supply Shock Versus Demand Shock: The Local Effects of New Housing in Low-Income Areas

We study the local effects of new market-rate housing in low-income areas using microdata on large apartment buildings, rents, and migration. New buildings decrease nearby rents by 5 to 7 percent relative to locations slightly farther away or developed later, and they increase in-migration from low-income areas. Results are driven by a large supply effect—we show that new buildings absorb many high-income households—that overwhelms any offsetting endogenous amenity effect. The latter may be small because most new buildings go into already-changing areas. Contrary to common concerns, new buildings slow local rent increases rather than initiate or accelerate them.

Working Paper 20-07. Brian J. Asquith, W.E. Upjohn Institute for Employment Research; Evan Mast, W.E. Upjohn Institute for Employment Research; Davin Reed, Federal Reserve Bank of Philadelphia Community Development and Regional Outreach.

“Don’t Know What You Got Till It’s Gone” – The Community Reinvestment Act in a Changing Financial Landscape

This study provides new evidence on the impact of the Community Reinvestment Act (CRA) on mortgage lending by taking advantage of an exogenous policy shock in 2014, which caused significant changes in neighborhoods’ CRA eligibility in the Philadelphia market. The loss of CRA coverage leads to an over 10 percent decrease in purchase originations by CRA-regulated lenders. While nondepository institutions replace approximately half, but not all, of the decreased lending, their increased market share was accompanied by a greater involvement in riskier and more costly FHA lending. This study demonstrates how different lenders respond to the incentive of CRA credit.

Supersedes Working Paper 17-15.

Working Paper 20-08. Lei Ding, Federal Reserve Bank of Philadelphia Community Development and Regional Outreach; Leonard Nakamura, Federal Reserve Bank of Philadelphia Research Department.