

### FEDERAL RESERVE BANK OF NEW YORK RESEARCH AND MARKET ANALYSIS GROUP

## **Publications** & other research 1999

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FEDERAL RESERVE BANK OF NEW YORK RESEARCH AND MARKET ANALYSIS GROUP JANUARY 2000

## INTRODUCTION

The Federal Reserve Bank of New York's Research and Market Analysis 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 each of our research series:

∽ the *Economic Policy Review* our policy-oriented flagship publication

#### ~ Current Issues in Economics and Finance

a newsletter-style publication focusing on economic, financial, and regional topics

#### $\sim$ Second District Highlights

a regional supplement to *Current Issues* covering financial and economic developments in the Federal Reserve System's Second District

#### ∼ Staff Reports

technical papers presenting research findings.

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

We invite you to visit our web site, where you can obtain the publications and papers in our research series.

## 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.ny.frb.org/rmaghome.

#### Volume 5

#### Number 1

#### Supervisory Information and the Frequency of Bank Examinations *Beverly J. Hirtle and Jose A. Lopez*

Bank supervisors need timely and reliable information about the financial condition and risk profile of banks. A key source of this information is the on-site, full-scope bank examination. This article evaluates the frequency with which supervisors examine banks by assessing the decay rate of the private supervisory information gathered during examinations. It suggests that this information ceases to provide a useful picture of a bank's current condition after six to twelve quarters. The decay rate appears to be faster in years when the banking industry experiences financial difficulties, and it is significantly faster for troubled banks than for healthy ones. Thus, the analysis suggests that the annual examination frequency currently mandated by law is reasonable, particularly during times of financial stress for the banking industry.

#### Macro Markets and Financial Security Stefano Athanasoulis, Robert Shiller, and Eric van Wincoop

Uncertainty about national income growth poses significant macroeconomic risk to households all over the world. To help reduce investors' exposure, researchers have proposed a controversial new set of security markets called macro markets. These international markets would trade long-term claims on the income of an entire country or region. For example, in a macro market for the United States, an investor could buy a claim on the U.S. national income and then receive dividends equal to a fraction of national income for as long as the claim is held. Although many barriers stand in the way of the markets' development-including investors' focus on short-term portfolio performance, sizable start-up costs, and contract enforcement difficulties-the potential benefits of these markets are great.

#### Exchange Rates and Profit Margins: The Case of Japanese Exporters *Thomas Klitgaard*

When exchange rates shift, exporters must decide whether it is more important to maintain profit margins or to maintain stable export prices. This examination of Japanese exporters finds that these firms have taken a middle course: By altering their profit margins to some degree, the exporters moderate the exchange-rate-induced changes in prices seen by their foreign customers. The analysis finds that in the three major exporting industries—industrial machinery, electrical machinery, and transportation equipment—a 10 percent rise in the yen leads firms to lower profit margins on exports by 4 percent relative to the margins on their sales in Japan. That is, the exporters pass on more than half of any change in the yen to the price seen by their foreign customers and absorb the remainder by adjusting profit margins on foreign sales.

#### Number 2

#### Recent Banking Sector Reforms in Japan *Hiroshi Nakaso*

The author, chief manager of the financial system division of the Bank of Japan, discusses the Bank's recent efforts to maintain the stability of Japan's financial system.

#### Legal Structure, Financial Structure, and the Monetary Policy Transmission Mechanism *Stephen G. Cecchetti*

Among the many challenges facing the new Eurosystem-the European Central Bank and the central banks of the eleven members of the European Monetary Union-is the possibility that participating countries will respond differently to interest rate changes. This paper provides evidence that differences in financial structure are the proximate cause for these national asymmetries in monetary policy transmission and that these differences in financial structure are a result of differences in legal structure. The author concludes that unless legal structures are harmonized across Europe, the financial structures and monetary transmission mechanisms of the European Union countries will remain diverse.

