

CARLETON UNIVERSITY
Department of Economics
International Monetary Problems
Economics 3602 – Summer 2017
Problem Set 1

Due May 25th at the beginning of lecture. No assignments will be accepted during lecture or via email.

- 1 Multiple Choice. Circle the one alternative that best completes the statement or answers the question [3 points each question]**
1. An exchange rate of 8.28 yuan/U.S. dollar indicates that 1 yuan can buy:
 - (a) 828 U.S. dollars.
 - (b) 8.28 U.S. dollars.
 - (c) 82.8 U.S. dollars.
 - (d) $1/8.28$ U.S. dollars.
 2. A current account surplus occurs when:
 - (a) gross national disposable income exceeds gross national expenditure.
 - (b) gross national disposable income equals gross national expenditure.
 - (c) gross national expenditure income exceeds gross national income.
 - (d) debts are paid down.
 3. If a country's foreign assets are greater than its foreign liabilities, it is a:
 - (a) creditor nation.
 - (b) successful nation.
 - (c) debtor nation.
 - (d) developed nation.
 4. Which of the following statements is the most accurate? In general,
 - (a) the fundamental equation of the monetary model to the exchange rate is a short run theory.
 - (b) the fundamental equation of the monetary model to the exchange rate is a long run theory.
 - (c) the fundamental equation of the monetary model to the exchange rate is neither a long run nor short run theory.
 - (d) the fundamental equation of the monetary model to the exchange rate is both a short and long run theory.
 5. Under PPP (and by the Fisher Effect), all else equal,
 - (a) a rise in a country's expected inflation rate will eventually cause a more-than proportional rise in the interest rate that deposits of its currency offer.
 - (b) a fall in a country's expected inflation rate will eventually cause an equal rise in the interest rate that deposits of its currency offer.
 - (c) a rise in a country's expected inflation rate will eventually cause an equal rise in the interest rate that deposits of its currency offer.
 - (d) a rise in a country's expected inflation rate will eventually cause a less than proportional rise in the interest rate that deposits of its currency offer to accommodate the rise in expected inflation.

6. Under the monetary approach to the exchange rate,
- (a) all else equal, an increase in the real income of the domestic economy decreases domestic prices and the depreciates the domestic currency relative to the foreign currency in the long run.
 - (b) all else equal, an increase in the real income of the domestic economy increases domestic prices and the depreciates the domestic currency relative to the foreign currency in the long run.
 - (c) all else equal, an increase in the real income of the domestic economy decreases domestic prices and the appreciates the domestic currency relative to the foreign currency in the long run.
 - (d) all else equal, an increase in the real income of the domestic economy increases domestic prices and the appreciates the domestic currency relative to the foreign currency in the long run.
 - (e) all else equal, an increase in the real income of the domestic economy increases domestic prices and the appreciates the domestic currency relative to the foreign currency in the short run and long run.
7. An appreciation of a country's currency,
- (a) raises the relative price of its exports and raises the relative price of its imports.
 - (b) decreases the relative price of its exports and lowers the relative price of its imports.
 - (c) lowers the relative price of its exports and raises the relative price of its imports.
 - (d) raises the relative price of its exports and lowers the relative price of its imports.
 - (e) None of the above.
8. Which of the following statements is the most accurate?
- (a) The law of one price applies only to the general price level (e.g. CPI).
 - (b) PPP applies only to individual commodities.
 - (c) The law of one price applies to the general price level while PPP applies to individual commodities.
 - (d) The law of one price applies to individual commodities while PPP applies to the general price level.
9. Under Purchasing Power Parity,
- (a) $E_{\$/E} = P_{\$} + PE$.
 - (b) $E_{\$/E} = P_{\$} - PE$.
 - (c) $E_{\$/E} = P_{\$}/PE$.
 - (d) $E_{\$/E} = PE/P_{\$}$.
 - (e) None of the above.
10. The action of arbitrage is
- (a) the process of buying a currency cheap and selling it dear.
 - (b) the process of buying a currency dear and selling it cheap.
 - (c) the process of buying and selling currency at the same price.
 - (d) the process of selling currency at different prices in different markets.
 - (e) None of the above.

