

PROBLEM SET 1 – Tutorial Week 3 (August 22–26)

You do not need to submit your answers to this problem set; however, you should attempt the questions and not just rely on “learning” from the tutorial or from reading the solutions. You will have to submit your answers in groups of two or three from Problem Set 2 onwards.

Section A

1. Classify each of the following topics as relating to microeconomics or macroeconomics.
 - (a) A family’s decision about how much income to save.
 - (b) The impact of higher saving on economic growth.
 - (c) The effect of government regulations on car emissions.
 - (d) A firm’s decision about how many workers to hire.
 - (e) The relationship between the inflation rate and changes in the quantity of money.
2. Classify each of the following statements as positive or normative. Explain.
 - (a) Society faces a short-run tradeoff between inflation and unemployment.
 - (b) The central bank should reduce the rate of growth of money.
 - (c) Economics majors earn more on average than psychology majors.
 - (d) Society ought to require welfare recipients to look for jobs.
 - (e) An increase in the price of Penang *char koay teow* will cause an increase in demand for iPhones.
3. Would you expect economists to disagree less about public policy as time goes on? Why or why not? Can their differences be completely eliminated? Why or why not?
4. Read the following articles:

The New York Times. June 26, 2009. “As Plants Close, Teenagers Focus More on College.”
<http://www.nytimes.com/2009/06/26/business/26grads.html>

The New York Times. July 26, 2013. “College Enrollment Falls as Economy Recovers.”
<http://www.nytimes.com/2013/07/26/education/in-a-recovering-economy-a-decline-in-college-enrollment.html>

 - (a) In not more than five sentences, use the concept of opportunity cost to explain how the recession, and subsequent recovery, affected college enrollment decisions.
 - (b) Should everyone go to college/university? Explain in not more than five sentences.

5. The country of Midian produces military goods and consumer goods, which we will call “guns” and “butter.”
- Assuming increasing opportunity costs, draw the production possibilities frontier for guns and butter. Explain how the PPF exhibits increasing opportunity costs.
 - Show a point that is impossible for the economy to achieve. Show a point that is feasible but inefficient.
 - Midian has two political parties, Hawks (who want a bigger military) and Doves (who want a smaller military). Show a point on your PPF that Hawks might choose and a point that Doves might choose. Explain.
 - Suppose an aggressive neighboring country reduces the size of its military. As a result, both Hawks and Doves reduce their desired production of guns by the same amount. Which party would get the bigger “peace dividend,” as measured by the increase in the production of butter? Explain.
6. The following table shows the hypothetical labor requirements per ton of wool and per hand-knotted rug for New Zealand and India.

	New Zealand	India
Per ton of wool	9 hours	15 hours
Per hand-knotted rug	12 hours	6 hours

- Which country has an absolute advantage in each good? Why?
- Calculate the opportunity cost in each country for each of the two goods. Which country has a comparative advantage in each good? Why?
- If India produces one more rug and exports it to New Zealand, what is the lowest price (measured in tons of wool) that it would accept? What is the highest price that New Zealand would pay? Why?

Suppose New Zealand has 72 million hours of labor per period, while India has 120 million hours.

- Before trade, each country uses half of its labor to produce wool and half to produce hand-knotted rugs. How many tons of wool and how many hand-knotted rugs would each country produce?
- After trade opens up, each country specializes in the good in which it has a comparative advantage. How many tons of wool and how many hand-knotted rugs would each country produce?
- Suppose the terms of trade end up at 1 ton of wool for 1 hand-knotted rug. New Zealand decides to export 4 million tons of wool to India. How many rugs will New Zealand import from India? How many tons of wool and how many hand-knotted rugs will each country consume after trade?

Section B

1. Read the excerpts from Tim Harford's *The Undercover Economist*, Chapter One. In no more than three sentences, explain why coffee is expensive in cities like London, New York, Washington, Tokyo, and Singapore.
2. Read the following article:
The New York Times. November 5, 2013. "Outsource Your Way to Success."
<http://www.nytimes.com/2013/11/10/magazine/outsource-your-way-to-success.html>
 - (a) In your own words, explain why Steinsson and Nakamura hired a personal chef.
 - (b) Under what circumstances will Steinsson and Nakamura choose to forgo the personal chef?
3.
 - (a) Use a production possibilities frontier (PPF) to illustrate society's tradeoff between the cleanliness of the environment and the quantity of widgets made in factories. What determines the shape and position of the PPF?
 - (b) Show what happens to the PPF if engineers develop a car engine with almost zero emissions. (*Hint: How does a zero-emission car engine affect the cleanliness of the environment? How does a zero-emission car engine affect the quantity of widgets?*)
4. Sheldon and Leonard are roommates. They spend most of their time studying (of course), but they leave some time for their favorite activities: making pizza and brewing root beer. Sheldon takes 5 hours to brew a gallon of root beer and 6 hours to make a pizza. Leonard takes 4 hours to brew a gallon of root beer and 7 hours to make a pizza.
 - (a) What is each roommate's opportunity cost of a pizza?
 - (b) Who has an absolute advantage in brewing root beer?
 - (c) Who has a comparative advantage in brewing root beer?
 - (d) If Sheldon and Leonard trade with each other, who will make pizza and who will brew root beer?
 - (e) The price of pizza can be expressed in terms of gallons of root beer. What is the highest price at which pizza can be traded that would make both roommates better off? What is the lowest price? Explain.
 - (f) Summarize the key points you have learned by working through this question.

5. Boston workers can produce either 4 pairs of red socks per hour or 1 pair of white socks per hour. Chicago workers can produce either 5 pairs of red socks per hour or 2 pairs of white socks per hour. Each city has 99,000 workers.
- (a) Which city has an absolute advantage in the production of each color sock? Explain.
 - (b) Which city has a comparative advantage in the production of each color sock? Explain.
 - (c) If the cities trade with each other, which color sock will each city export?
 - (d) The price of a pair of white socks can be expressed in terms of pairs of red socks. What is the range of prices at which trade can occur?
 - (e) How is this question different from Question 6 in Section A and Question 4 in Section B? Consequently, how is your approach to this question different from your approach to the other two questions?
6. Read the following article:
The New York Times. April 16, 2020. "It's the End of the World Economy as We Know It."
<https://www.nytimes.com/2020/04/16/upshot/world-economy-restructuring-coronavirus.html>
- (a) What is globalization?
 - (b) Is global trade likely to disappear?
 - (c) "At times over the last 12 years, it has felt as if the world were reliving the period of 1918 to 1939, but as if told by a forgetful student who was getting the events out of order. That era also featured a global financial collapse; a rise of authoritarian governments; the emergence of a new economic superpower (the United States then, China now); and a pandemic, though not in that sequence." When did the following events happen? Create a timeline.
 - (i) Great Depression
 - (ii) Great Recession
 - (iii) World War I
 - (iv) World War II
 - (v) Russian invasion of Ukraine
 - (vi) Spanish Flu pandemic
 - (vii) COVID-19 pandemic
 - (viii) The year U.S. output overtook that of the entire British empire
 - (ix) The year Chinese output overtook U.S. output
 - (x) Hyperinflation in the Weimar Republic
 - (xi) Gas prices hit \$4 a gallon in the U.S.
 - (xii) Black Thursday
 - (xiii) Adolf Hitler rose to power as chancellor of Germany
 - (xiv) The Holocaust