

PROBLEM SET 8 WITH ANSWERS

Q.1

a.) Distinguish between demand-pull inflation and cost-push inflation. Which of the two types is most likely to be associated with a negative GDP gap? Which with a positive GDP gap, in which actual GDP exceeds potential GDP?

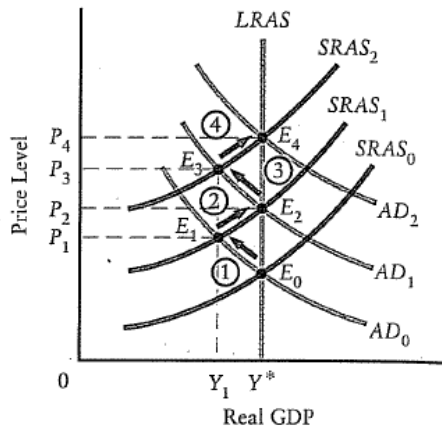
Answer: Demand-pull inflation occurs when prices rise because of an increase in aggregate spending not fully matched by an increase in aggregate output. It is sometimes expressed as “too much spending (or money) chasing too few goods.” Cost-push inflation describes prices rising because of increases in per unit costs of production.

Cost-push inflation is most likely to be associated with a negative GDP gap, as the rising production costs reduce spending and output.

Demand-pull inflation is more likely to occur with a positive GDP gap, because actual GDP will exceed its potential only when aggregate spending is strong and rising. As the economy produces above its potential, bottlenecks and more severe resource scarcity occur, driving up prices.

b.) Can demand-pull or cost-push inflation keep going for a long time? If it can, how?

FIGURE 30-4
Validating a Repeated Supply Shock

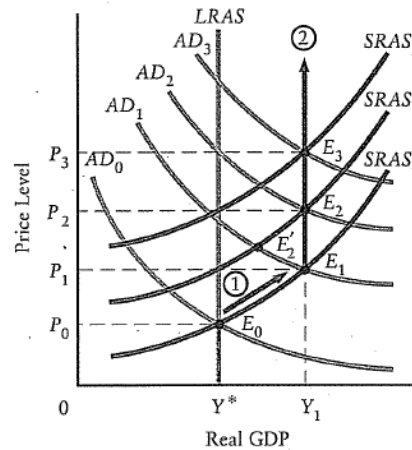


Monetary validation of a repeated supply shock causes continuous inflation in the absence of excess demand. The initial equilibrium is at E_0 . An adverse supply shock then takes equilibrium to E_1 . This is the stagflation phase of rising prices and falling output; it is indicated by arrow 1.

The Fed then validates the supply shock by increasing the money supply, taking the AD curve to AD_1 and equilibrium to E_2 . This is the expansionary phase of rising prices and output (arrow 2).

A second supply shock, followed by monetary validation, takes equilibrium to E_3 (arrow 3) and then to E_4 (arrow 4). As long as the supply shocks and monetary validation continue, inflation continues.

FIGURE 30-2
Validating an Isolated Demand Shock



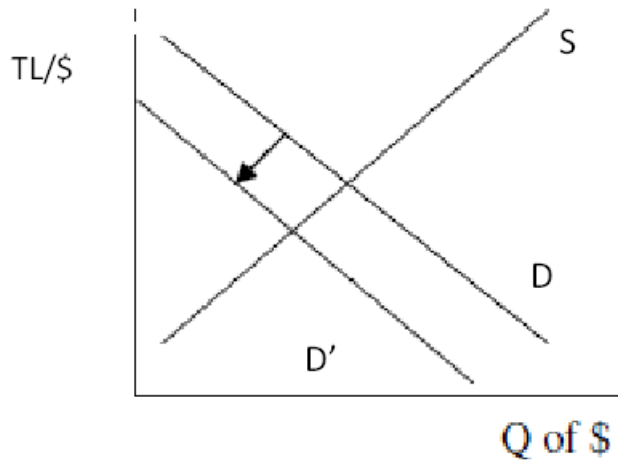
Monetary validation of a positive demand shock causes the AD curve to shift further to the right, offsetting the leftward shift in the SRAS curve and thereby leaving an inflationary gap despite the ever-rising price level. An initial demand shock shifts equilibrium from E_0 to E_1 , taking output to Y_1 and the price level to P_1 . The resulting inflationary gap then causes the SRAS curve to shift to the left. This time, however, the Fed validates the demand shock by increasing the money supply. As the money supply is increased, the AD curve shifts to the right. By the time the aggregate supply curve has reached $SRAS_1$, the AD curve has reached AD_2 . Now instead of being at E'_2 , equilibrium is at E_2 . Output remains constant at Y_1 leaving the inflationary gap constant while the price level rises to P_2 .

