

## **FINANCIAL ECONOMETRICS**

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- 0. REVIEW OF CLASSICAL REGRESSION (GRE, Ch. 1-4)
  - Appendix 1: Matrix Algebra (GRE, Appendix A)
  - Appendix 2: Asymptotic Theory (GRE, Ch. 5.1-5.2)
- 1. ESTIMATING AND TESTING LINEAR FACTOR MODELS
  - 1.1 Statistical Framework
    - 1.1.1 The generalized regression model (GRE, Ch. 10.5)
    - 1.1.2 The SUR model (GRE, Ch. 14.2)
  - 1.2 Application to the Capital Asset Pricing Model (CLM, Ch. 5-6)
    - 1.2.1 Theoretical background
    - 1.2.2 Estimating and testing
- 2. ARCH AND GARCH MODELS
  - 2.1 Statistical Framework (GRE, Ch. 17.1-17.3)
    - 2.1.1 Conditional expectation
    - 2.1.2 Review of the ML principle
    - 2.1.3 The Score algorithm
  - 2.2 The ARCH Model (HAM, Ch. 21)
    - 2.2.1 The basic idea
    - 2.2.2 The ARCH(1) model and its properties
    - 2.2.3 The ARCH(q) model. Estimation and testing
  - 2.3 Extensions (HAM, Ch. 21)
    - 2.3.1 Different functional forms
    - 2.3.2 The GARCH model
    - 2.3.3 The asymmetric GARCH(1,1) model. Applications

## References

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