**Example Problems *– with solutions***

[1]Define both absolute and comparative advantage

**Absolute advantage = producing something using fewer inputs (e.g., fewer labor hours)**

**Comparative advantage = having a lower opportunity cost of producing a good or a service.**

Use the following information to answer question 2 – 5

The United States and France both make airplanes and cars. In the United States 500 labor hours are needed to make one airplane and 100 labor hours are need to make one car. In France 400 labor hours are needed to make one airplane and 50 labor hours are needed to make one car.

[2] Which country has the absolute advantage in producing cars? *Make sure to state why.*

**France = 50 hours vs. 100**

[4] Which country has the comparative advantage in producing cars? *Make sure to state why.*

**France = To make one car they give up 0.125 airplanes. So they have a lower opportunity cost of making airplanes than the US (the US gives up 0.20 airplanes for each car)**

[5] Which country should specialize in and export cars and in turn import airplanes? *Make sure to state why.*

**France should specialize in cars and export cars.**

[6] For the country specializing and exporting airplanes describe a ***trade ratio*** that would be mutually beneficial for both countries.

**The US gives up 5 cars for each airplane they make and export. France gives up 8 cars for each airplane they make. The US exports airplanes. The US needs at least 5 cars in exchange for each airplane. France, will trade no more than 8 cars for each airplane they import.**

 ***\_5 - 8\_\_ cars in exchange for 1 airplane***

The figure below shows the domestic supply and demand curves for Textiles for the small country of Econoland. Where *P* denotes prices and *Q* denotes quantities. Use this information to answer questions 7 – 13.



[7] If Econoland does not trade with other countries ***what is domestic price and quantity of textiles in equilibrium?*** [choose between *P­D, PW, Q1, Q2, Q3*]

*PD and Q2*

[8] If Econoland does not trade with other countries ***what areas represent consumer surplus, producer surplus and total surplus?***

***CS = A; PS = B+C; TS = A+B+C***

[9] Suppose the world price of textiles (outside of the small country of Econoland) is *PW*. If Econoland engages in international trade will it ***import textiles, export textiles or neither? If they import or export textiles, indicate how many units.***

***It will import textiles since the world price is lower than the domestic price. They will import Q3 – Q1 units.***

[10] If Econoland engages in international trade ***what quantity represents domestic demand for textiles?***

***Q3***

[11] If Econoland engages in international trade ***what areas represent consumer surplus, producer surplus and total surplus?***

***CS = A+B+D+F; PS = C; TS = A+B+C+D+F***

[12] If Econoland engages in international trade ***what are the total gains from trade for Econoland?***

***D+F***

[13] Suppose Econoland considers putting a tariff on imports of textiles from other countries. If the tariff is imposed ***what*** ***will happen to the price of textiles domestically, the quantity supplied domestically and the quantity demanded domestically?*** [Indicate whether each goes up, down or stays the same]

***Domestic Price goes up, the quantity supplied domestically goes up, the quantity demanded domestically goes down.***

[14] Suppose the current spot rate is *E€/$ = 0.80*. ***What is the exchange rate in “American Terms”?***

***1/0.80 = 1.25***

[15] Suppose the spot rate is *E€/$ = 0.80* in January and is *E€/$ = 0.96* in December of the same year. ***Has the euro appreciated, depreciated or stayed the same against the dollar?***

***The euro has depreciated. It takes more euros to buy one dollar.***

[16] Suppose the spot rate is *E€/$ = 0.80* in January and is *E€/$ = 0.96* in December of the same year. ***What is the percentage change in exchange rates in “European Terms”?***

***(end – start)/start = (0.96 – 0.80)/0.80 = 0.20 (20% depreciation of the euro)***

[17] Suppose *E€/£ = 1.14* and *E€/$ = 0.90.* ***What is the “indirect” exchange rate between pounds and dollars E£/$?***

*E£/€ =1/1.14 = 0.8772* and *E€/$ = 0.90.*

*E£/€ \* E€/$ = 0.8772 \* 0.90 =* ***0.7895***

[18] Suppose *E€/£ = 1.14* and *E€/$ = 0.90.* Also suppose the current spot rate is *E£/$* = 0.75. ***If you have $1,000 to start with how can you make a profit and how much is the profit?***

***Take the $1,000, buy euros at 0.90 and get 900 euros. Then take the 900 euros and buy pounds at 0.8772 and get 789.48 pounds.***

***Then sell those pounds at the spot rate of 1/0.75 = 1.33 and get $1,050.***

***Roughly a 50 dollar profit from arbitrage.***

[19] Describe Gresham’s Law. In other words, describe why bad money drives out good money in an economy.

***Sometime domestic exchange rates are sticky (take for example the price of gold and silver in the bimetallic eras).***

***Currencies that are undervalued domestically relative to the world market exchange rate will leave a country and the lower valued currencies will stay.***

[20] The price for a Big Mac in France is 5 euros and the price for a Big Mac in the U.S. is 4 dollars. ***Assuming that purchasing power parity holds, what is the spot exchange rate?***

***PPP means that E$/€ = P$ / P€***

***So the spot exchange rate would be 0.80.***

[21] Which countries currencies are included in the basket that determines the value of the IMF’s special drawing rights (SDRs)?

***US dollar, Euro, Japan (yen), China (renminbi – or yuan), British Pound***

[22] Describe how an “***option***” works in the ForEx market.

***Buyer of the option has the ability to either buy a specified amount of a currency at a specified exchange rate in the future (e.g., 12 months) or sell a currency. If in 12 months (for example) the spot rate is more favorable than the specified exchange rate in the options contract the buyer does not exercise her option.***

[23] Consider France in the 1960s. France pegged the franc to the U.S. dollar, which was pegged to gold. ***Explain how France could use reserves to maintain a peg of its currency to the U.S. dollar.***

***If the franc was depreciating against the dollar in the exchange markets (through forces of supply and demand), then France could use its reserves of US dollars to buy francs. This would increase the amount of circulating dollars (decreasing their value) and decrease the amount of circulating francs (increasing their value)***

[24] What determines how many votes a member country to the IMF gets?

***Each country has a set amount of basic votes that are the same for each member country. Then, each country against an additional vote for each 100,000 SDR of quota they contribute.***

[25] If a country’s currency depreciates, ***is the Trade Balance (Exports - Imports) more likely to increase or decrease?*** Explain why.

***When a country’s currency depreciates, then their domestic goods are cheaper in the eyes of foreign countries. So they will export relatively more than they import. This will increase their trade balance.***

[26] The price for a Big Mac in France is 5 euros and the price for a Big Mac in the U.S. is 4 dollars. Assuming the spot exchange rate is 1, ***what is the real exchange rate in “American Terms”?***

***1.25. This means that it takes 1.25 Big Macs in the US to buy 1 Big Mac in France.***

Comparing the nominal exchange rate of 1 with the real exchange rate, ***is the US dollar undervalued or overvalued relative to the euro?***

***The US dollar is overvalued because the nominal exchange rate is < than the real exchange rate. In real terms the dollar is weaker.***