FEDERAL RESERVE BANK OF NEW YORK
RESEARCH AND MARKET ANALYSIS GROUP

Publications & Other Research 1997

2 *Economic Policy Review*

6 *Current Issues in Economics and Finance*

9 *Research Update*

10 *Staff Reports*

16 *Research Papers*

18 *Outside Journals*

Introduction

The Federal Reserve Bank of New York's Research and Market Analysis Group produces a wide range of publications and discussion papers of interest to business and banking professionals, policymakers, academics, and the general public. This brochure lists recent issues in each of our principal 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
- *Staff Reports*
  technical papers presenting research findings
- *Research Papers*
  discussion papers reporting preliminary 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 18.

We invite you to order, at no charge, copies from any series or to join our subscriber lists. We also encourage you to visit our web site (**www.ny.frb.org/rmaghome**), where these publications and papers are available. At the site, you can also learn about receiving free e-mail notifications when our publications are released.

ECONOMIC POLICY REVIEW 1997

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/econ_pol**.

Volume 3, Number 1 (February)

This special issue is dedicated to the proceedings of a conference—held at the Federal Reserve Bank of New York on November 13 and 14, 1996—on the New York metropolitan region's economy in the national and world arenas. It contains five papers presented by academic and Federal Reserve Bank participants, commentaries on two of the papers, presentations by four industry specialists, and summaries of the day's discussions.

Opening Remarks
William J. McDonough

National and Regional Factors in the New York Metropolitan Economy
Jonathan McCarthy and Charles Steindel

Sources of New York Employment Fluctuations
Kenneth N. Kuttner and Argia M. Sbordone

Commentary
Henry J. Raimondo

Commentary
Todd E. Clark

The Performance of Metropolitan Area Industries
Matthew P. Drennan

Industrial Restructuring in the New York Metropolitan Area
James Orr

Potential Employment Effects of the Restructuring of Retail Banking
Lawrence J. Radecki

Business Services and the Economic Performance of the New York Metropolitan Region
Thierry Noyelle

The Securities Industry and the New York–New Jersey Region
Richard Cantor

Technological Trends Affecting the Manufacturing Sector of New York City
Mitchell L. Moss

The Outlook for the Metropolitan Area
Dick Netzer

Volume 3, Number 2 (July)

Creating an Integrated Payment System: The Evolution of Fedwire

Adam M. Gilbert, Dara Hunt, and Kenneth C. Winch

Adapted from remarks given before the *Seminar on Payment Systems in the European Union* in Frankfurt, Germany, on February 27, 1997.

The Round-the-Clock Market for U.S. Treasury Securities

Michael J. Fleming

U.S. Treasury securities are traded in London and Tokyo as well as in New York, creating a virtual round-the-clock market. The author describes that market by examining trading volume, price volatility, and bid-ask spreads over the global trading day. He finds that trading volume and price volatility are highly concentrated in New York trading hours. Bid-ask spreads are found to be wider overseas than in New York and wider in Tokyo than in London. Despite the lower liquidity of the overseas locations, the author finds that overseas price changes in U.S. Treasury securities are unbiased predictors of overnight New York price changes.

Market Returns and Mutual Fund Flows

Eli M. Remolona, Paul Kleiman, and Debbie Gruenstein

With the increased popularity of mutual funds come increased concerns. Namely, could a sharp drop in stock and bond prices set off a cascade of redemptions by mutual fund investors and could the redemptions exert further downward pressure on asset markets? The authors analyze this relationship by using instrumental variables—a measuring technique previously unapplied to market returns and mutual fund flows—to determine the effect of returns on flows. Despite market observers' fears of a downward spiral in asset prices, the authors conclude that the short-term effect of market returns on mutual fund flows typically has been too weak to sustain such a spiral.

The Evolving External Orientation of Manufacturing: A Profile of Four Countries

José Campa and Linda S. Goldberg

Using more than two decades of industry data, the authors profile the external orientation of manufacturing industries in the United States, Canada, the United Kingdom, and Japan. They use the term "external orientation" to describe the potential exposure of an industry's revenues and costs to world events through exports, imports, and imported inputs. For each major manufacturing industry, the authors provide histories of the share of total revenues earned in foreign markets, the role of imports in domestic consumption, and the costs of imported inputs in total production. In addition, they construct a measure of net external orientation, which is intended to capture how much an industry's use of imported inputs (a *cost* factor) can potentially offset exposure to the international economy through exports (a *revenue* factor).

Credit, Equity, and Mortgage Refinancings

Stavros Peristiani, Paul Bennett, Gordon Monsen, Richard Peach, and Jonathan Raiff

Using a unique loan level data set that links individual household credit ratings with property and loan characteristics, the authors test the extent to which homeowners' credit ratings and equity affect the likelihood that mortgage loans will be refinanced as interest rates fall. Their logit model estimates strongly support the importance of both the credit and equity variables. Furthermore, the authors' results suggest that a change in the overall lending environment over the past decade has increased the probability that a homeowner will refinance.

Volume 3, Number 3 (August)
Special Issue on Inflation Targeting

A Framework for the Pursuit of Price Stability
William J. McDonough
Based on remarks delivered before the Annual Financial Services Forum of the New York State Bankers Association on March 21, 1996, and the Economic Club of New York on October 2, 1996.

Inflation Targeting: Lessons from Four Countries
Frederic S. Mishkin and Adam S. Posen
In recent years, a number of central banks have chosen to orient their monetary policy toward the achievement of numerical inflation targets. This study examines the experience of the first three countries to adopt an inflation-targeting strategy—New Zealand, Canada, and the United Kingdom. It also considers the German experience with a monetary targeting scheme that incorporated many elements of inflation targeting even earlier. The authors find that the countries adopting a numerical inflation target have successfully maintained low inflation rates. Other benefits of inflation targeting include increased central bank accountability, heightened public understanding of monetary policy, and an improved climate for economic growth.

