PUBLICATIONS AND OTHER RESEARCH 2004

Federal Reserve Bank of New York

Research and Statistics Group

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January 2005

Introduction

The Federal Reserve Bank of New York's Research and Statistics Group produces a wide variety of publications and discussion papers of interest to business and banking professionals, policymakers, academics, and the general public.

This catalogue lists recent issues in our research series:

- *the Economic Policy Review*
  a policy-oriented journal focusing on economic and financial market issues
- *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.

The Research Group also offers two other publications of interest:

- *EPR Executive Summaries*
  online versions of selected *Economic Policy Review* articles, in abridged form
- *Research Update*
  a quarterly newsletter providing summaries of studies and listings of recent publications in our research series.

Members of the Group also publish papers in many economic and finance journals, conference volumes, and scholarly books. A list of these publications begins on page 16.

Economic Policy Review

The *Economic Policy Review* is a policy-oriented research journal that focuses on macroeconomic, banking, and financial market topics.

EPR articles are available at **www.newyorkfed.org/research/epr**.

Volume 10

Number 1, May 2004

Industry-Specific Exchange Rates for the United States

Linda S. Goldberg

The trade-weighted exchange rates constructed for the aggregate U.S. economy do not always capture the changes in industry competitive conditions induced by movements in specific bilateral exchange rates. Exchange rates produced using information on industry-specific trade partners are often better suited for this task. This article constructs three industry-specific real exchange rate measures for the United States—one using export partner weights only, a second using import partner weights, and a third using an average of export and import weights by industry—and examines how they co-move or diverge from the aggregate economywide measures. The exercise suggests that researchers who use aggregate exchange rate indexes rather than industry-specific measures might overlook the empirical value of exchange rates for the producer profits of specific U.S. industries.

EPR Executive Summary available

Exchange Rate Changes and Net Positions of Speculators in the Futures Market

Thomas Klitgaard and Laura Weir

Traders, strategists, and other participants in the currency markets continuously seek to understand and interpret short-term exchange rate movements. One data set frequently used in those efforts is a weekly report of net futures market positions held by speculators on the Chicago Mercantile Exchange. In this article, the authors pursue a transaction-oriented line of research to track short-term exchange rate moves. They examine the data set for six currencies over a ten-year period and document a strong contemporaneous relationship between weekly changes in speculators' net positions and exchange rates. The authors find that knowing what speculators did over a given week gives one a 75 percent probability of correctly guessing an exchange rate's direction over that week. One explanation for this relationship is that these speculators—acting on their interpretation of public and private information—have some success anticipating how underlying demand will move exchange rates from their prevailing levels in the very short term.

EPR Executive Summary available

The Institutionalization of Treasury Note and Bond Auctions, 1970-75

Kenneth D. Garbade

The substitution of auctions for fixed-price offerings was expected to lower the U.S. Treasury's cost of financing the federal debt. Despite this and other potential benefits, the Treasury failed in both 1935 and 1963 in its attempts to introduce regular auction sales of coupon-bearing securities. This article examines the Treasury's third and successful attempt between 1970 and 1975. The author identifies three likely reasons why the Treasury succeeded in the early 1970s: it closely imitated its successful and well-understood bill auction process, it extended the maturity of auction offerings gradually, and it was willing to modify the auction process when shortcomings became apparent.

EPR Executive Summary available

Treasury Inflation-Indexed Debt: A Review of the U.S. Experience

Brian Sack and Robert Elsasser

This article describes the evolution of Treasury inflation-indexed debt securities (TIIS) since their introduction in 1997. Over most of this period, TIIS yields have been surprisingly high relative to those on comparable nominal Treasury securities, with the spread between the nominal and indexed yields falling well below survey measures of long-run inflation expectations. The authors argue that the low relative valuation of TIIS may have reflected investor difficulty adjusting to a new asset class, supply trends, and the lower liquidity of indexed debt. In addition, investors may have had a benign outlook for inflation and may not have demanded much, if any, of an inflation risk premium to hold nominal securities. As a result, inflation-indexed debt has not yet lived up to one of its main purposes: to reduce the Treasury's expected financing costs. More recently, though, TIIS market liquidity and the breadth of investor participation have increased considerably, and the valuation of these securities appears to have improved.

Number 2, September 2004

"Beyond Pillar 3 in International Banking Regulation: Disclosure and Market Discipline of Financial Firms," papers from a conference cosponsored by the Federal Reserve Bank of New York and the Jerome A. Chazen Institute of International Business at Columbia Business School, October 2-3, 2003.

