

financial markets Research Center

OWEN
GRADUATE
SCHOOL
OF MANAGEMENT

VANDERBILT UNIVERSITY

FALL 1989



Martin S. Geisel, *dean*

Hans R. Stoll, *director of the Financial Markets Research Center*

J. Dewey Daane, *senior advisor of the Financial Markets Research Center*

From the Dean. . . .

The vitality of a university is closely tied to the quality of its research program. A strong research program heightens the intellectual quality of a university and sets the tone for the content and challenge of its curriculum. A strong research program influences public policy and business practice.

The Financial Markets Research Center provides the focus for research in finance at the Owen Graduate School of Management, and the Center has admirably contributed to the overall mission of the Owen School and Vanderbilt. Research by Center associates has improved our understanding of the rapidly changing financial markets and has influenced public policy toward innovations in financial instruments and trading procedures. Center speakers and conferences allow students and faculty to interact with business and government leaders. Center research workshops provide a mechanism for learning about or testing new ideas.



From the Director. . . .

Center associates continue to produce significant research on aspects of financial markets, some of which is detailed later in this newsletter. Additions to the Owen School's faculty have given the Center greater depth. Roger Huang, associate professor of finance, joined the Center this past year. Huang's research focuses on econometric tests of asset-pricing models and on international finance. Huang taught previously at Purdue University and the University of Florida. Joining the faculty in the fall of 1989 are two new assistant professors, Theodore Sternberg and William Christie. Professor Sternberg received his Ph.D. degree from the University of California at Berkeley and researches the new issues market. Professor Christie received his Ph.D. from the University of Chicago and conducts empirical studies of the effect of dividends on stock prices.

Research by Center associates includes the following studies: the dynamics of stock index futures and

stock index spot prices, the effect of regulation on stock prices, the impact of program trading, risk premiums in the corporate bond market, asset pricing with changing expectations, the short-run behavior of stock prices in the German stock market, the effect of deferred taxes on security prices, the impact of leasing on the level of a corporation's debt, the volatility of opening prices on the stock exchange, and other topics.

A recently completed Ph.D. dissertation examines the interaction between the bid-ask spread and the number of dealers in a market with competing dealers. Other Ph.D. dissertations currently underway examine the relation between volume and stock price volatility and test the consumption-based, capital asset pricing model by using some new econometric techniques on futures market data. The maintenance of financial data bases and programming support are provided by Research Associate Athena Lee.

Guest Speakers

An important aspect of the education of MBA students and the faculty at the Owen School is the opportunity to listen to and question senior executives from financial industries. Outside speakers are sponsored directly by the Financial Markets Research Center and the Owen Lecture Series or are invited as an integral part of courses such as Monetary and Fiscal Policy and Financial Institutions. Guest speakers during the 1988-89 academic year were:

Morton N. Lane, president, Discount Corporation of New York Futures

Tom Walker, audit manager, Touche Ross & Co.
J. David Grissom, vice-chairman, PNC Financial Corporation

Harry V. Keefe, Jr., founder and chairman, Keefe, Bruyette and Woods

John W. Labuszewski, vice president, Refco Group, Ltd.

Robert C. Holland, president, Committee for Economic Development

Robert P. Forrestal, president, Federal Reserve Bank of Atlanta

Ron Compton, president, Aetna Life & Casualty
Eugene A. Leonard, president, Corporation for Financial Risk Management, St. Louis

Rudolph G. Penner, senior fellow, The Urban Institute; former director, Congressional Budget Office

Peter Sternlight, executive vice-president, Federal Reserve Bank of New York; manager, Federal Reserve System Open Market Account
Senator William D. Proxmire, former chairman, U.S. Senate Banking Committee

Roger E. Brinner, group vice-president and chief economist, International and Energy Division, DRI/McGraw-Hill

Sheila Tschinkel, senior vice-president and director of research, Federal Reserve Bank of Atlanta

David M. Jones, senior vice-president and economist, Aubrey G. Lanston and Company, Inc., New York

Silas Keehn, president, Federal Reserve Bank of Chicago

Donald L. Kohn, director, Division of Monetary Affairs, Board of Governors of the Federal Reserve System

C.C. Hope, Jr., director, Federal Deposit Insurance Corporation

Goals of the Center

The Financial Markets Research Center at Vanderbilt University fosters scholarly research to improve the understanding of developments in financial markets, financial instruments, and financial institutions. The Center aims to examine these developments from the perspective of participants in financial markets (brokers, exchanges, and financial intermediaries), from the perspective of businesses needing financing, and from the perspective of appropriate regulatory policy. The specific objectives of the Center are:

1. To provide a mechanism for interaction between representatives of the financial community, researchers in financial markets, and the faculty at Vanderbilt University.

