Publications and Other Research

2006

Federal Reserve Bank of New York

Research and Statistics Group ■ www.newyorkfed.org/research

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www.newyorkfed.org/research

January 2007

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 18.

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 12

Number 1, May 2006

Trading Risk, Market Liquidity, and Convergence Trading in the Interest Rate Swap Spread

John Kambhu

While trading activity is generally thought to play a central role in the self-stabilizing behavior of markets, the risks in trading on occasion can affect market liquidity and heighten asset price volatility. This article examines empirical evidence on the limits of arbitrage in the interest rate swap market. The author finds both stabilizing and destabilizing forces attributable to leveraged trading activity. Although the swap spread tends to converge to its fundamental level, it does so more slowly or even diverges from its fundamental level when traders are under stress, as indicated by shocks in hedge fund earnings and the volume of repo contracts. In addition, repo volume falls when convergence trading risk is higher, and reflects shocks that destabilize the swap spread. The behavior of repo volume in particular points to how trading risk affects market liquidity and asset price volatility.

EPR Executive Summary available

Local or State? Evidence on Bank Market Size Using Branch Prices

Paul Edelstein and Donald P. Morgan

With the elimination of state laws against branching, banks can now compete across states. They are no longer limited to competing in local markets, defined by the Federal Reserve as metropolitan statistical areas or small groups of rural counties. Accordingly, a “local or state?” debate over market size is taking place among researchers, with some arguing that banking markets are statewide and others contending that they remain local. This article contributes to the debate with a novel, arguably better, indicator of market size: bank branch prices, as opposed to bank deposit rates. The pattern of branch price data suggests that banking markets are not necessarily local. The authors find that branch prices in ten northeastern states over the 1990s are more closely correlated with bank concentration at the state level than at the local level, consistent with the “state-market” argument. However, they caution that the relationship is not completely robust; it depends partly on how the data are parsed. Further study using a larger set of branch price data will help settle the debate more definitively.

EPR Executive Summary available

The Evolution of Repo Contracting Conventions in the 1980s

Kenneth D. Garbade

Contracting conventions for repurchase agreements, or repos, changed significantly in the 1980s. The growth of the repo market, new uses for repos, and the emergence of new and previously unappreciated risks prompted market participants to revise their contracting conventions. This article describes the evolution of the conventions during that period, focusing on three key developments: the recognition of accrued interest on repo securities, a change in the application of federal bankruptcy law to repos, and the accelerated growth of a new form of repo—tri-party repo. The author argues that the emergence of tri-party repo owed to the efforts of individual market participants acting in their own economic self-interest. By comparison, recognition of accrued interest and the change in bankruptcy law were effected, respectively, by participants taking collective action and seeking legislative relief because uncoordinated, individual solutions would have been more costly. These developments offer important insights into how markets operate: contracting conventions that are efficient in one market environment may have to be revised when the environment changes, and institutional arrangements can change in any number of ways.

EPR Executive Summary available

Forthcoming

Trends in Financial Market Concentration and Their Implications for Market Stability
Nicola Cetorelli, Beverly Hirtle, Donald P. Morgan, Stavros Peristiani, and João Santos

The Emergence of "Regular and Predictable" as a Treasury Debt Management Strategy
Kenneth D. Garbade

Financial Sector FDI and Host Countries: New and Old Lessons
Linda S. Goldberg

An Examination of Treasury Term Investment Interest Rates
Warren B. Hrung

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

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 12

No. 1, January 2006

Challenges Facing the New York Metropolitan Area Economy

James Orr and Giorgio Topa

The skilled and well-educated workforce of the New York metropolitan area has played a large role in enabling the region to withstand adverse economic shocks and adapt successfully to a services economy. A further expansion of this "human capital" will enable the metro area to meet the challenges ahead: attracting new firms, maintaining immigration flows, and competing successfully with fast-growing metro areas in other parts of the country.
Second District Highlights

No. 2, February/March 2006

A Leaner, More Skilled U.S. Manufacturing Workforce

Richard Deitz and James Orr

While the U.S. manufacturing sector has contracted sharply since the early 1980s, employment in high-skill manufacturing occupations has risen by an impressive 37 percent. An investigation of the growth in high-skill manufacturing jobs reveals that virtually all of the nation's industries have shared in this trend. Moreover, skill upgrading has occurred in all parts of the country, even those experiencing severe employment losses.