Conference Overview and Summary of Papers

Donald P. Morgan and Frederic S. Mishkin

Rebalancing the Three Pillars of Basel II

Jean-Charles Rochet

Disclosure, Volatility, and Transparency: An Empirical Investigation into the Value of Bank Disclosure

Ursel Baumann and Erlend Nier

Market Indicators, Bank Fragility, and Indirect Market Discipline

Reint Gropp, Jukka Vesala, and Giuseppe Vulpes

A Reconsideration of the Risk Sensitivity of U.S. Banking Organization Subordinated Debt Spreads: A Sample Selection Approach

Daniel M. Covitz, Diana Hancock, and Myron L. Kwast

Risk and Return of Publicly Held versus Privately Owned Banks

Simon H. Kwan

Number 3, December 2004

Are Home Prices the Next "Bubble"?

Jonathan McCarthy and Richard W. Peach

The strong rise in home prices since the mid-1990s has raised concerns over a possible bubble in the housing market and the effect of a sharp price decline on the U.S. economy. This article assesses two measures frequently cited to support a bubble—the rising price-to-income ratio and the declining rent-to-price ratio—and finds the measures to be flawed and the conclusions drawn from them unpersuasive. In particular, the measures do not fully account for the effects of declining nominal mortgage interest rates and fail to use appropriate home price indexes. The authors also estimate a structural model of the housing market and find that aggregate prices are not inconsistent with long-run demand fundamentals. Accordingly, they conclude that market fundamentals are strong enough to explain the recent path of home prices and that no bubble exists. Nevertheless, weakening fundamentals could have an impact on home values on the east and west coasts, where the new housing supply appears to be relatively inelastic. However, prices in these regions have typically been volatile, and previous declines have not had a sizable negative effect on the overall economy.

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The Historical and Recent Behavior of Goods and Services Inflation

Richard W. Peach, Robert Rich, and Alexis Antoniades

Since the late 1990s, the combination of relatively high services inflation and declining goods prices has produced a record-level gap in these inflation rates. Some commentators argue that if the gap between services and goods inflation continues to expand in this manner, the outcome will be either faster overall inflation or deflation. This article examines the relationship between these divergent inflation rates from 1967 to 2002. The authors find that while the level of each inflation rate is subject to permanent shifts, the gap between services inflation and goods inflation over time remains stable. Moreover, when the gap is above its long-run value, as it currently is, equilibrium is restored through a rise in goods inflation and a slowing of services inflation. Their results suggest that concerns over an imminent marked acceleration or dramatic slowing in inflation may be unwarranted.

EPR Executive Summary available

Origins of the Federal Reserve Book-Entry System

Kenneth D. Garbade

The conversion of U.S. Treasury securities from physical to book-entry form was a major event in the history of the Treasury market. The conversion, which began in 1966, resulted in an automated system that has greatly reduced market operating costs and risks. This article examines the origins and development of the Federal Reserve book-entry system for Treasury securities. It suggests that the system was the product of three important factors: the interest of the Federal Reserve Banks and the Treasury in lowering their operating costs and risks, the intention of the Reserve Banks and the Treasury to preserve the liquidity of the market, and the desire of the Reserve Banks to reduce member bank operating costs. Two critical incidents—a loss of securities at a Reserve Bank in 1962 and an "insurance crisis" in 1970-71—played major roles in the early development and subsequent expansion of the book-entry system.

EPR Executive Summary available

EPR Executive Summaries

Visit our website for concise summaries of *Economic Policy Review* articles.

Our online publication *EPR Executive Summaries* condenses many of the articles published in the *Review*. Readers of the summaries will find timely, policy-oriented studies that are easy to absorb.

The summaries make the technical research of New York Fed economists more accessible to policymakers, educators, business and financial leaders, and others. The series is designed to foster a fuller understanding of our research among those who are in a position to put our ideas and findings to work.

Summaries, in html format, are available for many articles published since 2002.

www.newyorkfed.org/research/epr/executive_summary.html

Economizing on Liquidity with Deferred Settlement Mechanisms

Kurt Johnson, James J. McAndrews, and Kimmo Soramäki

Credit extensions to banks using the Fedwire Funds Service—the Federal Reserve's real-time gross settlement (RTGS) payments system—can reach intraday peaks as high as $86 billion. This article evaluates the effectiveness of alternative methods of settling Fedwire payments in reducing intraday credit extensions. The authors simulate three deferred settlement mechanisms that complement RTGS systems: one-hour netting, six-hour netting, and a mechanism called a receipt-reactive gross settlement (RRGS) system. Their results suggest that in conjunction with RTGS systems, the RRGS mechanism could significantly reduce daylight credit extensions while modestly delaying the average time of payment settlement. Moreover, certain features of RRGS systems may encourage banks to submit payments earlier in the day. Further research on RRGS systems may shed light on whether they could prove to be a true liquidity-saving complement to real-time gross settlement systems.

