

Economics Placement-2020

In the 2020-21 academic year, there will be two introductory economics courses. Economics 105 is our standard one semester introduction to economics. Economics 104 (offered in Spring 2020) is our Intensive Introduction to Economics (also one semester, but 4.5 class hours per week) targeted to students who have not taken economics before. In order to be put in the proper course, please fill out the survey below.

Name:

Economics Courses taken:

Math Courses taken:

If you have taken both microeconomics and macroeconomics in high school (or at the college level) and would like to try to pass out of our introductory economics course, Econ 105, you must complete the attached economics placement exam.

Do you want to try to pass out of Economics 104/105?

_____ Yes If yes, turn the page and complete the attached placement exam.

_____No If no, you are done! Send in this one page form by email to dowens@haverford.edu or by mail to David Owens 370 Lancaster Ave. Haverford, PA 19041.

Placement Exam – Economics –Summer 2020
Haverford College
2 hour exam

Please print out the exam, complete it and either: scan it back into the computer and send by email to dowens@haverford.edu; or mail to David Owens, Department of Economics, Haverford College, 370 Lancaster Ave, Haverford PA 19041

Name: _____

This exam is closed book and closed notes. You may use a calculator. There are three parts to the exam. The first has 10 multiple choice questions, the second has 5 true/false+explain, and the third part has 10 problems. Put all answers on the exam. If you run out of room for the problems, use the back sides of the pages. Be sure to put your name on this page as well as the beginning of both parts of the exam. At the end of the exam, sign the honor pledge.

You have 2 hours (120 minutes) to complete this exam. The number of points allocated to each question is specified. There are 120 total points, so allocating one minute per point is a decent rule of thumb. Good luck!

Fill out the following *only after you have completed the exam*:

HONOR PLEDGE

I accept full responsibility under the Haverford
Honor System for my conduct on the examination.

Signed _____

Name: _____

I. **(20 Points, 2 Points each) Multiple Choice:** Please circle the correct answer. There is only one correct answer for each question. *No explanation necessary.*

1. Which of the following is true of short-run MC, AVC and ATC curves? (Assume diminishing marginal productivity of inputs.)
 - I. The AVC *always* crosses the MC and ATC curves at their minimum.
 - II. The AVC *usually* (not *always*) crosses the MC and ATC curves at their minimum.
 - III. The MC curve *always* crosses the AVC and ATC curves at their minimum.
 - IV. The MC curve *always* crosses the AVC curve at its minimum, but the ATC curve above its minimum.

2. Which of the following is true of a new chair produced domestically in 2014 and sold (still new) in 2015 for \$100?
 - I. It adds \$100 to 2015 GDP.
 - II. It adds \$100 to 2014 private investment spending (I).
 - III. It adds \$100 to 2015 private investment spending (I).
 - IV. It adds \$100 to 2014 consumption expenditure (C).

3. Which of the following does NOT represent production counted in this year's GDP:
 - I. Jake buys a new Ford Focus that was built in Michigan.
 - II. Fran, a carpenter, builds four porches, for which he charges \$3,000 each.
 - III. Lindsay, a professional housekeeper, cleans 250 houses.
 - IV. Lindsay, a professional housekeeper, cleans her own house.

4. Consider a monopolist producing at the unit elastic point of the linear demand curve that it faces. This monopolist:
 - I. Could increase profits by increasing production.
 - II. Is currently maximizing profits.
 - III. Is currently maximizing profits only if the marginal cost of production is zero.
 - IV. Could increase revenue by decreasing production.

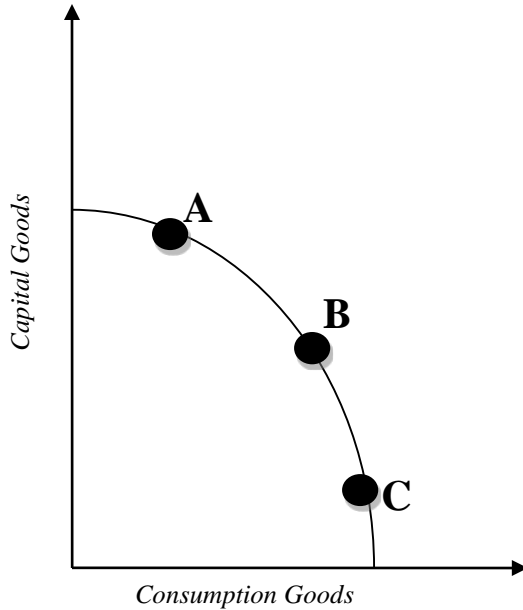
5. If the tax multiplier is -3 in the aggregate expenditure model (Keynesian Cross), then the spending multiplier is _____.
 - I. 1
 - II. 3
 - III. 4
 - IV. 5

