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ResearchUpdate

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New Lending Facility Aims to Promote Liquidity in the Funding Markets

The private funding markets, where dealers typically finance their securities positions, were severely impaired in early 2008. Lenders of funds, worried about the value of collateral as well as counterparty credit risk, became increasingly concerned about losses on repurchase agreements. They responded by reducing the amount they were willing to lend for a given amount of collateral, halting lending against certain types of collateral altogether, and demanding greater compensation for accepting riskier collateral.

To address unprecedented liquidity challenges amid funding market stress, in March 2008 the Federal Reserve established a new auction facility. Through the Term Securities Lending Facility (TSLF), the Fed sought to promote liquidity in the funding markets as well as improve the operation of the broader financial markets, note Michael J. Fleming, Warren B. Hrung, and Frank M. Keane, in "The Term Securities Lending Facility: Origin, Design, and Effects" (*Current Issues in Economics and Finance*, vol. 15, no. 2, February 2009).

The authors explain that the TSLF increases the ability of primary dealers to finance their positions in the private markets. The facility allows dealers to bid a fee to borrow up to $200 billion in Treasury securities for a term of twenty-eight days by pledging as collateral other securities, including agency debt securities and mortgage-backed securities. They can then use the borrowed Treasuries, which are relatively easy to finance, as collateral to obtain cash in the private markets. As a result, dealers have less need to sell assets into illiquid markets, and lenders are less likely to experience a loss of confidence.

Fleming, Hrung, and Keane offer a detailed look at the TSLF. They discuss

Also in this issue...

the market conditions leading up to the launch of the facility, the features that distinguish it from other Fed liquidity facilities, and the structure and operation of the program. They also review the first ten auctions, conducted in spring 2008, for early evidence of the facility's use and effectiveness.

The study concludes that the TSLF contributes to improved liquidity conditions in collateralized funding markets by more effectively balancing supply and demand in the markets for Treasury and non-Treasury collateral. Just prior to the first auction, in late March 2008, the financing spread between overnight agency mortgage-backed-security repos and Treasury repos was 100 basis points. By April and May, it ranged between 0 and 20 basis points. Spreads in the less liquid term market exhibited similar patterns. These lower financing spreads, the authors suggest, provide evidence that the facility has been effective in improving market liquidity.

The article is available at www.newyorkfed.org/research/current_issues/ci15-2.html.

Most Downloaded Publications

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New York Fed website, first-quarter 2009:

- "Understanding the Securitization of Subprime Mortgage Credit," by Adam B. Ashcraft and Til Schuermann (*Staff Reports*, no. 318, March 2008) – 3,732 downloads
- "The Yield Curve as a Predictor of U.S. Recessions," by Arturo Estrella and Frederic S. Mishkin (*Current Issues in Economics and Finance*, vol. 2, no. 7, June 1996) – 3,040 downloads
- "Are Home Prices the Next 'Bubble'?" by Jonathan McCarthy and Richard Peach (*Economic Policy Review*, vol. 10, no. 3, December 2004) – 2,040 downloads

SSRN website, through first-quarter 2009:

- "Understanding the Securitization of Subprime Mortgage Credit," by Adam B. Ashcraft and Til Schuermann (*Staff Reports*, no. 318, March 2008) – 5,536 downloads
- "The Consolidation of the Financial Services Industry: Causes, Consequences, and Implications for the Future," by Allen N. Berger, Rebecca S. Demsetz, and Philip E. Strahan (*Staff Reports*, no. 55, December 1998) – 2,254 downloads
- "An Empirical Analysis of Stock and Bond Market Liquidity," by Tarun Chordia, Asani Sarkar, and Avanidhar Subrahmanyam (*Staff Reports*, no. 164, March 2003) – 1,832 downloads

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New Titles in the *Staff Reports* Series

The following new staff reports are available at www.newyorkfed.org/research/staff_reports.

MACROECONOMICS AND GROWTH

No. 367, March 2009
CONDI: A Cost-of-Nominal-Distortions Index
Stefano Eusepi, Bart Hobijn, and Andrea Tambalotti

The authors construct a price index with weights for the prices of different PCE (personal consumption expenditures) goods chosen to minimize the welfare costs of nominal distortions. In this cost-of-nominal-distortions index (CONDI), the weights are computed in a multi-sector New Keynesian model with time-dependent price setting. The model is calibrated using U.S. data on the dispersion of price stickiness and labor shares across sectors. The study finds that the CONDI weights depend mostly on price stickiness and are less affected by the dispersion in labor shares. Moreover, CONDI stabilization closely approximates the optimal monetary policy and leads to negligible welfare losses. Finally, CONDI is better approximated by targeting core inflation rather than headline inflation—and is even better approximated with an adjusted core index that covers total expenditures excluding autos, clothing, energy, and food at home, but including food away from home.

