Economics Education, Excerpts from Economics Textbook Materials

James E Curtis, Jr

December 25, 2017

Abstract The objective of the university course is to convey intermediate concepts of microeconomic theory to students using explanatory, graphical and mathematical methods of analysis. The only prerequisite for this course is successful completion of Principles of Microeconomics …, or equivalent. After completing the rigorous work requirements in this course, students should have a sufficient set of skills to thoroughly analyze interesting economic questions and to effectively participate in (*i*) advanced undergraduate economics courses, (*ii*) core graduate economic theory courses, and (*iii*) graduate courses in the school of business, including MBA programs. The emphasis of this paper is that economics is the study of the efficient choices made by individuals, including consumers, workers, owners of firms and social planners … Policy writers, students and wealthy philanthropists reading this paper might conclude that corporate board members, and higher education endowment strategists and budget executives, should focus on and enhance the effectiveness of the individual, conditional on the capacity and constraints, whether they are innate, financial or political.

Reviewers include John C Ham, Ph.D. from Princeton University, Full/Tenured Professor & Provost, Advisor; Audrey Light, Ph.D. from UCLA, Full/Tenured Professor; Richard H Steckel, Ph.D. from The University of Chicago, Retired Full/Tenured Professor, Retired Member of Faculty Senate, Co-Advisor; Randall J Olsen, Ph.D. from Yale University, Full/Tenured Professor & Director Bruce Weinberg, Ph.D. from The University of Chicago, Full/Tenured Professor

2002 CURRICULUM VITA OF JAMES E CURTIS, JR.

Birth Information of James E Curtis, Jr.

February 14, 1973………………	Born – Washington, District of Columbia, WDC

Education Information of James E Curtis, Jr.

1990……………………………..	Mathematics Program, Summer Training Graduate, Calculus, University of the District of Columbia, WDC
1991-1994……………………….	Bachelor of Arts Program, Department of Economics, Rutgers University, Camden, NJ
1994……………………………..	Summer Venture in Management Graduate, Harvard University, School of Business, Cambridge, MA
1996………………………………	Bachelor of Arts Degree, Department of Economics; Howard University, WDC
1996………………………………	Bachelor of Arts Degree, Department of Political Science, Howard University, WDC
1998………………………………	AEA Summer Program Graduate, Department of Economics, University of Texas, Austin, TX
1998………………………………	Master of Arts Degree, Department of Economics, The Ohio State University, OSU, Columbus, OH
2000………………………………	Dissertation, committee proposal, oral, Department of Economics, OSU
2000………………………………	Dissertation, committee proposal, written, Department of Economics, OSU
2001………………………………	Dissertation, oral defense, proxy, Department of Economics, OSU
2002………………………………	Dissertation, written defense, Department of Economics, OSU

Employment Information of James E Curtis, Jr.

1991………………………………	Laws & Economics Intern, USA, General Services Administration, WDC
1992-1996………………………..	Finance Intern, summer, Communication Satellite Corporation, COMSAT, Bethesda, MD
1996-1997………………………..	Economist Assistant, USA, Federal Deposit Insurance Corporation, WDC
1998-2001……………………..….	Macroeconomics/Microeconomics, Money & Banking, TA, Department of Economics, OSU
1999………………………………	Economics Intern, Economic Development Division, Ohio Department of Development, Columbus, OH
2000-2001………………………..	Applied Econometrics Instructor, Department of Economics, Ohio Wesleyan University, Delaware, OH
2000-2001………………………..	Tutor, Department of Economics, OSU
2000-2001………………………..	Tutor, M.BA. Education, School of Business, OSU
2000……………………………….	Graduate Studies Committee Member, faculty/elected graduate student, Economics, OSU
2000-2002………………………..	Grant Recipient, *Journal of Money Banking & Credit,* OSU
	Grant Recipient & Research Supervisor, Department of Economics OSU
	Grant Recipient & Research Supervisor, Dissertation Grant, USA, National Science Foundation
2001………………………………	Graduate Foundations in Economics Instructor, School of Business, Executive Education, OSU
	Intermediate Microeconomics Instructor, Department of Economics, OSU
2002………………………………	Econometrics TA, Econometrics, Department of Economics, University of Colorado, Denver, CO
	Fundamentals of Graduate Econometrics, Graduate Teaching Assistant, AEA Summer Program

Employment Fields of Study and Research Fields of Competencies, Exams, Completed by James E Curtis, Jr.

