RESEARCH RAP

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INSIDER BANK RUNS: COMMUNITY BANK FRAGILITY AND THE FINANCIAL CRISIS OF 2007

From 2007 to 2010, more than 200 community banks in the United States failed. Many of these failed community banking organizations (CBOs) held less than $1 billion in total assets. As economic conditions worsen, banking organizations are expected to preserve capital to withstand unexpected losses. This study examines CBOs prior to failure or becoming problem institutions to understand if, on average, a run on capital by insiders via dividend payouts led to greater financial fragility at the onset of the crisis. The authors use a control group of similar-sized banks that did not fail or become problem institutions to compare their results and to draw statistical conclusions. They use standard control variables highlighting corporate governance and managerial ownership, such as S-corporation designation and bank complexity that might create incentives more conducive to insider enrichment than to the welfare of depositors or debtholders. Although the new Dodd-Frank legislation exempted smaller banks from many proposed requirements, the authors' results show that capital distributions to insiders contributed to community bank weakness during the financial crisis.

Working Paper 15–09. Christopher Henderson, Federal Reserve Bank of Philadelphia; William W. Lang, Federal Reserve Bank of Philadelphia; William E. Jackson III, University of Alabama.

STRESS TESTS AND INFORMATION DISCLOSURE

The authors study an optimal disclosure policy of a regulator that has information about banks' ability to overcome future liquidity shocks. They focus on the following tradeoff: Disclosing some information may be necessary to prevent a market breakdown, but disclosing too much information destroys risk-sharing opportunities (the Hirshleifer effect). The authors find that during normal times, no disclosure is optimal, but during bad times, partial disclosure is optimal. The authors characterize the optimal form of this partial disclosure. They relate their results to the Bayesian persuasion literature and to the debate on disclosure of stress test results.

Working Paper 15–10. Supersedes Working Paper 13–26. Itay Goldstein, Wharton School, University of Pennsylvania; Yaron Leitner, Federal Reserve Bank of Philadelphia.

INFORMATION LOSSES IN HOME PURCHASE APPRAISALS

Home appraisals are produced for millions of residential mortgage transactions each year, but appraisals are rarely below the transaction price. The authors exploit a unique data set to show that the mortgage application process creates an incentive to substitute the transaction price for the true appraised value when the latter is lower. The authors relate the frequency of information loss (appraisals set equal to transaction price) to market conditions and other factors that plausibly determine the degree of distortion. Information loss in appraisals may increase the procyclicality of housing booms and busts.

Working Paper 15–11. Paul S. Calem, Federal Reserve Bank of Philadelphia; Lauren Lambie-Hanson, Federal Reserve Bank of Philadelphia; Leonard I. Nakamura, Federal Reserve Bank of Philadelphia.

ASSESSING BANKRUPTCY REFORM IN A MODEL WITH TEMPTATION AND EQUILIBRIUM DEFAULT

A life-cycle model with equilibrium default in which consumers with and without temptation coexist is constructed to evaluate the 2005 bankruptcy law reform and other counterfactual reforms. The calibrated model indicates that the 2005 bankruptcy reform achieves its goal of reducing the number of bankruptcy filings, as seen in the data, but at the cost of loss in social welfare. The creditor-friendly reform provides borrowers with a stronger commitment to repay and thus yields lower default premia and better consumption smoothing. However, those who borrow and default due to temptation or unavoidable large expenditures suffer more under the reform due to higher costs or means-testing requirement. Moreover, those who borrow due to temptation suffer from overborrowing when the borrowing cost declines. The model indicates that the negative welfare effects dominate.

Working Paper 15–12. Makoto Nakajima, Federal Reserve Bank of Philadelphia.

A QUANTITATIVE ANALYSIS OF THE U.S. HOUSING AND MORTGAGE MARKETS AND THE FORECLOSURE CRISIS

The authors present a model of long-duration collateralized debt with risk of default. Applied to the housing market, it can match the homeownership rate, the average foreclosure rate, and the lower tail of the distribution of home-equity ratios across homeowners prior to the recent crisis. The authors stress the role of favorable tax treatment of housing in matching these facts. They then use the model to account for the foreclosure crisis in terms of three shocks: overbuilding, financial frictions, and foreclosure delays. The financial friction shock accounts for much of the decline in house prices, while the foreclosure delays account for most of the rise in foreclosures. The scale of the foreclosure crisis might have been smaller if mortgage interest payments were not tax deductible. Temporarily higher inflation might have lowered the foreclosure rate as well.