EPR Executive Summary available

Current Issues in Economics and Finance

Current Issues in Economics and Finance offers concise studies of topical economic and financial issues.

Second District Highlights—a regional supplement to *Current Issues*—covers important financial and economic developments in the Federal Reserve System's Second District.

Both series are available in html and pdf formats at **www.newyorkfed.org/research/current_issues**.

Volume 10

No. 1, January 2004

Why Were Banks Better Off in the 2001 Recession?

Til Schuermann

In a sharp turnaround from their fortunes in the 1990-91 recession, banks came through the 2001 recession reasonably well. A look at industry and economy-wide developments in the intervening years suggests that banks fared better largely because of more effective risk management. In addition, they benefited from a decline in short-term interest rates and the relative mildness of the 2001 downturn.

No. 2, February 2004

Pre-IPO Financial Performance and Aftermarket Survival

Stavros Peristiani and Gijoon Hong

Many commentators have portrayed the tech boom of the late 1990s as an era of unprecedented deterioration in the quality of firms undertaking initial public offerings. But as far back as the early 1980s, firms seeking to go public were displaying signs of financial weakness, and the failure rate of issuers was on the rise. An analysis of the likelihood of failure among IPO firms in 1980-2000 suggests that pre-issue profitability is a good predictor of aftermarket survival.

No. 3, March 2004

Recent Revisions to Corporate Profits: What We Know and When We Knew It

Charles P. Himmelberg, James M. Mahoney, April Bang, and Brian Chernoff

Initial estimates in the National Income and Product Accounts significantly overstated U.S. corporate profits for the 1998-2000 period. Subsequent revisions reveal that the profitability of the nation's corporate sector in the late 1990s was substantially weaker than "real-time" data indicated. An unexpected surge in employee stock options exercised—and perhaps, in some sectors, firms' inflated statements of profit—may help explain the large downward revisions.

No. 4, April 2004

Revenue Implications of New York City's Tax System

Jesse Edgerton, Andrew F. Haughwout, and Rae Rosen

A study of New York City's tax system finds that over the past three decades, the system has become less reliant on property and general sales taxes and more dependent on corporate and personal income taxes. This shift has made the city's tax revenues less stable than the revenues of the 1970s and more sensitive to cyclical swings.
Second District Highlights

No. 5, April 2004

Repurchase Agreements with Negative Interest Rates

Michael J. Fleming and Kenneth D. Garbade

Contrary to popular belief, interest rates can drop below zero. From early August to mid-November of 2003, negative rates occurred on certain U.S. Treasury security repurchase agreements. An examination of the market conditions behind this development reveals why market participants are sometimes willing to pay interest on money lent.

No. 6, May 2004

What Investment Patterns across Equipment and Industries Tell Us about the Recent Investment Boom and Bust

Jonathan McCarthy

A study of capital expenditure trends identifies investment in information technology as a major factor in the 1990s boom and subsequent bust. Spending on computers and software, fueled by Y2K preparations and the rise of the Internet, drove investment growth in the late 1990s but slowed in 2000, while overly optimistic profit expectations by communications industries likely prompted an unsustainable investment surge in 2000.

No. 7, June 2004

Economic Restructuring in New York State

Erica L. Groshen, Simon Potter, and Rebecca J. Sela

When economic activity slows down, labor markets may undergo extensive structural change—the permanent reallocation of workers across industries. Job losses can be heavy, and creating new jobs and retraining displaced workers to fill them can take time. A high degree of restructuring may help to explain why New York State's most recent downturn persisted for well over two years.
Second District Highlights

No. 8, July 2004

The Evolution of U.S. Bank Branch Networks: Growth, Consolidation, and Strategy

Beverly Hirtle and Christopher Metli

Bank branches have become steadily more concentrated within large and midsized branch networks over the past decade. A look at branching trends between 2001 and 2003 reveals that banks with large networks grew slowly and strategically during this period as they adjusted their branch holdings within existing markets, while institutions with midsized branch networks expanded more aggressively.

No. 9, August 2004

The Relationship between Manufacturing Production and Goods Output

Charles Steindel

The sharp divergence in the 2001 recession between two key economic indicators—manufacturing production and goods output—could suggest that one indicator is flawed, casting doubt on the reliability of its overall series. This analysis finds no evidence of error. Rather, the strength of spending on consumer—relative to capital—goods and the growth of merchandising services in the sale of consumer goods more likely explain the recent deviation.