Volume 3, Number 4 (December)

Bank Capital Requirements for Market Risk: The Internal Models Approach
Darryll Hendricks and Beverly Hirtle
The increased prominence of trading activities at many large banking companies has highlighted bank exposure to market risk—the risk of loss from adverse movements in financial market rates and prices. In response, bank supervisors in the United States and abroad have developed a new set of capital requirements to ensure that banks have adequate capital resources to address market risk. This paper offers an overview of the new requirements, giving particular attention to their most innovative feature: a capital charge calculated for each bank using the output of that bank's internal risk measurement model. The authors contend that the use of internal models should lead to regulatory capital charges that conform more closely to banks' true risk exposures. In addition, the information generated by the models should allow supervisors and market participants to compare risk exposures over time and across institutions.

The Benefits of Branching Deregulation
Jith Jayaratne and Philip E. Strahan
When the Riegle-Neal Interstate Banking and Branching Efficiency Act went into effect in June 1997, it marked the final stage of a quarter-century-long effort to relax geographic restrictions on banks. This article examines an earlier stage of the deregulatory process—the actions taken by the states between 1978 and 1992 to remove the barriers to intrastate branching and interstate banking—to determine how the lifting of geographic restrictions affects the efficiency of the banking industry. The analysis reveals that banks' loan losses and operating costs fell sharply following the state initiatives, and that the cost declines were largely passed along to bank borrowers in the form of lower loan rates. The authors argue that these efficiency gains arose because better performing banks were able to expand their market share once geographic restraints were eased.

What Moves the Bond Market?

Michael J. Fleming and Eli M. Remolona

In an examination of the U.S. Treasury securities market, the authors attempt to explain the sharpest price changes and most active trading episodes. They find that each of the twenty-five largest price shocks and twenty-five greatest trading surges can be attributed to just-released macroeconomic announcements. They also measure the market's average reactions to these announcements and analyze the extent to which the reactions depend on the degree of announcement surprise and on prevailing market conditions. The market's price and trading reactions are found to reflect differences of informational content in and among the varying announcements under changing market conditions.

Is There an Inflation Puzzle?

Cara S. Lown and Robert W. Rich

Why has U.S. inflation failed to accelerate despite six years of continuing economic expansion? The authors investigate whether compensation growth has played a role, either as a temporary restraint on inflation or as the underlying source of a new inflation regime. They offer two pieces of evidence suggesting that compensation growth has in fact acted as a temporary curb on rising prices. First, they show that the forecasting performance of a traditional Phillips curve model begins to break down in late 1993. When a measure of compensation growth is incorporated, however, the stability of the model is restored. Second, they show that the slowdown in compensation growth appears to be temporary and was unusually severe from late 1992 to early 1995, a period that roughly coincides with the breakdown in their traditional model.

CURRENT ISSUES IN ECONOMICS AND FINANCE 1997

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

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

Current Issues and *Second District Highlights* articles can be obtained directly from **www.ny.frb.org/rmaghome/curr_iss.**

1997 Job Outlook: The New York–New Jersey Region
James Orr and Rae D. Rosen
Major industrial and governmental restructurings have dominated employment reports in the New York–New Jersey region, leading to widespread pessimism about the region's job prospects. Nevertheless, for the past several years, the two states have managed to achieve modest job gains. In 1997, employment growth in New York and New Jersey should accelerate slightly as the pace of restructurings slows.
Volume 3, Number 1 (January)

The Effects of Price Limits on Trading Volume: A Study of the Cotton Futures Market
Joan Evans and James M. Mahoney
Will trading volume shift from a market with price limits to a closely related market without them? An examination of the U.S. cotton market reveals that trading volume does in fact move from a class of security that is subject to trading limits (cotton futures) to another that is not (options on cotton futures). The results add to the debate on trading limits by calling into question the limits' overall effectiveness.
Volume 3, Number 2 (January)

Debt, Delinquencies, and Consumer Spending
Jonathan McCarthy
The sharp rise in household debt and delinquency rates over the last year has led to speculation that consumers will soon revert to more cautious spending behavior. Yet an analysis of the past relationship between household liabilities and expenditures provides little support for this view.
Volume 3, Number 3 (February)

Bad Debt Rising
Donald P. Morgan and Ian Toll
Charge-offs on credit card loans are rising sharply. While many analysts blame this trend on an expanding supply of credit cards, a closer look reveals the importance of two demand factors—wealth and the share of the population at peak borrowing age—in explaining the increase in bad debt.
Volume 3, Number 4 (March)

Falling Reserve Balances and the Federal Funds Rate

Paul Bennett and Spence Hilton

The growth of "sweeps"—a banking practice in which depository institutions shift funds out of customer accounts subject to reserve requirements—has reduced the required balances held by banks in their accounts at the Federal Reserve. This development could lead to greater volatility in the federal funds rate as banks try to manage their accounts with very low balances. An analysis of the evidence suggests that the volatility of the funds rate is rising slightly, but not enough to disrupt the federal funds market or affect the implementation of monetary policy.

Volume 3, Number 5 (April)

Are There Good Alternatives to the CPI?

Charles Steindel

Critics of the consumer price index—the most widely watched inflation measure—contend that it overstates inflation by as much as 1 percentage point a year. Some have argued that alternative indexes eliminate the CPI's upward bias and offer a more accurate reading of inflation levels. A closer look at these alternatives, however, reveals that they have substantive problems of their own, suggesting that the CPI, though flawed, is still our most reliable indicator of changes in inflation.

Volume 3, Number 6 (April)

The Growing U.S. Trade Imbalance with China

Thomas Klitgaard and Karen Schiele

Over the past decade, the United States has gone from enjoying a small trade surplus with China to grappling with an enormous deficit. Just to keep the gap from expanding in 1997, U.S. exports to China would need to grow at an extraordinary rate—four times as fast as Chinese exports to the United States. Despite recent U.S. gains and China's efforts at trade liberalization, growth on that order appears unlikely, and the trade imbalance can be expected to widen in the near term.

Volume 3, Number 7 (May)

The Samurai Bond Market

Frank Packer and Elizabeth Reynolds

Issuance in the samurai bond market has more than tripled over the past several years. Some observers have attributed this growth to a systematic underestimation of credit risk in the market. A detailed review of credit quality, ratings differences, and initial issue pricing in the samurai bond market, however, turns up little evidence to support this concern.