No. 3, April 2006

Alternative Arrangements for the Distribution of Intraday Liquidity

James J. McAndrews

In July 2006, the Federal Reserve will end its provision of free daylight credit to government-sponsored enterprises (GSEs), financial services corporations created by Congress to establish a secondary market in mortgages and other consumer loans. To meet their payments to investors, the GSEs can use a wide variety of alternative funding arrangements. While such arrangements can in theory distribute liquidity efficiently, a decline in the intraday funds in circulation following the Fed's move may lead to some slowing in payments by both the GSEs and commercial banks.

No. 4, May/June 2006

Taking the Pulse of the New York City Economy

Jason Bram and James Orr

Although New York City's payroll employment is rising briskly, it still falls short of its 2001 peak, raising concerns that the local economy is not generating enough jobs. However, a look at a broader set of economic indicators—alternative job measures, wage and salary earnings, and a composite index of economic activity—suggests that the economy is significantly healthier than the payroll count indicates. Indeed, a measure of employment among New York City residents shows a strong upward trend extending over the past thirty years.

Second District Highlights

No. 5, July/August 2006

The Yield Curve as a Leading Indicator: Some Practical Issues

Arturo Estrella and Mary R. Trubin

Since the 1980s, economists have argued that the slope of the yield curve—the spread between long- and short-term interest rates—is a good predictor of future economic activity. While much of the existing research has documented how consistently movements in the curve have signaled past recessions, considerably less attention has been paid to the use of the yield curve as a forecasting tool in real time. This analysis seeks to fill that gap by offering practical guidelines on how best to construct the yield curve indicator and to interpret the measure in real time.

No. 6, September 2006

Have U.S. Import Prices Become Less Responsive to Changes in the Dollar?

Rebecca Hellerstein, Deirdre Daly, and Christina Marsh

The failure of the dollar's depreciation to narrow the U.S. trade deficit has driven recent research showing that the transmission of exchange rate changes to import prices has declined sharply in industrial countries. Estimates presented in this study, however, suggest that "pass-through" to U.S. import prices has fallen only modestly, if at all, in the last decade. The authors argue that methodological changes in the collection of import data and the inclusion of commodity prices in pass-through models may have contributed to earlier findings of low pass-through rates.

No. 7, October 2006

Twin Deficits, Twenty Years Later

Leonardo Bartolini and Amartya Lahiri

Recent declines in the U.S. current account and fiscal balances have sparked renewed debate over the twin-deficit hypothesis, which argues that a larger fiscal deficit, through its effect on national saving, leads to an expanded current account deficit. This study reviews international evidence on the hypothesis, finding some support for it. However, the link observed between fiscal and current account deficits is too weak to support the view that deficit reductions in the United States can play a major role in correcting the nation's current account imbalance with the rest of the world.

No. 8, November 2006

Tracking Productivity in Real Time

James A. Kahn and Robert W. Rich

Because volatile short-term movements in productivity growth obscure the underlying trend, shifts in this trend may go unrecognized for years—a lag that can lead to policy mistakes and hence economic instability. This study develops a model for tracking productivity that brings in additional variables to help reveal the trend. The model's success is evident in its ability to detect changes in trend productivity within a year or two of their occurrence. Currently, the model indicates that the underlying trend remains strong despite recent weak productivity data.

No. 9, December 2006

Recycling Petrodollars

Matthew Higgins, Thomas Klitgaard, and Robert Lerman

In recent years, oil-exporting countries have experienced windfall gains with the rise in the price of oil. A look at how oil exporters "recycle" their revenues reveals that roughly half of the petrodollar windfall has gone to purchase foreign goods, especially from Europe and China, while the remainder has been invested in foreign assets. Although it is difficult to determine where the funds are first invested, the evidence suggests that the bulk are ending up, directly or indirectly, in the United States.