#### How Important Is the Stock Market Effect on Consumption?

#### Sydney Ludvigson and Charles Steindel

Many argue that the astonishing growth in Americans' stock portfolios in the 1990s has been a major force behind the growth of consumer spending. This article reviews the relationship between stock market movements and consumption. Using various econometric techniques and specifications, the authors find that the propensity to consume out of aggregate household wealth has exhibited instability over the postwar period. They also show that the dynamic response of consumption growth to an unexpected change in wealth is extremely short-lived, implying that forecasts of consumption growth one or more quarters ahead are not typically improved by accounting for changes in existing wealth. Finally, the impact effect of a wealth shock on consumption growth, while statistically positive, is found to be uncertain. Although recent market gains have provided support for consumer spending, the authors' findings are too limited to encourage reliance on estimates of the stock market effect in macroeconomic forecasts.

#### Banks' Payments-Driven Revenues Lawrence J. Radecki

Although many people believe that the payments area is a fairly minor business function within the banking sector, an increasing share of banks' revenue comes from fee services. To understand the full scope of the payments area, the author develops a broad definition of this business line and builds an estimate of payments-related earnings using recent data disclosed in bank holding

#### Number 2 (continued)

company annual reports. Countering the view that payments contribute little to net revenue, the author finds that the payments area is one of the core activities of commercial banks. According to his estimates, payments services generate between one-third and two-fifths of the combined operating revenue for the twenty-five largest bank holding companies in the United States.

#### Number 3

In May 1999, the Federal Reserve Bank of New York sponsored the conference "Unequal Incomes, Unequal Outcomes? Economic Inequality and Measures of Well-Being." This special issue is dedicated to the conference proceedings.

Papers include:

Poverty, Children's Health, and Health Care Utilization Barbara L. Wolfe

Economic Inequality and Social Differentials in Mortality *Arline T. Geronimus* 

Public Health and the Public Agenda *Kevin Thurm* 

Housing Outcomes: An Assessment of Long-Term Trends James A. Orr and Richard W. Peach

A Look at Real Housing Prices and Incomes: Some Implications for Housing Affordability and Quality Joseph Gyourko and Joseph Tracy

The Changing Relationship between Income and Crime Victimization *Steven D. Levitt* 

Economic Inequality and the Provision of Schooling *Thomas A. Downes and David N. Figlio* 

From John Lindsay to Rudy Giuliani: The Decline of the Local Safety Net? Edward L. Glaeser and Matthew E. Kahn

Earnings Inequality and Central-City Development *Edwin S. Mills* 

Social Indicators and the Study of Inequality Marcia K. Meyers and Irwin Garfinkel

## *Current Issues in Economics and Finance*

*Current Issues in Economics and Finance* is a newsletter-style publication offering concise and timely analyses of economic and financial topics.

*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 at www.ny.frb.org/rmaghome.

#### Volume 5

#### No. 1

Paying Electronic Bills Electronically Lawrence J. Radecki and John Wenninger

Electronic billing and payment systems are about to change the way many households pay their monthly bills. These systems are likely to increase consumer convenience and reduce billers' costs. Several factors, however, could slow down the widespread use of electronic billing and payment, including customer resistance to change, unequal access to technology, and consumer privacy concerns.

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#### No. 2

Second District House Prices: Why So Weak in the 1990s? *Matthew Higgins, Carol Osler, and Anjali Sridhar* 

Between 1990 and 1997, poor economic fundamentals and a prolonged hangover from excessively rapid price growth in the 1980s caused house prices in the New York metropolitan area to grow much more slowly than prices nationwide. These factors played a smaller role in the decline of upstate New York's house prices relative to the nation's. *Second District Highlights* series

#### No. 3

#### Meet the New Borrowers Sandra E. Black and Donald P. Morgan

Credit card lenders have been writing off loans at sharply higher rates since 1995, suggesting that riskier borrowers are acquiring credit cards. What makes the new borrowers riskier even more than their personal characteristics and attitudes toward debt—is the fact that they carry higher debt burdens and work in occupations where income may be more cyclical.

