

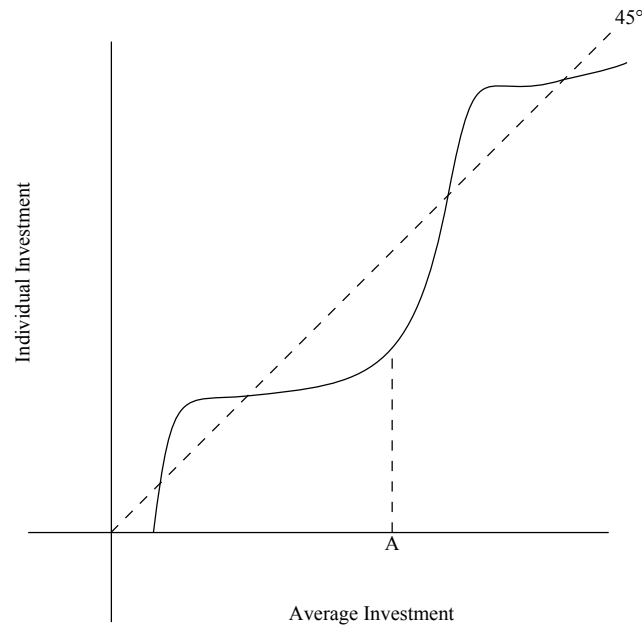
# EC 390 Problem Set 02

**Instructions:** Answers must be submitted online through the designated Canvas assignment in a **PDF file**. Any other file type is not allowed. This Problem Set is due on **October 22 at 11:59am**. Please write as legible and clearly as possible. You will not be given full credit if your answers cannot be easily understood.

## Questions

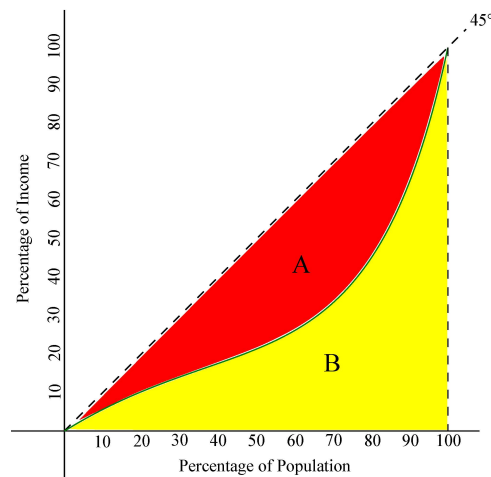
1. **True or False?** Firms with new and better technology will always be able to force existing (incumbent) firms with old technology out of the market. Explain (Be brief in your explanation). Use a **graph** to demonstrate your argument.
2. Consider the Solow model discussed in class. In this country, **women's labor force participation** increases which, in turn, reduces fertility rates in the country. At the same time, since there are fewer dependents, households **can save more**. Show graphically what happens to **capital per worker** ( $k$ ) and **output per worker** ( $y$ ).

3. When one agent's actions provide an **incentive** for other agents to take similar actions, we say that there are \_\_\_\_\_ between these actions
4. Consider the following S-curve diagram:



- (a) Label the equilibrium points on the graph (Make sure they are identifiable and named)
- (b) Classify each equilibrium as **stable or unstable**
- (c) Suppose that average investment is currently at point A. Where will average investment end up? **Show the dynamics on the graph by drawing arrows**

5. Consider the following Lorenz Curve



- (a) Describe how the **Lorenz Curve** would change if the society had **perfect income equality**
- (b) Describe how the **Lorenz Curve** would change if the society had **perfect income inequality**
- (c) If the we have the area of  $A = 0.15$  and the area of  $B = 0.35$ , what is the **Gini Coefficient** for this society? **Show your work**

6. O-Ring model question: Proof of skill sorting