

References

- Abramowitz, M. and Stegun, I.A. (1972). *Handbook of Mathematical Functions*, Dover, New York.
- Ahn, S.K. and Reinsel, G.C. (1990). "Estimation of partially nonstationary multivariate autoregressive model," *Journal of the American Statistical Association*, **85**, 813-823.
- Ahtola, J. and Tiao, G.C. (1987). "Distributions of least squares estimators of autoregressive parameters for a process with complex roots on the unit circle," *Journal of Time Series Analysis*, **8**, 1-14.
- Anderson, T.W. (1959). "On asymptotic distributions of estimates of parameters of stochastic difference equations," *Annals of Mathematical Statistics*, **30**, 676-687.
- Anderson, T.W. (1971). *The Statistical Analysis of Time Series*, Wiley, New York.
- Anderson, T.W. (1984). *An Introduction to Multivariate Statistical Analysis*, 2nd Edition, Wiley, New York.
- Anderson, T.W. and Darling, D.A. (1952). "Asymptotic theory of certain 'goodness of fit' criteria based on stochastic processes," *Annals of Mathematical Statistics*, **23**, 193-212.
- Anderson, T.W. and Kunitomo, N. (1992). "Tests of overidentification and predeterminedness in simultaneous equation models," *Journal of Econometrics*, **54**, 49-78.
- Anderson, T.W. and Takemura, A. (1986). "Why do noninvertible estimated moving averages occur?," *Journal of Time Series Analysis*, **7**, 235-254.
- Arnold, L. (1974). *Stochastic Differential Equations: Theory and Applications*, Wiley, New York.
- Athreya, K.B. and Pantula, S.G. (1986). "A note on strong mixing of ARMA processes," *Statistics and Probability Letters*, **4**, 187-190.
- Beaulieu, J.J. and Miron, J.A. (1993). "Seasonal unit roots in aggregate U.S. data," *Journal of Econometrics*, **55**, 305-328.
- Bellman, R. (1970). *Introduction to Matrix Analysis*, 2nd Edition, McGraw-Hill, New York.

- Beveridge,S. and Nelson,C.R. (1981). "A new approach to decomposition of economic time series into permanent and transitory components with particular attention to measurement of the 'business cycle'," *Journal of Monetary Economics*, **7**, 151-174.
- Bhargava,A. (1986). "On the theory of testing for unit roots in observed time series," *Review of Economic Studies*, **53**, 369-384.
- Billingsley,P. (1968). *Convergence of Probability Measures*, Wiley, New York.
- Billingsley,P. (1986). *Probability and Measure*, 2nd Edition, Wiley, New York.
- Bobkoski,M.J. (1983). "Hypothesis testing in nonstationary time series, " Ph.D. Thesis, University of Wisconsin.
- Box,G.E.P. and Tiao,G.C. (1977). "A canonical analysis of multiple time series," *Biometrika*, **64**, 355-365.
- Breitung,J. (1994). "Some simple tests of the MA unit root hypothesis," *Journal of Time Series Analysis*, **15**, 351-370.
- Brown,B.M. (1971). "Martingale central limit theorems," *Annals of Mathematical Statistics*, **42**, 59-66.
- Chan,N.H. and Wei,C.Z. (1988). "Limiting distributions of least squares estimates of unstable autoregressive processes," *Annals of Statistics*, **16**, 367-401.
- Choi,I. (1993). "Asymptotic normality of the least-squares estimates for higher order autoregressive integrated processes with some applications," *Econometric Theory*, **9**, 263-282.
- Chow,Y.S. and Teicher,H. (1988). *Probability Theory*, 2nd Edition, Springer-Verlag, New York.
- Courant,R. and Hilbert,D. (1953). *Methods of Mathematical Physics, Vol. I*, Wiley, New York.
- Cryer,J.D. and Ledolter,J. (1981). "Small sample properties of the maximum-likelihood estimator in the first-order moving average model," *Biometrika*, **68**, 191-194.
- Darling,D.A. (1955). "The Cramér-Smirnov test in the parametric case," *Annals of Mathematical Statistics*, **26**, 1-20.
- Davis,R.A. and Dunsmuir,W.T.M. (1993). "Maximum likelihood estimation for MA(1) processes with a root on or near the unit circle," *mimeo*.

- Dickey,D.A. (1976). "Estimation and hypothesis testing in nonstationary time series," Ph.D. Thesis, Iowa State University.
- Dickey,D.A. and Fuller,W.A. (1979). "Distribution of the estimators for autoregressive time series with a unit root," *Journal of the American Statistical Association*, **74**, 427-431.
- Dickey,D.A. and Fuller,W.A. (1981). "Likelihood ratio statistics for autoregressive time series with a unit root," *Econometrica*, **49**, 1057-1072.
- Dickey,D.A., Bell,W.R., and Miller,R.B. (1986). "Unit roots in time series models: tests and implications," *The American Statistician*, **40**, 12-26.
- Dickey,D.A., Hasza,D.P., and Fuller,W.A. (1984). "Testing for unit roots in seasonal time series," *Journal of the American Statistical Association*, **79**, 355-367.
- Donsker,M.D. (1951). "An invariance principle for certain probability limit theorems," *Memoires of the American Mathematical Society*, **6**, 1-12.
- Donsker,M.D. (1952). "Justification and extension of Doob's heuristic approach to the Kolmogorov-Smirnov theorems," *Annals of Mathematical Statistics*, **23**, 277-281.
- Elliott,G., Rothenberg,T.J., and Stock,J.H. (1996). "Efficient tests for an autoregressive unit root," *mimeo, Econometrica*, **64**, 813-836.
- Engle,R.F. and Granger,C.W.J. (1987). "Co-integration and error correction: representation, estimation, and testing," *Econometrica*, **55**, 251-276.
- Engle,R.F., Granger,C.W.J., Hylleberg,S., and Lee,H.S. (1993). "Seasonal cointegration," *Journal of Econometrics*, **55**, 275-298.
- Engle,R.F. and Yoo,B.S. (1991). "Cointegrated economic time series: an overview with new results," in *Long-Run Economic Relationships*, Engle,R.F. and Granger,C.W.J. eds., Oxford University Press, Oxford.
- Erdős,P. and Kac,M. (1946). "On certain limit theorems of the theory of probability," *Bulletin of the American Mathematical Society*, **52**, 292-302.
- Evans,G.B.A. and Savin,N.E. (1981a). "The calculation of the limiting distribution of the least squares estimator of the parameter in a random walk model," *Annals of Statistics*, **9**, 1114-1118.
- Evans,G.B.A. and Savin,N.E. (1981b). "Testing for unit roots: 1," *Econometrica*, **49**, 753-779.

- Evans, G.B.A. and Savin, N.E. (1984). "Testing for unit roots: 2," *Econometrica*, **52**, 1241-1269.
- Ferguson, T.S. (1967). *Mathematical Statistics: A Decision Theoretic Approach*, Academic Press, New York.
- Fuller, W.A. (1976). *Introduction to Statistical Time Series*, Wiley, New York.
- Fuller, W.A. (1985). "Nonstationary autoregressive time series," in *Handbook of Statistics 5*, Hannan, E.J., Krishnaiah, P.R., and Rao, M.M., eds., North-Holland, Amsterdam.
- Gardner, L.A. (1969). "On detecting changes in the mean of normal variates," *Annals of Mathematical Statistics*, **40**, 116-126.
- Girsanov, I.V. (1960). "On transforming a certain class of stochastic processes by absolutely continuous substitution of measures," *Theory of Probability and Its Applications*, **5**, 285-301.
- Granger, C.W.J. and Newbold, P. (1974). "Spurious regressions in econometrics," *Journal of Econometrics*, **2**, 111-120.
- Granger, C.W.J. (1981). "Some properties of time series data and their use in econometric model specification," *Journal of Econometrics*, **16**, 121-130.
- Hall, A. (1989). "Testing for a unit root in the presence of moving average errors," *Biometrika*, **76**, 49-56.
- Hall, P. and Heyde, C.C. (1980). *Martingale Limit Theory and Its Application*, Academic Press, New York.
- Hamilton, J.D. (1994). *Time Series Analysis*, Princeton University Press, Princeton.
- Hannan, E.J. (1970). *Multiple Time Series*, Wiley, New York.
- Hannan, E.J. and Heyde, C.C. (1972). "On limit theorems for quadratic functions of discrete time series," *Annals of Mathematical Statistics*, **43**, 2058-2066.
- Hansen, B.E. (1992). "Tests for parameter instability in regressions with I(1) processes," *Journal of Business and Economic Statistics*, **10**, 321-335.
- Hatanaka, M. (1995). *Time Series Based Econometrics: Unit Roots and Cointegration*, Oxford University Press, Oxford.
- Helland, I.S. (1982). "Central limit theorems for martingales with discrete or continuous time," *Scandinavian Journal of Statistics*, **9**, 79-94.

- Helstrom, C.W. (1978). "Approximate evaluation of detection probabilities in radar and optical communications," *IEEE Transactions on Aerospace and Electronic Systems*, **14**, 630-640.
- Helstrom, C.W. (1995). *Elements of Signal Detection and Estimation*, Prentice Hall, New Jersey.
- Hida, T. (1980). *Brownian Motion*, Springer-Verlag, New York.
- Hochstadt, H. (1973). *Integral Equations*, Wiley, New York.
- Huber, P.J. (1964). "Robust estimation of a location parameter," *Annals of Mathematical Statistics*, **35**, 73-101.
- Hylleberg, S., Engle, R.F., Granger, C.W.J., and Yoo, B.S. (1990). "Seasonal integration and cointegration," *Journal of Econometrics*, **44**, 215-238.
- Imhof, J.P. (1961). "Computing the distribution of quadratic forms in normal variables," *Biometrika*, **48**, 419-426.
- Jazwinski, A.H. (1970). *Stochastic Processes and Filtering Theory*, Academic Press, New York.
- Jeganathan, P. (1991). "On the asymptotic behavior of least-squares estimators in AR time series with roots near the unit circle," *Econometric Theory*, **7**, 269-306.
- Johansen, S. (1988). "Statistical analysis of cointegrating vectors," *Journal of Economic Dynamics and Control*, **12**, 231-254.
- Johansen, S. (1991). "Estimation and hypothesis testing of cointegration vectors in Gaussian vector autoregressive model," *Econometrica*, **59**, 1551-1580.
- Johansen, S. (1995). "A statistical analysis of cointegration for I(2) variables," *Econometric Theory*, **11**, 25-59.
- Johansen, S. and Juselius, K. (1990). "Maximum likelihood estimation and inference on cointegration with applications to the demand for money," *Oxford Bulletin of Economics and Statistics*, **52**, 109-210.
- Kac, M., Kiefer, J., and Wolfowitz, J. (1955). "On tests of normality and other tests of goodness of fit based on distance methods," *Annals of Mathematical Statistics*, **26**, 189-211.
- Kang, K.M. (1975). "A comparison of estimators for moving average processes," unpublished technical report, Australian Bureau of Statistics.

- Kariya, T. (1980). "Locally robust tests for serial correlation in least squares regression," *Annals of Statistics*, **8**, 1065-1070.
- King, M.L. (1980). "Robust tests for spherical symmetry and their application to least squares regression," *Annals of Statistics*, **8**, 1265-1271.
- King, M.L. (1988). "Towards a theory of point optimal tests," *Econometric Reviews*, **6**, 169-218.
- King, M.L. and Hillier, G.H. (1985). "Locally best invariant tests of the error covariance matrix of the linear regression model," *Journal of the Royal Statistical Society, (B)*, **47**, 98-102.
- Kitamura, Y. (1995). "Estimation of cointegrated systems with I(2) processes," *Econometric Theory*, **11**, 1-24.
- Knight, J.L. and Satchell, S.E. (1993). "Asymptotic expansions for random walks with normal errors," *Econometric Theory*, **9**, 363-376.
- Kwiatkowski, D., Phillips, P.C.B., Schmidt, P., and Shin, Y. (1992). "Testing the null hypothesis of stationarity against the alternative of a unit root," *Journal of Econometrics*, **54**, 159-178.
- Lee, H.S. (1992). "Maximum likelihood inference on cointegration and seasonal cointegration," *Journal of Econometrics*, **54**, 1-47.
- Liptser, R.S. and Shiriyayev, A.N. (1977). *Statistics of Random Processes I: General Theory*, Springer-Verlag, New York.
- Liptser, R.S. and Shiriyayev, A.N. (1978). *Statistics of Random Processes II: Applications*, Springer-Verlag, New York.
- Loève, M. (1977). *Probability Theory I*, 4th Edition, Springer-Verlag, New York.
- Loève, M. (1978). *Probability Theory II*, 4th Edition, Springer-Verlag, New York.
- Longman, I.M. (1956). "Note on a method for computing infinite integrals of oscillatory functions," *Proceedings of the Cambridge Philosophical Society*, **52**, 764-768.
- Lütkepohl, H. (1993). *Introduction to Multiple Time Series Analysis*, 2nd Edition, Springer-Verlag, New York.
- MacNeill, I.B. (1974). "Tests for change of parameter at unknown times and distributions of some related functionals on Brownian motion," *Annals of Statistics*, **2**, 950-962.

- MacNeill, I.B. (1978). "Properties of sequences of partial sums of polynomial regression residuals with applications to tests for change of regression at unknown times," *Annals of Statistics*, **6**, 422-433.
- Mandelbrot, B.B. and Van Ness, J.W. (1968). "Fractional Brownian motions, fractional Brownian noises and applications," *SIAM Review*, **10**, 422-437.
- McLeish, D.L. (1975a). "A maximal inequality and dependent strong laws," *Annals of Probability*, **3**, 829-839.
- McLeish, D.L. (1975b). "Invariance principles for dependent variables," *Z. Wahrsch. verw. Geb.*, **32**, 165-178.
- McLeish, D.L. (1977). "On the invariance principle for nonstationary mixingales," *Annals of Probability*, **5**, 616-621.
- Nabeya, S. (1989). "Asymptotic distributions of test statistics for the constancy of regression coefficients under a sequence of random walk alternatives," *Journal of the Japan Statistical Society*, **19**, 23-33.
- Nabeya, S. (1992). "Limiting moment generating function of Cramér-von Mises-Smirnov goodness of fit statistics under null and local alternatives," *Journal of the Japan Statistical Society*, **22**, 113-122.
- Nabeya, S. and Perron, P. (1994). "Local asymptotic distributions related to the AR(1) model with dependent errors," *Journal of Econometrics*, **62**, 229-264.
- Nabeya, S. and Sørensen, B.E. (1994). "Asymptotic distributions of the least squares estimators and test statistics in the near unit root model with non-zero initial value and local drift and trend," *Econometric Theory*, **11**, 937-966.
- Nabeya, S. and Tanaka, K. (1988). "Asymptotic theory of a test for the constancy of regression coefficients against the random walk alternative," *Annals of Statistics*, **16**, 218-235.
- Nabeya, S. and Tanaka, K. (1990a). "A general approach to the limiting distribution for estimators in time series regression with nonstable autoregressive errors," *Econometrica*, **58**, 145-163.
- Nabeya, S. and Tanaka, K. (1990b). "Limiting powers of unit-root tests in time-series regression," *Journal of Econometrics*, **46**, 247-271.
- Nyblom, J. and Mäkeläinen, T. (1983). "Comparisons of tests for the presence of random walk coefficients in a simple linear model," *Journal of the American Statistical Association*, **78**, 856-864.

