October 1997

Research UPDATE

from the Federal Reserve Bank of New York

RESEARCH AND MARKET ANALYSIS GROUP

This issue of *Research Update* offers detailed summaries of selected studies from the Research and Market Analysis Group for the period July-September 1997. It also contains a listing of all articles and papers that appeared in recent issues of our four research series—*the Economic Policy Review, Current Issues in Economics and Finance, Staff Reports,* and *Research Papers*. You can obtain many of the materials featured in *Research Update* directly from our publications page.

Table of Contents

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Inflation Targeting Found to Help Countries Maintain Low Inflation Rates

Countries that adhere to publicly announced inflation targets may have an advantage in keeping inflation rates low, according to Frederic Mishkin and Adam Posen in a special issue of the ***Economic Policy Review*** (vol. 3, no. 3). In addition, inflation targets are found to contribute to increased central bank accountability, heightened public understanding of monetary policy, and an improved climate for economic growth.

The* Economic Policy Review *devotes a special issue to inflation targeting.

In their comprehensive study "Inflation Targeting: Lessons from Four Countries," Mishkin and Posen seek to obtain a perspective on what elements of inflation targeting work as a strategy for the conduct of monetary policy. They examine the motivation and experience of the first three countries to adopt inflation targets—New Zealand, Canada, and the United Kingdom—as well as Germany, which adopted many inflation-targeting elements before the other countries.

The authors find that target adoption in New Zealand, Canada, and the United Kingdom was followed by the movement of inflation into, and the maintenance of inflation within, the announced target range. Since then, inflation and nominal interest rates have remained low relative to the amount of output growth seen. In Germany, low inflation has been maintained for decades through the central bank's public commitment to an underlying inflation target.

Mishkin and Posen also note that inflation targeting in these countries has not required the central banks to abandon their concerns about output growth and other economic outcomes in order to achieve low inflation rates. In fact, targeting has likely helped improve the climate for economic growth.

Inflation targeting, explain the authors, has become an increasingly popular monetary strategy among central banks. It involves the public announcement of medium-term numerical targets for inflation (a point target or a target range), with a commitment by the country's monetary authorities to achieve them. Inflation targets can be easily understood by the public and enable monetary authorities to achieve greater transparency in monetary policy. The targets can also preserve a country's independent monetary policy by insulating the central bank from short-term political pressures on interest rate decisions.

However, caution Mishkin and Posen, inflation targets come with disadvantages. For instance, because of the uncertain effects of monetary policy on price levels, monetary authorities cannot easily control inflation. Thus, it is difficult for policymakers to hit an inflation target with precision. Furthermore, because the effect of monetary policy on inflation occurs with a long lag—on the order of two to three years—there is a delay before a country can evaluate the policy's success in achieving the inflation target. In addition, inflation targeting does not

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enable countries to eliminate inflation from their systems
without cost, and anti-inflation credibility is not achieved immediately upon the adoption of targets.

Mishkin and Posen's study is preceded by remarks by Federal Reserve Bank of New York President William J. McDonough on the importance of developing strategies to achieve price stability.

Mr. Mishkin is the Bank's former research director; Mr. Posen is an economist currently on leave from the Bank.

View entire article in Adobe Acrobat.

Publications and Papers

The Research and Market Analysis Group produces various publications and discussion papers:

- the *Economic Policy Review*—a policy-oriented research journal focusing on macroeconomic, banking, and financial market topics.
- *Current Issues in Economics and Finance*—a newsletter-style publication offering concise and timely analyses of economic, financial, and regional topics.
- *Staff Reports*—technical papers presenting research findings, designed to stimulate discussion and elicit comments. These papers meet rigorous academic standards and are intended for publication in leading economic and finance journals.
- *Research Papers*—discussion papers reporting preliminary research findings.

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Research on Treasury Auction Design Points to Need for Further Experimentation

In "Designing Effective Auctions for Treasury Securities" (***Current Issues in Economics and Finance,*** vol. 3, no. 9), Leonardo Bartolini and Carlo Cottarelli review the two main methods for issuing treasury securities—discriminatory and uniform-price auctions. Drawing on the theory of auction design and earlier empirical studies, they discuss design and earlier empirical studies, they discuss the two method's revenue potential and vulnerability to noncompetitive behavior by bidders. They then compare the researchers' views of the two methods with the actual practices of forty-two countries holding auctions of treasury securities.

Only further direct evidence on the performance of auction methods is likely to reveal the best course for government treasuries to take.

"Surprisingly," report Bartolini and Cottarelli, "while much of the literature suggests that uniform-price auctions may outperform discriminatory auctions in producing revenues for treasuries and limiting the scope for noncompetitive behavior, most countries conduct their treasury auctions using the more traditional discriminatory format."

In both types of auction, the winning bids are the highest bids that exhaust the whole issue on sale. In a discriminatory auction, however, all winners pay their own bids, so that they are charged fully for overestimating the object's resale value.

By contrast, in a uniform-price auction, all winners pay one price unit above the highest losing bid. In theory, this feature should lower the winners' risk of paying a price that far exceeds consensus and hence should encourage more aggressive bidding. Thus, as a means of maximizing revenues, the uniform-price method should outperform the discriminatory method. Bartolini and Cottarelli cite several empirical studies that support this conclusion.