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 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,
- presentations by economists at academic conferences and industry gatherings,
- 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. 241, March 2006

Fiscal Multipliers and Policy Coordination

Gauti B. Eggertsson

This paper addresses the effectiveness of fiscal policy at zero nominal interest rates. Eggertsson analyzes a stochastic general equilibrium model with sticky prices and rational expectations and assumes that the government cannot commit to future policy. The author derives fiscal spending multipliers that calculate how much output increases for each dollar of government spending (real or deficit). Under monetary and fiscal policy coordination, the real spending multiplier is 3.4 and the deficit spending multiplier is 3.8. However, when there is no policy coordination, that is, when the central bank is "goal independent," the real spending multiplier is unchanged but the deficit spending multiplier is zero. Coordination failure may explain why fiscal policy in Japan has been relatively less effective recently than during the Great Depression.

No. 245, April 2006

Volatility Accounting: A Production Perspective on Increased Economic Stability

Kevin J. Stiroh

Stiroh examines the declining volatility of U.S. output growth from a production perspective. At the aggregate level, increased output stability reflects decreased volatility in both labor productivity growth and hours growth as well as a significant decline in the correlation. The decline in output volatility can also be traced to less volatile labor input and total factor productivity growth and the smaller covariance between them. At the industry level, the decline in volatility appears widespread, with about 80 percent of component industries showing smaller contributions to aggregate output volatility after 1984, although most of the aggregate decline reflects smaller covariances between industries. These results suggest that labor market changes are an important source of increased output stability.

No. 256, August 2006

U.S. Wage and Price Dynamics: A Limited Information Approach

Argia M. Sbordone

This study analyzes the dynamics of prices and wages using a limited information approach to estimation. Sbordone estimates a two-equation model for the determination of prices and wages derived from an optimization-based dynamic model. The estimation procedure is a two-step minimum distance estimation that exploits the restrictions imposed by the model on a time series representation of the data. The distance function summarizes the cross-equation restrictions between the model and the time series representation of the data. The author then estimates the parameters of interest by minimizing a quadratic function of that distance. She finds that the estimated dynamics of prices and wages track actual dynamics quite well and that the estimated parameters are consistent with the observed length of nominal contracts.

No. 258, August 2006

Endogenous Productivity and Development Accounting

Roc Armenter and Amartya Lahiri

Cross-country data reveal that the per capita incomes of the richest countries exceed those of the poorest by a factor of thirty-five. Armenter and Lahiri formalize a model with embodied technical change in which newer, more productive vintages of capital coexist with older, less productive ones. A reduction in the cost of investment raises both the quantity and productivity of capital simultaneously. The model induces a simple relationship between the relative price of investment goods and per capita income. Using cross-country data on the prices of investment goods, the authors find that the model does fairly well in quantitatively accounting for the observed dispersion in world income. For the baseline parameterization, the model generates thirty-five-fold income gaps and six-fold productivity differences between the richest and poorest countries in the sample.

No. 264, October 2006

Was the New Deal Contractionary?

Gauti B. Eggertsson

Can government policies that increase the monopoly power of firms and the militancy of unions increase output? This paper studies this question in a dynamic general equilibrium model with nominal frictions and shows that these policies are expansionary when certain “emergency” conditions apply. Eggertsson argues that these emergency conditions—zero interest rates and deflation—were satisfied during the Great Depression in the United States. Therefore, the New Deal, which facilitated monopolies and union militancy, was expansionary, according to the model. This conclusion is contrary to the one reached by Cole and Ohanian, who argue that the New Deal was contractionary. The main reason for this divergence is that the current model incorporates nominal frictions so that inflation expectations play a central role in the analysis.

No. 270, December 2006

Trend Inflation and Inflation Persistence in the New Keynesian Phillips Curve

Timothy Cogley and Argia M. Sbordone

Empirical research has shown that purely forward-looking versions of the New Keynesian Phillips curve (NKPC) generate too little inflation persistence. This study offers a resolution of the persistence problem. Hypothesizing that inflation is highly persistent because of drift in trend inflation, Cogley and Sbordone derive a version of the NKPC as a log-linear approximation around a time-varying inflation trend and examine whether it explains deviations of inflation from that trend. The authors estimate the NKPC parameters jointly with those that define the inflation trend by estimating a vector autoregression with drifting coefficients and volatilities; the autoregressive parameters are constrained to satisfy the restrictions imposed by the NKPC. The authors find that trend inflation has historically been quite volatile and that a purely forward-looking model incorporating these fluctuations approximates well inflation’s short-run dynamics.

International

No. 237, January 2006

Could Capital Gains Smooth a Current Account Rebalancing?

