Economics 105   Mike Lovell

Name __*Mr. Key*_____   September 29, 1999

Quiz #1: Postmortem

Part A: Farm Problems

1.   In a bad year the price will be $3.00, yielding farm revenue of $150 and consumer surplus of (4 - 3)×50/2 = $25. Taking the good years with the bad, we have average farm revenue is $150; consumer surplus averages $125.

2.   The government purchase of 50 million bushels of corn in years of good harvest leaves only 100 to meet private demand; competition among consumers for the reduced quantity will push the price up to $2.00. In bad crop years the government sale of 50 means that there are 100 bushels on the market to meet private demand, pushing the price down to $2.00.

        Consumer surplus will be ($4-$2)×100/2 = $100 million in both good and bad years. This is less that the average of good and bad year consumer surplus in the absence of government intervention.

        The government policy has stabilized price, but the farmers' income is reduced to only $2.00× 50 = $100 in bad years; their income is $2.00 × 150 = $300 in good crop years, or an average of $200. Their average income is up, but it fluctuates more.

        Over each two-year period farmers make $400 rather than $300 in revenue and consumers spend more for the same amount of corn.

The *New York Times* reported (October 3, 1999, p 28) that the Freedom to Farm Act of 1996 provided for the eventual (?) phasing out of subsidies for farmers growing corn, cotton, rice, soybeans, and wheat. But it also permitted the creation of the Northeast Dairy Compact, which puts a price floor on milk sold in the six New England states. It is estimated that the compact caused the price of milk in New England to rise by 15 cents per gallon. The Compact is supposed to expire when a new Federal milk pricing policy is put into effect.

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3.   When the price is $1.00, the elasticity of demand is (200-150)/100 = 1/3 by the shortcut

     formula in the problem set. Or, $\boldsymbol{h}_p = -\dfrac{\partial q}{\partial p}\dfrac{p}{q} = 50\times1.00/1.50 = 1/3$.

Part II: 1 T; 2 F; 3 T; 4 F; 5 T

1. If the production transformation curve for England is Wine = 1000 – 2 Cloth, then the opportunity cost of a bolt of cloth is 2 barrels of wine and the opportunity cost of a barrel of wine is ½ a bolt of cloth because increasing wine output by one unit requires the sacrifice of only ½ a bolt of cloth.

2. If the production transformation curve in Portugal is Wine = 2000 – 1 cloth, then in Portugal the opportunity cost of producing an additional unit of wine is 1 bolt of cloth. England has the Comparative Advantage in the production of Wine because her opportunity cost is lower than that of Belgium.

The opportunity cost of producing cloth in England is 1/opportunity cost of producing wine = 2. The opportunity cost of producing cloth in Portugal is 1/opportunity cost of producing wine = 1. Therefore, Portugal has the Comparative Advantage in producing cloth.

No country could ever have the comparative advantage in producing both commodities because of the reciprocal relationship between the opportunity cost of producing two commodities: $OpportunityCost_{UK}^1 > OpportunityCost_P^1$.implies $1/OpportunityCost_{UK}^1 = OpportunityCost_{UK}^2 < 1/OpportunityCost_P^1 = OpportunityCost_P^2$.

3. The price ceiling would create a shortage, unless it were above the equilibrium price, in which case it would not affect the market. In equilibrium, demand equals supply. At a lower price quantity demanded increases (law of demand) and quantity supplied contracts; hence supply is less than demand; i.e., there is a shortage.

4. If demand for any commodity, even labor, is inelastic, then an increase in price (i.e. the wage) will increase revenue.

    Revenue $R = q(p) \times p$; therefore, $dR/dp = dq/dp\, p + q(p) = q(p)(1-\eta)$

    So $dR/dp > 0$ if $\eta < 1$ (i.e., demand is inelastic).

    > Note: Labor unions have traditionally pushed for an increase in the minimum wage – if teenagers must be paid more, employers may hire adult workers instead.

The median score on the exam was 85 – which is a good solid grade in economics courses at Wesleyan. The average E105 grade usually rises during the course of the semester.

Re the Honors Option:

a) An indirect proof shows that there exists no population size (positive integer n) that maximizes the sum total of happiness: Suppose that there exits an integer n* for which H is maximized, yielding $H(n^*) = n^*\sqrt{100/n^*}$. Then a population size of 2n* would yield total happiness of $H(2n^*) = 2n^*\sqrt{100/2n^*}\ \ \sqrt{2}H(n^*)$, contradicting the assumption that n* yields the maximum. Breed Econoland!

b) If there is only one person, then she is the least advantaged and enjoys utility of 10. This maximizes the position of the least advantaged because utility of everyone, including the least advantaged, will be less if there is more than one citizen in Econoland.

Clearly, both the utilitarian argument that we should strive to maximize the sum total of happiness and John Rawls' argument that we should maximize the position of the least advantage have unacceptable implications for population policy.