Volume 3, Number 8 (June)

Designing Effective Auctions for Treasury Securities

Leonardo Bartolini and Carlo Cottarelli

Most discussions of treasury auction design focus on the choice between two methods for issuing securities—uniform-price or discriminatory auctions. Although auction theory and much recent research appear to favor the uniform-price method, most countries conduct their treasury auctions using the discriminatory format. What are the main issues underlying the debate over effective auction design?

Volume 3, Number 9 (July)

The Market to the Rescue? The Promise—and the Price—of the New Social Security Investment Proposals

Susan Miller

Three new plans for reforming Social Security financing recommend investing a portion of future payroll deductions in the financial markets. The plans aim to shore up Social Security's trust fund, improve individual returns, and enhance national saving. This analysis concludes, however, that the effectiveness of the plans would depend largely on individual saving and investment decisions, government fiscal policy, and developments in the financial markets. In addition, the proposed reforms could expose the program to unprecedented market risk.

Volume 3, Number 10 (August)

CURRENT ISSUES IN ECONOMICS AND FINANCE 1997—*Continued*

Do Rising Labor Costs Trigger Higher Inflation?

David A. Brauer

The evidence that developments in compensation growth lead overall CPI inflation has thus far been inconclusive. This study, however, sheds new light on the relationship between labor costs and price inflation. By breaking down compensation and prices into their various components, the author finds that compensation growth in the service-producing segment of the private sector can help predict prices for a specific group of services.

Volume 3, Number 11 (September)

The New York–New Jersey Job Recovery

Second District Highlights

James Orr and Rae D. Rosen

Modest employment growth is expected to continue through 1997, with the New York City metropolitan area creating the bulk of new jobs.

Volume 3, Number 12 (October)

Human Resource Needs in the Evolving Financial Sector

Rebecca S. Demsetz

As banks, securities houses, and insurance companies offer increasingly similar services, how have their human resource needs changed? An analysis of survey data reveals that all three industries have come to rely more heavily on high-skilled labor; however, the educational and occupational profiles of their workforces have not become substantially more alike.

Volume 3, Number 13 (November)

New York City's Unemployment Picture

Second District Highlights

Jason Bram, David Brauer, and Elizabeth Miranda

Why has New York City unemployment climbed unexpectedly in recent years? Sharp growth in the city's labor force participation rate—not job losses—can explain the rise.

Volume 3, Number 14 (December)

Inflation Goals: Guidance from the Labor Market?

Erica L. Groshen and Mark E. Schweitzer

As inflation rates in the United States decline, analysts are asking if there are economic reasons to hold the rates at levels above zero. A study of inflation's effects on the labor market suggests that low rates of inflation do help the economy to adjust to changes in labor supply and demand. When inflation's disruptive effects are balanced against this benefit, however, the labor market justification for pursuing a positive long-term inflation goal effectively disappears.

Volume 3, Number 15 (December)

ALSO AVAILABLE FROM THE RESEARCH GROUP

Research Update is a quarterly newsletter designed to keep you informed about the Research Group's current work. The newsletter—which complements this brochure—offers summaries of selected studies and a listing of recent articles and papers in our four main 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 new publications and services. You can subscribe to *Research Update* by using the enclosed order form, or you can obtain the publication at **www.ny.frb.org/rmaghome/update**.

STAFF REPORTS 1997

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

The series is available at **www.ny.frb.org/rmaghome/staff_rp**.

A Three-Factor Econometric Model of the U.S. Term Structure

Frank F. Gong and Eli M. Remolona

The authors estimate a three-factor model to fit both the time-series dynamics and cross-sectional shapes of the U.S. term structure. To exploit the conditional density of yields, the authors estimate the model with a Kalman filter, a procedure that also allows them to use data for six maturities without making special assumptions about measurement errors. The estimated model reproduces the basic shapes of the average term structure, including the hump in the yield curve and the flat slope of the volatility curve. A likelihood ratio test favors the model over a nested two-factor model. Another likelihood ratio test, however, rejects the no-arbitrage restrictions the model imposes on the estimates. An analysis of the measurement errors suggests that the three factors still fail to capture enough of the comovement and persistence of yields.

Number 19 (January)

Technological Diffusion through Trade and Imitation

Michelle P. Connolly

An endogenous growth model is developed demonstrating both static and dynamic gains from trade for developing nations due to the beneficial effects of trade on imitation and technological diffusion. The concept of learning-to-learn in both imitative and innovative processes is incorporated into a quality-ladder model with North-South trade. Domestic technological progress occurs via innovation or imitation, while growth is driven by technological advances in the quality of domestically available inputs. In the absence of trade, Southern imitation of Northern technology leads to asymptotic conditional convergence between the two countries, demonstrating the positive effect of imitation on Southern growth. Free trade generally results in a positive feedback effect between Southern imitation and Northern innovation, yielding a higher common steady-state growth rate. Immediate conditional convergence occurs. Thus, trade in this model confers dynamic as well as static benefits on the South, even when specializing in imitative processes.

Number 20 (February)

Rational Bias in Macroeconomic Forecasts

David Laster, Paul Bennett, and In Sun Geoum

The authors develop a model of macroeconomic forecasting in which the wages firms pay their forecasters are a function of the forecasters' accuracy as well as the publicity they generate for their employers by being correct. In the resulting equilibrium, forecasters with identical models, information, and incentives nevertheless produce a variety of predictions. In the case of heterogeneous incentives, the forecasters whose wages are most closely tied to publicity, as opposed to accuracy, produce the forecasts that deviate most from the consensus. The authors find empirical support for their model using a twenty-year panel of real GNP/GDP forecast data from the survey *Blue Chip Economic Indicators*. Although the consensus outperforms virtually every forecaster, many forecasters choose to deviate from it substantially and regularly. Moreover, the extent of this deviation varies by industry in a manner consistent with the authors' model.

Number 21 (March)

Entry Restrictions, Industry Evolution, and Dynamic Efficiency: Evidence from Commercial Banking

Jith Jayaratne and Philip E. Strahan

The authors show that bank performance improves significantly after restrictions on bank expansion are lifted. They find that operating costs and loan losses decrease sharply after states permit statewide branching and, to a lesser extent, after states allow interstate banking. The improvements following branching deregulation appear to occur because better banks grow at the expense of their less efficient rivals. By retarding the "natural" evolution of the industry, branching restrictions reduce the performance of the average banking asset. The authors also find that most of the reduction in banks' costs is passed along to bank borrowers in the form of lower loan rates.