Economic History, 1999, Ph.D. pass of field exam, faculty, Department of Economics, The Ohio State University
Economic Theory, Macroeconomics, 1998 M.A./Ph.D. pass of qualifier exam, faculty, Department of Economics, The Ohio State University
Economic Theory, Microeconomics, 1998 M.A. pass of qualifier exam, faculty, Department of Economics, The Ohio State University
Economic Theory, Microeconomics, 1999 Ph.D. pass of qualifier exam, faculty, Department of Economics, The Ohio State University
Macroeconomics/Monetary Economics, 1999 Ph.D. pass of field exam, faculty, Department of Economics, The Ohio State University

Employment Fields of Study and Research Fields of Competencies, External, Approvals of James E Curtis, Jr.

Applied Econometrics, 2001, approved by Steven Cosslett, Ph.D., Econometrics faculty, Department of Economics
Applied Labor Economics, 2001, approved by Hajime Miyazaki, Ph.D., John C Ham, Ph.D., Labor Economics faculty, Department of Economics
Economics Education, 1998-2000 economics undergraduate education, approved by Belton Fleisher, Ph.D., Department of Economics
Economics Education, 2001 M.BA. education, approved by Ken Brevport, Ph.D. & admin, Executive Education, School of Business, OSU
Economics Education, 2002 econometrics graduate education, approved by Charles Becker, Ph.D., Department of Economics

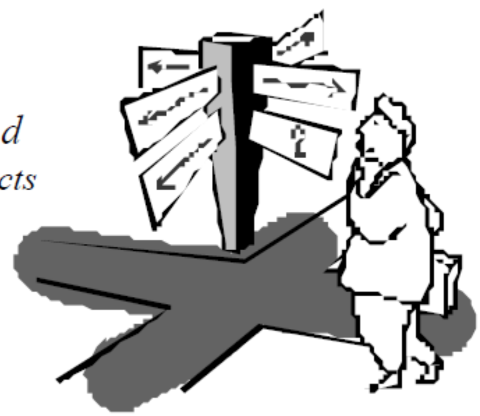
1 TABLE OF CONTENTS Economics Textbook Materials James Edward Curtis Jr President & Research Economist JECJEF

Markets

- Circular Flow of Goods and Services
  - *Product Markets*
    - *Consumers demand products*
      - *Elasticity*
    - *Producers supply products*
      - *Elasticity*
  - *Labor Markets*
    - *Workers supply labor*
    - *Firms demand labor*
- *Equilibrium*
- *Efficiency*

Theory of Consumer Choice

- The theory of consumer choice explains how you choose goods & services to consume by analyzing your budget and preferences.
- Lecture Topics:
  - *Budget Constraint*
  - *Preferences & Axioms*
  - *Optimal Choice & Demand*
    - *Income & Substitution Effects*
    - *Income & Engal Curves*
  - *Applications:*
    - *Labor Supply*
    - *Intertemporal Consumption*



Theory of the Firm

- The theory of the firm describes how owners of firms choose inputs to produce goods and services given market prices of inputs. Topics:
  - *Production function*
    - *Returns to Scale*
  - *Optimal Choice of Inputs*
    - *Profit Maximization*
    - *Cost Minimization*
      - *Returns to Scale*
  - *Optimal Choice of Output and Prices*
    - *Types of Markets*

Study Questions 1 of 2, Economic Fundamentals, created by James E Curtis, Jr.

A. Define the following terms and provide an example:

i. Economics
ii. Scarcity
iii. Microeconomics
iv. Macroeconomics
v. Law of Demand
vi. Law of Supply
vii. Efficiency
viii. Factors of Production
ix. Equilibrium
x. Elasticity

B. Using graphs of supply and demand curves, show the effect of the following events. For full credit, label the following: axis (price, quantity); supply and demand curves; old equilibrium quantity (Q1); old equilibrium price (P1); new equilibrium price (P2); and new equilibrium quantity (Q2):

<u>Consider the market for Microsoft Office 2000 software. What will happen in this market when</u>:

i. Microsoft releases Microsoft XP, a more expensive system software needed for Office 2000 to operate but helps Office 2000 operate more efficiently.
ii. The price of Corel's Office 2000 software increases.
iii. Microsoft renews its contract with the makers of machines that manufacture Office 2000 but the price of the machines double.
iv. The price of Dell computers (hardware) declines.
v. Microsoft buys new machines that manufacture Office 2000 at the same price but produces twice as much software per hour.
vi. More senior citizens and teenagers are trained to use Office 2000.

<u>Consider the market for tangerines. What will happen when</u>:

vii. The price of pest repellant decreases.
viii. The price of oranges increases.
ix. A bad storm wipes half of the harvest.
x. People go on diets and increase the number of fruits and vegetables in their diets.