No. 10, September/October 2004

Reserve Accumulation: Implications for Global Capital Flows and Financial Markets

Matthew Higgins and Thomas Klitgaard

Many central banks—particularly those in Japan and the emerging Asian nations—have been building up their holdings of foreign currency assets. These holdings, known as foreign exchange reserves, may help countries stabilize their currencies, but they can also lead to investment losses for the central banks. The large share of dollar assets among reserve holdings has made foreign central banks important players in U.S. financial markets.

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No. 11, November 2004

Recent Innovations in Treasury Cash Management

Kenneth D. Garbade, John C. Partlan, and Paul J. Santoro

The Treasury Tax and Loan program, a joint undertaking of the Treasury and the Federal Reserve, is designed to manage federal tax receipts and stabilize the supply of reserves in the banking system. Three recent innovations—electronic collection of business taxes, real-time investment of excess Treasury balances, and competitive bidding for Treasury deposits—have materially enhanced the ability of the two agencies to achieve these objectives.

No. 12, December 2004

New York and New Jersey Poised for Modest Job Growth in 2005

James Orr and Rae Rosen

Combined employment in New York and New Jersey will expand by 1.1 percent in 2005, following projected growth of 0.9 percent in 2004. Slower than expected growth in the U.S. economy or a falloff in financial market activity, however, could jeopardize the states' employment outlook.
Second District Highlights

No. 13, December 2004

Will the U.S. Productivity Resurgence Continue?

Dale W. Jorgenson, Mun S. Ho, and Kevin J. Stiroh

U.S. productivity growth has accelerated in recent years, despite a series of negative economic shocks. An analysis of the sources of this growth over the 1995-2003 period suggests that the production and use of information technology account for a large share of the gains. The authors project that during the next decade, private sector productivity growth will continue at a rate of 2.6 percent per year, a significant increase from their 2002 projection of 2.2 percent growth.

Research Update

Research Update is a quarterly newsletter designed to keep you informed about the Research and Statistics Group's current work. The newsletter—which complements this catalogue—offers summaries of selected studies and listings of recent articles and papers in our research series.

Research Update also reports on other news within the Group, including:

- staff publication in outside journals,
- upcoming conferences at the Federal Reserve Bank of New York,
- calls for papers, and
- new publications and services.

You can subscribe to *Research Update* by using the enclosed order form. The publication is also available in html and pdf formats at **www.newyorkfed.org/research/research_update**.

Staff Reports

The *Staff Reports* series features technical research papers designed to stimulate discussion and elicit comments. These papers are intended for eventual publication in leading economic and finance journals.

The series is available only at **www.newyorkfed.org/research/staff_reports**.

Macroeconomics and Growth

No. 177, February 2004

Do Stock Price Bubbles Influence Corporate Investment?

Simon Gilchrist, Charles P. Himmelberg, and Gur Huberman

This study develops a model in which an increase in the dispersion of investor beliefs under short-selling constraints predicts a "bubble," or a rise in a stock's price above its fundamental value. The model predicts that managers respond to bubbles by issuing new equity and increasing capital expenditures. The authors test these predictions using the variance of analysts' earnings forecasts to identify the bubble component in Tobin's Q. When comparing firms traded on the New York Stock Exchange with those traded on NASDAQ, they find that the model captures key features of the 1990s technology boom. Using a panel-data vector autoregression framework, the authors also find that orthogonalized shocks to dispersion have positive and statistically significant effects on Tobin's Q, net equity issuance, and real investment—results consistent with the model's predictions.

No. 182, April 2004

Benefits and Spillovers of Greater Competition in Europe: A Macroeconomic Assessment

Tamim Bayoumi, Douglas Laxton, and Paolo Pesenti

The authors estimate the benefits and spillovers of increased competition using a general-equilibrium simulation model with nominal rigidities and monopolistic competition in product and labor markets. They draw three conclusions after calibrating the model to the euro area against the rest of the industrial world. First, greater competition produces large effects on macroeconomic performance. In particular, differences in competition can account for more than half of the current gap in GDP per capita between the euro area and the United States. Second, greater competition may improve macroeconomic management by increasing wage and price responsiveness to market conditions. Third, increased competition can generate positive spillovers to the rest of the world through its effect on the terms of trade.

No. 188, June 2004

The Linkage between Regional Economic Indexes and Tax Bases: Evidence from New York

Jason Bram, Andrew F. Haughwout, James Orr, Robert Rich, and Rae Rosen

This study examines the linkage between economic activity and tax revenues for New York State and New York City. Drawing upon the methodology of Stock and Watson, the authors use a dynamic single-factor model to estimate indexes of coincident economic indicators; they also construct measures of the sales and withholding tax bases. To conduct an empirical analysis of the relationship between the indexes of economic activity and the tax base series, they use vector autoregression and error correction models. The results provide strong evidence that the coincident indexes contain useful information for explaining monthly growth in the tax bases. However, much less evidence exists of a statistically significant linkage from the tax bases to the coincident indexes.