2. To identify critical research issues in financial markets and to provide a focus for such research.

3. To support research by faculty members and Ph.D. students at Vanderbilt University by maintaining data bases and funding research projects.

4. To guide, review, and disseminate research about financial markets.

Funding

The Center is funded by members of the Center and by outside research grants. Funds are used to cover the direct operating costs of the Center and to support the Center's research projects. Members participate in all activities of the Center, receive research reports, and give advice on the activities and research direction of the Center. Research grants for specific projects are sought from various research sponsors including foundations, government agencies, trade organizations, and corporations.

Finance Student Activities

Owen School Finance Association

The Owen School Finance Association serves an important role in providing a link between the academic and business worlds. Organized and managed by Owen students, OSFA is actively involved in several projects designed to increase interaction between its members and the financial community. OSFA arranges trips to the nation's largest financial institutions in New York and Chicago, invites business leaders from across the nation to speak at Owen, coordinates an annual Career Symposium for MBA students, and arranges other events.

Max Adler Student Investment Fund

The Max Adler Student Investment Fund is an investment fund of \$25,000 managed solely by students. MASIF invests in stocks, bonds, and options. Students take an active role in the fund by making investment presentations. After an often-spirited debate, MASIF members vote on the recommendations. A simple majority is needed for implementation.

All proposals must be consistent with the fund's investment strategy and criteria. These decisions and other policy matters are made by a six-member board of directors which oversees the fund. Currently, MASIF's asset allocation strategy calls for 70% equities, 20% bonds, and 10% cash. The actual asset allocation is 73.69% equities, 16.06% bonds, and 10.24% cash.

MASIF offers a unique opportunity for interested students to apply fundamental principles of finance and economics learned in the classroom to a real-world environment. The Fund's main objectives are to familiarize students with the different financial markets and to help them gain practical investment experience.



Robert Roosa Dewey Daane, Ernesto Fernandez-Hurtado and Robert Solomon

Dewey Daane Conference on International Financial Policy

Dewey Daane retired in June 1989 to become Frank K. Houston Professor of Finance, Emeritus. Professor Daane will continue to teach his course on monetary and fiscal policy. He also will continue as senior advisor to the Financial Markets Research Center. Professor Daane has been a governor of the Federal Reserve System and deputy undersecretary of the Treasury for Monetary Affairs. After leaving government service in 1974, he joined the top management of Commerce Union Bank (now Sovran Bank) and the faculty of the Owen Graduate School of Management.

In honor of Professor Daane's distinguished career in government, business, and academia, the Financial Markets Research Center, the Owen Graduate School of Management, and the Potter Foundation sponsored a conference on International Finance and Financial Policy held on April 13-14, 1989. The social highlight of the conference was a tribute dinner attended by over 150 people. The after-dinner festivities, emceed by **Paul Volcker**, allowed Daane's friends to pay tribute to him.

The conference itself focused on three broad issues: (1) international imbalances and international policy coordination, (2) the international debt crisis and (3) global financial markets. The papers presented at the

conference will be published in a book edited by Hans R. Stoll. Representative points made by the conference's featured speakers are reported here for each issue area.

International Imbalances and International Policy Coordination

Robert Roosa, partner at Brown Brothers Harriman, chaired the

Thursday morning session on international economic problems. **John Makin**, director of fiscal policy studies at the American Enterprise Institute, contended that the continued U.S. current account deficit in spite of the dollar's depreciation does not reflect a disequilibrium situation. Certain events, such as (1) the inconsistent monetary and fiscal policies in the U.S., Europe, and Japan and (2) the deregulation of capital flows in Japan and the United Kingdom, have temporarily accentuated imbalances. Makin also said that long-run forces, such as the increasing diversification and larger savings in foreign countries, may lead to a continued imbalance in capital flows for the next few years. He warned that policymakers should not let such imbalances lead to unnecessary protectionism and restrictions on trade or capital flows.

A three-member panel discussion



Paul Volcker emceeding the after dinner festivities.

later Thursday morning examined some key policy issues. **Ted Truman**, staff director of the Division of International Finance at the Federal Reserve Board, noted that flexible exchange rates are not a panacea for international trade adjustment. Flexible exchange rates have been more volatile than their advocates had expected. Nevertheless, Truman said, changes in exchange rates do affect international adjustment by changing the relative prices of imports and exports.

Scott Pardee, co-chairman of Yamaichi International, presented an interpretation of the actions of traders and governments in the foreign exchange market. Governments affect exchange rates, he said, by "jawboning," by intervening in the foreign exchange market, by changing monetary policy, and by fiscal and trade policy.

