Household Finance
Module 2, 2019–20

Course Information

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Classes:

Lectures: Tuesday & Friday, 1:30–3:20pm
Venue: Room 231

Course Website:

NA

1. Course Description

1.1. Context

Course overview:

This is an elective course in household finance, designed for graduate students in economics and finance. Household finance is a field of financial economics that studies how households use financial instruments and markets to achieve their objectives. Throughout the course we will focus on studying dynamic household-choice problems using the tools of optimization theory and quantitative economics. Topics covered include household risk preferences and beliefs, consumption, income, portfolio decisions, borrowing constraints, and selected topics from labor supply, education, health, and applications to China.

Prerequisites:

Advanced Microeconomics I, Advanced Macroeconomics I, Advanced Econometrics I, and Applied Econometrics.

1.2. Textbooks and reading materials

Textbook:

There is no required textbook for this course, however, some useful references are:
- Adda, J. & Cooper, R., "Dynamic Economics: Quantitative Methods and Applications." MIT Press.
- Ljungqvist, L. & Sargent, T., "Recursive Macroeconomic Theory". MIT Press.
- Judd, K., "Review of Recursive Methods in Economic Dynamics," Journal of Economic Literature, 29 (1991), 69-77.
- QuantEcon (https://quantecon.org/).

2. Learning Outcomes

2.1 Intended learning outcomes

Learning Goals	Objectives	Assessment
1. Our graduates will be effective communicators.	1.1. Our students will produce quality business and research-oriented documents.	Referee report
	1.2. Students are able to professionally present their ideas and also logically explain and defend their argument.	Presentation
2. Our graduates will be skilled in team work and leadership.	2.1. Students will be able to lead and participate in group for projects, discussion, and presentation.	Presentation Participation
5. Our graduates will be skilled in problem-solving and critical thinking.	5.1. Our students will have a good understanding of fundamental theories in their fields.	Problem sets
	5.3. Our students will demonstrate competency in critical thinking.	Problem sets Referee report

2.2 Course-specific objectives

This course aims to provide students with an overview of how the tools of dynamic programming can be applied to models of household choice using quantitative methods. It involves studying life-cycle and infinite-horizon economic models, and solving these models using econometric techniques and numerical methods. Throughout the course, we will focus on how to quantitatively solve these models.

2.3 Assessment/grading details

The grade for each student will be determined using the following types of assessment (with associated weights):
   i) Class attendance/participation (10%)
   ii) Problem sets (50%)
   iii) Presentation (20%)
   iv) Referee reports (20%)

i) Class attendance/participation

This score will be determined primarily based on participation during the presentations. Further details will be discussed in class.

ii) Problem sets

There will be <u>three</u> problem sets, which can be completed either individually or in <u>groups</u>. These involve quantitative work and will be relatively time consuming, hence they account for the majority of the final grade. The weight of each problem set will be specified at the time it is distributed, and the maximum number of members in each group will be announced in class.

iii) Presentation

There will be a <u>group</u> presentation, where each group is required to present an academic paper assigned from the list of *selected readings*. The maximum number of members in each group depends on the final class size, and will be announced in class. Every group member is required to present part of the paper, and should expect to speak for approximately 10 minutes each. The score for each person (20%) is comprised of a group score for the PPT slides (10%), and an individual-specific score for the oral presentation (10%).

iv) Referee reports

There will be two referee reports, equally weighted (10% each). This task requires students to <u>individually</u> write a referee report summarizing and critically evaluating an academic paper assigned from the list of *selected readings*.

2.4 Academic honesty and plagiarism

It is important for a student's effort and credit to be recognized through class assessment. Credits earned for a student work due to efforts done by others are clearly unfair. Deliberate dishonesty is considered academic misconducts, which include plagiarism; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis.

All assessments are subject to academic misconduct check. Misconduct check may include reproducing the assessment, providing a copy to another member of faculty, and/or communicate a copy of this assignment to the PHBS Discipline Committee. A suspected plagiarized document/assignment submitted to a plagiarism checking service may be kept in its database for future reference purpose.

Where violation is suspected, penalties will be implemented. The penalties for academic misconduct may include: deduction of honour points, a mark of zero on the assessment, a fail grade for the whole course, and reference of the matter to the Peking University Registrar.

