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Economics 202
Summer 2022

Homework #1 (due by 9:00pm on Wednesday, July 13)

*Please submit your answers to this homework through the Assignment link at Blackboard. **No credit will be given for answers submitted in class or emailed to the professor, regardless of the excuse.** This includes unique excuses like my dog ate my homework or aliens showed up in my dorm and accidentally deleted my homework, as well as more traditional excuses like “I lost my Internet”. Please note that all submissions are final, again – regardless of the excuse (which includes “I accidentally hit the submit button”). When you go to Blackboard, you should see that you can save your answers, or “Save and Submit”. Use the Save and Submit button to submit your answers. If you are unfamiliar with Blackboard, then it would be a good idea to visit the class page at Blackboard and check out the homework assignments as they are posted.*

Please note that when Blackboard grades homework answers, more specifically when Blackboard grades answers to any fill-in-the-blank questions – your answer must match exactly with the answer that Blackboard is looking for. Below, you’ll find some instructions on how to properly format these answers. Reading this section is strongly recommended.

Homework Questions 1 and 6

Your answers to question #1 and #6 involve your determining the opportunity cost of producing a certain good. Formatting matters with these two answers. For this reason, **understand that your answer can be technically correct but graded as wrong because you didn't follow the directions provided below.** Given that formatting is considered part of your answer, a wrongly formatted answer is still a wrong answer. Note, however, that there will be at least a little flexibility in formatting (as noted in ii below), but it is your responsibility to find out how much flexibility you’ve got.

Please note the following comments regarding formatting below.

(i) Your answer in questions 1 and 6 may be expressed as a fraction (reduced to its simplest form) or as a decimal rounded to the nearest tenth. Do not write your answer as a compound fraction or mixed number. E.g., if your answer is $\frac{6}{4}$, then you should record your answer as $\frac{3}{2}$ or 1.5, but do not write your answer as $\frac{6}{4}$ or $1 \frac{1}{2}$.

(ii) Whole number answers in questions 1 and 6 may be expressed as a whole number or as a decimal rounded to the nearest tenth. E.g., if your answer is 5, then you may record your answer as 5 or 5.0, but not as 5.00.

Homework #1 Questions

1. Assume that Costa Rica and Mexico both produce coffee and crude oil, as per the PPC provided below.

Costa Rica	A	B	C	D
Quantity of Coffee	0	20	40	80
Quantity of Electronic goods	16	12	8	0

Mexico	W	X	Y	Z
Quantity of Coffee	0	20	50	60
Quantity of Electronic goods	30	20	5	0

- As Costa Rica moves from pt. B to pt. C, the opportunity cost of producing each additional unit of coffee is _____ units of electronic goods.
- As Costa Rica moves from pt. C to pt. B, the opportunity cost of producing each additional unit of electronic goods is _____ units of coffee.
- As Mexico moves from pt. X to pt. Y, the opportunity cost of producing each additional unit of coffee is _____ units of electronic goods.
- As Mexico moves from pt. Y to pt. X, the opportunity cost of producing each additional unit of electronic goods is _____ units of coffee.

2. Given the tables associated with Question 1 about these two countries, select every correct statement (note: there may be a multiple number of correct statements below).

Note that there is no partial credit on this question – you must get it completely correct, or your answer is incorrect.

- Costa Rica has a comparative advantage in producing coffee
- Costa Rica has a comparative advantage in producing electronic goods
- Mexico has a comparative advantage in producing coffee
- Mexico has a comparative advantage in producing electronic goods
- Both Mexico and Costa Rica have a comparative advantage in producing coffee
- Both Mexico and Costa Rica have a comparative advantage in producing electronic goods
- Neither country has a comparative advantage in producing coffee
- Neither country has a comparative advantage in producing electronic goods

3. Brazil and Argentina both produce cars and wheat, as per the PPC provided below.

Brazil	A	B	C	D
Quantity of Cars	0	24	54	60
Quantity of Wheat	40	24	4	0

Argentina	W	X	Y	Z
Quantity of Cars	0	24	40	64
Quantity of Wheat	80	50	30	0

Given the tables associated with this question (above), select the **correct statement** about the comparative advantage within Brazil and Argentina.

- (a) Brazil has a comparative advantage in producing cars and Argentina has a comparative advantage in producing wheat
- (b) Brazil has a comparative advantage in producing wheat and Argentina has a comparative advantage in producing cars
- (c) Brazil has a comparative advantage in producing both cars and wheat
- (d) Argentina has a comparative advantage in producing both cars and wheat
- (e) Neither country has a comparative advantage in producing cars
- (f) Neither country has a comparative advantage in producing wheat

Use the PPC tables for Brazil and Argentina above to answer the question below.

4. Assume that there is an increase in productivity within Brazil that affects **wheat production**. Indicate which of the answers below is a correct statement (i.e. select every correct response). *Note that there is no partial credit on this question – you must get this question completely correct, or your answer is incorrect.*

- (a) the opportunity cost of producing cars in Brazil will decrease
- (b) the opportunity cost of producing wheat in Brazil will increase
- (c) the opportunity cost of producing cars in Brazil will increase
- (d) the opportunity cost of producing wheat in Brazil will decrease
- (e) the opportunity cost of producing cars in Brazil will not change
- (f) the opportunity cost of producing wheat in Brazil will not change

Use the PPC tables for Brazil and Argentina above to answer the question below.