Jacob Frenkel, economic counselor and director of research at the International Monetary Fund, cautioned that while the world economy has had strong economic growth with mild inflation, clouds remain on the horizon. These clouds are the large trade imbalances, the possibility of renewed inflation, government deficits, and the international debt crisis. Frenkel stressed that dealing with these clouds requires coordination of both fiscal policy and monetary policy.

Paul McCracken, former chairman of the President's Council of Economic Advisors, noted the limits of policy coordination, but praised the informal consultative arrangements through which policymakers interact. He also admonished policymakers to remember that their policies' influence on economic events has limits.

The morning session elicited several lively comments from conference participants. **Hendrik Houthakker**,



Bob Holland directs discussion of the international debt crisis.

professor of economics at Harvard University, observed that international policy coordination is actually very limited since only a few of the major industrialized countries participate. The switch from fixed to floating rates has, in fact, reduced the need for coordination and has swept away "any kind of discipline," said Houthakker.

Bruce McLaury, president of the Brookings Institution, argued that flexible versus fixed exchange rates is a political question.... "of which system at which time and in what context can induce politicians in respective surplus and deficit countries to do things that they will not see as in their short-run interest."

The International Debt Crisis

The conference's luncheon speaker, **Gerald Corrigan**, president of the Federal Reserve Bank of New York, stressed that considerable progress on the international debt front had been made since the summer of 1982 by commercial banks and certain debtor countries. The ultimate resolution of

the international debt crisis will require, according to Corrigan, continued growth in developed countries, a business-like negotiation between creditors and debtors in reducing the level of debt, a reasonable flow of private and official financing to debtor countries, and other efforts. Corrigan supported the Brady plan which calls for debt reduction, but contended that the Brady plan alone will not be sufficient.

Robert Holland, president of the Committee for Economic Development, chaired the Thursday afternoon session which focused on the international debt crisis. **Robert Solomon**, guest scholar at the Brookings Institution and former advisor to the Federal Reserve Board, presented a comprehensive overview of the nature and dimension of the debt crisis, the factors responsible for the crisis, and the proposed solutions, including the Brady plan. Solomon noted that the major debtor countries have borne tremendous adjustment costs, such as reductions in per capita income and increased inflation, in order to bring

about improvements in their heavy debts to commercial banks. He agreed with Corrigan that the threat to the solvency of U.S. banks created by heavy lending to developing countries has declined dramatically since 1982 as banks have increased their capital and written off some of this debt. Solomon discussed the possible solutions offered by the Baker plan — including debt for equity swaps, debt buy-backs at substantial discounts, and debt exchanges — and the recent Brady initiative. Though somewhat vague, the Brady plan calls for voluntary debt reduction by commercial banks in return for guarantees from the World Bank and the International Monetary Fund.

A panel discussion by three speakers followed Solomon's address. **Richard Debs**, former president of Morgan Stanley International, pointed out that, beginning in the late 1970s, U.S. commercial banks rather than official government agencies provided general financing to sovereign governments. Previously, commercial bank financing had been on a project-by-project basis. When the less-developed countries found it difficult to meet their debt obligations, the initial reaction of the U.S. government was to let the free market solve that problem, Debs recalled. But, he said, that as the debt crisis became more severe, it became evident that more than economic issues were at stake; the political stability of less-developed countries also was threatened. The U.S. government then took a more direct role that resulted in the Baker plan, but despite these actions, Debs recounted, the debt crisis continued to worsen. Debs said that the logical next step to solving the debt crisis was the Brady plan.

Helen Junz, deputy director of the Exchange and Trade Relations Department of the International Monetary Fund, emphasized the need for rationalizing the balance sheets of commercial banks rather than injecting new liquidity. Balance sheets that more accurately reflected the current market values of debt, Junz believes, could lead to normalized borrower-lender relationships between commercial banks and less-developed countries.

Richard Erb, deputy managing director of the International Monetary Fund, stressed that the key revolutionary step taken by the Brady plan was

to make it explicit U.S. policy that "debt reduction needs to be more fully integrated into the debt strategy." Erb said the IMF would be prepared to participate in providing new funds that will be needed to facilitate debt reduction. Funds set aside for debt repurchase, however, would reduce the funding normally available from the IMF for a country's economic development. Erb also recognized the moral-hazard issue in negotiating debt reductions. He advocated that countries that have made adjustment to enable them to repay their debts should not be penalized by any debt plan to aid countries that have not made such adjustments and, therefore, must be subsidized in repaying their debt.

One participant who contributed during the discussion period was **Ernesto Fernandez-Hurtado**, chairman of the board of Tubos DeAcero

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and former governor of the Bank of Mexico. He reported that Mexico's tremendous effort has improved its balance of payments, but has caused a terrific dip in personal income and great hardship in Mexico without improving the country's debt situation very much. Hurtado ascribed part of the difficulty to the reliance on increased interest rates within Mexico rather than on foreign exchange rate adjustments.



