

# Bibliography

- (1993, April). New York Stock Exchange Fact Book: 1992 Data.
- (1994). Market 2000: An Examination of Current Equity Market Developments.
- Abel, A. (1990). Asset Prices under Habit Formation and Catching Up with the Joneses. *American Economic Review* 80, *Papers and Proceedings*, 38–42.
- Abel, A. (1996). Risk Premia and Term Premia in General Equilibrium. unpublished paper, University of Pennsylvania.
- Abel, A., N. G. Mankiw, L. Summers, and R. Zeckhauser (1989). Assessing Dynamic Efficiency: Theory and Evidence. *Review of Economic Studies* 56, 1–20.
- Acharya, S. (1988). A Generalized Econometric Model and Tests of a Signalling Hypothesis with Two Discrete Signals. *Journal of Finance* 43, 413–429.
- Acharya, S. (1993). Value of Latent Information: Alternative Event Study Methods. *Journal of Finance* 48, 363–385.
- Adams, K. and D. van Deventer (1994). Fitting Yield Curves and Forward Rate Curves with Maximum Smoothness. *Journal of Fixed Income* 4, 52–62.
- Admati, A. and P. Pfleiderer (1988). A Theory of Intraday Patterns: Volume and Price Variability. *Review of Financial Studies* 1, 3–40.
- Admati, A. and P. Pfleiderer (1989). Divide and Conquer: A Theory of intraday and Day-of-the-Week Mean Effects. *Review of Financial Studies* 2, 189–224.
- Affleck-Graves, J., S. Hegde, and R. Miller (1994). Trading Mechanisms and the Components of the Bid-Ask Spread. *Journal of Finance* 49, 1471–1488.
- Affleck-Graves, J. and B. McDonald (1989). Nonnormalities and Tests of Asset Pricing Theories. *Journal of Finance* 44, 889–908.
- Ainslie, C. (1992). *Picoeconomics*. Cambridge University Press, Cambridge.
- Aït-Sahalia, Y. (1993). Nonparametric Functional Estimation with Applications to Financial Models. unpublished Ph.D. dissertation, Department of Economics, Massachusetts Institute of Technology.
- Aït-Sahalia, Y. (1996a). Nonparametric Pricing of Interest Rate Derivative Securities. *Econometrica* 64, 527–560.
- Aït-Sahalia, Y. (1996b). Testing Continuous-Time Models of the Spot interest Rate. *Review of Financial Studies* 9, 385–426.

- Aït-Sahalia, Y. and A. Lo (1996). Nonparametric Estimation of State-Price Densities Implicit in Financial Asset Prices. Working Paper LFE-1015-96, MIT Laboratory for Financial Engineering.
- Aitchison, J. and S. Silvey (1957). The Generalization of Probit Analysis to the Case of Multiple Responses. *Biometrika* 44, 131–140.
- Aiyagari, S. and M. Gertler (1991). Asset Returns with Transaction Costs and Uninsured Individual Risk: A Stage III Exercise. *Journal of Monetary Economics* 27, 309–331.
- Aldous, D. (1989). *Probability Approximations via the Poisson Clumping Heurhtic*. Springer-Verlag, New York.
- Aldous, D. and P. Diaconis (1986). Shuffling Cards and Stopping Times. *American Mathematical Monthly* 8, 333–348.
- Alexander, S. (1961). Price Movements in Speculative Markets: Trends or Random Walks. *Industrial Management Review* 2, 7–26.
- Alexander, S. (1964). Price Movements in Speculative Markets: Trends or Random Walks, No. 2. In P. Cootner (Ed.), *The Random Character of Stock Market Prices*. Massachusetts Institute of Technology Press, Cambridge, MA.
- Amihud, V. and H. Mendelson (1980). Dealership Markets: Market Making with Uncertainty. *Journal of Financial Economics* 8, 31–54.
- Amihud, V. and H. Mendelson (1986). Asset Pricing and the Bid-Ask Spread. *Journal of Financial Economics* 17, 223–250.
- Amihud, V. and H. Mendelson (1987). Trading Mechanisms and Stock Returns: An Empirical Investigation. *Journal of Finance* 42, 533–553.
- Amin, K. and V. Ng (1993). Option Valuation with Systematic Stochastic Volatility. *Journal of Finance* 48, 881–910.
- Anderson, T. (1984). *An Introduction to Multivariate Statistical Analysis* (2 ed.). John Wiley and Sons, New York.
- Andrews, D. (1991). Heteroskedasticity and Autocorrelation Consistent Covariance Matrix Estimation. *Econometrica* 59, 817–858.
- Andrews, D. and J. Monahan (1992). An Improved Heteroskedasticity and Autocorrelation Consistent Covariance Matrix Estimator. *Econometrica* 60, 953–966.
- Arnold, L. (1974). *Stochastic Differential Equations: Theory and Applications*. John Wiley and Sons, New York.
- Arrow, K. (1964). The Role of Securities in the Optimal Allocation of Risk Bearing. *Review of Economic Studies* 31, 91–96.
- Aschauer, D. (1985). Fiscal Policy and Aggregate Demand. *American Economic Review* 75, 117–127.
- Ashford, J. (1959). An Approach to the Analysis of Data for Semi-Quantal Responses in Biological Response. *Biometrics* 26, 535–581.

- Ashley, J. (1962). Stock Prices and Changes in Earnings and Dividends: Some Empirical Results. *Journal of Political Economy*, 82–85.
- Asquith, P. and D. Mullins (1986). Equity Issues and Offering Dilution. *Journal of Financial Economics* 15, 61–89.
- Atchison, M., K. Butler, and R. Simonds (1987). Nonsynchronous Security Trading and Market Index Autocorrelation. *Journal of Finance* 42, 111–118.
- Backus, D. (1993). Cox-Ingersoll-Ross in Discrete Time. unpublished paper, New York University.
- Backus, D., S. Foresi, and S. Zin (1996). Arbitrage Opportunities in Arbitrage-Free Models of Bond Pricing. Working Paper 5638, NBER, Cambridge, MA.
- Backus, D., A. Gregory, and S. Zin (1989). Risk Premiums in the Term Structure: Evidence from Artificial Economies. *Journal of Monetary Economics* 24, 371–399.
- Backus, D. and S. Zin (1994). Reverse Engineering the Yield Curve. Working Paper 4676, NBER, Cambridge, MA.
- Badrinath, S., J. Kale, and T. Noe (1995). Of Shepherds, Sheep, and the Cross Autocorrelations in Equity Returns. *Review of Financial Studies* 8, 401–430.
- Bagehot, W. (1971). The Only Game in Town. *Financial Analysts Journal* 22, 12–14. a.k.a. Jack Treynor.
- Baker, C. (1956, January–February). Effective Stock Splits. *Harvard Business Review* 34(1), 101–106.
- Baker, C. (1957, May–June). Stock Splits in a Bull Market. *Harvard Business Review* 35(3), 72–79.
- Baker, C. (1958, July–August). Evaluation of Stock Dividends. *Harvard Business Review* 36(4), 99–114.
- Bakshi, G. and Z. Chen (1996). The Spirit of Capitalism and Stock Market Prices. *American Economic Review* 86, 1133–1157.
- Balduzzi, P., G. Bertola, and S. Foresi (1993). A Model of Target Changes and the Term Structure of Interest Rates. Working Paper 4347, NBER, Cambridge, MA.
- Ball, C. (1988). Estimation Bias Induced by Discrete Security Prices. *Journal of Finance* 43, 841–865.
- Ball, C. and A. Roma (1994). Stochastic Volatility Option Pricing. *Journal of Financial and Quantitative Analysis* 29, 589–607.
- Ball, C. and W. Torous (1983). A Simplified Jump Process for Common Stock Returns. *Journal of Financial and Quantitative Analysis* 18, 53–65.
- Ball, C. and W. Torous (1985). On Jumps in Common Stock Prices and Their Impact on Call Option Pricing. *Journal of Finance* 40, 155–174.
- Ball, C. and W. Torous (1988). Investigating Security-Price Performance in the Presence of Event-Date Uncertainty. *Journal of Financial Economics* 22, 123–154.

- Ball, C., W. Torous, and A. Tschoegl (1985). The Degree of Price Resolution: The Case of the Gold Market. *Journal of Futures Markets* 5, 29–43.
- Ball, R. and P. Brown (1968). An Empirical Evaluation of Accounting Income Numbers. *Journal of Accounting Research*, 159–178.
- Banz, K. (1981). The Relation between Return and Market Value of Common Stocks. *Journal of Financial Economics* 9, 3–18.
- Banz, R. and M. Miller (1978). Prices for State-Contingent Claims: Some Estimates and Applications. *Journal of Business* 51, 653–672.
- Barberis, N., A. Shleifer, and R. Vishny (1996). A Model of Investor Sentiment with both Underreaction and Overreaction. unpublished paper, University of Chicago and Harvard University.
- Barclay, M. and R. Litzenberger (1988). Announcement Effects of New Equity Issues and the Use of Intraday Price Data. *Journal of Financial Economics* 21, 71–100.
- Barr, D. and J. Campbell (1995). Inflation, Real Interest Rates, and the Bond Market: A Study of UK Nominal and Index-Linked Government Bond Prices. Discussion Paper 1732, Harvard Institute of Economic Research, Harvard University.
- Barron, A. (1993). Universal Approximation Bounds for Superpositions of a Sigmoidal Function. *IEEE Trans. Info. Theory* 39, 930–945.
- Barron, A. (1994). Approximation and Estimation Bounds for Artificial Neural Networks. *Machine Learning* 14, 115–133.
- Barron, A. and R. Barron (1988). Statistical Learning Networks: A Unifying View. In *20th Symposium on the Interface: Computing Science and Statistics*, Reston, Virginia, pp. 192–203.
- Barsky, R. and J. D. Long (1993). Why Does the Stock Market Fluctuate? *Quarterly Journal of Economics* 108, 291–311.
- Basu, S. (1977). The Investment Performance of Common Stocks in Relation to Their Price to Earnings Ratios: A Test of the Efficient Market Hypothesis. *Journal of Finance* 32, 663–682.
- Beckers, S. (1980). The Constant Elasticity of Variance Model and Its Implications for Option Pricing. *Journal of Finance* 35, 661–673.
- Beckers, S. (1983). Variances of Security Price Returns Based on High, Low, and Closing Prices. *Journal of Business* 56, 97–112.
- Benartzi, S. and R. Thaler (1995). Myopic Loss Aversion and the Equity Premium Puzzle. *Quarterly Journal of Economics* 110, 73–92.
- Benston, G. and R. Hagerman (1974). Determinants of Bid-Asked Spreads in the Over-the-Counter Market. *Journal of Financial Economics* 1, 353–364.
- Benvenuto, R. (1984). The Occurrence of Sequence Patterns in Ergodic Markov Chains. *Stochastic Processes and Their Applications* 17, 369–373.

- Bernard, V. (1987). Cross-Sectional Dependence and Problems in Inference in Market-Based Accounting Research. *Journal of Accounting Research* 25, 1–48.
- Berndt, E., B. Hall, R. Hall, and J. Hausman (1974). Estimation and Inference in Nonlinear Structural Models. *Annals of Economic and Social Measurement* 3, 653–665.
- Bernstein, P. (1992). *Capital Ideas: The Improbable Origins of Modern Wall Street*. Free Press, New York.
- Bertsimas, D., L. Kogan, and A. Lo (1996). When Is Time Continuous? Working Paper LFE-1045-96, Massachusetts Institute of Technology Laboratory for Financial Engineering.
- Bertsimas, D. and A. Lo (1996). Optimal Control of Execution Costs. Working Paper LFE-1025-96, Massachusetts Institute of Technology Laboratory for Financial Engineering, Cambridge, MA.
- Bhattacharya, M. (1983). Transactions Data Tests of Efficiency of the Chicago Board Options Exchange. *Journal of Financial Economics* 12, 181–185.
- Bick, A. (1990). On Viable Diffusion Price Processes of the Market Portfolio. *Journal of Finance* 45, 673–689.
- Bierwag, G., G. Kaufman, and A. Toevs (1983). *Innovations in Bond Portfolio Management: Duration Analysis and Immunization*. JAI Press, Westport, CT.
- Biggans, J. and C. Cannings (1987). Markov Renewal Processes, Counters and Repeated Sequences in Markov Chains. *Advances in Applied Probability* 19, 521–545.
- Billingsley, P. (1968). *Convergence of Probability Measures*. John Wiley and Sons, New York.
- Black, F. (1971, July–August). Toward a Fully Automated Stock Exchange. *Financial Analysts Journal* July–August, 29–44.
- Black, F. (1972, July). Capital Market Equilibrium with Restricted Borrowing. *Journal of Business* 45, 444–454.
- Black, F. (1976). Studies of Stock Price Volatility Changes. In *1976 Meetings of the Business and Economic Statistics Section*, pp. 177–181. American Statistical Association.
- Black, F. (1993). Return and Beta. *Journal of Portfolio Management* 20, 8–18.
- Black, F., E. Derman, and W. Toy (1990, January–February). A One-Factor Model of Interest Rates and Its Application to Treasury Bond Options. *Financial Analysts Journal* January–February, 33–39.
- Black, F., M. Jensen, and M. Scholes (1972). The Capital Asset Pricing Model: Some Empirical Tests. In M. Jensen (Ed.), *Studies in the Theory of Capital Markets*, Praeger, New York.
- Black, F. and P. Karasinski (1991, July–August). Bond and Option Pricing when Short Rates Are Lognormal. *Financial Analysts Journal* July–August, 52–59.
- Black, F. and M. Scholes (1972). The Valuation of Option Contracts and a Test of Market Efficiency. *Journal of Finance* 27, 399–418.
- Black, F. and M. Scholes (1973). The Pricing of Options and Corporate Liabilities. *Journal of Political Economy* 81, 637–654.

- Blanchard, O. and M. Watson (1982). Bubbles, Rational Expectations and Financial Markets. In P. Wachtel (Ed.), *Crises in the Economic and Financial Structure: Bubbles, Bursts, and Shocks*, Lexington, Lexington, MA.
- Blattberg, R. and N. Gonedes (1974). A Comparison of Stable and Student Distributions as Statistical Models for Stock Prices. *Journal of Business* 47, 244–280.
- Blume, L., D. Easley, and M. O'Hara (1994). Market Statistics and Technical Analysis: The Role of Volume. *Journal of Finance* 49, 153–181.
- Blume, M. and I. Friend (1973). A New Look at the Capital Asset Pricing Model. *Journal of Finance* 28, 19–33.
- Blume, M. and I. Friend (1978). *The Changing Role of the Individual Investor*. John Wiley and Sons, New York.
- Blume, M., C. MacKinlay, and B. Terker (1989). Order Imbalances and Stock Price Movements on October 19 and 20, 1987. *Journal of Finance* 44, 827–848.
- Blume, M. and R. Stambaugh (1983). Biases in Computed Returns: An Application to the Size Effect. *Journal of Financial Economics* 12, 387–404.
- Boehmer, E., J. Musumeci, and A. Poulsen (1991). Event-Study Methodology under Conditions of Event Induced Variance. *Journal of Financial Economics* 30, 253–272.
- Boldrin, M. and M. Woodford (1990). Equilibrium Models Displaying Endogenous Fluctuations and Chaos: A Survey. *Journal of Monetary Economics* 25, 189–222.
- Bollerslev, T. (1986). Generalized Autoregressive Conditional Heteroskedasticity. *Journal of Econometrics* 31, 307–327.
- Bollerslev, T. (1987). A Conditional Heteroskedastic Time Series Model for Speculative Prices and Rates of Return. *Review of Economics and Statistics* 69, 542–547.
- Bollerslev, T. (1990). Modelling the Coherence in Short-Run Nominal Exchange Rates: A Multivariate Generalized ARCH Approach. *Review of Economics and Statistics* 72, 498–505.
- Bollerslev, T., R. Chou, and K. Kroner (1992). ARCH Modelling in Finance: A Review of the Theory and Empirical Evidence. *Journal of Econometrics* 52, 5–59.
- Bollerslev, T. and R. Engle (1993). Common Persistence in Conditional Variances. *Econometrica* 61, 166–487.
- Bollerslev, T., R. Engle, and D. Nelson (1994). ARCH Models. In R. Engle and D. McFadden (Eds.), *Handbook of Econometrics*, Volume IV. Elsevier, Amsterdam.
- Bollerslev, T., R. Engle, and J. Wooldridge (1988). A Capital Asset Pricing Model with Time Varying Covariances. *Journal of Political Economy* 96, 116–131.
- Bollerslev, T. and J. Wooldridge (1992). Quasi-Maximum Likelihood Estimation and Inference in Dynamic Models with Time Varying Covariances. *Econometric Reviews* 11, 143–172.
- Bonomo, Marco, and R. Garcia (1993). Disappointment Aversion as a Solution to the Equity Premium and the Risk-Free Rate Puzzles. CRDE Discussion Paper 2793. University of Montreal.