Michele Cavallo and Cédric Tille

A narrowing of the U.S. current account deficit through exchange rate movements is likely to entail a substantial depreciation of the dollar, as stressed in research by Obstfeld and Rogoff. Cavallo and Tille assess how the adjustment is affected by the high degree of financial integration in the world economy. They consider an adjustment scenario in which the U.S. net external debt is held constant and find that as the current account moves into balance, the pace of adjustment is smooth. Intuitively, the valuation gains from the depreciation of the dollar allow the United States to finance ongoing, albeit shrinking, current account deficits. The authors find that the smooth pattern of adjustment is robust to alternative scenarios, although the ultimate movements in exchange rates will vary under different conditions.

No. 247, April 2006

Distribution Margins, Imported Inputs, and the Sensitivity of the CPI to Exchange Rates

José Manuel Campa and Linda S. Goldberg

This paper decomposes the sources of consumer price index stability for twenty-one countries, focusing on the important role that the distribution sector and imported inputs play in determining the degree to which exchange rate fluctuations are transmitted to consumption prices. While the distribution sector dampens the sensitivity of consumption prices of tradable goods to exchange rates by reducing the import content of the final consumption good, it also enhances sensitivity because the prices of imported inputs used in the production of distribution services are also sensitive to exchange rates. Calibration exercises show that the United States has the lowest expected CPI sensitivity to exchange rates—less than 5 percent—while the cross-country exchange rate pass-through to CPI averages closer to 15 percent.

No. 249, April 2006

Expectations and Contagion in Self-Fulfilling Currency Attacks

Todd Keister

Keister presents a model in which currency crises can spread across countries as a result of the self-fulfilling beliefs of market participants. An incomplete-information approach is used to overcome many undesirable features of existing multiple-equilibrium explanations of contagion. If speculators expect contagion across markets to occur, they have an incentive to trade in both currency markets to take advantage of this correlation. These actions, in turn, link the two markets in such a way that a sharp devaluation of one currency will be propagated to the other market, fulfilling the original expectations. Even though this contagion is driven solely by expectations, the model places restrictions on observable variables that are broadly consistent with existing empirical evidence.

No. 250, April 2006

A Decomposition of the Sources of Incomplete Cross-Border Transmission

Rebecca Hellerstein

According to conventional wisdom, relative price changes are the primary mechanism by which shocks are transmitted across borders. Yet traded goods prices exhibit significant inertia in response to shocks such as exchange rate changes. The author uses a structural model to quantify the relative importance of manufacturers' and retailers' local-cost components and markup adjustments as sources of this incomplete transmission. The model is applied to a panel data set of one industry with retail and wholesale prices for Universal Product Code–level products. Markup adjustments by manufacturers and retailers explain two-thirds of the incomplete transmission, and local-cost components account for the remaining third. Foreign manufacturers generally bear more of the cost (or reap more of the benefit) of an exchange-rate-induced marginal cost shock than do domestic consumers, domestic manufacturers, or the domestic retailer.

No. 251, April 2006

Arm's-Length Transactions as a Source of Incomplete Cross-Border Transmission: The Case of Autos

Rebecca Hellerstein and Sofia Berto Villas-Boas

Hellerstein and Villas-Boas present new evidence of a positive relationship between an industry's share of multinational trade and its rate of exchange rate pass-through to prices. They develop a structural econometric model with both manufacturers and retailers to quantify how firms' organization of their activities across borders affects their pass-through of a foreign cost shock and apply the model to auto market data. Firms' pass-through of foreign cost shocks is on average 29 percentage points lower in arm's-length transactions than in multinational transactions because the higher markups from a double optimization along the distribution chain create more opportunity for markup adjustment following a shock. This difference may explain up to 20 percent of the incomplete transmission of foreign-cost shocks to the United States in the aggregate.

No. 255, August 2006

The Internationalization of the Dollar and Trade Balance Adjustment

Linda S. Goldberg and Cédric Tille

This paper argues that a depreciation of the dollar would have asymmetric effects on flows between the United States and its trading partners. With low exchange rate pass-through to U.S. import prices and high exchange rate pass-through to the local prices of countries consuming U.S. exports, the effect of a dollar depreciation on real trade flows is dominated by an adjustment in U.S. export quantities, which increase as U.S. goods become cheaper in the rest of the world. Real U.S. imports are affected less because U.S. prices are more insulated from exchange rate movements, and the price effects on the U.S. terms of trade are limited. Movements in dollar exchange rates also affect the international trade transactions of countries invoicing some of their trade in dollars.