No. 195, October 2004

Menu Costs at Work: Restaurant Prices and the Introduction of the Euro

Bart Hobijn, Federico Ravenna, and Andrea Tambalotti

Restaurant prices in the euro area saw an unprecedented increase after the introduction of the euro. The authors use an extension of commonly used models of sticky prices and argue that the increase in restaurant prices can be explained by menu costs. The extension they use involves the state-dependent decision of firms about when to adopt the euro. Two main mechanisms drive the result. First, the authors' model concentrates otherwise staggered price increases around the introduction of the euro. Second, before the adoption of the euro, prices do not reflect marginal cost increases expected to occur after the change-over. This horizon effect disappears as soon as the new currency is adopted, contributing to a jump in prices at that time. For realistic parameter values, the model generates a blip in inflation of the same magnitude observed in the data.

International

No. 179, February 2004

Who Bears the Cost of a Change in the Exchange Rate? The Case of Imported Beer

Rebecca Hellerstein

The author quantifies the welfare effects of a change in the nominal exchange rate using the example of the beer market. She estimates a structural econometric model that makes it possible to compute manufacturers' and retailers' pass-through of a nominal exchange rate change, without observing wholesale prices or firms' marginal costs. Hellerstein conducts counterfactual experiments to quantify how the change affects domestic and foreign firms' profits and domestic consumer welfare. The counterfactual experiments show that foreign manufacturers bear more of the cost of an exchange rate change than do domestic consumers, domestic manufacturers, or a domestic retailer. The model can be applied to other markets and can serve as a tool to assess the welfare effects of various exchange rate policies.

No. 180, March 2004

Globalization and the Gains from Variety

Christian Broda and David Weinstein

This paper shows that the unmeasured growth in product variety from U.S. imports has been an important source of gains from trade over the past three decades. Using extremely disaggregated data, the authors demonstrate that the number of imported product varieties has increased by a factor of four. They also estimate the elasticities of substitution for each available category at the same level of aggregation and describe their behavior across time and SITC-5 industries. Broda and Weinstein then develop an exact price index and find that the upward bias in the conventional import price index is approximately 1.2 percent per year. The magnitude of this bias suggests that the welfare gains from variety growth in imports alone are 2.8 percent of GDP.

No. 183, April 2004

Financial-Sector Foreign Direct Investment and Host Countries: New and Old Lessons

Linda S. Goldberg

Many lessons from foreign direct investment (FDI) research on manufacturing and extractive resource industries are applicable to FDI research on the financial sector. This paper summarizes the main findings and policy themes of FDI research, focusing on the implications of FDI for host countries, especially emerging market economies. Goldberg reviews evidence of technology transfers, productivity spillovers, wage effects, macro-economic growth, and fiscal and tax concerns. She stresses throughout that parallel findings often arise from studies of general FDI and of financial-sector FDI. Goldberg also emphasizes important differences between FDI's effects in these sectors, particularly regarding local institution building and business cycles. She contends that these differences—more so than the similarities—should be the focus of research efforts.

Microeconomics

No. 186, May 2004

How Should Suburbs Help Their Central Cities?

Andrew F. Haughwout and Robert P. Inman

This paper examines whether suburbs should help finance the core public services of their central cities. The authors review three arguments in favor of such assistance. First, the central city provides public services that benefit suburban residents. Second, the central city may provide redistributive services to low-income central city residents that benefit suburbanites with redistributive preferences for such transfers. Third, the central city's private economy may be an efficient production center because of agglomeration economies; distributive city finances may undermine those economies by driving away businesses or residents. The authors analyze the effects of suburban transfers in a structural model of a metropolitan economy consistent with the third argument and with the city-suburban interdependence literature.

No. 191, July 2004

Why Use Debit Instead of Credit? Consumer Choice in a Trillion-Dollar Market

Jonathan Zinman

Debit cards are overtaking credit cards as the most prevalent form of electronic payment at the point of sale, yet the determinants of such consumer choice have received relatively little scrutiny. Several stylized facts suggest that debit-card use is driven by behavioral factors. The popular view is that debit-card use presents a puzzle for canonical economic models. However, cost-based motives for using debit cards should not be overlooked. Zinman documents robust effects of credit-card use on debit-card use and shows that such effects are consistent with a canonical model of consumer choice. Yet he also shows that it is difficult to distinguish between canonical and behavioral motives for debit-card use in public data. More generally, Zinman develops analytical frameworks for testing competing canonical and behavioral models and finds important roles for both pecuniary and psychological motives.