- Boudoukh, J., Richardson, R. M. Stanton, and R. Whitelaw (1995). Pricing Mortgage-Backed Securities in a Multifactor Interest Rate Environment: A Multivariate Density Estimation Approach. working paper, Stern School of Business, New York University.
- Boudoukh, J., M. Richardson, and R. Whitelaw (1994). A Tale of Three Schools: Insights on Autocorrelations of Short-Horizon Stock Returns. *Review of Financial Studies* 7, 539–573.
- Boudoukh, J. and M. Richardson (1994). The Statistics of Long-Horizon Regressions Revisited. *Mathematical Finance* 4, 103–119.
- Box, G. and D. Cox (1964). An Analysis of Transformations. *Journal of the Royal Statistical Society B*(26), 211–243.
- Box, G. and D. Pierce (1970). Distribution of Residual Autocorrelations in Autoregressive-Integrated Moving Average Time Series Models. *Journal of the American Statistical Association* 65, 1509–1526.
- Boyle, P. (1977). Options: A Monte Carlo Approach. *Journal of Financial Economics* 4, 323–338.
- Boyle, P. (1988). A Lattice Framework for Option Pricing with Two State Variables. *Journal of Financial and Quantitative Analysis*, 1–12.
- Brainard, W., W. Nelson, and M. Shapiro (1991). The Consumption Beta Explains Expected Returns at Long Horizons. unpublished paper, Yale University and University of Michigan.
- Branch, B. and W. Freed (1977). Bid-Asked Spreads on the AMEX and the Big Board. *Journal of Finance* 32, 159–163.
- Braun, P., D. Nelson, and A. Sunier (1995). Good News, Bad News, Volatility, and Betas. *Journal of Finance* 50, 1575–1603.
- Breeden, D. (1979). An Intertemporal Asset Pricing Model with Stochastic Consumption and Investment Opportunities. *Journal of Financial Economics* 7, 265–296.
- Breeden, D. and R. Litzenberger (1978). Prices of State-Contingent Claims Implicit in Option Prices. *Journal of Business* 51, 621–651.
- Breeden, D., G. M., and R. Litzenberger (1989). Empirical Tests of the Consumption-Oriented CAPM. *Journal of Finance* 44, 231–262.
- Breen, W. and R. Korajczyk (1993). On Selection Biases in Book-to-Market Based Tests of Asset Pricing Models. Working Paper 167, Northwestern University, Evanston, IL.
- Brennan, M. (1979). The Pricing of Contingent Claims in Discrete-Time Models. *Journal of Finance* 34, 53–68.
- Brennan, M. and T. Copeland (1988). Stock Splits, Stock Prices, and Transaction Costs. *Journal of Financial Economics* 22, 83–101.
- Brennan, M., N. Jegadeesh, and B. Swaminathan (1993). Investment Analysis and the Adjustment of Stock Prices to Common Information. *Review of Financial Studies* 6, 799–824.
- Brennan, M. and E. Schwartz (1977a). Convertible Bonds: Valuation and Optimal Strategies for Call and Conversion. *Journal of Finance* 32, 1699–1715.

- Brennan, M. and E. Schwartz (1977b). The Valuation of American Put Options. *Journal of Finance* 32, 449–462.
- Brennan, M. and E. Schwartz (1978). Finite Difference Methods and Jump Processes Arising in the Pricing of Contingent Claims: A Synthesis. *Journal of Financial and Quantitative Analysis* 13, 461–474.
- Brennan, M. and E. Schwartz (1979). A Continuous-Time Approach to the Pricing of Bonds. *Journal of Banking and Finance* 3, 133–155.
- Brenner, R., R. Harjes, and K. Kroner (1996). Another Look at Alternative Models of the Short-Term Interest Rate. *Journal of Financial and Quantitative Analysis* 31, 85–107.
- Brock, W. (1986). Distinguishing Random and Deterministic Systems: Abridged Version. *Journal of Economic Theory* 40, 168–195.
- Brock, W., W. Dechert, and J. Scheinkman (1987). A Test for Independence Based on the Correlation Dimension. unpublished paper, University of Wisconsin at Madison, University of Houston, and University of Chicago.
- Brock, W., J. Lakonishok, and B. LeBaron (1992). Simple Technical Trading Rules and the Stochastic Properties of Stock Returns. *Journal of Finance* 47, 1731–1764.
- Brock, W. and C. Sayers (1988). Is The Business Cycle Characterized By Deterministic Chaos? *Journal of Monetary Economics* 22, 71–90.
- Brodsky, B. (1993). *Nonparametric Methods in Change-Point Problems*. Kluwer Academic Publishers, Boston.
- Bronfman, C. (1991). From Trades to Orders on the NYSE: Pitfalls in Inference Using Transactions Data. working paper, Department of Finance and Real Estate, College of Business and Public Administration, University of Arizona, Tucson, AZ.
- Broomhead, D. and D. Lowe (1988). Multivariable Functional Interpolation and Adaptive Networks. *Complex Systems* 2, 321–355.
- Brown, D. and R. Jennings (1989). On Technical Analysis. *Review of Financial Studies* 2, 527–552.
- Brown, R. and S. Schaefer (1991). Interest Rate Volatility and the Term Structure. unpublished paper, London Business School.
- Brown, R. and S. Schaefer (1994). The Term Structure of Real Interest Rates and the Cox, Ingersoll, and Ross Model. *Journal of Financial Economics* 35, 3–42.
- Brown, S. and P. Dybvig (1986). The Empirical Implications of the Cox, Ingersoll, Ross Theory of the Term Structure of Interest Rates. *Journal of Finance* 41, 617–632.
- Brown, S., W. Goetzmann, and S. Ross (1995). Survival. *Journal of Finance* 50, 853–873.
- Brown, S. and J. Warner (1980). Measuring Security Price Performance. *Journal of Financial Economics* 8, 205–258.
- Brown, S. and J. Warner (1985). Using Daily Stock Returns: The Case of Event Studies. *Journal of Financial Economics* 14, 3–31.



- Brown, S. and M. Weinstein (1985). Derived Factors in Event Studies. *Journal of Financial Economics* 14, 491–495.
- Burnside, C. (1994). Hansen-Jagannathan Bounds as Classical Tests of Asset Pricing Models. *Journal of Business and Economic Statistics* 12, 57–79.
- Campbell, C. and C. Wasley (1993). Measuring Security Price Performance Using Daily NASDAQ Returns. *Journal of Financial Economics* 33, 73–92.
- Campbell, J. (1986). Bond and Stock Returns in a Simple Exchange Model. *Quarterly Journal of Economics* 101, 785–803.
- Campbell, J. (1987). Stock Returns and the Term Structure. *Journal of Financial Economics* 18, 373–399.
- Campbell, J. (1991). A Variance Decomposition for Stock Returns. *Economic Journal* 101, 157–179.
- Campbell, J. (1993a). Intertemporal Asset Pricing without Consumption Data. *American Economic Review* 83, 487–512.
- Campbell, J. (1993b). Why Long Horizons? A Study of Power against Persistent Alternatives. unpublished paper, Princeton University.
- Campbell, J. (1995). Some Lessons from the Yield Curve. *Journal of Economic Perspectives* 9(3), 129–152.
- Campbell, J. (1996a). Understanding Risk and Return. *Journal of Political Economy* 104, 298–345.
- Campbell, J. (1996b). Consumption and the Stock Market: Interpreting International Evidence. NBER Working Paper 5610, National Bureau of Economic Research, Cambridge, MA.
- Campbell, J. and J. Ammer (1993). What Moves the Stock and Bond Markets? A Variance Decomposition for Long-Term Asset Returns. *Journal of Finance* 48, 3–37.
- Campbell, J. and J. Cochrane (1995). By Force of Habit: A Consumption-Based Explanation of Aggregate Stock Market Behavior. unpublished paper, Harvard University and University of Chicago.
- Campbell, J., S. Grossman, and J. Wang (1993). Trading Volume and Serial Correlation in Stock Returns. *Quarterly Journal of Economics* 108, 905–939.
- Campbell, J. and L. Hentschel (1992). No News Is Good News: An Asymmetric Model of Changing Volatility in Stock Returns. *Journal of Financial Economics* 31, 281–318.
- Campbell, J. and H. Koo (1996). A Comparison of Numerical and Analytical Approximate Solutions to an Intertemporal Consumption Choice Problem. *Journal of Economic Dynamics and Control*, forthcoming.
- Campbell, J. and A. Kyle (1993). Smart Money, Noise Trading, and Stock Price Behavior. *Review of Economic Studies* 60, 1–34.
- Campbell, J. and N. G. Mankiw (1987). Are Output Fluctuations Transitory? *Quarterly Journal of Economics* 102, 857–880.

- Campbell, J. and N. G. Mankiw (1990). Permanent Income, Current Income, and Consumption. *Journal of Business and Economic Statistics* 8, 265–278.
- Campbell, J. and P. Perron (1991). Pitfalls and Opportunities: What Macroeconomists Should Know about Unit Roots. *NBER Macroeconomics Annual* 6, 141–201.
- Campbell, J. and R. Shiller (1987). Cointegration and Tests of Present Value Models. *Journal of Political Economy* 95, 1062–1087.
- Campbell, J. and R. Shiller (1988a). The Dividend-Price Ratio and Expectations of Future Dividends and Discount Factors. *Review of Financial Studies* 1, 195–227.
- Campbell, J. and R. Shiller (1988b). Stock Prices, Earnings, and Expected Dividends. *Journal of Finance* 43, 661–676.
- Campbell, J. and R. Shiller (1991). Yield Spreads and Interest Rate Movements: A Bird's Eye View. *Review of Economic Studies* 58, 495–514.
- Campbell, J. and R. Shiller (1996). A Scorecard for Indexed Government Debt. *NBER Macroeconomics Annual*, forthcoming.
- Carleton, W. and I. Cooper (1976). Estimation and Uses of the Term Structure of Interest Rates. *Journal of Finance* 31, 1067–1083.
- Carlstein, E., H. Muller, and D. Siegmund (Eds.) (1994). *Change-Point Problems*. Institute of Mathematical Statistics, Hayward, CA.
- Carverhill, A. (1988). *Numerical Methods in Pricing*. Preprint 88/1, Financial Options Research Centre, University of Warwick, UK.
- Carverhill, A. and N. Webber (1988). *American Options: Validation of Numerical Methods*. Preprint 88/2, Financial Options Research Centre, University of Warwick, UK.
- Cecchetti, S., P. Lam, and N. Mark (1990). Mean Reversion in Equilibrium Asset Prices. *American Economic Review* 80, 398–418.
- Cecchetti, S., P. Lam, and N. Mark (1994). Testing Volatility Restrictions on Intertemporal Marginal Rates of Substitution Implied by Euler Equations and Asset Returns. *Journal of Finance* 49, 123–152.
- Chamberlain, G. (1983a). Funds, Factors, and Diversification in Arbitrage Pricing Models. *Econometrica* 51, 1305–1323.
- Chamberlain, G. (1983b). A Characterization of the Distributions that Imply Mean-Variance Utility Functions. *Journal of Economic Theory* 29, 1985–201.
- Chamberlain, G. and M. Rothschild (1983). Arbitrage, Factor Structure, and Mean-Variance Analysis on Large Asset Markets. *Econometrica* 51, 1281–1304.
- Chan, K. (1988). On the Contrarian Investment Strategy. *Journal of Business* 61, 147–163.
- Chan, K., N. Chen, and D. Hsieh (1985). An Exploratory Investigation of the Firm Size Effect. *Journal of Financial Economics* 14, 451–472.
- Chan, K., W. Christie, and P. Schultz (1995). Market Structure and the Intraday Evolution of Bid-Ask Spreads for NASDAQ Securities. *Journal of Business* 68, 35–60.

- Chan, K., C. Karolyi, F. Longstaff, and A. Sanders (1992). An Empirical Comparison of Alternative Models of the Short-Term Interest Rate. *Journal of Finance* 47, 1209–1227.
- Chan, L. and J. Lakonishok (1993a). Are the Reports of Beta's Death Premature? *Journal of Portfolio Management* 19, 51–62.
- Chan, L. and J. Lakonishok (1993b). Institutional Trades and Intra-Day Stock Price Behavior. *Journal of Financial Economics* 33, 173–199.
- Chan, L. and J. Lakonishok (1995). The Behavior of Stock Prices around Institutional Trades. *Journal of Finance* 50, 1147–1174.
- Chen, H. (1991a). Estimation of a Projection-Pursuit Type Regression Model. *Annals of Statistics* 19, 142–157.
- Chen, N. (1983). Some Empirical Tests of Arbitrage Pricing. *Journal of Finance* 38, 1393–1414.
- Chen, N. (1991b). Financial Investment Opportunities and the Macro-economy. *Journal of Finance* 46, 529–554.
- Chen, N. and J. Ingersoll (1983). Exact Pricing in Linear Factor Models with Finitely Many Assets. *Journal of Finance* 38, 985–988.
- Chen, N., R. Roll, and S. Ross (1986). Economic Forces and the Stock Market. *Journal of Business* 59, 383–403.
- Chiras, D. and S. Manaster (1978). The Information Content of Option Prices and a Test of Market Efficiency. *Journal of Financial Economics* 6, 213–234.
- Cho, D. and E. Frees (1988). Estimating the Volatility of Discrete Stock Prices. *Journal of Finance* 43, 451–466.
- Choi, J., D. Salandro, and K. Shastri (1988). On the Estimation of Bid-Ask Spreads: Theory and Evidence. *Journal of Financial and Quantitative Analysis* 23, 219–230.
- Christie, A. (1982). The Stochastic Behavior of Common Stock Variances: Value, Leverage, and Interest Rate Effects. *Journal of Financial Economics* 10, 407–432.
- Christie, W., J. Harris, and P. Schultz (1994). Why Did NASDAQ Market Makers Stop Avoiding Odd-Eighth Quotes? *Journal of Finance* 49, 1841–1860.
- Christie, W. and P. Schultz (1994). Why Do NASDAQ Market Makers Avoid Odd-Eighth Quotes? *Journal of Finance* 49, 1813–1840.
- Chung, C. and A. Goldberger (1984). Proportional Projects in Limited Dependent Variables Models. *Econometrica* 52, 531–534.
- Chung, K. and R. Williams (1990). *Introduction to Stochastic Integration* (2 ed.). Birkhäuser, Boston, MA.
- Clark, P. (1973). A Subordinated Stochastic Process Model with Finite Variance for Speculative Prices. *Econometrica* 41, 135–156.
- Clewlow, L. (1990). *Finite Difference Techniques for One and Two Dimensional Option Valuation Problems*. Preprint 90/10, Financial Options Research Centre, University of Warwick, UK.

- Cochrane, J. (1988). How Big Is the Random Walk in GNP? *Journal of Political Economy* 96, 893–920.
- Cochrane, J. (1991). Volatility Tests and Efficient Markets: A Review Essay. *Journal of Monetary Economics* 27, 463–487.
- Cochrane, J. and L. Hansen (1992). Asset Pricing Explorations for Macroeconomics. In *NBER Macroeconomics Annual 1992*, pp. 115–165. Massachusetts Institute of Technology Press, Cambridge, MA.
- Cohen, K., G. Hawawini, S. Maier, R. Schwartz, and D. Whitcomb (1983a). Estimating and Adjusting for the Intervalling-Effect Bias in Beta. *Management Science* 29, 135–148.
- Cohen, K., G. Hawawini, S. Maier, R. Schwartz, and D. Whitcomb (1983b). Friction in the Trading Process and the Estimation of Systematic Risk. *Journal of Financial Economics* 12, 263–278.
- Cohen, K., S. Maier, R. Schwartz, and D. Whitcomb (1978). The Returns Generation Process, Returns Variance, and the Effect of Thinness in Securities Markets. *Journal of Finance* 33, 149–167.
- Cohen, K., S. Maier, R. Schwartz, and D. Whitcomb (1979). On the Existence of Serial Correlation in an Efficient Securities Market. *TIMS Studies in the Management Sciences* 11, 151–168.
- Cohen, K., S. Maier, R. Schwartz, and D. Whitcomb (1981). Transaction Costs, Order Placement Strategy and Existence of the Bid-Ask Spread. *Journal of Political Economy* 89, 281–305.
- Cohen, K., S. Maier, R. Schwartz, and D. Whitcomb (1986). *The Microstructure of Securities Markets*. Prentice-Hall, Englewood Cliffs, NJ.
- Collins, D. and W. Dent (1984). A Comparison of Alternative Testing Methodologies Used In Capital Market Research. *Journal of Accounting Research* 22, 48–84.
- Connor, G. (1984). A Unified Beta Pricing Theory. *Journal of Economic Theory* 34, 13–31.
- Connor, G. and R. Korajczyk (1986). Performance Measurement with the Arbitrage Pricing Theory: A New Framework for Analysis. *Journal of Financial Economics* 15, 373–394.
- Connor, G. and R. Korajczyk (1988). Risk and Return in an Equilibrium APT: Application of a New Test Methodology. *Journal of Financial Economics* 21, 255–290.
- Connor, G. and R. Korajczyk (1993). A Test for the Number of Factors in an Approximate Factor Structure. *Journal of Finance* 48, 1263–1291.
- Conrad, J., G. Kaul, and M. Nimalendran (1991). Components of Short-Horizon Individual Security Return. *Journal of Financial Economics* 29, 365–384.
- Conrad, J. and G. Maul (1993). Long-Term Market Overreaction or Biases in Computed Returns? *Journal of Finance* 48, 39–63.
- Constantinides, G. (1982). Intertemporal Asset Pricing with Heterogeneous Consumers and without Demand Aggregation. *Journal of Business* 55, 253–268.

