

Quiz #1 (answer key)  
ECNS 432  
Spring 2019

Name \_\_\_\_\_

**1.) Social choice rules (9 points)**

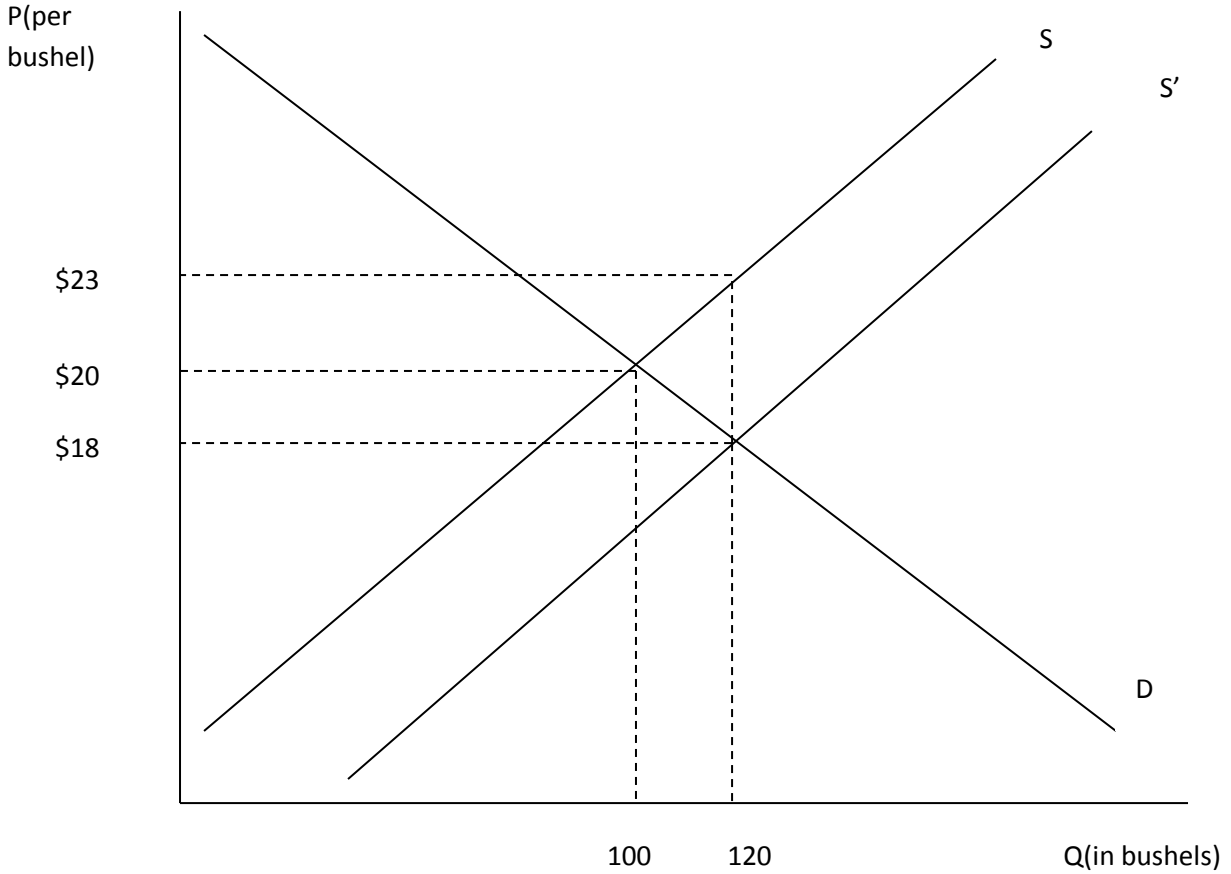
Suppose we have a small inhabited island with three residents and a volcano that generates air pollution. Two people live upwind of the volcano and one person lives downwind. For \$21,000 we can clean up the volcano with a patented “smoke guzzler.” The two upwind people would pay \$1,000 each to get rid of the smoke whereas the downwind person would be willing to pay \$15,000. Consider two plans to finance the “smoke guzzler.” Plan A calls for a tax of \$7,000 per person. Plan B calls for the affected part (the downwind person) to pay \$21,000 and everyone else nothing. Compare each plan to the status quo and indicate society’s choice using (a) the Pareto criterion; (b) majority rule; (c) the compensation principle.

Summary of answers

	PLAN A	PLAN B
Does plan pass under the following choice mechanisms?		
Pareto Criterion	No	No
Majority Rule	No	Yes
Compensation Principle	No	No

## 2.) Welfare Analysis

It is often the case that the government will give subsidies to wheat farmers.



The graph above depicts a per bushel subsidy given to farmers in the wheat market. As shown, the supply curve shifts to the right for the case of a subsidy (i.e. S' represents the supply curve after the subsidy has been given to farmers).

- (5 points) According to this graph, how much is the subsidy per bushel that farmers receive?  
 $\text{Subsidy per bushel} = \$23 - \$18 = \$5$
- (5 points) Shade the area, in the graph above, that represents the dead weight loss.  
 $\text{Shade the triangular area above demand and below the original supply curve and between } q=100 \text{ and } q=120$
- (5 points) What is the **net** cost to consumers of the subsidy program? (Note: consumers are also taxpayers).  
 $\text{Net cost} = (\$5/\text{bushel})(120 \text{ bushels}) - [(\$2/\text{bushel})(100 \text{ bushels}) + (.5)(\$2/\text{bushel})(20 \text{ bushels})] = \$380.$

## 3.) Term paper (2 points)

On the back of this page, write down two potential paper topics (i.e. two hypotheses you are interested in testing) that you have been thinking about researching. Try to be specific, but you don't need to be wordy.