Fall 2024 Professor Emmanuel Saez
University of California, Berkeley

ECONOMICS 2

FINAL EXAMINATION
INSTRUCTIONS

1. Put your name, your SID number, and your GSI's name or your section number in the blanks provided on the front of the exam. ***Please do not put your name or your GSI's name anywhere else on the exam.***

2. The exam is written on ***both sides of the page***. Be sure to answer all the questions.

3. Write all of your answers directly on the exam in the spaces provided. **Use a dark enough pen so that answers remain legible** after electronic scanning.

4. Use blank pages at the back for scratch paper NOT your own paper.

5. There are **30 points** in total.

6. Turn off and put away all cellphones and other electronics.

7. We collect the exams **120 minutes exactly** after start time.

PLEASE DO NOT OPEN THE EXAM UNTIL INSTRUCTED TO DO SO.

Name ____

SID Number ____

GSI or Section Number ________________________________

During the exam, I will NOT obtain help from anyone, provide help to anyone else, or use any notes or other resources. Sign below:

____

PAGE FOR GRADING ONLY (STUDENTS SHOULD SKIP IT)

PROBLEM 1a: ____________

PROBLEM 1b: ____________

PROBLEM 1c: ____________

PROBLEM 1d: ____________

PROBLEM 1e: ____________

PROBLEM 1f: ____________

PROBLEM 1g: ____________

QUESTION 2: ____________

QUESTION 3: ____________

PROBLEM 4a: ____________

PROBLEM 4b: ____________

PROBLEM 5a: ____________

PROBLEM 5b: ____________

MULTIPLE CHOICE: ___________

TOTAL:____________

PART I: MATERIAL SINCE THE 2ND MIDTERM **[10 POINTS TOTAL]**

1. Problem

Answer all parts of the question. Be sure to explain your answers and to draw diagrams where they are appropriate. Your explanation and analysis determine your grade. This part uses the Keynesian cross framework to study the impact of Trump's election and policies on short run economic outcomes. We ignore import and exports throughout this problem.

a. We denote by c the slope of the Planned Aggregate Expenditure (PAE) line. Explain what c is and why it is between 0 and 1. Explain how output is determined in the short-run in the Keynesian cross framework. Draw a graph to explain to answer. **[1 point]**

b. Suppose businesses become more bullish about the economy after Trump's election and decide to increase planned investment I by \$1 trillion. What will this do to total output Y and consumption C in the short run? Use a diagram and the equations discussed in class to explain your answer. **[1.5 points]**

c. The new Trump administration decides to lower net taxes T by \$1 trillion. How will the decrease in taxes T affect output Y and consumption C in the short run? Use a diagram and the equations discussed in class to explain your answer. **[1.5 points]**

d. The new Trump administration decides to reduce government consumption G by \$.5 trillion (that's the DOGE commission headed by Musk). How will the decrease in government consumption G affect output Y and consumption C in the short run? Use a diagram and the equations discussed in class to explain your answer. **[1.5 point]**

e. Combine the effects of b. and c.: -$1 trillion in taxes and +$.5 trillion on government spending. What is the net effect on output Y and consumption C? Is the net effect positive, negative, or zero? **[1.5 point]**

f. Suppose the economy starts with Y equal to normal output Y* before the election and also with inflation back to its target value of 2%. Suppose the combined effect of a., b., and c., is to actually stimulate output Y in the short-run so that Y becomes higher than Y*. What will happen to inflation and why? Using the concept of the Fed's reaction function, explain using a graph how the Fed is going to change the real interest rate and how this will affect the path output and inflation **[1.5 points].**

g. Suppose President Trump is upset by what the Fed would do in e. and hence replaces the Fed chair by another Fed chair who adopts a new reaction function which is below the one used by the previous Fed chair. Draw the old and new reaction functions of the Fed and explain what is going to happen to output and inflation in the long-run with this new reaction function in place **[1.5 points]**

<u>PART II: SHORT ANSWER</u> **[3 POINTS TOTAL]**

Answer all questions. Be sure to explain your answers and to draw diagrams where they are appropriate.

2. A large fraction of agricultural workers in the US are currently undocumented immigrants. Suppose the new Trump administration successfully deports undocumented immigrants. How would this affect the labor market for agricultural workers in the US? What would be the impact on the price of agricultural products in the US? **[1.5 points]**

3. Suppose a household learns that many exciting new products will be introduced in a few years. How, if at all, will this affect its saving this year? **[1.5 points]**

PART III: PROBLEM **[7 POINTS TOTAL]**

Answer all parts of each question. Be sure to explain your answers and to draw diagrams where they are appropriate. Your explanation and analysis determine your grade.