- Constantinides, G. (1986). Capital Market Equilibrium with Transaction Costs. *Journal of Political Economy* 94, 842–862.
- Constantinides, G. (1990). Habit Formation: A Resolution of the Equity Premium Puzzle. *Journal of Political Economy* 98, 519–543.
- Constantinides, G. (1992). A Theory of the Nominal Term Structure of Interest Rates. *Review of Financial Studies* 5, 531–552.
- Constantinides, G. and D. Duffie (1996). Asset Pricing with Heterogeneous Consumers. *Journal of Political Economy* 104, 219–240.
- Cootner, P. (Ed.) (1964). *The Random Character of Stock Market Prices*. Massachusetts Institute of Technology Press, Cambridge, MA.
- Copeland, T. and D. Galai.
- Corrado, C. (1989). A Nonparametric Test for Abnormal Security Price Performance in Event Studies. *Journal of Financial Economics* 23, 385–395.
- Courtadon, G. (1982). A More Accurate Finite Difference Approximation for the Valuation of Options. *Journal of Financial and Quantitative Analysis* 17, 697–703.
- Cowles, A. (1933). Can Stock Market Forecasters Forecast? *Econometrica* 1, 309–324.
- Cowles, A. (1960). A Revision of Previous Conclusions Regarding Stock Price Behavior. *Econometrica* 28, 909–915.
- Cowles, A. and H. Jones (1937). Some A Posteriori Probabilities in Stock Market Action. *Econometrica* 5, 280–294.
- Cox, D. and H. Miller (1965). *The Theory of Stochastic Processes*. Chapman and Hall, London.
- Cox, J. (1975). Notes on Option Pricing I: Constant Elasticity of Variance Diffusions. unpublished lecture notes, Graduate School of Business, Stanford University.
- Cox, J., J. Ingersoll, and S. Ross (1981a). A Reexamination of Traditional Hypotheses about the Term Structure of Interest Rates. *Journal of Finance* 36, 769–799.
- Cox, J., J. Ingersoll, and S. Ross (1981b). The Relation between Forward Prices and Futures Prices. *Journal of Financial Economics* 9, 321–346.
- Cox, J., J. Ingersoll, and S. Ross (1985a). A Theory of the Term Structure of Interest Rates. *Econometrica* 53, 385–408.
- Cox, J., J. Ingersoll, and S. Ross (1985b). An Intertemporal General Equilibrium Model of Asset Prices. *Econometrica* 53, 363–384.
- Cox, J. and S. Ross (1976). The Valuation of Options for Alternative Stochastic Processes. *Journal of Financial Economics* 3, 145–166.
- Cox, J., S. Ross, and M. Rubinstein (1979). Option Pricing: A Simplified Approach. *Journal of Financial Economics* 7, 229–264.
- Cox, J. and M. Rubinstein (1985). *Options Markets*. Prentice-Hall, Englewood Cliffs, New Jersey.

- Crack, T. and O. Ledoit (1996). Robust Structure Without Predictability: The 'Compass Rose' Pattern of the Stock Market. *Journal of Finance* 51, 751–762.
- Craig, S., J. Kohiase, and D. Papell (1991). Chaos Theory and Microeconomics: An Application to Model Specification and Hedonic Estimation. *Review of Economics and Statistics* 73, 208–215.
- Cumby, R. and D. Modest (1987). Testing for Market Timing Ability: A Framework for Forecast Evaluation. *Journal of Financial Economics* 19, 169–190.
- Cutler, D., J. Poterba, and L. Summers (1991). Speculative Dynamics. *Review of Economic Studies* 58, 529–546.
- Cybenko, C. (1989). Approximation by Superpositions of a Sigmoidal Function. *Mathematics of Control, Signals, and Systems* 2, 303–314.
- Dann, L. and C. James (1982). An Analysis of the Impact of Deposit Rate Ceilings on the Market Values of Thrift Institutions. *Journal of Finance* 37, 1259–1275.
- David, F. and D. Barton (1962). *Combinatorial Chance*. Hafner, New York.
- Davies, R. and D. Harte (1987). Tests for Hurst Effect. *Biometrika* 74, 95–101.
- Davis, D. and C. Holt (1993). *Experimental Economics*. Princeton University Press, Princeton, NJ.
- Davis, M. and A. Norman (1990). Portfolio Selection with Transaction Costs. *Mathematics of Operations Research* 15, 676–713.
- Day, R. (1983). The Emergence of Chaos from Classical Economic Growth. *Quarterly Journal of Economics* 98, 201–214.
- Deaton, A. and M. Irish (1984). Statistical Models for Zero Expenditures in Household Budgets. *Journal of Public Economics* 23, 59–80.
- Debreu, G. (1959). *Theory of Value*. John Wiley and Sons, New York.
- Defondt, W. and R. Thaler (1985). Does the Stock Market Overreact? *Journal of Finance* 40, 793–805.
- Defondt, W. and R. Thaler (1987). Further Evidence on Investor Overreaction and Stock Market Seasonality. *Journal of Finance* 42, 557–582.
- DeLong, B., A. Shleifer, L. Summers, and R. Waldmann (1990a). Positive Feedback Investment Strategies and Destabilizing Speculation. *Journal of Finance* 45, 379–396.
- DeLong, B., A. Shleifer, L. Summers, and R. Waldmann (1990b). Noise Trader Risk in Financial Markets. *Journal of Political Economy* 98, 703–738.
- Demsetz, H. (1968). The Cost of Transacting. *Quarterly Journal of Economics* 82, 33–53.
- Derman, E. and I. Kani (1994, February). Riding on the Smile. *RISK* 7, 32–39.
- Dhrymes, P., I. Friend, B. Gultekin, and M. Gultekin (1984). A Critical Reexamination of the Empirical Evidence on the Arbitrage Pricing Theory. *Journal of Finance* 39, 323–346.

- Diaconis, P. (1988). *Group Representations in Probability and Statistics*. Institute of Mathematical Statistics, Hayward, CA.
- Diaconis, P. and M. Shahshahani (1984). On Nonlinear Functions of Linear Combinations. *SIAM Journal on Scientific and Statistical Computing* 5(1), 175–191.
- Diamond, P. (1965). National Debt in a Neoclassical Growth Model. *American Economic Review* 55, 1126–1150.
- Diba, B. and H. Grossman (1988). The Theory of Rational Bubbles in Stock Prices. *Economic Journal* 98, 746–757.
- Dickey, D. and W. Fuller (1979). Distribution of the Estimators for Autoregressive Time Series with a Unit Root. *Journal of the American Statistical Association* 74, 427–431.
- Dimson, E. (1979). Risk Measurement When Shares Are Subject to Infrequent Trading. *Journal of Financial Economics* 7, 197–226.
- Ding, Z., C. Granger, and R. Engle (1993). A Long Memory Property of Stock Returns and a New Model. *Journal of Empirical Finance* 1, 83–106.
- Dolley, J. (1933). Characteristics and Procedure of Common Stock Split-Ups. *Harvard Business Review*, 316–326.
- Donaldson, R. and M. Kamstra (1996). A New Dividend Forecasting Procedure that Rejects Bubbles in Asset Prices: The Case of 1929's Stock Crash. *Review of Financial Studies* 9, 333–383.
- Donoho, D. and I. Johnstone (1989). Projection-Based Approximation and A Duality with Kernel Methods. *Annals of Statistics* 17, 58–106.
- Duffie, D. (1992). *Dynamic Asset Pricing Theory*. Princeton University Press, Princeton, NJ.
- Duffie, D. and C. Huang (1985). Implementing Arrow-Debreu Equilibria by Continuous Trading of Few Long-Lived Securities. *Econometrica* 53, 1337–1356.
- Duffie, D. and R. Kin (1993). A Yield-Factor Model of Interest Rates. unpublished paper, Stanford University.
- Dufour, J. (1981). Rank Tests for Serial Dependence. *Journal of Time Series Analysis* 2, 117–128.
- Dufour, J. and R. Roy (1985). Some Robust Exact Results on Sample Autocorrelations and Tests of Randomness. *Journal of Econometrics* 29, 257–273.
- Dunn, K. and K. Singleton (1986). Modelling the Term Structure of Interest Rates under Habit Formation and Durability of Goods. *Journal of Financial Economics* 17, 27–55.
- Dupire, B. (1994, January). Pricing with a Smile. *RISK* 7, 18–20.
- Durlauf, S. and R. Hall (1989). Measuring Noise in Stock Prices. unpublished paper, Stanford University.
- Durlauf, S. and P. Phillips (1988). Trends versus Random Walks in Time Series Analysis. *Econometrica* 56, 1333–1357.

- Dybvig, P. (1985). An Explicit Bound on Individual Assets' Deviations from APT Pricing in a Finite Economy. *Journal of Financial Economics* 12, 483–496.
- Dybvig, P. (1989). Bond and Bond Option Pricing Based on the Current Term Structure. unpublished paper, Washington University.
- Dybvig, P. and J. Ingersoll (1982). Mean-Variance Theory in Complete Markets. *Journal of Business* 55, 233–252.
- Dybvig, P., J. J. Ingersoll, and S. Ross (1996). Long Forward and Zero-Coupon Rates Can Never Fall. *Journal of Business* 69, 1–25.
- Dybvig, P. and S. Ross (1985). Yes, The APT Is Testable. *Journal of Finance* 40, 1173–1188.
- Eastey, D. and M. O'Hara (1987). Price, Trade Size, and Information in Securities Markets. *Journal of Financial Economics* 19, 69–90.
- Eastey, D. and M. O'Hara (1992). Time and the Process of Security Price Adjustment. *Journal of Finance* 47, 577–605.
- Eberlein, E. and M. Taqqu (1986). *Dependence in Probability and Statistics: A Survey of Recent Result, Progress in Probability and Statistics*, Volume 11. Birkhäuser, Boston.
- Eckbo, B. (1983). Horizontal Mergers, Collusion, and Stockholder Wealth. *Journal of Financial Economics* 11, 241–276.
- Eckbo, E., V. Maksimovic, and J. Williams (1990). Consistent Estimation of Cross-Sectional Models in Event-Studies. *Review of Financial Studies* 3(3), 343–365.
- Edwards, R. and J. Magee (1966). *Technical Analysis of Stock Trends* (revised 5th ed.). John Magee, Boston.
- Eichenbaum, M., L. Hansen, and K. Singleton (1988). A Time Series Analysis of Representative Agent Models of Consumption and Leisure Choice under Uncertainty. *Quarterly Journal of Economics* 103, 51–78.
- Eikeboom, A. (1993). The Dynamics of the Bid-Ask Spread. working paper Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA.
- Einstein, A. (1905). Ueber die von der molekular-kinetischen Theorie der Wärme geforderte Bewegung von in ruhenden Flüssigkeiten suspendierten Teilchen. *Annalen der Physik* 17, 549–560.
- Engle, R. (1982). Autoregressive Conditional Heteroskedasticity with Estimates of the Variance of UK inflation. *Econometrica* 50, 987–1008.
- Engle, R. (1984). Wald, Likelihood Ratio, and Lagrange Multiplier Tests in Econometrics. In Z. Griliches and M. Intriligator (Eds.), *Handbook of Econometrics*, Volume II, Chapter 13. North-Holland, Amsterdam.
- Engle, R. and G. Gonzalez-Rivera (1991). Semiparametric ARCH Models. *Journal of Business and Economic Statistics* 9, 345–359.
- Engle, R. and C. Granger (1987). Cointegration and Error-Correction: Representation, Estimation, and Testing. *Econometrica* 55, 251–276.



- Engle, R. and K. Kroner (1995). Multivariate Simultaneous Generalized ARCH. *Econometric Theory* 11, 122–150.
- Engle, R., D. Lilien, and R. Robins (1987). Estimating Time-Varying Risk Premia in the Term Structure: The ARCH-M Model. *Econometrica* 55, 391–407.
- Engle, R. and V. Ng (1993). Measuring and Testing the impact of News on Volatility. *Journal of Finance* 48, 1749–1778.
- Engle, R., V. Ng, and M. Rothschild (1990). Asset Pricing with a Factor ARCH Covariance Structure: Empirical Estimates for Treasury Bills. *Journal of Econometrics* 45, 213–238.
- Epstein, L. and S. Zin (1989). Substitution, Risk Aversion, and the Temporal Behavior of Consumption and Asset Returns: A Theoretical Framework. *Econometrica* 57, 937–968.
- Epstein, L. and S. Zin (1990). First-Order Risk Aversion and the Equity Premium Puzzle. *Journal of Monetary Economics* 26, 387–407.
- Epstein, L. and S. Zin (1991). Substitution, Risk Aversion, and the Temporal Behavior of Consumption and Asset Returns: An Empirical Investigation. *Journal of Political Economy* 99, 263–286.
- Estrella, A. and G. Hardouvelis (1991). The Term Structure as a Predictor of Real Economic Activity. *Journal of Finance* 46, 555–576.
- Eytan, T. and G. Harpaz (1986). The Pricing of Futures and Options Contracts on the Value Line Index. *Journal of Finance* 41, 843–856.
- Fabozzi, F. (1996). *Bond Markets, Analysis and Strategies* (3 ed.). Prentice-Hall, Upper Saddle River, NJ.
- Fabozzi, F. and T. Fabozzi (1995). *The Handbook of Fixed-Income Securities* (4 ed.). Irwin, Burr Ridge, IL.
- Fama, E. (1965). The Behavior of Stock Market Prices. *Journal of Business* 38, 34–105.
- Fama, E. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *Journal of Finance* 25, 383–417.
- Fama, E. (1975). Short-Term Interest Rates as Predictors of Inflation. *American Economic Review* 65, 269–282.
- Fama, E. (1976). *Foundations of Finance*. Basic Books, New York.
- Fama, E. (1984). The Information in the Term Structure. *Journal of Financial Economics* 13, 509–521.
- Fama, E. (1990). Term-Structure Forecasts of Interest Rates, Inflation, and Real Returns. *Journal of Monetary Economics* 25, 59–76.
- Fama, E. (1991). Efficient Capital Markets: II. *Journal of Finance* 46, 1575–1618.
- Fama, E. (1993). Multifactor Portfolio Efficiency and Multifactor Asset Pricing Models. working paper, CRSP, University of Chicago, Chicago, IL.