#### No. 4

Mortgage Refinancing and the Concentration of Mortgage Coupons Paul Bennett, Frank Keane, and Patricia C. Mosser

Because of the concentrated distribution of interest rates on outstanding mortgages, modest interest rate declines in 1997 and

#### No. 4 (continued)

1998 made refinancing a smart choice for a record number of homeowners. In addition, the strong economy and the age of mortgage loans likely contributed to the surge in refinancing activity.

#### No. 5

#### Are Stocks Overtaking Real Estate in Household Portfolios? Joseph Tracy, Henry Schneider, and Sewin Chan

The rapid growth of the stock market since 1990 has encouraged the view that corporate equity holdings are becoming the primary asset for a broad spectrum of American households. A closer look at the evidence, however, reveals that real estate continues to eclipse stocks as a share of most households' portfolios.

#### No. 6

#### Is Upstate New York Showing Signs of a Turnaround? *Richard Deitz and Mike De Mott*

Upstate New York may have shown signs of a turnaround in 1997 and 1998, but its economic performance is still well below that of the nation and New York State as a whole. *Second District Highlights* series

#### No. 7 Mercosur: Implications for Growth in Member Countries

#### Michelle Connolly and Jenessa Gunther

The South American customs union known as Mercosur has contributed significantly to regional trade liberalization. But by encouraging trade within the group at the expense of trade with nonmembers, Mercosur may limit member countries' access to hightechnology imports, an important stimulus to growth.

#### No. 8

#### The Future of Financial Intermediation and Regulation: An Overview *Stephen G. Cecchetti*

On March 11, 1999, Stephen G. Cecchetti, Executive Vice President and Director of Research at the Federal Reserve Bank of New York, delivered these remarks at the symposium *A New Equilibrium in the Credit Business: The Future of Financial Systems— Regulation in the Twenty-First Century*, sponsored by the Oliver Wyman Institute and the Institut für Kreditwesen, Universität Münster.

#### No. 9

#### The Impact of Reduced Inflation Estimates on Real Output and Productivity Growth *Charles Steindel*

Despite posting their strongest sustained performance in many years, recent measures of output and productivity growth have still fallen short of their 1960-73 averages. Could datameasurement problems affecting the pricing of some services account for the inability of these widely tracked U.S. growth indexes to match their earlier rates?

#### No. 10

#### Business-to-Business Electronic Commerce John Wenninger

To improve efficiency, some large retailers, suppliers, and distributors have begun to conduct business-to-business commerce electronically. This practice could grow rapidly if the Internet becomes the primary low-cost network for such transactions. Before the Internet can fully support business-to-business commerce, however, companies must overcome several technological and security obstacles.

#### No. 11 Can New York City Bank on Wall Street? Jason Bram and James Orr

The securities industry is more important than ever to the New York City economy, and a protracted downturn in the industry's employment could seriously hurt the overall job picture. Increased stability in other New York City industries, however, could help soften the economic effects of such a downturn.

Second District Highlights series

#### No. 12

#### Are Banks Still Important for Financing Large Businesses? Marc R. Saidenberg and Philip E. Strahan

As more corporations turn to the securities markets to meet their funding needs, the role of banks as providers of credit to large businesses seems increasingly uncertain. But a look at developments during the financial market turmoil last fall suggests that banks are still a critical source of liquidity at times of economic stress.

#### No. 13

## A Decomposition of the Increased Stability of GDP Growth

Margaret M. McConnell, Patricia C. Mosser, and Gabriel Perez Quiros

Since 1984, the U.S. economy has grown at a remarkably steady pace. An analysis of this increased stability shows that every major component of GDP has exhibited smoother growth. However, two components—inventory investment and consumer spending are responsible for the bulk of the decline in overall volatility.