C. Suppose that the market for a bag of tangerines is described by the following equations:

[1] $P_S = (1/3)Q_S$
[2] $P_d = 12 - Q_d$

i. Calculate the equilibrium price and quantity of bags of tangerines.
ii. Derive the demand and supply schedules for bags of tangerines.

Price	Quantity Demanded	Price	Quantity Supplied
0		6	
1		5	
2		4	
3		3	
4		2	
5		1	
6		0	
7			
8			
9			
10			
11			

iii. Graph the equilibrium quantity and price. Show the consumer and producer surplus.
iv. Calculate the consumer surplus and producer surplus.
v. Suppose farmers successfully lobby Congress to impose a price floor of $2 per bag of tangerines. What happens to the number of bags of tangerines demanded and supplied?
vi. Suppose consumer advocates successfully lobby Congress to impose a price ceiling of $4 per bag of tangerines. What happens to the number of bags of tangerines demanded and supplied?
vii. Calculate the price elasticity of demand when equilibrium price increase by a dollar. How responsive are consumers to changes in price?
viii. Calculate the price elasticity of supply when equilibrium price increase by a dollar. How responsive are producers to changes in price?

D. Suppose the United States and Russia trade computer software and tangerines. Let the following represent the US and Russian demand and supply schedules for pounds of tangerines.

United States				Russia			
Price	**Quantity Demanded**	**Price**	**Quantity Supplied**	**Price**	**Quantity Demanded**	**Price**	**Quantity Supplied**
0	12	**0**	0	**0**	6	**0**	0
1	10	**1**	1	**1**	5	**1**	2
2	8	**2**	2	**2**	4	**2**	4
3	6	**3**	3	**3**	3	**3**	6
4	4	**4**	4	**4**	2	**4**	8
5	2	**5**	5	**5**	1	**5**	10
6	0	**6**	6	**6**	0	**6**	12

i. Derive the World demand and supply schedules for bags of tangerines.

Price	Quantity Demanded	Price	Quantity Supplied
0		**6**	
1		**5**	
2		**4**	
3		**3**	
4		**2**	
5		**1**	
6		**0**	

ii. Graph the US, Russian and World equilibrium prices and quantities (on separate graphs).
iii. Graph the domestic countries with the world price. Label the areas of the graph including the amount of imported (due to a shortage) or exported (due to a surplus); consumer surplus; and producer surplus. (Do not calculate anything in this problem).

Study Questions, Theory of Consumer Choice, created by James E Curtis, Jr.

A. Define the following terms:

i. Consumer Choice Theory
ii. Preference
iii. Preference Ordering
iv. Ordinal Ranking vs. Cardinal Ranking
v. Utility
vi. Marginal Utility
vii. Marginal Rate of Substitution
viii. Indifference Curve & Indifference Map
ix. Additive Utility &. Multiplicative Utility
x. Feasibility
xi. Completeness of Preference Orderings
xii. Monotonicity
xiii. Transitivity
xiv. Convexity
xv. Optimal Choice
xvi. Income Consumption Curve & Engal Curve
xvii. Price Consumption Curve & Demand Curve
xviii. Substitution Effect &. Income Effect

B. For each of the following utility functions in *i-v*, answer questions *a-f*:

a) Identify the utility function and provide an example of the consumption goods;
b) Explain which preference axioms hold and which preference axioms do not hold;
c) Derive the utility schedule and graph an indifference curve map to scale for only the FIRST value of the utility function;
d) Graph the optimal consumption bundle when p_x = \$20, p_y = \$10, and M = \$60. Label the values of x*, y* and U(x*,y*);
e) Graph the income consumption curve and Engal curve for x and M =\$20, 40, 60, 80, 100; (You do NOT have to draw the indifference map to scale)
f) Graph the price consumption curve and demand curve for x, where M=60 and p_x = \$30, 20, 15, 10, 5. (You do NOT have to draw the indifference map to scale).

		Suggested values of U(x,y) for indifference curve map:
i.	$U(x,y) = x^{1/4}y^{3/4}$ Note: $x = U^4/y^3$	U =1, 2, 3, 4, 5
ii.	$U(x,y) = x + y$	U=4, 5, 6, 7, 8
iii.	$U(x,y) = \min(x,y)$	U=1, 2, 3, 4, 5
iv.	$U(x,y) = x^{1/2} + y$	U=4, 5, 6, 7, 8
v.	$U(x,y) = x^2 + y^2$	U=4, 9, 16, 25, 36

C. Answer the following questions on substitution and total effects:

i. Consider an individual with utility as described by *B.i* and a budget constraint as described in *B.d.* If the price of x increases to \$30, calculate the proportion of the total effect that is due to a substitution and an income effect. Also, graphically show the components of the total effect.
ii. Consider an individual as described in *B.ii* and a budget constraint as described in *B.d.* If the price of x decreases to \$5, graphically show the components of the total effect.
iii. Consider an individual as described in *B.iii* and a budget constraint as described in *B.d.* If the price of x increases to \$5, graphically show the components of the total effect.