Joseph Hardiman describes international equity market links.

Global Financial Markets

The Friday morning session, chaired by **Frank Morris**, former president of the Federal Reserve Bank of Boston, consisted of two panel discussions on global financial markets.

The first panel focused on the impact of financial innovations.

Richard Sandor, senior vice-president for institutional financial futures and options at Drexel Burnham Lambert, noted that financial futures and options are not really all that new, having existed in Amsterdam in the 1600s. The impact of such financial inventions as double-entry bookkeeping or financial futures and options, he believes, have as great an impact on society as important industrial inventions, such as the steam engine. Sandor then discussed recent financial innovations in the equity market, the foreign exchange market, and the interest rate market.

Duke Chapman, chairman of the Chicago Board Options Exchange, noted that trading activity in the options market has grown as the need to manage volatility has grown. Concurrently, institutional use of options has increased. Chapman also said that advanced automation and globalization have changed the character of financial markets.

Scott Pardee, co-chairman of Yamaichi International, described the structure and functioning of financial markets in Japan--the thirteen major city banks, the seven trust banks, the three major industrial banks, the sixty-four regional banks, the large life insurance companies, and the four major securities firms. He also commented on the prospects for opening the Japanese financial markets and on the regulatory environment as compared to the U.S.

The second panel on Friday morning examined worldwide trading in financial markets. **David Bodner**,



Richard Sandor, explaining the intricacies of foreign currency options.

executive vice-president of Bank Julius Baer, stated that the foreign exchange market and the interrelated, short-term deposit market are now truly international markets. The futures and options markets probably are the next most globalized markets. The bond market is next; U.S. government bonds are traded actively in all major financial centers. Equities trading is growing in international scope, but Bodner said it has a long way to go to be global. Bodner also pointed out the policy implications of the internationalization of financial markets. No country can make monetary policy and government policy independently of policy that prevails in other countries, he said.

Joe Hardiman, president of the National Association of Securities Dealers, spoke on the international links between equity markets. Hardiman noted that such links usually take the form of joint ventures between U.S. and foreign markets, but may also be accomplished by expanding a computerized market, such as the NASDAQ system, to offshore locations. Hardiman emphasized that truly global financial markets require not only global communications, but also clearing corporations and depositories that accomplish the transfer of

ownership. He predicted that the equity market will become a truly global market in the not-too-distant future.

William Brodsky, president of the Chicago Mercantile Exchange, addressed globalization related to the futures markets. He described the new, automated trading system, GLOBEX, that will operate from 6PM to 6AM C.S.T. GLOBEX was developed by the CME in cooperation with Reuters. He also discussed the trading links with Sidney and Singapore that currently exist.

Other conference participants and attendees at the dinner included **Jimmy Bradford**, senior partner of J.C. Bradford and Company; **Jack Bennett**, former senior vice-president of Exxon Corporation; **Ron Burke**, president of the Bank Administration Institute; **Tone Grant**, president of Refco Group Limited; **Alan Greenspan**, chairman of the Federal Reserve Board; **Blair Hull**, senior partner of Hull Trading Company; **Silas Keehn**, president of the Federal Reserve Bank of Chicago; **Thomas Peterffy**, president of Timber Hill Inc.; **Hermod Skanland**, governor of the Central Bank of Norway; **Gary Stern**,



Alan Greenspan, Vivian Brownstein, Bob Solomon and Bob Holland



William Brodsky answers questions on automated trading in futures markets.

president of the Federal Reserve Bank of Minneapolis; **Tom Storrs**, former chairman of the North Carolina



Scott Pandee explains the Japanese financial system.

National Bank; and **Bob Wilmouth**, president of the National Futures Association.

Current Activities of Center Affiliates

PAUL CHANEY, assistant professor (accounting). M.B.A., Ph.D. (Indiana, 1983), C.P.A., C.M.A.



Conducts research on the economic consequences and capital markets effects of accounting information and agency theory. He has published works on deferred taxes, on the incentive

effects of government loan guarantees, and on debt defeasance. Current research topics: income smoothing, variance investigation, the price effects of new product introductions, and earnings association coefficients.

SUNG K. CHOI, assistant professor (accounting). M.P.A. (Texas, 1978), Ph.D. (Iowa, 1985), C.P.A. (Korea).



Conducts research on accounting and capital markets. Choi has written papers on external reporting and capital asset prices, on agency conflicts and target abnormal returns, and on agency

conflicts and earnings announcements. Current research topics: desirability of financial disclosures, differential price impacts of pooling versus purchase, and shareholder-manager conflicts over investment and disclosure decisions.

