一、選擇題(1~15 題，每題 2 分；16-20 題，每題 4 分)

1.

Dollars per Pound / Millions of Pounds
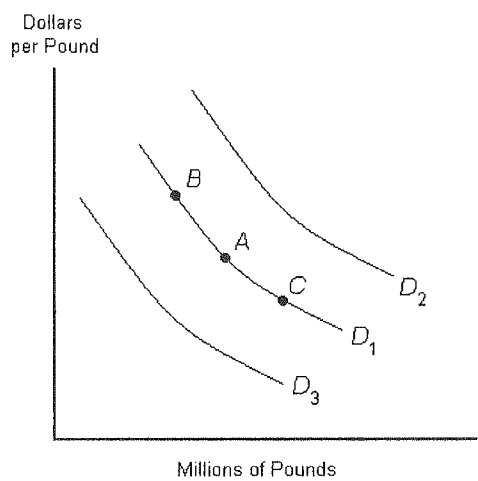
Refer to above figure, where the current demand curve is D_1. Suppose interest rates in England drop relative to those in the United States. Which of the following would happen?

A) The U.S. would move from point A to point B along D1.

B) The U.S. demand curve for British pounds would shift from D1 to D2.

C) The U.S. demand curve for British pounds would shift from D1 to D3.

D) The U.S. would move from point A to point C along D1.

E) The U.S. would move from point C to point B along D1.

2.
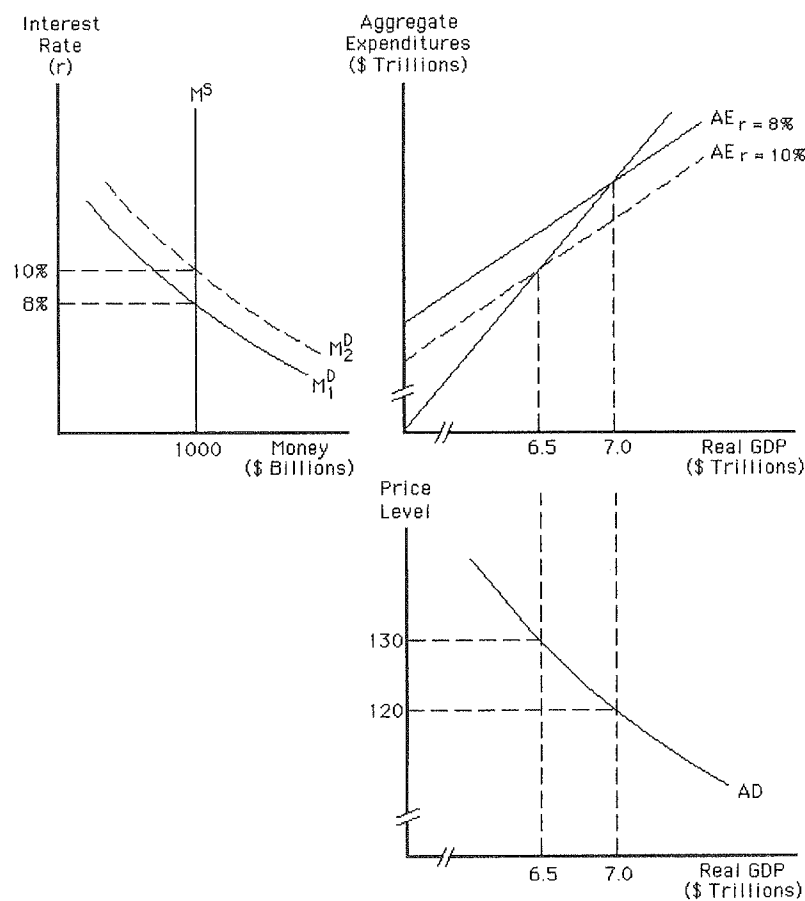
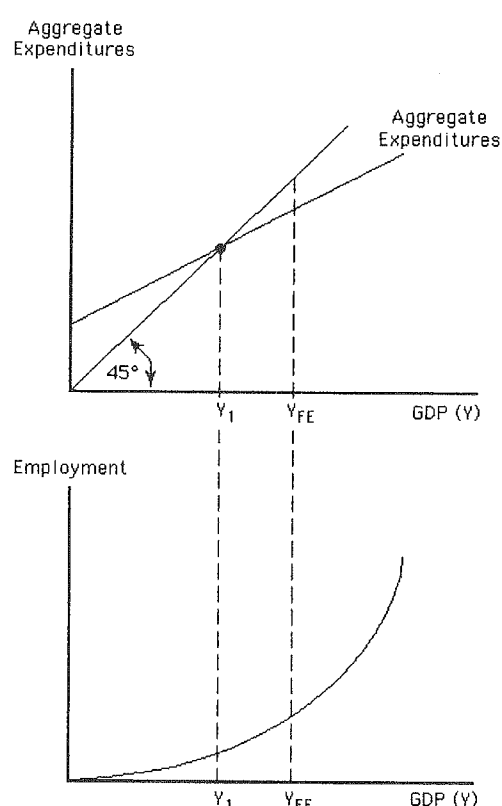Refer to Above Figure. Assume the economy is in equilibrium at $7 trillion. If the changes in all three graphs were