- Fama, E. and R. Bliss (1987). The Information in Long-Maturity Forward Rate. *American Economic Review* 77, 680–692.
- Fama, E. and M. Blume (1966). Filter Rules and Stock Market Trading Profit. *Journal of Business* 39, 226–241.
- Fama, E., L. Fisher, M. Jensen, and R. Roll (1969). The Adjustment of Stock Prices to New Information. *International Economic Review* 10, 1–21.
- Fama, E. and K. French (1988a). Dividend Yields and Expected Stock Return. *Journal of Financial Economics* 22, 3–27.
- Fama, E. and K. French (1988b). Permanent and Temporary Components of Stock Prices. *Journal of Political Economy* 96, 246–273.
- Fama, E. and K. French (1989). Business Conditions and Expected Returns on Stocks and Bonds. *Journal of Financial Economics* 25, 23–49.
- Fama, E. and K. French (1992). The Cross-Section of Expected Stock Returns. *Journal of Finance* 47, 427–465.
- Fama, E. and K. French (1993). Common Risk Factors in the Returns on Stocks and Bonds. *Journal of Financial Economics* 33, 3–56.
- Fama, E. and K. French (1996a). Multifactor Explanations of Asset Pricing Anomalies. *Journal of Finance* 51, 55–84.
- Fama, E. and K. French (1996b). The CAPM Is Wanted, Dead or Alive. *Journal of Finance*, forthcoming.
- Fama, E. and J. MacBeth (1973). Risk, Return, and Equilibrium: Empirical Tests. *Journal of Political Economy* 71, 607–636.
- Fama, E. and R. Roll (1971). Parameter Estimates for Symmetric Stable Distributions. *Journal of the American Statistical Association* 66, 331–338.
- Fang, K. and Y. Wang (1994). *Number-Theoretic Methods in Statistics*. Chapman and Hall, London.
- Faust, J. (1992). When Are Variance Ratio Tests For Serial Dependence Optimal? *Econometrica* 60, 1215–1226.
- Feller, W. (1968). *An introduction to Probability Theory and Its Applications*. John Wiley and Sons, New York.
- Ferson, W. and C. Constantinides (1991). Habit Persistence and Durability in Aggregate Consumption: Empirical Tests. *Journal of Financial Economics* 29, 199–240.
- Ferson, W. and S. Foerster (1994). Finite Sample Properties of the Generalized Method of Moments in Tests of Conditional Asset Pricing Models. *Journal of Financial Economics* 36, 29–55.
- Fielitz, B. (1976). Further Results on Asymmetric Stable Distributions of Stock Prices Changes. *Journal of Financial and Quantitative Analysis* 11, 39–55.

- Fielitz, B. and J. Rozell (1983). Stable Distributions and Mixtures of Distributions Hypotheses for Common Stock Returns. *Journal of the American Statistical Association* 78, 28–36.
- Fisher, L. (1966). Some New Stock Market Indexes. *Journal of Business* 39, 191–225.
- Fishman, G. (1996). *Monte Carlo: Concepts, Algorithms, and Applications*. Springer-Verlag, New York.
- Flavin, M. (1983). Excess Volatility in the Financial Markets: A Reassessment of the Empirical Evidence. *Journal of Political Economy* 91, 929–956.
- Frankel, J., G. Galli, and A. Giovannini (Eds.) (1996). *The Microstructure of Foreign Exchange Markets (NBER Conference Report)*. University of Chicago Press, Chicago, IL.
- French, K. and R. Roll (1986). Stock Return Variances: The Arrival of Information and the Reaction of Traders. *Journal of Financial Economics* 17, 5–26.
- French, K., G. Schwert, and R. Stambaugh (1987). Expected Stock Returns and Volatility. *Journal of Financial Economics* 19, 3–30.
- Friedman, J. and W. Stuetzle (1981, December). Projection Pursuit Regression. *Journal of the American Statistical Association* 76(376).
- Friend, I. and M. Blume (1975). The Demand for Risky Assets. *American Economic Review* 65, 900–922.
- Froot, K. (1989). New Hope for the Expectations Hypothesis of the Term Structure of Interest Rates. *Journal of Finance* 44, 283–305.
- Froot, K. and M. Obstfeld (1991). Intrinsic Bubbles: The Case of Stock Prices. *American Economic Review* 81, 1189–1217.
- Fuller, W. (1976). *Introduction to Statistical Time Series*. Wiley, New York.
- Furbush, D. and J. Smith (1996). Quoting Behavior on NASDAQ: The Determinants of Clustering and Relative Spreads. Economists Inc., Washington, D.C.
- Galai, D. (1977). Tests of Market Efficiency of the Chicago Board Options Exchange. *Journal of Business* 50, 167–197.
- Galai, D. (1978). Empirical Tests of Boundary Conditions for CBOE Options. *Journal of Financial Economics* 6, 187–211.
- Gallant, A. (1987). *Nonlinear Statistical Models*. John Wiley and Sons, New York.
- Gallant, A. and H. White (1992). On Learning the Derivatives of an Unknown Mapping with Multilayer Feedforward Networks. *Neural Networks* 5, 128–138.
- Gallant, R., P. Rossi, and G. Tauchen (1991). Stock Prices and Volume. *Review of Financial Studies* 5, 199–242.
- Garber, P. (1989). Tulipmania. *Journal of Political Economy* 97, 535–560.
- Garman, M. (1976a). Market Microstructure. *Journal of Financial Economics* 3, 257–275.
- Garman, M. (1976b). A General Theory of Asset Valuation under Diffusion State Processes. Working Paper 50, University of California, Berkeley.

- Garman, M. (1978). The Pricing of Supershares. *Journal of Financial Economics* 6, 3–10.
- Garman, M. and M. Klass (1980). On the Estimation of Security Price Volatilities from Historical Data. *Journal of Business* 53, 67–78.
- George, T., G. Kaul, and M. Nimalendran (1991). Estimation of the Bid-Ask Spread and Its Components: A New Approach. *Review of Financial Studies* 4, 23–656.
- Gerber, H. and S. Li (1981). The Occurrence of Sequence Patterns in Repeated Experiments and Hitting Times in a Markov Chain. *Stochastic Processes and Their Applications* 11, 101–108.
- Geske, R. and K. Shastri (1985). Valuation by Approximation: A Comparison of Option Valuation Techniques. *Journal of Financial and Quantitative Analysis* 20, 45–72.
- Gibbons, M. (1982). Multivariate Tests of Financial Models: A New Approach. *Journal of Financial Economics* 10, 3–27.
- Gibbons, M. and W. Ferson (1985). Testing Asset Pricing Models with Changing Expectations and an Unobservable Market Portfolio. *Journal of Financial Economics* 14, 217–236.
- Gibbons, M. and K. Ramaswamy (1993). A Test of the Cox, Ingersoll, and Ross Model of the Term Structure. *Review of Financial Studies* 6, 619–658.
- Gibbons, M., S. Ross, and J. Shanken (1989). A Test of the Efficiency of a Given Portfolio. *Econometrica* 57, 1121–1152.
- Gilles, C. and S. LeRoy (1991). Econometric Aspects of the Variance Bounds Tests: A Survey. *Review of Financial Studies* 4, 753–791.
- Giovannini, A. and P. Weil (1989). Risk Aversion and Intertemporal Substitution in the Capital Asset Pricing Model. Working Paper 2824, NBER, Cambridge, MA.
- Gleick, J. (1987). *Chaos: Making a New Science*. Viking Penguin Inc., New York.
- Glosten, L. (1987). Components of the Bid-Ask Spread and the Statistical Properties of Transaction Prices. *Journal of Finance* 42, 1293–1307.
- Glosten, L. and L. Harris (1988). Estimating the Components of the Bid/Ask Spread. *Journal of Financial Economics* 21, 123–142.
- Glosten, L., R. Jagannathan, and D. Runkle (1993). On the Relation Between the Expected Value and the Volatility of the Nominal Excess Return on Stocks. *Journal of Finance* 48, 1779–1801.
- Glosten, L. and P. Milgrom (1985). Bid, Ask and Transaction Prices in a Specialist Market with Heterogeneously informed Traders. *Journal of Financial Economics* 14, 71–100.
- Godek, R. (1996). Why NASDAQ Market Makers Avoid Odd-Eighth Quotes. *Journal of Financial Economics* 41, 465–474.
- Goldenberg, D. (1991). A Unified Method for Pricing Options on Diffusion Processes. *Journal of Financial Economics* 29, 3–34.
- Goldman, B., H. Sosin, and M. Gatto (1979). Path Dependent Options: ‘Buy at the Low, Sell at the High’. *Journal of Finance* 34, 1111–1127.

- Goldman, B., H. Sosin, and L. Shepp (1979). On Contingent Claims that Insure Ex-Post Optimal Stock Market Timing. *Journal of Finance* 34, 401–414.
- Goldstein, M. (1993). Bid-Ask Spreads on US. Equity Markets. Unpublished Ph.D. dissertation, Wharton School, University of Pennsylvania.
- Goodhart, C. and R. Curcio (1990). Asset Price Discovery and Price Clustering in the Foreign Exchange Market. unpublished working paper, London School of Economics.
- Gordon, M. (1962). *The Investment, Financing, and Valuation of the Corporation*. Irwin, Homewood, IL.
- Gottlieb, G. and A. Kalay (1985). Implications of the Discreteness of Observed Stock Prices. *Journal of Finance* 40, 135–154.
- Gourieroux, C., A. Monfort, and A. Trognon (1985). A General Approach to Serial Correlation. *Econometric Theory* 1, 315–340.
- Gourlay, A. and S. McKee (1977). The Construction of Hopscotch Methods for Parabolic and Elliptic Equations in Two Space Dimensions with a Mixed Derivative. *Journal of Computational and Applied Mathematics*, 201–206.
- Graham, R., D. Knuth, and O. Patashnik (1989). *Concrete Mathematics: A Foundation for Computer Science*. Addison-Wesley, Reading, MA.
- Grandmont, J. and P. Malgrange (1986). Introduction to Nonlinear Economic Dynamics. *Journal of Economic Theory* 40, 3–12.
- Granger, C. (1966). The Typical Spectral Shape of an Economic Variable. *Econometrica* 34, 150–161.
- Granger, C. (1969). Investigating Causal Relations by Econometric Models and Cross Spectral Methods. *Econometrica* 37, 421–438.
- Granger, C. (1980). Long Memory Relationships and the Aggregation of Dynamic Models. *Journal of Econometrics* 14, 227–238.
- Granger, C. and A. Andersen (1978). *An Introduction to Bilinear Time Series Models*. Vandenhoeck and Ruprecht, Göttingen.
- Granger, C. and R. Joyeux (1980). An Introduction to Long Memory Time Series Models and Fractional Differencing. *Journal of Time Series Analysis* 1, 15–29.
- Granger, C. and O. Morgenstern (1963). Spectral Analysis of New York Stock Market Prices. *Kyklos* 16, 1–27.
- Granger, C. and O. Morgenstern (1970). *Predictability of Stock Market Prices*. Heath-Lexington, Lexington, MA.
- Granito, M. (1984). *Bond Portfolio Immunization*. Lexington, Lexington, MA.
- Grassberger, P. and I. Procaccia (1983). Measuring the Strangeness of Strange Attractors. *Physica* 90, 189–208.
- Gray, S. (1996). Modeling the Conditional Distribution of Interest Rates as a Regime-Switching Process. *Journal of Financial Economics* 42, 27–62.

- Grinblatt, M. and S. Titman (1985). Factor Pricing in a Finite Economy. *Journal of Financial Economics* 12, 497–507.
- Grossman, S. (1989). *The Informational Role of Prices*. Massachusetts Institute of Technology Press, Cambridge, MA.
- Grossman, S., A. Melino, and R. Shiller (1987). Estimating the Continuous Time Consumption Based Asset Pricing Model. *Journal of Business and Economic Statistics* 5, 315–328.
- Grossman, S., M. Miller, D. Fischel, K. Cone, and D. Ross (1995). Clustering and Competition in Asset Markets. Lexecon Inc. Report.
- Grossman, S. and R. Shiller (1981). The Determinants of the Variability of Stock Market Prices. *American Economic Review* 71, 222–227.
- Grossman, S. and R. Shiller (1982). Consumption Correlatedness and Risk Measurement in Economies with Non-Traded Assets and Heterogeneous Information. *Journal of Financial Economics* 10, 195–210.
- Grossman, S. and J. Stiglitz (1980). On the Impossibility of Informationally Efficient Markets. *American Economic Review* 70, 393–408.
- Grossman, S. and Z. Zhou (1996). Equilibrium Analysis of Portfolio Insurance. *Journal of Finance* 51, 1379–1403.
- Grundy, B. and M. McNichols (1989). Trade and Revelation of Information through Prices and Direct Disclosure. *Review of Financial Studies* 2, 495–526.
- Gultekin, N., R. Rogalski, and S. Tiniç (1982). Option Pricing Model Estimates: Some Empirical Results. *Financial Management* 11, 58–69.
- Gurland, J., I. Lee, and P. Dahm (1960). Polychotomous Quantal Response in Biological Assay. *Biometrics* 16, 382–398.
- Hagerman, R. (1978). More Evidence on the Distribution of Security Returns. *Journal of Finance* 33, 1213–1220.
- Hakansson, N. (1976). Purchasing Power Funds: A New Kind of Financial Intermediary. *Financial Analysts Journal* 32, 49–59.
- Hakansson, N. (1977). The Superfund: Efficient Paths towards Efficient Capital Markets in Large and Small Countries. In H. Levy and M. Samat (Eds.), *Financial Decision Making Under Uncertainty*. Academic Press, New York.
- Hald, A. (1990). *A History of Probability and Statistics and Their Applications before 1750*. John Wiley and Sons, New York.
- Hald, A. (1992). Some Aspects of Generalized Method of Moments Estimation. In G. Maddala, C. Rao, and H. Vinod (Eds.), *Handbook of Statistics, Volume 11: Econometrics*. North-Holland, Amsterdam.
- Hall, R. (1988). Intertemporal Substitution in Consumption. *Journal of Political Economy* 96, 221–273.

- Halpern, R. and S. Turnbull (1985). Empirical Tests of Boundary Conditions for Toronto Stock Exchange Options. *Journal of Finance* 40, 481–500.
- Hamilton, J. (1989). A New Approach to the Economic Analysis of Nonstationary Time Series and the Business Cycle. *Econometrica* 57, 357–384.
- Hamilton, J. (1990). Analysis of Time Series Subject to Changes in Regime. *Journal of Econometrics* 45, 39–70.
- Hamilton, J. (1993). Estimation, Inference, and Forecasting of Time Series Subject to Changes in Regime. In G. Maddala, C. Rio, and H. Vinod (Eds.), *Handbook of Statistics, Volume 11*. North-Holland, New York.
- Hamilton, J. (1994). *Time Series Analysis*. Princeton University Press, Princeton, NJ.
- Hammersley, J. and D. Handscomb (1964). *Monte Carlo Methods*. Chapman and Hall, London.
- Hammersley, J. and J. Mauldon (1956). General Principles of Antithetic Variates. *Proceedings of the Cambridge Philosophical Society* 52, 476–481.
- Hampel, F. (1986). *Robust Statistics: The Approach Based on Influence Functions*. John Wiley and Sons, New York.
- Hansen, L. (1982). Large Sample Properties of Generalized Method of Moments Estimators. *Econometrica* 50, 1029–1054.
- Hansen, L. (1985). A Method for Calculating Bounds on the Asymptotic Covariance Matrices of Generalized Method of Moments Estimators. *Journal of Econometrics* 30, 203–238.
- Hansen, L., J. Heaton, and E. Luttmer (1995). Econometric Evaluation of Asset Pricing Models. *Review of Financial Studies* 8, 237–274.
- Hansen, L., J. Heaton, and M. Ogaki (1988). Efficiency Bounds Implied by Multi-period Conditional Moment Restrictions. *Journal of the American Statistical Association* 83, 863–871.
- Hansen, L. and R. Hodrick (1980). Forward Exchange Rates as Optimal Predictors of Future Spot Rates: An Econometric Analysis. *Journal of Political Economy* 88, 829–853.
- Hansen, L. and R. Hodrick (1983). Risk Averse Speculation in the Forward Foreign Exchange Market: An Econometric Analysis of Linear Models. In J. Frenkel (Ed.), *Exchange Rates and International Macroeconomics*. University of Chicago Press, Chicago, IL.
- Hansen, L. and R. Jagannathan (1991). Restrictions on Intertemporal Marginal Rates of Substitution Implied by Asset Returns. *Journal of Political Economy* 99, 225–262.
- Hansen, L. and S. Richard (1987). The Role of Conditioning Information in Deducing Testable Restrictions Implied by Dynamic Asset Pricing Models. *Econometrica* 55, 587–613.
- Hansen, L. and J. Scheinkman (1995). Back to the Future: Generating Moment Implications for Continuous-Time Markov Processes. *Econometrica* 63, 767–804.
- Hansen, L. and K. Singleton (1982). Generalized Instrumental Variables Estimation of Nonlinear Rational Expectations Models. *Econometrica* 50, 1269–1288.
- Hansen, L. and K. Singleton (1983). Stochastic Consumption, Risk Aversion and the Temporal Behavior of Asset Returns. *Journal of Political Economy* 91, 249–268.