Working Paper 15–13. Supersedes Working Paper 11–26. Satyajit Chatterjee, Federal Reserve Bank of Philadelphia; Burcu Eyigungor, Federal Reserve Bank of Philadelphia.

A COST-BENEFIT ANALYSIS OF JUDICIAL FORECLOSURE DELAY AND A PRELIMINARY LOOK AT NEW MORTGAGE SERVICING RULES

Since the start of the financial crisis, the authors have seen an extraordinary lengthening of foreclosure timelines, particularly in states that require judicial review to complete a foreclosure but also recently in nonjudicial states. The authors' analysis synthesizes findings from several lines of research, updates results, and presents new analysis to examine the costs and benefits of judicial foreclosure review. Consistent with previous studies, the authors find that judicial review imposes large costs with few, if any, offsetting benefits. They also provide early analysis of the new mortgage servicing rules enacted by the Consumer Financial Protection Bureau (CFPB) and find that these rules are contributing to even longer timelines, especially in nonjudicial states.

Working Paper 15–14. Larry Cordell, Federal Reserve Bank of Philadelphia; Lauren Lambie-Hanson, Federal Reserve Bank of Philadelphia.

SECURITIZATION AND MORTGAGE DEFAULT

The author finds that private-securitized loans perform worse than observably similar, nonsecuritized loans, which provides evidence for adverse selection. The effect of securitization is strongest for prime mortgages, which have not been studied widely in the previous literature and particular prime adjustable-rate mortgages (ARMs): These become delinquent at a 30 percent higher rate when privately securitized. By contrast, the author's baseline estimates for subprime mortgages show that private-securitized loans default at lower rates. The author shows, however, that "early defaulting loans" account for this: those that were so risky that they defaulted before they could be securitized.

Working Paper 15–15. Supersedes Working Paper 09–21/R. Ronel Elul, Federal Reserve Bank of Philadelphia.

DO PHILLIPS CURVES CONDITIONALLY HELP TO FORECAST INFLATION?

This paper reexamines the forecasting ability of Phillips curves from both an unconditional and conditional perspective by applying the method developed by Giacomini and White (2006). The authors find that forecasts from the Phillips curve models tend to be unconditionally inferior to those from their univariate forecasting models. The authors also find, however, that conditioning on the state of the economy sometimes does improve the performance of the Phillips curve model in a statistically significant manner. When the authors do find improvement, it is asymmetric — Phillips curve forecasts tend to be more accurate when the economy is weak and less accurate when the economy is strong. Any improvement the authors found, however, vanished over the post-1984 period.

Working Paper 15–16. Michael Dotsey, Federal Reserve Bank of Philadelphia; Shigeru Fujita, Federal Reserve Bank of Philadelphia; Tom Stark, Federal Reserve Bank of Philadelphia.

DO STUDENT LOAN BORROWERS OPPORTUNISTICALLY DEFAULT? EVIDENCE FROM BANKRUPTCY REFORM

Bankruptcy reform in 2005 eliminated debtors' ability to discharge private student loan debt in bankruptcy. This law aimed to reduce costly defaults by diminishing the perceived incentive of some private student loan borrowers to declare bankruptcy even if they had sufficient income to service their debt. Using a unique, nationally representative sample of anonymized credit bureau files, the authors examine the bankruptcy filing and delinquency rates of private student loan borrowers in response to the 2005 bankruptcy reform. The authors do not find evidence that the nondischargeability provision reduced the likelihood of filing bankruptcy among private student loan borrowers as compared with other debtors whose incentives were not directly affected by the policy.

Working Paper 15–17. Rajeev Darolia, University of Missouri, Visiting Scholar, Federal Reserve Bank of Philadelphia; Dubravka Ritter, Federal Reserve Bank of Philadelphia.

ON THE INHERENT INSTABILITY OF PRIVATE MONEY

A primary concern in monetary economics is whether a purely private monetary regime is consistent with macroeconomic stability. The author shows that a competitive regime is inherently unstable due to the properties of endogenously determined limits on private money creation. Precisely, there is a continuum of equilibria characterized by a self-fulfilling collapse of the value of private money and a persistent decline in the demand for money. The author associates these equilibrium allocations with self-fulfilling banking crises. It is possible to formulate a fiscal intervention that results in the global determinacy of equilibrium, with the property that the value of private money remains stable. Thus, the goal of monetary stability necessarily requires some form of government intervention.