No. 192, August 2004

The Incentive Effects of Higher Education Subsidies on Student Effort

Ayşegül Şahin

The author analyzes the disincentive effects of low-tuition policies on student effort. Her game-theoretic model of parent and student responses to tuition subsidies is calibrated using information from the National Longitudinal Survey of Youth 1979 and the High School and Beyond Sophomore Cohort: 1980-92. She finds that although subsidizing tuition increases enrollment rates, it reduces student effort. This follows from the fact that a high-subsidy, low-tuition policy causes an increase in the percentage of less able and less highly motivated college graduates. Additionally—and potentially more important—all students, even the more highly motivated ones, respond to lower tuition levels by decreasing their effort levels. This study adds to the literature by demonstrating how high-subsidy, low-tuition policies have disincentive effects on students' study time and adverse effects on human capital accumulation.

No. 194, September 2004

Why Did the Average Duration of Unemployment Become So Much Longer?

Toshihiko Mukoyama and Ayşegül Şahin

This paper examines the causes of the observed increase in the average duration of unemployment over the past thirty years. It first analyzes whether changes in the demographic composition of the U.S. labor force, particularly the age and gender composition, can explain this increase. The authors then consider the contribution of institutional changes, such as the change in the generosity and coverage of unemployment insurance. They find that changes in the composition of the labor force and institutional changes can only partially account for the longer duration of unemployment. A job search model is constructed and calibrated to U.S. data. The results indicate that more than 70 percent of the increase in the duration of unemployment over the past thirty years can be attributed to an increase in within-group wage inequality.

Banking and Finance

No. 178, February 2004

Trading Risk and Volatility in Interest Rate Swap Spreads

John Kambhu

This study examines how trading activity risk can affect asset price volatility. It looks for this relationship in the behavior of interest rate swap spreads and in the volume and interest rates of repurchase contracts. The author focuses on convergence trading, in which speculators take positions on a bet that asset prices will converge to normal levels. He investigates how the risks in convergence trading can affect price volatility in a form of positive feedback that can amplify shocks in asset prices. He finds empirical evidence of stabilizing and destabilizing forces in the behavior of interest rate swap spreads attributable to speculative trading activity. The swap spread tends to converge to a long-run level, although trading risk can sometimes cause it to diverge from that level.

No. 181, April 2004

Time-Varying Consumption Correlation and the Dynamics of the Equity Premium: Evidence from the G-7 Countries

Asani Sarkar and Lingjia Zhang

This study examines the implications of time variation in the correlation between the equity premium and nondurable consumption growth for equity return dynamics in G-7 countries. Using a VAR-GARCH (1,1) model, the authors find that the correlation increases with recession indicators and with proxies for stock market wealth. The combined effect is that the correlation increases during a recession. The authors find that the effect of a countercyclical correlation is that the equity premium, Sharpe ratio, and risk aversion are also generally countercyclical. These findings withstand such robustness checks as allowing the mean return to depend on its conditional variance and controlling for lower consumption volatility during the post-1990 period. The evidence is stronger for countries with larger stock market capitalization relative to GDP.

No. 184, May 2004

Anomalous Bidding in Short-Term Treasury Bill Auctions

Michael J. Fleming, Kenneth D. Garbade, and Frank Keane

This paper shows that Treasury bill auction procedures create classes of price-equivalent discount rates for bills with fewer than seventy-two days to maturity. The authors argue that it is inefficient for market participants to bid at a discount rate that is not the minimum rate in its class. The inefficiency of bidding at a rate other than the minimum is related to a quantity shortfall rather than an unexploited profit opportunity. Auction results for weekly offerings of four-week bills and occasional offerings of cash management bills show that market participants frequently bid at inefficient rates. However, they are more likely to bid at efficient rates than chance would suggest.

No. 185, May 2004

A General Approach to Integrated Risk Management with Skewed, Fat-Tailed Risks

Joshua V. Rosenberg and Til Schuermann

The goal of integrated risk management in a financial institution is to measure and manage risk and capital across business activities. This requires an approach for aggregating risk types whose distributional shapes vary considerably. The authors use the method of copulas to construct the joint risk distribution for a typical large, internationally active bank. It allows them to incorporate realistic marginal distributions that capture essential empirical features of these risks—such as skewness and fat tails—while allowing for a rich dependence structure. They explore the impact of business mix and inter-risk correlations on total risk, whether measured by value at risk or expected shortfall. They find that given a risk type, total risk is more sensitive to differences in business mix or risk weights than to differences in inter-risk correlations.

No. 187, May 2004

Inference, Arbitrage, and Asset Price Volatility

Tobias Adrian

Adrian models the effect on stock prices when arbitrageurs are uncertain about the drift of the dividend process of a risky asset. Uncertain arbitrageurs condition their investment strategy on the observation of dividends and trading volume. In such a setting, they can increase the equilibrium volatility of asset returns. The arbitrageurs' inference problem leads to rich dynamics of asset prices and investment strategies: the optimal trading strategy of arbitrageurs can be upward sloping in prices, the price response to news can be nonlinear, and minor news can have large effects. These results are driven by arbitrageurs' inability to distinguish temporary from permanent shocks perfectly. They would like to sell assets in response to temporary price increases and buy in response to permanent increases.

No. 189, June 2004

Are Bank Holding Companies a Source of Strength to Their Banking Subsidiaries?

Adam B. Ashcraft

Ashcraft presents evidence that the cross-guarantee authority granted to the FDIC by the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 has unexpectedly strengthened the Federal Reserve's source-of-strength doctrine. In particular, he finds that a bank affiliated with a multibank holding company is significantly safer than a stand-alone bank or a bank affiliated with a one-bank holding company. Not only does affiliation reduce the probability of financial distress, but distressed affiliated banks are more likely to receive capital injections and recover faster than other banks. Moreover, affiliation's effects are strengthened for an expanding bank holding company, but are weakened when the parent has less than full ownership of the subsidiary. Most interestingly, Ashcraft's results show that these behavior differences across affiliation did not exist before the cross-guarantee authority was introduced.

No. 190, July 2004

Estimating Probabilities of Default

Til Schuermann and Samuel Hanson

The authors conduct a systematic comparison of confidence intervals around estimated probabilities of default (PDs) using several approaches from large-sample theory as well as bootstrapping. They do so for two PD estimation methods—cohort and duration (intensity)—using twenty-two years of credit ratings data. The authors find that the bootstrapped intervals for the duration-based estimates are surprisingly tight compared with the more commonly used (asymptotic) Wald interval. They also find that despite the relatively tight confidence intervals, it is impossible to distinguish notch-level PDs for investment-grade ratings. However, once the speculative-grade barrier is crossed, notch-level PDs can be distinguished quite cleanly. Conditioning on the state of the business cycle helps; it is easier to distinguish adjacent PDs in recessions than in expansions.

No. 193, September 2004

Learning about Beta: A New Look at CAPM Tests

Tobias Adrian and Francesco Franzoni

When risk-factor loadings are time-varying and unobservable, investors are forced to form beliefs about the levels of their loadings. The learning process involved in forming these beliefs has normative implications for asset-pricing tests. This paper develops an equilibrium model of learning about time-varying beta. In it, the capital asset pricing model (CAPM) works for investors' probability distribution. However, mispricing can be observed if econometricians estimate betas without accounting for the investors' learning process. The empirical implication for asset-pricing tests is that the factor loadings must be estimated as latent variables. The authors provide an empirical application of this methodology to the cross section of returns on ten book-to-market and ten size-sorted portfolios. For these assets, the data do not reject a learning-augmented version of CAPM. This model performs better than other common empirical specifications, including the Fama-French three-factor model.

Quantitative Methods

No. 196, December 2004

Forecasting and Estimating Multiple Change-Point Models with an Unknown Number of Change Points

Gary M. Koop and Simon M. Potter

The authors develop a new approach to change-point modeling that allows for an unknown number of change points in the observed sample. Their model assumes that regime durations have a Poisson distribution. The model approximately nests the two most common approaches: the time-varying parameter model with a change point every period and the change-point model with a small number of regimes. The authors focus on the construction of reasonable hierarchical priors both for regime durations and for the parameters that characterize each regime. A Markov Chain Monte Carlo posterior sampler is constructed to estimate a change-point model for conditional means and variances. Koop and Potter find that their techniques work well in an empirical exercise involving U.S. inflation and GDP growth. Empirical results suggest that the number of change points is larger than previously estimated in these series and the implied model is similar to a time-varying parameter model with stochastic volatility.

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Prior Elicitation in Multiple Change-Point Models

Gary M. Koop and Simon M. Potter

This paper discusses Bayesian inference in change-point models. Current approaches place a possibly hierarchical prior over a known number of change points. Koop and Potter show how two popular priors have some potentially undesirable properties, such as allocating excessive prior weight to change points near the end of the sample. They discuss how these properties relate to imposing a fixed number of change points in the sample. Their study develops a hierarchical approach that allows some change points to occur out of the sample. The authors show that this prior has desirable properties and handles cases with unknown change points. Their hierarchical approach can be shown to nest a wide variety of change-point models, from time-varying parameter models to those with few or no breaks. Data-based learning about the parameter that controls this variety occurs because the authors' prior is hierarchical.

