Food and Resource Economics Department
University of Florida

AEB 6933 - Applied Valuation Methods
Fall 2017

Instructor: Zhifeng Gao
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Location and Class Hours:
Dauer Hall 0342
Tuesday   8:30 AM - 10:25 AM
Thursday 9:35 AM - 10:25 AM

Course Description:
This is a class focusing on the application of valuation methods that are frequently used for the valuation of market and non-market goods and services. Particularly this class mainly discuss the methods that estimate consumer willingness to pay (WTP) for products and services. It starts from the basic economic theory to derive the WTP measure, followed by the empirical methods that can be used to elicit consumer WTP. Three key methods will be covered. Choice experiment will cover the choice experiment designs, the related economic theory, and major econometric methods. CVM will cover the major CVM: open ended CVM, close-ended single-bounded referendum, and close-ended double-bounded referendum as well as corresponding econometric methods. Auction will cover major auction method, BMD, 2nd price auction, random nth price auction, and the corresponding econometric method. The pros and cons of each method will also be discussed in the class.

Objective:
By taking this class students should be able to
1. Understand the theoretical foundation of valuation methods.
2. Understand the key difference between the valuation methods.
3. Be able to make the right choice of the method and to collect data for consumer WTP estimation.
4. Be able to use appropriate statistical and econometric method to analyze data.
5. Be able to provide appropriate interpretation of the results from various valuation method and economic models.
6. Obtain basic knowledge of the software that can be used for analyzing the data obtained from different valuation methods.

Prerequisites:
Knowledge of graduate microeconomics theory I (ECO 7115) and Ph.D. level econometrics is required. Knowledge of maximum likelihood method, econometric models for limited dependent variable such as Tobit, Logit, and Multinomial Logit model is also required.

Homework and Grading:
Homework based on class lectures and reading will be assigned across the semester. All assignments are due at the beginning of class on the due date. Each student is expected to give three in-class presentations and one final project.

The weights for different components are:

Homework	20%
Presentation 1	20%
Presentation 2	20%
Presentation 3	20%
Final Project	20%

Final grade is based on the weighted average of homework and exams.

Course Grade	Letter Grade	Grade Point
90-100	A	4
87-89	A-	3.67
84-86	B+	3.33
81-83	B	3
78-80	B-	2.67
75-77	C+	2.33
72-74	C	2

Presentation 1: Each student would choose a paper from a list provided by the instructor and summarize the key finding of the paper. She/he also need to discuss the pitfalls and potential improvement of the paper as well as some future research topics related to the paper.

Presentation 2: Present the research background of their **project**, including the motivations, the literature reviews, and the methods.

Presentation 3: Present the results, conclusions, implications, limitation, and future research directions of the project.

The project: The project can be group project with members up to two persons.
The project can be 1) a complete study by applying the valuation methods discussed in this class; 2) a comprehensive literature review of studies related to valuation methods or estimation of consumer preference of market and non-market goods using some statistical method such as Meta-analysis (https://en.wikipedia.org/wiki/Meta-analysis).

Suggested Project Structure (adapted from the Authors' guide of *Food Quality and Preference,* you can use other structure if you know the journals that you want to publish your paper in)

> 1. *Title Page*
> Report title
> Project group members and department

2. *Abstract*

A brief statement of the motivations, the methods, the main results and key conclusions of the research project.

3. *Report body*

a. Introduction: motivation of the research project, background, identification, and the significance of the research problem. Related literature should be discussed, but avoiding a detailed literature survey or a summary of the results.

b. Material and methods (i.e. Data collection method; statistical and econometric models: Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.

c. Theory/calculation: A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

d. Results: key tests, key tables, and figures, interpretation of the results.

e. Discussion: This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is usually only appropriate for short communications. Avoid extensive citations and discussion of published literature.

f. Conclusions: The main conclusions of the study may be presented in a *short* Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section. It should provide the take home message of the project, limitation of the project, future direction of the research.

Notes:

1) I understand that one semester may not be enough to complete a full project that requires primary data collection. If you choose option 1) you can do a pilot data collection with a small sample size (i.e. collecting data from your classmate or friends). But you still need to analyze your data with the models discussed in this class. Hopefully, this process can help you identify the potential problems in your data collection and analysis so that you can make an improvement if you want to collect a larger sample size in the future to write a full research paper.
2) Each student *needs to have a laptop* because you need to use it to create a questionnaire online or run some models in class.
3) The laptop should have the following software installed: SAS, R and R studio. We may discuss the use of other software such as Nlogit and Biogeme. But they are not required now.
4) SAS student license can be purchased from the UF. If you don't want to purchase the license, you can use it online at https://apps.ufl.edu/vpn/index.html .