WILLIAM CHRISTIE, assistant professor (finance). M.B.A., Ph.D. (Chicago, 1989).



Joined the Owen Graduate School in 1989 after completing his degree at the University of Chicago. Prior to his doctoral studies, Christie worked as a financial analyst at Hewlett

Packard (Canada) Limited and the Ford Motor Company of Canada. Current research topics: the relation between equity returns and dividend yield, and the role of cash dividend omissions in forecasting corporate longevity.

MARK A. COHEN, assistant professor (economics). Ph.D. (Carnegie-Mellon, 1985).



Conducts research on government regulation, law and economics, white-collar and corporate crime, and the economics of information. Before joining the faculty at the Owen

School, Cohen was senior economist with the U.S. Sentencing Commission, and earlier worked for the Federal Trade Commission, the U.S. Environmental Protection Agency, the U.S. Department of Treasury, and the U.S. Senate Banking Committee. Cohen's writing has appeared in such publications as the *Journal of Law and Economics* and the *Yale Journal on Regulation*.

J. DEWEY DAANE, Frank K. Houston Professor of Finance, Emeritus; senior advisor, Financial Markets Research Center; M.P.A., D.P.A. (Harvard, 1949).



Daane is chairman of the Money Market Committee and co-chairman of the Trust Board of the Sovran Bank/Central South in Nashville. He also is public director of the National Futures

Association. Conducts research on monetary economics and international finance.

WILLIAM W. DAMON, professor (economics and finance); associate dean, College of Arts and Sciences. M.B.A., Ph.D. (Cornell, 1970).



Conducts research on managerial finance and operations research. Current research topic: modeling the financing needs of small firms.

TIMOTHY DEVINNEY, assistant professor (economics). M.B.A., Ph.D. (Chicago, 1984).



Conducts research on the economics of uncertainty and industrial organization and their application to the analysis of financial intermediation and the structure of financial markets. Current

research topic: impact of corporate strategy on the market value of firms.

During the past year, Devinney presented papers at Washington University, Northwestern University, and the University of Southern California. For the spring and summer of 1989, was a visiting professor at the University of Hamburg.

ROGER D. HUANG, associate professor (finance). Ph.D. (Wharton, 1980).



Conducts research on the pricing of financial assets. Huang has published on the intertemporal pricing of foreign exchange rates, the relations between financial assets and inflation,

financial market reactions to budget deficits, excess volatility in foreign exchange markets, and price volatility during hyperinflations. Current research topic: intertemporal models of bond and stock prices.

CRAIG M. LEWIS, assistant professor (finance). Ph.D. (Wisconsin, 1986), C.P.A.



Conducts research on the optimal corporate financial structure, the equilibrium pricing of financial claims under taxation, and stock index futures and options. Current research topics:

implied volatilities in stock index option prices and their ability to explain the time-series behavior of market volatility, the pricing of convertible debt in complex capital structures, and the size and allocation of merger gains implied in the prices of stock options.

Lewis presented papers at Dartmouth College, Harvard University, and the University of Florida during the past year. This summer presented research papers at the Western Finance Association, at Nanzon University in Japan, and at the ORSA/TIMS meetings to be held in Osaka, Japan.

KNUT ANTON MORK, associate professor (economics). Ph.D. (M.I.T., 1977).



Conducts research on household behavior regarding consumption and saving, the quality of preliminary economic data, the macroeconomic effects of oil-price increases and decreases, and

other topics in macroeconomics and energy economics. Currently, Mork is working on a textbook in macroeconomics for management students. He also leads the research group on consumption within the National Bureau of Economic Research (NBER).

During the past year, Mork made seminar presentations at the Federal Reserve Bank of Atlanta, the Virginia Polytechnic Institute and State University, the University of Oslo, and The Norwegian School of Economics and Business Administration. In March, he gave a lecture series on business cycle theory at the Ministry of Finance in Oslo.

ROBIN A. PRAGER, assistant professor (economics). Ph.D. (M.I.T., 1987).



Conducts research on industrial organization and government regulation of industry. Prager presented a research paper entitled "Firm Behavior in Franchise Monopoly Markets" to the

Western Economic Association in Lake Tahoe, Nevada, this past June.

THEODORE STERNBERG, assistant professor (finance). M.A. (Hebrew University, Israel, 1988), Ph.D. (California, Berkeley, 1989).

Conducts research on initial public offerings, corporation finance, and securities regulation. This last year Sternberg presented papers in seminars at the University of California

(Santa Barbara), USC, Cornell, Princeton, Michigan, Vanderbilt, Indiana, Oregon, the London Business School, and the University of Chicago.

HANS R. STOLL, The Anne Marie and Thomas B. Walker Professor of Finance; and director, Financial Markets Research Center. M.B.A., Ph.D. (Chicago, 1966).



