

宏观货币与金融

本课程以一个宏观的视角去了解货币经济学和金融经济学。在数值方法部分，我们将关注动态模型的数值解法，学习参数校准（calibration），以及动态结构模型(structural model)的估计方法。这些方法不仅将运用在本课程的剩余部分上，而且能够为学生在今后的研究中提供把理论模型和数据联系起来的桥梁。事实上，动态规划(dynamic programming)模型只有在几种特殊的情况下才具备显式解(analytic solution)。在许多时候，我们需要用数值方法才能获得值函数(value function)和政策函数(policy function)。此外，我们通过参数校准和估计才能在很多情况下确定模型中收益与成本的大小，才能为宏观模型提供量化的结果。更多的，结构模型在解释事件的因果关系(causal relationship)上有着天然的优点，它可以运用于政策评价（policy evaluation），也为规避在回归(regression)中遇到的动态问题给出了别样的思路。目前，结构模型已在宏观经济学、产业组织、国际金融等领域被广泛运用。

在货币经济学部分，近年来比较热门的搜索模型、价格差别、粘性价格的新凯恩斯主义解读都会被涉及。在金融经济学部分，除了传统的资产定价模型外，我们将关注不完美市场条件下的经济波动，异质性个体模型，以及不能被分散的风险 (undiversifiable risk)。当然，我们将把在数值方法部分获得的知识运用到这两部分的练习上去。

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参考书目（打星号的为重点书目）：

1. *Stokey and Lucas 1989. *Recursive Methods in Economic Dynamics*. Cambridge: Harvard University Press.
2. Michael Woodford 2003. *Interest and Prices*, Princeton University Press
3. *Adda and Cooper 2003. *Dynamic Economics*. Cambridge: MIT Press.
4. *Cuthbertson, Keith and Dirk Nitzche 2005. *Quantitative Financial Economics*. New York: John Wiley.
5. Atkinson, K. 1989. *An Introduction to Numerical Analysis*, New York: Wiley.
6. *Judd, K. 1998. *Numerical Methods in Economics*, Cambridge: MIT Press.

I. 数值方法

1. 描述数据：滤波(filter)
Kydland, F. and E. Prescott, "Business Cycles: Real Facts and a Monetary Myth", *Federal Reserve Bank of Minneapolis Quarterly Review* (1990).
2. 向量自回归VAR (vector autoregression)
Stock, J. H. and M. W. Watson, "Vector Autoregressions," *Journal of Economic Perspectives* (2001).
Jordi Gali, "Technology, Employment, and the Business Cycle: Do Technology Shocks Explain Aggregate Fluctuations?" *American Economic Review* (1999) .
3. 用数值方法求解无限期模型的政策函数 (policy function)
 - 对数线性化 (log-linearization) 求解 DSGE (dynamic stochastic general equilibrium)
Christiano, L. (2002), "Solving Dynamic Equilibrium Models by a Method of undetermined Coefficients", *Computational Economics* (2002) .

- 用数值方法进行值函数迭代 (value function iteration)
 - i. 连续的选择 (continuous choice)
 - R. King, C. Plosser and S. Rebello, "Production, Growth and Business Cycles I. The Basic Neoclassical Model," *Journal of Monetary Economics* (1988) .
 - ii. 离散的选择 (discrete choice)
 - Rust, J. "Optimal Replacement of GMC Bus Engines: An Empirical Model of Harold Zurcher," *Econometrica* (1987).

4. 数值校准与估计 (calibration and estimation)

- 数值校准
 - Hansen, Lars Peter and James J. Heckman, "The Empirical Foundations of Calibration", *Journal of Economic Perspectives* (1996).
 - Kydland, Finn E. and Edward C. Prescott (1996), "The Computational Experiment: An Econometric Tool", *Journal of Economic Perspectives* (1996) .
- 估计方法: GMM, SML, SMM, SNLS
 - Notes and Adda and Cooper (2003)
- 应用:

Calibration (macro): Robert Shimer, "The Cyclical Behavior of Equilibrium Unemployment and Vacancies," *American Economic Review* (2005) .

VAR (money): Lawrence Christiano, Martin Eichenbaum, and Charles Evans, "Nominal rigidities and the dynamic effects of a shock to monetary policy," *Journal of Political Economy* (2005).

GMM (labor): Craig Burnside, Martin Eichenbaum and Sergio Rebelo, "Labor Hoarding and the Business Cycle," *Journal of Political Economy* (1993).

GMM (IO): Steven Berry, James Levinsohn, and Ariel Pakes, "Automobile Prices in Market Equilibrium," *Econometrica* (1995).

GMM (development): Jalan, J. and M. Ravallion, "Are the Poor Less Well Insured? Evidence on Vulnerability to Income Risk in Rural China," *Journal of Development Economics* (1999).

SML (labor): Eckstein, Zvi and Wolpin, Kenneth I, "Duration to First Job and the Return to Schooling: Estimates from a Search-Matching Model," *Review of Economic Studies* (1995).