The persistent inflationary gap continues to push the SRAS curve to the left, while the continued monetary validation continues to push the AD curve to the right. As long as this monetary validation continues, the economy moves along the vertical path of arrow 2.

Q.2

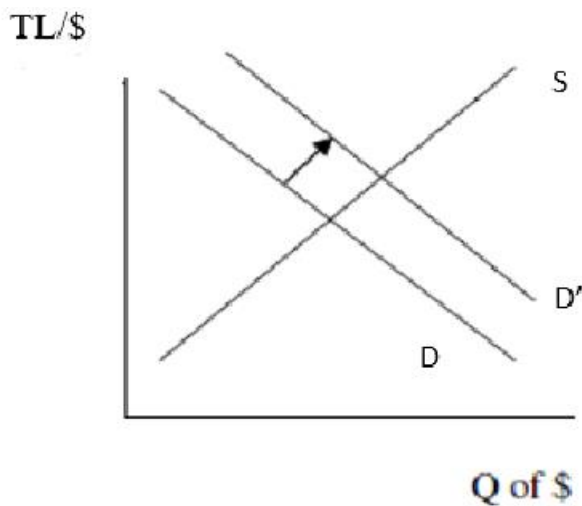
Show whether each of the following transactions increase or decreases the demand for and the supply of foreign currency (or neither) in foreign exchange markets. What is the probable effect of each of the following on the exchange rate of TL, other things being equal? Treat each case separately and draw a separate diagram for demand / supply of US\$.

- a) Domestic income falls in Turkey, while it stays the same in other countries.



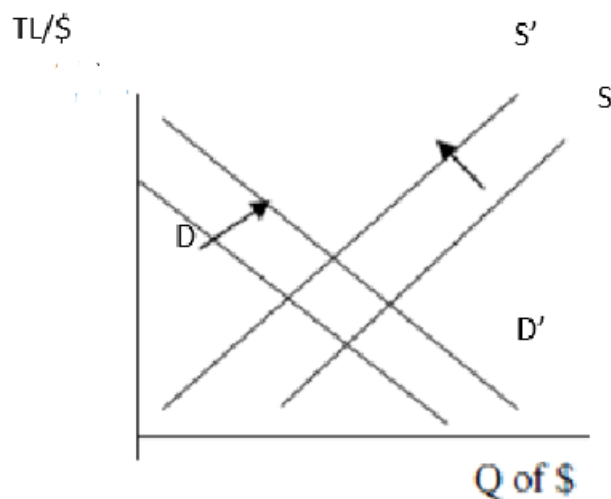
TL will appreciate and USD will depreciate

- b) Turkey increases purchases of weapons from the US.



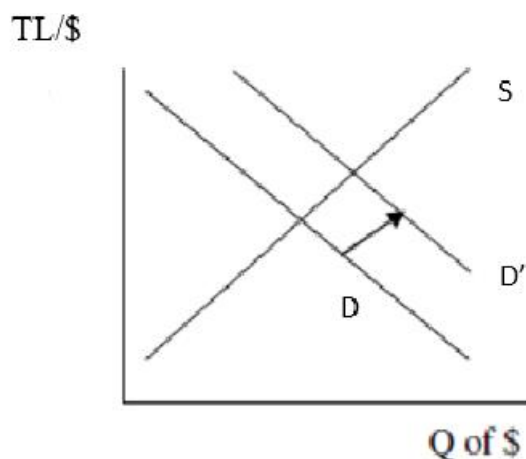
TL will depreciate and USD will appreciate.

- c) Turkey's inflation rate is higher than its trading partners.



TL will depreciate and USD will appreciate

- d) Higher interest rates in Turkey than in US encourage Turkish firms to borrow in US loan markets.