Evidence on the vulnerability of the two methods to noncompetitive bidding behavior is more mixed. Some scholars, most notably Milton Friedman, contend that the simplicity of uniform-price auctions could reduce participants' costs of preparing bids, broaden participation in auctions, and reduce incentives to funnel bids through brokers, thus narrowing the scope for brokers to collude and corner markets.

Others, however, argue that collusion is more difficult to sustain in discriminatory auctions. Overall, although disagreement exists over which auction method is more resistant to noncompetitive behavior, most scholarly work suggests that uniform-price auctions broaden participation in auctions and ultimately raise auction revenues.

Despite this widespread view, the authors' survey of auction techniques reveals that discriminatory auctions are by far the most common—90 percent of the countries examined relied on this method. Only two countries—Denmark and Nigeria—used uniform-price auctions. Interestingly, six countries had used uniform-price auctions in the past but had returned to discriminatory auctions before the survey was taken.

What does this split mean to practitioners and researchers? "Further experimentation with treasury auction design, particularly in countries where the need for cost-effective allocation of public debt is even more acute than in the United States, is warranted," suggest Bartolini and Cottarelli. In addition, researchers of auctions may need to consider the disparity between their findings and the actual conduct of treasury auctions worldwide. More accurate and comprehensive models of treasury auctions may emerge from this appraisal, the authors conclude.

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Macroeconomic Announcements Trigger an Extended Price Formation Process in the U.S. Treasury Market

Much of what we know about price formation and liquidity in financial markets is based on circumstantial evidence from equity markets. In these markets, price changes often occur as a result of private information that cannot be directly observed. By contrast, in the U.S. Treasury market, price variability is largely driven by observable public information such as macroeconomic announcements.

The recent availability of data from the U.S. Treasury market allows us to examine in a new light how secondary markets form prices and provide liquidity.

With this difference in mind, the authors of "Price Formation and Liquidity in the U.S. Treasury Market: Evidence from Intraday Patterns around Announcements" (***Staff Reports***, no. 27) draw on newly available, high-frequency data to explore how major macroeconomic announcements affect price volatility, trading volume, and bid-ask spreads in the U.S. Treasury market.

"Our analysis suggests that major announcements set off an extended price formation process," report Michael Fleming and Eli Remolona. The sharpest price adjustments take place in the first few moments of the process and occur *without* a rise in trading volume—a pattern not seen in the stock market. The lack of trading volume suggests that the change in expectations caused by public announcements is widely shared among market participants.

During the moments in which prices adjust sharply to public information, the market also suffers a dramatic liquidity loss, the authors note. The most illiquid time coincides with the volatility spike in the first minute after the announcement, when the bid-ask spread is nearly six times wider than its average on nonannouncement days. Liquidity returns about two minutes after the announcement, with the spread narrowing sharply. By three minutes, the spread is no longer significantly different from the nonannouncement day average, and trading volume begins to surge. The rise in trading volume suggests wide disagreement among dealers regarding the initial price adjustment.

Price volatility and trading volume both remain high for over an hour after a major announcement as the market attempts to resolve disagreement among investors. The period of high trading volume, however, appears to last longer than that of high volatility. Why might extensive trading continue well after prices have stabilized? Fleming and Remolona suggest that liquidity trading by investors who react with a lag to the price changes may cause high volume to outlast high volatility.

Order *Staff Report*, no. 27.

E-Mail Addresses

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WHAT'S NEW?

Coming Soon: *Second District Highlights*

The Research and Market Analysis Group is pleased to announce ***Second District Highlights***, a regional supplement to the newsletter ***Current Issues in Economics and Finance***.

Second District Highlights will report on financial and economic developments in the Second District, including employment growth, industry trends, income distribution, and business conditions. In addition, each issue will feature a one-page regional update—a series of charts tracking changes in six major economic indicators.

In the first issue, "The New York-New Jersey Job Recovery," James Orr and Rae Rosen analyze employment growth by sector in the region since 1993. Overall, the authors present a picture of modest but uneven growth, with the New York City metropolitan area creating the bulk of new jobs. Look for ***Second District Highlights*** later this month.

Dorothy Meadow Sobol is the editor of ***Current Issues in Economics and Finance*** and ***Second District Highlights.***

The Areas of the Second District

The Second Federal Reserve District encompasses New York State, the twelve northern counties of New Jersey, Fairfield County in Connecticut, Puerto Rico, and the Virgin Islands. The Second District is one of twelve Districts established under the Federal Reserve System.

Also on the Regional Economy

For those interested in monitoring Second District economic trends more closely, the Research and Market Analysis Group has just introduced a regional economy web site.

Here, users will find a wide range of information on the region, including reports on the Second District's major economic indicators, updates to the Bank's employment forecast, a schedule of release dates for regional data, and descriptions of related government publications. In addition, the site offers detailed maps of the Second District's metropolitan statistical areas and listings of relevant Fed publications. Links to other resources, such as the state departments of labor and the U.S. Bureau of Labor Statistics, are also available.