INTERNATIONAL

No. 361, January 2009
Global Liquidity and Exchange Rates
Tobias Adrian, Erkko Etula, and Hyun Song Shin

This study presents evidence that fluctuations in the aggregate balance sheets of financial intermediaries forecast exchange rate returns—at weekly, monthly, and quarterly frequencies, both in and out of sample, and for a large set of countries. The

Publications and Papers

The Research and Statistics Group produces a wide range of publications:

- *The Economic Policy Review*—a policy-oriented journal focusing on economic and financial market issues.
- *EPR Executive Summaries*—online versions of selected *Economic Policy Review* articles, in abridged form.
- *Current Issues in Economics and Finance*—concise studies of topical economic and financial issues.
- *Second District Highlights*—a regional supplement to *Current Issues*.
- *Staff Reports*—technical papers intended for publication in leading economic and finance journals, available only online.
- *Publications and Other Research*—an annual catalogue of our research output.

authors estimate prices of risk using a cross-sectional, arbitrage-free asset pricing approach and show that balance sheets forecast exchange rates because of the latter's association with fluctuations in risk premia. They provide a rationale for an intertemporal equilibrium pricing theory in which intermediaries are subject to balance sheet constraints.

MICROECONOMICS

No. 364, February 2009
College Major Choice and the Gender Gap
Basit Zafar

Males and females are markedly different in their choice of college major. Two main reasons have been suggested for the gender gap: differences in innate abilities and differences in preferences. This study addresses the question of how college majors are chosen, focusing on the underlying gender gap. The author uses a unique data set of students' subjective expectations about choice-specific outcomes to estimate a model in which a college major is selected under uncertainty. Enjoying coursework, finding fulfillment in potential jobs, and gaining parental approval are the most important determinants. Males and females differ primarily in their preferences in the workplace. The gender gap is due mainly to differences in beliefs about enjoying coursework and differences in preferences, rather than to females being underconfident about their academic ability or fearing monetary discrimination.

No. 365, February 2009
An Experimental Investigation of Why Individuals Conform
Basit Zafar

This paper presents a simple model constructed on the premise that people, when making choices, are motivated by their own payoff as well as by how their actions compare with those of others in their reference group. Zafar shows that conformity of actions may arise either from learning about the norm (learning), or from adhering to the norm because of image-related concerns (influence). To disentangle the two empirically, he uses the fact that image-related concerns can be present only if actions are publicly observable. The model predictions are tested in a "charitable contribution" experiment in which the subjects' actions and identities are unmasked in a controlled and systematic way. Both social learning and social influence play an important role in the subjects' choices. Moreover, social ties (defined as subjects knowing one another from outside the experimental environment) affect the role of social influence.

No. 366, March 2009
Credit Market Competition and the Nature of Firms
Nicola Cetorelli

This paper explores the hypothesis that the availability of credit at the time of a firm's founding has a profound effect on that firm's nature. Cetorelli conjectures that when financial capital is difficult to obtain, firms will need to be built as relatively solid organizations. However, when capital is easily available, firms can be constituted with an intrinsically weaker structure. Cetorelli studies the life cycles of businesses in existence over thirty years through a period of regulatory reform during which U.S. states removed barriers to entry in the banking industry, a development that resulted in significantly improved credit competition. The evidence confirms his conjecture. Firms constituted in post-reform years are intrinsically frailer than those founded in a more financially constrained environment, while firms of pre-reform vintage do not seem to adapt their nature to an easier credit environment.

BANKING AND FINANCE

No. 360, January 2009
Money, Liquidity, and Monetary Policy
Tobias Adrian and Hyun Song Shin

In a market-based financial system, banking and capital market developments are inseparable, and funding conditions are closely tied to fluctuations in the leverage of market-based financial intermediaries. Offering a window on liquidity, the balance sheet growth of broker-dealers provides a sense of the availability of credit. Contractions of broker-dealer balance sheets have tended to precede declines in real economic growth, even before the current turmoil. For this reason, balance sheet quantities of market-based financial intermediaries are important macroeconomic state variables for the conduct of monetary policy.