- Härdle, W. (1990). *Applied Nonparametric Regression*. Cambridge University Press, Cambridge, UK.
- Harris, L. (1990). Estimation of Stock Variances and Serial Covariances from Discrete Observations. *Journal of Financial and Quantitative Analysis* 25, 291–306.
- Harris, L. (1991). Stock Price Clustering and Discreteness. *Review of Financial Studies* 4, 389–415.
- Harris, L., G. Sofianos, and J. Shapiro (1994). Program Trading and Intraday Volatility. *Review of Financial Studies* 7, 653–685.
- Harrison, M. (1985). *Brownian Motion and Stochastic Flow Systems*. John Wiley and Sons, New York.
- Harrison, M. and D. Kreps (1979). Martingales and Arbitrage in Multiperiod Securities Markets. *Journal of Economic Theory* 20, 381–408.
- Harrison, M. and S. Pliska (1981). Martingales and Stochastic Integrals in the Theory of Continuous Trading. *Stochastic Processes and Their Applications* 11, 215–260.
- Harvey, A., E. Ruiz, and N. Shephard (1994). Multivariate Stochastic Variance Models. *Review of Economic Studies* 61, 247–264.
- Harvey, C. (1988). The Real Term Structure and Consumption Growth. *Journal of Financial Economics* 22, 305–334.
- Harvey, C. (1989). Time-Varying Conditional Covariances in Tests of Asset Pricing Models. *Journal of Financial Economics* 24, 289–317.
- Harvey, C. (1991). The World Price of Covariance Risk. *Journal of Finance* 46, 111–157.
- Harvey, C. and G. Zhou (1990). Bayesian Inference in Asset Pricing Tests. *Journal of Financial Economics* 26, 221–254.
- Hasbrouck, J. (1988). Trades, Quotes, Inventories, and Information. *Journal of Financial Economics* 22, 229–252.
- Hasbrouck, J. (1991a). Measuring the Information Content of Stock Trades. *Journal of Finance* 46, 179–208.
- Hasbrouck, J. (1991b). The Summary Informativeness of Stock Trades: An Econometric Analysis. *Review of Financial Studies* 4, 571–595.
- Hasbrouck, J. and T. Ho.
- Hausman, J. (1978). Specification Tests in Econometrics. *Econometrica* 46, 1251–1271.
- Hausman, J., A. Lo, and C. MacKinlay (1992). An Ordered Probit Analysis of Transaction Stock Prices. *Journal of Financial Economics* 31, 319–379.
- He, H. and H. Leland (1993). On Equilibrium Asset Price Processes. *Review of Financial Studies* 6, 593–617.
- He, H. and D. Modest (1995). Market Frictions and Consumption-Based Asset Pricing. *Journal of Political Economy* 103, 94–117.



- Heath, D., R. Jarrow, and A. Morton (1992). Bond Pricing and the Term Structure of Interest Rates: A New Methodology for Contingent Claims Valuation. *Econometrica* 60, 77–105.
- Heaton, J. (1995). An Empirical Investigation of Asset Pricing with Temporally Dependent Preference Specifications. *Econometrica*, 681–717.
- Heaton, J. and D. Lucas (1996). Evaluating the Effects of Incomplete Markets on Risk Sharing and Asset Pricing. *Journal of Political Economy* 104, 668–712.
- Helson, H. and D. Sarason (1967). Past and Future. *Mathematica Scandinavia* 21, 5–16.
- Henriksson, R. and R. Merton (1981). On Market Timing and Investment Performance, II: Statistical Procedures for Evaluating Forecasting Skills. *Journal of Business* 54, 513–533.
- Hentschel, L. (1995). All in the Family: Nesting Symmetric and Asymmetric GARCH Models. *Journal of Financial Economics* 39, 71–104.
- Hermendorf, N. (1984). A Functional Central Limit Theorem for Weakly Dependent Sequences of Random Variables. *Annals of Probability* 12, 141–153.
- Hertz, J., A. Krogh, and R. Palmer (1991). *Introduction to the Theory of Neural Computation*. Addison-Wesley Publishing Company, Reading, MA.
- Heston, S. (1992). Testing Continuous-Time Models of the Term Structure of Interest Rates. unpublished paper, Yale University.
- Heston, S. (1993). A Closed-Form Solution for Options with Stochastic Volatility with Applications to Bond and Currency Options. *Review of Financial Studies* 6, 327–343.
- Hicks, J. (1946). *Value and Capital* (2nd ed.). Oxford University Press, Oxford.
- Hinich, M. and D. Patterson (1985). Evidence of Nonlinearity in Daily Stock Returns. *Journal of Business and Economic Statistics* 3, 69–77.
- Ho, T. and S. Lee (1986). Term Structure Movements and Pricing interest Rate Contingent Claims. *Journal of Finance* 41, 1011–1029.
- Ho, T. and H. Stoll (1980). On Dealership Markets under Competition. *Journal of Finance* 35, 259–267.
- Ho, T. and H. Stoll (1981). Optimal Dealer Pricing under Transactions and Return Uncertainty. *Journal of Financial Economics* 9, 47–73.
- Hodrick, R. (1992). Dividend Yields and Expected Stock Returns: Alternative Procedures for Inference and Measurement. *Review of Financial Studies* 5, 357–386.
- Hoel, P., S. Port, and C. Stone (1972). *Introduction to Stochastic Processes*. Houghton Mifflin, Boston, MA.
- Hofmann, N., E. Platen, and M. Schweizer (1992). Option Pricing under Incompleteness and Stochastic Volatility. *Mathematical Finance* 2, 153–187.
- Hogarth, R. and M. Recler (Eds.) (1987). *Rational Choice: The Contrast Between Economics and Psychology*. University of Chicago Press, Chicago, IL.
- Holden, A. (Ed.) (1986). *Chaos*. Princeton University Press, Princeton, NJ.

- Hornik, K. (1989). Multilayer Feedforward Networks Are Universal Approximators. *Neural Networks* 2(5), 359–366.
- Hornik, K., M. Stinchcombe, and H. White (1990). Universal Approximation of an Unknown Mapping and Its Derivatives. *Neural Networks* 3, 551–560.
- Hosking, J. (1981). Fractional Differencing. *Biometrika* 68, 165–176.
- Hsieh, D. (1989). Testing for Nonlinear Dependence in Daily Foreign Exchange Rates. *Journal of Business* 62, 339–368.
- Hsieh, D. (1991). Chaos and Nonlinear Dynamics: Application to Financial Markets. *Journal of Finance* 46, 1839–1877.
- Hsieh, D. (1993). Implications of Nonlinear Dynamics for Financial Risk Management. *Journal of Financial and Quantitative Analysis* 28, 41–64.
- Hsu, D., R. Miller, and D. Wichern (1974). On the Stable Paretian Behavior of Stock Market Prices. *Journal of the American Statistical Association* 69, 108–113.
- Huang, C. (1992). Lecture Notes on the Theory of Financial Markets in Continuous Time.
- Huang, C. and R. Litzenberger (1988). *Foundations for Financial Economics*. North-Holland, New York.
- Huang, R. and H. Stoll (1995a). The Components of the Bid-Ask Spread: A General Approach. Financial Markets Research Center Working Paper 94–33, Owen Graduate School of Management, Vanderbilt University.
- Huang, R. and H. Stoll (1995b). Dealer Versus Auction Markets: A Paired Comparison of Execution Costs on NASDAQ and the NYSE. Financial Markets Research Center Working Paper 95–16, Owen Graduate School of Management, Vanderbilt University.
- Huber, P. (1985). Projection Pursuit. *Annals of Statistics* 13(2), 435–525.
- Huberman, G. (1982). A Simple Approach to Arbitrage Pricing Theory. *Journal of Economic Theory* 28, 183–191.
- Huberman, G. and S. Kandel (1987). Mean-Variance Spanning. *Journal of Finance* 42(4), 873–888.
- Hull, J. (1993). *Options, Futures, and Other Derivative Securities* (2nd ed.). Prentice-Hall, Englewood Cliffs, New Jersey.
- Hull, J. and A. White (1987). The Pricing of Options on Assets with Stochastic Volatilities. *Journal of Finance* 42, 281–300.
- Hull, J. and A. White (1990a). Pricing Interest-Rate-Derivative Securities. *Review of Financial Studies* 3, 573–592.
- Hull, J. and A. White (1990b). Valuing Derivative Securities Using the Explicit Finite Difference Method. *Journal of Financial and Quantitative Analysis* 25, 87–100.
- Hurst, H. (1951). Long Term Storage Capacity of Reservoirs. *Transactions of the American Society of Civil Engineers* 116, 770–799.

- Hutchinson, J., A. Lo, and T. Poggio (1994). A Nonparametric Approach to the Pricing and Hedging of Derivative Securities Via Learning Networks. *Journal of Finance* 49, 851–889.
- Ingersoll, J. (1987). *Theory of Financial Decision Making*. Rowman & Littlefield, Totowa, NJ.
- Itô, K. (1951). On Stochastic Differential Equations. *Memoirs of the American Mathematical Society* 4, 1–51.
- J. Ingersoll, J., J. Skelton, and R. Weil (1978). Duration Forty Years Later. *Journal of Financial and Quantitative Analysis* 13, 627–650.
- Jackwerth, J. and M. Rubinstein (1995). Recovering Probability Distributions from Contemporary Security Prices. working paper, Haas School of Business, University of California at Berkeley.
- Jacquier, E., N. Poison, and P. Rossi (1994). Bayesian Analysis of Stochastic Volatility Models. *Journal of Business and Economic Statistics* 12, 371–389.
- Jagannathan, R. and Z. Wang (1996). The Conditional CAPM and the Cross-Section of Expected Returns. *Journal of Finance* 51, 3–53.
- Jam, P. (1986). Analyses of the Distribution of Security Market Model Prediction Errors for Daily Returns Data. *Journal of Accounting Research* 24, 76–96.
- Jamshidian, F. (1989). An Exact Bond Option Formula. *Journal of Finance* 44, 205–209.
- Jarrell, G., J. Brickley, and J. Netter (1988). The Market for Corporate Control: The Empirical Evidence Since 1980. *Journal of Economic Perspectives* 2, 639–658.
- Jarrell, G. and A. Poulsen (1989). The Returns to Acquiring Firms in Tender Offers: Evidence from Three Decades. *Financial Management* 18, 12–19.
- Jarrow, R. and A. Rudd (1982). Approximate Option Valuation for Arbitrary Stochastic Processes. *Journal of Financial Economics* 10, 347–369.
- Jegadeesh, N. (1990). Evidence of Predictable Behavior of Security Returns. *Journal of Finance* 45, 881–898.
- Jegadeesh, N. (1991). Seasonality in Stock Price Mean Reversion: Evidence from the U.S. and the U.K. *Journal of Finance* 46, 1427–1444.
- Jegadeesh, N. and S. Titman (1993). Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency. *Journal of Finance* 48, 65–91.
- Jegadeesh, N. and S. Titman (1995). Overreaction, Delayed Reaction, and Contrarian Profits. *Review of Financial Studies* 8, 973–993.
- Jensen, M. and R. Ruback (1983). The Market for Corporate Control: The Scientific Evidence. *Journal of Financial Economics* 11, 5–50.
- Jerison, D., I. Singer, and D. Stroock (Eds.).
- Jobson, D. and R. Korkie (1982). Potential Performance and Tests of Portfolio Efficiency. *Journal of Financial Economics* 10, 433–466.

- Jobson, D. and R. Korkie (1985). Some Tests of Linear Asset Pricing with Multivariate Normality. *Canadian Journal of Administrative Sciences* 2, 114–138.
- Johnson, H. (1983). An Analytic Approximation of the American Put Price. *Journal of Financial and Quantitative Analysis* 18, 141–148.
- Johnson, H. and D. Shanno (1987). Option Pricing when the Variance Is Changing. *Journal of Financial and Quantitative Analysis* 22, 143–151.
- Jones, L. (1987). On a Conjecture of Huber Concerning the Convergence of Projection Pursuit Regression. *Annals of Statistics* 15(2), 880–882.
- Joreskog, K. (1967). Some Contributions to Maximum Likelihood Factor Analysis. *Psychometrika* 34, 183–202.
- Judge, G., W. Griffiths, C. Hill, H. Likepohl, and T. Lee (1985). *The Theory and Practice of Econometrics*. John Wiley and Sons, New York.
- Kagel, J. and A. Roth (Eds.) (1995). *Handbook of Experimental Economics*. Princeton University Press, Princeton, NJ.
- Kahneman, D. and A. Tversky (1979). Prospect Theory: An Analysis of Decision Under Risk. *Econometrica* 47, 263–291.
- Kalos, M. and P. Whitlock (1986). *Monte Carlo Methods, Volume I: Basics*. John Wiley and Sons, New York.
- Kandel, E. and L. Marx (1996). NASDAQ Market Structure and Spread Patterns. unpublished working paper, Simon Graduate School of Business, University of Rochester.
- Kandel, S. (1984). The Likelihood Ratio Test of Mean-Variance Efficiency without a Riskless Asset. *Journal of Financial Economics* 13, 575–592.
- Kandel, S., R. McCulloch, and R. Stambaugh (1995). Bayesian Inference and Portfolio Efficiency. *Review of Financial Studies* 8, 1–53.
- Kandel, S. and R. Stambaugh (1987). On Correlations and Inferences about Mean-Variance Efficiency. *Journal of Financial Economics* 18, 61–90.
- Kandel, S. and R. Stambaugh (1989). Modelling Expected Stock Returns for Long and Short Horizons. Working Paper 42-88, Rodney L. White Center, Wharton School, University of Pennsylvania.
- Kandel, S. and R. Stambaugh (1990). A Mean-Variance Framework for Tests of Asset Pricing Models. *Review of Financial Studies* 2, 125–156.
- Kandel, S. and R. Stambaugh (1991). Asset Returns and Intertemporal Preferences. *Journal of Monetary Economics* 27, 39–71.
- Kandel, S. and R. Stambaugh (1995). Portfolio inefficiency and the Cross-Section of Expected Returns. *Journal of Finance* 50, 157–184.
- Kane, E. (1970, May). The Term Structure of Interest Rates: An Attempt to Reconcile Teaching with Practice. *Journal of Finance* 25, 361–374.

- Kane, E. (1983). Nested Tests of Alternative Term Structure Theories. *Review of Economics and Statistics* 65, 115–123.
- Kane, E. and H. Unal (1988). Change in Assessments of Deposit Institution Riskiness. *Journal of Financial Services Research* 1, 207–229.
- Karpoff, J. (1986). A Theory of Trading Volume. *Journal of Finance* 41, 1069–1088.
- Karpoff, J. (1987). The Relation between Price Changes and Trading Volume: A Survey. *Journal of Financial and Quantitative Analysis* 22, 109–126.
- Keim, D. (1989). Trading Patterns, Bid-Ask Spreads, and Estimated Security Returns: The Case of Common Stocks at Calendar Turning Points. *Journal of Financial Economics* 25, 75–97.
- Keim, D. and A. Madhavan (1995a). Anatomy of the Trading Process: Empirical Evidence on the Behavior of Institutional Traders. *Journal of Financial Economics* 37, 371–398.
- Keim, D. and A. Madhavan (1995b). Execution Costs and Investment Performance: An Empirical Analysis of Institutional Equity Trades. working paper, School of Business Administration, University of Southern California.
- Keim, D. and A. Madhavan (1996). The Upstairs Market for Large-Block Transactions: Analysis and Measurement of Price Effects. *Review of Financial Studies* 9, 1–36.
- Keim, D. and K. Stambaugh (1986). Predicting Returns in Stock and Bond Markets. *Journal of Financial Economics* 17, 357–390.
- Kendall, M. (1953). The Analysis of Economic Time Series—Part I: Prices. *Journal of the Royal Statistical Society* 96, 11–25.
- Kendall, M. (1954). Note on Bias in the Estimation of Autocorrelation. *Biometrika* 41, 403–404.
- Kennan, D. and M. O'Brien (1993). Competition, Collusion, and Chaos. *Journal of Economic Dynamics and Control* 17, 327–353.
- Kennedy, D. (1976). The Distribution of the Maximum Brownian Excursion. *Journal of Applied Probability* 13, 371–376.
- Kim, M., C. Nelson, and R. Startz (1988). Mean Reversion in Stock Prices? A Reappraisal of the Empirical Evidence. Technical Report 2795, NBER, Cambridge, MA. to appear in *Review of Economic Studies*.
- Kindleberger, C. (1989). *Manias, Panics, and Crashes: A History of Financial Crises* (revised ed.). Basic Books, New York.
- Kleidon, A. (1986). Variance Bounds Tests and Stock Price Valuation Models. *Journal of Political Economy* 94, 953–1001.
- Kleidon, A. and R. Willig (1995). Why Do Christie and Schultz Infer Collusion from Their Data? unpublished working paper.
- Kocherlakota, N. (1996). The Equity Premium: It's Still a Puzzle. *Journal of Economic Literature* 34, 42–71.
- Korajczyk, R. and C. Viallet (1989). An Empirical Investigation of International Asset Pricing. *Review of Financial Studies* 2, 553–586.

