

Practice Questions for Part I and Part II, Chapters 1-6

Section 1. Multiple Choice Questions

(Note: All of the following questions appeared on the first mid-term exam in previous years.)

- Ch.1 1. Which of the following is true of the historical performance of the Canadian economy?
- A) Real GDP per capita is twice as high now as in 1900.
 - B) Since 1980 there have been two episodes of “deflation” or falling prices
 - C) From 1950 to the 1990s there was a gradual upward trend in unemployment
 - D) From the 1950s to the 1970s there was a downward trend in inflation
- Ch. 2 2. Which of the following is **NOT** included in computing Canada’s Gross Domestic Product (GDP)?
- A) services such as hospital care which are not sold on the market
 - B) that part of Canada’s output which is exported and not sold domestically
 - C) the value of goods produced in the current year but not sold in that year but added to inventories
 - D) the value of Canada’s imports of goods and services
- Ch. 2 3. In 2006 the **rate of growth** of **nominal** GDP exceeded the **rate of growth** of **real** GDP. Which of the following factors caused nominal GDP to grow faster than real GDP in 2006?
- A) economic growth since the base year, 2002
 - B) price inflation since the base year, 2002
 - C) price inflation in 2006 **only** [not inflation since the base year, 2002]
 - D) economic growth in 2006 **only** [not economic growth since the base year, 2002]
- Ch. 3 4. The model in chapter 3 makes use of the concept of the consumption function whose equation is: $C = C(Y-T)$. Which of the following is true of that functional relationship?
- A) an increase in $(Y-T)$ causes C to increase by the same amount
 - B) an increase in $(Y-T)$ causes C to increase but by a smaller amount
 - C) an increase in $(Y-T)$ causes C to increase and by a larger amount
 - D) an increase in C causes $(Y-T)$ to increase but by a smaller amount
- Ch. 3 5. In the closed-economy model of aggregate output, income and expenditure determination (chapter 3) when the real interest rate is **below** its equilibrium level which of the following is true?
- A) there is excess demand for loans and excess demand for goods
 - B) there is excess demand for loans and excess supply of goods
 - C) there is excess supply of loans and excess demand for goods
 - D) there is excess supply of loans and excess supply of goods

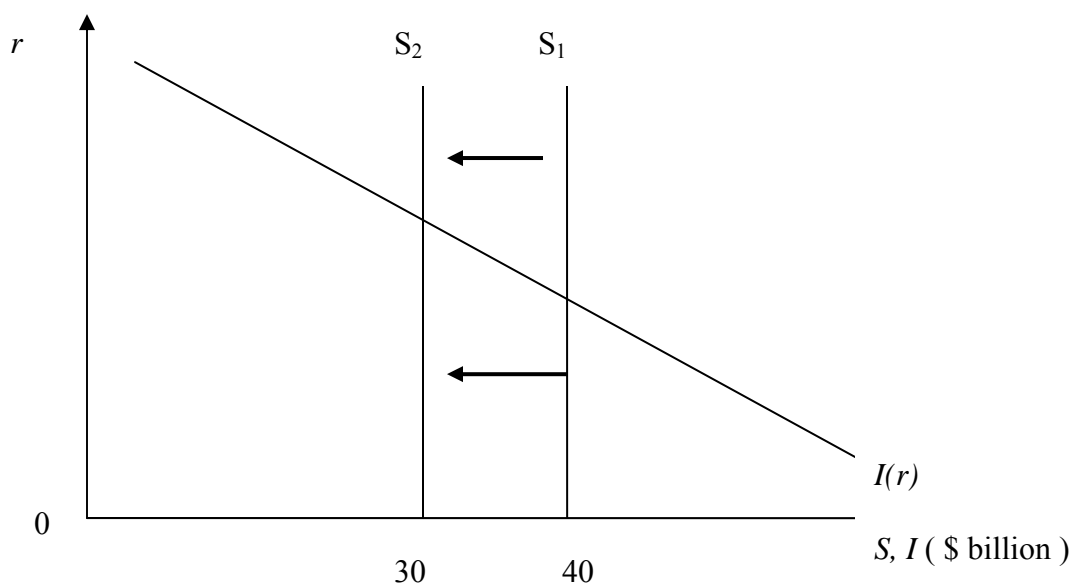
Ch. 3 6. Suppose that in the closed-economy model of aggregate output, income and expenditure determination (chapter 3), **government spending decreases** [$G \downarrow$] with no change in taxes [T]. Which of the following describes the full long-run impact of that change?