No. 261, September 2006

Pass-Through of Exchange Rates to Consumption Prices: What Has Changed and Why

José Manuel Campa and Linda S. Goldberg

Campa and Goldberg use cross-country and time series evidence to argue that retail price sensitivity to exchange rates may have increased over the past decade. They highlight three reasons for the change in pass-through into the retail prices of goods: pass-through may have declined at the level of import prices; there has been a large expansion of imported input use across sectors; and there may have been changing sectoral expenditures on distribution services, negatively correlated with pass-through into final consumption prices. The authors find that this channel has not systematically changed in recent years. On balance, these effects support increased sensitivity of consumption prices to exchange rates, even if exchange rate pass-through into import prices has declined for some types of goods.

No. 267, December 2006

Deflationary Shocks and Monetary Rules: An Open-Economy Scenario Analysis

Douglas Laxton, Papa N'Diaye, and Paolo Pesenti

This paper considers the macroeconomic transmission of demand and supply shocks in an open economy under alternative assumptions about whether the zero interest rate floor (ZIF) is binding. It uses a two-country simulation model calibrated to the Japanese economy relative to the rest of the world. Negative demand shocks have more prolonged and conspicuous effects on the economy when the ZIF is binding than when it is not binding. Positive supply shocks extend the period of time over which the ZIF may be expected to bind. Economies that are more open hit the ZIF for a shorter time, and with less harmful effects. The implications of deflationary supply shocks depend on whether the shocks are concentrated in the tradables or the nontradables sector.

No. 268, December 2006

Would Protectionism Defuse Global Imbalances and Spur Economic Activity? A Scenario Analysis

Hamid Faruqee, Douglas Laxton, Dirk Muir, and Paolo Pesenti

In the evolving analysis of global imbalances, the possibility that countries will resort to increased protectionism is often mentioned but rarely analyzed. This study attempts to fill that gap, examining the macroeconomic implications of a shift to protectionist policies through the lens of a dynamic general equilibrium model of the world economy that encompasses four regional blocs. Simulation exercises are carried out to assess the consequences of imposing uniform and discriminatory tariffs on trading partners as well as the consequences of tariff retaliation. The authors also discuss a scenario in which a "globalization backlash" lowers the degree of competition in import-competing sectors, and compare the implications of higher markups in the product and labor markets.

No. 271, December 2006

Borrowing without Debt? Understanding the U.S. International Investment Position

Matthew Higgins, Thomas Klitgaard, and Cédric Tille

Sustained large U.S. current account deficits have prompted concerns that future current account adjustment could occur through a sudden depreciation of the dollar and a sharp drop in consumption. Two factors that, to date, have offset such concerns are the stability of U.S. net external liabilities and the minimal net income payments made by the nation on these liabilities. The authors show that the stability of the external position reflects sizable capital gains from strong foreign equity markets and a weaker dollar—conditions that could be reversed in the future. They also show that while minimal net income payments reflect a much higher rate of return on U.S. foreign direct investment (FDI) assets than on U.S. FDI liabilities, ongoing borrowing may well overwhelm this favorable rate of return, pushing the U.S. net income balance more deeply into deficit.

Microeconomics

No. 238, February 2006

Turbulent Firms, Turbulent Wages?

Diego Comin, Erica L. Groshen, and Bess Rabin

Earlier research by Gottschalk and Moffitt shows that rising earnings instability was responsible for one-third to one-half of the rise in wage inequality during the 1980s. These growing transitory fluctuations remain largely unexplained. To help fill this gap, this paper further documents the recent rise in transitory fluctuations in compensation and investigates its linkage to the concurrent rise in volatility of firm performance documented in research by Comin and Mulani and others. Comin, Groshen, and Rabin investigate the relationship between firm and wage volatility in three complementary panel data sets. They find support for the hypothesis in all three data sets and conclude that the rise in firm turbulence explains about 60 percent of the recent rise in high-frequency (five-year) wage volatility.