caused by the same event, what was that event?

A) An increase in nominal income.

B) An increase in the price level.

C) An increase in the interest rate.

D) An increase in taxes.

E) An increase in real income.

3. If the required reserve ratio is 0.05 and the Fed sells a $2,000 bond directly to an individual who pays for it with a check, what will happen to the money supply?

A) The money supply will increase by $2,000.

B) The money supply will decrease by $2,000.

C) The money supply will increase by $100.

D) The money supply will decrease by $100.

E) The money supply will decrease by $200.

4.

Refer to Above Figure. If Y_{FE} represents the full-employment level of output, what can we say about the state of the economy at Y_1?

A) It is in equilibrium, but below full employment.

B) It is in equilibrium, and therefore at full employment.

C) It is in equilibrium, but above full employment.

D) It is not in equilibrium, and output will increase.

E) It is not in equilibrium, and output will fall.

5. What does the Cobb-Douglas production function assume about the input shares in the economy?

A) the capital share is larger than the labor share of income.

B) both the capital and labor shares of income grow over time.

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C) both the capital and labor shares of income remain relatively constant over time.

D) the capital share of income is equal to the labor share of income.

E) none of the above.

6. The growth rate of which of the following is not a component of the growth accounting equation?
   A) the capital stock.
   B) labor.
   C) depreciation.
   D) available technology.

7. Total aggregate demand includes _____.
   A) planned investment spending
   B) consumption expenditures
   C) net exports
   D) all of the above
   E) none of the above

8. Which of the following is an example of a fiscal policy?
   A) Businesses begin to lay off employees and cut back on spending during an economic recession.
   B) The federal government increases infrastructure spending during an economic recession.
   C) The Federal Reserve takes action to increase the money supply during an economic recession.
   D) The Federal Reserve decreases interest rates during an economic recession.

9.

	2017		2018	
	Quantity	Price	Quantity	Price
Mango	20	$0.50	25	$0.55
Wine	70	$1.50	90	$1.75
Pen	20	$2.00	30	$2.25
Bookmarks	35	$0.75	35	$1.00

Above Table gives quantities and prices for each good produced in a simple economy in 2017 and 2018.

Refer to Above Table. Calculate nominal and real GDP for 2017 and 2018. Assume 2017 is the base year. What is the value of the GDP deflator for 2017 and for 2018?