#### No. 14

#### Two New Indexes Offer a Broad View of Economic Activity in the New York– New Jersey Region James Orr, Robert Rich, and Rae Rosen

The authors develop two coincident indexes that provide a comprehensive measure of economic activity in New Jersey, New York State, and New York City. *Second District Highlights* series

#### No. 15

#### Credit Risk in Japan's Corporate Bond Market *Frank Packer*

From the fall of 1997 to the spring of 1999, yield spreads in Japan's corporate bond market increased sharply. An analysis of this rapid rise suggests that Japanese investors in corporate bonds may be paying closer attention to the credit risk of individual issuers. Such a shift in investor focus would represent a major change in the structure of this market.

#### No. 16

#### Explaining the Recent Divergence in Payroll and Household Employment Growth *Chinhui Juhn and Simon Potter*

Each month, the government releases two estimates of U.S. employment growth one based on a survey of firms, the other on a survey of households. Since 1994, these measures have diverged sharply. Evidence suggests that the household survey's estimate has risen more slowly because it undercounts working-age adults who have found employment during the current economic expansion.

# Research Update

*Research Update* is a quarterly newsletter designed to keep you informed about the Research Group's current work. The newsletter—which complements this catalogue—offers summaries of selected studies and a listing 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, and
- $\sim$  new publications and services.

You can obtain *Research Update* by visiting www.ny.frb.org/rmaghome.

## 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.ny.frb.org/rmaghome.

#### **Macroeconomics and Growth**

#### No. 59 Are Apparent Findings of Nonlinearity Due to Structural Instability in Economic Time Series? *Gary Koop and Simon M. Potter*

Many modeling issues and policy debates in macroeconomics depend on whether macroeconomic time series are best characterized as linear or nonlinear. This empirical exercise using several macroeconomic time series shows that findings of threshold-type nonlinearities could be due to structural instability.

#### No. 61

#### Nonlinear Risk Marcelle Chauvet and Simon M. Potter

The authors propose a flexible framework for analyzing the joint time series properties of the level and volatility of expected excess stock returns. They find that a distinct business cycle pattern exists in the conditional expectation and variance of the monthly value-weighted excess returns.

#### No. 65

## Nonlinear Impulse Response Functions *Simon M. Potter*

The standard linear technique of impulse response function analysis is extended to the nonlinear case by defining a generalized impulse response function. Measures of persistence and asymmetry in response are constructed for a wide class of time series.

#### No. 66

Fluctuations in Confidence and Asymmetric Business Cycles Simon M. Potter

The asymmetries found in postwar U.S. output are inconsistent with the behavior of the U.S. economy during the Great Depression. This paper concludes that this asymmetry can be attributed to a reduction in investor confidence produced by misguided government intervention during the Depression, rather than to the success of postwar stabilization policy.

#### No. 71

## Structural Estimates of the U.S. Sacrifice Ratio

#### Stephen G. Cecchetti and Robert W. Rich

The authors investigate the statistical properties of the U.S. sacrifice ratio—the cumulative output loss arising from a permanent reduction in inflation. They derive estimates of the sacrifice ratio from three structural

#### No. 71 (continued)

VAR models and then conduct Monte Carlo simulations to analyze their sampling distribution. The estimates are found to provide a very unreliable guide for assessing the output cost of a disinflation policy.

#### No. 77

#### Consumption, Aggregate Wealth, and Expected Stock Returns *Martin Lettau and Sydney Ludvigson*

This paper reviews the role of detrended wealth in predicting stock returns. It finds that trend deviations in wealth are strong predictors of real stock returns and excess returns over a Treasury bill rate.

#### No. 79

#### Explaining Inequality the World Round: Cohort Size, Kuznets Curves, and Openness *Matthew Higgins and Jeffrey G. Williamson*

The authors decompose the sources of inequality among countries into three central parts: the demographic or cohort size effect, the so-called Kuznets Curve or demand effects, and the commitment to globalization or policy effects. The analysis suggests that cohort size is the most important force in determining inequality.

