



RESEARCH UPDATE

These working papers present preliminary findings of research conducted by Philadelphia Fed economists, analysts, and visiting scholars. Visit our website for more **abstracts** and **papers**.

CONGESTION, AGGLOMERATION, AND THE STRUCTURE OF CITIES

Congestion costs in urban areas are significant and clearly represent a negative externality. Nonetheless, economists also recognize the production advantages of urban density in the form of positive agglomeration externalities. The long-run equilibrium outcomes in economies with multiple correlated but offsetting externalities have yet to be fully explored in the literature. Therefore, the author has developed a spatial equilibrium model of urban structure that includes both congestion costs and agglomeration externalities. The author then estimates the structural parameters of the model using a computational algorithm to match the spatial distribution of employment, population, land use, land rents, and commute times in the data. Policy simulations based on the estimates suggest that congestion pricing may have ambiguous consequences for economic welfare.

Working Paper 16–13. Jeffrey C. Brinkman, Federal Reserve Bank of Philadelphia Research Department.

Supersedes Working Paper 13–25.

CREDIT RATINGS, PRIVATE INFORMATION, AND BANK MONITORING ABILITY

In this paper, the authors use credit rating data from two large Swedish banks to elicit evidence on banks' loan monitoring ability. For these banks, the authors' tests reveal that banks' internal credit ratings indeed include valuable private information from monitoring, as theory suggests. Banks' private information increases with the size of loans.

Working Paper 16–14. Leonard I. Nakamura, Federal Reserve Bank of Philadelphia Research Department; Kasper Roszbach, Sveriges Riksbank, University of Groningen.

IS BIGGER NECESSARILY BETTER IN COMMUNITY BANKING?

The authors investigate the relative performance of publicly traded community banks (those with assets less than \$10 billion) versus larger banks (those with assets

between \$10 billion and \$50 billion). A body of research has shown that community banks have potential advantages in relationship lending compared with large banks, although newer research suggests that these advantages may be shrinking. In addition, the burdens placed on community banks by the regulatory reforms mandated by the Dodd-Frank Wall Street Reform and Consumer Protection Act and the need to increase investment in technology, both of which have fixed-cost components, may have disproportionately raised community banks' costs. The authors find that, on average, large banks financially outperform community banks as a group and are more efficient at credit-risk assessment and monitoring. But within the community bank segment, larger community banks outperform smaller community banks. The authors' findings, taken as a whole, suggest that there are incentives for small banks to grow larger to exploit scale economies and to achieve other scale-related benefits in terms of credit-risk monitoring. In addition, the authors find that small business lending is an important factor in the better performance of large community banks compared with small community banks. Thus, concern that small business lending would be adversely affected if small community banks find it beneficial to increase their scale is not supported by their results.

Working Paper 16–15. Joseph P. Hughes, Rutgers University; Julapa Jagtiani, Federal Reserve Bank of Philadelphia Supervision, Regulation, and Credit; Loretta J. Mester, Federal Reserve Bank of Cleveland, University of Pennsylvania Wharton School.

THE POLITICAL ECONOMY OF UNDERFUNDED MUNICIPAL PENSION PLANS

The authors analyze the determinants of underfunding of local governments' pension funds using a politico-economic overlapping generations model. They show that a binding downpayment constraint in the housing market dampens capitalization of future taxes into current land prices. Thus, a local government's pension funding policy

matters for land prices and the utility of young households. Underfunding arises in equilibrium if the pension funding policy is set by the old generation. Young households instead favor a policy of full funding. Empirical results based on cross-city comparisons in the magnitude of unfunded liabilities are consistent with the predictions of the model.

Working Paper 16–16. Jeffrey C. Brinkman, Federal Reserve Bank of Philadelphia Research Department; Daniele Coen-Pirani, University of Pittsburgh; Holger Sieg, University of Pennsylvania, National Bureau of Economic Research.

DO GDP FORECASTS RESPOND EFFICIENTLY TO CHANGES IN INTEREST RATES?

The authors examine and extend the results of Ball and Croushore (2003) and Rudebusch and Williams (2009), who show that the output forecasts in the Survey of Professional Forecasters (SPF) are inefficient. Ball and Croushore show that the SPF output forecasts are inefficient with respect to changes in monetary policy, as measured by changes in real interest rates, while Rudebusch and Williams show that the forecasts are inefficient with respect to the yield spread. In this paper, the authors investigate the robustness of both claims of inefficiency, using real-time data and exploring the impact of alternative sample periods on the results.

Working Paper 16–17. Dean Croushore, University of Richmond, Federal Reserve Bank of Philadelphia Research Department Visiting Scholar; Katherine Marsten, Federal Reserve Board of Governors.

AN EXPERIMENT ON INFORMATION USE IN COLLEGE STUDENT LOAN DECISIONS

There is ample concern that college students are making ill-informed student loan decisions with potentially negative consequences to themselves and the broader economy. The author reports the results of a randomized field experiment in which college students are provided salient information about their borrowing choices. The setting is a large flagship public university in the Midwest, and the sample includes all nongraduating students who previously borrowed student loan money (~10,000 students). Half of the students received individually tailored letters with simplified information about future monthly payments, cumulative borrowing, and the typical borrowing of peers; the other half is the control group that received no additional information. There are at most modest effects of the letter overall, which suggests that information alone is not sufficient to drive systematically different borrowing choices among students.

