

**QUEEN'S UNIVERSITY FINAL EXAMINATION**  
**FACULTY OF ARTS AND SCIENCE**  
**DEPARTMENT OF ECONOMICS**

Econ 110 Sections (003, 004) - Barber  
April 16th 2018

**INSTRUCTIONS TO STUDENTS:**

This examination is 3 HOURS in length.

There are two sections to this examination.

Please answer all multiple choice questions on the scantron. Please answer all short answer questions in the booklet provided.

**The following aids are allowed:**  
Casio FX-991 calculator

Put your student number on all pages of all answer booklets, including the front.

The exam has two parts: Part I consists of twenty (20) multiple choice questions. Each question is worth 2 marks for a total of 40 marks. Part II consists of short answer questions, marks are noted in parenthesis. There are a total of 56 marks in Part II. There is NO choice, please answer all the questions. The exam is 180 minutes, please budget your time carefully. GOOD LUCK!

**PLEASE NOTE:**

**Proctors are unable to respond to queries about the interpretation of exam questions.**  
**Do your best to answer exam questions as written.**

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**PART I:** Answer the following multiple choice questions (2 Marks each). **WRITE YOUR ANSWERS IN PENCIL IN THE SCANTRON SHEET PROVIDED.**

1. Suppose a country has an unemployment rate of 20%. If we know that the population is 38 million and the labour force is 25 million, then the number of people unemployed is
  - (a) 2.6 million.
  - (b) 20 million.
  - (c) 7.6 million.
  - (d) 5 million.
  - (e) 13 million.
2. If the Consumer Price Index changes from 120 in the year 2012 to 126 in the year 2014, the average rate of inflation per year over this two-year period is approximately
  - (a) 6%.
  - (b) 2.5%.
  - (c) 1.5%.
  - (d) 5%.
  - (e) 3%.
3. Which of the following statements is logically valid?
  - (a) If the real interest rate is less than the nominal interest rate, inflation must be zero.
  - (b) If the nominal interest rate is high, the real interest rate must be high.
  - (c) If the rate of inflation is less than the nominal interest rate, the real interest rate is positive.
  - (d) If the rate of inflation is high, the nominal rate of interest must be low.
  - (e) If the real interest rate is less than the nominal interest rate, inflation must be negative.
4. Which of the following statements about national-income accounting is correct?
  - (a) GDP on the income side is calculated by adding up total expenditure for each of the main components of final output.
  - (b) The value of the expenditure on a nation's output is equal to the total income claims generated by producing that output.
  - (c) GDP from the expenditure side and GDP from the income side differ by the amount of investment in the economy.
  - (d) GDP on the expenditure side is calculated by adding up all the income claims generated by the act of production.
  - (e) The total value added in the economy is equal to the sum of all components in the circular flow of expenditure and income.
5. If nominal GDP in some year is \$3800 and the GDP deflator for the same year is 152, then the real GDP for that year is
  - (a) \$3500.
  - (b) \$2500.
  - (c) \$5776.
  - (d) \$2280.
  - (e) \$3800.

6. Consider a simple macro model with a constant price level and demand-determined output. The inclusion of government in such a model affects desired aggregate expenditure directly through \_\_\_\_\_ and indirectly through \_\_\_\_\_.

- (a) the net taxes; its affect on disposable income
- (b) the government purchases of goods and services; its effect on disposable income
- (c) government purchases of goods and services; its effect on investment
- (d) the net taxes; the government purchases of goods and services
- (e) the government purchases of goods and services; its effect on net exports

7. Consider a simple macro model with demand-determined output and the following specific parameter values:

- Marginal propensity to consume out of disposable income = 0.6
- Marginal propensity to consume out of national income = 0.48
- Marginal propensity to import = 0.23

The simple multiplier without government and foreign trade in this economy is \_\_\_\_\_ and the simple multiplier with government and foreign trade in this economy is \_\_\_\_\_.

- (a) 1.67; 4.
- (b) 2.5; 1.33.
- (c) 2.5; 2.5.
- (d) 2.5; 4.
- (e) 1.67; 1.33.

8. Which of the following would cause a positive aggregate demand shock, but leave the aggregate supply curve unaffected?