Working Paper 15–18. Supersedes Working Paper 12–19/R. Daniel R. Sanches, Federal Reserve Bank of Philadelphia.

PRIVATE MONEY AND BANKING REGULATION

The authors show that a competitive banking system is inconsistent with an optimum quantity of private money. Because bankers cannot commit to their promises and the composition of their assets is not publicly observable, a positive franchise value is required to induce the full convertibility of bank liabilities. Under perfect competition, a positive franchise value can be obtained only if the return on bank liabilities is sufficiently low, which imposes a cost on those who hold these liabilities for transaction purposes. If the banking system is monopolistic, then an efficient allocation is incentive-feasible. In this case, the members of the banking system obtain a higher return on assets, making it feasible to pay a sufficiently high return on bank liabilities. Finally, the authors argue that the regulation of the banking system is required to obtain efficiency.

Working Paper 15–19. Supersedes Working Paper 12–11/R. Cyril Monnet, University of Bern; Daniel R. Sanches, Federal Reserve Bank of Philadelphia.

ON THE WELFARE PROPERTIES OF FRACTIONAL RESERVE BANKING

Monetary economists have long recognized a tension between the benefits of fractional reserve banking, such as the ability to undertake more profitable (long-term) investment opportunities, and the difficulties associated with it, such as the risk of insolvency for each bank and the associated losses to bank liability holders. The author shows that a specific banking arrangement (a joint-liability scheme) provides an effective mechanism for ensuring the ex-post transfer of reserves from liquid banks to illiquid banks, so it is possible to select a socially efficient reserve ratio in the banking system that preserves the safety of bank liabilities as a store of value and maximizes the rate of return paid to bank liability holders.

Working Paper 15–20. Supersedes Working Paper 13–32/R. Daniel R. Sanches, Federal Reserve Bank of Philadelphia.

CREATIVITY AND ECONOMIC GROWTH: THEORY, MEASURES, AND POTENTIALS FOR MOROCCO

The current era of globalization is dominated by the rise of investments in intangible capital rather than tangible capital — the ascendance of creativity over plant and equipment. This brief paper is motivated by the possibility that emerging market economies such as Morocco might take greater advantage of new tools and policies designed for this new era. To begin, the author discusses the transformation of the global economy and the consequences of the transformed global economy for economic thinking and measurement. The author refers to both old and new literature on the measurement of intangible investment and capital. Then, the author discusses the rising role of creativity and cultural difference in the development of these new economic forces, using the example of the Harry Potter book series. The author then considers how cultural enhancement serves multiple purposes for a nation. Finally, the author turns to some of the possible implications of these economic forces for Morocco, stressing that these implications are speculative.

Working Paper 15–21. Leonard I. Nakamura, Federal Reserve Bank of Philadelphia.

HETEROGENEITY IN DECENTRALIZED ASSET MARKETS

The authors study a search and bargaining model of an asset market, where investors' heterogeneous valuations for the asset are drawn from an arbitrary distribution. The authors' solution technique renders the analysis fully tractable and allows them to provide a full characterization of the equilibrium, in closed-form, both in and out of steady-state. The authors use this characterization for two purposes. First, they establish that the model can naturally account for a number of stylized facts that have been documented in empirical studies of over-the-counter asset markets. In particular, the authors show that heterogeneity among market participants implies that assets are reallocated through "intermediation chains," ultimately producing a core-periphery trading network and non-trivial distributions of prices and trading times. Second, the authors show that the model generates a number of novel results that underscore the importance of heterogeneity in decentralized markets. The authors highlight two: First, heterogeneity magnifies the price impact of search frictions; and second, search frictions have larger effects on price levels than on price dispersion. Hence, quantifying the price discount or premium created by search frictions based on observed price dispersion can be misleading.

Working Paper 15–22. Julien Hugonnier, École Polytechnique Fédérale de Lausanne, Swiss Finance Institute; Benjamin Lester, Federal Reserve Bank of Philadelphia; Pierre-Olivier Weill, University of California–Los Angeles, National Bureau of Economic Research.