#### No. 83

#### What Was behind the M2 Breakdown? Cara S. Lown, Stavros Peristiani, and Kenneth J. Robinson

The authors contend that capital constraints on depository institutions largely explain the unusual pattern of M2 growth in the early 1990s. Their work suggests that M2 may contain useful information about economic growth during periods when depository institutions experience no major disturbances.

#### No. 87 Nonlinear Time Series Modeling: An Introduction *Simon M. Potter*

This study reviews recent developments in three major types of nonlinear models: Markov Switching, Threshold Autoregression, and Smooth Transition Autoregression. In addition to describing Classical and Bayesian estimation techniques, it reviews parametric tests for nonlinearity in each model.

#### No. 88

#### Does Talk Matter after All? Inflation Targeting and Central Bank Behavior *Kenneth N. Kuttner and Adam S. Posen*

Interpretations of inflation targeting vary widely, from "inflation-only targeting," without regard for output, to mere "cheap talk" without effect. The authors characterize five of these interpretations and use a simple model to derive their implications for the behavior of inflation and interest rates. In none of the three countries analyzed—the United Kingdom, Canada, and New Zealand—is there evidence that policy leads to a single-minded pursuit of the inflation target. The experiences of the United Kingdom and Canada are more consistent with a "trust-building" interpretation of inflation targeting.

#### No. 92

#### What Inventory Behavior Tells Us about Business Cycles *Mark Bils and James A. Kahn*

This paper finds that the countercyclical behavior of inventory-sales ratios in manufacturing is explained by marginal production costs that are more procyclical than conventionally measured. It argues that cyclical variation in marginal cost arises from costly fluctuations in factor utilization that are usually mistaken for productivity changes. Allowing for this extra marginal cost variation makes price-cost markups more countercyclical, which in turn explains the behavior of inventory-sales ratios.

#### International

No. 58 Competitive Devaluations: A Welfare-Based Approach Giancarlo Corsetti, Paolo Pesenti, Nouriel Roubini, and Cédric Tille

A three-country center-periphery model is used to examine the mechanism by which exchange rate shocks are transmitted across countries. The authors provide a choicetheoretic framework for the policy analysis and empirical assessment of competitive devaluations.

#### No. 63

#### Exchange Rates and Local Labor Markets Linda S. Goldberg and Joseph Tracy

This paper documents the consequences of real exchange rate movements for the employment, hours, and hourly earnings of workers in manufacturing industries across states. The importance and size of these dollar-induced effects are found to vary considerably across industries and to be more pronounced in some U.S. regions.

#### No. 67

#### The Role of Consumption Substitutability in the International Transmission of Shocks *Cédric Tille*

An expansionary shock that would be beneficial in a closed economy can have an adverse "beggar-thyself" effect in the country where it takes place or an adverse "beggarthy-neighbor" effect on a neighboring country. Such effects depend significantly on the degree of substitutability between goods produced in different countries and the exact nature of the shocks.

#### No. 70

## Determinants of Currency Risk Premiums John A. Carlson and C. L. Osler

A theoretical model of exchange rate determination suggests that forward premiums are negatively related to rationally expected future exchange rate changes. The authors provide new empirical evidence supporting the results of their model.

#### No. 72

#### The Nature and Growth of Vertical Specialization in World Trade David Hummels, Jun Ishii, and Kei-Mu Yi

Vertical specialization—the use of imported inputs to produce goods that are exported has become an increasingly important part of world trade. Estimates show that vertical specialization has grown approximately 40 percent in the last twenty-five years; today, it accounts for roughly 30 percent of world exports.

#### No. 80

#### Purchasing Power Parity: Three Stakes through the Heart of the Unit Root Null Matthew Higgins and Egon Zakrajšek

Using three new tests, the authors find overwhelming evidence in favor of real exchange rate stationarity during the post–Bretton Woods era among developed economies and among a larger group of "open" economies.