However, some key student subgroups changed their borrowing in response to the letter, particularly those with low GPAs. There is also evidence of intended (more contact with financial aid professionals) and unintended (lower Pell Grant receipt) consequences of the letter.

Working Paper 16–18. Rajeev Darolia, University of Missouri, Federal Reserve Bank of Philadelphia Payment Cards Center Visiting Scholar.

THE CAUSES OF HOUSEHOLD BANKRUPTCY: THE INTERACTION OF INCOME SHOCKS AND BALANCE SHEETS

The authors examine how household balance sheets and income statements interact to affect bankruptcy decisions following an exogenous income shock. For identification, they exploit government payments in one but not any other Canadian province that varied exogenously based on family size. Receiving a larger income shock from the payment (relative to household income) reduces the count of bankruptcies, with fewer remaining filers having higher net balance sheet benefits of bankruptcy (unsecured debt discharged minus liquidated assets forgone). Receiving an income shock thus causes households that would receive lower net balance sheet benefits under bankruptcy law to select out of bankruptcy.

Working Paper 16–19. Vyacheslav Mikhed, Federal Reserve Bank of Philadelphia Payment Cards Center; Barry Scholnick, University of Alberta School of Business. Supersedes Working Paper 14–17.

WHAT HAVE WE LEARNED ABOUT THE CAUSES OF RECENT GENTRIFICATION?

Since 2000, strengthening gentrification in an expanding section of cities and neighborhoods has renewed interest from policymakers, researchers, and the public in the causes of gentrification. The identification of causal factors can help inform analyses of welfare, policy responses, and forecasts of future neighborhood change. The authors highlight some features of recent gentrification that popular understandings often do not emphasize, and they review progress on identifying some causal factors. However, a complete account of the relative contribution of many factors is still elusive. The authors suggest questions and opportunities for future research.

Working Paper 16–20. Jackelyn Hwang, Princeton University; Jeffrey Lin, Federal Reserve Bank of Philadelphia Research Department.

ASSESSING BANKRUPTCY REFORM IN A MODEL WITH TEMPTATION AND EQUILIBRIUM DEFAULT

A life-cycle model with equilibrium default in which agents with and without temptation coexist is constructed to evaluate the 2005 bankruptcy law reform. The calibrated model indicates that the 2005 reform reduces bankruptcies, as seen in the data, and improves welfare, as lower default premia allows better consumption smoothing. A counterfactual reform of changing income garnishment rate is also investigated. Interesting contrasting welfare effects between two types of agents emerge. Agents with temptation prefer a lower garnishment rate as tighter borrowing constraint prevents them from over-borrowing, while those without prefer better consumption smoothing enabled by a higher garnishment rate.

Working Paper 16–21. Makoto Nakajima, Federal Reserve Bank of Philadelphia Research Department.

THE CONSEQUENCES OF GENTRIFICATION: A FOCUS ON RESIDENTS' FINANCIAL HEALTH IN PHILADELPHIA

There has been considerable debate and controversy about the effects of gentrification on neighborhoods and the people residing in them. This paper draws on a unique large-scale consumer credit database to examine the relationship between gentrification and the credit scores of residents in the City of Philadelphia from 2002 to 2014. The authors find that gentrification is positively associated with changes in residents' credit scores on average for those who stay, and this relationship is stronger for residents in neighborhoods in the more advanced stages of gentrification. Gentrification is also positively associated with credit score changes for less advantaged residents (low credit score, older, or longer term residents, and those without mortgages) if they do not move, though the magnitude of this positive association is smaller than for their more advantaged counterparts. Nonetheless, moving from gentrifying neighborhoods is negatively associated with credit score changes for less advantaged residents, residents who move to lower-income neighborhoods, and residents who move to any other neighborhoods within the city (instead of outside the city) relative to those who stay. The results demonstrate how the association between gentrification and residents' financial health is uneven, especially for less advantaged residents.

Working Paper 16–22. Lei Ding, Federal Reserve Bank of Philadelphia Community Development Studies & Education Department; Jackelyn Hwang, Princeton University.

DISTRIBUTIONAL INCENTIVES IN AN EQUILIBRIUM MODEL OF DOMESTIC SOVEREIGN DEFAULT

Europe's debt crisis resembles historical episodes of outright default on domestic public debt about which little research exists. This paper proposes a theory of domestic sovereign default based on distributional incentives affecting the welfare of risk-averse debt and non-debtholders. A utilitarian government cannot sustain debt if default is costless. If default is costly, debt with default risk is sustainable, and debt falls as the concentration of debt ownership rises. A government favoring bondholders can also sustain debt, with debt rising as ownership becomes more concentrated. These results are robust to adding foreign investors, redistributive taxes, or a second asset.

Working Paper 16–23. Pablo D'Erasmus, Federal Reserve Bank of Philadelphia Research Department; Enrique G. Mendoza, University of Pennsylvania, National Bureau of Economic Research, Penn Institute for Economic Research.