6. If the dollar depreciates, we expect U.S. imports to _____ and U.S. exports to _____.
 - a. Increase, decrease
 - b. Increase, increase
 - c. Decrease, increase
 - d. Decrease, decrease

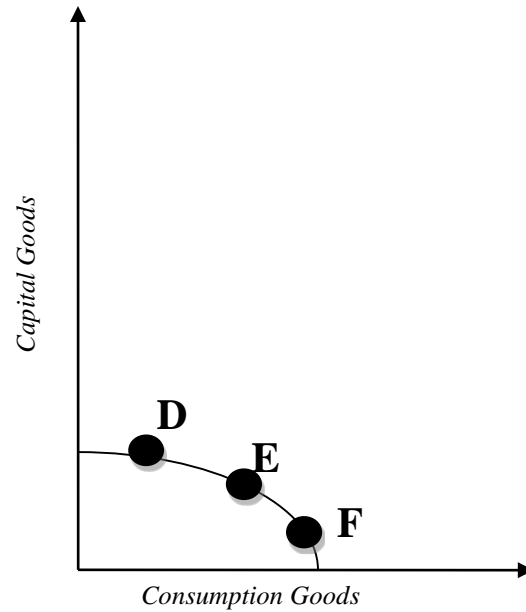
7. If the reserve requirement is 0.1, then the money multiplier is ____.
- e. 2
 - f. 5
 - g. 10
 - h. 20
8. Andy and Anna have a jewelry shop in which they make and sell necklaces and earrings. Anna can make 10 necklaces or 12 pairs of earrings in an eight our day. Andy can make 12 necklaces or 16 pairs of earrings in an eight hour day.
- I. Specialization requires that Anna make necklaces and Andy make earrings.
 - II. Specialization requires that Anna make earrings and Andy make necklaces.
 - III. Specialization is not possible because Andy is more productive in both pursuits.
 - IV. Specialization is not possible because no one has a comparative advantage in either pursuit.
9. In a recession an increasing number of discouraged workers will:
- I. Decrease the unemployment rate.
 - II. Reduce the labor force participation rate.
 - III. Increase the number of people out of the labor market.
 - IV. All of the above.
10. As a management consultant to Mystic Transformers, you note that the wage rate they are paying is \$8/hour and the rental rate on capital is \$1/hour. Currently the marginal product of labor is 40 units and the marginal product of capital is 7 units. You recommend that the firm should:
- I. switch to a more labor intensive technology.
 - II. switch to a more capital intensive technology.
 - III. keep producing at the current technology.
 - IV. go out of business.
- II. **(15 Points, 3 each)** True or false: Determine whether each of the statements below is true or false, and give a brief (one or two sentences) explanation of your answer. Explain both true and false answers.
- 1. When the income and substitution effect of an increase in the price of restaurant meals is the same, the price increase has no effect on the quantity of restaurant meals demanded.

III. Problems

1. **(10 Points)** The PPF of 'Rich Country' is represented on the axes on the left, and the PPF of 'Poor Country' on the axes on the right.



Rich Country

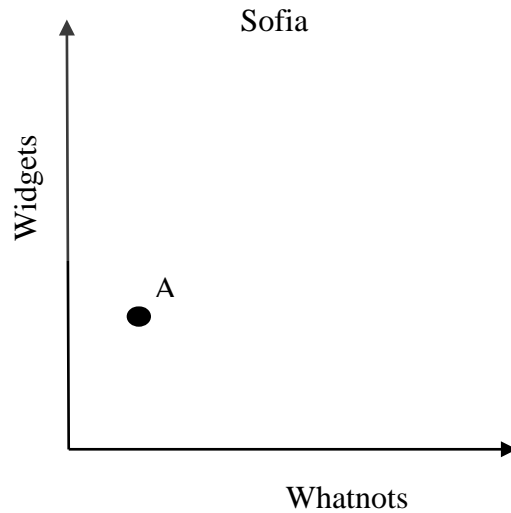
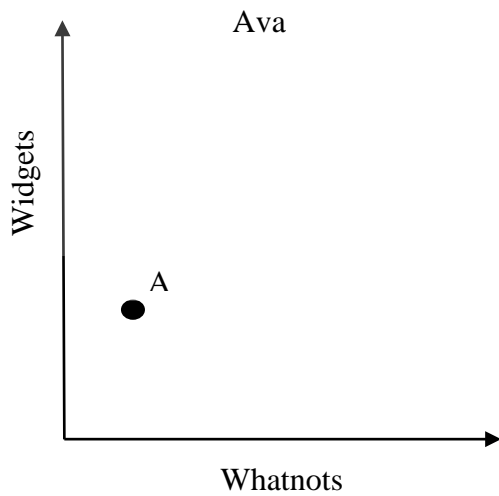


