ECO 156, Fall 2025, Exam #1

Note: Write you name on the last page, not here.

Instructions:

1. This exam consists of twelve questions and a bonus. You are encouraged to use the models from class when formulating your answers.

2. Some questions are open ended. You will be graded more on the quality of your explanation than your specific answers. On "true/false" questions, for example, answering only "true" or "false" will receive no credit, even if correct.

3. Do not just copy from the course materials. Doing so will receive no credit.

4. This is an open note exam. You may use any printed course materials. You may not use any electronic devices, you do not need a calculator.

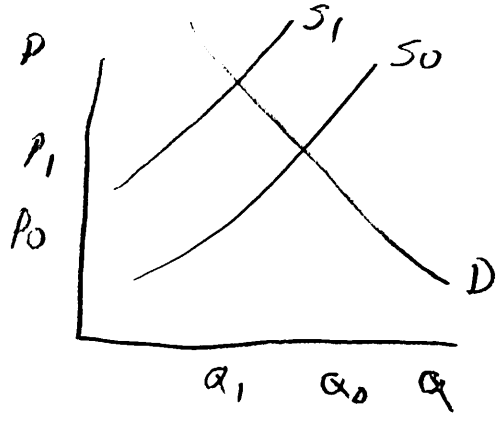
5. All questions will be graded out of ten points, including the bonus. To maximize the potential for partial credit, craft clear and concise responses. If you making assumptions, state them clearly. Use graphs as appropriate.

1. True or False? Polices that boost GDP always raise social welfare and polices that lower GDP always reduce social welfare.

False. Social welfare is subjective. While it may depend on GDP, it includes many other factors. Most would agree that a policy increasing GDP by 1%, but reducing life expectancy by 20 years would be a bad idea

2. Using a model of supply and demand, show how cost disease affects the price and quantity of a product? What types of products are most vulnerable to cost disease?

Cost disease affects products that require a lot of high-skilled labor and which have low productivity growth. Education and healthcare are two examples. Cost disease raises marginal cost, lowering Q, and raising P



3. Why did some economists argue that the Fed should not cut interest rates in September?

Half of the Fed's mandate is price stability, which it interprets as 2% inflation. By many measures, inflation is above 2%. There is a risk of it rising higher due to tariffs. Higher interest rates reduce demand and help lower inflation

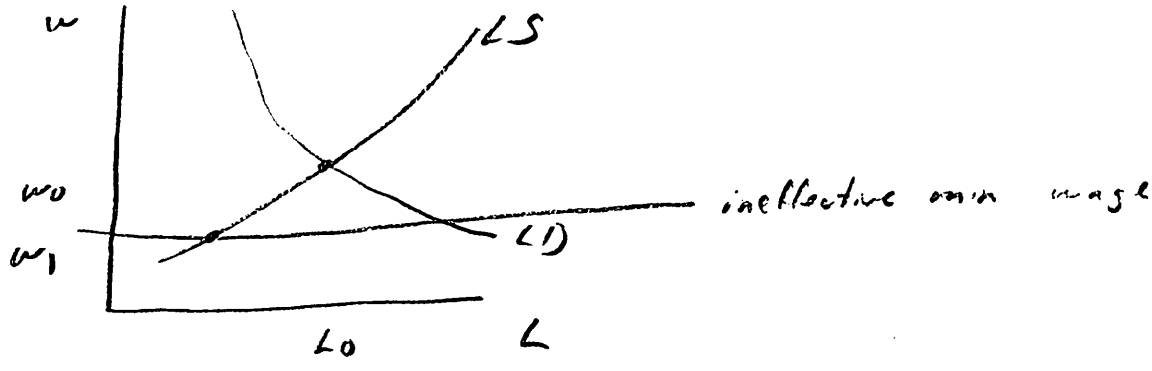
4. Consider the following economy: there are 10 unemployed workers (actively seeking work), 40 employed workers, and 10 discouraged workers. Calculate the U-3 and U-6 employment rates.