TL will depreciate and USD will appreciate

Q.3

Read the following transactions and fill in the blanks in the table below related to these transactions which are all independent from each other.

- A) A person from Türkiye buys Japanese automobile.
- B) Russian investors built a plant in Turkey.
- C) A Saudi Arabian corporation receives dividends from a Turkish subsidiary.
- D) Germans come to Turkey as tourists.
- E) Turkish investors buy Swiss stocks.
- F) A Turkish exporter sells textiles in Iranian market.

The transactions above would affect the foreign exchange markets (determine the effects of transactions in FX market in terms of shifts of supply or demand curves), the value of TL (determine the effects of transactions as appreciation or depreciation).

Transaction	Foreign Exchange Market	Value of TL
A	Demand for FX shift to right	Depreciate
B	Supply of FX shift to right	Appreciate
C	Demand for FX shift to right	Depreciate
D	Supply of FX shift to right	Appreciate
E	Demand for FX shift to right	Depreciate
F	Supply of FX shift to right	Appreciate

Q.4

Suppose an economy is represented by the equations below (Suppose that net investment income and net transfer payments are equal to zero).

$$C = 200 + 0.9*Y_d, \quad I = 200, \quad G = 252, \quad EX = 100, \quad IM = 0.12*Y_d, \quad T = 0.2*Y$$

a) Find equilibrium national income level for this economy.

$$Y = C + I + G + X - IM = 200 + 0.9*Y_d + 200 + 252 + 100 - 0.12*Y_d \quad Y_{eq} = 2,000$$

b) Find the value of the government multiplier.

Let's write this model in terms of parameters to determine the multiplier easily.

$$C = a + b*Y_d, \quad IM = m*Y_d, \quad T = t*Y$$

$$Y = \frac{a + I + G + EX}{[1 - (b - m)(1 - t)]}$$

Government multiplier in this open economy:

$$k_g = \frac{1}{[1 - (b - m)(1 - t)]} = \frac{1}{[1 - (0.9 - 0.12)(1 - 0.2)]} = \frac{1}{0.376} \cong 2.76$$

c) What is the value of this economy's current account?

The economy's current account is defined as exports – imports of goods and services.

$$\text{Current Account Balance} = EX - IM = 100 - 0.12*Y_d = 100 - 0.12*0.8*Y = -92$$

There exists trade deficit and hence current account deficit.

- d) Without using any figures, how would a sudden depreciation of the national currency of this economy alter the equilibrium level of national income?

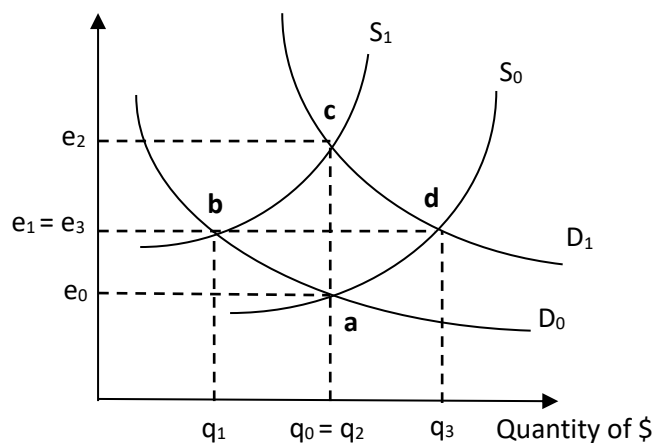
A depreciation of the national currency implies that its value has fallen. Therefore price of exports of this economy to other countries will be relatively cheaper, and price of imports from other countries to the country will be relatively more expensive. Therefore, while demand for exports increases, demand for imports decreases, and therefore trade deficit starts to fall as the country export more and import less. This will then cause AE to increase, which will increase the equilibrium level of output.

Q.5

Suppose that there are two countries; the UK and the US. Explain the effects of an increase in the British overall price level on the foreign exchange market of the UK by using a graph. (Hint: The horizontal axis of the graph is quantity of Dollars). Write down the effects by referring to the changes in foreign trades of the UK and the US.

