**Financial Analysis and Modeling《国家金融学专题》**

**Chen Chuanglian，2025**

**1. Introduction to National Finance**

Financial Analysis and Modeling (National Finance) is a course that introduces how to use modern modeling and econometrics to predict, interpret, analysis and test relevant financial data, including DGE, DSGE, Volatility Modeling, Cointegration Modeling, VAR, TVP-VAR Models. These methods can be used to empirically test macro financial problems about fiscal policy and monetary policy. All the above modeling and estimated methods are implemented using Matlab, Oxmetrics, Stata, Eviews.

**Preliminary knowledge**

Advanced macroeconomics, advanced econometrics, advanced microeconomics, finance, programming fundamentals.

**2. Teaching objectives**

(1) Familiar with the main theories and techniques of modeling fiscal and monetary policies based on national finance.

(2) Using modern dynamic general equilibrium models, dynamic stochastic general equilibrium models, and econometric methods to construct a structural model to analyze the basic principles of fiscal and monetary policy using to regulate macro-economic operation.

**3. Teaching schedule**

The teaching schedules for this course are 9 lessons, and the teaching contents are arranged as follows:

**Introduction to National finance**

**Lecture 1 Volatility Modeling**

**Lecture 2 Cointegration Modeling**

**Lecture 3 Macro-finance modeling and application：Econometrics Ⅰ**

**Lecture 4 Macro-finance modeling and application：Econometrics Ⅱ**

**Lecture 5 Macro-finance modeling and application：DSGE**

**Lecture 6 Fiscal policy modelingⅠ**

**Lecture 7 Monetary policy modelingⅠ**

**Lecture 8 Fiscal policy modelingⅡ**

**Lecture 9 Monetary policy modelingⅡ**

**Reference**

(1) 陈创练，《金融建模：理论与实验》，北京大学出版社，2025年。

(2) Alfonso Novales et.al，《Economic Growth Theory and Numerical Solution Methods》(Chapter 3)，Springer-Verlag Berlin Heidelberg，2009.

或 阿方索等著，《经济增长：理论和数值求解方法(第2版) 》，东北财经大学出版社，2019。

(3) 陈创练，《财政金融协同的宏观调控研究：DSGE视角》，中国人民大学出版社，2024年。

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