No. 362, February 2009
The Term Structure of Inflation Expectations
Tobias Adrian and Hao Wu

Adrian and Wu present estimates of the term structure of inflation expectations, derived from an affine model of real and nominal yield curves. The model features stochastic covariation of inflation with the real pricing kernel, enabling the authors to extract a time-varying inflation risk premium. Adrian and Wu fit the model not only to yields, but also to the yields' variance-covariance matrix, thus increasing identification power. They find that model-implied inflation expectations can differ substantially from break-even inflation rates when market volatility is high. The model's ability to be updated weekly makes it suitable for real-time monetary policy analysis.

QUANTITATIVE METHODS

No. 363, February 2009
Model Selection Criteria for Factor-Augmented Regressions
Jan J. J. Groen and George Kapetanios

This paper develops several theoretical conditions that selection criteria must fulfill to provide a consistent estimate of the factor dimension relevant for a factor-augmented regression. The authors' framework takes into account factor estimation error and does not depend on a specific factor estimation methodology. It also provides, as a by-product, a template for developing selection criteria for regressions that include standard generated regressors. The conditions make it clear that standard model selection criteria do not provide a consistent estimate of the factor dimension in a factor-augmented regression. The authors propose alternative criteria that do fulfill their conditions. These criteria essentially modify standard information criteria so that the corresponding penalty function for dimensionality also penalizes factor estimation error. The authors show through Monte Carlo and empirical applications that these modified information criteria are useful in determining the appropriate dimensions of factor-augmented regressions. ■

Forthcoming in the *Economic Policy Review*

The Case for TIPS: An Examination of the Costs and Benefits

William C. Dudley, Jennifer Roush, and Michelle Steinberg Ezer

Slightly more than a decade has passed since the introduction of the Treasury Inflation-Protected Securities (TIPS) program, through which the Treasury Department issues inflation-indexed debt. Several studies have suggested that the program has been a financial disappointment for the Treasury and by extension U.S. taxpayers. Relying on ex post analysis, the studies argue that a more cost-effective strategy remains the issuance of nominal Treasury securities. This article proposes that evaluations of the TIPS program be more comprehensive, and instead focus on the ex ante costs of TIPS issuance compared with nominal Treasury issuance. The authors contend that ex ante analysis is a more effective way to assess the costs of TIPS *over the long run*. Furthermore, relative cost calculations—whether ex post or ex ante—are just one aspect of a comprehensive analysis of the costs and benefits of the TIPS program. TIPS issuance provides other benefits that should be taken into account when evaluating the program, especially when TIPS are only marginally more expensive or about as expensive to issue as nominal Treasury securities.

The article is available at www.newyorkfed.org/research/epr/forthcoming/0903dudl.html.

Papers Presented by Economists in the Research and Statistics Group

"Aggregation and the PPP Puzzle in a Sticky-Price Model," Carlos Carvalho. Annual Meeting of the American Economic Association, San Francisco, California, January 4. With Fernanda Nechio.

"Estimating the Cross-Sectional Distribution of Price Stickiness from Aggregate Data," Carlos Carvalho. Rutgers University Department of Economics seminar, February 17. With Niels Dam.

"Heterogeneous Price Setting Behavior and Aggregate Dynamics: Some General Results," Carlos Carvalho. Annual Meeting of the American Economic Association, San Francisco, California, January 3. With Felipe Schwartzman.

"Credit Market Competition and the Nature of Firms," Nicola Cetorelli. World Bank Research Group seminar, Washington, D.C., January 27.

"Can State Merit Aid Programs Have Unintended Consequences? A Closer Look," Rajashri Chakrabarti. Annual Meeting of the American Economic Association, San Francisco, California, January 4. With Joydeep Roy. Also presented at the Annual Conference of the American Education Finance Association, Nashville, Tennessee, March 19.

"Credit Frictions and Optimal Monetary Policy," Vasco Cúrdia. Annual Meeting of the American Economic Association, San Francisco, California, January 3. With Michael Woodford.

"Dynamic Factor Models with Time-Varying Parameters: Measuring Changes in International Business Cycles," Marco Del Negro. University of Southern California seminar, Los Angeles, California, March 5. With Christopher Otrok. Also presented at a University of Wisconsin–Madison seminar, Madison, Wisconsin, March 10.

