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Research Update

Research and Market Analysis Group www.newyorkfed.org/rmaghome

Market Risk Capital Holdings Offer Insight into Bank Exposures

The amount of capital held by banks to cover their market risk offers new information about the market risk exposures of these institutions, according to a forthcoming *Economic Policy Review* article.

In "What Market Risk Capital Reporting Tells Us about Bank Risk," Beverly Hirtle examines the market risk capital figures reported to regulators by U.S. bank holding companies. Her goal is to assess the extent to which such disclosures, publicly available in regulatory reports, provide meaningful information about bank risk.

Since 1998, bank holding companies with large trading operations have been required to hold capital sufficient to cover their market risk: the risk of loss arising from adverse movements in financial rates and prices. The mandatory disclosure of these capital amounts is designed to ensure the efficient operation of financial institutions by giving market participants access to the information necessary to exercise market discipline on the institutions' risk-taking activities.

Hirtle's study concludes that market risk capital figures do in fact provide new information about the evolution of individual banks' risk exposures. In particular, changes in an institution's capital charges are found to be a strong predictor of changes in the volatility of its future trading revenue. By contrast, the study finds that the figures provide little information about differences in market risk exposures *across* institutions beyond what is already conveyed by the relative size of an institution's trading account.

The article is available at **www.newyorkfed.org/rmaghome/econ_pol/indexfc.html**.

New Research: January–March 2003

Exchange Rate Movements Help Explain the Recent Surge in U.S. Foreign Debt

By the end of 2001, the nation's net debt to the rest of the world had risen to $2.3 trillion, more than double its level two years earlier. In "The Impact of Exchange Rate Movements on U.S. Foreign Debt" (*Current Issues in Economics and Finance*, vol. 9, no. 1), Cédric Tille argues that a third of this steep increase can be traced to a simple accounting effect—the impact of a rising dollar on the value of U.S. gross assets.

As Tille explains, U.S. net debt is calculated as the difference in value between U.S. gross assets (U.S. holdings of foreign securities) and U.S. gross liabilities (foreign holdings of U.S. securities). To determine why the country's debt accelerated so sharply in recent years, the author looks at the two mechanisms that affect assets and liabilities—financial flows and valuation changes.

Tille finds that financial flows—specifically, new funds borrowed by the United States to finance its current account deficit—were the primary force behind the worsening of the country's foreign debt in the 1990-2001 period. From the end of 1999 through 2001, however, valuation changes also played a key role. The appreciation of the dollar, which averaged 6.8 percent per year over the two-year period, markedly reduced the dollar value of the foreign securities held by U.S investors. At the same time, it did little to lessen U.S. liabilities, which are largely denominated in dollars and thus insulated from changes in the dollar's value.

Tille's calculations indicate that the strong dollar explained a third of the jump in U.S. net debt after 1999. "If one-third of the 1999-2001 acceleration reflects an accounting effect," the author concludes, "the rapid increase in the U.S. net foreign debt may be a somewhat less formidable problem than is often assumed."

Publications and Papers

The Research and Market Analysis Group produces a wide range of publications:

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

New Titles in the *Staff Reports* Series

Macroeconomics and Growth

No. 159, January 2003

Tracking the New Economy: Using Growth Theory to Detect Changes in Trend Productivity

James A. Kahn and Robert Rich

Kahn and Rich propose a methodology that draws on growth theory to identify variables other than productivity—namely, consumption and labor compensation—to estimate trend productivity growth. They treat that trend as a common factor with two "regimes," high- and low-growth. The authors find evidence of a switch in the mid-1990s to a higher long-term growth regime, as well as a switch in the early 1970s in the other direction. In addition, they find that productivity data alone provide insufficient evidence of regime changes; corroborating evidence from other data is crucial in identifying changes in trend growth. Kahn and Rich argue that their methodology would also detect trend changes in real time: For the 1990s, it would have detected a switch within two years of its occurrence, according to subsequent data.

Banking and Finance

No. 158, January 2003

Fifteen Minutes of Fame? The Market Impact of Internet Stock Picks

Peter Antunovich and Asani Sarkar

The authors examine 120 Nasdaq and over-the-counter "buy" recommendations by Internet sites from April 1999 to June 2001. The stock picks show substantial short- and long-run price and liquidity gains, although no new information is revealed about them. For example, liquidity one year after the pick day remains higher for these stocks than for a sample matched according to size, book-to-market value, and liquidity in the preceding year. After controlling for fundamental and microstructure factors, the study also finds that stocks with lower initial liquidity have greater improvements in liquidity on the pick day, while stocks with lower initial liquidity and higher pick-day liquidity have higher pick-day excess returns. These results suggest that stocks have multiple liquidity equilibria, and that the stock picks, by coordinating uninformed trading activity, push initially illiquid stocks to a higher liquidity equilibrium.