4. Consider the market for coal powered electricity, which has a negative production externality. It is reasonable to think of this market as competitive.

a. How does the quantity of coal powered electricity produced in a free market compare with the quantity that would maximize the total social surplus? Using a diagram, identify the total private surplus, external costs, and total social surplus at the level of production that occurs in a free market and at the level of production that maximizes the total social surplus. What is the deadweight loss associated with the free-market outcome? **[2 points]**

b. Suppose that the new Trump administration decides to subsidize coal powered electricity production. The subsidy is a per unit subsidy that is physically paid to producers. Show in a diagram what is the new quantity produced and the deadweight loss in this case. **[1.5 points]**

5. Gasoline is a good that the U.S. both produces domestically and imports. Suppose the new Trump administration decides to put a tariff on imported gasoline.

a. What would the imposition of the tariff do to the price of gasoline paid by American consumers, the amount of gasoline bought by American consumers, and U.S. imports of gasoline? Use a diagram to explain your answer **[2 points]**

b. If the American supply for gasoline is highly elastic, will the impact of the tariff on gasoline domestic production and gasoline imports be larger or smaller than if the supply were less elastic? Use a diagram to explain your answer **[1.5 points]**

PART IV: MULTIPLE CHOICE [10 POINTS TOTAL]

Each question is worth 1 point. Please write the letter of the ***best*** answer for each multiple choice questions below, like so:

1. __E__
2. __F__
...

1. ________

2. ________

3. ________

4. ________

5. ________

6. ________

7. ________

8. ________

9. ________

10. ________

1. In a competitive market with no government intervention, if the price is below the equilibrium level:
- **A.** the quantity demanded is greater than the quantity supplied.
- **B.** consumers who want to buy the good at the current price but are unable to get the good have an incentive to offer a higher price to firms.
- **C.** firms have an incentive to charge more than the current price of the good.
- **D.** all of the above.
- **E.** none of the above.

2. If the demand for a good is perfectly inelastic with respect to price and the supply is not, a per-unit tax on the good that is physically collected from sellers:
- **A.** will be borne by both buyers and sellers.
- **B.** will be borne only by buyers.
- **C.** will be borne only by sellers.
- **D.** will cause the market for the good to shut down completely.

3. At the equilibrium of a perfectly competitive market for a good that has no externalities, ***all*** of the following are equal ***except***:
A. price.
B. quantity.
C. private marginal benefit.
D. social marginal benefit.
E. private marginal cost.
F. social marginal cost.

4. If the government introduces a per unit ***subsidy*** to a good that has a ***negative*** externality and that is bought and sold in a competitive market:
A. producer surplus will rise.
B. producer surplus will fall.
C. total social surplus will rise.
D. total social surplus will fall.
E. it is not possible to determine the effect on total social surplus.
F. (A) and (D).
G. (A) and (E).
H. (B) and (C).
I. (B) and (D).

5. If the interest rate is 10%, the present value of $110 to be received a year from now is:
a. $10.
b. $100.
c. $110.
d. $121.
e. $1100.

6. If a typical worker in France can produce 5 croissants or 10 chocolates in an hour, and a typical worker in Belgium can produce 4 croissants or 12 chocolates in an hour, each country will want to specialize in the good in which it has a comparative advantage and trade with the other if the terms of trade are between:
A. 4/5 and 12/10 chocolates per croissant.
B. 10/12 and 5/4 chocolates per croissant.
C. 1/2 and 1 chocolates per croissant.
D. 1 and 2 chocolates per croissant.
E. 2 and 3 chocolates per croissant.
F. 4 and 5 chocolates per croissants.
G. 10 and 12 chocolates per croissants.

7. The imposition of a tariff on a good that the U.S. imports will:
A. hurt both U.S. consumers of the good and U.S. producers of the good.
B. hurt U.S. consumers of the good and not affect U.S. producers of the good.
C. hurt U.S. consumers of the good and help U.S. producers of the good.

D. not affect U.S. consumers of the good and hurt U.S. producers of the good.
E. not affect U.S. consumers of the good and help U.S. producers of the good.
F. not affect either U.S. consumers of the good or U.S. producers of the good.

8. The Federal hourly minimum wage was $1.60 in 1968 and is $7.25 today. The Consumer Price Index was 35 in 1968 and 300 today. These figures imply that the inflation-adjusted minimum wage was greater in 1968 than it is today if:
A. $1.60/35 > $7.25/300.
B. $1.60/300 > $7.25/35.
C. $1.60•(35/300) > $7.25•(300/35).
D. $1.60•(300/35) > $7.25•(35/300).

9. Consider the PPC-CPC diagram (with computers on the horizontal axis) for a country that produces two goods, computers and food. If the world relative price of computers falls, the country's CPC will:
A. shift in parallel to the old CPC.
B. shift out parallel to the old CPC.
C. become flatter.
D. become steeper.
E. not change.

10. If increases in national pride cause American tastes to shift toward domestically produced goods rather than foreign-made ones:
A. the supply curve of dollars in the foreign exchange market will shift to the left.
B. the demand curve for dollars in the foreign exchange market will shift to the right.
C. the dollar will appreciate.
D. (A) and (B).
E. (A) and (C).
F. (B) and (C).
G. all of the above.

SCRATCH PAPER

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