No. 269, December 2006

Disagreement and Learning in a Dynamic Contracting Model

Tobias Adrian and Mark M. Westerfield

Adrian and Westerfield present a dynamic contracting model in which the principal and the agent disagree about the resolution of uncertainty, and illustrate the contract design in an application with Bayesian learning. The disagreement creates gains from trade that the principal realizes by transferring payment to states that the agent considers relatively more likely. The principal's value function is convex in the underlying belief differences because the more optimistic the agent, the greater the incentives and the smaller the agent's required compensation. Under risk neutrality, selling the firm to the agent does not implement the first-best outcome, because it precludes state-contingent trades.

Banking and Finance

No. 239, March 2006

Illiquidity in the Interbank Payment System following Wide-Scale Disruptions

Morten L. Bech and Rod Garratt

Bech and Garratt show how the interbank payment system can become illiquid following wide-scale disruptions. Two forces are at play in such disruptions—operational problems and changes in participants' behavior. The authors model the interbank payment system as an *n*-player game and utilize the concept of a potential function to describe the process by which one of multiple equilibria emerges after a wide-scale disruption. If the disruption is large enough, hits a key geographic area, or hits a "too-big-to-fail" participant, then the coordination of payment processing can break down, and central bank intervention might be required to reestablish the socially efficient equilibrium. The authors also explore how the network topology of the underlying payment flow among banks affects the resiliency of coordination.

No. 240, March 2006

Risks in U.S. Bank International Exposures

Nicola Cetorelli and Linda S. Goldberg

U.S. banks have substantial exposure to foreign markets. The authors show how the amounts and forms of these exposures have evolved over time and note the changes in embodied risks taken through banks' cross-border activity, local claims, and derivative positions. Their findings vary with the type of U.S. bank. Compared with other banks, money-center banks tend to have a greater share of their assets in foreign exposures. Some of money-center banks' exposure to riskier countries is achieved through the activities of local branches and subsidiaries that take on liabilities as well as assets, a strategy that reduces their bank transfer risk accordingly. As a share of total international exposures, the transfer risk assumed by money-center banks tends to be significantly lower than that of other banks.

No. 242, March 2006

Money and Modern Banking without Bank Runs

David R. Skeie

In the literature, bank runs take the form of withdrawals of real demand deposits that deplete a fixed reserve of goods in the banking system. However, in a modern banking system, large withdrawals take the form of electronic payments that shift balances among banks within a clearinghouse system, with no analog of a depletion of a scarce reserve. In a model of nominal demand deposits repayable in money within a clearinghouse, the author shows that interbank lending and monetary prices imply that traditional bank runs do not occur. This finding suggests that deposit insurance may not be needed to prevent bank runs in a modern economy.

No. 243, March 2006

The Topology of Interbank Payment Flows

Kimmo Soramäki, Morten L. Bech, Jeffrey Arnold, Robert J. Glass, and Walter E. Beyeler

The authors explore the network topology of the interbank payments transferred between commercial banks over the Fedwire Funds Service. They find that the network is compact despite low connectivity. The network includes a tightly connected core of money-center banks to which all other banks connect. The degree distribution is scale-free over a substantial range. The authors find that the properties of the network changed considerably in the immediate aftermath of the attacks of September 11, 2001.

No. 244, March 2006

Does the Market Discipline Banks? New Evidence from the Regulatory Capital Mix

Adam B. Ashcraft

Ashcraft documents that since the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA) reduced the ability of the FDIC to absorb losses of subordinated debt investors, the mix of debt has had a positive effect on the future outcomes of distressed banks, as if the presence of debt investors has worked to limit moral hazard. To mitigate concerns about selection, the author uses the variation across banks in the mix of debt in capital generated by cross-state variation in state corporate income tax rates. Interestingly, instrumental-variables estimates document that selection problems are indeed important, but suggest that the benefits of subordinated debt are even larger. Ashcraft concludes that the market may play a useful direct role in regulating banks.