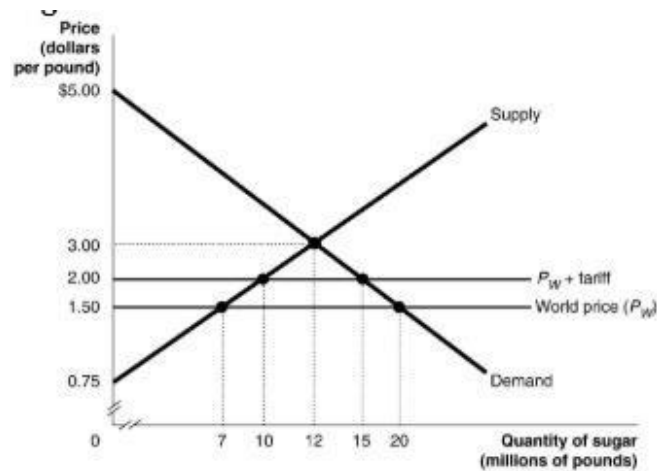
If there is an increase in the overall price level of the UK, price of the domestically produced goods and also exports (imports), in terms of Pound, will rise (fall). Since exports are relatively more expensive, while exports of UK fall, supply of foreign exchange (in this case Dollar) decline. So, supply curve shifts to left, from S_0 to S_1 .

In contrast, since imports of UK are relatively cheaper, while imports increase, demand for foreign exchange also increase. Therefore, demand curve of foreign exchange shifts to the right, from D_0 to D_1 . Economy was in equilibrium at point a (the intersection point of S_0 and D_0). After the developments as described above, the new equilibrium point is c the intersection point of S_1 and D_1).



Q.6

Suppose the Wonderland government imposes a \$0.50 per pound tariff on sugar imports. The figure below shows the demand and supply curves for sugar and the impact of this tariff.



- i) Assume that the economy is closed. What are the equilibrium price and quantity?

$P^* = \$3.00$ & $Q^* = 12 \text{ million}$

- ii) Now, assume that the economy OPENS UP. What are the world price and quantity sold by domestic producers? (Be careful, there is no tariff imposition in this question.) WHAT IS THE AMOUNT OF IMPORTS?

$P^w = \$1.50$

$\text{quantity sold by domestic producers} = 7 \text{ million}$

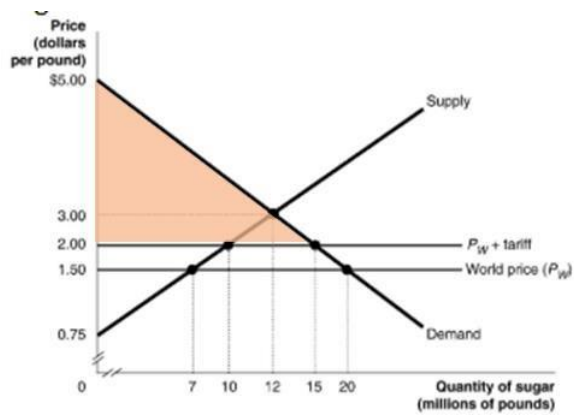
- iii) Following the imposition of the tariff, what is the new price that consumers pay? What is the new quantity demanded?

$\text{Price} = \$2.00 \text{ per pound}$

$\text{Quantity purchased} = 15 \text{ million pounds}$

- iv) Calculate the value of consumer surplus with the tariff in place.

$\text{Consumer Surplus} = \frac{1}{2} * 15 \text{ Million} * 3\$ = 22.5 \text{ Million}$



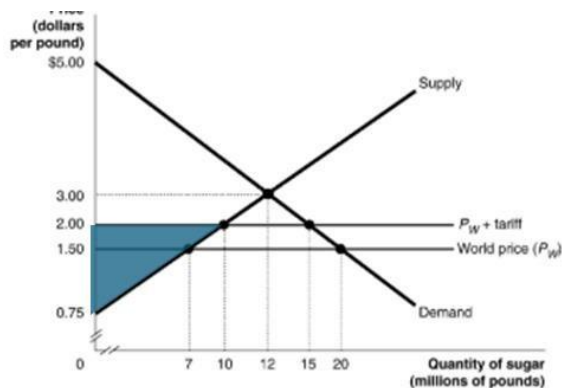
- v) What is the quantity supplied by domestic sugar producers with the tariff in place?

