# September 1972

ROBERT C. MERTON

In Analytic Derivation of the Efficient Portfolio Frontier

NILS H. HAKANSSON Mean-Variance Analysis in a Finite World

WILLIAM W. HOGAN and JAMES M. WARREN

ROGER B. UPSON

Random Walk and Forward Exchange Rates: A Spectral Analysis

ROBERT M. BEAR
Margin Levels and the Behavior of Futures Prices

WILLIAM L. SARTORIS

The Effect of Regulation, Population Characteristics, and Competition on the Market for Personal Cash Loans

JOHN C. G. BOOT and GEORGE M. FRANKFURTER
The Dynamics of Corporate Debt Management, Decision Rules, and Some
Empirical Evidence

A. JAMES BONESS, ANDREW H. CHEN, and SOM JATUSIPITAK

On Relations among Stock Price Behavior and Changes in the Capital Structure of the Firm

MARVIN ROTHSTEIN

On Geometric and Arithmetic Portfolio Performance Indexes

WILLIAM T. ZIEMBA

Note on "Optimal Growth Portfolios When Yields Are Serially Correlated"

YUTAKA IMAI and MARK RUBINSTEIN

Equilibrium in the Pricing of Capital Assets, Risk-bearing Debt Instruments, and the Question of Optimal Capital Structure: A Comment

ROBERT A. HAUGEN and JAMES L. PAPPAS

Equilibrium in the Pricing of Capital Assets, Risk-bearing Debt Instruments, and the Question of Optimal Capital Structure: A Reply

## JOURNAL OF FINANCIAL AND QUANTITATIVE ANALYSIS

A JOINT PUBLICATION
OF THE
WESTERN FINANCE ASSOCIATION
AND THE
GRADUATE SCHOOL OF BUSINESS ADMINISTRATION
UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98195

#### EDITORIAL STAFF

Charles W. Haley, Managing Editor Nancy L. Jacob, Associate Managing Editor Lynn Lewicki, Editorial Assistant

# BOARD OF EDITORS

Charles W. Haley, Washington Fred P. Morrisey, UC, Berkeley Edward W. Reed, U.S. National Bank of Oregon Ezra Solomon, Stanford J. Fred Weston, UCLA

# ASSOCIATE EDITORS

Richard H. Bernhard, North Carolina State
Marshall E. Blume, Pennsylvania
Charles P. Bonini, Stanford
Richard S. Bower, Dartmouth
William Breen, Northwestern
Michael J. Brennan, UBC
Myles Delano, Michigan State
Thomas R. Dyckman, Cornell
Peter A. Frost, Washington
Robert C. Goshay, UC, Berkeley
Nils H. Hakansson, UC, Berkeley
Robert S. Hamada, Chicago
Mark Hanna, Georgia
Warren H. Hausman, MIT
Frank C. Jen, SUNY, Buffalo

Michael C. Jensen, Rochester
Alan Kraus, Stanford
Henry A. Latané, North Carolina
John G. McDonald, Stanford
Jacob B. Michaelsen, UC, Santa Cruz
Stewart C. Myers, MIT
Alfred N. Page, Washington
Richard Roll, Carnegie-Mellon
Roger B. Upson, Minnesota
James Van Horne, Stanford
George von Furstenberg, Indiana
Paul Wells, Illinois
Richard R. West, Oregon
Robert L. Winkler, Indiana

#### WESTERN FINANCE ASSOCIATION

### Executive Committee

W. Scott Bauman, President
David K. Eiteman, Vice President
Thomas E. Stitzel, Secretary-Treasurer
Charles W. Haley, Editor
Harold W. Stevenson
Leslie P. Anderson
Richard V. Cotter
James C. T. Mao
David H. Pyle

University of Oregon
University of California, Los Angeles
Oregon State University
University of Washington
Arizona State University
Colorado State University
University of Nevada
University of British Columbia
University of California, Berkeley

## INSTITUTIONAL MEMBERS

Southern California Edison Company Weeden and Company, Inc. National Economic Research Association Mountain States Telephone Company California State College, Los Angeles

Copyright 1972 by the Graduate School of Business Administration, University of Washington.

The Journal of Financial and Quantitative Analysis is published in January, March, June, September, and December by the Graduate School of Business Administration, University of Washington, Seattle, Washington 98195, in conjunction with the Western Finance Association. Second-class postage paid at Seattle, Washington.

The December issue is a special issue devoted to one topic of interest to the JFQA's readership. The March issue contains selected papers, abstracts of papers, discussants' comments, and the Proceedings of the Western Finance Association meetings.

The views and opinions expressed are those of the authors and do not necessarily reflect those of the Graduate School of Business Administration of the University of Washington nor of the Western Finance Association.

For individuals, the annual subscription rate to the JFQA is \$10.00; for firms or libraries, the annual rate is \$15.00. Single copies are \$2.50, except the special issues, the price of which is \$3.00. Annual subscription rates for individuals and libraries outside the United States (except Canada) are \$11.00 for individuals and \$16.00 for libraries. The fiscal year of the Journal of Financial and Quantitative Analysis begins on January 1.

Manuscripts and editorial correspondence should be sent to the Managing Editor. Advertising inquiries and books for review should be addressed to the Associate Managing Editor. Correspondence dealing with subscriptions and billing should be addressed: Subscription Manager, JFQA, Mackenzie Hall DJ-10, University of Washington, Seattle, Washington 98195. Claims for missing issues must be made within two months of the scheduled publication month.

Correspondence pertaining to the Western Finance Association should be sent to Professor Thomas E. Stitzel, School of Business, Oregon State University, Corvallis, Oregon 97331.

# JOURNAL OF FINANCIAL AND QUANTITATIVE ANALYSIS

Volume VII, Number 4, September 1972

An Analytic Derivation of the Efficient Portfolio Frontier 1851  Robert C. Merton
Mean-Variance Analysis in a Finite World
Computation of the Efficient Boundary in the E-S Portfolio Selection  Model
Random Walk and Forward Exchange Rates: A Spectral Analysis 1897  Roger B. Upson
Margin Levels and the Behavior of Futures Prices
The Effect of Regulation, Population Characteristics, and Competition on the Market for Personal Cash Loans
The Dynamics of Corporate Debt Management, Decision Rules, and Some Empirical Evidence
On Relations among Stock Price Behavior and Changes in the Capital Structure of the Firm
On Geometric and Arithmetic Portfolio Performance Indexes 1983  Marvin Rothstein
COMMUNICATIONS
Note on "Optimal Growth Portfolios When Yields are Serially Correlated" 1995 William T. Ziemba
Equilibrium in the Pricing of Capital Assets, Risk-bearing Debt Instruments, and the Question of Optimal Capital Structure: A Comment 2001 Yutaka Imai and Mark Rubinstein
Equilibrium in the Pricing of Capital Assets, Risk-bearing Debt Instruments, and the Question of Optimal Capital Structure: A Reply 2005 Robert A. Haugen and James L. Pappas
Appouncement