- A) C decreases; I increases; Y decreases
- B) C decreases; I increases; Y does not change
- C) C does not change; I increases; Y increases
- D) C does not change; I increases; Y does not change

Ch. 3 7. Suppose that in the closed-economy model of aggregate output, income and expenditure determination (chapter 3), **taxes decrease** [$T \downarrow$] with no change in government spending [G]. Which of the following describes the full long-run impact of that change?

- A) C increases; I decreases; Y increases
- B) C increases; I decreases; Y does not change
- C) C increases; I does not change; Y does not change
- D) C decreases; I increases; Y does not change

Ch. 3 8.



In the context of closed-economy model of aggregate output, income and expenditure determination (chapter 3) as we developed it, which of the following could have caused the change in national savings shown in the diagram above?

- A) a \$10 billion increase in taxes with no change in government spending
- B) a \$10 billion decrease in taxes with no change in government spending
- C) a \$10 billion decrease in government spending with no change in taxes
- D) a decrease in taxes of more than \$10 billion with no change in government spending

- Ch. 3 9. Consider a modified version of the model of chapter 3 in which **national savings [S] INCREASES with the interest rate (r)**. Within the context of such a model, suppose that technological change results in an increase in planned investment spending at every rate of interest [a shift to the right of the investment schedule]. Then we can predict the following:
- A) neither consumption (C) nor investment (I) will be changed
 - B) consumption (C) will fall and investment (I) will be larger
 - C) consumption (C) won't change but investment (I) will be larger
 - D) both consumption (C) and investment (I) will be larger
- Ch. 4 10. In August 2007 the Consumer Price Index (CPI) had a value of 111.7. A year earlier in August 2006 the CPI had a value of 109.8. The base-year value of the CPI is 100 in 2002. Given this data which of the following is true?
- A) Between August 2006 and August 2007 the rate of price inflation in Canada was 1.7%
 - B) Between August 2006 and August 2007 the rate of price inflation in Canada was 1.9%
 - C) In August 2006 the annual rate of inflation was 9.8% and in August 2007 the annual rate of inflation was 11.7%
 - D) The particular combination of consumer goods and services which the Canadian consumer actually purchased in August 2007 cost 11.7% more than that same combination of goods and services would have cost in 2002.
- Ch. 4 11. Suppose that a (money-using) economy produces a single good: bread. This year the economy will produce 20 billion loaves of bread at a price of \$2.50 a loaf. The nominal money stock of this economy is currently \$10 billion. Now suppose that the nominal money stock increases to \$12 billion. According to the **Quantity Theory of Money**, which of the following will result in the long run?
- A) the number of loaves produced per year will rise to 24 billion
 - B) the velocity of circulation of money will rise by 20%
 - C) the price of a loaf of bread will rise to \$3.0
 - D) the number of loaves produced, the price of a loaf, and the velocity of circulation of money will all increase to reflect the increase in money stock
- Ch. 4 12. Which of the following is true of the costs of inflation?
- A) inflation is more costly if it is unexpected
 - B) inflation is costly only if it is unexpected
 - C) unexpected inflation is more costly for borrowers than for lenders
 - D) given that nominal interest income, rather than real interest income, is taxed the cost of inflation is lower when it is unexpected and nominal interest rates are lower

- Ch. 5 13. In a small open economy of the type discussed in chapter 5 a **\$10 billion increase in government spending** ($\uparrow G$) with no change in taxes leads to
- A) a \$10 billion decrease in investment spending
 - B) decreases in investment and net exports which, when combined, total \$10 billion
 - C) a \$10 billion decrease in net exports
 - D) a \$10 billion increase in net exports
- Ch.5 14. In a small open economy of the type discussed in chapter 5 **an increase in domestic investment spending at every interest rate**
- A) shifts the investment schedule to the right, raises the interest rate and increases net exports
 - B) shifts both the investment schedule and national savings curve to the right leaving the interest rate unchanged and net exports unchanged
 - C) shifts the investment schedule to the right and raises net exports
 - D) shifts the investment schedule to the right and reduces net exports
- Ch. 5 15. Within the context of the model of the open economy in chapter 5, the **“twin deficits”** phenomenon arises because
- A) countries with a trade deficit must borrow internationally to finance that deficit
 - B) countries with a trade deficit must increase government spending [$\uparrow G$] or cut taxes [$\downarrow T$] to maintain full-employment
 - C) an increase in government spending [$\uparrow G$] or a cut in taxes [$\downarrow T$] increases income and spending on imports
 - D) an increase in government spending [$\uparrow G$] or cut in taxes [$\downarrow T$] reduces saving minus investment [$\downarrow (S-I)$]
- ERates 16. A decrease in the real exchange rate [$\downarrow \epsilon$] implies
- A) a decrease in the relative price of foreign-produced goods
 - B) an increase in the relative price of domestically-produced goods
 - C) a decrease in the relative price of domestically-produced goods
 - D) a decrease in the foreign currency price of one unit of domestic currency
- ERates 17. Consider a world of two countries - Canada and USA. Let P equal an index of Canadian prices in Canadian dollars and P^* equal an index of US prices in US dollars. The nominal exchange rate (e) is defined to be the number of US dollars per Canadian dollar. Then the theory of **Absolute Purchasing Power Parity** predicts that in the long run
- A) $P = P^*$
 - B) $e = P^*/P$
 - C) $e = P/P^*$
 - D) $e = 1.0$