5. If there is an increase in productivity within Brazil that affects **wheat production**, then what effect will this have on the comparative advantage of Brazil (i.e. relative to Argentina)?

- (a) if the increase in productivity is large enough, this change in productivity could give Brazil a comparative advantage in both goods (i.e. both cars and wheat)
- (b) if the increase in productivity is large enough, this change in productivity could cause Brazil to have no comparative advantage in either good (i.e. Argentina would have it in both goods)
- (c) if the increase in productivity is large enough, this change in productivity could cause the comparative advantage of Brazil to switch from wheat to cars
- (d) if the increase in productivity is large enough, this change in productivity could cause the comparative advantage of Brazil to switch from cars to wheat
- (e) this change in productivity will not affect the comparative advantage of Brazil

6. In one period, Country A can either produce 40 units of cotton, or 100 units of corn, and Country B can either produce 50 units of cotton or 100 units of corn. Given this information, answer both of the following questions below (*note: round your answers to the nearest tenth*).

Country A:

- (a) The opportunity cost of producing each additional unit of cotton is _____ units of corn
- (b) The opportunity cost of producing each additional unit of corn is _____ units of cotton

Country B:

- (c) The opportunity cost of producing each additional unit of cotton is _____ units of corn.
- (d) The opportunity cost of producing each additional unit of corn is _____ units of cotton

*In the Blackboard shell for this course, there's a folder entitled "**Homework #1 material**" that's located in the Course Documents section of Blackboard. Go to that folder, get the file "US Economy: Productivity Growth" by Evan Koenig and use this file to answer question #7.*

7. According to this article, what are the three main (underlying) causes of labor productivity growth which are cited in the article. *Note that there is no partial credit on this question – you must get it completely correct, or your answer is wrong.*

- (a) increases in the amount of capital per worker
- (b) increases in the quantity of available public transportation
- (c) improvements in technology and the organization of production processes
- (d) increases in income
- (e) improvements in the quality of the workforce
- (f) migration

*In the Blackboard shell for this course, there's a folder entitled "**Homework #1 material**" that's located in the Course Documents section of Blackboard. Go to that folder, get the file "Labor Productivity and Economic Growth" and use this file to answer question #8.*

8. Which of the following points does this article make labor productivity and economic growth (note that there can be 1 or more correct answers here). *Note that there is no partial credit on this question – you must get it completely correct, or your answer is wrong.*

- (a) The main determinants of labor productivity are physical capital, human capital, and technological change.
- (b) Physical capital is affected by changes in the quantity of capital, but changes in the quality of capital affect human capital, not physical capital.
- (c) The economy's aggregate production function is only affected by changes in technology.
- (d) Technological change not only includes new ways of organizing work, but also includes a combination of invention and innovation.
- (e) Increases in the quantities of physical capital, human capital and technology per person lead to a higher standard of living over time.
- (f) Increases in human capital per person can affect GDP, but not GDP per capita.

9. Assume that the country of Ecuador has a production possibilities curve (PPC) for the production of oil and bananas, two goods where Ecuador is a major exporter on the world market. Let's assume their PPC has oil on the vertical axis and bananas on the horizontal axis.

Predict the effect of each individual event on the PPC of Ecuador by matching the event from the first list to the most likely effect (below, from the "Effect on Ecuador's PPC" list) on the next page. Note that it is possible to for different events to have the same effect (i.e. it's possible to have the same answer for more than one event). **Note also: Answer items are on the next page.**

Event (Question Item):

- a. How does an increase in unemployment affect the PPC of Ecuador?
- b. How would an earthquake which destroys the amount of available land, affecting both oil and banana production within Ecuador, affect Ecuador's PPC?
- c. How does migration of laborers from Peru into Ecuador affect Ecuador's PPC?
- d. How does increased demand for oil within Ecuador (during a period of full employment) affect the PPC of Ecuador?
- e. How does automation (technological change) within the oil industry affect Ecuador's PPC?
- f. How does a decrease in the availability of inputs for bananas affect Ecuador's PPC?
- g. How does an increase in demand for bananas, a change that occurs during a period of full employment within Ecuador, affect the PPC of Ecuador?
- h. How does an increase in the overall capital stock within Ecuador affect their PPC?
- i. How does a decrease in the productivity associated with producing oil affect Ecuador's PPC?

Continued from Question 9 on the previous page.

Effect on Ecuador's PPC (Answer Item):

- A. Movement from a point inside this PPC to a point that's on the PPC, but no shift
- B. Movement from a point that's on this PPC to a point inside the PPC, but no shift
- C. Movement between 2 points, up along the PPC (i.e. toward oil), but no shift
- D. Movement between 2 points, down along the PPC (i.e. toward bananas), but no shift
- E. Increase (shift outward) in the PPC that affects both goods
- F. Decrease (shift inward) in the PPC that affects both goods
- G. Increase (shift outward) in the PPC that affects only oil
- H. Increase (shift outward) in the PPC that affects only bananas
- I. Decrease (shift inward) in the PPC that affects only oil
- J. Decrease (shift inward) in the PPC that affects only bananas