2 Nominal Anchors in the Long Run. [9 points]

Explain the main differences between the three main nominal anchor choices presented in Chapter 3: i) Exchange Rate Target; ii) Money supply target; and iii) Inflation target plus interest rate policy. Use equations to support your answer and do not forget to describe how each of these nominal anchors affect inflation in the long-run.

3 Exchange Rate Regimes [12 points]

Go to the website <http://research.stlouisfed.org/fred2/> and obtain the monthly exchange rate data for the following currency pairs: a) Argentine Peso/USD for the period 1990-2002; b) Indonesian rupiah/USD for the period 1986-1997; and c) Canada/USD for the period 2007-2016. Plot the exchange rate over time and make your own judgment as to whether each currency was fixed (peg or band), crawling (peg or band), or floating relative to the U.S. dollar during each time frame given. Include the graphs in your assignment.

4 Outsourcing. [6 points]

In the past few decades, firms from industrial economies have installed production plants in developing countries (e.g., China, India and Mexico). This strategy allowed them to move production from expensive locations to cheaper ones (a phenomenon called outsourcing). If the Chinese Remminbi appreciates against the US dollar, what would happen to outsourcing in China by US companies? Explain.

5 Money Market and Foreign Exchange Market. [10 points]

Use the foreign exchange market and money market diagrams to answer the following questions. This question considers the relationship between Swedish kronor (SK) and Danish krone (DK). Let the exchange rate be defined as Swedish kronor per Danish krone, SK/DK. On all graphs, label the initial equilibrium point A. Suppose that there is an exogenous increase in the real money demand in Sweden.

- Assume this change in real money demand is temporary. Using the foreign exchange market and money market diagrams, illustrate and explain how this change affects the money and foreign exchange markets both in the short and long run. Label your short-run equilibrium point B and your long-run equilibrium point C. [5 points]
- Now assume this change in real money demand is permanent. Using a new diagram, illustrate and explain how this change affects the money and foreign exchange markets both in the short and long run. Label your short-run equilibrium point B and your long-run equilibrium point C. [5 points]

6 Money Supply Shocks and the Nominal Exchange Rate. [15 points]

Use the money and foreign exchange markets diagrams to answer the following questions about the relationship between the British pound (£) and the U.S. dollar (\$). Let the exchange rate be defined as U.S. dollars per British pound, $E_{\$/\pounds}$. We want to consider how a change in the U.S. money supply affects interest rates and exchange rates. On all graphs, label the initial equilibrium point A.

- Illustrate and explain how a **temporary** decrease in the U.S. money supply affects the money and foreign exchange markets. Label your short-run equilibrium point B and your long-run equilibrium point C. [8 points]
- Using your diagram from (a), state how each of the following variables changes in the short run (increase/decrease/no change): U.S. interest rate, British interest rate, $E_{\$/\pounds}$, $E_{\pounds/\e , and U.S. and British price levels. [4 points]
- Using your diagram from (a), state how each of the following variables changes in the long run (increase/decrease/no change relative to their initial values at point A): U.S. interest rate, British interest rate, $E_{\$/\pounds}$, $E_{\pounds/\e , and U.S. and British price levels. [3 points]

7 Fundamental Equation to the Exchange Rate (General Model). [10 points]

Using the fundamental equation from the general monetary approach, describe how each of the following will affect the home and foreign price level, real money balances, and the exchange rate, $E_{H/F}$, in the long run. Also, state whether the home currency appreciates or depreciates for each.

a A permanent increase in the foreign money supply. [5 points]

b A permanent increase in home money supply. [5 points]

8 Answer True or False. Briefly explain your answer. No credit without explanation. Support your answer with a graph if needed. [8 points]

a From the PPP theory we can conclude that a country with higher inflation (relative to its foreign partners) should have a depreciating currency. [3 points]

b (5 points) Depreciation of the domestic currency today (i.e. $E_{H/F}$ in class) rises the expected rate of return on foreign currency deposits.