Department: Economics  
Assessment Coordinator: Shawn Knabb

Departmental Mission:

The mission of the department is to provide students with an understanding of economic concepts and the functioning of the economy, and to equip them with the ability to apply economic analysis in problem solving. The department strives to provide a major program which gives students rigorous training in both economic theory and applications. The department plays an integral role in offering courses that are a component of Western's General University Requirements and that are part of other undergraduate and graduate programs in the college and in the University. The department views the conduct of research in economics, and applied research in particular, to be an integral part of its instructional mission. In addition, the department strives to serve both the profession and the community and to help raise the level of economic awareness among the public at large.

Department Student Learning Outcomes: Upon graduation, Economics majors will be able to:

1. Apply economic analysis to evaluate economic problems and specific policy proposals.
2. Understand how to interpret statistical results and use empirical evidence to evaluate an economic argument.
3. In specific fields of economics, develop deeper critical and quantitative thinking skills and apply problem-solving skills to complex problems.
4. Communicate economic ideas effectively in written, spoken, and graphical form.
5. Understand the importance of scarcity, opportunity cost, incentives, and tradeoffs.
6. Understand the factors that determine the level of income, employment, output and prices in an economic system.

GUR Student Learning Outcomes:

3. Use quantitative and scientific reasoning to frame and solve problems.
4. Identify and analyze complex problems.
11. Understand and assess the impacts of interactions among the individual, society, and the environment.
<table>
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<tr>
<th>Measures</th>
<th>SLOs Assessed</th>
<th>Results</th>
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<tr>
<td>Exams, papers, and/or presentations: Resource Economics (ECON 483) and Economics of Tax Policy (ECON 412)</td>
<td>1,3</td>
<td>On average, the students met the departmental expectations in ECON 412 and ECON 483. In ECON 412 the number of students receiving a B+ or better was 8/12. The lowest grade in the class was a C. A majority of the students were able to apply the concepts and techniques taught in class to different problems. This indicates that a majority of the students have developed the appropriate critical thinking skills in the field of economics. However, 2 of the 12 students could only apply the material to the specific problems in class. For these students the apparent lack of preparation in mathematics appears to be the problem. See supplement below for specific assessment questions and evaluation. In ECON 483 the modal grade was a B (8 out of 20 students). Five students earned a B+ or better, and seven received grades of B– or lower. The lowest grade was a D, received by a student who seemed to experience motivation and attendance difficulties. As in ECON 412, students were hampered by weak quantitative preparation.</td>
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| Successful employment or acceptance into graduate programs | 1,3 | The data here is limited, but based on student feedback the opportunities for employment and graduate school attendance are consistent with learning objective 1 and 3. Two students from ECON 412 were accepted to graduate schools and 2 students found employment before or immediately after graduation (known). Here is an email from one of the ECON 412 students: “My name is ***** and I had the pleasure of taking your Econ 412 class this last spring. I just wanted to let you know that because of your class I have been offered a position as a fiscal specialist for the State of Washington. I have no doubt that the skills you taught us in that class were the primary reason I have been offered this position. Thank you for taking the time and effort to teach such valuable skills to
us undergrads. I hope our paths will cross again in the future.”

It is likely that more students found employment, but these are the only students who reported back directly after taking ECON 412.

Of the ECON 483 students, two were planning to join the Peace Corps, three reported that they had employment lined up, and four said that they planned to enter graduate programs.

| Senior exit survey | 1,3 |

To date we only have exit interview feedback from one student in this quarter’s ECON 483 course. She said she was planning to apply for the Peace Corps and then look into a graduate program in environmental economics. About her experience in the Economics Department, she commented, “I loved everything about the econ department. It felt right at home for me. I was given class options I am interested in and I loved all my professors. I learned so much here and couldn’t have asked for a better experience.”

Changes based on assessment findings:

To ensure that students have the appropriate skills and background in mathematics a course in mathematical economics would be appropriate in the future. This will depend on faculty availability (lines) to offer this course.

To improve data collection about post-graduation success faculty could (possibly) enter communications with students into a data base. This will help us better track results.

To improve assessment the department will include more courses and faculty in the evaluation process. Also, the department will assess the SLO’s using more quantifiable measures rather than relying on the exit survey.

Supplemental Material

ECON 412 (Economics of Tax Policy) Evaluation Questions.

Evaluation Question 1: You have the following estimates: For every 1% increase in the wage rate the quantity of labor supplied increases by 0.5% and quantity of labor demanded decreases by 2%. Also assume the initial equilibrium wage rate is $20 and the equilibrium hours of work is 1000. Now assume the government imposes a per-unit tax on hours worked of $2.50.
A) Based on your elasticity estimates above, which side of the market will bear the most of the economic incidence of the tax. Explain your reasoning.