No. 160, February 2003

Endogenous Deposit Dollarization

Christian Broda and Eduardo Levy Yeyati

This paper explores sources of deposit dollarization unrelated to standard moral hazard arguments. The authors develop a model in which banks choose the optimal currency composition of their liabilities. They argue that the equal treatment of peso and dollar claims in the event of bank default can induce banks to attract dollar deposits above the socially desirable level. The distortion arises because dollar deposits are the only source of default risk in the model, but dollar depositors share the burden of the default with peso depositors. The incentive to dollarize is reinforced by common banking system safety nets, such as deposit and bank insurance. These findings suggest that regulators in bicurrency economies would potentially benefit by departing from the currency-blind benchmark and differentiating among currencies in a way that prevents undesirable currency mismatches.

No. 164, March 2003

An Empirical Analysis of Stock and Bond Market Liquidity

Tarun Chordia, Asani Sarkar, and Avanidhar Subrahmanyam

This paper explores liquidity movements in stock and Treasury bond markets over more than 1,800 trading days. Cross-market dynamics in liquidity are estimated using a vector autoregressive model for liquidity, returns, volatility, and order flow. The paper finds that a shock to quoted spreads in one market affects spreads in both markets, and that return volatility is an important driver of liquidity. Innovations to stock and bond market liquidity and volatility prove to be significantly correlated, suggesting that common factors drive liquidity and volatility in both markets. Monetary expansion increases equity market liquidity during financial crises, and unexpected increases (decreases) in the federal funds rate lead to decreases (increases) in liquidity and increases (decreases) in stock and bond volatility. Finally, flows to the stock and government bond sectors play an important role in forecasting stock and bond liquidity.

Quantitative Methods

No. 161, February 2003
Modeling Uncertainty: Predictive Accuracy as a Proxy for Predictive Confidence
Robert Rich and Joseph Tracy

The authors evaluate current strategies for the empirical modeling of forecast behavior. They focus on the reliability of using proxies from time series models of heteroskedasticity to describe changes in predictive confidence. To do so, they examine the relationship between ex-post inflation forecast errors and ex-ante measures of inflation uncertainty using data from the Survey of Professional Forecasters. The results provide little evidence of a strong link between observed heteroskedasticity in the consensus forecast errors and forecast uncertainty. Instead, they indicate a significant link between observed heteroskedasticity in the consensus forecast errors and forecast dispersion. The authors conclude that conventional model-based measures of uncertainty may be capturing not the degree of confidence that individuals attach to their forecasts, but the degree of disagreement across individuals.

No. 162, March 2003
Nonparametric Pricing of Multivariate Contingent Claims
Joshua V. Rosenberg

Rosenberg derives and implements a nonparametric, arbitrage-free technique for multivariate contingent claim pricing. Using results from the method of copulas, he shows that the multivariate risk-neutral density can be written as a product of marginal risk-neutral densities and a risk-neutral dependence function. He then develops a pricing technique using nonparametrically estimated marginal risk-neutral densities and a nonparametric dependence function to estimate the joint risk-neutral density of euro-dollar and yen-dollar returns. Rosenberg compares the nonparametric risk-neutral density with density based on a log-normal dependence function and nonparametric marginals. The nonparametric euro-yen density has greater volatility, skewness, and kurtosis than the density based on a log-normal dependence function. For euro-yen futures options, the nonparametric model's pricing accuracy is superior to that of the log-normal model.

No. 163, March 2003
Forecasting in Large Macroeconomic Panels Using Bayesian Model Averaging
Gary Koop and Simon Potter

This paper considers the problem of forecasting in large macroeconomic panels using Bayesian model averaging. It describes practical methods for implementing Bayesian model averaging with factor models; the methods involve algorithms that simulate from the space defined by all possible models. The authors explain how these algorithms can be used to select the model with the highest marginal likelihood (or highest value of an information criterion). They use these methods to forecast GDP and inflation, relying on quarterly U.S. data on 162 time series. Models containing factors outperform autoregressive models in forecasting GDP and inflation, but only narrowly and at short horizons. The authors attribute this finding to the presence of structural instability and the fact that lags of the dependent variable seem to contain most of the information relevant for forecasting.

Recently Published

Joshua Rosenberg. 2003. "Nonparametric Pricing of Multivariate Contingent Claims." ***Journal of Derivatives*** 10, no. 3 (spring): 9-26.

Chris Stefanadis. 2003. "Self-Regulation, Innovation, and the Financial Industry." ***Journal of Regulatory Economics*** 23, no. 1 (January): 5-25.

Cédric Tille. 2003. "Exchange Rate Pass-Through and the Welfare Effect of the Euro," with Michael Devereux and Charles Engel. ***International Economic Review*** 44, no. 1 (February): 223-42.