SMM (money): Edward S. Knotek II, "Convenient prices, currency, and nominal rigidity: Theory with evidence from newspaper prices," *Journal of Monetary Economics* (2008).

SNLS (macro): Adda, J. and R. Cooper, "Balladurette and Juppette: A Discrete Approach," *Journal of Political Economy* (2000).

5. 异质性个体模型 (heterogeneous agent model)

- 均衡
 - Krusell, P. and A. Smith, "Income and Wealth Heterogeneity in the Macroeconomy," *Journal of Political Economy* (1998).
 - Aiyagari, S.R. (1994), "Uninsured Idiosyncratic Risk and Aggregate Saving," *Quarterly*

Journal of Economics (1994).

- 财产收入的分布
Castaneda, A., J. Diaz-Gimenez, and J.V. Rios-Rull, "Accounting for the U.S. Earnings and Wealth Inequality," *Journal of Political Economy* (2003).

II. 货币经济学

- 1 搜索模型 (search-theoretic models of money)
 - 基本模型
N.Kiyotaki and R.Wright, "A Search Theoretic Approach to Monetary Economics," *American Economic Review* (1993).
 - 私人信息 (private information)
Williamson, S. and R. Wright, "Barter and Monetary Exchange Under Private Information," *American Economic Review* (1994).
 - 匹配 (matching)
Corbae, D., T. Temzelides and R. Wright "Directed Matching and Monetary Exchange," *Econometrica* (2003).
2. OLG/search模型
Zhu. T. "An Overlapping Generations Model with Search," *Journal of Economic Theory* (2008).
3. 价格差别 (price dispersion)
Curtis, E. and R. Wright "Price Setting, Price Dispersion and the Value of Money, or the Law of Two Prices," *Journal of Monetary Economics* (2004).
4. 新凯恩斯主义货币理论 (the New Keynesian Framework.)
Woodford, chapter. 3.2, Chapter 4.
 - 交错定价 (staggered pricing)
V.V.Chari, P.J.Kehoe and E.R.McGrattan, "Sticky-Price Models of the Business Cycle: Can the Contract Multiplier Solve the Persistence Problem?," *Econometrica* (2000) .
 - 取决于状态的定价模型 (state-dependent pricing model)
M.Golosov and R.E.Lucas, "Menu Costs and Phillips Curves," *Journal of Political Economy* (2007).
 - 粘性信息模型 (sticky-information model)
N.G.Mankiw and R.Reis, "Sticky Information versus Sticky Prices: A Proposal to Replace the New Keynesian Phillips Curve," *Quarterly Journal of Economics* (2002).

III. 金融经济学

1. 债券价格和利率结构 (bond price and the term structure of interest)
notes
Cuthbertson & Nitzche, "Theories of the Term Structure," Chapter 20.
2. 竞争均衡与股票的定价 (competitive equilibrium and asset pricing of shares)
notes
Cuthbertson & Nitzche, "Mean-Variance Model," Chapter 5,10,11.
3. 基于消费的CAPM模型 (consumption-based capital asset pricing model)
Cuthbertson & Nitzche, Chapter 13.
4. 有效市场假说 (the efficient market hypothesis)
Cuthbertson & Nitzche, Chapter 3.
5. 金融市场不完美性 (financial market imperfections)
 - 流动性 (liquidity)
Kocherlakota, N. "The Societal Benefits of Illiquid Bonds." *Journal of Economic Theory* (2003).
 - 系统性风险的放大和持续, 经济周期 (amplification and persistence of aggregate shocks, and the business cycle)
Kiyotaki, N., and J. Moore. "Credit Cycles." *Journal of Political Economy* (1997).
6. 金融市场与厂商动态 (firm dynamics)
Cooley, T.F. and V. Quadrini, "Financial Markets and Firm Dynamics", *American Economic Review* (2001).
Cabral, L. and J. Mata, "On the Evolution of the Firm Size Distribution: Facts and Theory," *American Economic Review* (2003).
7. 金融干预与经济周期 (Financial intermediation and the business cycle)
Williamson, S., "Financial Intermediation, Business Failures, and Real Business Cycles," *Journal of Political Economy* (1987) .
Holmstrom, B. and J. Tirole, "Financial Intermediation, Loanable Funds, and the Real Sector," *The Quarterly Journal of Economics* (1997).
8. 个体风险 (idiosyncratic risks)
Angeletos, G. M. and L.E. Calvet, "Idiosyncratic production risk, growth and the business cycle," *Journal of Monetary Economics* (2006) .
Chatterjee, S., D. Corbae, M. Nakajima, and V. Rios-Rull, "A Quantitative Theory of Unsecured Consumer Credit with Risk of Default", *Econometrica* (2007).
Huggett, M., "The risk-free rate in heterogeneous-agent incomplete insurance economies," *Journal of Economic Dynamics and Control* (1993).
Constantinides, G. M. and D. Duffie, "Asset Pricing with Heterogeneous consumers," *Journal of Political Economy* (1996).