Poor Country

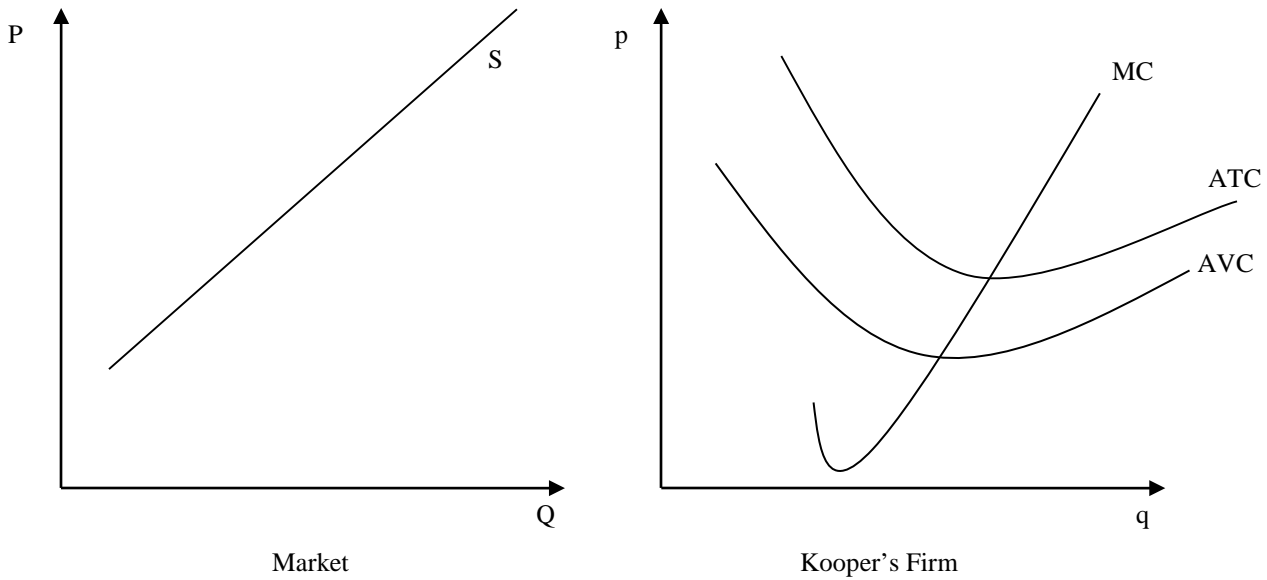
- a. **(4 Points)** Explain the shape of Rich Country's PPF. Be sure to explain both the sign of the slope and the curvature.
- b. **(2 Points)** Which country appears to have the comparative advantage in the production of consumption goods? *No explanation necessary.*
- c. **(4 Points)** Draw a new PPF for each country that represents economic growth. *No explanation necessary.*

See graph.

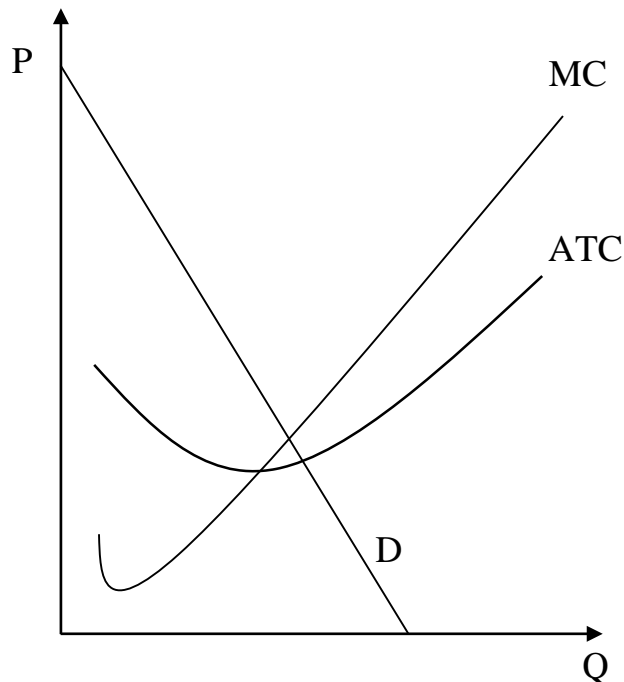
2. (6 Points, 3 each) Theo, Sofia, Ava and Sesame *each* currently have 2 Widgets and 1 Whatnot, which corresponds to point A on the graphs below. However, they each have different preferences over Widgets and Whatnots, as described. On the corresponding axes below, draw the indifference curve for each of them that includes point A and fits their preferences.
- Ava has preferences over Widgets and Whatnots that fit the assumptions of non-satiation and diminishing marginal utility.
 - For Sofia, Widgets and Whatnots are always perfect substitutes. She is always indifferent between 1 Widget and 1 Whatnot.