Number 22 (March)

Testing under Nonstandard Conditions in Frequency Domain: With Applications to Markov Regime Switching Models of Exchange Rates and the Federal Funds Rate

Fangxiong Gong and Roberto S. Mariano

The authors propose two test statistics in the frequency domain and derive their exact asymptotic null distributions under the condition of unidentified nuisance parameters. They show that the tests have considerable power when applied to a class of Markov regime switching models. They also show that, after transforming the Markov model into the frequency domain representation, they face unidentified nuisance parameters only in a nonlinear context. The singularity problem disappears. Compared with Hansen's LR-bound test of the same Markov regime switching model, the authors' LM test performs better in terms of finite sample power, except when the Markov model becomes a normal mixture model. The authors' test requires only a one-dimensional grid search while Hansen's requires a three-dimensional search. The LM test is also applied to Markov models of exchange and federal funds rates. The null of random walk is not rejected in the exchange rate model; it is rejected in the federal funds rate model.

Number 23 (April)

Foreign Investment Fluctuations and Emerging Market Stock Returns: The Case of Mexico

John Clark and Elizabeth Berko

The authors investigate the economically and statistically significant positive correlation between monthly foreign purchases of Mexican stocks and Mexican stock returns. They find that a surprise foreign inflow equal to 1 percent of market capitalization is associated with a 13 percent increase in Mexican stock prices. The authors explore whether this correlation might be explained by permanent reductions in conditional expected returns resulting from expansion of the investor base along the lines modeled by Merton (1987), or correlations with other factors causing returns, price pressures, or positive feedback strategies by foreign investors, and conclude that the available evidence is consistent with the base-broadening hypothesis.

Number 24 (May)

STAFF REPORTS 1997—*Continued*

Can Competition between Brokers Mitigate Agency Conflicts with Their Customers?

Sugato Chakravarty and Asani Sarkar

The authors study competitive but strategic brokers executing trades for an informed trader in a multiperiod setting. The brokers can choose to (a) execute the order as agents first and trade for themselves as dealers afterward or (b) trade for themselves first and execute the order later. The authors show that the equilibrium outcome depends on the number of brokers. When brokers exceed a critical number (greater than one), the informed trader distributes its order (equally) among the available brokers. The brokers, in turn, execute the trader's order first and trade personal quantities as dealers afterward. Thus, regulators can mitigate trading abuses arising from a conflict of interest between the brokers' agency and principal functions (such as front running) by encouraging competition between brokers as an alternative to banning such practices.

Number 25 (June)

Language, Learning, and Location

Andrew John and Kei-Mu Yi

Language is a fundamental tool for communication of ideas between people, and so is an essential input in production and trade. Neighboring societies and communities have a strong incentive to utilize a common language, and indeed there are countless examples of language assimilation, especially in the last 100 years. Hence, it is puzzling that history has also recorded numerous examples of communities that coexist with distinct languages and limited economic interaction. The authors present a stylized model to reconcile both assimilation and nonassimilation. The model has two languages, locations, and time periods. Agents are initially endowed with one or both languages and a location. Agents choose whether to learn the other language, and subsequently choose whether to move to the other region. An agent can produce output only with others who share the same location and language. Agents who are learning cannot produce. The model delivers multiple equilibria. Full assimilation is possible, but it is also possible for location and language differences to lead to nonassimilation.

Number 26 (June)

Price Formation and Liquidity in the U.S. Treasury Market: Evidence from Intraday Patterns around Announcements

Michael J. Fleming and Eli M. Remolona

The authors identify striking adjustment patterns for price volatility, trading volume, and bid-ask spreads in the U.S. Treasury market when public information arrives. Using newly available high-frequency data, they find a notable lack of trading volume upon a major announcement when prices are most volatile. The bid-ask spread widens dramatically with price volatility and narrows just as dramatically with trading volume. Trading volume surges only after an appreciable lag following the announcement. High levels of price volatility and trading volume then persist, with volume persisting somewhat longer.

Number 27 (July)

Traders' Broker Choice, Market Liquidity, and Market Structure

Sugato Chakravarty and Asani Sarkar

Hedgers and a risk-neutral informed trader choose between a broker that takes a position in the asset (a capital broker) and a broker that does not (a discount broker). The capital broker exploits order flow information to mimic informed trades and offset hedgers' trades, reducing informed profits and hedgers' utility. But the capital broker has a larger capacity to execute hedgers' orders, increasing market depth. In equilibrium, hedgers choose the broker with the lowest price per unit of utility while the informed trader chooses the broker with the lowest price per unit of the informed order flow. However, the chosen broker may not be the one with whom market depth and net order flow are higher.

Number 28 (August)

Agency Problems and Risk Taking at Banks

Rebecca S. Demsetz, Marc R. Saidenberg, and Philip E. Strahan

The moral hazard problem associated with deposit insurance generates the potential for excessive risk taking on the part of bank owners. The banking literature identifies franchise value as one force mitigating that risk taking. The authors argue that in the presence of owner/manager agency problems, managerial risk aversion may also offset the excessive risk taking that stems from moral hazard. Empirical models of bank risk tend to focus either on the disciplinary role of franchise value or on owner/manager agency problems. The authors estimate a unified model and find that both franchise value and ownership structure affect risk at banks. More important, they identify an interesting interaction effect: The relationship between ownership structure and risk is significant only at low-franchise-value banks—those where moral hazard problems are most severe and where conflicts between owner and manager risk preferences are therefore strongest.
Number 29 (September)