Quantity supplied by domestic producers =

10 million pounds

- vi) Calculate the value of producer surplus received by US sugar producers with the tariff in place.

Producer Surplus to Rice producers = $\frac{1}{2} \times 10 \text{ million} \times 1.25 = 6.25$ million

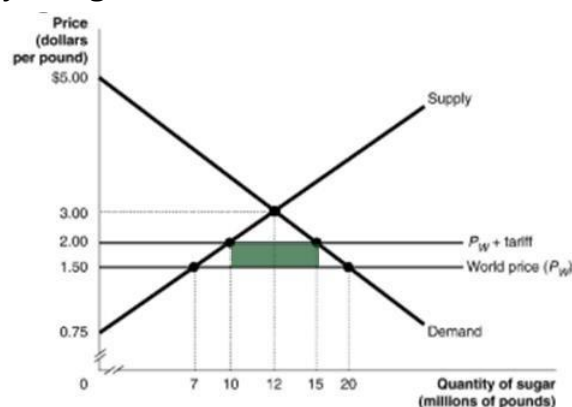


- vii) What is the quantity of sugar imported with the tariff in place?

Quantity imported = 5 million pounds

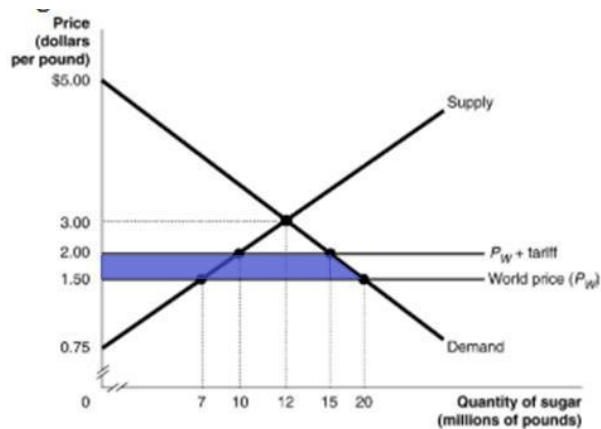
- viii) What is the amount of tariff revenue collected by the government?

Tariff revenue collected by the government = $0.5 \times 5 \text{ Million} = 2.5 \text{ Million}$



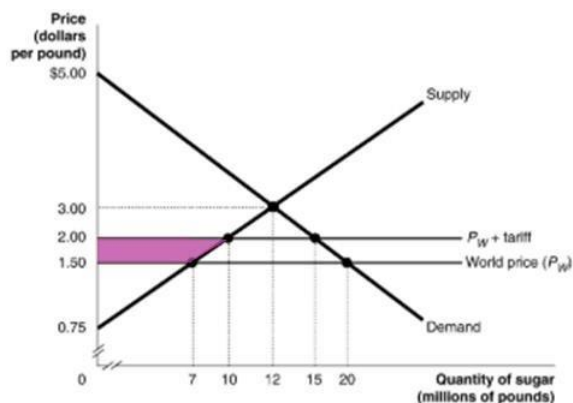
ix) The tariff has reduced consumer surplus. Calculate the loss in consumer surplus due to the tariff.

Loss in consumer surplus due to tariff = $15 \text{ million} \times 0.50 + \frac{1}{2} \times 5 \text{ million} \times 0.50 = 8.75 \text{ million}$



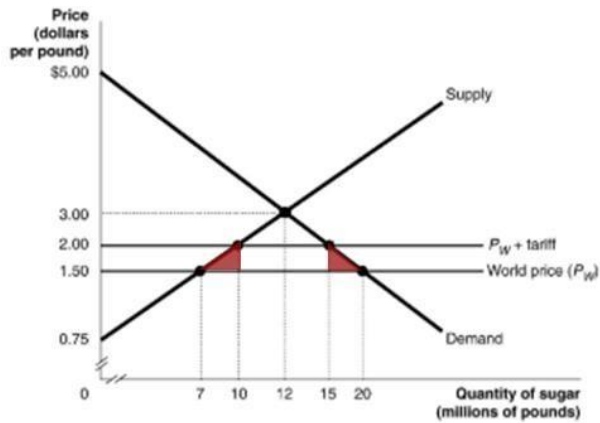
x) What portion of the consumer surplus loss is redistributed to domestic producers? To the government?