Conducts research on the structure of securities markets and the pricing of options and futures. Current research topics: bid-ask spreads, structure of financial markets, and dynamics of stock

index futures prices.

Stoll has authored published works on such subjects as the expiration effects of stock index futures and options, the stock exchange specialist system, the new option markets, alternative views of market making, purchasing-power parity in futures prices, and the put-call parity theory.

Stoll was recently appointed to the Advisory Panel for the project, "Securities Markets and Information Technology," being carried out by the Office of Technology Assessment of the U.S. Congress. He helped organized a conference on "Regulatory Issues in Financial Markets" held in Washington, D.C., last November and sponsored by the Chicago Board of Trade. Stoll presented a paper (written

with Robert Whaley), "Stock Market Structure and Volatility," at an NBER Conference on Stock Market Volatility and the Crash held in Puerto Rico in March, 1989. In May, he participated in an academic seminar at the New York Stock Exchange, spoke at a conference on Trading Baskets of Securities at the Wharton School, and presented a paper at Rutgers University. In June, Stoll chaired a workshop in Washington, D.C., on stock market structure organized by the Office of Technology Assessment.

H. MARTIN WEINGARTNER, The Brownlee O. Currey Professor of Finance. M.S., Ph.D. (Carnegie Mellon, 1962).



Weingartner taught previously at Chicago, M.I.T., and Rochester. He is a past president of The Institute of Management Sciences and is associate editor of *Management Science*.

His publications include *Mathematical Programming and the Analysis of Capital Budgeting Problems* and numerous articles. Current research topic: capital investment criteria and the amount of investment.

During the past year, Weingartner organized the finance cluster of sessions and served as session chairman at the EURO-TIMS Conference held in Paris. As chair of the Owen School's Curriculum Review Committee, he has been occupied by a comprehensive reassessment of the School's MBA curriculum.

Faculty Research Papers

Publications appearing and working papers completed since January 1988 are listed below. Individual copies may be obtained by writing Ms. Deloris Milliken, Owen Graduate School of Management, Vanderbilt University, Nashville, TN 37203.

1988-89 Working Papers

"The Dynamics of Stock Index and Stock Index Futures Returns," by Hans

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R. Stoll and Robert E. Whaley. Working Paper No. 88-02.

This study investigates the time-series properties of five-minute, intraday returns of stock indexes and stock index futures contracts and finds that S&P 500 and MM index futures returns tend to lead stock market returns by about five minutes on average, but occasionally as long as ten minutes, even after stock index returns have been purged of the effects of infrequent trading. The correlation is not completely unidirectional, however, because lagged stock index returns have a mildly positive predictive impact on futures returns.

"Using Stock Price Data to Measure the Effects of Regulation: The Interstate Commerce Act and the Railroad Industry," by Robin A. Prager. Working Paper No. 88-03.

This study uses financial data to measure the effects of the Interstate Commerce Act of 1887 upon firms in the railroad industry. Several alternative estimation procedures are employed. The results indicate that the Interstate Commerce Act had a significant positive impact upon railroad stock prices, thereby offering support for the revisionist view of regulatory history.

"Firm Behavior in Franchise Monopoly Markets," by Robin A. Prager. Working Paper No. 88-05.

The value of franchise-bidding competition as a means for controlling firm behavior in naturally monopolistic markets is examined from both a theoretical and an empirical perspective. A simple theoretical model provides insights concerning the determinants of firm behavior in franchise monopoly markets. The model allows a role for reputation effects that can influence firm decisions. The empirical analysis of the cable television industry suggests that, because of the role played by reputation effects in constraining firm behavior, franchise-bidding competition conducted by a well-informed franchise authority can achieve better results for firm behavior than can be achieved through formal or informal regulatory mechanisms.

"Program Trading and Individual Stock Returns: Ingredients of the 'Triple Witching Brew,'" by Hans R.

Stoll and Robert E. Whaley. Working Paper No. 88-09; forthcoming, *Journal of Business*.

This study analyzes the price behavior of individual stocks in the S&P 500 index on expiration days of stock index futures--times when the market is subject to heavy program trading. These results are compared with results for the same set of stocks on a corresponding number of non-expiration days. The most striking finding is the similarity of price behavior between stocks that are subject to program trading and those that are not.

"Convertible Debt: Valuation and Conversion in Complex Capital Structures," by Craig M. Lewis. Working Paper No. 88-11.

The impact of conversion strategies on the value of convertible debt is examined for capital structures comprised of multiple classes of convertible debt. In general, conversion decisions for a given bond class are affected by the decisions made for other bond classes. Further, convertible debt in complex capital structures is priced as if conversion is block-constrained, i.e., closed-form solutions for bond prices emerge from these findings, and the optimal conversion policy is derived.

