
5b. Consumer Demand Analysis–Theoretical and Empirical Studies: An OYCF Teaching Fellowship Report¹

(Kang Ernest LIU)

1. The Trip

Supported by an Overseas Young Chinese Forum (OYCF) Teaching Fellowship, I taught a short course on “Consumer Demand Analysis–Theoretical and Empirical Studies” in the School of Economics and Management, China Agricultural University (CAU) in Beijing in September 2003.

The September 2003 teaching trip was my first visit to Beijing, China. I originally designed the course to be a four-week course to be taught from March 10 to April 4. But the SARS outbreak in Beijing in the spring of 2003 caused the course to be rescheduled and it had to be shortened. As a result, the course was taught in five days from September 1 to 5. I was given an office and an on-campus dormitory during my visit. Professor Xian Xin, the Deputy Dean of the School of Economics and Management, hosted dinners and introduced me to the class and the faculty.

2. The Course

CAU decided that this course to be a one-credit course. Students were to be evaluated based on three homework assignments (50%), class participation (5%), and a final paper (45%). This course was also advertised on the webpage of the School of Economics and Management.



The original proposed course design consisted of ten sessions. It included a seminar about theoretical demand analysis on consumption, and the application to empirical studies of food demand in urban China using household survey data. Students would then complete a teamwork project and make a presentation. However, the time constraints meant that there would not be enough time for an empirical study. The students’ background knowledge of demand theories varied widely, made it more

difficult to keep to the original plan. Hence, the schedule and topics of the course was modified as outlined below.

Class	Time	Topic
1	Mon. 9:00-11:00AM	Introduction
2	Mon. 2:00-4:00PM	Theoretical Demand Analysis
3	Tues. 8:30-11:30AM	Theoretical Demand Analysis
4	Tues. 2:00-4:00PM	Empirical Works in Demand Analysis
5	Wed. 8:30-11:30AM	Demand Properties and Linear Expenditure System
6	Wed. 2:00-4:30PM	EViews: Introduction and Single-Equation Estimation

¹ The author thanks the OYCF Teaching Program Committee members, especially to Junling MA and Lu ZHENG; Professors Bernie ERVEN and Wen S. CHERN at the Ohio State University; and Professors Xian XIN and Fan FAN, and the devoted students in the School of Economics and Management, China Agricultural University. Comments from Yan LI and two anonymous reviewers are gratefully acknowledged.

7	Thurs. 8:30-11:30AM	Demand Systems and Demographic Variables
8	Thurs. 2:00-4:30PM	EViews: Estimation of complete demand systems
9	Fri. 9:00-11:00AM	Seminar
10	Fri. 1:30-3:30PM	Discussions and Conclusions

3. The Teaching

This course consisted of both theoretical and empirical aspects of demand analysis. Students were required to have basic knowledge about the theory before they could examine empirical data. Since this was my first time teaching this topic as an assistant professor who just finished the first term of teaching, I was both excited and nervous. I did not know CAU students' background knowledge in relevant fields, so I was concerned whether the prepared materials would be suitable to students' needs.

At the opening of class, I gave a brief introduction of myself, OYCF, and the teaching program. I asked the students to complete an information form, which allowed me to learn specific characteristics of each student and helped me to memorize their names. In the first class, I introduced fundamental concepts of demand analysis to draw an overall picture of the topic for the students. Following the textbook "Economics and Consumer Behavior" written by Deaton and Muellbauer, I explained the opportunity sets, i.e., budget constraints, in detail. I also explained the implications of a linear budget constraint, and implied two important properties of demand, adding-up and homogeneity conditions, and how those properties are related to elasticities of interest.

Classes 2-5 and 7 covered most of the basics of the theoretical demand analysis. Tuesday's classes (Class 3 and 4) continued on theoretical demand analysis and moved on to simple empirical specifications. I began with estimating a single linear equation in econometrics. One of the most important specifications in demand analysis is to specify a functional form. Most students were not familiar with econometrics and how to use it in quantitative analyses. We discussed several functional forms available for estimating a single equation and hypotheses testing of theoretical properties. Issues about potential dataset problems were also discussed.

On Tuesday, I also focused on relationship between preferences and demand. We discussed how these axioms could derive a utility function and how we can set up a standard utility maximization problem to derive a demand system since the optimal quantity demanded can be derived from utility maximization as well as cost minimization. I then introduced the duality theory, and discussed symmetry and negativity properties. Together with the previous two properties, we fully covered the fundamental theories in demand analysis with a linear expenditure system (LES) as an example. For homework, the students were assigned to do proofs.

The emphasis of Wednesday morning class was on demand properties and empirical issues using the LES as an example. Both the number of parameters to be estimated and the derivation of income and price elasticities were discussed. Students were asked to form small groups to discuss how to derive a demand system either from utility maximization or from cost minimization and then to derive demand elasticities from the derived demand system. Some students were asked to provide their answers to be evaluated by the class. Second homework was assigned.