- Kothari, S., J. Shanken, and R. Sloan (1995). Another Look at the Cross-Section of Expected Returns. *Journal of Finance* 50, 185–224.
- Kreps, D. (1988). *Notes on the Theory of Choice*. Westview Press, Boulder, CO.
- Kreps, D. and E. Porteus (1978). Temporal Resolution of Uncertainty and Dynamic Choice Theory. *Econometrica* 46, 185–200.
- Kroner, K. and V. Ng (1993). Modelling the Time Varying Comovement of Asset Returns. unpublished paper, University of Arizona and International Monetary Fund.
- Kyle, A. (1985). Continuous Auctions and Insider Trading. *Econometrica* 53, 1315–1335.
- Laibson, D. (1996). Hyperbolic Discount Functions, Undersaving, and Savings Policy. Working Paper 5635, NBER, Cambridge, MA.
- Lakonishok, J., A. Shleifer, and R. Vishny (1994). Contrarian Investment, Extrapolation, and Risk. *Journal of Finance* 49, 1541–1578.
- Lanen, W. and R. Thompson (1988). Stock Price Reactions as Surrogates for the Net Cashflow Effects of Corporate Financial Decisions. *Journal of Accounting and Economics* 10, 311–334.
- Lang, S. (1973). *Calculus of Several Variables*. Addison-Wesley, Reading, MA.
- Learner, K. (1978). *Speculation Searches*. John Wiley and Sons, New York.
- LeBaron, B. (1996). Technical Trading Rule Profitability and Foreign Exchange Intervention. Working Paper 5505, NBER, Cambridge, MA.
- Lee, C. and M. Ready (1991). Inferring Trade Direction from Intraday Data. *Journal of Finance* 46, 733–746.
- Lee, S. and B. Hansen (1994). Asymptotic Theory for the GARCH(1,1) Quasi-Maximum Likelihood Estimator. *Econometric Theory* 10, 29–52.
- Lehmann, B. Empirical Testing of Asset Pricing Models. In P. Newman, M. Milgate, and J. Eatwell (Eds.), *The New Palgrave Dictionary of Money and Finance*, pp. 749–759. Stockton Press, New York.
- Lehmann, B. (1987). Orthogonal Frontiers and Alternative Mean Variance Efficiency Tests. *Journal of Finance* 42, 601–619.
- Lehmann, B. (1990). Fads, Martingales, and Market Efficiency. *Quarterly Journal of Economics* 105, 1–28.
- Lehmann, B. (1991). Earnings, Dividend Policy, and Present Value Relations: Building Blocks of Dividend Policy Invariant Cash Flows. Working Paper 3676, NBER, Cambridge, MA.
- Lehmann, B. and D. Modest (1988). The Empirical Foundations of the Arbitrage Pricing Theory. *Journal of Financial Economics* 21, 213–254.
- LeRoy, S. (1973). Risk Aversion and the Martingale Property of Stock Returns. *International Economic Review* 14, 436–446.

- LeRoy, S. (1989). Efficient Capital Markets and Martingales. *Journal of Economic Literature* 27, 1583–1621.
- LeRoy, S. and R. Porter (1981). The Present Value Relation: Tests Based on Variance Bounds. *Econometrica* 49, 555–577.
- LeRoy, S. and D. Steigerwald (1992). Volatility. Working Paper 6-92, Department of Economics, University of California Santa Barbara.
- Levy, H. (1985). Upper and Lower Bounds of Put and Call Option Values: Stochastic Dominance Approach. *Journal of Finance* 40, 1197–1218.
- Lévy, P. (1924). Théorie des Erreurs. La Loi de Gauss et Les Lois Exceptionnelles. *Bull. Soc. Math.* 52, 49–85.
- Lévy, P. (1925). *Calcul des Probabilités*. Gauthier-Villiers, Paris.
- Li, S. (1980). A Martingale Approach to the Study of Occurrence of Sequence Patterns in Repeated Experiments. *Annals of Probability* 8, 1171–1176.
- Lintner, J. (1965a). Security Prices, Risk and Maximal Gains from Diversification. *Journal of Finance* 20, 587–615.
- Lintner, J. (1965b). The Valuation of Risky Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets. *Review of Economics and Statistics* 47, 13–37.
- Litzenberger, R. and K. Ramaswamy (1979). The Effect of Personal Taxes and Dividends on Capital Asset Prices: Theory and Evidence. *Journal of Financial Economics* 7, 163–196.
- Litzenberger, R. and J. Rolfo (1984). An International Study of Tax Effects on Government Bonds. *Journal of Finance* 39, 1–22.
- Liu, C. and J. He (1991). A Variance-Ratio Test of Random Walks in Foreign Exchange Rates. *Journal of Finance* 46, 777–786.
- Ljung, G. and G. Box (1978). On a Measure of Lack of Fit in Time Series Models. *Biometrika* 66, 67–72.
- Ljung, L. and T. Söderström (1986). *Theory and Practice of Recursive Identification*. Massachusetts Institute of Technology Press, Cambridge, MA.
- Lo, A. (1986). Statistical Tests of Contingent Claims Asset-Pricing Models: A New Methodology. *Journal of Financial Economics* 17, 143–173.
- Lo, A. (1987). Semiparametric Upper Bounds for Option Prices and Expected Payoffs. *Journal of Financial Economics* 19, 373–388.
- Lo, A. (1988). Maximum Likelihood Estimation of Generalized Itô Processes with Discretely Sampled Data. *Econometric Theory* 4, 231–247.
- Lo, A. (1991). Long Term Memory in Stock Market Prices. *Econometrica* 59, 1279–1313.
- Lo, A. (Ed.) (1995). *The industrial Organization and Regulation of the Securities Industry (NBER Conference Report)*. University of Chicago Press, Chicago, IL.

- Lo, A. (Ed.) (1996). *Market Efficient: Stock Market Behaviour in Theory and Practice*. Edward Elgar Publishing, Ltd., London.
- Lo, A. and A. C. MacKinlay (1988). Stock Market Prices Do Not Follow Random Walks: Evidence from a Simple Specification Test. *Review of Financial Studies* 1, 41–66.
- Lo, A. and A. C. MacKinlay (1989). The Size and Power of the Variance Ratio Test in Finite Samples: A Monte Carlo Investigation. *Journal of Econometrics* 40, 203–238.
- Lo, A. and A. C. MacKinlay (1990a). An Econometric Analysis of Nonsynchronous-Trading. *Journal of Econometrics* 45, 181–212.
- Lo, A. and A. C. MacKinlay (1990ba). Data-Snooping Biases in Tests of Financial Asset Pricing Models. *Review of Financial Studies* 3, 431–468.
- Lo, A. and A. C. MacKinlay (1990bb). When Are Contrarian Profits Due to Stock Market Overreaction? *Review of Financial Studies* 3, 175–208.
- Lo, A. and A. C. MacKinlay (1996). Maximizing Predictability in the Stock and Bond Markets. Working Paper LFE-1019-96, MIT Laboratory for Financial Engineering.
- Lo, A. and J. Wang (1995). Implementing Option Pricing Models when Asset Returns Are Predictable. *Journal of Finance* 50, 87–129.
- Loewenstein, G. and D. Prelec (1992). Anomalies in Intertemporal Choice: Evidence and an Interpretation. *Quarterly Journal of Economics* 107, 573–598.
- Longstaff, F. (1989). A Nonlinear General Equilibrium Model of the Term Structure of Interest Rates. *Journal of Financial Economics* 23, 195–224.
- Longstaff, F. (1992). Multiple Equilibria and Term Structure Models. *Journal of Financial Economics* 32, 333–344.
- Longstaff, F. (1995). Option Pricing and the Martingale Restriction. *Review of Financial Studies* 8, 1091–1124.
- Longstaff, F. and F. Schwartz (1992). Interest Rate Volatility and the Term Structure: A Two-Factor General Equilibrium Model. *Journal of Finance* 47, 1259–1282.
- Lorenz, F. (1963). Deterministic Aperiodic Flow. *Journal of Atmospheric Sciences* 20, 130–141.
- Lumsdaine, R. (1995). Finite-Sample Properties of the Maximum Likelihood Estimator in GARCH(1,1) and IGARCH(1,1) Models: A Monte Carlo Investigation. *Journal of Business and Economic Statistics* 13, 1–10.
- Luttmer, E. (1994). Asset Pricing in Economies with Frictions. unpublished paper, Kellogg Graduate School of Management, Northwestern University.
- Lutz, F. (1940). The Structure of Interest Rates. *Quarterly Journal of Economics* 55, 36–63.
- Macaulay, F. (1938). *Some Theoretical Problems Suggested by the Movements of interest Rates, Bond Yields, and Stock Prices in the United States Since 1856*. National Bureau of Economic Research, New York.
- MacBeth, J. and L. Merville (1979). An Empirical Examination of the Black-Scholes Call Option Pricing Model. *Journal of Finance* 34, 1173–1186.



- MacBeth, J. and L. Merville (1980). Tests of the Black-Scholes and Cox Call Option Valuation Models. *Journal of Finance* 35, 285–300.
- Mackay, C. (1852). *Memoirs of Extraordinary Popular Delusions and the Madness of Crowds* (2nd ed.). Office Nat, Illustrated Library, London.
- MacKinlay, A. C. (1987). On Multivariate Tests of the CAPM. *Journal of Financial Economics* 18, 341–372.
- MacKinlay, A. C. (1995). Multifactor Models Do Not Explain Deviations from the CAPM. *Journal of Financial Economics* 38, 3–28.
- MacKinlay, A. C. and M. Richardson (1991). Using Generalized Methods of Moments to Test Mean-Variance Efficiency. *Journal of Finance* 46, 511–527.
- Maddala, G. (1983). *Limited-Dependent and Qualitative Variables in Econometrics*. Cambridge University Press, Cambridge, UK.
- Madhavan, A. and S. Smidt (1991). A Bayesian Model of Intraday Specialist Pricing. *Journal of Financial Economics* 30, 99–134.
- Magnus, J. and H. Neudecker (1988). *Matrix Differential Calculus*. John Wiley and Sons, New York.
- Malatesta, P. and K. Thompson (1985). Partially Anticipated Events: A Model of Stock Price Reactions with an Application to Corporate Acquisitions. *Journal of Financial Economics* 14, 237–250.
- Malkiel, B. (1992). Efficient Market Hypothesis. In P. Newman, M. Milgate, and J. Eatwell (Eds.), *New Palgrave Dictionary of Money and Finance*. Macmillan, London.
- Mandelbrot, B. (1963). The Variation of Certain Speculative Prices. *Journal of Business* 36, 394–419.
- Mandelbrot, B. (1967). The Variation of Certain Speculative Prices. *Journal of Business* 36, 394–419.
- Mandelbrot, B. (1971). When Can Price Be Arbitraged Efficiently? A Limit to the Validity of the Random Walk and Martingale Models. *Review of Economics and Statistics* 53, 225–236.
- Mandelbrot, B. (1972). Statistical Methodology for Non-Periodic Cycles: From the Covariance to R/S Analysis. *Annals of Economic and Social Measurement* 1, 259–290.
- Mandelbrot, B. (1975). Limit Theorems on the Self-Normalized Range for Weakly and Strongly Dependent Processes. *Z. Wahrscheinlichkeits theorie verw, Gebiete* 31, 271–285.
- Mandelbrot, B. and J. V. Ness (1968). Fractional Brownian Motion, Fractional Noises and Applications. *S.I.A.M. Review* 10, 422–437.
- Mandelbrot, B. and M. Taqqu (1979). Robust R/S Analysis of Long Run Serial Correlation. *Bulletin of the International Statistical Institute* 48 (Book 2), 59–104.
- Mandelbrot, B. and H. Taylor (1967). On the Distribution of Stock Price Differences. *Operations Research* 15, 1057–1062.

- Mandelbrot, B. and J. Wallis (1968). Noah, Joseph and Operational Hydrology. *Water Resources Research* 4, 909–918.
- Mandelbrot, B. and J. Wallis (1969a). Computer Experiments with Fractional Gaussian Noises. Parts 1, 2, 3. *Water Resources Research* 5, 228–267.
- Mandelbrot, B. and J. Wallis (1969b). Some Long Run Properties of Geophysical Records. *Water Resources Research* 5, 321–340.
- Mankiw, N. G. (1986). The Equity Premium and the Concentration of Aggregate Shocks. *Journal of Financial Economics* 17, 211–219.
- Mankiw, N. G. and J. Miron (1986). The Changing Behavior of the Term Structure of Interest Rates. *Quarterly Journal of Economics* 101, 211–221.
- Mankiw, N. G., D. Romer, and M. Shapiro (1985). An Unbiased Reexamination of Stock Market Volatility. *Journal of Finance* 40, 677–687.
- Mankiw, N. G. and M. Shapiro (1986). Do We Reject Too Often? Small Sample Properties of Tests of Rational Expectations Models. *Economics Letters* 20, 139–145.
- Mankiw, N. G. and S. Zeldes (1991). The Consumption of Stockholders and Non-Stockholders. *Journal of Financial Economics* 29, 97–112.
- Manne, H. (1965). Mergers and the Market for Corporate Control. *Journal of Political Economy* 73, 110–120.
- Mark, N. (1995). Exchange Rates and Fundamentals: Evidence on Long-Horizon Predictability. *American Economic Review* 85, 201–218.
- Markowitz, H. (1959). *Portfolio Selection: Efficient Diversification of Investments*. John Wiley, New York.
- Marsh, T. and R. Merton (1986). Dividend Variability and Variance Bounds Tests for the Rationality of Stock Market Prices. *American Economic Review* 76, 483–498.
- Marsh, T. and E. Rosenfeld (1986). Non-Trading, Market Making, and Estimates of Stock Price Volatility. *Journal of Financial Economics* 15, 359–372.
- Mason, S., R. Merton, A. Perold, and P. Tufano (1995). *Cases in Financial Engineering: Applied Studies of Financial Innovation*. Prentice-Hall, Englewood Cliffs, NJ.
- Mayers, D. (1972). Nonmarketable Assets and Capital Market Equilibrium under Uncertainty. In M. Jensen (Ed.), *Studies in the Theory of Capital Markets*, pp. 223–248. Praeger, New York.
- McCallum, B. (1994). Monetary Policy and the Term Structure of Interest Rates. Working Paper 4938, NBER, Cambridge, MA.
- McCullagh, P. (1980). Regression Models for Ordinal Data. *Journal of the Royal Statistical Society Series B*(42), 109–142.
- McCulloch, J. (1971). Measuring the Term Structure of Interest Rates. *Journal of Business* 44, 19–31.

- McCulloch, J. (1975). The Tax-Adjusted Yield Curve. *Journal of Finance* 30, 811–830.
- McCulloch, J. (1993). A Reexamination of Traditional Hypotheses About the Term Structure: A Comment. *Journal of Finance* 48, 779–789.
- McCulloch, J. and H. Kwon (1993). US Term Structure Data, 1947–1991. Working Paper 93-6, Ohio State University.
- McCulloch, W. and W. Pitts (1943). A Logical Calculus of Ideas Immanent in Nervous Activity. *Bulletin of Mathematical Biophysics* 5, 115–133.
- McQueen, G. and V. Roley (1993). Stock Prices, News, and Business Conditions. *Review of Financial Studies* 6, 683–707.
- Mech, T. (1993). Portfolio Return Autocorrelation. *Journal of Financial Economics* 34, 307–344.
- Mehra, R. and E. Prescott (1985). The Equity Premium: A Puzzle. *Journal of Monetary Economics* 15, 145–161.
- Mei, J. (1993). A Semiautoregression Approach to the Arbitrage Pricing Theory. *Journal of Finance* 48, 599–620.
- Melino, A. (1988). The Term Structure of Interest Rates: Evidence and Theory. *Journal of Economic Surveys* 2, 335–366.
- Melino, A. and S. Turnbull (1990). Pricing Foreign Currency Options with Stochastic Volatility. *Journal of Econometrics* 45, 239–265.
- Merton, R. (1969). Lifetime Portfolio Selection under Uncertainty: The Continuous Time Case. *Review of Economics and Statistics* 51, 247–257.
- Merton, R. (1972). An Analytic Derivation of the Efficient Portfolio Frontier. *Journal of Financial and Quantitative Analysis* 7, 1851–1872.
- Merton, R. (1973a). An Intertemporal Capital Asset Pricing Model. *Econometrica* 41, 867–887.
- Merton, R. (1973b). Rational Theory of Option Pricing. *Bell Journal of Economics and Management Science* 4, 141–183.
- Merton, R. (1976a). The Impact on Option Pricing of Specification Error in the Underlying Stock Price Distribution. *Journal of Finance* 31, 333–350.
- Merton, R. (1976b). Option Pricing when Underlying Stock Returns Are Discontinuous. *Journal of Financial Economics* 3, 125–144.
- Merton, R. (1980). On Estimating the Expected Return on the Market: An Exploratory investigation. *Journal of Financial Economics* 8, 323–361.
- Merton, R. (1981). On Market Timing and Investment Performance, I: An Equilibrium Theory of Value for Market Forecasts. *Journal of Business* 54, 363–406.
- Merton, R. (1990). *Continuous-Time Finance*. Blackwell Publishers, Cambridge, MA.
- Miccheli, C. (1986). Interpolation of Scattered Data; Distance Matrices and Conditionally Positive Definite Functions. *Constructive Approximation* 2, 11–22.