Outside Journals

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Published in 2004

Macroeconomics and Growth

Bart Hobijn

"Cross-Country Technology Adoption: Making the Theories Face the Facts," with Diego Comin. *Journal of Monetary Economics* 51, no. 1 (January): 39-83.

Kevin Stiroh

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International

Tobias Adrian

"The Degree of Openness and the Costs of Fixing the Exchange Rate," with Daniel Gros. *Economic Letters* 83, no. 1 (April): 141-6.

Christian Broda

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Linda Goldberg

Comment on "The Role of Multinational Corporations in International Business Cycle Transmission: Skew Lines or Arbitrage Opportunities?" by Gordon Hansen and Matthew Slaughter. In Horst Siebert, ed., *Macroeconomic Policies in the World Economy*, 156-62. Berlin-Heidelberg: Springer-Verlag.

Microeconomics

Andrew Haughwout

"Institutions, Tax Structure, and State-Local Fiscal Crises," with Rae Rosen and Jesse Edgerton. *National Tax Journal* 57, no. 1 (March): 147-58.

"Land Taxation in New York: A General Equilibrium Perspective." In Amy Ellen Schwartz, ed., *City Taxes, City Spending: Essays in Honor of Dick Netzer*, 73-94. Northampton, Mass.: Edward Elgar.

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George Zanjani

"Terrorism Insurance Policy and the Public Good," with Darius Lakdawalla. *Journal of Legal Commentary* 18, no. 2 (spring): 463-9.

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Nicola Cetorelli

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Hamid Mehran

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Stavros Peristiani

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João Santos

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Kevin Stiroh

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Bart Hobijn

"Generalizations of the KPSS Test for Stationarity," with Philip Hans Franses and Marius Ooms. *Statistica Neerlandica* 58, no. 4 (November): 1-20.

Simon Potter

"Forecasting in Dynamic Factor Models Using Bayesian Model Averaging," with Gary Koop. *Econometrics Journal* 7, no. 2 (December): 550-65.

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Adam Ashcraft

"New Evidence on the Lending Channel." *Journal of Money, Credit, and Banking*.

Leonardo Bartolini

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Arturo Estrella

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Charles Himmelberg

"Do Stock Price Bubbles Influence Corporate Investment?" with Simon Gilchrist and Gur Huberman. *Journal of Monetary Economics*.

James Kahn

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Amartya Lahiri

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"Growth of U.S. Industries and Investments in Information Technology and Higher Education," with Dale W. Jorgenson and Mun S. Ho. In Carol Corrado, John Haltiwanger, and Daniel Sichel, eds., *Measuring Capital in the New Economy*. NBER conference volume. Chicago: University of Chicago Press.

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Christian Broda

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James Harrigan

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Paolo Pesenti

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Cédric Tille

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Andrew Haughwout

"Trade and Tax Policy: Lessons from American Regions." In *Tax Policy*. Proceedings of a Bank of Italy Public Finance Workshop.

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"Repeated Moral Hazard with Persistence," with Toshihiko Mukoyama. *Economic Theory.*

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George Zanjani

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Nicola Cetorelli

"Finance as a Barrier to Entry: Bank Competition and Industry Structure in Local U.S. Markets," with Philip E. Strahan. *Journal of Finance*.

Astrid Dick

"Nationwide Branching and Its Impact on Market Structure, Quality, and Bank Performance." *Journal of Business*.

Michael Fleming

"U.S. Treasury and Agency Securities," with Frank J. Fabozzi. In Frank J. Fabozzi, ed., *Handbook of Fixed Income Securities*.

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"Anomalous Bidding in Short-Term Treasury Bill Auctions," with Frank Keane. *Journal of Financial Research*.

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Hamid Mehran

"Organizational Form, Taxes, Ownership, and CEO Compensation: Evidence from Small Businesses," with Rebel Cole. *Journal of Financial Economics*.

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Joshua Rosenberg

"The Impact of CEO Turnover on Equity Volatility," with Matthew Clayton and Jay Hartzell. *Journal of Business*.

João Santos

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"Banking and Commerce: A Liquidity Approach," with Joseph Haubrich. *Journal of Banking and Finance*.

Asani Sarkar

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"Forecasting Recessions Using the Yield Curve," with Marcelle Chauvet. *Journal of Forecasting*.

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