For more information of plagiarism, please refer to *PHBS Student Handbook*.

3. Topics, Teaching and Assessment Schedule

A *tentative* timeline for topics and assessment is:

Week	Date	Topics	Assessment
1	- Nov.15	Introduction Household finance overview	-
2	Nov.19 Nov.22	Dynamic programming & MATLAB review Numerical analysis and econometrics review	-
3	Nov.26 Nov.29	Models of consumption/income processes	PS #1
4	Dec.3 Dec.6	Models of consumption/income processes	-
5	Dec.10 Dec.13	Models of consumption/income processes	Referee report #1
6	Dec.17 Dec.20	Models of consumption/income processes	-
7	Dec.24 Dec.27	Selected topics from education, labor supply, housing, durables, China applications	PS #2 Presentations
8	Dec.31 Jan.3	Selected topics from education, labor supply, housing, durables, China applications	Presentations
9	Jan.7 Jan.10	Borrowing constraints/portfolio decisions	Referee report #2
10	Jan.14 -	Borrowing constraints/portfolio decisions	PS #3

Deviations from the above schedule, and assessment dates, will be announced in class.

4. Miscellaneous

Class materials:

All relevant materials (e.g., lecture slides, assessment tasks) will be distributed in class.

Expectations:

It is assumed that students are familiar with the basic theory of dynamic programming. Additionally, prior knowledge or experience with some programming language is assumed. Techniques will be illustrated in class using MATLAB, and some sample code will be provided. However, this is not a comprehensive course on programming in MATLAB. Therefore, students are permitted to choose the programming language they are most familiar with—e.g., MATLAB, Python, Julia, C++, Fortran—when completing the quantitative exercises in the problem sets.

It is the responsibility of students to ensure that they have access to computing facilities with the software necessary to complete the assigned tasks. Some of this software (e.g., MATLAB) is available in the PHBS financial lab (room 513) and via the PKU student portal, while others (e.g., Python and Julia) are freely available.

Group work:

The maximum group size for assessment tasks will be finalized and announced once the class size is confirmed (i.e., after the enrolment period ends). Students can then form groups (i.e., I will not assign people into groups) and report the names of each group member to the TA.

Selected readings:

Background
- Guiso, L. & Sodini, P., "Household Finance: An Emerging Field," Handbook of the Economics of Finance (2013).
- Campbell, J., "Household Finance," The Journal of Finance, 61 (2006), pp. 1553-1604.

Consumption
- Hall, R., "Stochastic Implications of the Life Cycle-Permanent Income Hypothesis: Theory and Evidence," Journal of Political Economy, 86 (1978), pp. 971-87.
- Hansen, L. & Singleton, K., "Generalized Instrumental Variables Estimation of Nonlinear Rational Expectations Models," Econometrica, 50 (1982), pp. 1269-86.
- Carroll, C. D., "The buffer-stock theory of saving: Some macroeconomic evidence," Brookings Papers on Economic Activity, 1992(2), pp. 61–156.
- Carroll, C.D. & Samwick A.A., "The nature of precautionary wealth," Journal of Monetary Economics, 40 (1997), pp. 41-71.
- Carroll, C.D., "Precautionary saving and the marginal propensity to consume out of permanent income," Journal of Monetary Economics, 56 (2009), pp. 780-790.
- Gourinchas, P.-O., & Parker, J.A., "Consumption over the life cycle," Econometrica, 70(1), (2002), pp. 47–89.
- Ampudia, M., Cooper, R., Le Blanc, J., & Zhu, G., "MPC heterogeneity in Europe: sources and policy implications," NBER Working Paper 25082, (2019).

Income
- Lillard, L.A., & Weiss, Y. "Components of variation in panel earnings data: American scientists 1960–70," Econometrica, (1979), pp. 437–454.
- Lillard, L.A., & Willis, R.J., "Dynamic aspects of earning mobility," Econometrica, (1978), pp. 985–1012.
- Macurdy, T.E., "The use of time series processes to model the error structure of earnings in a longitudinal data analysis," Journal of Econometrics, 18(1), (1982), pp. 83–114.
- Abowd, J.M. & Card, D., "On the covariance structure of earnings and hours changes," Econometrica, 57(2), (1989), pp. 411–445.

