
Professor Ghysels has served on the editorial boards of several other academic journals, has chaired the Business and Economic Statistics Section of the American Statistical Association, and is the founding co-president of the Society for Financial Econometrics. For the past fifteen years, he has been a visiting scholar at the Board of Governors of the Federal Reserve System and at the Federal Reserve Bank of New York.

The Research Group established its Program for Resident Scholars in 2004 to attract to the New York Fed, for a stay of at least six months, outstanding researchers with an international reputation. The scholars are selected from the top academic and policy institutions in areas related to the Bank’s broad policy interests. Resident scholars pursue their own research agendas while participating fully in the Research Group’s activities. They work closely with the director of...
research, contribute to policymaking discussions, and provide intellectual leadership by advising and collaborating with the Group’s economists.

Previous resident scholars are Mark Gertler, the Henry and Lucy Moses Professor of Economics at New York University; Nobuhiro Kiyotaki, professor of economics at Princeton University; Suresh M. Sundaresan, the Chase Manhattan Bank Foundation Professor of Financial Institutions at Columbia Business School; and Jiang Wang, the Mizuho Financial Group Professor at MIT’s Sloan School of Management.

Earnings on Cross-Border Investments Assume a Larger Role in the U.S. Current Account

For many observers, the U.S. current account is virtually synonymous with the trade deficit. Export and import flows determine the nation’s balance of payments with the rest of the world, while the income from international investments plays only a minor role. In “The Changing Nature of the U.S. Balance of Payments” (Current Issues in Economics and Finance, vol. 14, no. 4), authors Rebecca Hellerstein and Cédric Tille dispute this view, arguing that earnings on cross-border investments represent an increasingly large share of the gross flows between the United States and other nations.

This development, the authors note, has important implications: Because these earnings fluctuate much more sharply than trade flows, they will almost certainly heighten the volatility of the U.S. current account going forward. Nevertheless, the international financial linkages that underlie this increased volatility will distribute risk across countries and help secure the U.S. economy against the uncertainties of its business cycle.

As the authors explain, the rise in cross-border financial holdings created by globalization entails significant increases in dividend and interest earnings. As a share of gross income from the rest of the world, U.S. earnings on foreign assets nearly doubled between 1970 and 2007, rising from 17 percent to 32 percent. Over the same period, earnings by foreign investors in the United States claimed an increasing share of U.S. gross payments to other nations, advancing from 9 percent to 23 percent.

With earnings streams on international assets figuring more prominently in gross flows to and from the United States, the current account has become more sensitive to fluctuations in international financial yields. As evidence of this heightened sensitivity, the authors point to a recent revision of the balance of payments data by the U.S. Bureau of Economic Analysis. An upward adjustment in U.S. net income on international assets and liabilities—driven largely by an adjustment to yields, combined with large underlying holdings—led to a sizable reduction in the current account deficit after 2001. The
reduction was especially marked for the years 2004-06, with the amended data lowering the deficit by 0.22 percent to 0.34 percent of GDP.

Although the heightened exposure of the current account to movements in financial yields can be expected to create greater current account volatility, Hellerstein and Tille do not see grounds for concern. The authors show that although the yield differential between U.S. international assets and liabilities is volatile, it is negatively correlated with U.S. growth. This means that the United States earns a higher return on its assets than it pays on its liabilities during downturns in the economy.

Noting that this “insurance benefit” has strengthened over the last ten years, the authors conclude, “The greater volatility of the current account going forward does not imply lower economic welfare. To the contrary, it is the channel through which business cycle risk is shared across countries.”

The article is available at www.newyorkfed.org/research/current_issues/ci14-4.html.
The articles below are now available on our website (www.newyorkfed.org/research/epr/index.html). All but the first one will be part of an upcoming volume devoted to payments systems.