U3: Labor force = 50 $\quad U3 = \frac{10}{50} = 20\%$

U6: Labor force = 60 $\quad U6 = \frac{10+10}{60} = 33.3\%$

5. Provide two reasons why a higher minimum wage might not lead to an ~~increase~~ decrease in the ~~unemployment~~ employment rate? Your answer should include a graph of the labor market.

i) the minimum wage may be below the equilibrium price, making it irrelevant.



ii) If firms have market power, they may set the wage below w0 (say at w1). A minimum wage may move the economy back to the competitive equilibrium if it is set at w0.

iii) LD may be vertical.

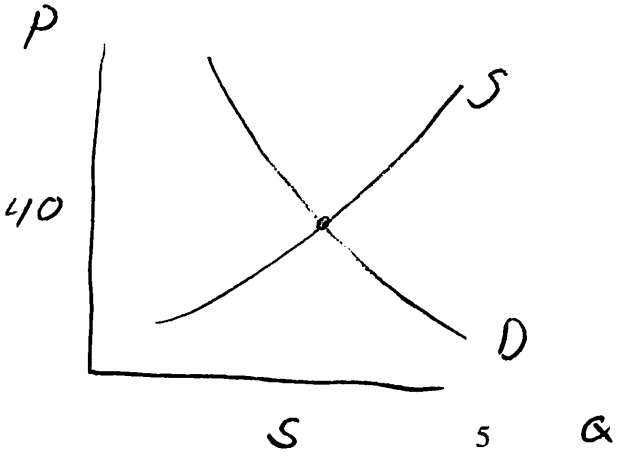
For questions #6-8 consider the following data on the market for fast food.

Table 1: Market for Cigarettes

Units	Marginal Utility	Marginal Cost	Revenue	Marg Rev
1	$100	$1	100	100
2	$80	$10	100	60
3	$70	$20	210	50
4	$50	$30	200	-10
5	$40	$40	200	0
6	$30	$50	180	-20
7	$20	$67	140	-40
8	$10	$90	80	-60
9	$7	$120	63	-17
10	$2.67	$167	26.70	

6. Solve for the equilibrium price and quantity. If firms or households are indifferent towards buying or selling a unit, assume that they do so.

$Q = 5 \quad P = \$40.$



7. Suppose that households' average incomes ~~decline~~ increase by 10% and, at the same time, a new study shows that fast food is healthier than previously believed. What happens to the equilibrium price and quantity. Your answer should include a graph of supply and demand.

If fast food is a normal good, then demand increases. Price and quantity rise.

If fast food is inferior, then the change in demand is ambiguous

8. Show how a monopolist would use their market power to maximize their producer surplus. What price would they charge and how many units would they sell?

Table 1 now includes marginal revenue. the firm sells 3 units at a price of $70. were it to sell a fourth, its revenue would fall and it would have to pay $30 to produce the unit.

9. How might moral hazard increase the ~~rise~~ price of health insurance?

If people with insurance engage in riskier activities, then premiums will have to increase to cover their expected medical claims.

10. What was the motivation behind the movement to lower global trade barriers between the 1930s through roughly 2016?

For wealthy countries, it allowed them to specialize in the production of goods that require high-skilled labor. It also allowed them to import less expensive consumer goods.

For poorer countries, it allowed them to pursue export-based growth.

This is not exhaustive

Consider 2 economies, each with 10 hours of labor. In the U.S., it takes one hour of labor to produce a car and 2 hours to produce an airplane. In autarky (no trade), the U.S. produces 6 cars and 2 airplanes. In France, it takes 2 hours to produce a car and 6 hours to produce a plane. In autarky, France produces 2 cars and one airplane.

11. Describe each countries' absolute and comparative advantages.

The U.S has an absolute advantage

U.S. the opportunity cost of a car is 1/2 an airplane
the opportunity cost of an airplane is 2 cars

France: the OC of a car is $\frac{1}{3}$ of a plane.
the OC of a plane is 3 cars.

the U.S. has a comparative advantage in planes, France in cars.

12. Allow each country to specialize. Design a trade that benefits both countries by allowing them to consume bundles of goods that lie outside their production possibilities frontiers.

One example:

France 5 cars

U.S 4 cars, 3 planes

the U.S trades 1 plane for 2 cars.

Leaving France: 3 cars, 1 plane
U.S. 6 cars, 2 planes

Bonus. Why are supply curves usually, but not always, upward sloping?

We typically assume that marginal cost is increasing as firms produce more output. This is true for most industries.

Name: