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Nonlinear and Nonparametric Models with Nonstationary Time Series: Theory and Applications

Lecture 1 Introduction: Basic Asymptotics and Preliminaries

(1) New Concepts and Tools

Chung, K.L. and R.J. Williams (1990). *Introduction to Stochastic Integration*, 2nd ed. Birkhäuser, Boston.

Revuz, D. and M. Yor (1994). *Continuous Martingale and Brownian Motion*, 2nd ed. Springer–Verlag, New York.

(2) Asymptotics for Nonlinear Transformations

Park, J.Y. and P.C.B. Phillips (1999) "Asymptotics for Nonlinear Transformations of Integrated Time Series," *Econometric Theory*, 15, 269-298.

Lecture 2 Statistical Theory: Nonlinear and Nonparametric Models

(1) Nonlinear Regressions

Park, J.Y. and P.C.B. Phillips (1998) "Nonlinear Regressions with Integrated Time Series," Cowles Foundation Working Paper No.1190, Yale University, forthcoming in *Econometrica*.

Park, J.Y. and P.C.B. Phillips (1999) "Nonstationary Binary Choice," Cowles Foundation Working Paper No.1223, Yale University, forthcoming in *Econometrica*.

Chang, Y. and J.Y. Park (1998) "Nonstationary Index Models," mimeographed, Rice University.

Chang, Y., J.Y. Park and P.C.B. Phillips (1999) "Nonlinear Econometric Models with Cointegrated and Deterministically Trending Regressors," Cowles Foundation Working Paper No.1245, Yale University.

(2) Kernel Density Estimation and Nonparametric Regressions

Phillips, P.C.B. and J.Y. Park (1998) "Nonstationary Density Estimation and Kernel Autoregression," Cowles Foundation Working Paper No.1181, Yale University.

Phillips, P.C.B. (1999) "Descriptive Econometrics for Nonstationary Time Series with Empirical Illustrations," Cowles Foundation Working Paper No.1219, Yale University.

Park, J.Y. and P.C.B. Phillips (2000) "Nonparametric Cointegrating Regressions," mimeographed, School of Economics, Seoul National University.

Lecture 3 Applications I

(1) Testing for Chaos

Park, J.Y. and Y. Whang (1999) "Random Walk or Chaos: A Formal Test on the Lyapunov Exponent," mimeographed, School of Economics, Seoul National University.

(2) Nonlinear Nonstationary Heteroskedasticity

Park, J.Y. (2000) "Nonstationary Nonlinear Heteroskedasticity: An Alternative to ARCH," mimeographed, School of Economics, Seoul National University.

Lecture 4 Applications II

(1) Nonlinear Instruments

Phillips, P.C.B, J.Y. Park and Y. Chang (2000) "Nonlinear Instrumental Variable Estimation of an Autoregression," mimeographed, Department of Economics, Rice University.

(2) Testing for Unit Roots in Panels with Cross-sectional Dependency

Chang, Y. (2000) "Nonliear IV Unit Root Tests in Panels with Cross-Sectional Dependency," mimeographed, Department of Economics, Rice University.