**Why the U.S. Treasury Began Auctioning Treasury Bills in 1929**
Kenneth D. Garbade

The U.S. Treasury began auctioning zero-coupon bills in 1929 to complement the fixed-price subscription offerings of coupon-bearing certificates of indebtedness, notes, and bonds that it had previously relied upon. Bills soon came to play a central role in Treasury cash and debt management. This article explains that the Treasury began auctioning bills to mitigate flaws in the structure of its financing operations that had become apparent during the 1920s. The flaws included the underpricing of new issues to limit the risk of a failed offering; borrowing in advance of actual requirements, resulting in negative carry on Treasury cash balances at commercial banks; and the redemption of maturing issues in advance of tax receipts, resulting in short-term borrowings from Federal Reserve Banks that sometimes led to transient fluctuations in reserves available to the banking system and undesirable volatility in overnight interest rates.

**Intraday Liquidity Management: A Tale of Games Banks Play**
Morten L. Bech

Over the last few decades, most central banks, concerned about settlement risks inherent in payment netting systems, have implemented real-time gross settlement (RTGS) systems. Although RTGS systems can significantly reduce settlement risk, they require greater liquidity to smooth nonsynchronized payment flows. Thus, central banks typically provide intraday credit to member banks, either as collateralized credit or priced credit. Because intraday credit is costly for banks, how intraday liquidity is managed has become a competitive parameter in commercial banking and a policy concern of central banks. This article uses a game-theoretical framework to analyze the intraday liquidity management behavior of banks in an RTGS setting. The games played by banks depend on the intraday credit policy of the central bank and encompass two well-known paradigms in game theory: “the prisoner’s dilemma” and “the stag hunt.” The former strategy arises in a collateralized credit regime, where banks have an incentive to delay payments if intraday credit is expensive, an outcome that is socially inefficient. The latter strategy occurs in a priced credit regime, where postponement of payments can be socially efficient under certain circumstances. The author also discusses how several extensions of the framework affect the results, such as settlement risk, incomplete information, heterogeneity, and repeated play.

**Global Trends in Large-Value Payments**
Morten L. Bech, Christine Preisig, and Kimmo Soramäki

Globalization and technological innovation are two major forces affecting the financial system and its infrastructure. Perhaps nowhere are these trends more apparent than in the internationalization and automation of payments. While the effects of globalization and technological innovation are most obvious on retail payments, the influence is equally impressive on wholesale, or interbank, payments. Given the importance of payments and settlement systems to the smooth operation and resiliency of the financial system, it is important to understand the potential consequences of these developments. This article presents ten major long-range trends...
in the settlement of large-value payments worldwide. The trends are driven by technological innovation, structural changes in banking, and the evolution of central bank policies. The authors observe that banks, to balance risks and costs more effectively, are increasingly making large-value payments in real-time systems with advanced liquidity-management and liquidity-saving mechanisms. Moreover, banks are settling a larger number of foreign currencies directly in their home country by using offshore systems and settling a greater number of foreign exchange transactions in Continuous Linked Settlement Bank or through payment-versus-payment mechanisms in other systems. The study also shows that the service level of systems is improving, through enhancements such as longer operating hours and standardized risk management practices that adhere to common standards, while transaction fees are decreasing. Payments settled in large-value payments systems are more numerous, but on average of smaller value. Furthermore, the overall nominal total value of large-value payments is increasing, although the real value is declining.