Amount redistributed to domestic producers = $7 \text{ million} \times \$0.50 + \frac{1}{2} \times 3 \text{ million} \times \$0.50 = \$4.25 \text{ million}$



xi) Calculate the deadweight loss due to the tariff.

Deadweight loss due to the tariff = $\frac{1}{2} \times 3 \text{ million} \times \$0.50 + \frac{1}{2} \times 5 \text{ million} \times \$0.50 = \$2 \text{ million}$



Q.7

Metuland is “small” and assumed to be unable to affect world prices. It imports tomatoes at price of 10 TL per box. The domestic supply and domestic demand curves for boxes are:

$$S = 60 + 20P$$

$$D = 1160 - 15P$$

- i) Assume Metuland is completely open to trade. What are the equilibrium price and quantity consumed? How much is produced domestically, and how much is imported?

Since they are open to trade, the equilibrium price will be determined by the world market. ($P^W = 10 \text{ TL}$) Therefore, using the Domestic Supply and Demand equations, and recognizing that Import Demand is given by $MD = D - S = 1100 - 35P$, we get:

$$D = 1160 - (15 * 10) = 1010$$

$$S = 60 + (20 * 10) = 260$$

$$MD = 1100 - (35 * 10) = 750$$

- ii) Now consider the effect of an import quota of 400 boxes. What happens to the price of tomatoes and the quantity consumed?

The effect of an import quota is to limit imports at exactly 400. Using the import demand equation expressed above, we can solve for new equilibrium prices to be:

$$400 = 1100 - 35P \rightarrow P^q = 20$$

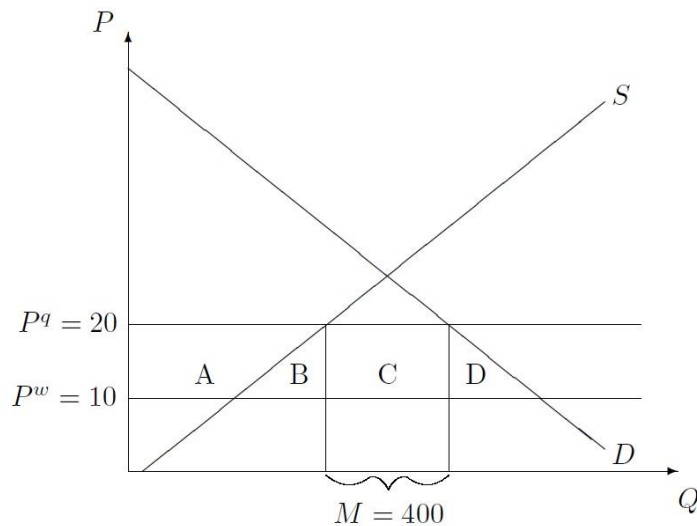
With this higher price, we can simply go through the same calculations as before to get:

$$D^q = 1160 - (15 * 20) = 860$$

$$S^q = 60 + (20 * 20) = 460$$

$$MD^q = 1100 - (35 * 20) = 400$$

- iii) Who wins and who loses? Discuss consumers, domestic producers (Be sure to compute the change in their welfare). It is useful to look at a diagram to see the welfare effects.



From the figure, the welfare effects caused by the quota are clear. First off, the restricted imports allow domestic producers to sell more tomatoes at a higher price of 20TL/box. Therefore, producer surplus increases by area A. Consumers have to pay a higher price, so consumer surplus falls by the areas A, B, C, and D.

Calculating the areas for each, we have:

$$A = 260 * 10 + (460 - 260) * 10 * \frac{1}{2} = 2600 + 1000 = 3600$$

$$B+D = (750 - 400) * 10 * \frac{1}{2} = 1750$$

$$C = 400 * 10 = 4000$$

MULTIPLE CHOICE QUESTION

Q1) If a country's currency is determined only by the demand and supply for that country's currency, the country is said to have a

- A) floating exchange rate.
- B) fixed exchange rate.
- C) gold standard.
- D) managed float.

