

## Assignment 2 (OPTIONAL)

Do NOT Hand in

Total Marks: 100

### **Part A                      True/ False/ Uncertain Questions                      [40 Marks]**

*Explain why the following statement is True, False, or Uncertain according to economic principles. Use diagrams and / or numerical examples where appropriate. Unsupported answers will receive no marks. It is the explanation that is important. Each question is worth 10 marks.*

#### **A1.**

In the short-run a temporary increase in home real money supply leads to an appreciation of home currency against the foreign currency. [Diagrams Required]

#### **A2.**

A permanent decrease in the domestic money supply results in overshooting of the domestic exchange rate in the short-run. [Diagrams Required]

#### **A3.**

In the long-run, under the flexible-price monetary approach, a rise in the future rate of domestic money supply growth rate leads to an increase in domestic interest rates and price level, and results in an appreciation of domestic currency. [Diagrams Required]

#### **A4.**

According to the general model of long-run exchange rates which accounts for possible deviations from PPP by adding the real exchange rate as an additional determinant of the nominal exchange rate, an increase in relative U.S. output supply leads to a nominal depreciation of the dollar against the euro in the long run. [Diagrams Required]

**Part B****Problem Solving Questions****[60 Marks]**

*Read each part of the question very carefully. Show all the steps of your calculations to get full marks.*

**B1. [20 Marks]**

Suppose consumers in Canada and the United States only consume blue suede shoes (which are traded) and haircuts (which are not traded). The prices of those goods in each country for two years are given in the table below. All prices are quoted in the currency of the relevant country.

| Year | Shoes in Canada<br>(CDN \$) | Haircuts in Canada<br>(CDN \$) | Shoes in U.S.<br>(USD \$) | Haircuts in U.S.<br>(USD \$) |
|------|-----------------------------|--------------------------------|---------------------------|------------------------------|
| 2001 | 100                         | 30                             | 80                        | 28                           |
| 2002 | 120                         | 35                             | 85                        | 28.67                        |

For each year, the statistical agency in each country constructs a consumer price index which is a weighted average of the prices of the two goods in that country. The weights in the price indexes are given by the share of each good in the consumers' consumption baskets. Assume that Canadians spend 60% of their consumption expenditures on shoes while Americans spend 70% of their consumption expenditures on shoes. Assume that the nominal exchange rate is such that the Law of One Price holds for traded goods in every year.

- I.** Determine the nominal exchange rate (CDN\$ per US\$) in each year.
- II.** Determine the real exchange rate in each year.
- III.** Determine if absolute purchasing power parity holds and justify your answer. If it does not hold, give two reasons why it does not hold.
- IV.** Determine if relative purchasing power parity holds and justify your answer.

## **B2. [20 Marks]**

Imagine a world before automatic teller machines (ATMs) were invented so if you needed cash you had to wait in a long line at the bank for a teller. Consider the model of exchange rate determination with short-run nominal rigidities and in which money market equilibrium holds every period, UIRP holds every period, and PPP holds in the long-run. Assume that the economy is initially in the long-run equilibrium.

Now suppose that ATMs are introduced in the home country so the home demand for real balances decreases (that is, for the same interest rate and output level, people want to hold less money than before ATMs were invented). Assume that this invention does not change consumers' discount rates nor does it change real output. Assume further that ATMs are not introduced into the foreign country.

Explain what happens to home and foreign interest rates, home and foreign prices, and the exchange rate (measured as units of home currency per one unit of foreign currency) in the short-, medium-, and long-run when ATMs are invented. Support your answer with a graph of the home money market equilibrium and a graph of the foreign exchange market equilibrium.

## **B3. [20 Marks]**

1) Explain how each of the following transactions would enter the Canadian balance of payment accounts. Discuss only transactions described. Do not be concerned with possible offsetting transactions.

- (i) The Canadian government sells military equipment to a foreign government.
- (ii) The Bank of Canada sells yen to, and buys dollars from, a Swiss bank.
- (iii) A Canadian bank receives the interest on its loans to Brazil.

2) For each transaction described in part (a) that by itself changes the sum of the Canadian current account balance, financial account balance and capital account balance, give an example of an offsetting transaction that would leave the sum of these three balances unchanged.