Growth Uncertainty and Risk Sharing

Stefano Athanasoulis and Eric van Wincoop

The authors propose a new methodology to evaluate the gains from global risk sharing. They obtain estimates of growth uncertainty at various horizons from regressions of country-specific deviations from world growth on a wide range of variables in the information set. Since this residual risk can be entirely hedged, the authors use it to obtain a measure of the welfare gain that can be achieved by a representative country. They find that nations can reap very large benefits by engaging in risk-sharing arrangements. Using postwar data, the authors find that the gain for a 35-year horizon, corresponding to an equivalent permanent increase in consumption, is 6.6 percent when based on a set of forty-nine countries and 1.5 percent when based on twenty-one OECD countries. In addition, using data from 1870 to 1990, they find that the potential gain from a 120-year horizon ranges from 4.9 percent for a small set of rich countries to 16.5 percent for a broad set of twenty-four countries.
Number 30 (October)

Identifying Inflation's Grease and Sand Effects in the Labor Market

Erica L. Groshen and Mark E. Schweitzer

Inflation has been accused of causing distortionary price and wage fluctuations (sand) and has been lauded for facilitating adjustments to shocks in periods of downward wage rigidity (grease). The authors investigate whether these two effects can be distinguished from each other in a labor market by the following identification strategy: inflation-induced deviations among employers' mean wage changes are seen to represent unintended intramarket distortions (sand), while inflation-induced interoccupational wage changes are seen to reflect intended alignments with intermarket forces (grease). Using a unique forty-year panel of wage changes made by large midwestern employers, the authors find a wide variety of evidence to support the identification strategy. They also find some indications that occupational wages in large firms gained flexibility in the past four years. These results strongly support other findings that grease and sand effects exist, but they also suggest that these effects offset each other in a welfare sense and in unemployment effects. Thus, at inflation levels of up to 5 percent, the net impact of inflation is beneficial but statistically indistinguishable from zero; it turns detrimental afterward.
Number 31 (October)

STAFF REPORTS 1997—*Continued*

Option-Implied Probability Distributions and Currency Excess Returns

Allan M. Malz

The author describes a method of extracting the risk-neutral probability distribution of future exchange rates from option prices. In foreign exchange markets, interbank option-pricing conventions make possible reliable inferences about risk-neutral probability distributions with relatively little data. Moments drawn from risk-neutral exchange rate distributions are used to explore several issues related to the puzzle of excess returns in currency markets. Tests of the international capital-asset-pricing model using risk-neutral moments as explanatory variables indicate that option-based moments have considerably greater explanatory power for excess returns in currency markets than has been found in earlier work. Tests of several hypotheses generated by the peso problem approach indicate that jump risk measured by the risk-neutral coefficient of skewness can explain only a small part of the forward bias. These tests take into account not only the second but the third and fourth moments of the exchange rate implied by option prices.

Number 32 (November)

Regulatory Evaluation of Value-at-Risk Models

Jose A. Lopez

Beginning in 1998, U.S. commercial banks may determine their regulatory capital requirements for market risk exposure by using value-at-risk (VAR) models—that is, models of the time-varying distributions of portfolio returns. Currently, regulators can use three statistical methods to evaluate the accuracy of VAR models: the binomial method, the interval forecast method, and the distribution forecast method. These methods use hypothesis tests to examine whether the VAR forecasts in question exhibit properties characteristic of accurate VAR forecasts. However, given the low power often exhibited by these tests, these methods may often misclassify inaccurate forecasts as accurate. The author proposes a new evaluation method, based on proper scoring rules for probability forecasts. Simulation results indicate that this new method can differentiate between forecasts of accurate and inaccurate alternative VAR models.

Number 33 (November)

Demography, National Savings, and International Capital Flows

Matthew Higgins

The author addresses the relationship between age distributions, national savings, and the current account balance. The results point to substantial demographic effects, with increases in both the youth and old-age discrepancy ratios associated with lower saving rates. They also point to differential effects on savings and investment, and thus to a role for demography in determining the current account balance. The estimated demographic effect on the current account balance exceeds 6 percent of GDP over the last three decades for a number of countries and, given expected demographic trends, is likely to be substantially larger over the coming decades.

Number 34 (December)

The Home Market, Trade, and Industrial Structure

Donald R. Davis

Does national market size matter for industrial structure? This has been suggested by theoretical work on "home market" effects, as in Krugman (1980, 1995). In this study, the author shows that what previously was regarded as an assumption of convenience—transport costs only for the differentiated goods—matters a great deal. In a focal case in which differentiated and homogeneous goods have identical transport costs, the home market effect disappears. The author discusses available evidence on the relative trade costs for differentiated and homogeneous goods. No compelling argument is found that market size will matter for industrial structure.

Number 35 (December)

RESEARCH PAPERS 1997

The *Research Papers* series features discussion papers reporting preliminary research findings. These papers do not undergo the comprehensive review process to which the *Staff Reports* series is subject.

These papers are available at **www.ny.frb.org/rmaghome/rsch_pap.**

Traders' Broker Choice, Market Liquidity, and Market Structure
Sugato Chakravarty and Asani Sarkar (No. 9701)

Option Value of Credit Lines as an Explanation of High Credit Card Rates
Sangkyun Park (No. 9702)

On the Determinants and Resilience of Bond Flows to Less Developed Countries, 1990-95: Evidence from Argentina, Brazil, and Mexico
Angelos A. Antzoulatos (No. 9703)

Asset Market Hangovers and Economic Growth
Matthew Higgins and Carol Osler (No. 9704)

Can Competition between Brokers Mitigate Agency Conflicts with Their Customers?
Sugato Chakravarty and Asani Sarkar (No. 9705)

What Moves the Bond Market?
Michael J. Fleming and Eli M. Remolona (No. 9706)

Disciplined Discretion: The German and Swiss Monetary Targeting Frameworks in Operation
Thomas Laubach and Adam S. Posen (No. 9707)

Does Consumer Confidence Forecast Household Expenditure? A Sentiment Index Horse Race
Jason Bram and Sydney Ludvigson (No. 9708)

Agency Problems and Risk Taking at Banks
Rebecca S. Demsetz, Marc R. Saidenberg, and Philip E. Strahan (No. 9709)

Regulatory Evaluation of Value-at-Risk Models
Jose A. Lopez (No. 9710)

Split Ratings and the Pricing of Credit Risk
Richard Cantor, Frank Packer, and Kevin Cole (No. 9711)

Approximation Bias in Linearized Euler Equations
Sydney Ludvigson and Christina H. Paxson (No. 9712)

Estimating the Adverse Selection Cost in Markets with Multiple Informed Traders
Sugato Chakravarty, Asani Sarkar, and Lifan Wu (No. 9713)

Some Comparative Evidence on the Effectiveness of Inflation Targeting
Thomas Laubach and Adam S. Posen (No. 9714)

A General Model of Brokers' Trading, with Applications to Order Flow Internalization, Insider Trading, and Off-Exchange Block Sales
Sugato Chakravarty and Asani Sarkar (No. 9715)

A New Measure of Fit for Equations with Dichotomous Dependent Variables
Arturo Estrella (No. 9716)

Why Do Interest Rates Predict Macro Outcomes? A Unified Theory of Inflation, Output, Interest, and Policy
Arturo Estrella (No. 9717)

The Growth of World Trade
Jun Ishii and Kei-Mu Yi (No. 9718)

Interest Rate Options Dealers' Hedging in the U.S. Dollar Fixed Income Market
John Kambhu (No. 9719)

The Political Economy of Deregulation: Evidence from the Relaxation of Bank Branching Restrictions in the United States
Randall S. Kroszner and Philip E. Strahan (No. 9720)

Market Liquidity and Trader Welfare in Multiple Dealer Markets: Evidence from Dual Trading Restrictions
Peter R. Locke, Asani Sarkar, and Lifan Wu (No. 9721)

Retail Inventories, Internal Finance, and Aggregate Fluctuations: Evidence from Firm-Level U.S. Data
Egon Zakrajšek (No. 9722)

Is There an Inflation Puzzle?
Cara S. Lown and Robert W. Rich (No. 9723)

Rational Herding and the Spatial Clustering of Bank Branches: An Empirical Analysis
Angela Chang, Shubham Chaudhuri, and Jith Jayaratne (No. 9724)

The Slope of the Credit Yield Curve for Speculative-Grade Issuers
Jean Helwege and Christopher Turner (No. 9725)

Non-Linear Consumption Dynamics
Angelos A. Antzoulatos (No. 9726)

Technology, Trade, and Growth: Some Empirical Findings
Michelle Connolly (No. 9727)

Macroeconomic Forecasts under the Prism of Error-Correction Models
Angelos A. Antzoulatos (No. 9728)

Do Better Schools Matter? Parental Valuation of Elementary Education
Sandra Black (No. 9729)

Is Implied Correlation Worth Calculating? Evidence from Foreign Exchange Options and Historical Data
Christian Walter and Jose A. Lopez (No. 9730)

Information Problems and Deposit Constraints at Banks
Jith Jayaratne and Don Morgan (No. 9731)

Measuring Economic Activity and Economic Welfare: What Are We Missing?
Charles Steindel (No. 9732)

Elasticities of Substitution in Real Business Cycle Models with Home Production
John Campbell and Sydney Ludvigson (No. 9733)

Cross-Country Comparisons of Industry Total Factor Productivity: Theory and Evidence
James Harrigan (No. 9734)

Output Fluctuations in the United States: What Has Changed since the Early 1980s?
Margaret M. McConnell and Gabriel Perez Quiros (No. 9735)

Structural Change in the Mortgage Market and the Propensity to Refinance
Paul Bennett, Richard Peach, and Stavros Peristiani (No. 9736)

Education, Political Instability, and Growth
James A. Kahn (No. 9737)

Skilled Labor—Augmenting Technical Progress in U.S. Manufacturing
James A. Kahn and Jong-Soo Lim (No. 9738)

Aggregate Supply and Demand Shocks: A Natural Rate Approach
Arturo Estrella (No. 9739)

OUTSIDE JOURNALS
1997 AND FORTHCOMING

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

Angelos A. Antzoulatos

"On the Excess Sensitivity of Consumption to Information about Income." *Journal of Macroeconomics* 19, no. 3 (summer).

Leonardo Bartolini

"Capital Account Liberalization as a Signal," with A. Drazen. *American Economic Review* 87, no. 1 (March).

"Soft versus Hard Targets for Exchange Rate Intervention," with A. Prati. *Economic Policy* 24 (April).

"Treasury Bill Auctions: Issues and Uses," with C. Cottarelli. In M. Blejer and T. Ter-Minassian, eds., *Macroeconomic Dimensions of Public Finance*, 267-336. London: Routledge.

"When Liberal Policies Reflect External Shocks, What Do We Learn?" with A. Drazen. *Journal of International Economics* 43, no. 3-4 (May).

Paul Bennett

"Implementation and Tactics of Monetary Policy." *BIS Conference Papers* 3 (March).

Paul Bennett, Richard Peach, and Stavros Peristiani

"Effects of Household Creditworthiness on Mortgage Refinancings," with Gordon Monsen and Jonathan Raiff. *Journal of Fixed Income*, December.

Sandra Black

"Beyond the Incidence of Training," with Lisa M. Lynch. *Industrial and Labor Relations Review*. Forthcoming.

Stephen G. Cecchetti

"Central Bank Policy Rules: Conceptual Issues and Practical Considerations." In H. Wagner, ed., *Current Issues in Monetary Economics*. Forthcoming.

"Interactions between the Seasonal and Business Cycles in Production and Inventories," with A. Kashyap and D. Wilcox. *American Economic Review*. Forthcoming. [Revision of NBER Working Paper no. 5001]

"Measuring Short-Run Inflation for Central Bankers." Federal Reserve Bank of St. Louis *Economic Review* 79, no. 3 (May-June). [NBER Working Paper no. 5786]

“The Neutrality of Money.” In D. Glasner, ed., *Encyclopedia of Business Cycles, Panics, Crises, and Depressions*, 481-4. New York: Garland Publishing, Inc.

Donald R. Davis

“The Home Market, Trade, and Industrial Structure.” *American Economic Review*. Forthcoming.

Rebecca S. Demsetz and Philip E. Strahan

“Diversification, Size, and Risk at Bank Holding Companies.” *Journal of Money, Credit, and Banking* 29, no. 3 (September).

Arturo Estrella

“A New Measure of Fit for Equations with Dichotomous Dependent Variables.” *Journal of Business and Economic Statistics*. Forthcoming.

“Is There a Role for Monetary Aggregates in the Conduct of Monetary Policy?” with Frederic S. Mishkin. *Journal of Monetary Economics* 40 (October).

“Predicting U.S. Recessions: Financial Variables as Leading Indicators,” with Frederic S. Mishkin. *Review of Economics and Statistics*. Forthcoming.

“The Predictive Power of the Term Structure of Interest Rates in Europe and the United States: Implications for the European Central Bank,” with Frederic S. Mishkin. *European Economic Review* 41, no. 7 (July).

Arturo Estrella and John Kambhu

“Approximations of Changes in Option Values and Hedge Ratios: How Large Are the Errors?” In *The Measurement of Aggregate Market Risk*. Basle, Switzerland: BIS, November.

Joan Evans and James M. Mahoney

“The Effects of Daily Price Limits: Evidence from the Futures and Options Market for Cotton.” *Chicago Board of Trade Research Symposium Proceedings*, spring.

Linda S. Goldberg

“Black Markets for Currency, Hoarding Activity, and Policy Reform,” with Il’dar Karimov. *Journal of International Economics* 42, no. 3-4 (May).

“Exchange Rates and Investment Response in Latin America.” In Benjamin J. Cohen, ed., *International Trade and Finance: New Frontiers for Research, Essays in Honor of Peter B. Kenen*. Cambridge: Cambridge University Press.

“FDI, Trade, and Real Exchange Rate Linkages in Developing Countries,” with Michael Klein. In Reuven Glick, ed., *Managing Capital Flows and Exchange Rates: Lessons from the Pacific Basin.* Cambridge: Cambridge University Press.

“International Trade and Factor Mobility: An Empirical Investigation,” with Michael Klein. In G. Calvo, R. Dornbusch, and M. Obstfeld, eds., *Festschrift in Honor of Robert Mundell*. Cambridge: MIT Press. Forthcoming.

“Is Optimum Currency Area Theory Irrelevant for Economies in Transition?” In Richard Sweeney, Clas Wihlborg, and Thomas Willet, eds., *Currency Policies for Emerging Markets*. Boulder, Colo.: Westview Press. Forthcoming.

Review of *Russian Economic Reform at Risk*, edited by G. Calvo, R. Dornbusch, and M. Obstfeld. *Journal of International Economics* 42, no. 3-4 (May).

“Strategic Trading in a Two-Sided Foreign Exchange Auction,” with Rafael Tenorio. *Journal of International Economics* 42, no. 3-4 (May).

Erica L. Groshen

“Macro- and Microeconomic Consequences of Wage Rigidity,” with Mark E. Schweitzer. In D. Lewin, D. Mitchell, and M. Zaidi, eds., *Handbook of Human Resource Management*, 217-49. Greenwich, Conn.: JAI Press.

James Harrigan

“Estimation of Cross-Country Differences in Industry Production Functions.” *Journal of International Economics*. Forthcoming.

OUTSIDE JOURNALS 1997 AND FORTHCOMING—*Continued*

James Harrigan (*continued*)

"Technology, Factor Supplies, and International Specialization: Estimating the Neoclassical Model." *American Economic Review* 87, no. 4 (September).

Jean Helwege

"How Long Do Junk Bonds Spend in Default?" *Journal of Finance*. Forthcoming.

"Understanding Aggregate Default Rates of High Yield Bonds," with Paul Kleiman. *Journal of Fixed Income* 7, no. 1 (June). Reprinted from Federal Reserve Bank of New York *Current Issues in Economics and Finance* 2, no. 6 (May 1996).

Darryll Hendricks

"The J-Shape of Performance Persistence Given Survivorship Bias," with Jayendu Patel and Richard Zeckhauser. *Review of Economics and Statistics* 79, no. 2 (May).

Matthew Higgins

"The Accumulation and Demography Connection in East Asia," with Jeffrey Williamson. In Andrew Mason, ed., *Population and the East Asian Economic Miracle*. Honolulu: University of Hawaii Press. Forthcoming.

"Asian Demography and Foreign Capital Dependence," with Jeffrey Williamson. *Population and Development Review* 23, no. 2.

"Demography, Savings, and International Capital Flows." *International Economic Review*. Forthcoming.

Matthew Higgins and Carol Osler

"Asset Market Hangovers and Economic Growth." *Oxford Review of Economic Policy* 13, no. 3 (autumn).

"Asset Market Hangovers and Economic Growth: U.S. Housing Markets." *BIS Conference Papers* 5. Forthcoming.

Beverly Hirtle

"Derivatives, Portfolio Composition, and Bank Holding Company Interest Rate Risk Exposure." *Journal of Financial Services Research*. Forthcoming.

Jith Jayaratne and Philip E. Strahan

"Entry Restrictions, Industry Evolution, and Dynamic Efficiency: Evidence from Commercial Banking." *Journal of Law and Economics*. Forthcoming.

James A. Kahn

"Birth, Death, and Dynamic Inefficiency in an Endogenous Growth Model," with J. S. Lim and C. Rhee. *International Economic Journal* 11, no. 3 (autumn).

John Kambhu

"The Size of Hedge Adjustments of Derivatives Dealers' U.S. Dollar Interest Rate Options." In *The Measurement of Aggregate Market Risk*. Basle, Switzerland: BIS, November.

John Kambhu and Anthony P. Rodrigues

"Residual Risk Factors, Portfolio Composition, and Risk Measurement." In *The Measurement of Aggregate Market Risk*. Basle, Switzerland: BIS, November.

Kenneth N. Kuttner

"Indicator Properties of the Paper-Bill Spread: Lessons from Recent Experience," with Benjamin M. Friedman. *Review of Economics and Statistics.* Forthcoming.

David Laster

"Measuring Gains from International Equity Diversification: The Bootstrap Approach." *Journal of Investing*. Forthcoming.

Cara S. Lown and Robert W. Rich

"A Look at the U.S. Inflation Puzzle." In *Monetary Policy and the Inflation Process. BIS Conference Papers* 4 (July).

Sydney Ludvigson

"The Mechanism of Monetary Transmission to Demand: Evidence from the Market for Automobile Credit." *Journal of Money, Credit, and Banking*. Forthcoming.