- (a) A free trade agreement between Canada and Europe that leads Canadian businesses to increase investment expenditures.
- (b) A severe drought lasting for six months that destroys agricultural and forestry production.
- (c) An improvement in the computer literacy of workers.
- (d) A substantial increase in world oil prices.
- (e) A medical report confirming that improved health for Canadian workers caused fewer lost days of production.

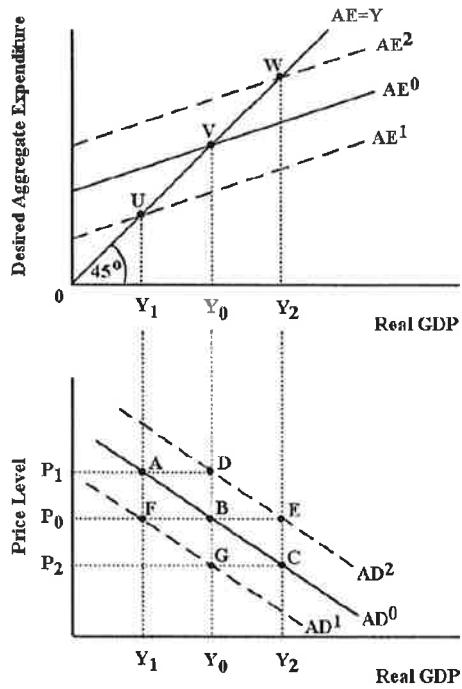
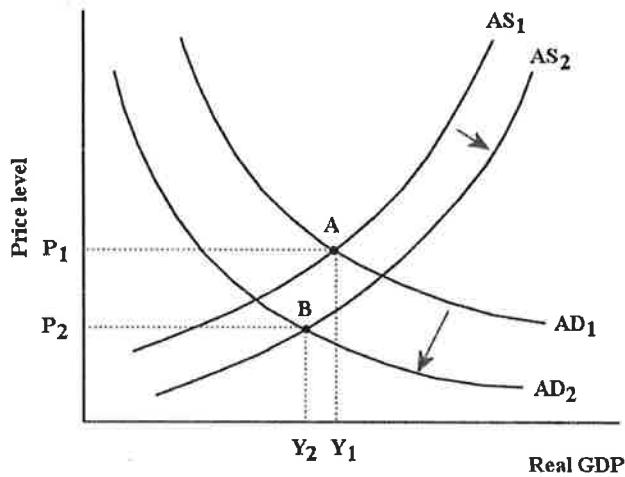


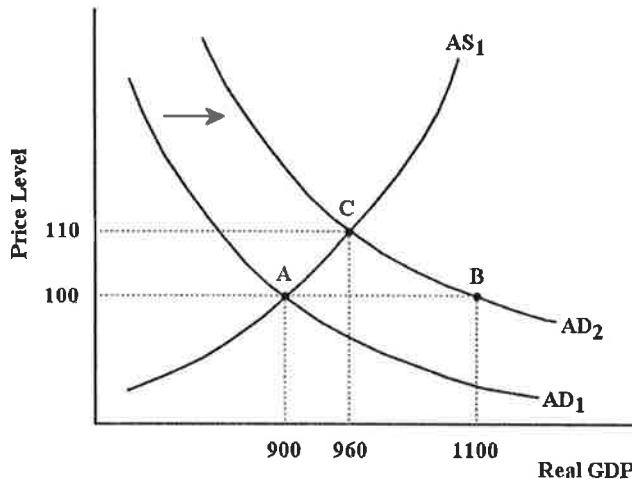
FIGURE 23-1

9. Refer to Figure 23-1. Assume the economy is initially in equilibrium with desired aggregate expenditure equal to real GDP at point V. The price level is  $P_0$ . Now, suppose there is an exogenous rise in the price level to  $P_1$ . Which of the following statements describes the likely macroeconomic effects?
- The AE curve shifts to  $AE^2$ , a new equilibrium is established at point W, and the AD curve shifts from  $AD^0$  to  $AD^1$ , and equilibrium moves from point B to point D.
  - The AE curve shifts to  $AE^2$ , a new equilibrium is established at point W, and the economy moves from point B to point C along  $AD^0$ .
  - The AE curve shifts to  $AE^1$ , a new equilibrium is established at point U, and the economy moves from point B to point A along  $AD^0$ .
  - The AE curve shifts to  $AE^1$ , a new equilibrium is established at point U, and the AD curve shifts from  $AD^0$  to  $AD^1$ , and equilibrium moves from point B to point D.