ERates 18. If the US rate of inflation is 5% annually while the Canadian rate of inflation is 2% annually then the theory of Relative Purchasing Power Parity predicts that

- A) the **real** exchange rate (ϵ) between Canada and the U.S. will appreciate (rise) by 3% annually
- B) the **real** exchange rate (ϵ) between Canada and the U.S. will depreciate (fall) by 3% annually
- C) the **nominal** exchange rate ($e = \text{US\$ per C\$}$) between Canada and the U.S. will appreciate (rise) by 3% annually
- D) the **nominal** exchange rate ($e = \text{US\$ per C\$}$) between Canada and the US will depreciate (fall) by 3% annually

ERates 19. The theory of Absolute Purchasing Power Parity and the theory of Relative Purchasing Power Parity make different predictions about the behaviour of the **real exchange rate** (ϵ). Which of the following is true?

- A) Absolute PPP predicts that ϵ will be constant while relative PPP predicts that ϵ will be variable
- B) Absolute PPP predicts that ϵ will be constant and equal to 1.00 while relative PPP predicts that ϵ will be constant but not necessarily equal to 1.00
- C) Absolute PPP predicts that ϵ will be variable while relative PPP predicts that ϵ will be constant
- D) Absolute PPP predicts that ϵ will be constant but not necessarily equal to 1.00 while relative PPP predicts that ϵ will constant and equal to 1.00

ERates 20. As a Canadian you have C\$1,000 to invest for one year. One-year Canadian bonds pay 3% interest ($i=0.03$). One-year US bonds pay 3.5% interest ($i^* = 0.035$). Suppose the current nominal exchange rate (e) is \$1.01 (US\$ per C\$). What is the expected value of the nominal exchange rate in a year's time (e^E_{+1}) which will equalize the expected rates of return (in C\$) from holding Canadian bonds and US bonds over the year?

- A) $e^E_{+1} = 1.0149$
- B) $e^E_{+1} = 0.9853$
- C) $e^E_{+1} = 1.06$
- D) $e^E_{+1} = 1.005$

ERates 21. For the **interest rate parity condition** to hold between Canada and the US

- A) Canadian and US interest rates must be equal ($i = i^*$)
- B) The difference between the US interest rate and the Canadian interest rate ($i^* - i$) must equal the expected rate of **depreciation** of the Canadian dollar in terms of US\$
- C) The difference between the US interest rate and the Canadian interest rate ($i^* - i$) must equal the expected rate of **appreciation** of the Canadian dollar in terms of US\$
- D) the Canadian interest rate plus the expected rate of **appreciation** of the **Canadian** dollar must equal the US interest rate plus the expected rate of **appreciation** of the **US** dollar