"Time-Varying Return and Risk in the Corporate Bond Market," by Eric C. Chang and Roger D. Huang. Working Paper No. 88-16.

This work examines the pricing of exchange-traded, long-term bond portfolios with distinct bond ratings. Observable instruments measuring the term structure of interest rates, bond and stock price levels, and a January dummy each are found to predict excess returns on corporate bonds. An intertemporal, asset-pricing model with changing expectations and unobservable factors is then estimated for the predictable excess returns by using Hansen's Generalized Method of Moments.

"Risk and Parity in Purchasing Power," by Roger D. Huang. Working Paper No. 88-17.

Deviations from purchasing-power parity in efficient markets are often attributed to time-varying risk premiums.

Several asset-pricing models have identified risk premiums as the expected differentials between real interest rates. The paper shows that, in general settings, risk premiums are not equal to the ex ante, real interest rate differentials.

"Tests of Conditional Capital Asset Pricing Model with Changing Expectations," by Roger D. Huang. Working Paper No. 88-18.

This study tests the empirical restrictions implied by the conditional Sharpe-Lintner capital asset pricing model without imposing any additional constancy assumptions. All of the model's components of risk and reward are allowed to be time-varying. Tests based on the generalized method of moments produce striking violations of the model.

"Market Structure and Transaction Costs: Implied Spreads in the German Stock Market," by Andreas Haller and Hans R. Stoll. Working Paper No. 88-19; forthcoming, *Journal of Banking and Finance*.

The short-run behavior of stock prices in the German stock market is investigated, and an implied bid-ask spread is calculated. The German stock market operates, for the most part, according to auction market principles. Bid and ask prices are not continuously posted by dealers. Yet, implied spreads calculated from the serial covariance of transaction prices are positive and exhibit the same characteristics as implied spreads on U.S. dealer markets.

"The Association Between Security Prices and the Deferred Tax Component of Earnings," by Paul K. Chaney and Debra C. Jeter. Working Paper No. 88-21.

This study finds a negative association between the deferred tax component of earnings and security returns. Increases in deferred taxes are viewed by the market as increases in expected actual tax payments (holding constant growth potential and profitability). These findings support the FASB's decision to switch from the deferral to the liability method of comprehensive tax allocation.

"Debt, Leasing, and Taxes Under Uncertainty," by Craig M. Lewis and James S. Schallheim. Working Paper No. 89-01.

Lease valuation models often begin with the assumption that leases and debt are substitutes. This paper demonstrates the proposition that debt and leases can be substitutes or complements. A simple equilibrium model of leasing is used to prove this proposition. Numerical simulations are presented to illustrate the proposition.

"Macroeconomic Responses to Oil

Price Increases and Decreases in Six OECD Countries," by Knut Anton Mork and Hans Terje Mysen. Working Paper No. 89-02.

Correlations between oil-price movements and GNP/GDP fluctuations are investigated for the United States, Canada, West Germany, Japan, the United Kingdom, and Norway. The GNP/GDP responses to price increases and decreases are allowed to be asymmetric. Univariate correlations as well as partial correlations within a reduced-form macroeconomic model are considered. The clearest correlations are found for the United States, which also shows evidence of asymmetric responses.

"A Role for Recapitalization in Corporate Control Contests," by Craig M. Lewis. Working Paper No. 89-04.

This study examines the role that corporate financial policy plays in determining the equilibrium allocation of takeover gains in corporate control contests. The model provides a theoretical justification for capital structure changes prior to the completion of a takeover. It also shows how recapitalization can be used as a strategic device to alter the effective price a bidding firm must pay to acquire a target firm. The positive role that recapitalization plays can be viewed as a rationale for "defensive" takeover strategies.

"Stock Market Structure and Volatility," by Hans R. Stoll and Robert E. Whaley. Working Paper No. 89-05.

The New York Stock Exchange's procedures for opening trading appear to affect return volatility. Returns are more volatile at the market opening than they are at the market close. The paper also documents the volume of trading at market opening and the time delays between market opening and the first stock transaction.

"Accounting Income Shifting and Signalling," by Paul K. Chaney and Craig M. Lewis. Working Paper No. 89-10.

The objective of this paper is to rationalize the existence of income-shifting policies by managers. In a world with two firms, a high-value firm and a low-value firm, the high-value firm has incentives to reduce the variability of reported income, while the low-value firm has an incentive to increase the variability of reported earnings. The manager of the high-value firm chooses to smooth income to signal that its earnings have a higher mean. The manager of the low-value firm attempts to increase the probability that the low-value firm is mistaken for the high-value firm by increasing the noise in the earnings signal (reverse smoothing). Thus, in this model, the demand for income-shifting policies is endogenous.