- Park, J.Y. and Phillips, P.C.B. (1988). "Statistical inference in regressions with integrated processes: part 1," *Econometric Theory*, **4**, 468-497.
- Perron, P. (1989). "The calculation of the limiting distribution of the least-squares estimator in a near-integrated model," *Econometric Theory*, **5**, 241-255.
- Perron, P. (1991a). "A continuous-time approximation to the unstable first-order autoregressive model: the case without an intercept," *Econometrica*, **59**, 211-236.
- Perron, P. (1991b). "A continuous-time approximation to the stationary first-order autoregressive model," *Econometric Theory*, **7**, 236-252.
- Phillips, P.C.B. (1977). "Approximations to some finite sample distributions associated with a first-order stochastic difference equation," *Econometrica*, **45**, 463-485.
- Phillips, P.C.B. (1978). "Edgeworth and saddlepoint approximations in the first-order noncircular autoregression," *Biometrika*, **65**, 91-98.
- Phillips, P.C.B. (1986). "Understanding spurious regressions in econometrics," *Journal of Econometrics*, **33**, 311-340.
- Phillips, P.C.B. (1987a). "Time series regression with a unit root," *Econometrica*, **55**, 277-301.
- Phillips, P.C.B. (1987b). "Towards a unified asymptotic theory for autoregression," *Biometrika*, **74**, 535-547.
- Phillips, P.C.B. (1988). "Weak convergence of sample covariance matrices to stochastic integrals via martingale approximations," *Econometric Theory*, **4**, 528-533.
- Phillips, P.C.B. (1989). "Partially identified econometric models," *Econometric Theory*, **5**, 181-240.
- Phillips, P.C.B. (1991). "Optimal inference in cointegrated systems," *Econometrica*, **59**, 283-306.
- Phillips, P.C.B. and Durlauf, S.N. (1986). "Multiple time series regression with integrated processes," *Review of Economic Studies*, **53**, 473-495.
- Phillips, P.C.B. and Hansen, B.E. (1990). "Statistical inference in instrumental variables regression with I(1) processes," *Review of Economic Studies*, **57**, 99-125.
- Phillips, P.C.B. and Ouliaris, S. (1990). "Asymptotic properties of residual based tests for cointegration," *Econometrica*, **58**, 165-193.

- Phillips,P.C.B. and Perron,P. (1988). "Testing for a unit root in time series regression," *Biometrika*, **75**, 335-346.
- Phillips,P.C.B. and Solo,V. (1992). "Asymptotics for linear processes," *Annals of Statistics*, **20**, 971-1001.
- Pötscher,B.M. (1991). "Noninvertibility and pseudo-maximum likelihood estimation of misspecified ARMA models," *Econometric Theory*, **7**, 435-449.
- Prakasa Rao,B.L.S. (1986). *Asymptotic Theory of Statistical Inference*, Wiley, New York.
- Quintos,C.E. and Phillips,P.C.B. (1993). "Parameter constancy in cointegrating regressions," *Empirical Economics*, **18**, 675-706.
- Rao,C.R. (1973). *Linear Statistical Inference and Its Applications*, 2nd Edition, Wiley, New York.
- Roussas,G.G. (1973). *A First Course in Mathematical Statistics*, Addison-Wesley, Reading.
- Rutherford,D.E. (1946). "Some continuant determinants arising in physics and chemistry," *Proceedings of the Royal Society of Edinburgh*, **A-62**, 229-236.
- Said,E.S. and Dickey,D.A. (1984). "Testing for unit roots in autoregressive-moving average models of unknown order," *Biometrika*, **71**, 599-607.
- Saikkonen,P. (1991). "Asymptotically efficient estimation of cointegration regressions," *Econometric Theory*, **7**, 1-21.
- Saikkonen,P. and Luukkonen,R. (1993a). "Testing for a moving average unit root in autoregressive integrated moving average models," *Journal of the American Statistical Association*, **88**, 596-601.
- Saikkonen,P. and Luukkonen,R. (1993b). "Point optimal tests for testing the order of differencing in ARIMA models," *Econometric Theory*, **9**, 343-362.
- Sargan,J.D. and Bhargava,A. (1983). "Maximum likelihood estimation of regression models with first order moving average errors when the root lies on the unit circle," *Econometrica*, **51**, 799-820.
- Schweppe,F.C. (1965). "Evaluation of likelihood functions for Gaussian signals," *IEEE Information Theory*, **IT-11**, 61-70.
- Schwert,G.W. (1989). "Tests for unit roots: a Monte Carlo investigation," *Journal of Business and Economic Statistics*, **7**, 147-159.

