ECON 1000 – Contemporary Economic Issues
“Surplus, Efficiency, and Deadweight Loss”

Relevant Readings from the Required Textbook:
• Chapter 5, *Surplus, Efficiency, and Deadweight Loss*

Definitions and Concepts:
• **Negative-sum environment** – a situation in which the sum of gains and losses over all people is negative in value
• **Zero-sum environment** – a situation in which the sum of gains and losses over all people is zero in value
• **Positive-sum environment** – a situation in which the sum of gains and losses over all people is positive in value
• **Win-win outcome** – an outcome for which all people are better off than they would have been if the outcome was not realized (i.e., everybody “wins”).
• **Win-lose outcome** – an outcome for which some people are better off and some people are worse off than they would have been if the outcome was not realized (i.e., some people “win” but other people “lose”).
• **consumer’s surplus** – a measure of the net gain that a buyer realizes from making a purchase, equal to the difference between his reservation price for the item and the price he actually pays for the item.
• **producer’s surplus** – a measure of the net gain that a seller realizes from making a sale, equal to the difference between the price she actually receives for the item and her reservation price for the item.
• **social surplus** – a measure of the net gains to society from a trade, equal to the summation of the individual gains (or losses) from the trade over all members of society.
• **total social surplus** – a measure of the total gains from trade realized by society, defined as Social Surplus, added over all units traded.
• **total consumers’ surplus** – a measure of the total gains from trade realized by all consumers, defined as each individual’s Consumer’s Surplus, added over all units purchased.
• **total producers’ surplus** – a measure of the total gains from trade realized by all sellers, defined as each individual’s Producer’s Surplus, added over all units sold.
• **efficient level of trade** – the level of trade which maximizes Total Social Surplus
• **deadweight loss** – the difference between maximum possible Total Social Surplus and realized Total Social Surplus.
  ▪ by construction, Deadweight Loss is zero at the efficient level of trade and is positive at any other level of trade.
• **open-ended fallacy** – a logical error whereby someone incorrectly concludes that simply because there are benefits (to some people) from higher levels of an activity, that more of the activity is always better.
“Maximum Total Social Surplus” and “Inefficiency of too much or too little trade”:

To maximize
- Do trade all units for which \((r_b - r_s) > 0\) (or equivalently \(r_b > r_s\))
- Do not trade any units for which \((r_b - r_s) < 0\) (or equivalently \(r_b < r_s\))

Any other level of trade (either higher or lower) leads to a smaller realized value of Total Social Surplus.

Inefficiency from “too little trade”:

Inefficiency from “too much trade”:
“Equilibrium Price” serves to define the “split” of “total gains from trade” between buyers and sellers under the market equilibrium outcome:
Multiple Choice Questions:
- Questions 1-9 on pages 128-129 in textbook (answers on page 350)

Additional Multiple Choice Questions:

1. A situation in which the sum of gains and losses over all people is positive in value is defined as a
   A. win-win outcome.
   B. win-lose outcome.
   C. positive-sum environment.
   D. negative-sum environment.

2. Consider an outcome for which Al loses $4, Beth gains $3, and Charles gains $2. Based upon this information, it appears as if this is a
   A. positive-sum environment.
   B. zero-sum environment.
   C. negative-sum environment.
   D. win-win outcome.

3. Consider an item that Scott values as a buyer at $15 and Brad values as a seller at $10. Trade of this item (i.e, transferring ownership from Brad to Scott)
   A. is a zero-sum environment.
   B. results in a win-win outcome if trade takes place at a price of $25.
   C. results in a win-lose outcome if trade takes place at $5.
   D. None of the above answers are correct.

4. Which of the following statements is correct?
   A. “In a positive-sum environment a win-win outcome will always be realized.”
   B. “In a zero-sum environment a win-win outcome can never be realized.”
   C. “A win-lose outcome can possibly be realized in a positive-sum environment.”
   D. More than one (perhaps all) of the above statements are correct.
Answers to Additional Multiple Choice Questions:

1. C
2. A
3. C
4. D