

Due: September 27, 2019

1. During the second quarter of 2019 (April -June 2019) the average exchange rate between the Mexican peso and the US dollar was 19 pesos per dollar. During that quarter, the US exported US\$ 73.5 billion worth of goods and services to Mexico, and imported US\$ 99.6 billion worth of goods and services from Mexico.
 - a. Draw a diagram of the US dollar-Mexican Peso foreign exchange market during the second quarter of 2019 showing
 - i. The demand curve for US dollars that derives from the Mexican demand for US goods and services, and the supply curve of US dollars that derives from the US demand for Mexican goods and services.
 - ii. The second quarter 2019 equilibrium exchange rate.
 - iii. The second quarter 2019 level of US exports from Mexico, and US imports from Mexico.
 - iv. The demand curve for US dollars (total), and the supply curve for US dollars (total) that is consistent with the equilibrium exchange rate and US-Mexico trade balance.
 - b. The trade data for the third quarter of 2019 (July-September) have not yet been released, because it is still the third quarter. Thus far, however, the average exchange rate has been somewhat higher, about 19.5 Mexican pesos per US dollar.
 - i. Which currency (peso or dollar) has gotten stronger (appreciated) versus the other during the third quarter, compared to the second quarter?
 - ii. What combination(s) of shifts in the **total** supply and demand curves you drew in part (a) could have produced this change in the exchange rate?
 - iii. If the demand and supply curves (**derived from goods and services**) stayed the same, what will we expect to happen to the US trade balance with Mexico during the third quarter? Given the 19.5 pesos per dollar exchange rate instead of the 19 pesos per dollar exchange rate, and constant goods and services based demand and supply curves for the dollar, what do you predict will happen to the US trade balance?
2. The average UK pound-dollar exchange rate in the second quarter of 2019 was 0.78 pounds sterling per US dollar. The average yen-dollar exchange rate during the second quarter of 2019 was 110 yen per dollar. The average Mexican peso-dollar exchange rate during the second quarter was 19 pesos per dollar. The data on US trade with Mexico during the second quarter are in the previous problem (\$73.5 billion exports; \$99.6 billion imports). During the same quarter the US imports from Japan were \$47.1 billion, and US exports to Japan were \$30.9 billion. For the UK, the US imports were \$31.4 billion, and exports were \$34.6 billion.

- a. Calculate the effective exchange rate based on these three sets of exchange rates and trade data.
 - b. The third quarter exchange rates are 107.5 yen per dollar; 19.5 pesos per dollar, and 0.81 pounds per dollar. Using the same trade-weights that you used in part (a), calculate the new value of the effective exchange rate.
 - c. According to the change in the effective exchange rate, did the US dollar strengthen (appreciate) or weaken (depreciate) against these three currencies (peso, yen, pound)? By what percent?
3. The Mexican peso – US dollar exchange rate on August 1, 2019 was 19.23 pesos per dollar. The Mexican peso – US dollar exchange rate on June 30, 2019 was 19.15 pesos per dollar.
 - a. What was the percentage change in the Mexican peso – US dollar exchange rate from July 1 to August 1?
 - b. The monthly rate of inflation in Mexico during July 2019 was 0.42 percent. The monthly rate of inflation in the US during July 2019 was 0.20 percent. (Although you don't need to know it, both of these rates of inflation are not seasonally adjusted.). Are the percentage change in the exchange rate and the inflation rates consistent with the principle of relative purchasing power parity? Explain your answer.
 - c. If the inflation rates over the year August 1, 2019 to July 31, 2020 are 4% in Mexico and 1.5% in the US, and relative purchasing power parity holds, what should the exchange rate be on July 31, 2020? (Based on an exchange rate of 19.23 pesos per dollar on August 1, 2019.)
4. Assume that the current US dollar – euro exchange rate is \$1.1 per euro. You are trying to decide between purchasing a French government bond that promises to earn 3% interest over the next year, or purchasing a US government bond that promises to earn 1% interest over the next year.
 - a. If the one-year forward exchange rate is \$1.08 per euro, what is the better investment?
 - b. What one-year forward exchange rate is consistent with covered interest parity?
 - c. If the interest rate in the US falls by 0.5 percentage points, the interest rate in France stays the same, and the forward exchange rate stays constant at the rate you calculated in part (b), what do you expect to happen to the spot exchange rate? Give a numerical answer.
5. If the Swiss central bank decreases its money supply, and the US central bank maintains the same interest rate,
 - a. What will happen to the Swiss franc-US dollar exchange rate, and why?
 - b. Depict this in a foreign exchange market diagram that includes the **total** supply and demand for dollars, and the **goods and services** supply and demand for dollars. Specifically, show what curves shift to reflect the new exchange rate. Assume that in the initial equilibrium Switzerland and the US have balanced trade (US exports to Switzerland equal US imports from Switzerland).
 - c. What will happen to the US trade balance with Switzerland as a result of the Swiss central bank's decision to decrease its money supply, and why?