- Sen, A. K. and Srivastava, M. S. (1973). "On multivariate tests for detecting change in mean," *Sankhya A*, **35**, 173-186.
- Shephard, N. (1993). "Distribution of the ML estimator of an MA(1) and a local level model," *Econometric Theory*, **9**, 377-401.
- Shephard, N. and Harvey, A. C. (1990). "On the probability of estimating a deterministic component in the local level model," *Journal of Time Series Analysis*, **11**, 339-347.
- Shin, Y. (1994). "A residual-based test of the null of cointegration against the alternative of no cointegration," *Econometric Theory*, **10**, 91-115.
- Shiryayev, A. N. (1984). *Probability*, Springer-Verlag, New York.
- Shorack, G. R. and Wellner, J. A. (1986). *Empirical Processes with Applications to Statistics*, Wiley, New York.
- Sims, C. A., Stock, J. H., and Watson, M. W. (1990). "Inference in linear time series models with some unit roots," *Econometrica*, **58**, 113-144.
- Solo, V. (1984). "The order of differencing in ARIMA models," *Journal of the American Statistical Association*, **79**, 916-921.
- Soong, T. T. (1973). *Random Differential Equations in Science and Engineering*, Academic Press, New York.
- Stock, J. H. (1987). "Asymptotic properties of least squares estimators of cointegrating vectors," *Econometrica*, **55**, 1035-1056.
- Tanaka, K. (1983a). "The one-sided Lagrange multiplier test of the AR(p) model vs the AR(p) model with measurement error," *Journal of the Royal Statistical Society, (B)*, **45**, 77-80.
- Tanaka, K. (1983b). "Non-normality of the Lagrange multiplier statistic for testing the constancy of regression coefficients," *Econometrica*, **51**, 1577-1582.
- Tanaka, K. (1983c). "Asymptotic expansions associated with the AR(1) model with unknown mean," *Econometrica*, **51**, 1221-1231.
- Tanaka, K. (1984). "An asymptotic expansion associated with the maximum likelihood estimators in ARMA models," *Journal of the Royal Statistical Society, (B)*, **46**, 58-67.
- Tanaka, K. (1990a). "The Fredholm approach to asymptotic inference on nonstationary and noninvertible time series models," *Econometric Theory*, **6**, 411-432.

- Tanaka,K. (1990b). “Testing for a moving average unit root,” *Econometric Theory*, **6**, 433-444.
- Tanaka,K. (1993). “An alternative approach to the asymptotic theory of spurious regression, cointegration, and near cointegration,” *Econometric Theory*, **9**, 36-61.
- Tanaka,K. (1995). “The optimality of extended score tests with applications to testing for a moving average unit root,” in *Advances in Econometrics and Quantitative Economics*, Maddala,G.S., Phillips,P.C.B., and Srinivasan,T.N., eds., Blackwell, Oxford.
- Tanaka,K. and Satchell,S.E. (1989). “Asymptotic properties of the maximum - likelihood and nonlinear least-squares estimators for noninvertible moving average models,” *Econometric Theory*, **5**, 333-353.
- Tsay,R.S. (1993). “Testing for noninvertible models with applications,” *Journal of Business and Economic Statistics*, **11**, 225-233.
- Tso,M.K.S. (1981). “Reduced-rank regression and canonical analysis,” *Journal of the Royal Statistical Society, (B)*, **43**, 183-189.
- Watson,G.N. (1958). *A Treatise on the Theory of Bessel Functions*, 2nd Edition, Cambridge University Press, London.
- Watson,G.S. (1961). “Goodness-of-fit tests on a circle,” *Biometrika*, **48**, 109-114.
- White,J.S. (1958). “The limiting distribution of the serial correlation coefficient in the explosive case,” *Annals of Mathematical Statistics*, **29**, 1188-1197.
- Whittaker,E.T. and Watson,G.N. (1958). *A Course of Modern Analysis*, 4th Edition, Cambridge University Press, London.
- Withers,C.S. (1981). “Conditions for linear processes to be strong-mixing,” *Z. Wahrsch. verw. Geb.*, **57**, 477-480.
- Yoshihara,K. (1992). *Weakly Dependent Stochastic Sequences and Their Applications Vol. I*, Sanseido, Tokyo.
- Yoshihara,K. (1993). *Weakly Dependent Stochastic Sequences and Their Applications Vol. II*, Sanseido, Tokyo.