- ERates 22. Suppose that the Canadian and US interest rates on a one-year bond are initially equal at 4% ($i = i^* = 0.04$). The current spot exchange rate (e) equals 1.02 (US\$ per C\$) which is also the value of the exchange rate expected to prevail in one year (e^E_{+1}). Then the Canadian interest rate increases to 5% ($i = 0.05$). According to the theory of interest rate parity, and assuming flexible exchange rates, which of the following will be the direct result of that increase in Canadian interest rate?
- A) the current value of the exchange rate (e) will rise with no change in the expected exchange rate or the US interest rate
 - B) the US interest rate will rise to 5% with no change in the current or future expected exchange rates (e or e^E_{+1})
 - C) the expected exchange rate will fall with no change in the current exchange rate (e) or in the US interest rate
 - D) the Canadian interest rate will fall again to 4%
- Ch. 6 23. According to one definition, the natural rate of unemployment is the long-run average rate of unemployment around which the actual rate fluctuates. Which of the following is true of the **natural rate of unemployment for Canada**, when it is defined and calculated in this way?
- A) it has steadily increased from 1950 to 2005
 - B) it has remained steady from 1950 to 2005
 - C) it increased from 1950 to the 1990s
 - D) from 1950 to 2005 it has fluctuated around a stable average level
- Ch. 6 24 In our model of the natural rate of unemployment the rate of unemployment will **DECREASE** from one month to the next whenever
- A) $f > s$
 - B) $sE > fU$
 - C) $s/(s+f) > 0$
 - D) $fU > sE$
- Ch. 6 25 **Efficiency-wage** theories propose that
- A) it is efficient for unemployed workers to spend time searching for a new job
 - B) the labour market is efficient because wages always adjust to keep labour demand equal to labour supply
 - C) workers are more efficient, or productive, when wages are low and highly variable
 - D) firms find it profitable to pay wages above the level at which demand equals supply

Section 2: Problems

Chapter 2:

2.1 The textbook (pp 20-21) illustrates the calculation of **nominal** GDP using the example of simple economy which produces apples and oranges. This question extends that simple example to illustrate the distinction between nominal and real GDP and the calculation of the GDP deflator. Complete the following table by entering the appropriate numerical values in the shaded areas.

| | <i>2002 (Base Year)</i> | <i>2009 (Current Year)</i> |
|----------------------------|-------------------------|----------------------------|
| Quantity of Apples | 4 | 5 |
| Price of Apples | \$0.50 | \$0.56 |
| Quantity of Oranges | 3 | 4 |
| Price of Oranges | \$1.00 | \$1.05 |
| Nominal GDP | \$5.00 | |
| Real GDP | | |
| GDP Deflator | 100 | |

2.2 The table below contains actual data for 2005 from Canada's *National Income and Expenditure Accounts*. Complete the table by entering the appropriate values in the shaded areas.

| <i>Measure</i> | <i>Amounts in millions of 2005 dollars</i> |
|---|--|
| Gross Domestic Product (GDP) | \$1,368,726 |
| Capital Consumption Allowance (Depreciation) | 181,427 |
| Indirect Business Taxes | 154,711 |
| Net Income of Foreigners | 24,518 |
| Gross National Product (GNP) | |
| Net National Product (NNP) | |
| National Income | |

Chapter 3:

3.1 Consider the following long-run model of a closed economy of the type analysed in chapter 3. All output and expenditure variable values are in \$ billions; the real interest rate (r) is a decimal fraction.

$$E = C + I + G$$

$$Y = \bar{Y} = F(\bar{K}, \bar{L}) = 1000$$

$$C = 30 + 0.75(Y - T)$$

$$I = 220 - 1000r$$

$$G = \bar{G} = 220$$

$$T = \bar{T} = 240$$

a) Given the above, calculate the current (equilibrium) values of the following variables: i) consumption spending; ii) private saving; iii) public saving; iv) national saving; v) the real rate of interest; vi) investment spending.

b) Draw the saving-investment diagram consistent with the above specifications of the model and your answers to part a).

c) Suppose now that **taxes are reduced** by 20 (\$ billion) from 240 to 220 (\$ billion) with no change in government spending. Calculate the changes in the equilibrium values of all of the variables listed in question a) above. Show that the change in taxes did not change total expenditure (E) but did change the composition of that expenditure.

d) On the saving-investment diagram which you have drawn show the curve shifts and changes in variable values which this cut in taxes has produced. (Make sure that you can explain the process of adjustment to the new equilibrium.)

3.2 Now suppose that consumption spending is both an increasing function of disposable income **and a decreasing function of the real interest rate**. The new specification of the model is as follows:

$$E = C + I + G$$

$$Y = \bar{Y} = F(\bar{K}, \bar{L}) = 1000$$

$$C = 50 + 0.75(Y - T) - 500r$$

$$I = 220 - 1000r$$

$$G = \bar{G} = 220$$

$$T = \bar{T} = 240$$

a) Show that national saving is now an increasing function of the rate of interest of the form:

$$S = 160 + 500r$$

b) Calculate the current equilibrium values of the interest rate, national saving, investment, and consumption spending.

c) Now suppose that **taxes are reduced** by 20 (\$ billion) from 240 to 220 (\$ billion) with no change in government spending. Show that the result is a smaller “crowding-out” of investment spending than occurred in the case in which national saving was independent of the interest rate [question 3.1 c) above.] Explain why the decrease in investment spending is smaller in this case and illustrate with a saving-investment diagram which compares the response to the tax cut in the two cases: 3.1 c) and 3.2 c).