D. Assume that consumers consume meals (x) and clothes (y). Consider an individual with utility as described by *B.i* and the price of meals equals four dollars, the price of clothes equals fifty dollars, and his or her income equals one thousand dollars.

i. Could the individual have a utility function as described in *B.ii* or *B.v* ? Why or why not?
ii. If the government wants to raise a certain amount of revenue (per average consumer), is it better to access a one-dollar quantity tax on meals or an income tax (equivalent to the revenue from the quantity tax)? Prove your answer mathematically and provide a "well-labeled" graph.

E. Mathematically prove and graphically show that the slope the budget constraint equals the price ratio.

Study Questions, Theory of the Firm, presented by James E Curtis, Jr.

A. Define the following terms:

i. Theory of the Firm
ii. Production Function / Isoquant
iii. Marginal Product of Labor vs. Marginal Product of Capital
iv. Marginal Rate of Technical Substitution
v. Constant Returns to Scale vs. Increasing Returns to Scale vs. Decreasing Returns to Scale
vi. Law of Diminishing Returns (Marginal Product)
vii. Cost Function / Isocost Curve
viii. Profit Function / Isoprofit Line
ix. Cost-Minimizing Optimal Choice vs. Profit Maximizing Optimal Choice
x. Output Expansion Path

UNIVERSITY

Student Evaluation of Instruction Report

Call Number 05587 7

*Response rate** : 55.6% of 45 enrolled students

Were student ratings for this report collected on the web? No

Date of Report: 6/7/2010

Response scale is Likert-type with "5" being high and "1" being low.

	N	1	2	3	4	5	N/A
1. Well organized	25	0 %	0 %	20 %	40 %	40 %	0 %
2. Intellectually stimulating	25	4	4	12	56	24	0
3. Instructor interested in teaching	25	0	4	8	52	36	0
4. Encouraged independent thinking	25	0	0	8	44	48	0
5. Instructor well prepared	25	0	0	8	48	44	0
6. Instructor interested in helping students	25	4	4	20	44	28	0
7. Learned greatly from instructor	25	8	4	12	52	24	0
8. Created learning atmosphere	25	0	8	12	56	24	0
9. Communicated subject matter clearly	25	0	8	24	40	28	0
10. Overall rating	25	0	8	8	48	36	

Your ratings are summarized below. **When sufficient data exist,** summaries are also provided for up to three reference groups. Your "comparison group" is based on the size of your class and the predominant reason students indicate they enrolled. Comparison group data are reported at both the college and university levels. Over the preceding 4 quarters,

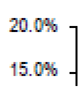
422 instructors and **1009** course sections were in your Comparison Group by College, and **2708** instructors and **6602** course sections were in your Comparison Group by University. Across all courses using the SEI instrument since 1994, **42.49%** of them share the characteristics listed below. The Course-Offering Unit listing is not based on size or electivity; it is a summary of the SEI data across the previous four quarters in your department or school.

Your comparison groups have the following qualities: Class size 20 to 60;

Predominant reason given for enrolling in this course was that it was specifically required in the student's major/minor or that it fulfills a GEC/BER requirement.

	This Instructor		Comparison Group by College		Comparison Group by University		Course-Offering Unit	
	Mean	*Std.Dev*	*Mean*	*Std.Dev*	*Mean*	*Std.Dev*	*Mean*	*Std.Dev*
1. Instructor well organized	4.2	0.8	4.2	0.5	4.2	0.5	4.2	0.5
2. Intellectually stimulating	3.9	1.0	4.0	0.5	3.9	0.5	3.8	0.6
3. Instructor interested in teaching	4.2	0.8	4.4	0.4	4.4	0.5	4.3	0.5
4. Encouraged independent thinking	4.4	0.6	4.2	0.5	4.2	0.5	4.0	0.5
5. Instructor well prepared	4.4	0.6	4.3	0.5	4.3	0.5	4.3	0.5
6. Instructor interested in helping students	3.9	1.0	4.3	0.5	4.3	0.5	4.2	0.5
7. Learned greatly from instructor	3.8	1.1	3.9	0.6	3.9	0.6	3.8	0.7
8. Created learning atmosphere	4.0	0.8	4.1	0.5	4.1	0.5	4.0	0.6
9. Communicated subject matter clearly	3.9	0.9	4.0	0.6	4.0	0.6	3.8	0.7
10. Overall rating	4.1	0.9	4.2	0.5	4.2	0.5	4.0	0.6