- Guvenen, F., "An empirical investigation of labor income process," Review of Economic Dynamics, 12, (2009), pp. 58-79.
- Guvenen, F., Ozkan, S., & Song, J., "The nature of countercyclical income risk," Journal of Political Economy, 122(3), (2014), pp. 621–660.
- Karahan, F., & Ozkan, S., "On the persistence of income shocks over the life cycle: Evidence, theory, and implications," Review of Economic Dynamics, 16(3), (2013), pp. 452–476.

Labor supply, education, and durables
- McCurdy, T. "An Empirical Model of Labor Supply in a Life-Cycle Setting," Journal of Political Economy, 89 (1981), pp. 1059-85.
- Keane, M. and Wolpin, K., "The Career Decisions of Young Men," Journal of Political Economy, 105 (1997), pp. 473-522.
- Heathcote, J., Storesletten, K., & Violante, G.L., "Consumption and labor supply with partial insurance: an analytical framework," American Economic Review, 104(7), (2014), pp. 2075–2126.
- Cooper, R. & Zhu, G., "Household Finance over the Life-Cycle: What does Education Contribute?," Review of Economic Dynamics, 20, (2016), pp. 63-89.
- Mankiw, N.G., "Hall's Consumption Hypothesis and Durable Goods," Journal of Monetary Economics, 10 (1982).

Applications to China
- Cao, S. & Modigliani, F. "The Chinese Saving Puzzle and the Life-Cycle Hypothesis," Journal of Economic Literature, 42, (2004), pp. 145-170.
- Chamon, M.D., & Prasad, E.S. "Why are saving rates of urban households in China rising?" American Economic Journal: Macroeconomics, 2 (1) (2010), pp. 93-130.
- Chamon, M., Liu, K., & Prasad, E., "Income uncertainty and household savings in China," Journal of Development Economics, 105, (2013), pp. 164-177.
- Chao, C., Laffargue, J.P., & Yu, E., "The Chinese saving puzzle and the life-cycle hypothesis: A revaluation", China Economic Review, 22(1), (2011), pp. 108-120.
- Choi, H., Lugauer, S. and Mark, N. C. (2017), "Precautionary Saving of Chinese and U.S. Households," Journal of Money, Credit and Banking, 49, (2017), pp. 635-661.
- Cooper, R., & Zhu, G. "Household finance in China," NBER Working Paper 23741, (2018).
- Lagauer, S., Ni, J., & Yin, Z. "Chinese household saving and dependent children: Theory and evidence," China Economic Review, 57, (2019).
- Yu, J. & Zhu, G., "How uncertain is household income in China," Economics Letters, 120:1, (2013), pp. 74-78.

Portfolio decisions
- Vissing-Jorgensen, A., "Limited Asset Market Participation and the Elasticity of Intertemporal Substitution," Journal of Political Economy, 110.4, (2002), pp. 825-853.
- Cocco, J.F., Gomes, F.J, & Maenhout, P.J., "Consumption and portfolio choice over the life cycle," Review of Financial Studies, 18.2, (2005), pp. 491-533.
- Sule, A., "Entry Costs and Stock Market Participation over the Life Cycle," Review of Economic Dynamics, 9, (2006), pp. 588-611.
- Bonaparte, Y., Cooper, R., & Zhu, G., "Consumption smoothing and portfolio rebalancing: the effects of adjustment costs," Journal of Monetary Economics, 59 (2012), pp. 751-768.

Borrowing constraints
- Deaton, A., "Savings and Liquidity Constraints," Econometrica, 59, (1991), pp. 1121-42.
- Zeldes, S., "Consumption and Liquidity Constraints: An Empirical Investigation," Journal of Political Economy, 97, (1989), pp. 305-46.
- Fay, S., Hurst, E., & White, M., "The Household Bankruptcy Decision," American Economic Review, 92.3, (2002), pp. 706-718.
- Livshits, I., MacGee. J., & Tertilt, M., "Consumer Bankruptcy: A Fresh Start," American Economic Review, 97.1, (2007), pp. 402-418.