On Thursday morning, we discussed one of the most famous demand systems, the almost ideal demand system (AIDS), proposed by Deaton and Muellbauer. We compared the AIDS with two

other demand systems, including the Translog and Rotterdam. Since the dataset provided was cross-sectional, the technique of incorporation of demographic variables was briefly introduced to allow the students to practice empirical demand analysis using EViews. Before we finished the morning session, we discussed and checked the answers to the first homework assignment.

Hands-on programming using both EXCEL and EViews became the best part of the course. Two lab sessions were scheduled in the afternoons of Wednesday and Thursday. On Wednesday afternoon I demonstrated how to use EXCEL to do regression analysis and went through a few procedures of massaging the data. I also briefly introduced how to use EViews, an econometric software package. Then I asked students to examine Guangdong urban household survey data in order to find interesting patterns or trends for their own homework. On Thursday afternoon we practiced running programs on EViews. We attempted to run a LES model with three commodities. The students were very excited when they received estimates of those parameters. We attempted to estimate two more models, the linear versions of the AIDS and the LES with incorporation of demographic variables, but students encountered problems when writing a program. The most time-consuming problem was to debug the program. We were able to successfully conquer all of the problems and received a good set of results. Both the students and I were very happy about our achievements in that day.



Friday was the last day of this program. I extended the topics covered in the first four days, both theoretically and empirically, to my dissertation research on food demand in China. Students were very interested in this relevant issue. They asked stimulating questions not only about the research but also about how to write a dissertation. I shared my experiences with them. Before I delivered my research presentation, I provided them a handout on the “Six Rules to Keep in Mind in Presentations” and asked them for their comments and suggestions on my presentation.

Friday afternoon was the last session and I still had a lot of things to cover. We first discussed the second homework assignment to make sure everyone understood the material. Then I delivered the instructions for writing a term paper for this course, and asked them to send me their term paper via email by October 10. Finally, a summary of this course was presented and students were asked to provide feedbacks. Students were unable to turn in their last homework assignment and asked me to postpone it until Friday evening. On Saturday morning, I received their assignments and finished grading. I put my suggested answers on the door of my office and handed back the assignments.

Around October 10 2003, I received about half of the students’ term papers via e-mail. Some of them were very impressive. I did not return their grades to Professor Xin until January, 2004, due to my busy teaching schedule at CCU. After the Lunar New Year in February 2004, I received term papers from other students who had not turned them in on time. I tried very hard to finish grading their papers and sent their grades back to Professor Xin. This short course was then formally completed before the beginning of spring semester, 2004.

4. Additional Activities outside of the Classroom

On some days, I stayed in my office late for students to come see me and to discuss various issues. At first they were a bit reluctant because I was a “teacher.” To help them to relax, I prepared casual questions to let them share with me their experiences of studying at CAU and to tell me about Beijing which helped me better understand this ancient city mixed with a modern civilization. I also shared with them my experiences studying in the United States and teaching in Taiwan. Many students were curious about Taiwan so we exchanged our thoughts on Taiwan as well. Some students continued to write me e-mails now and then.

I had several lunches and dinners with students during my stay in Beijing. They showed me a variety of famous foods both on and near campus. They also took me out to visit Tsinghua University, Beijing University, and some famous bookstores and parks. We even tried but failed to watch a movie because it was too crowded to get seats. I had a wonderful time with the students at CAU.

Because the CAU library had only a few English books related to demand analysis, I donated several hard copies of books and lectures I brought, including my dissertation.

5. Students’ Feedback

Nineteen out of forty-five students survived the whole course and provided feedback. This course was proven not suitable for those without prior knowledge of this field and mathematical techniques. This might explain why more than half of the students did not survive the course.

As to the content of the course, most students felt that it was a complete course despite its shortness. This course combined both theoretical and empirical parts of demand analysis, and was taught systematically and covered the current studies in demand analysis related to China. Students felt that it was unfortunate that this course was shortened due to time constraints. Students needed more time to develop a closer familiarity between economic theory and empirical studies. If more time were permitted, this course could have been improved by simplifying theoretical derivations and illustrating more empirical examples. As to the teaching method, the students seemed to like the combination of all activities, such as discussion, running programs, off-class interactions, and case studies. Some students asked whether it was possible to provide more on-job training with more case studies.

Overall, students felt satisfied with the design of the course, including the materials covered in the classes, interactions with students by asking and answering questions, grading homework assignments, availability of approaching the instructor during office hours, and sufficient amount of reading materials. Students were overwhelmed by my energy and enthusiasm in teaching. However, twenty hours of class during one week was indeed challenging for both the students and the instructor.

All students appreciated OYCF teaching program which provided a rare opportunity for students in China to learn the latest developments in related fields. Students also benefited from the interaction with scholars outside of China. They hoped similar types of short courses would be offered more in the near future. In general, student feedbacks showed that this teaching program was an undoubted success. Even though the course was very short, but the ending was sweet and fruitful!

(The author obtained his Ph.D. from the Agricultural, Environmental, and Development Economics, Ohio State University, in March 2003. He is currently an assistant professor in the Department of Economics, National Chung Cheng University in Taiwan. The author welcomes comments and questions and can be contacted via email: ECDKL@CCU.EDU.TW.)