5) R and R Studio can be obtained https://cran.cnr.berkeley.edu/ and https://www.rstudio.com/ , respectively.
6) Software for reference management: I strongly suggest you install Zotero for reference management. Zotero is a free reference management software and browser add-on for reference management. You need to use it to share the references used in your project report so that I can double check the references. Zotero can be downloaded at https://www.zotero.org/
7) The IRB, if you are going to collect data for your project, you need to get IRB approval. Before you apply for IRB, you need to finish the IRB training session at http://irb.ufl.edu/irb02/required-training-for-irb-02.html

Suggested Textbooks (not required):
Choice Experiments
1. Hensher, D.A., Rose, J.M., Greene, W.H., 2005. Applied Choice Analysis: A Primer. Cambridge University Press.
2. Kuhfeld, W.F., 2005. Marketing research methods in SAS. Experimental Design, Choice, Conjoint, and Graphical Techniques. Cary, NC, SAS-Institute TS-722.
3. Louviere, J.J., Hensher, D.A., Swait, J.D., 2000. Stated Choice Methods: Analysis and Applications. Cambridge University Press.
4. Train, K.E., 2009. Discrete choice methods with simulation. Cambridge university press. http://eml.berkeley.edu/books/choice2.html

Contingent Valuation
1. Arrow, K., Solow, R., others, 1993. Report of the NOAA panel on contingent valuation. National Oceanic and Atmospheric Administration Washington, DC.
2. Hausman, J.A., 2012. Contingent valuation: A critical assessment. Elsevier.
3. Mitchell, R.C., Carson, R.T., 2013. Using surveys to value public goods: the contingent valuation method. Routledge.

Experimental Auctions
1. Klemperer, P., 2004. Auctions: Theory and Practice. Princeton University Press, Princeton.
2. Krishna, V., 2009. Auction Theory. Academic Press.
3. Lusk, J.L., Shogren, J.F., 2007. Experimental auctions: Methods and applications in economic and marketing research. Cambridge University Press.

Attendance Policy: Class attendance is expected. Student should inform instructor of expected absences. Excessive unexcused absences will result in negative consequences.

Policy On In-Class Cell Phone Use And Text Messaging: Cell phones should be turned off or put on vibrate mode and should not be answered during class period. Non-emergency, in-class text messaging is not acceptable.

Academic Honesty, Software Use, UF Counseling Services, Services for Students with Disabilities

Academic Honesty

In 1995 the UF student body enacted an honor code and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by students.

In adopting this honor code, the students of the University of Florida recognize that academic honesty and integrity are fundamental values of the university community. Students who enroll at the university commit to holding themselves and their peers to the high standard of honor required by the honor code. Any individual who becomes aware of a violation of the honor code is bound by honor to take corrective action. The quality of a University of Florida education is dependent upon community acceptance and enforcement of the honor code.

The Honor Pledge: We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

On all work submitted for credit by students at the university, the following pledge is either required or implied: **"On my honor, I have neither given nor received unauthorized aid in doing this assignment."**

The university requires all members of its community to be honest in all endeavors. A fundamental principle is that the whole process of learning and the pursuit of knowledge is diminished by cheating, plagiarism and other acts of academic dishonesty. In addition, every dishonest act in the academic environment affects other students adversely, from the skewing of the grading curve to giving unfair advantage for honors or for professional or graduate school admission. Therefore, the university will take severe action against dishonest students. Similarly, measures will be taken against faculty, staff and administrators who practice dishonest or demeaning behavior.

Student Responsibility. Students should report any condition that facilitates dishonesty to the instructor, department chair, college dean or Student Honor Court.

(Source: 2009-2010 Undergraduate Catalog)

It is assumed all work will be completed independently unless the assignment is defined as a group project, in writing by the instructor.
This policy will be vigorously upheld at all times in this course
Software Use: All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are against University policies and rules, disciplinary action will be taken as appropriate.
UF Counseling Services: Resources are available on campus for students having personal problems or lacking clear career and academic goals which interfere with their academic performance. These resources include:
1) University Counseling Center, 301 Peabody Hall, 392-1575, personal and career counseling, www.counsel.ufl.edu

2) <u>Student Mental Health Service</u>, 245 Student Health Center, 392-1171, personal counseling, www.shcc.ufl.edu/smhs/
3) <u>Sexual Assault Recovery Services (SARS)</u>, Student Health Care Center, 392-1161, sexual assault counseling;
4) <u>Career Resource Center</u>, CR-100 Reitz Union, 392-1601, career development assistance and counseling, <u>www.crc.ufl.edu</u>
<u>Students with Disabilities:</u> Students requesting classroom accommodation must first register with the Dean of Students Office (Students with Disabilities Office, Peabody 202 at 392-1261). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the course instructor when requesting accommodation. Further information is available from the Disability Resource Center at <u>http://www.dso.ufl.edu/drc/.</u>

Tentative Course Outline
You are expected to read those chapters/papers with asterisks. You are also responsible for material in handouts that will be distributed in class. Some supplemental papers and provided for each topic. Students may read unassigned chapters/papers at their discretion.

<u>Important Dates</u>

Classes Begin	August 21
Classes End	December 6
Drop/Add (11:59 pm of last day)	August 21 - 25
Withdrawal with no Fee Liability (11:59 pm of last day)	June 30
Reading Day	None
Final Grades available	August 25
Holidays - no classes	September 4: Labor Day
	October 6 - 7: Homecoming
	November 10 - 11: Veterans Day
	November 22 - 25: Thanksgiving

Tentative dates

Class Presentation (in class)	TBD
Final Project	December 15