A) 100; 117.1
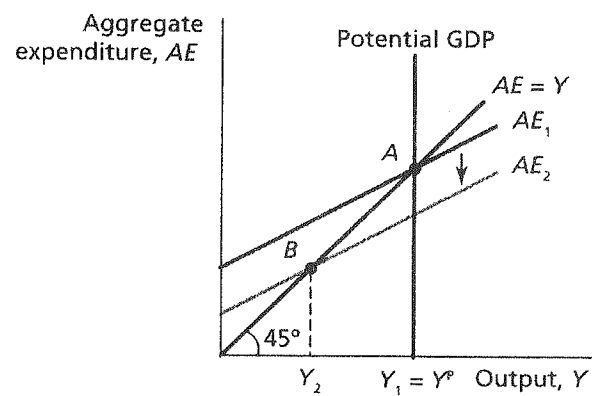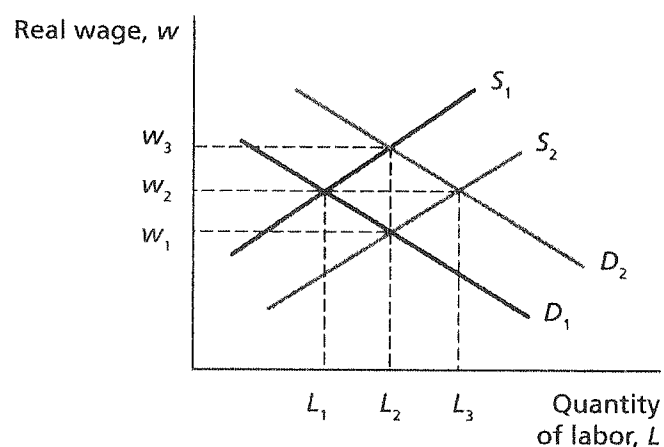B) 181.25; 273.75
C) 181.25; 233.75
D) 117.35; 237.8

10.

Refer to Above Figure. Assume the economy is initially at equilibrium at potential GDP of $500 billion. If the MPC = 0.80, and real GDP falls to Y2 = $400 billion, the vertical distance between AE1 and AE2 must be

A) $8 billion.

B) $20 billion.

C) $80 billion.

D) $100 billion.

11.

Refer to Above Figure. Holding other variables constant, if the economy is originally in equilibrium at the intersection of D1 and S1 and firms experience an increase in technology of production, the economy would move to the new equilibrium point represented by

A) w2 and L3.

B) w2 and L2.

C) w1 and L2.

D) w3 and L2.

12. Workers who are unemployed for long periods of time are more likely to be unemployed for _____ reasons than for _____ reasons.

A) frictional or structural; cyclical.

B) frictional; structural or cyclical.

C) cyclical; frictional or structural.

D) structural; frictional or cyclical.

13. Income tax rates have increased much more rapidly in Western Europe than in the United States over the past 4 decades, and the average worker in Western Europe works fewer hours than does the average worker in the United States. One explanation for the possible relationship between higher income tax rates and fewer hours worked is that the substitution effect is _____ than the income effect, which will _____ the quantity of labor supplied.
   A) stronger; decrease
   B) weaker; increase
   C) stronger; increase
   D) weaker; decrease

14. Demand and supply of labor are given by:
   LD = 250 - 4w
   LS = 50 + w
   where w is the real wage and LD and LS are the quantities of labor demanded and labor supplied, respectively. What are the equilibrium wage and quantity of employment?
   A) 60; 120
   B) 50; 100
   C) 40; 90
   D) 30; 80

15. Following the question 15. If the government imposed a minimum wage of $45, what would be the new quantities of labor demanded and supplied?
   A) 95; 70
   B) 80; 65
   C) 70; 95
   D) 65; 100

16. Suppose the economy is in a recession and the government decides it needs to reduce the budget deficit. Other things equal, this would tend to
   A) help to eliminate the recession, but at the cost of a much higher inflation rate.
   B) increase the output gap and make the recession worse.
   C) decrease the output gap and make the recession worse.
   D) keep output from declining further, but increase the real interest rate and the inflation rate.

17. The money demand curve will shift to the left if real GDP _____ or if the price level _____.
   A) decreases; increases
   B) increases; decreases
   C) decreases; decreases
   D) increases; increases

18. One reason why, in reality, prices are sticky in the short run is because
   A) purely competitive firms have no control over the price of their product and therefore cannot change the price, even if the market warrants a price change.
   B) there are often costs to firms from changing prices.
   C) in the short run, the cost to changing prices always outweighs any benefit.

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D) firms do not have time to react to macroeconomic shocks in the short run.