4. (5 Points) Kooper's firm operates in a perfectly competitive market, which is represented in the graphs below. The market is in a long-run equilibrium. Draw an appropriate market demand curve. *No explanation necessary.*



5. (12 Points) The graph below shows a monopolist's demand (D), marginal cost (MC) and average total cost (ATC) curves. On the same graph, show the monopolist's quantity (Q^M), price (P^M), and profit (π^M). *No explanation necessary.*



6. **(5 Points)** The chart below shows the Consumer Price Index for the years 2012 to 2018. Use it to calculate the inflation rate for the year 2016. *No explanation necessary.*

Year	CPI
2012	96.2
2013	98.2
2014	100.0
2015	102.1
2016	102.4
2017	103.0
2018	103.4

7. **(6 Points)** Suppose *Small Country* has 100 civilian residents aged at least 16. 10 are retired, 20 are students who are not working or looking for work, 45 are currently employed full time, 15 are currently employed part-time, and 10 do not have jobs but are actively seeking work. *No explanation necessary.*
- (2 points)** What is the unemployment rate?
 - (2 points)** What is the labor force participation rate?
 - (2 points)** Suppose 2 of the currently unemployed workers become discouraged and stop looking for work. What would be the new unemployment and labor force participation rates?

8. **(11 points):** The following equations characterize a closed ($EX=IM=0$) economy. For this problem, ignore feedback from the money market.

$$AE = C + I + G$$

$$C = 10 + .7 \times (Y - T)$$

$$I = 20$$

$$G = 20$$

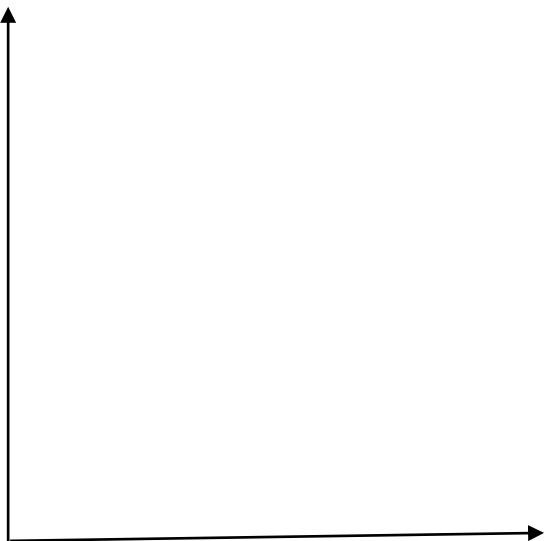
$$T = 20$$

- a. **(5 points):** Find the equilibrium level of output in the economy, Y^{EQ} , assuming that the economy is closed, so $EX=IM=0$.
- b. **(3 points):** What size increase in G will lead to a \$100 increase in Y^{EQ} ?
- c. **(3 points):** The government simultaneously increases G and T . Taxes increase by 5, and Y^{EQ} increases by 5. By how much did G increase?

9. (6 Points) A US Treasury bill will yield \$2,000 in the year 2020. How much will it be worth in 2017 if inflation is and the real interest rate are both expected to remain constant at 5%? (There is no risk to this asset).

10. (11 Points) Complete the following:

a. (4 Points) Draw the *IS* and *LM* curves on the axis below. Be sure to label each axis.



b. (3 Points) Describe the shape of each curve.

c. (2 Points) Explain the significance of the point where the curves intersect.

d. (2 Points) What happens to each curve when the government increases taxes?