B) Determine the actual economic incidence on the household and firm.

C) Determine the new wage rate the firm pays and the household receives (net wage) per hour after the tax is imposed on the economy.

D) Determine the deadweight loss that results from taxation.

E) Determine the new after tax equilibrium quantity.

F) Determine government revenue from this tax.

Now assume that in the long-run the quantity of labor supplied increases by 2% for every 1% increase in the wage rate (compared to the short-run response in the questions above). You may assume all of the other values hold from the previous questions.

G) Determine the long-run deadweight loss that results from taxation.

H) Determine the new long-run after tax equilibrium quantity.

I) Determine the long-run government revenue from this tax.

11/13 students received an 80% or better on this question.
2/13 students received between 70% and 80% on this question.

Evaluation Question 2: Consider the following problem:

Utility: \[ U(c_1, c_2) = \ln(c_1) + \ln(c_2) \]

Constraints

Period 1: \[ c_1 + s = (w_1 - T_1) \]

Period 2: \[ c_2 = Rs + (w_2 - T_2) \]

Government Constraints:

Period 1: \[ G_1 = T_1 + B_1 \]

Period 2: \[ G_2 + RB_1 = T_2 \]

The variables are: \( c_1 \) is first period consumption, \( c_2 \) is second period consumption, and \( s \) is savings. The parameters are: \( w_1 = 200 \) is period one income, \( w_2 = 100 \) is period two income, \( T_1 = 0 \) is the lump-sum tax in period 1, \( G_1 = 20 \) in government expenditure in period 1, \( G_2 = 20 \) is government expenditure in period 2, and \( R = 2 \) is the gross return on savings. Note: Government bond holdings can be negative (government saving).

a.) Determine the amount of bonds \( B_1 \) the government must issue to finance period 1 expenditures.

b.) Determine second period taxes, \( T_2 \).

c.) Determine the optimal consumption profile (choices) and the optimal amount of savings.
Now assume the following parameters: \( w_1 = 200 \) is period one income, \( w_2 = 100 \) is period two income, \( T_1 = 30 \) is the lump-sum tax in period 1, \( G_1 = 20 \) in government expenditure in period 1, \( G_2 = 20 \) is government expenditure in period 2, and \( R = 2 \) is the gross return on savings. Note: Government bond holdings can be negative (government saving).

d.) Determine the amount of bonds \( B_1 \) the government must issue to finance period 1 expenditures.

e.) Determine second period taxes, \( T_2 \).

f.) Determine the optimal consumption profile (choices) and the optimal amount of savings.

g.) Based on your answers above: Should the government borrow to finance current expenditures or save to finance future expenditures given the relatively high interest rate? Explain your reasoning for full credit.

10/13 students received an 80% or better on this question.
2/13 students received between 70% and 80% on this question.
1/13 student(s) received below 70% on this question.

ECON 483 (Resource Economics) Evaluation Questions:

Evaluation question 1:

A city is considering developing a new park. The land is purchased in year zero (the current year) for $200,000. Also, there will be development costs of $300,000 immediately and an additional $110,000 at the end of one year. One year from today, annual maintenance costs of $50,000 and annual benefits of $90,000 are expected to begin and to continue forever. Suppose there are no other benefits or costs. The discount rate is 10%. Does it make economic sense to construct the park? Explain carefully. Show your calculations and explain how you arrived at your conclusion.

Grade distribution for this question:
A: 10/21
B: 1/21
C: 2/21
D: 5/21
F: 3/21

Evaluation question 2:

Current world oil production is about 90 million barrels per day (mbd). Of this, the United States consumes about 20 mbd. The Arctic National Wildlife Refuge has been estimated to contain enough oil to supply about 0.8 mbd for the foreseeable future, or about 1% of world production. The price elasticity of demand has been estimated to be about 0.5. This suggests that with oil production from ANWR, prices would be about 2% lower (or $1.50 per barrel, assuming a projected future price of about $75 per barrel) than without ANWR production.

a. (15 pts) Given this information, what is the benefit to U.S. consumers of developing ANWR oil? Conceptually, what would you want to measure? If possible, calculate an approximate numerical value. If it is not possible to do such a calculation, what additional information would you need?
b. (10 pts) According to a report issued by the Energy Information Administration, “Assuming that world oil markets continue to work as they do today, [OPEC] could countermand any potential price impact of ANWR coastal plain production by reducing its exports by an equal amount.” If this were to occur, how, if at all, would this modify your conclusion in part (a)?

Grade distribution for this question:
A: 17/21
B: 0/
C: 0/21
D: 1/21
F: 3/21