For a broader view of the economy, users can consult the *Beige Book*, the Federal Reserve's periodic report on regional trends throughout the United States. They can also link to the U.S. Census Bureau's statistical profile of all U.S. states and counties.

Jason Bram, an economist in the Domestic Research Function, oversees the content of the new regional site.

Upcoming Conferences at the New York Fed

November 13-14: **Excellence in Education: Views on Improving American Education.** Top academic researchers in the education field and members of the education community will participate in a forum devoted to improving the quality of public school education. Discussions will focus on educational resources and outcomes, competition and choice in education, public and private school comparisons, and the role of education standards. Scheduled speakers include New York City Schools Chancellor Rudy Crew and Federal Reserve Bank of New York President William J. McDonough.

The conference proceedings will be published in a special volume of the Bank's ***Economic Policy Review***. For more information, please contact joseph.tracy@ny.frb.org.

February 26-27: **Financial Services at the Crossroad: Capital Regulation in the Twenty-First Century.** The conference, cosponsored by the Bank of England, the Bank of Japan, and the Board of Governors of the Federal Reserve System, will provide an opportunity for researchers, bank supervisors, and industry practitioners to discuss issues relating to the role of capital in financial institutions, regulatory capital standards, and internal capital allocation. Topics will include the assumptions and motivations underlying various proposals for regulatory capital standards for banks and other financial institutions, innovations in methods used by financial firms for internal capital allocation, and capital standards for banks in emerging economies.

A special issue of the Bank's ***Economic Policy Review*** will be devoted to the conference proceedings. For more information, please contact beverly.hirtle@ny.frb.org.

March 27-28: **The Consolidation of the Financial Services Industry.** Academics and practitioners from the United States and abroad will present and discuss the latest research on the causes and consequences of consolidation in the financial services industry. The conference will cover a wide range of topics, including the expansion of banking powers and the regulation and supervision of multipurpose financial institutions, international mergers and financial market globalization, the effect of bank consolidation on credit availability, and the consequences of consolidation for the payments system.

The conference proceedings will be published in a special issue of the ***Journal of Banking and Finance***. For more information, please contact philip.strahan@ny.frb.org.

Recently Published

Angelos A. Antzoulatos. "On the Excess Sensitivity of Consumption to Information about Income." *Journal of Macroeconomics* 19, no. 3.

Rebecca S. Demsetz and Philip E. Strahan. "Diversification, Size, and Risk at Bank Holding Companies." *Journal of Money, Credit, and Banking* 29, no. 3.

Arturo Estrella and Frederic S. Mishkin. "Is There a Role for Monetary Aggregates in the Conduct of Monetary Policy?" *Journal of Monetary Economics* 40.

Arturo Estrella and Frederic S. Mishkin. "The Predictive Power of the Term Structure of Interest Rates in Europe and the United States: Implications for the European Central Bank." *European Economic Review* 41, no. 7.

Carol Osler. "Charting: Chaos Theory in Disguise?" *Journal of Futures Markets* 17, no. 5.

Carol Rapaport. "Housing Demand and Community Choice: An Empirical Analysis." *Journal of Urban Economics* 42, no. 2.

Philip E. Strahan. "The Role of Monitoring in Mitigating Moral Hazard Problems Associated with Government Guarantees: Evidence from the Life Insurance Industry," with Elijah Brewer and Thomas H. Mondschean. *Journal of Risk and Insurance* 64, no. 2.

Kei-Mu Yi. "Is There Endogenous Long-Run Growth? Evidence from the United States and the United Kingdom," with Narayana Kocherlakota. *Journal of Money, Credit, and Banking* 29, no. 2.

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Also Available: July - September 1997

To obtain any of these articles or papers, visit our publications page.

Economic Policy Review
Volume 3, Number 2 (July)

Creating an Integrated Payment System: The Evolution of Fedwire, *by Adam M. Gilbert, Dara Hunt, and Kenneth C. Winch*

The Round-the-Clock Market for U.S. Treasury Securities, *by Michael J. Fleming*

Market Returns and Mutual Fund Flows, *by Eli M. Remolona, Paul Kleiman, and Debbie Gruenstein*

The Evolving External Orientation of Manufacturing: A Profile of Four Countries, *by José Campa and Linda S. Goldberg*

Credit, Equity, and Mortgage Refinancings, *by Stavros Peristiani, Paul Bennett, Gordon Monsen, Richard Peach, and Jonathan Raiff*

Current Issues in Economics and Finance
The Market to the Rescue? The Promise—and the Price—of the New Social Security Investment Proposals, *by Susan Miller*
Volume 3, Number 10 (August)

Do Rising Labor Costs Trigger Higher Inflation? *by David A. Brauer*
Volume 3, Number 11 (September)

Staff Reports
Traders' Broker Choice, Market Liquidity, and Market Structure, *by Sugato Chakravarty and Asani Sarkar*
Number 28 (August)

Agency Problems and Risk Taking at Banks, *by Rebecca S. Demsetz, Marc R. Saidenberg, and Philip E. Strahan*
Number 29 (September)

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