19. Suppose that the demand for labor decreases due to an economic downturn, and union workers are in the first year of a 3-year labor contract. With respect to these union laborers, the economic downturn will most likely _____ the nominal wage and _____ the quantity of labor hired.
    A) decrease; decrease
    B) not change; not change
    C) decrease; not change
    D) not change; decrease

20. When the demand for money becomes less responsive to changes in income, the LM curve becomes _____ and it also shifts to the _____.
    A) flatter, left
    B) flatter, right
    C) steeper, left
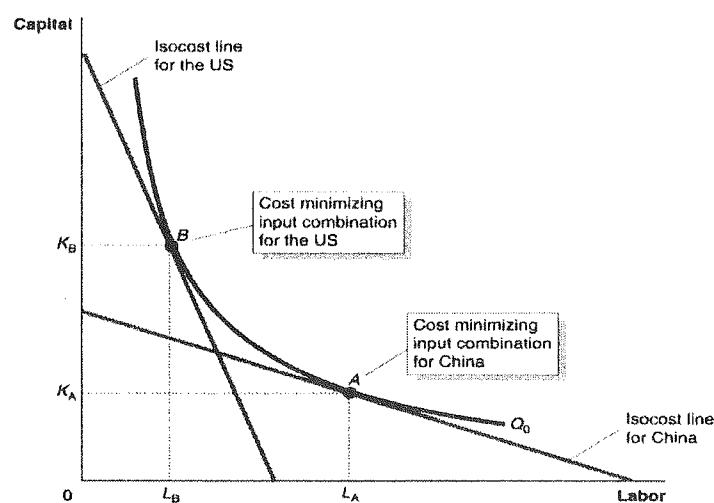   D) steeper, right

二、選擇題（共 13 題，每題 3 分）

Figure 1

Figure 1 shows the optimal input combinations for the production of a given quantity of cotton in the United States and in China.

1. *Refer to Figure 1.* Consider the following statements:
    a. For each country, the marginal product per dollar spent on labor equals to the marginal product per dollar spent on capital.
    b. The price of labor is relatively higher in the United States than in China and the price of capital is relatively lower in the United States than in China.
    c. The price of labor and the price of capital are relatively higher in the United States than in China. Based on the figure, which of the statements above is true?
    A) All of the statements are true.
    B) statements a and c only

C) statements a and b only

D) statements b and c only

2. *Refer to Figure 1.* Which of the following could explain why the United States and China use different input combinations to produce a given quantity of cotton and yet, each country produces that quantity at the lowest possible cost?

A) because the prices of inputs are not the same for the two countries: labor is relatively lower-priced and capital is relatively higher priced in the United States

B) because the prices of inputs are not the same for the two countries: labor is relatively lower-priced and capital is relatively higher priced in China

C) because the United States has more sophisticated technology and therefore is more efficient in cotton production

D) because the marginal product per dollar spent on capital yields a higher return in the United States than in China

Figure 2
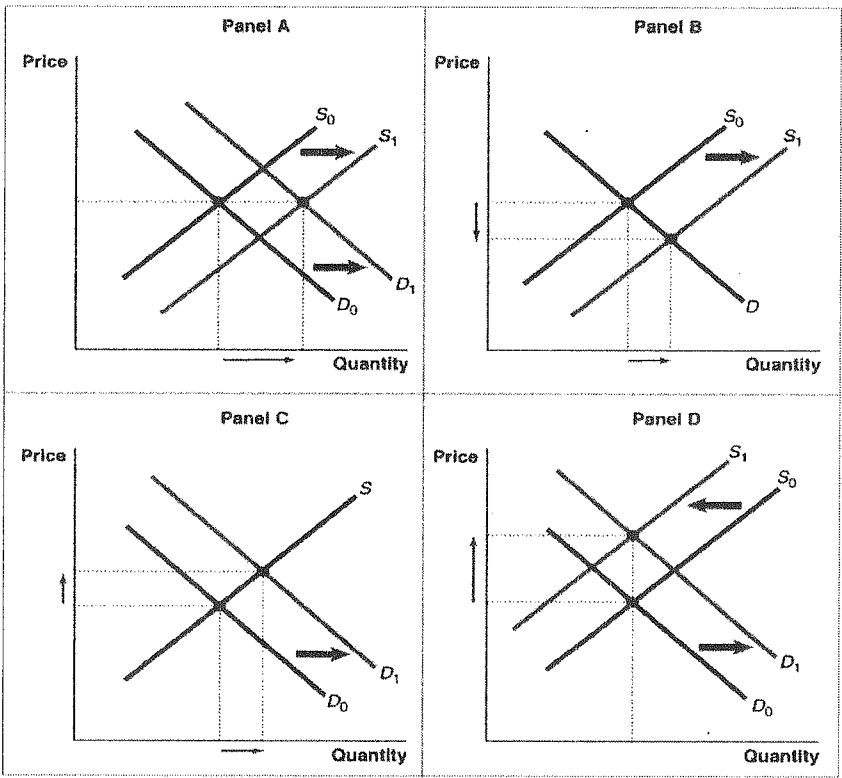
3. *Refer to Figure 2.* Assume that the medical screening industry is perfectly competitive and that some firms are making short-run losses. Suppose the medical screening industry runs an effective advertising campaign which convinces a large number of people that yearly CT scans are critical for good health. Which of the diagrams in the figure best describes what happens in the industry?