No. 246, April 2006

Two-Sided Markets and Intertemporal Trade Clustering: Insights into Trading Motives

Asani Sarkar and Robert A. Schwartz

Sarkar and Schwartz show that equity markets are typically two-sided and that trades cluster in certain trading intervals for both NYSE and Nasdaq stocks under a broad range of conditions—news and non-news days, different times of the day, and a spectrum of trade sizes. By “two-sided,” the authors mean that the arrivals of buyer-initiated and seller-initiated trades are positively correlated; by “trade clustering,” they mean that trades tend to bunch together in time with greater frequency than would be expected if their arrival were a random process. Controlling for order imbalance, number of trades, news, and other microstructure effects, Sarkar and Schwartz find that two-sided clustering is associated with higher volatility but lower trading costs.

No. 248, April 2006

Three Decades of Financial Sector Risk

Joel F. Houston and Kevin J. Stiroh

This study examines the evolution of risk in the U.S. financial sector using firm-level equity market data from 1975 to 2005. Over this period, financial sector volatility has increased steadily, reaching extraordinary levels from 1998 to 2002. Much of this recent turbulence can be attributed to a series of major financial shocks, and there is evidence of an upward trend in volatility only for the common sector component. While idiosyncratic volatility remains dominant, a combination of common shocks, deregulation, and diversification has reduced its relative importance since the early 1990s. Within the financial sector, commercial banks show the largest rise in volatility, which also reflects industry shocks and not the idiosyncratic component. Despite these changes, the authors find that the links between the financial sector and economic activity have declined in recent years.

No. 252, May 2006

Visible and Hidden Risk Factors for Banks

Til Schuermann and Kevin J. Stiroh

Schuermann and Stiroh examine the common factors that drive the returns of U.S. bank holding companies from 1997 to 2005. They compare a range of market models and show that the market factor clearly dominates in explaining bank returns. Even in the authors' broadest model, however, considerable residual variation remains. A principal component analysis shows that this residual variance is relatively diffuse, although the largest banks do tend to load in the same direction on the first component. Compared with the returns of large firms in other sectors, bank returns are relatively well explained with standard risk factors. This finding assuages some concerns about systemic risk, but it does leave open the possibility of systemic concerns through the "broad channel" if many banks respond to unexpected shocks in similar ways.

No. 254, July 2006

Stock Returns and Volatility: Pricing the Short-Run and Long-Run Components of Market Risk

Tobias Adrian and Joshua V. Rosenberg

Adrian and Rosenberg decompose the time series of equity market risk into short- and long-run volatility components. Both components have negative and highly significant prices of risk in the cross-section of equity returns. A three-factor model with the market return and the two volatility components compares favorably with benchmark models. The authors show that the short-run component captures market skewness risk, while the long-run component captures business cycle risk. Furthermore, short-run volatility is the more important cross-sectional risk factor, even though its average risk premium is smaller than the premium of the long-run component.

No. 257, August 2006

On the Market Discipline of Informationally Opaque Firms: Evidence from Bank Borrowers in the Federal Funds Market

Adam B. Ashcraft and Hoyt Bleakley

Using plausibly exogenous variation in demand for federal funds created by daily shocks to reserve balances, Ashcraft and Bleakley identify the supply curve facing a bank borrower in the interbank market and study how access to overnight credit is affected by changes in public and private measures of borrower creditworthiness. They find that although lenders respond to adverse changes in public information about credit quality by restricting access to the market in a fashion consistent with market discipline, borrowers respond to adverse changes in private information about credit quality by increasing leverage as if to offset the future impact on earnings. The authors document evidence suggesting that banks exploit private information about loan portfolio quality to smooth future earnings and to manage the real information content of these disclosures.

No. 259, September 2006

Congestion and Cascades in Payment Systems

Walter E. Beyeler, Robert J. Glass, Morten L. Bech, and Kimmo Soramäki

The authors develop a parsimonious model of the interbank payment system to study congestion and the role of liquidity markets in alleviating congestion. The model incorporates an endogenous instruction arrival process, scale-free topology of payments between banks, fixed total liquidity that limits banks' capacity to process arriving instructions, and a global market that distributes liquidity. The study finds that at low liquidity, the system becomes congested and payment settlement loses correlation with payment instruction arrival, becoming coupled across the network. In the congested regime, settlement takes place in cascades having a characteristic size. A global liquidity market substantially diminishes congestion, requiring only a small fraction of the payment-induced liquidity flow to achieve strong beneficial effects.

