Economics 7828 Spring 2022

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2. Statistical Properties of Ordinary Least Squares
    a. Unbiasedness
    b. Consistency, asymptotic normality and efficiency
    c. Residuals and error terms
    d. Misspecification
    e. Goodness of fit
3. Hypothesis Testing and Confidence Intervals
    a. Exact tests in the classical linear model
    b. Large sample tests
    c. Exact and asymptotic confidence intervals and confidence regions
    d. Heteroskedasticity-consistent covariance matrices
    e. The delta method
4. Nonlinear Regression
    a. Method of moments estimators for nonlinear models
    b. Nonlinear least squares
    c. The Gauss-Newton Regression
    d. One-Step Estimation
    e. Hypothesis testing
5. Generalized Least Squares
    a. GLS and feasible GLS estimators
    b. Heteroskedasticity
    c. Autoregressive and moving-average processes
    d. Testing for serial correlation
    e. Panel data models
6. Instrumental Variables Estimation
    a. Instrumental variables
    b. Statistical properties of IV estimators
    c. Hypothesis testing
    d. Testing overidentifying restrictions
    e. DWH tests
    f. IV estimation of nonlinear models
7. The Generalized Method of Moments
    a. GMM estimators for linear regression models
    b. GMM estimation with heteroskedasticity of unknown form
    c. Fully efficient GMM estimation
8. The Method of Maximum Likelihood
    a. ML estimator
    b. Consistency and asymptotic normality

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