Q2) An increase in the value of the US dollar will

- A) reduce Canadian demand for winter homes in Florida.
- B) increase Canadian demand for winter homes in Florida.
- C) reduce the cost of homes in Florida for Canadian buyers.
- D) increase the cost of homes in Florida for American buyers.

Q3) Purchasing power parity is the theory that, in the long run, exchange rates should be at a level such that equivalent amounts of any country's currency

- A) will equalize nominal interest rates across countries.
- B) are valued inversely relative to the size of its GDP.
- C) should earn the same real rate of return.
- D) allow one to buy the same amount of goods and services.

Q4) If the average productivity of Turkish firms is rising more quickly than the average productivity of Argentinean firms, which of the following would you expect to see? (Argentina's currency is the peso.)

- A) an increase in the value of the peso relative to the TL
- B) a decrease in the prices of Argentinean products
- C) a decrease in the quantity demanded of Argentinean products relative to Turkish products
- D) an increase in the quantity demanded of Argentinean products relative to Turkish products

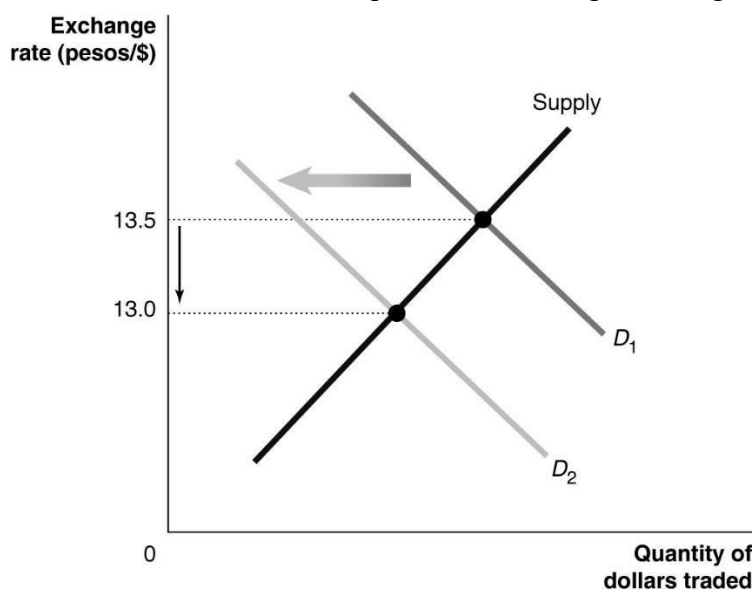
Q5) How will the exchange rate (TL per foreign currency) respond to an increase in the relative rate of productivity growth in the Turkey in the long run?

- A) Exchange rates will rise.
- B) Exchange rates will fall.
- C) Exchange rates will be unaffected by changes in the relative rate of productivity growth in the United States, both in the short run and in the long run.
- D) The exchange rate will be affected in the short run, but not in the long run.

Q6) If inflation in Russia is higher than it is in Turkey,

- A) the purchasing power of the ruble in buying Russian goods will rise relative to the TL.
- B) the value of the TL will rise in the long run.
- C) the value of the ruble will rise in the long run.
- D) Both A and C are correct.

Please answer the next two questions referring to the figure below.



Note that the peso is domestic currency.

Q7) Which of the following would cause the change depicted in the figure above?

- A) An increase in investment in infrastructure causes US productivity to rise relative to Mexican productivity.
- B) A growing preference for Margarita causes US consumers to increase their preferences for Mexican tequila relative to American-produced alcohol.

- C) Dumping accusations result in the United States placing tariffs on produce imported from Mexico.
- D) A contractionary monetary policy causes a decrease in the price level of US goods relative to Mexican goods.

Q8) Which of the following would cause the change depicted in the figure above?

- A) Lack of investment in infrastructure causes Mexican productivity to fall relative to American productivity.
- B) A possibility of diseased poultry in Mexico causes US consumers to decrease their preferences for Mexican-raised chickens relative to U.S.-raised chickens.
- C) A new trade agreement with Mexico results in the United States removing all tariffs on sugar imported from Mexico.
- D) An expansionary monetary policy in Mexico causes an increase in the price level of Mexican goods relative to US goods.