A) Panel A

B) Panel B

C) Panel C

D) Panel D

4. *Refer to Figure 2.* Suppose a typical firm in a perfectly competitive market is earning economic profits in the short run. Which of the diagrams in the figure depicts what happens to in the industry as it transitions to a long run equilibrium?
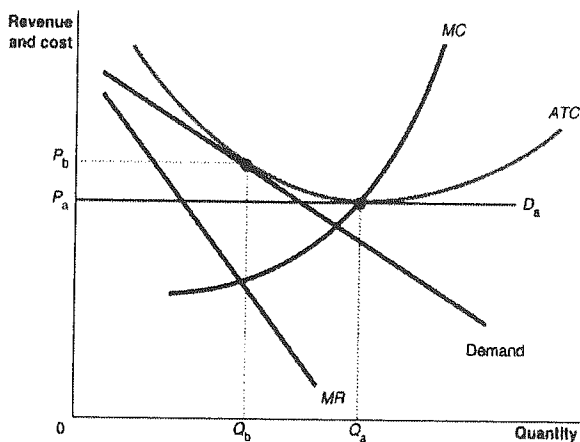
A) Panel A
B) Panel B
C) Panel C
D) Panel D

Figure 3

5. ***Refer to Figure 3.*** Which of the following statements is true?

A) D_a represents the long-run demand curve facing a monopolistic competitor in a constant-cost industry while D_b depicts the demand curve in the short run.

B) D_a represents the long-run demand curve facing a monopolistic competitor in a constant-cost industry while D_b depicts the long-run demand curve in an increasing-cost industry.

C) D_a represents the long-run demand curve facing a perfect competitor while D_b depicts the long-run demand curve facing a monopolistic competitor.

D) D_a represents the long-run supply curve in a perfectly competitive, constant-cost industry while D_b depicts the long-run demand curve facing a monopolistic competitor in a decreasing-cost industry.

Table 1

		Saudi Arabia's (S) Choices	
		Low Output	High Output
Nigeria's (N) Choices	Low Output	S: $100 million profit N: $20 million profit	S: $75 million profit N: $12 million profit
	High Output	S: $80 million profit N: $30 million profit	S: $60 million profit N: $20 million profit

Suppose OPEC has only two producers, Saudi Arabia and Nigeria. Saudi Arabia has far more oil reserves and is the lower cost producer compared to Nigeria. The payoff matrix in **Table 1** shows the profits earned per day by each country. "Low output" corresponds to producing the OPEC assigned quota and "high output" corresponds to producing the maximum capacity beyond the assigned quota.

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6. *Refer to Table 1.* Is there a dominant strategy for Saudi Arabia and, if so, what is it?

   A) Yes, the dominant strategy is to produce a high output.

   B) Yes, the dominant strategy is to produce a low output.

   C) No, there is no dominant strategy.

   D) Yes, it has a dominant strategy depending on what Nigeria does.

7. *Refer to Table 1.* Is there a dominant strategy for Nigeria and, if so, what is it?