1988-89 REPRINTS

R2-49 "The Behavior of the Volatility Implicit in the Price of Stock Index Options," by Craig M. Lewis and Theodore E. Day, *Journal of Financial Economics*, 22 (October, 1988), pp. 103-122.

R2-52 "Index Futures, Program Trading, and Stock Market Procedures," by Hans R. Stoll, *Journal of Futures Markets*, Vol. 8, No. 4 (1988) pp. 390-412.

R2-53 "Portfolio Trading," by Hans R. Stoll, *Journal of Portfolio Management*, (Summer, 1988) pp. 20-24.

R2-54 "Rationality Determined Irrationality," by Timothy Devinney, *Journal of Economics Psychology*, (March, 1989).

R2-55 "Inferring the Components of the Bid-Ask Spread: Theory and Empirical Tests," by Hans R. Stoll, *Journal of Finance*, 44 (March, 1989) pp. 115-134.

R2-56 "Program Trading and the Monday Massacre," by Hans R. Stoll (with R.E. Whaley), *Investment Management Review*, (January/February, 1988) pp. 27-34.

R2-58 "Portfolio Trading," by Hans R. Stoll, *Journal of Portfolio Management*, (Summer, 1988) pp. 20-24.

R2-60 "Stock Index Futures and Options: Economic Impact and Policy Issues," by Hans R. Stoll (with R.E. Whaley), *The Journal of International Securities Markets*, 2 (Spring, 1988) pp. 3-18.

R2-61 "Futures and Options on Stock Indexes: Economic Purpose, Arbitrage, and Market Structure," by Hans R. Stoll (with R.E. Whaley), *The Review of Futures Markets*, 7 (1988) pp. 224-248.

R2-64 "Monday, Bloody Monday," by Hans R. Stoll, *The Owen Manager*, (Fall, 1988) pp. 10-17.

Research Workshops

Workshops conducted at the Owen School throughout the year provide a forum for the exchange and testing of new ideas in areas of current research. During 1988-89 the following researchers presented work on financial topics:

Paul Laux, University of Texas: "Dealer Markets for Securities in a Competitive Setting"

Nai-Fu Chen, University of Chicago: "Business Cycles and Returns of Small and Large Firms"

John McConnell, Purdue University: "Corporate Performance, Corporate Takeovers, and Management Turnover"

Eli Talmor, Tel Aviv and UCLA: "Taxes and Corporate Financial Decisions in Capital Market Equilibrium"

Jim Brickley, University of Rochester: "Investment Opportunities, the Reluctance to Cut Dividends, and Corporate Payout Policy: The Case of Extra Dividends"

John Long, University of Rochester: "The Numeraire Portfolio"

Rick Green, Carnegie-Mellon University: "A General Equilibrium Model of Changing Risk Premia: Theory and Tests"

David Hirshleifer, UCLA: "Shareholder Strategy and the Success of Hostile Takeover Bids"

Ed Prescott, University of Minnesota: "Organizations and Economics"

Dave Mayers, Ohio State University: "Corporate Demand for Insurance: Evidence from the Reinsurance Market"

Roger Huang, Vanderbilt University: "Tests of Conditional CAPM with Changing Expectations"

William Christie, University of Chicago: "An Empirical Investigation of the Return Characteristics of Zero-Dividend Firms"

Theodore Sternberg, University of California, Berkeley: "Firm Commitment Initial Public Offerings: Rationing, Asymmetric Information, and Underwriting Cartels"

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Thomas George, University of Michigan: "The Impact of Public and Private Information on Market Efficiency"

Sheridan Titman, UCLA and Treasury Department: "Financial Policy and a Firm's Reputation for Product Quality"

Neal Pearson, MIT: "A Test of the Cox-Ingersoll-Ross Model of the Term Structure of Interest Rates Using the Method of Maximum Likelihood"

Henri Servaes, Purdue University: "Tobin's Q, Agency Costs, and Corporate Control"

Jim Schallheim, University of Utah and Vanderbilt: "Debt, Leases, and Taxes under Uncertainty"

Jay Ritter, University of Michigan: "The Long-Run Performance of Initial Public Offerings"

Hemat Shah, University of Chicago: "Real Stock Returns and Anticipated Real Activity"

Eric Kostbade, University of Chicago: "A Consumption-Based, Intertemporal, Asset-Pricing Model: The Role of the Efficient Markets Hypothesis"

Ron Masulis, SMU: "Correlations in Price Changes and Volatility Across International Stock Markets"

Rashad Abdel-khalik, University of Florida: "Why Do Prices React to Earnings Disclosure?"

Gene Fama, University of Chicago: "Business Conditions and Expected Returns on Stocks and Bonds"


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