SUID: | |

Peter J. Wilcoxen
PAI 723, Managerial Economics

Department of Public Administration
The Maxwell School, Syracuse University

Exam 1

Fall 2012

DO NOT OPEN THIS EXAM UNTIL YOU ARE TOLD TO DO SO.

Instructions

1. Write your SUID in the upper right corner of this exam. Do NOT write your name.

2. SHOW ALL YOUR WORK. Answers without supporting work will receive little or no credit.

3. There are 72 points possible on this exam and you will have 80 minutes to complete it. *Be sure to budget your time accordingly.*

4. Do all your work on this exam. If you need extra space, write on the backs of the pages. However, if you do write an answer on the back of a page, *be sure you've noted that near the question.*

Area of a triangle: $\frac{1}{2}bh$ Area of a trapezoid: $\left(\frac{b_1 + b_2}{2}\right)h$

Part 1 (24 points)

A good is purchased by two groups of buyers. There are 10 type-A buyers and 100 type-B buyers. The willingness to pay for an individual of each type is shown below. Also shown is the willingness to accept for all suppliers in the market.

Individual type-A buyer:	WTPai = 200 – Qai
Individual type-B buyer:	WTPbi = 200 – 10*Qbi
Suppliers as a group:	WTA = 80 + (1/100)*Q

(a) *12 points.* Please compute: the market equilibrium price and quantity and the quantity purchased by an individual buyer of each type. Illustrate your results with an appropriate graph.

Part 1, continued

Now suppose the government wishes to increase consumption of the good and establishes a subsidy of $12 per unit sold.

(b) *12 points.* Please compute: the new equilibrium price and quantity; the new quantity consumed by an individual buyer of each type; the change in CS for an individual buyer of each type; the total change in CS, PS and government revenue; and the deadweight loss. Please illustrate your individual CS calculations and your PS calculation with appropriate graphs. *Please note that an extra page has been provided to give you more space.*

Part 1, continued.

Extra space for part 1(b).

Part 2 (12 points)

A government is concerned about two products, C and D. Product C is produced using a clean new production process that creates little pollution. Product D is produced using an older and dirtier process that creates a lot of pollution. The government would like to shift the economy away from D and toward C.

The following facts are known about the markets. The supply of C is perfectly elastic at WTAc=$25; the supply of D is also perfectly elastic but at WTAd=$10. Initially, there are no taxes or subsidies and both markets are in equilibrium with Qc = 400 and Qd = 1000. The elasticity of demand for C is known to be -1 and the elasticity of demand for D is known to be -2.

An analyst has proposed imposing a $2 tax on each unit of D and using the additional revenue to provide a $5 subsidy for each unit of C. The analyst claims the policy will reduce Qd and increase Qc, and will pay for itself in the sense that the amount of revenue raised in the D market will be exactly enough to provide the subsidy in C. Is the analyst correct?

(a) *12 points*. Using the information above, please calculate: the new price and quantity in each market if the policy were imposed; the total revenue that would be raised in the D market; the total cost of the subsidy in the C market; and the overall effect on the government's budget.

Part 3 (12 points)

A government is considering imposing a $10 tariff on a particular good. Initially, there is no tariff in effect, 500 units of the good are produced by domestic firms, and a total of 1000 units are demanded over all. The elasticity of supply is known to be 1 for domestic firms and the supply by foreign firms is perfectly elastic at a WTAf=$50. The elasticity of demand is known to be -0.5.

(a) *12 points.* Please determine the effects of the tariff. What will be the new amount of domestic production? The new total consumption? The new amount of imports? Then compute the change in PS for domestic firms, the change in CS, the amount of revenue and the DWL.

Part 4 (12 points)

A city government has a rent control ordinance in place and is considering removing it. The maximum rent is currently set to 1500 and the following additional information is available about the market:

Market W2P = 6000 – Q
Market W2A = 1000 + (1/4)*Q
Current rent ceiling: 1500

(a) *12 points*. Please determine: the quantity exchanged in the market now, while the control is in effect; the market price and quantity without the ceiling; and the change in CS, PS and overall social surplus from removing the ceiling. Briefly explain who gains and who loses from removing the ceiling. Is the ceiling good for tenants overall?

Part 5 (12 points)

A government running a deficit is evaluating two possible tax policies. Policy 1 would impose a $40 tax on good X and no tax on good Y. Policy 2 would instead impose a $20 tax on good X and a $20 tax on good Y. The supply of each good is perfectly elastic at $100 (suppliers of both goods have a WTA equal to $100). The elasticity of demand for X is known to be -0.5 and the elasticity of demand for Y is known to be -2. Initially, there are no taxes and 1000 units of each good are being sold. You have been asked to provide advice about which policy would be better.

(a) *12 points*. Please determine: the amount of revenue that would be raised under each policy; the DWL associated with each policy. Then indicate which policy is better and briefly explain why.