#### No. 81

#### International Trade and Factor Mobility: An Empirical Investigation *Linda S. Goldberg and Michael W. Klein*

Does foreign direct investment serve as a complement to or a substitute for trade? This investigation shows that U.S. foreign direct

#### No. 81 (continued)

investment in Latin America has led to both increases and decreases in trade among countries and across manufacturing industries.

#### No. 91

#### Borders and Business Cycles Todd E. Clark and Eric van Wincoop

The authors document that the business cycles of U.S. census regions are substantially more synchronized than those of European Union countries. They find that the lower level of trade between European countries and to a lesser extent the higher degree of specialization—can explain most of the difference. The lower level of monetary and fiscal policy coordination among European countries, however, does not play a role.

#### No. 94

#### Can World Real Interest Rates Explain Business Cycles in a Small Open Economy? William Blankenau, M. Ayhan Kose, and Kei-Mu Yi

This study reexamines the importance of world real interest rate shocks in a small open economy using an approach that reverses the standard international real business cycle methodology. The study begins with a standard model and then backs out the interest rate shocks and other exogenous shocks that are consistent with the model's observable endogenous variables. Variance decompositions are then used to examine each shock's importance. By applying this methodology to Canada, the study finds that world real interest rate shocks can explain up to one-third of the fluctuations in output and more than one-half of the fluctuations in net exports and net foreign assets.

#### **Microeconomics**

#### No. 64 U.S. Wages in General Equilibrium: The Effects of Prices, Technology, and Factor Supplies, 1963-1991 *James Harrigan and Rita A. Balaban*

Why has wage inequality in the United States increased in the past two decades? By estimating the general equilibrium relationship between prices, factor supplies, and wages and technology, this paper finds that both relative factor supply and relative price changes play an important role in explaining the growing gap in wages between highskilled and low-skilled workers.

#### No. 74

#### Importing Equality? The Effects of Increased Competition on the Gender Wage Gap Sandra E. Black and Elizabeth Brainerd

How does increased product market competition affect the ability of firms to discriminate? This study finds that increased competition resulting from globalization has forced companies to reduce costly discrimination against women.

#### No. 75

#### Sunk Costs, Contestability, and the Latent Contract Market Chris Stefanadis

The idea that an industry with sunk costs may be contestable even in the absence of long-term contracts has received little attention in formal economic theory yet remains popular among monopolists facing antitrust suits. The author employs an infinitely repeated game to illustrate the argument formally.

#### **Banking and Finance**

#### No. 60

#### Do Investors Mistake a Good Company for a Good Investment? *Peter Antunovich and David S. Laster*

If investors confused a firm's quality with its investment attractiveness, would shares of well-run companies be bid up too high and subsequently earn negative abnormal returns? The opposite is found to be true: The magnitude of the abnormal returns for admired firms and the returns' persistence over five years suggest that these firms are not overpriced.

#### No. 62

#### Banks' Payments-Driven Revenues Lawrence J. Radecki

The amount of fee income earned by the banking sector suggests that the significance of payments services has been greatly understated. According to this study, payments services account for one-third to twofifths of the combined operating revenues of the largest banks—a finding that establishes these services as a core activity of commercial banks.

#### No. 68

#### Looking beyond the CEO: Executive Compensation at Banks *Rebecca S. Demsetz and Marc R. Saidenberg*

The literature on executive compensation at banks has generally assumed that a single elasticity can adequately describe the sensitivity of executive pay to performance. The authors challenge this assumption and find that the structure of compensation, and to some extent the sensitivity of pay to performance, vary across firms of different sizes and across executives with different responsibilities.

#### No. 69 Bank Loan Sales: A New Look at the Motivations for Secondary Market Activity *Rebecca S. Demsetz*

This paper clarifies the benefits of an active secondary market that allows banks to transfer loans from their own books to the books of other institutions. In addition, it offers predictions about the future of this secondary market in a world of rapid consolidation and disappearing barriers to geographical expansion.