No. 260, September 2006

Technology Diffusion within Central Banking: The Case of Real-Time Gross Settlement

Morten L. Bech and Bart Hobijn

Bech and Hobijn examine the diffusion of the real-time gross settlement (RTGS) technology across all 174 central banks. RTGS reduces settlement risk and facilitates financial innovation in the settlement of foreign exchange trades. In 1985, only three central banks had implemented RTGS systems; by year-end 2005, that number had increased to ninety. The authors find that the RTGS diffusion process is consistent with the standard S-curve prediction. Real GDP per capita, the relative price of capital, and trade patterns explain a significant part of the cross-country variation in RTGS adoption. These determinants are remarkably similar to those that seem to drive the cross-country adoption patterns of other technologies.

No. 262, October 2006

Price Discovery in the Foreign Currency Futures and Spot Market

Joshua V. Rosenberg and Leah G. Traub

Rosenberg and Traub compare price discovery in the foreign exchange futures and spot markets during a period in which the spot market was less transparent but had higher volume than the futures market. They develop a foreign exchange futures order flow measure that is a proxy for the order flow observed by Chicago Mercantile Exchange pit traders and find that both foreign currency futures and spot order flow contain unique information relevant to exchange rate determination. When the authors measure contributions to price discovery, they obtain results consistent with their order flow findings. Taken together, their evidence suggests that the amount of information contained in currency futures prices is much greater than one would expect based on relative market size.

No. 263, October 2006

Payment Networks in a Search Model of Money

Antoine Martin, Michael Orlando, and David R. Skeie

In a simple search model of money, the authors study a special kind of memory that gives rise to an arrangement resembling a payment network. Specifically, they assume that agents can pay a cost to access a central database that tracks payments made and received. Incentives must be provided to agents to access the central database and to produce when they participate in this arrangement. Martin, Orlando, and Skeie also study policies that can loosen these incentive constraints. In particular, they show that a "no-surcharge" rule has good incentive properties. Finally, they compare their model with that of Cavalcanti and Wallace.

No. 265, October 2006

Empirical Evaluation of Asset Pricing Models: Arbitrage and Pricing Errors over Contingent Claims

Zhenyu Wang and Xiaoyan Zhang

In a 1997 paper, Hansen and Jagannathan develop two pricing error measures for asset pricing models. The first measure is the maximum pricing error on given test assets, and the second measure is the maximum pricing error over all possible contingent claims. Wang and Zhang develop a simulation-based Bayesian inference of the pricing error measures. Although linear time-varying and multifactor models are widely reported to have small pricing errors on standard test assets, the authors demonstrate that these models can have large pricing errors over contingent claims because their stochastic discount factors are allowed to be negative and thus offer arbitrage opportunities.

No. 266, November 2006

Y2K Options and the Liquidity Premium in Treasury Bond Markets

Suresh Sundaresan and Zhenyu Wang

Financial institutions around the world expected the millennium date change to cause an aggregate liquidity shortage. Responding to concerns about this liquidity shortage, the Federal Reserve Bank of New York auctioned Y2K options to primary dealers. The options gave the dealers the right to borrow from the Fed at a predetermined interest rate. The implied volatilities of Y2K options and the aggressiveness of demand for these instruments reveal that the Fed's action eased the fears of bond dealers, contributing to a drop in the liquidity premium of Treasury securities. The authors' analysis shows the link between the microstructure of government debt prices and the central bank's provision of liquidity. Y2K options and their effects on liquidity premiums broadly conform to the economic theory and practice on public provision of private liquidity.

Quantitative Methods

No. 253, July 2006

The Relationship between Expected Inflation, Disagreement, and Uncertainty: Evidence from Matched Point and Density Forecasts

Robert Rich and Joseph Tracy

This paper examines matched point and density forecasts of inflation from the Survey of Professional Forecasters to analyze the relationship between expected inflation, disagreement, and uncertainty. Rich and Tracy extend previous studies through their data construction and estimation methodology. Specifically, they derive measures of disagreement and uncertainty by using a decomposition proposed in earlier research by Wallis and by applying the concept of entropy from information theory. The authors also undertake the empirical analysis within a seemingly unrelated regression framework. The results offer mixed support for the propositions that disagreement is a useful proxy for uncertainty and that increases in expected inflation are accompanied by heightened inflation uncertainty. However, the authors document a robust, quantitatively and statistically significant positive association between disagreement and expected inflation.

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