An Economic Perspective on the Enforcement of Credit Arrangements: The Case of Daylight Overdrafts in Fedwire
Antoine Martin and David C. Mills
A fundamental concern for any lender is credit risk—the risk that a borrower will fail to fully repay a loan as expected. Thus, lenders want credit arrangements that are designed to compensate them for—and help them effectively manage—this type of risk. In certain situations, central banks engage in credit arrangements as lenders to banks, so they must manage their exposure to credit risk. This article discusses how the Federal Reserve manages its credit risk exposure associated with daylight overdrafts. The authors first present a simple economic framework for thinking about the causes of credit risk and the possible tools that lenders have to help them manage it. They then apply this framework to the Federal Reserve’s Payments System Risk policy, which specifies the use of a variety of tools to manage credit risk. The study also analyzes a possible increase in the use of collateral as a credit risk management tool, as presented in a recent proposal by the Federal Reserve concerning changes to the Payments System Risk policy.
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. 323, April 2008
Optimal Monetary Policy under Sudden Stops
Vasco Cúrdia
This paper analyzes what monetary policy should accomplish in the event of a sudden stop of capital inflows from abroad. In such an event, optimal monetary policy induces higher interest rates and exchange rate depreciation. This policy is fairly well approximated by a flexible targeting rule, which stabilizes a basket composed of domestic price inflation, the exchange rate, and output. Cúrdia shows that from a welfare perspective, the success of a fixed exchange rate regime depends on the economic environment. For the benchmark parameterization, the peg performs the worst of the simple rules considered. For alternative parameterizations that feature low nominal rigidities or high elasticity of foreign demand, the fixed exchange rate regime performs relatively better.

No. 324, April 2008
Globalization and Inflation Dynamics: The Impact of Increased Competition
Argia M. Sbordone
This study analyzes the potential effect of global market competition on inflation dynamics. Using the Calvo model of staggered price-setting, Sbordone modifies the assumption of a constant elasticity of demand to provide a channel through which an increase in the number of traded goods may affect the degree of strategic complementarity in price setting and hence alter the dynamic response of inflation to marginal costs. She discusses the behavior of the variables that drive the impact of trade openness on this response and then evaluates whether an increase in the variety of traded goods of the magnitude observed in the United States in the 1990s might have a significant quantitative impact. The author finds it difficult to argue that such an increase in trade would have generated a sufficiently large increase in U.S. market competition to reduce the slope of the inflation–marginal cost relationship.

No. 325, May 2008
Durable Goods Inventories and the Great Moderation
James A. Kahn
Kahn revisits the hypothesis that changes in inventory management were an important contributor to volatility reductions during the Great Moderation. He documents how changes in inventory behavior contributed in particular to the stabilization of the U.S. economy within the durable goods sector and develops a model of inventory behavior consistent with the key facts about volatility decline in that sector. The model addresses concerns raised by a number of researchers who criticize the inventory literature’s focus on finished goods inventories, given that stocks of works-in-process and materials are actually larger and more volatile than those of finished goods. The model adapts the stockout-avoidance concept to a production-to-order setting and shows that much of the intuition and many of the results regarding production volatility still apply.
INTERNATIONAL

No. 329, June 2008
Inflation Dynamics in a Small Open-Economy Model under Inflation Targeting: Some Evidence from Chile
Marco Del Negro and Frank Schorfheide

This paper estimates a small open-economy dynamic stochastic general equilibrium (DSGE) model, specified along the lines of Gali and Monacelli (2005) and Lubik and Schorfheide (2007), using Chilean data for the full inflation-targeting period of 1999 to 2007. The authors study the specification of the policy rule followed by the Central Bank of Chile, the dynamic response of inflation to domestic and external shocks, and the change in these dynamics under different policy parameters. They use the DSGE-VAR methodology from their earlier work (2007) to assess the robustness of the conclusion to the presence of model misspecification.

BANKING AND FINANCE

No. 328, May 2008
Liquidity and Leverage
Tobias Adrian and Hyun Song Shin

In a financial system in which balance sheets are continuously marked to market, asset price changes appear immediately as changes in net worth, eliciting responses from financial intermediaries who adjust the size of their balance sheets. Adrian and Shin document evidence that marked-to-market leverage is strongly procyclical. Such behavior has aggregate consequences. Changes in dealer repos—the primary margin of adjustment for the aggregate balance sheets of intermediaries—forecast changes in financial market risk as measured by the innovations in the Chicago Board Options Exchange Volatility Index. Aggregate liquidity can be seen as the rate of change of the aggregate balance sheet of the financial intermediaries.