   A) Yes, it has a dominant strategy depending on what Saudi Arabia does.

   B) No, there is no dominant strategy.

   C) Yes, the dominant strategy is to produce a low output.

   D) Yes, the dominant strategy is to produce a high output.

8. *Refer to Table 1.* Which of the following statements is true?

   A) The Nash equilibrium is a noncooperative, dominant strategy equilibrium.

   B) The Nash equilibrium is a cooperative equilibrium.

   C) The Nash equilibrium is a collusive equilibrium.

   D) There is no Nash equilibrium in this game because each party pursues its dominant strategy.

Table 2

Price per Dose	Quantity Demanded (dose)	Total Cost of Production (dollars)
$80	0	$80
72	1	82
64	2	88
56	3	100
48	4	124
40	5	164
32	6	208
24	7	268
16	8	340

Shakti Inc. has been granted a patent for its Arnica toothache balm. **Table 2** shows the demand and the total cost schedule for the firm.

9. *Refer to Table 2.* What is Shakti's profit-maximizing output?

   A) 4 units

   B) 5 units

   C) 6 units

   D) 7 units

10. ***Refer to Table 2.*** What is the amount of the deadweight loss generated by Shakti when it produces the monopoly output?
   A) $124
   B) $42
   C) $36
   D) $24

11. Suppose a decrease in the supply of bottled water results in a decrease in revenue. This indicates that
   A) the demand for bottled water is inelastic in the price range considered.
   B) the demand for bottled water is elastic in the price range considered.
   C) the supply of bottled water is inelastic in the price range considered.
   D) the supply of bottled water is elastic in the price range considered.

12. The price elasticity of the supply of teenage labor services is approximately 1.36. Suppose the minimum wage rises from $6.60 per hour to $7.00. Using the midpoint formula, calculate the approximately change in the quantity supplied of teenage labor.
   A) 5.9 percent
   B) 8 percent
   C) 13.6 percent
   D) There is insufficient information to answer the question.

13. An article in the Wall Street Journal in early 2001 noted two developments in the market for laser eye surgery. The first development concerned side effects from the surgery, including blurred vision. The second development was that the companies renting eye-surgery machinery to doctors had reduced their charges. In the market for laser eye surgeries, these two developments
   A) decreased demand and decreased supply, resulting in a decrease in the equilibrium quantity and an increase in the equilibrium price of laser eye surgeries.
   B) decreased demand and increased supply resulting in an increase in both the equilibrium quantity and the equilibrium price of laser eye surgeries.
   C) decreased demand and increased supply, resulting in a decrease in the equilibrium price and an uncertain effect on the equilibrium quantity of laser eye surgeries.
   D) decreased demand and increased supply, resulting in a decrease in both the equilibrium price and the equilibrium quantity of laser eye surgeries.

三、簡答題

Table 3

Number of Mechanics	Oil Changes per Day	Marginal Product	Marginal Revenue Product
1	6		
2	12		
3	17		
4	21		
5	24		
6	26		

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1. ***Refer to Table 3.*** A new automobile service shop is ready to start hiring. The table above shows the relationship between the number of mechanics the firm hires and the quantity of oil changes it produces. Suppose the price of an oil change is $20.
   (1) Suppose this shop is an input price-taker. Suppose the wage paid to mechanics is $80 per day. What is the profit-maximizing number of mechanics? (2 分)
   (2) Suppose the wage rate is $60 per day and the price of haircuts is now $15, what happens to the profit-maximizing quantity of mechanics? (2 分)

2. The table below shows the demand and cost data facing a monopolistically competitive producer of velvet throw pillows.

Quantity	Price	Total Revenue	Marginal Revenue	Total Cost	Marginal Cost
1	$30			$32	
2	28			43	
3	26			53	
4	24			64	
5	22			76	
6	20			90	
7	18			106	
8	16			126	

Use the data to answer the following questions.
(1) What are the profit-maximizing price and quantity for this producer? (2 分)
(2) Is the firm making a profit or a loss? How much is the profit or loss? Show your work. (2 分)
(3) What will happen to the typical firm's profit or loss after all entry/exit adjustments? (3 分)

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