Chapter 4:

4.1 The table below shows actual data for Canada for the years 2003 and 2007.

| | 2003 | 2007 |
|------------------------------------|-----------|-----------|
| Money Supply (M2) (\$ millions) | 581,638 | 754,690 |
| Nominal GDP (\$ millions) | 1,213,175 | 1,535,646 |
| Real GDP (millions of 2002 \$) | 1,174,592 | 1,319,680 |
| GDP Deflator (2002 = 100) | 103.3 | 116.4 |
| Velocity of M2 | | |

a) Complete the table by calculating the values of velocity (V) in 2003 and 2007. Interpret the meaning of the values which you have calculated.

b) You will notice that velocity showed a small decline from 2003 to 2007. How did that decrease affect the relationship between the rate of growth of the money supply and the rate of growth of nominal GDP over the period 2003 to 2007? Explain

4.2 In a certain economy velocity has been decreasing by approximately 1% per year. The long-run average rate of economic growth in the economy is 3% per year. The central bank is committed to a policy of inflation targeting with a current annual inflation target of 2%. How fast should the central bank allow the money supply to grow each year? Explain making use of an equation linking the variable values described.

4.3 Suppose you lend \$100 for a year at a nominal interest rate of 6% ($i = 0.06$). Over the year prices rise by 2% ($\pi = 0.02$). Use an equation to show that the realized real interest rate (r) is approximately 4% ($r \approx 0.04$).

Chapter 5:

5.1 Consider a **small open economy** of the type which we analysed in Chapter 5 which can be described by the following set of equations:

$$E = C + I + G + NX$$

$$Y = \bar{Y} = F(\bar{K}, \bar{L}) = 1000$$

$$C = 30 + 0.75(Y - T)$$

$$I = 220 - 1000r$$

$$G = \bar{G} = 220$$

$$T = \bar{T} = 240$$

$$r = r^* = 0.03$$

- Is this economy currently a net foreign lender or a net foreign borrower? Why? Explain.
- What is the value of the trade balance for this economy?
- Draw the saving and investment diagram for this economy and show the equilibrium levels of saving, investment, and the trade balance.
- Which of the following would have the larger impact on this economy's balance of trade and why? i) a domestic investment boom (an increase in I at a given interest rate) which is **not** accompanied by any change in world investment demand or ii) a domestic investment boom which is part of a world-wide increase in investment demand. Illustrate with a saving-investment diagram

Exchange Rates:

ER1. Suppose that in Country A the nominal interest rate is 6% ($i_A = 0.06$) while in Country B the nominal interest rate is 10% ($i_B = 0.10$). The real interest rate is equalized between the two countries ($r_A = r_B$). Assuming that inflation is perfectly anticipated in both economies, use the Fisher hypothesis (Chapter 4) and the hypothesis of relative purchasing power parity to predict what will happen to the nominal exchange rate between their two currencies, defined to be the value of one unit of currency A in terms of currency B.

ER 2. Suppose that a one-year US bond pays 3% interest ($i^* = 0.03$) while a one-year Canadian bond pays 2.0% interest ($i = 0.02$). If the expected value of the nominal exchange rate (US\$ per C\$) in one year's time is 0.95 (e_{+1}^E) calculate the current value of the exchange rate (e) which will yield interest rate parity.

Chapter 6:

6.1 The table below shows the numbers of workers who are employed and unemployed in the month of January, 2009 in a hypothetical economy in which the labour force is of constant size. Each month 2% of those who were employed in the previous month become unemployed while 30% of those who were unemployed in the previous month find employment. (Assume all flows occur on the first day of the month, that there are no other monthly flows into or out of employment or unemployment, and no exogenous shocks to the labour market.)

| MONTH | Number Employed (millions) | Number Unemployed (millions) | Labour Force | Unemployment Rate |
|---------------|----------------------------|------------------------------|--------------|-------------------|
| January 2009 | 19.00 | 1.00 | | |
| February 2009 | | | | |
| March 2009 | | | | |

a) Given the above information complete the shaded areas of the table.

b) What is the steady-state, or “natural,” rate of unemployment for this economy and what will be the numbers of workers employed and unemployed when the steady state is reached? Show that the numbers of unemployed and employed will be stable from month-to- month at those levels.

THE END