No. 330, June 2008
Corporate Performance, Board Structure, and Their Determinants in the Banking Industry
Renée B. Adams and Hamid Mehran

Using a sample of banking firm data spanning forty years, Adams and Mehran examine the relationship between board structure (size and composition) and bank performance as well as determinants of board structure. The authors document that merger-and-acquisition activity influences bank board composition and provide new evidence that organizational structure is significantly associated with bank board size. They argue that these factors may explain why banking firms with larger boards do not underperform their peers in terms of Tobin’s Q. The study’s findings suggest caution in applying regulations to banking firms motivated by research on the governance of nonfinancial firms. Since organizational structure is not specific to banks, it may be an important determinant for the boards of nonfinancial firms with complex organizational structures, such as business groups.

No. 331, June 2008
The Welfare Effects of a Liquidity-Saving Mechanism
Enghin Atalay, Antoine Martin, and James McAndrews

This paper considers the welfare effects of introducing a liquidity-saving mechanism (LSM) in a real-time gross settlement payments system. The authors study the planner’s problem to get a better understanding of the economic role of an LSM and find that an LSM can achieve the planner’s allocation for some parameter values. The planner’s allocation cannot occur without an LSM, as long as some payments can be delayed without cost. They show that, in equilibrium with an LSM, there can be either too few or too many payments settled early compared with the planner’s
allocation, depending on the parameter values. Using Fedwire data to calibrate their model, the authors describe the equilibrium that would arise with an LSM and compare welfare with and without the mechanism. Their results suggest that introducing an LSM could have significant benefits.

**QUANTITATIVE METHODS**

**No. 326, May 2008**

Dynamic Factor Models with Time-Varying Parameters: Measuring Changes in International Business Cycles
Marco Del Negro and Christopher Otrok

Del Negro and Otrok develop a dynamic factor model with time-varying factor loadings and stochastic volatility in both the latent factors and idiosyncratic components. They employ this new measurement tool to study the evolution of international business cycles in the post-Bretton Woods period, using a panel of output growth rates for nineteen countries. The authors find: 1) statistical evidence of a decline in volatility for most countries, with the timing, magnitude, and source (international or domestic) of the decline differing across countries; 2) some evidence of a decline in business cycle synchronization for Group of Seven countries, but otherwise no evidence of changes in synchronization for the sample countries, including European and euro-area countries; and 3) convergence in the volatility of business cycles across countries.

**No. 327, May 2008**

Revisiting Useful Approaches to Data-Rich Macroeconomic Forecasting
Jan J. Groen and George Kapetanios

Groen and Kapetanios revisit a number of data-rich prediction methods that are widely used in macroeconomic forecasting and compare them with a lesser known alternative: partial least squares regression. The authors provide a theorem showing that when the data comply with a factor structure, principal components and partial least squares regressions provide asymptotically similar results. They also argue that forecast combinations can be interpreted as a restricted form of partial least squares regression. The study applies partial least squares, principal components, and Bayesian ridge regressions to a large panel of monthly U.S. macroeconomic and financial data to forecast CPI inflation, core CPI inflation, industrial production, unemployment, and the federal funds rate across different subperiods and finds that partial least squares regression usually has the best out-of-sample performance when compared with the two other data-rich prediction methods.
Papers Presented by Economists in the Research and Statistics Group


“The Information Content of FOMC Minutes,” Joshua Rosenberg. Fordham University Graduate School of Business seminar, Bronx, New York, April 24.


“Liquidity, Securitization, and Policy,” Til Schuermann. 5th Annual Credit Risk Conference, cosponsored by Moody’s Corporation and New York University’s Stern School of Business, New York City, May 14.


Recently Published


Research and Statistics Group Publications and Papers: April-June 2008

Publications are available at www.newyorkfed.org/research/publication_annuals/index.html.

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