- Mikkelson, W. and M. Partch (1986). Valuation Effects of Security Offerings and the Issuance Process. *Journal of Financial Economics* 15, 31–60.
- Mishkin, F. (1988). The Information in the Term Structure: Some Further Results. *Journal of Applied Econometrics* 3, 307–314.
- Mishkin, F. (1990a). The Information in the Longer-Maturity Term Structure about Future Inflation. *Quarterly Journal of Economics* 105, 815–821.
- Mishkin, F. (1990b). What Does the Term Structure Tell Us about Future Inflation? *Journal of Monetary Economics* 25, 77–95.
- Mitchell, M. and J. Netter (1994). The Role of Financial Economics in Securities Fraud Cases: Applications at the Securities and Exchange Commission. *The Business Lawyer* 49, 545–590.
- Modest, D. and M. Sundaresan (1983). The Relationship between Spot and Futures Prices in Stock Index Futures Markets: Some Preliminary Evidence. *Journal of Futures Markets* 3, 15–42.
- Modigliani, F. and R. Sutch (1966). Innovations in Interest Rate Policy. *American Economic Review* 56, 178–197.
- Mood, A. (1940). The Distribution Theory of Runs. *Annals of Mathematical Statistics* 11, 367–392.
- Moody, J. and C. Darken (1989). Fast Learning in Networks of Locally Tuned Processing Units. *Neural Computations* 1, 281–294.
- Morrison, D. (1990). *Multivariate Statistical Methods*. McGraw Hill, New York.
- Morse, D. (1984). An Econometric Analysis of the Choice of Daily Versus Monthly Returns in Tests of Information Content. *Journal of Accounting Research* 22, 605–623.
- Mossin, J. (1966). Equilibrium in a Capital Asset Market. *Econometrica* 35, 768–783.
- Muirhead, R. (1983). *Aspects of Multivariate Statistical Theory*. John Wiley and Sons, New York.
- Murphy, J. (1986). *Technical Analysis of the Futures Markets*. New York Institute of Finance, New York.
- Muth, J. (1960). Optimal Properties of Exponentially Weighted Forecasts. *Journal of the American Statistical Association* 55, 299–306.
- Muthuswamy, J. (1988). Asynchronous Closing Prices and Spurious Autocorrelations in Portfolio Returns. working paper, Graduate School of Business, University of Chicago.
- Myers, J. and A. Bakay (1948). Influence of Stock Split-Ups on Market Price. *Harvard Business Review*, 251–265.
- Myers, S. and N. Majluf (1984). Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have. *Journal of Financial Economics* 13, 187–221.

- Naik, V. and M. Lee (1994). The Yield Curve and Bond Option Prices with Discrete Shifts in Economic Regimes. unpublished paper, University of British Columbia and University of Saskatchewan.
- Neftci, S. (1991). Naive Trading Rules in Financial Markets and Wiener-Kolmogorov Prediction Theory: A Study of 'Technical Analysis'. *Journal of Business* 64, 549–572.
- Nelson, C. and M. Kim (1993). Predictable Stock Returns: The Role of Small Sample Bias. *Journal of Finance* 48, 641–661.
- Nelson, C. and A. Siegel (1987). Parsimonious Modelling of Yield Curves. *Journal of Business*.
- Nelson, C. and N. Startz (1990). The Distribution of the Instrumental Variables Estimator and Its t-Ratio when the Instrument Is a Poor One. *Journal of Business* 63, S125–S140.
- Nelson, D. (1990). Stationarity and Persistence in the GARCH(1,1) Model. *Econometric Theory* 6, 318–334.
- Nelson, D. (1991). Conditional Heteroskedasticity in Asset Returns: A New Approach. *Econometrica* 59, 347–370.
- Nelson, D. (1992). Filtering and Forecasting with Misspecified ARCH Models I: Getting the Right Variance with the Wrong Model. *Journal of Econometrics* 52, 61–90.
- Nelson, D. (1996). Asymptotically Optimal Smoothing with ARCH Models. *Econometrica* 64, 561–573.
- Nelson, D. and D. Foster (1994). Asymptotic Filtering Theory for Univariate ARCH Models. *Econometrica* 62, 1–41.
- Nelson, D. and K. Ramaswamy (1990). Simple Binomial Processes as Diffusion Approximations in Financial Models. *Review of Financial Studies* 3, 393–430.
- Newey, W. (1985). Semiparametric Estimation of Limited Dependent Variable Models with Endogenous Explanatory Variables. *Annales de L'Insee* 59/60, 219–237.
- Newey, W. and K. West (1987). A Simple, Positive Semi-Definite, Heteroscedasticity and Autocorrelation Consistent Covariance Matrix. *Econometrica* 55, 703–708.
- Niederhoffer, V. (1965). Clustering of Stock Prices. *Operations Research* 13, 258–265.
- Niederhoffer, V. (1966). A New Look at Clustering of Stock Prices. *Journal of Business* 39, 309–313.
- Niederhoffer, V. and M. Osborne (1966). Market Making and Reversal on the Stock Exchange. *Journal of the American Statistical Association* 61, 897–916.
- Niyogi, P. and F. Girosi (1996). On the Relationship between Generalization Error, Hypothesis Complexity, and Sample Complexity for Radial Basis Functions. *Neural Computation* 8, 819–842.
- Officer, R. (1972). The Distribution of Stock Returns. *Journal of the American Statistical Association* 67, 807–812.
- Officer, R. (1973). The Variability of the Market Factor of the New York Stock Exchange. *Journal of Business* 46, 434–453.

- Ogaki, M. (1992). Generalized Method of Moments: Econometric Applications. In G. Maddala, C. Rao, and H. Vinod (Eds.), *Handbook of Statistics, Volume 11: Econometrics*. North-Holland, Amsterdam.
- O'Hara, M. (1995). *Market Microstructure Theory*. Blackwell Publishers, Cambridge, MA.
- Oldfield, G., R. Rogaiski, and R. Jarrow (1977). An Autoregressive jump Process for Common Stock Returns. *Journal of Financial Economics* 6, 389–418.
- Osborne, M. (1959). Brownian Motion in the Stock Market. *Operations Research* 7, 145–173.
- Osborne, M. (1962). Periodic Structure in the Brownian Motion of Stock Prices. *Operations Research* 10, 345–379.
- Pagan, A. and G. Schwert (1990). Alternative Models for Conditional Stock Volatility. *Journal of Econometrics* 45, 267–290.
- Parker, D. (1985). Learning Logic. Working Paper 47, Center for Computational Research in Economics and Management Science, Massachusetts Institute of Technology.
- Parkinson, M. (1980). The Extreme Value Method for Estimating the Variance of the Rate of Return. *Journal of Business* 53, 61–65.
- Paskov, S. and J. Traub (1995). Faster Valuation of Financial Derivatives. *Journal of Portfolio Management* 22, 113–120.
- Pau, L. (1991). Technical Analysis for Portfolio Trading by Syntactic Pattern Recognition. *Journal of Economic Dynamics and Control* 15, 715–730.
- Pearson, N. and T. Sun (1994). Exploiting the Conditional Density in Estimating the Term Structure: An Application to the Cox, Ingersoll, and Ross Model. *Journal of Finance* 49, 1279–1304.
- Pennacchi, G. (1991). Identifying the Dynamics of Real Interest Rates and Inflation: Evidence Using Survey Data. *Review of Financial Studies* 4, 53–86.
- Perrakis, S. (1986). Option Bounds in Discrete Time: Extensions and the Price of the American Put. *Journal of Business* 59, 119–142.
- Perrakis, S. and P. Ryan (1984). Option Pricing Bounds in Discrete Time. *Journal of Finance* 39, 519–525.
- Perron, P. (1989). The Great Crash, the Oil Price Shock, and the Unit Root Hypothesis. *Econometrica* 57, 1361–1402.
- Perron, P. (1991). Test Consistency With Varying Sampling Frequency. *Econometric Theory* 7, 341–368.
- Pesaran, M. and S. Potter (1992). Nonlinear Dynamics and Econometrics: An Introduction. *Journal of Applied Econometrics* 7(Supp), S1–S8.
- Petersen, M. and S. Umlauf (1990). An Empirical Examination of the Intraday Behavior of the NYSE Specialist. working paper, Massachusetts Institute of Technology, Cambridge, MA.
- Phillips, S. and C. Smith (1980). Trading Costs for Listed Options: The Implications for Market Efficiency. *Journal of Financial Economics* 8, 179–201.

- Poggio, T. and F. Girosi (1990). Networks for Approximation and Learning. In *IEEE, special issue: Neural Networks I: Theory and Modeling*, Volume 78, pp. 1481–1497.
- Poterba, J. and L. Summers (1986). The Persistence of Volatility and Stock Market Fluctuations. *American Economic Review* 76, 1142–1151.
- Poterba, J. and L. Summers (1988). Mean Reversion in Stock Returns: Evidence and Implications. *Journal of Financial Economics* 22, 27–60.
- Powell, M. (1987). Radial Basis Functions for Multivariable Interpolation: A Review. In J. Mason and M. Cox (Eds.), *Algorithms for Approximation*. Clarendon Press, Oxford, UK.
- Prabhala, N. (1995). Conditional Methods in Event-Studies and An Equilibrium Justification for Using Standard Event-Study Procedures. School of Management, Yale University, New Haven, CT.
- Praetz, P. (1972). The Distribution of Share Price Changes. *Journal of Business* 45, 49–55.
- Priestley, M. (1988). *Non-Linear and Non-Stationary Time Series Analysis*. Academic Press, San Diego.
- R. Lucas, J. (1978). Asset Prices in an Exchange Economy. *Econometrica* 46, 1429–1446.
- Radner, R. (1982). Equilibrium Under Uncertainty. In K. Arrow and M. Intriligator (Eds.), *Handbook of Mathematical Economics, Volume II*, pp. 923–1006. North-Holland, New York.
- Rady, S. (1994). State Prices Implicit in Valuation Formulae for Derivative Securities: A Martingale Approach. Discussion Paper 181, LSE Financial Markets Group, London, UK.
- Randles, R. and D. Wolfe (1979). *Introduction to the Theory of Nonparametric Statistics*. John Wiley and Sons, New York.
- Rao, T. S. and M. Gabr (1984). *An Introduction to Bispectral Analysis and Bi-linear Time Series Models*. Springer-Verlag, Berlin.
- Reddington, F. (1952). Review of the Principle of Life-Office Valuations. *Journal of the Institute of Actuaries* 78, 286–340.
- Reinsch, C. (1967). Smoothing by Spline Functions. *Numer Math* 10, 177–183.
- Restoy, F. and P. Well (1993). Approximate Equilibrium Asset Pricing. unpublished paper, Bank of Spain and ECARE.
- Richard, S. (1978). An Arbitrage Model of the Term Structure of Interest Rates. *Journal of Financial Economics* 7, 38–58.
- Richardson, M. (1993). Temporary Components of Stock Prices: A Skeptic's View. *Journal of Business and Economic Statistics* 11, 199–207.
- Richardson, M. and T. Smith (1991). Tests of Financial Models with the Presence of Overlapping Observations. *Review of Financial Studies* 4, 227–254.
- Richardson, M. and T. Smith (1994). A Unified Approach to Testing for Serial Correlation in Stock Returns. *Journal of Business* 67, 371–399.

- Richardson, M. and J. Stock (1989). Drawing Inferences from Statistics Based on Multi-Year Asset Returns. *Journal of Financial Economics* 25, 323–348.
- Rietz, T. (1988). The Equity Risk Premium: A Solution? *Journal of Monetary Economics* 21, 117–132.
- Ritchken, P. (1985). On Option Pricing Bounds. *Journal of Finance* 40, 1219–1233.
- Ritter, J. (1990). Long-Run Performance of Initial Public Offerings. *Journal of Finance*.
- Robbins, H. and S. Monro (1951a). A Stochastic Approximation Method. *Annals of Mathematical Statistics* 25, 737–744.
- Robbins, H. and S. Monro (1951b). A Stochastic Approximation Model. *Annals of Mathematical Statistics* 22, 400–407.
- Roberds, W., D. Runkle, and C. Whiteman (1996). A Daily View of Yield Spreads and Short-Term Interest Rate Movements. *Journal of Money, Credit and Banking* 28, 34–53.
- Roberts, H. (1959). Stock-Market ‘Patterns’ and Financial Analysis: Methodological Suggestions. *Journal of Finance* 14, 1–40.
- Robinson, M. (1988). Block Trades on the Major Canadian and U.S. Stock Exchanges: A Study of Pricing Behavior and Market Efficiency. unpublished Ph.D. dissertation, School of Business Administration, University of Western Ontario, Ontario, Canada.
- Robinson, P. (1979). The Estimation of a Non-Linear Moving Average Model. *Stochastic Processes and Their Applications* 5, 81–90.
- Roll, R. (1977). A Critique of the Asset Pricing Theory’s Tests: Part I. *Journal of Financial Economics* 4, 129–176.
- Roll, R. (1980). Orthogonal Portfolios. *Journal of Financial and Quantitative Analysis* 15, 1005–1023.
- Roll, R. (1984). A Simple Implicit Measure of the Effective Bid-Ask Spread in an Efficient Market. *Journal of Finance* 39, 1127–1140.
- Roll, R. and S. Ross (1980). An Empirical Investigation of the Arbitrage Pricing Theory. *Journal of Finance* 35, 1073–1103.
- Roll, R. and S. Ross (1984). A Critical Reexamination of the Empirical Evidence on the Arbitrage Pricing Theory: A Reply. *Journal of Finance* 39, 347–350.
- Roll, R. and S. Ross (1994). On the Cross-Sectional Relation between Expected Returns and Betas. *Journal of Finance* 49, 101–122.
- Romano, J. and L. Thombs (1996). Inference for Autocorrelations under Weak Assumptions. *Journal of the American Statistical Association* 91, 590–600.
- Rosenblatt, F. (1962). *Principles of Neurodynamics*. Spartan Books, New York.
- Ross, S. (1976). The Arbitrage Theory of Capital Asset Pricing. *Journal of Economic Theory* 13, 341–360.



- Ross, S. (1977). Risk, Return, and Arbitrage. In *Risk and Return in Finance I*, Number I. Friend and J. Bicksier. Ballinger, Cambridge, MA.
- Rubin, D. and D. Thayer (1982). EM Algorithms for ML Factor Analysis. *Psychometrika* 57, 69–76.
- Rubinstein, M. (1976). The Valuation of Uncertain Income Streams and the Pricing of Options. *Bell Journal of Economics* 7, 407–425.
- Rubinstein, M. (1985). Nonparametric Tests of Alternative Option Pricing Models Using All Reported Trades and Quotes on the 30 Most Active CBOE Option Classes from August 23, 1976 through August 31, 1978. *Journal of Finance* 40, 455–480.
- Rubinstein, M. (1994). Implied Binomial Trees. *Journal of Finance* 49, 771–818.
- Rudebusch, G. (1995). Federal Reserve Interest Rate Targeting, Rational Expectations, and the Term Structure. *Journal of Monetary Economics* 35, 245–274.
- Rumelhart, D., G. Hinton, and R. Williams (1986). Learning Internal Representation by Error Propagation. In D. Rumelhart and J. McClelland (Eds.), *Parallel Distributed Processing: Explorations in the Microstructure of Cognition, Volume 1: Foundations*, Chapter 8. Massachusetts Institute of Technology Press, Cambridge, MA.
- Ruud, P. (1983). Sufficient Conditions for the Consistency of Maximum Likelihood Estimation Despite Misspecification of Distribution in Multinomial Discrete Choice Models. *Econometrica* 51, 225–228.
- Samuelson, P. (1965). Proof that Properly Anticipated Prices fluctuate Randomly. *Industrial Management Review* 6, 41–49.
- Samuelson, P. (1967). Efficient Portfolio Selection for Pareto-Levy Investments. *Journal of Financial and Quantitative Analysis* 2, 107–122.
- Samuelson, P. (1969). Lifetime Portfolio Selection by Dynamic Stochastic Programming. *Review of Economics and Statistics* 51, 239–246.
- Samuelson, P. (1972). Mathematics of Speculative Price. In R. Day and S. Robinson (Eds.), *Mathematical Topics in Economic Theory and Computation*. Society for Industrial and Applied Mathematics, Philadelphia, PA.
- Samuelson, P. (1973). Proof that Properly Discounted Present Values of Assets Vibrate Randomly. *Bell Journal of Economics and Management Science* 4, 369–374.
- Samuelson, P. (1976). Limited Liability, Short Selling, Bounded Utility, and Infinite-Variance Stable Distributions. *Journal of Financial and Quantitative Analysis*, 485–503.
- Schaefer, S. (1981). Measuring a Tax-Specific Term Structure of Interest Rates in the Market for British Government Securities. *Economic Journal* 91, 415–431.
- Schaefer, S. (1982). Tax-Induced Clientele Effects in the Market for British Government Securities. *Journal of Financial Economics*.
- Scheinkman, J. and B. LeBaron (1989). Nonlinear Dynamics and Stock Returns. *Journal of Business* 62, 311–338.