#### No. 73

#### Liquidity in U.S. Fixed Income Markets: A Comparison of the Bid-Ask Spread in Corporate, Government, and Municipal Bond Markets

#### Sugato Chakravarty and Asani Sarkar

Using newly available transactions data, the authors examine the determinants of the realized bid-ask spread in the U.S. corporate, municipal, and government bond markets for the years 1995-97. They find that liquidity is an important determinant of the realized bid-ask spread in all three markets.

#### No. 76

## The Term Structure of Announcement Effects *Michael J. Fleming and Eli M. Remolona*

How do U.S. Treasury yields of different maturities respond to macroeconomic announcements? The announcements are found to evoke the sharpest reactions from the intermediate-term maturities. Different types of announcements are also found to generate different patterns of announcement effects.

#### No. 78

#### Are There "Bank Effects" in Borrowers' Costs of Funds? Evidence from a Matched Sample of Borrowers and Banks *R. Glenn Hubbard, Kenneth N. Kuttner,*

### and Darius N. Palia

The authors use a large, matched sample of individual loans, borrowers, and banks to measure the effects of banks' financial conditions on loan interest rates while controlling for firm characteristics. They find that the cost of borrowing from low-capital banks tends to be higher than the cost of borrowing from well-capitalized banks, and that the difference is more pronounced for smaller firms.

#### No. 82

#### Heat Waves, Meteor Showers, and Trading Volume: An Analysis of Volatility Spillovers in the U.S. Treasury Market *Michael J. Fleming and Jose A. Lopez*

The authors examine the U.S. Treasury securities market for volatility spillovers across the three main trading centers of Tokyo, London, and New York. They find that volatility spills over into Tokyo and London from New York but not into New York from Tokyo or London. In addition, lagged trading volume is found to affect volatility significantly in the London and Tokyo markets.

#### No. 84

#### A General Equilibrium Analysis of Check Float James McAndrews and William Roberds

This analysis of check "float"—the time lag between the receipt and clearing of a check supports the view that float is a significant factor behind the continued popularity of check payment. The analysis confirms recent data indicating that the average value of float per check is small.

#### No. 85 Payment Intermediation and the Origins of Banking

#### James McAndrews and William Roberds

Like banks today, the medieval banks of continental Europe facilitated trade by serving as payment intermediaries. The authors show that early banks—by standing between the buyer and seller on a centralized basis could enforce future contracts and effectively internalize the offsetting nature of an economy's universe of trades.

#### No. 86

#### Settlement Risk under Gross and Net Settlement Charles M. Kahn, James McAndrews, and William Roberds

By modeling how the trading economy generates demand for payments services, the authors discover advantages of net settlement that have not been widely explored. In particular, net settlement systems avert certain gridlock situations and can economize on collateral requirements and minimize trading delays.

#### No. 89

#### Assessing the Impact of Short-Sale Constraints on the Gains from International Diversification Zhenyu Wang, Asani Sarkar, and Kai Li

This paper examines the impact of short-sale constraints on the magnitude of the international diversification benefit for U.S. investors over the 1976-98 period. The diversification benefit is measured as the increase in expected returns when switching from a U.S. equity index portfolio to an international portfolio with equal variance. Although short-sale constraints reduce the diversification benefit overall, the paper finds that the reduction in emerging markets is relatively small.

#### No. 90 Borrower Risk and the Price and Nonprice Terms of Bank Loans *Philip E. Strahan*

The author shows that both the price and nonprice terms of bank loans reflect borrower risk. Riskier borrowers pay more for loans. In addition, small loans, secured loans, and loans with relatively short maturities carry higher interest rates than other loans, suggesting that banks use price and nonprice terms as complements when dealing with borrower risk. To validate this interpretation, the author also shows that observably riskier firms face tighter nonprice terms in their loan contracts.