"The Advantage of Flexible Targeting Rules," Andrea Ferrero. IMT Institute for Advanced Studies Lucca, Department of Economics seminar, Lucca, Italy, January 19.

"Repo Market Effects of the Term Securities Lending Facility," Michael Fleming. Allied Social Science Associations annual meeting, San Francisco, California, January 4. With Warren Hrung and Frank Keane. Also presented at a Brandeis University seminar, Waltham, Massachusetts, March 19.

"Banking Globalization and Monetary Transmission," Linda Goldberg. Seminar cosponsored by the Centre for Economic Policy Research and the European University Institute, Florence, Italy, March 6. With Nicola Cetorelli.

"Higher Order Beliefs and the Comovement of Asset Prices," Christian Grisse. Annual Meeting of the American Finance Association, San Francisco, California, January 4.

"Federal Reserve Responses to Crises," Asani Sarkar. TradeTech USA Equity Trading Summit 2009, New York City, March 4.

"The Effect of the Term Auction Facility on the London Inter-Bank Offered Rate," Asani Sarkar and Zhenyu Wang. Annual Meeting of the American Economic Association, San Francisco, California, January 4. With James McAndrews.

"CONDI: A Cost-of-Nominal-Distortions Index," Andrea Tambalotti. Graduate Institute of International and Development Studies seminar, Geneva, Switzerland, March 17. With Stefano Eusepi and Bart Hobijn. Also presented at a Università Statale seminar, Milan, Italy, March 25.

"Investment Shocks and Business Cycles," Andrea Tambalotti. Annual Meeting of the American Economic Association, San Francisco, California, January 5. With Alejandro Justiniano and Giorgio Primiceri.

"What Determines Family Structure?" Wilbert van der Klaauw. City University of New York Graduate Center seminar, New York City, March 17. With David Blau.

"Incentives and the Rating of Mortgage-Backed Securities," James Vickery. DePaul University Department of Finance seminar, Chicago, Illinois, January 27. With Adam Ashcraft and Paul Goldsmith-Pinkham. ■

Recently Published

Andrea Ferrero. 2009. "Fiscal and Monetary Rules for a Currency Union." *Journal of International Economics* 77, no. 1 (February): 1-10.

Jan Groen. 2009. "A Real-Time Evaluation of Bank of England Forecasts of Inflation and Growth." *International Journal of Forecasting* 25, no. 1 (January-March): 74-80.

Antoine Martin. 2009. "Banks, Markets, and Efficiency," with Falko Fecht. *Annals of Finance* 5, no. 2 (March): 131-60.

Ayşegul Şahin. 2009. "Why Did the Average Duration of Unemployment Become So Much Longer?" with Toshihiko Mukoyama. *Journal of Monetary Economics* 56, no. 2 (March): 200-9.

Asani Sarkar. 2009. "Market Sidedness: Insights into Motives for Trade Initiation," with Robert A. Schwartz. *Journal of Finance* 64, no. 1 (February): 375-423.

Wilbert van der Klaauw. 2009. "The Effects of In-Work Benefit Reform in Britain on Couples: Theory and Evidence," with Marco Francesconi and Helmut Rainer. *Economic Journal* 119, no. 535 (February): 66-100.

Zhenyu Wang. 2009. "Y2K Options and the Liquidity Premium in Treasury Markets," with Suresh Sundaresan. *Review of Financial Studies* 22, no. 3 (March): 1021-56. ■

Other New Publications

- *Publications and Other Research*. The 2008 edition of our catalogue lists all of the papers published in our research series as well as many papers published by our economists in economic and finance journals, conference volumes, and scholarly books.

  www.newyorkfed.org/research/publication_annuals/por2008.pdf

- *Facts & Trends* (vol. 2, no. 1, April 2009): "A Look at Upstate New York's Subprime Mortgages in Foreclosure" reveals that the region has fewer owner-occupied subprime mortgages per 1,000 housing units than New York State as a whole or the United States. In addition, subprime loans are performing better than those in the state and the country. (*Facts & Trends* is published by the New York Fed's Community Affairs Office.)

  www.newyorkfed.org/regional/2009_Facts_Trends_Vol_2_1.pdf

Research and Statistics Group Publications and Papers: January-March 2009

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ECONOMIC POLICY REVIEW

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