Q9) If Californians increase their purchases of Italian wine, assuming all else remains constant, this will _____ of the United States.

- A) decrease the balance of trade
- B) increase net exports
- C) increase the current account balance
- D) decrease the trade deficit

Q10) The current account includes records of a country's

- A) net exports.
- B) net investment income.
- C) net transfers.
- D) All of the above are included in an economy's current account.

Q11) You're traveling in Ireland and are thinking about buying a new digital camera.

You have decided you would be willing to pay \$125 for a new camera, but cameras in Ireland are all priced in euros. If the exchange rate is 0.85 euros per dollar, which is the highest price in euros you would be willing to pay for a camera? (\$ is the domestic currency)

- A) 105 euros
- B) 106.25 euros
- C) 110.15 euros

D) 147 euros

Q12) You're traveling in Ireland and are thinking about buying a new digital camera. You have decided you would be willing to pay \$125 for a new camera, but cameras in Ireland are all priced in euros. If the camera you are looking at costs 115 euros, under which of the following exchange rates would you be willing to purchase the camera? (\$ is the domestic currency and assume that no taxes or duties are associated with the purchase.)

A) 0.56 euros per dollar

B) 0.89 euros per dollar

C) 0.92 euros per dollar

D) You would purchase the new camera at any of the above exchange rates.

Q13) When the market value of the Turkish Lira rises relative to other currencies around the world, we say that

A) the TL has appreciated.

B) the TL has depreciated.

C) the demand for TL has increased.

D) the supply of TL has increased.

Q14) Currency traders expect the value of TL to fall. What effect will this have on the demand for TL and the supply of TL in the foreign exchange market?

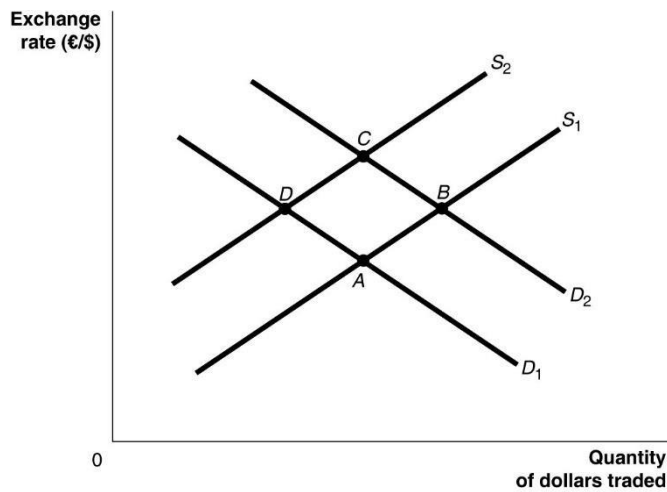
A) Demand for TL will increase, and the supply of TL will decrease.

B) Demand for TL will increase, and the supply of TL will increase.

C) Demand for TL will decrease, and the supply of TL will increase.

D) Demand for TL will decrease, and the supply of TL will decrease.

Please answer the next four questions referring to the figure below.



Q15) The French fall in love with California wines and triple their purchases of this beverage. Assuming all else remains constant, this would be represented as a movement from

- A) B to A.
- B) C to D.
- C) A to D.
- D) A to B.

Q16) Europe suffers a recession. Assuming all else remains constant, this would be represented as a movement from

- A) D to A.
- B) C to D.
- C) B to C.
- D) A to D.

Q17) Suppose that the US government deficit causes interest rates in the United States to rise relative to those in the European Union. Assuming all else remains constant, how would this be represented?

- A) Supply would decrease, demand would decrease, and the economy moves from B to C to D.
- B) Supply would increase, demand would decrease, and the economy moves from C to B to A.

C) Supply would decrease, demand would increase, and the economy moves from A to D to C.

D) Supply would increase, demand would increase, and the economy moves from D to A to B.

Q18) Italians cut back on smoking and cut their demand for American cigarettes in half.

Assuming all else remains constant, this would be represented as a movement from

A) B to A.

B) D to C.

C) B to C.

D) A to D.

Q19) The balance of merchandise trade includes trade in

A) goods only.

B) services only.

C) both goods and services.

D) neither goods nor services.