Comparison Group by University Distribution of Mean Scores on Overall Rating (Item 10)



Group mean on Overall Rating = 4.2

Instructor mean on Overall Rating = 4.1

References

Curtis Jr, James Edward, “A Theory of Wealth Accumulation Considering Modern Net Savings Gradualism The Impact of Unresolved Long Run Differences in Wealth Accumulation on the Annualized Net Savings in the USA” Working Paper Number 3018488, (Available at SSRN: http://ssrn.com/ abstract=3018488), February 26, 2017.

Curtis Jr, James Edward, “Designing JECJEF University”, Working Paper, July 31, 2017.

Curtis Jr, James Edward, “Economics, A Student Textbook and Professor Manual for University Instruction of Microeconomics courses, 3rd Edition”, Working Paper, July 31, 2017.

Curtis Jr, James Edward, “Freedom Laws and Economics of Ethnicity” Working Paper Number 1701423 (Available at SSRN: http://ssrn.com/ abstract=1701423), January 23, 2012.

Curtis Jr, James Edward, “Long-Run Differences in Wealth: A Microdata Analysis of US White-Black Differences in Wealth Directly after Mass Emancipation of Southern Slaves”, Working Paper Number 1701373 (Available at SSRN: http://ssrn.com/abstract=1701373), December 1, 2002.

Curtis Jr, James Edward, “The Enduring Faith Center, A Chronological Memior Of A Church Formed By James Edward Curtis Jr” Working Paper, December 31, 2013.

Curtis Jr, James Edward, “Wealth and Faith, What Is Your Real Reason? Is It Jesus?” SSRN Working Paper Number 1793848 (Available at SSRN: http://ssrn.com/abstract=1793848), March 11, 2011.

Curtis Jr, James Edward, “Wealth Discrimination Theory”, Working Paper Number 1751670 (Available at SSRN: http://ssrn.com/abstract=1751670), January 31, 2011.

Frank, Robert H. Microeconomics and Behavior, Boston: McGraw-Hill, 2000;

Mankiw, N. Gregory, Principles of Microeconomics, Fort Worth: Dryden, 1998;

Pindyck, Robert S. and Daniel Rubinfield, Microeconomics, Macmillan: Simon & Schuster: New Jersey, 1995;

Stockman, Alan C. Introduction to Microeconomics, Fort Worth: Dryden, 1999;

Varian, Hal R. Intermediate Microeconomics: A Modern Approach, Norton: New York, 1999. Recommended Textbooks

Varian, Hal R. Microeconomic Analysis, Norton: New York, 1992.

Other Acknowledgements

The goal of this paper is to provide course materials for studies in economics. Students should obtain a copy of the required textbook and refer to the recommended textbooks for additional student resources.

Required Textbooks **(1)** Varian, Hal R***. Intermediate Microeconomics: A Modern Approach***, Norton: New York, 1999.

Recommended Textbooks **(2)** Frank, Robert H. ***Microeconomics and Behavior***, Boston: McGraw-Hill, 2000; **(3)** Mankiw, N. Gregory, ***Principles of Microeconomics***, Fort Worth: Dryden, 1998; **(4)** Pindyck, Robert S. and Daniel Rubinfield, ***Microeconomics***, Macmillan: Simon & Schuster: New Jersey, 1995; **(5)** Stockman, Alan C. ***Introduction to Microeconomics***, Fort Worth: Dryden, 1999; and **(6)** Varian, Hal R. ***Microeconomic Analysis***, Norton: New York, 1992.

Several portions of this paper were originally written and presented by James Edward Curtis Jr. August 21, 2001; 2003; May 13, 2014, and July 31, 2017.

The Closing I believe that it would inappropriate for me to credit anything that I have attained to my family, friends or personal investments in education, professional training or associations. The credit should go to God. In the Old Testament of the Bible, Job (7;17) once asks God, 'What is man that you should set your heart upon him?' If you are also seeking the answer to this question, simply know that "God created man in his own image" (Genesis 1:27). Based on this fact alone, you should have the will to persevere and "Let patience have her perfect work." (James 1:4).

For, I pray that the glory of God manifests itself throughout his kingdom in a manner that achieves his good and perfect will.

The Contact information James Edward Curtis, Jr., PO Box 3126, Washington, District of Columbia 20010, *email* jamesjr@jecjef.net, or *phone call* (202) 739-1962.

James E Curtis, Jr