James M. Mahoney

"Board Structure, Corporate Antitakeover Provisions, and Stockholder Wealth," with Joseph T. Mahoney and Chamu Sundaramurthy. *Strategic Management Journal* 18 (March).

"Correlation Products and Risk Management." *European Financial Management* 3 (June).

"The Effects of Corporate Antitakeover Provisions on Long-Term Investment: Empirical Evidence," with Joseph T. Mahoney and Chamu Sundaramurthy. *Managerial and Decision Economics*. Forthcoming.

Donald P. Morgan

"The Credit Effects of Monetary Policy: Evidence Using Loan Commitments." *Journal of Money, Credit, and Banking*. Forthcoming.

Carol Osler

"Charting: Chaos Theory in Disguise?" *Journal of Futures Markets* 17, no. 5 (July).

"Is More Always Better? Head-and-Shoulders and Filter Rules in Foreign Exchange Markets," with Kevin Chang. In Emmanuel Acar and Stephen Satchell, eds., *Advanced Trading Rules*. Great Britain: Butterworth Heinemann. Forthcoming.

"Short-Term Speculators and the Puzzling Behavior of Exchange Rates." *Journal of International Economics*. Forthcoming.

Frank Packer

"Discretion in the Use of Split Ratings: The Case of the NAIC," with Richard Cantor. *Journal of Insurance Regulation*. Forthcoming.

"Multiple Ratings and Credit Standards," with Richard Cantor. *Journal of Banking and Finance*. Forthcoming.

"Split Ratings and the Pricing of Credit Risk," with Richard Cantor and Kevin Cole. *Journal of Fixed Income*. Forthcoming.

Sangkyun Park

"Effects of Price Competition in the Credit Card Industry." *Economics Letters*. Forthcoming.

"Rationality of Negative Stock-Price Responses to Strong Economic Activity." *Financial Analysts Journal* 53, no. 5 (September-October).

"The Relationship between Government Financial Condition and Expected Tax Rates Reflected in Municipal Bond Yields." *National Tax Journal* 50, no. 1 (March).

"Risk-Taking Behavior of Banks under Regulation." *Journal of Banking and Finance* 21, no. 4 (April).

Sangkyun Park and Stavros Peristiani

"Market Discipline by Thrift Depositors." *Journal of Money, Credit, and Banking*. Forthcoming.

Stavros Peristiani

"Do Mergers Improve the X-Efficiency and Scale Efficiency of U.S. Banks? Evidence from the 1980s." *Journal of Money, Credit, and Banking* 29, no. 3 (August).

The Growing Reluctance to Borrow at the Discount Window: An Empirical Investigation." *Review of Economics and Statistics*. Forthcoming.

"Mutual-to-Stock Conversions in the Thrift Industry in the 1990s," with Thierry Wizman. *Journal of Economics and Business* 49 (February).

Lawrence J. Radecki and John Wenninger

"Industry Structure: Electronic Delivery's Potential Effects on Retail Banking," with Daniel K. Orlow. *Journal of Retail Banking Services* 19, no. 4 (winter).

Carol Rapaport

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

Review of *Household and Family Economics*, edited by Paul L. Menchik. *Journal of Economic Literature*. Forthcoming.

OUTSIDE JOURNALS 1997 AND FORTHCOMING—*Continued*

Robert W. Rich

"Disagreement as a Measure of Uncertainty: A Comment on Bomberger," with J.S. Butler. *Journal of Money, Credit, and Banking*. Forthcoming.

"Oil and the Macroeconomy: A Markov State-Switching Approach," with Jennie E. Raymond. *Journal of Money, Credit, and Banking* 29, no. 2 (May).

Anthony P. Rodrigues

"Term Structure and Volatility Shocks." In *The Measurement of Aggregate Market Risk*. Basle, Switzerland: BIS, November.

Rae D. Rosen

"Opening Doors: Access to the Global Market for Financial Sectors," with Reagan Murray. In Margaret E. Crahan and Alberto Vourvoulias-Bush, eds., *The City and the World*, 39-50. New York: Council on Foreign Relations.

Asani Sarkar

"Price Transmission and Market Openness," with Lifan Wu. *Review of Pacific Basin Financial Markets and Policies*. Forthcoming.

Rama Seth

"Foreign Banks, Profits, and Commercial Credit Extension in the United States," with Phil Molyneux. *Journal of Applied Financial Economics*. Forthcoming.

Dorothy M. Sobol

"Central and Eastern Europe: Financial Markets and Private Capital Flows." In Miles Kahler, ed., *Capital Flows and Financial Crises*. Ithaca, N.Y.: Cornell University Press. Forthcoming.

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.

"Small Business Lending and the Changing Structure of the Banking Industry," with James Weston. *Journal of Banking and Finance*. Forthcoming.

Joseph Tracy

"The Best Business Schools: A Market-Based Approach," with Joel Waldfogel. *Journal of Business* 70, no. 1 (January).

"Collateral Damage: Refinancing Constraints and Regional Recessions," with Andrew Caplin and Charles Freeman. *Journal of Money, Credit, and Banking* 29, no. 1.

Housing Partnerships: A New Approach to a Market at a Crossroads, with Andrew Caplin, Sewin Chan, and Charles Freeman. Cambridge: MIT Press.

"Quality of Life and Environmental Comparisons," with Joseph Gyourko and Matthew Kahn. In Paul Ceshire and Edwin Mills, eds., *Handbook of Regional and Urban Economics*. Vol. 3. Amsterdam: North-Holland. Forthcoming.

"The Use of Replacement Workers in Union Contract Negotiations: The U.S. Experience, 1980-1989," with Peter Cramton. *Journal of Labor Economics*. Forthcoming.

Eric van Wincoop

"How Big Are Potential Gains from International Risksharing?" *Journal of International Economics*. Forthcoming.

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 (May).

Interested in Our New Publications?

By subscribing to our free Electronic Alert Service, you can receive e-mail notifications when new publications and papers are available at our web site. You can then go directly to the site and download a publication or order the hard-copy version electronically. Please visit the web site (**www.ny.frb.org/rmaghome**) for details.

www.ny.frb.org/rmaghome