#### No. 93

#### Resurrecting the (C)CAPM: A Cross-Sectional Test When Risk Premia Are Time-Varying Martin Lettau and Sydney Ludvigson

The CAPM and the consumption CAPM (referred to jointly as the (C)CAPM)-two theoretically based asset-pricing modelsare widely considered to be empirical failures. Nevertheless, unlike many other studies' empirical tests of the (C)CAPM, the tests in this paper specify the pricing kernel as a conditional linear factor model, as would be expected if risk premia varied over time. As a result, this paper demonstrates that such conditional linear factor models can explain a substantial fraction of the cross-sectional variation in portfolio returns and that the models perform about as well as the threefactor Fama-French model on portfolios sorted by size and book-to-market ratios.

#### No. 95 Bond Market Discipline of Banks: Is the Market Tough Enough? Donald P. Morgan and Kevin J. Stiroh

The authors investigate the disciplinary role of the bond market by using bond spreads, ratings, and bank portfolio data on more than 4,100 new bonds issued between 1993 and 1998—including almost 600 issued by banks and bank holding companies. They find that the bond market prices observable measures of risk, such as bond ratings, the same way for banks and nonbanks, suggesting that public measures of bank risk are priced efficiently. Investors also look beyond bond ratings, with the spreads on bank issues depending on the underlying portfolio of loans and other assets. However, the authors find signs of slippage in the disciplinary mechanism, as the bond market appears relatively soft on bigger banks and less transparent banks that it considers either too large to fail or too difficult to understand.

## *Outside Journals*

These publications are available from the authors. Please e-mail requests to them at firstname.lastname@ny.frb.org.

#### **Paul Bennett**

"Portfolio Theory and Bank Lending: Avoiding Concentrations of Credit Risk through Strategic Diversification." *Journal of Lending and Credit Risk Management* 81, no. 11: 64-7.

"Rational Bias in Macroeconomic Forecasts," with David Laster and In Sun Geoum. *Quarterly Journal of Economics* 114, no. 1 (February): 293-318.

## Paul Bennett, Richard Peach, and Stavros Peristiani

"Implied Mortgage Refinancing Thresholds." *Real Estate Economics*, forthcoming.

#### Sandra Black

"Do Better Schools Matter? Parental Valuation of Elementary Education." *Quarterly Journal of Economics* 114, no. 2 (May): 577-600.

"Investigating the Link between Competition and Discrimination." *Monthly Labor Review*, December.

#### **Richard Deitz**

"Income Variability, Uncertainty, and Housing Tenure Choice," with John Robst and Kim Marie McGoldrick. *Regional Science and Urban Economics* 29, no. 2 (March): 219-29.

#### Arturo Estrella

"Rethinking the Role of NAIRU in Monetary Policy: Implications of Model Formulation and Uncertainty," with Frederic S. Mishkin. In John B. Taylor, ed., *Monetary Policy Rules*. Chicago: NBER conference volume. Chicago: University of Chicago Press.

#### **Michael Fleming**

"Price Formation and Liquidity in the U.S. Treasury Market: The Response to Public Information," with Eli M. Remolona. *Journal of Finance* 54, no. 5 (October): 1901-15.

"U.S. Treasury and Agency Securities," with Frank J. Fabozzi. In Frank J. Fabozzi, ed., *The Handbook of Fixed Income Securities*. 6th ed. New York: McGraw-Hill, forthcoming.

"What Moves Bond Prices?" with Eli M. Remolona. *Journal of Portfolio Management* 25, no. 4: 28-38.

#### Linda Goldberg

"Investment, Pass-Through, and Exchange Rates: A Cross-Country Comparison," with José Campa. *International Economic Review* 40, no. 2 (May): 287-314.

#### Linda Goldberg and Joseph Tracy

"Exchange Rates and Employment Instability: Evidence from Matched CPS Data," with Stephanie Aaronson. *American Economic Review* 89, no. 2 (May): 204-10. Papers and Proceedings of the 111th Annual Meeting of the American Economic Association.

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