- Scheinkman, J. and M. Woodford (1994). Self-Organized Criticality and Economic fluctuations. *American Economic Review* 84, 417–421.
- Schipper, K. and R. Thompson (1983). The Impact of Merger-Related Regulations on the Shareholders of Acquiring Firms. *Journal of Accounting Research* 21, 184–221.
- Schipper, K. and R. Thompson (1985). The Impact of Merger-Related Regulations Using Exact Test Statistics. *Journal of Accounting Research* 23, 408–415.
- Scholes, M. and J. Williams (1977). Estimating Betas from Nonsynchronous Data. *Journal of Financial Economics* 5, 309–328.
- Schuss, Z. (1980). *Theory and Application of Stochastic Differential Equations*. John Wiley and Sons, New York.
- Schwartz, E. (1977). The Valuation of Warrants: Implementing a New Approach. *Journal of Financial Economics* 4, 79–93.
- Schwert, G. (1981). Using Financial Data to Measure the Effects of Regulation. *Journal of Law and Economics* 24, 121–157.
- Schwert, G. (1989). Why Does Stock Market Volatility Change Over Time? *Journal of Finance* 44, 1115–1153.
- Schwert, W. (1990, May-June). Stock Market Volatility. *Financial Analysts Journal*, 23–34.
- Sclove, S. (1983a). Time-Series Segmentation: A Model and a Method. *Information Sciences* 29, 7–25.
- Sclove, S. (1983b). On Segmentation of Time Series. In S. Karlin, T. Amemiya, and L. Goodman (Eds.), *Studies in Econometrics, Time Series, and Multivariate Statistics*. Academic Press, New York.
- Scott, L. (1985). The Present Value Model of Stock Prices: Regression Tests and Monte Carlo Results. *Review of Economics and Statistics* 67, 599–607.
- Scott, L. (1987). Option Pricing when the Variance Changes Randomly: Theory, Estimation, and an Application. *Journal of Financial and Quantitative Analysis* 22, 419–438.
- Sentana, F. (1991). Quadratic ARCH Models: A Potential Reinterpretation of ARCH Models as Second-Order Taylor Approximations. unpublished paper, London School of Economics.
- Serfling, R. (1980). *Approximation Theorems of Mathematical Statistics*. John Wiley and Sons, New York.
- Shanken, J. (1982). The Arbitrage Pricing Theory: Is It Testable? *Journal of Finance* 37, 1129–1140.
- Shanken, J. (1985a). Multi-Beta CAPM or Equilibrium APT? A Reply. *Journal of Finance* 40, 1189–1196.
- Shanken, J. (1985b). Multivariate Tests of the Zero-Beta CAPM. *Journal of Financial Economics* 14, 327–348.
- Shanken, J. (1986). Testing Portfolio Efficiency When the Zero-Beta Rate Is Unknown. *Journal of Finance* 41, 269–276.

- Shanken, J. (1987a). Multivariate Proxies and Asset Pricing Relations: Living with the Roll Critique. *Journal of Financial Economics* 18, 91–110.
- Shanken, J. (1987b). Nonsynchronous Data and the Covariance: Factor Structure of Returns. *Journal of Finance* 42, 221–232.
- Shanken, J. (1987c). A Bayesian Approach to Testing Portfolio Efficiency. *Journal of Financial Economics* 19, 195–215.
- Shanken, J. (1992a). The Current State of the Arbitrage Pricing Theory. *Journal of Finance* 47, 1569–1574.
- Shanken, J. (1992b). On the Estimation of Beta-Pricing Models. *Review of Financial Studies* 5, 1–34.
- Sharpe, W. (1964). Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk. *Journal of Finance* 19, 425–442.
- Sharpe, W. (1970). *Portfolio Theory and Capital Markets*. McGraw-Hill, New York, NY.
- Sharpe, W., G. Alexander, and J. Bailey (1995). *Investments* (5th ed.). Prentice-Hall, Englewood Cliffs, NJ.
- Shea, G. (1984). Pitfalls in Smoothing Interest Rate Term Structure Data: Equilibrium Models and Spline Approximations. *Journal of Financial and Quantitative Analysis* 19, 253–269.
- Shea, G. (1985). Interest Rate Term Structure Estimation with Exponential Splines: A Note. *Journal of Finance* 40, 319–325.
- Shefrin, H. and M. Statman (1985). The Disposition to Ride Winners Too Long and Sell Losers Too Soon: Theory and Evidence. *Journal of Finance* 41, 774–790.
- Shephard, N. and S. Kim (1994). Stochastic Volatility: Likelihood Inference and Comparison with ARCH Models. unpublished paper, Nuffield College, Oxford, and Princeton University.
- Shiller, R. (1981). Do Stock Prices Move Too Much to Be Justified by Subsequent Changes in Dividends? *American Economic Review* 71, 421–436.
- Shiller, R. (1984). Stock Prices and Social Dynamics. *Brookings Papers on Economic Activity* 2, 457–498.
- Shiller, R. (1989). *Market Volatility*. Massachusetts Institute of Technology Press, Cambridge, MA.
- Shiller, R. (1990). The Term Structure of Interest Rates. In B. Friedman and F. Hahn (Eds.), *Handbook of Monetary Economics*. North-Holland, Amsterdam.
- Shiller, R., J. Campbell, and K. Schoenholtz (1983). Forward Rates and Future Policy: Interpreting the Term Structure of Interest Rates. *Brookings Papers on Economic Activity* 1, 173–217.
- Shiller, R. and P. Perron (1985). Testing the Random Walk Hypothesis: Power Versus Frequency of Observation. *Economics Letters* 18, 381–386.
- Shimko, D. (1991). Beyond Implied Volatility: Probability Distributions and Hedge Ratios Implied by Option Prices. working paper, University of Southern California.

- Shimko, D. (1993). Bounds of Probability. *RISK* 6, 33–37.
- Shorack, G. and J. Wellner (1986). *Empirical Processes with Applications to Statistics*. John Wiley and Sons, New York.
- Sias, R. and L. Starks (1994). Institutions, Individuals and Return Autocorrelations. Working Paper. University of Texas, Austin.
- Siegel, J. (1994). *Stocks for the Long Run*. Norton, New York.
- Silvey, S. (1975). *Statistical Inference*. Chapman and Hall, London.
- Simkowitz, M. and W. Beedles (1980). Asymmetric Stable Distributed Security Returns. *Journal of the American Statistical Association* 75, 306–312.
- Sims, C. (1974). Output and Labor Input in Manufacturing. *Brookings Papers on Economic Activity* 3, 695–728.
- Sims, C. (1977). Exogeneity and Causal Ordering in Macroeconomic Models. In *New Methods in Business cycle Research: Proceedings from a Conference*. Federal Reserve Bank of Minneapolis.
- Singleton, K. (1990). Specification and Estimation of Intertemporal Asset Pricing Models. In B. Friedman and F. Hahn (Eds.), *Handbook of Monetary Economics*. North-Holland, Amsterdam.
- Smith, A. (1968). *The Money Game*. Random House, New York.
- Smith, C. (1976). Option Pricing: A Review. *Journal of Financial Economics* 3, 3–51.
- Stambaugh, R. (1982). On the Exclusion of Assets from Tests of the Two Parameter Model. *Journal of Financial Economics* 10, 235–268.
- Stambaugh, R. (1986). Bias in Regressions with Lagged Stochastic Regressors. CRSP Working Paper 56, University of Chicago.
- Stambaugh, R. (1988). The Information in Forward Rates: Implications for Models of the Term Structure. *Journal of Financial Economics* 21, 41–70.
- Startz, R. (1989). The Stochastic Behavior of Durable and Non-Durable Consumption. *Review of Economics and Statistics* 71, 356–363.
- Stein, E. and J. Stein (1991). Stock Price Distributions with Stochastic Volatility: An Analytic Approach. *Review of Financial Studies* 4, 727–753.
- Stoker, T. (1986). Consistent Estimation of Scaled Coefficients. *Econometrica* 54, 1461–1481.
- Stoker, T. (1991). Equivalence of Direct, indirect and Slope. Estimators of Average Derivatives. In W. Barnett, J. Powell, and G. Tauchen (Eds.), *Nonparametric and Semiparametric Methods in Econometrics and Statistics*. Cambridge University Press, Cambridge, UK.
- Stoker, T. (1992). Lectures on Semiparametric Econometrics. CORE Lecture Series, CORE Foundation, Louvain-la-Neuve, Belgium.
- Stoll, H. (1978). The Supply of Dealer Services in Securities Markets. *Journal of Finance* 33, 1133–1151.

- Stoll, H. (1985). *The Stock Exchange Specialist System: An Economic Analysis*. Salomon Brothers Center, New York University, New York.
- Stoll, H. (1989). Inferring the Components of the Bid-Ask Spread: Theory and Empirical Tests. *Journal of Finance* 44, 115–134.
- Stoll, H. and R. Whaley (1990). Stock Market Structure and Volatility. *Review Financial Studies* 3, 37–71.
- Strang, G. (1976). *Linear Algebra and Its Applications*. Academic Press, New York.
- Stuart, A. and K. Ord (1987). *Kendall's Advanced Theory of Statistics*, Volume I–III. Oxford University Press, New York.
- Stutzer, M. (1995). A Simple Nonparametric Approach to Derivative Security Valuation. working paper, Carlson School of Management, University of Minnesota.
- Suits, D., A. Mason, and L. Chan (1978). Spline Functions Fitted by Standard Regression Methods. *Review of Economics and Statistics* 60, 132–139.
- Summers, L. (1986). Does the Stock Market Rationally Reflect Fundamental Values? *Journal of Finance* 41, 591–600.
- Sun, T. (1992). Real and Nominal Interest Rates: A Discrete-Time Model and its Continuous-Time Limit. *Review of Financial Studies* 5, 581–611.
- Sundaresan, S. (1989). Intertemporally Dependent Preferences and the Volatility of Consumption and Wealth. *Review of Financial Studies* 2, 73–88.
- Sundaresan, S. (1996). *Fixed-Income Securities*. forthcoming.
- Svensson, L. (1994). Estimating and Interpreting Forward Interest Rates; Sweden 1992–1994. Working Paper 4871, NBER, Cambridge, MA.
- Taylor, M. and H. Allen (1992). The Use of Technical Analysis in the Foreign Exchange Market. *Journal of International Money and Finance* 11, 304–314.
- Taylor, S. (1986). *Modelling Financial Time Series*. John Wiley and Sons, London.
- Teräsvirta, D. T. T. and C. Granger (1994). Aspects of Modelling Nonlinear Time Series. In R. Engle and D. McFadden (Eds.), *Handbook of Econometrics*, Volume IV. Elsevier, Amsterdam.
- Thisted, R. (1991). Assessing the Effect of Allergy Medications: Models for Paired Comparisons on Ordered Categories. *Statistics of Medicine* forthcoming.
- Thompson, J. and H. Stewart (1986). *Nonlinear Dynamics and Chaos*. John Wiley and Sons, New York.
- Tiniç, S. (1972). The Economics of Liquidity Services. *Quarterly Journal of Economics* 86, 79–93.
- Tirole, J. (1982). On the Possibility of Speculation under Rational Expectations. *Econometrica* 50, 1163–1181.
- Tirole, J. (1985). Asset Bubbles and Overlapping Generations. *Econometrica* 53, 1499–1527.

- Tong, H. (1983). *Threshold Models in Nonlinear Time Series Analysis*. Springer-Verlag, New York.
- Tong, H. (1990). *Non-linear Time Series: A Dynamic System Approach*. Oxford University Press, Oxford.
- Treynor, J. and R. Ferguson (1985). In Defense of Technical Analysis. *Journal of Finance* 40, 757–773.
- Trzcinka, C. (1986). On the Number of Factors in the Arbitrage Pricing Model. *Journal of Finance* 41, 347–368.
- Tsay, R. (1986). Nonlinearity Tests for Time Series. *Biometrika* 73, 461–466.
- Tucker, A. (1992). A Reexamination of Finite- and Infinite-Variance Distributions as Models of Daily Stock Returns. *Journal of Business and Economic Statistics* 10, 73–81.
- Turnbull, S. and F. Mime (1991). A Simple Approach to Interest-Rate Option Pricing. *Review of Financial Studies* 4, 87–120.
- Tversky, A. and D. Kahneman (1992). Advances in Prospect Theory: Cumulative Representation of Uncertainty. *Journal of Risk and Uncertainty* 5, 297–323.
- Vapnik, V. (1982). *Estimation of Dependences Based on Empirical Data*. Springer-Verlag, Berlin.
- Vasicek, O. (1977). An Equilibrium Characterization of the Term Structure. *Journal of Financial Economics* 5, 177–188.
- Vasicek, O. and H. Fong (1982). Term Structure Modelling Using Exponential Splines. *Journal of Finance* 37, 339–341.
- Vayanos, D. (1995). Transaction Costs and Asset Prices: A Dynamic Equilibrium Model. unpublished paper, Stanford University.
- Volterra, V. (1959). *Theory of Functionals and of Integro-Differential Equations*. Dover, New York.
- Wahba, G. (1990). Spline Models for Observational Data. In *Regional Conference Series in Applied Mathematics*, Volume 59. SIAM Press, Philadelphia.
- Wallis, W. and H. Roberts (1956). *Statistics: A New Approach*. Free Press, New York.
- Wang, J. (1993). A Model of Intertemporal Asset Prices Under Asymmetric Information. *Review of Economic Studies* 60, 249–282.
- Wang, J. (1994). A Model of Competitive Stock Trading Volume. *Journal of Political Economy* 102, 127–168.
- Weil, P. (1989). The Equity Premium Puzzle and the Risk-Free Rate Puzzle. *Journal of Monetary Economics* 24, 401–421.
- West, K. (1988a). Bubbles, Fads, and Stock Price Volatility Tests: A Partial Evaluation. *Journal of Finance* 43, 639–656.
- West, K. (1988b). Dividend Innovations and Stock Price Volatility. *Econometrica* 56, 37–61.

- Wheatley, S. (1988). Some Tests of the Consumption-Based Asset Pricing Model. *Journal of Monetary Economics* 22, 193–218.
- White, H. (1980). A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity. *Econometrica* 48, 817–838.
- White, H. (1982). Maximum Likelihood Estimation of Misspecified Models. *Econometrica* 50, 1–25.
- White, H. (1984). *Asymptotic Theory for Econometricians*. Academic Press, Orlando, FL.
- White, H. (1992). *Artificial Neural Networks: Approximation and Learning Theory*. Blackwell Publishers, Cambridge, MA.
- White, H. and I. Domowitz (1984). Nonlinear Regression with Dependent Observations. *Econometrica* 52, 143–162.
- Widrow, B. and S. Stearns (1985). *Adaptive Signal Processing*. Prentice-Hall, Englewood Cliffs, NJ.
- Wiener, N. (1923). Differential-Space. *Journal of Mathematics and Physics* 2, 131–174.
- Wiggins, J. (1987). Option Values Under Stochastic Volatility: Theory and Empirical Estimates. *Journal of Financial Economics* 19, 351–372.
- Wilcox, D. (1992). The Construction of U.S. Consumption Data: Some Facts and Their Implications for Empirical Work. *American Economic Review* 82, 922–941.
- Wood, R., T. McInish, and K. Ord (1985). An Investigation of Transactions Data for NYSE Stocks. *Journal of Finance* 40, 723–738.
- Working, H. (1960). Note on the Correlation of First Differences of Averages in a Random Chain. *Econometrica* 28, 916–918.
- Yaari, M. (1987). The Dual Theory of Choice Under Risk. *Econometrica* 55, 95–115.
- Zarowin, P. (1989). Short-Run Overreaction: Size and Seasonality Effect. *Journal of Portfolio Management* 25, 26–29.
- Zehna, P. (1966). Invariance of Maximum Likelihood Estimation. *Annals of Mathematical Statistics* 37, 744–744.