Kei-Mu Yi. 2003. "Can Vertical Specialization Explain the Growth of World Trade?" ***Journal of Political Economy*** 111, no. 1 (February): 52-102.

Other New Publications

Publications and Other Research. The 2002 edition of our catalogue lists all of the papers published in our research series as well as many papers published by our economists in economic and finance journals, conference volumes, and scholarly books.

www.newyorkfed.org/rmaghome/otherres/

An Introduction to Economic Research at the Federal Reserve Bank of New York. An online guide designed to give economists interested in joining the Research and Market Analysis Group a fuller understanding of the Group's activities.

www.newyorkfed.org/rmaghome/intro/research/rmagtoc.html

The Regional Economy of Upstate New York. This quarterly newsletter, produced by the New York Fed's Buffalo Branch, focuses on issues of importance to upstate New York. The fall 2002 issue examines the medical manufacturing industry's presence in the region; the winter 2003 issue evaluates the volatility of employment in New York State.

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Papers Presented by Economists in the Research and Market Analysis Group

"Overview of the International Wage Flexibility Project," *Erica Groshen*. American Economic Association 2003 Annual Meeting, Washington, D.C., January 6. With William Dickens.

"Embodied Technological Change in U.S. Manufacturing," *Bart Hobijn*. Fifth Louvain Symposium on Economic Dynamics, Université catholique de Louvain, Louvain-la-Neuve, Belgium, January 31. With Ana Maria Oviedo and Ashwin Vasan.

"What Explains the Stock Market's Reaction to Federal Reserve Policy?" *Kenneth Kuttner*. Federal Reserve Bank of San Francisco and Stanford Institute for Economic Policy Research Conference on Finance and Macroeconomics, February 28. With Ben S. Bernanke.

"International Transmission with Trade and Financial Frictions," *Paolo Pesenti*. American Economic Association 2003 Annual Meeting, Washington, D.C., January 5. With Giancarlo Corsetti, Luca Dedola, and Sylvain Leduc.

"Globalization and the Transmission Mechanism," *Paolo Pesenti*. American Economic Association 2003 Annual Meeting, Washington, D.C., January 6. With Giancarlo Corsetti and Philippe Martin.

"Monetary Rules for Small, Open, Emerging Economies," *Paolo Pesenti*. International Monetary Fund research seminar, Washington, D.C., January 17. Also presented at the University of Cambridge, Cambridge, England, February 7; the Bank of England, London, February 10; and the London School of Economics, London, February 11.

"Fifteen Minutes of Fame? The Market Impact of Internet Stock Picks," *Asani Sarkar*. American Finance Association 2003 Annual Meeting, Washington, D.C., January 3. With Peter Antunovich.

"Estimation of Credit Migration Matrices," *Til Schuermann*. Fourth Annual Risk Management Convention of the Global Association of Risk Professionals, New York City, February 12. With Yusuf Jafry.

"Do Community Banks Benefit from Diversification?" *Kevin Stiroh*. *Journal of Financial Services Research* and Federal Reserve Bank of Chicago conference, Chicago, March 17.

"Optimal Monetary Policy When the Nature of Shocks Is Uncertain," *Cédric Tille*. American Economic Association 2003 Annual Meeting, Washington, D.C., January 4.

"A Simple Explanation of the Border Effect," *Kei-Mu Yi*. American Economic Association 2003 Annual Meeting, Washington, D.C., January 4.

"Insurance, Self-Protection, and the Economics of Terrorism," *George Zanjani*. NBER Insurance Project Workshop, Cambridge, Massachusetts, January 31. With Darius Lakdawalla.

"The Impact of Liquidity on Household Balance Sheets: Micro Responses to a Credit Card Supply Shock," *Jonathan Zinman*. American Economic Association 2003 Annual Meeting, Washington, D.C., January 5.

Publications and Papers: January-March 2003

Publications are available at **www.newyorkfed.org/rmaghome**. You can also subscribe to most publications from our site.

Economic Policy Review, Forthcoming

What Market Risk Capital Reporting Tells Us about Bank Risk
Beverly J. Hirtle

Papers from a conference on economic statistics:

Remarks on the Measurement, Valuation, and Reporting of Intangible Assets
Baruch Lev

Productivity Measurement Issues in Services Industries: "Baumol's Disease" Has Been Cured
Jack E. Triplett and Barry P. Bosworth

Price Hedonics: A Critical Review
Charles R. Hulten

Current Issues in Economics and Finance, Vol. 9

No. 1, January 2003
The Impact of Exchange Rate Movements on U.S. Foreign Debt
Cédric Tille

No. 2, February 2003
New York City's Economy before and after September 11
Jason Bram
Second District Highlights

No. 3, March 2003
Governing the Financial or Bank Holding Company: How Legal Infrastructure Can Facilitate Consolidated Risk Management
Thomas C. Baxter, Jr.

Staff Reports

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