**FIGURE 23-4**

10. Refer to Figure 23-4. Suppose the Canadian economy is initially in equilibrium at point A. An unexpected shock then shifts both the AD and the AS curves as shown and results in a new equilibrium represented by point B. Which of the following events could cause such a shock?
- a decrease in labour productivity
  - an increase in the net tax rate
  - a decrease in the world price of oil
  - a decrease in firms' desired investment expenditures
  - an increase in factor prices



**FIGURE 23-5**

11. Refer to Figure 23-5. Suppose that an increase in autonomous investment by 40 causes the AD curve to shift to the right, as shown. The simple multiplier is \_\_\_\_\_ and the multiplier is \_\_\_\_\_.

- (a) 2.8; 1.2
- (b) 4; 3.2
- (c) 6; 1.2
- (d) 5; 1.5
- (e) 4; 1.2

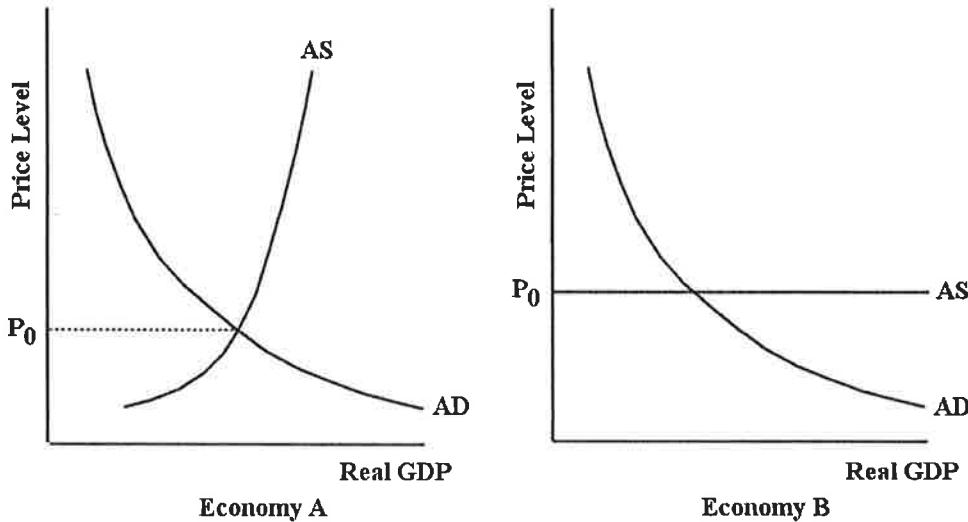


FIGURE 23-3

12. Refer to Figure 23-3. Which of the following statements correctly describes the difference between the multipliers (in response to an increase in autonomous expenditure) in Economy A and Economy B? The multiplier in Economy A is \_\_\_\_\_ while the multiplier in Economy B is \_\_\_\_\_.

- (a) very small; equal to one
- (b) equal to the simple multiplier; almost zero
- (c) very small; equal to the simple multiplier
- (d) equal to one; almost zero
- (e) equal to one; equal to the simple multiplier

13. Economic growth is often associated with structural change in the economy, and this change can present difficult policy challenges to governments. Which of the following government policies would be most useful at addressing the social costs of economic growth?

- (a) the imposition of trade restrictions to protect Canadian jobs
- (b) expansionary monetary policy
- (c) subsidies directed at Canadian manufacturing firms
- (d) reducing income taxes
- (e) programs designed to re-train workers

The table below shows aggregate values for a hypothetical economy. Suppose that this economy has real GDP equal to potential output.

Potential GDP	\$2800
Net tax revenues	\$50
Government purchases	\$200
Investment	\$250
Consumption	\$2350

TABLE 25-2

14. Refer to Table 25-2. What is the level of private saving for this economy?

- (a) \$100
- (b) \$150
- (c) \$50
- (d) \$400
- (e) \$450

15. Refer to Table 25-2. What is the level of public saving for this economy?

- (a) \$200
- (b) \$150
- (c) -\$150
- (d) -\$200
- (e) -\$50

The diagram below shows the market for financial capital in the long run when real GDP is equal to potential output,  $Y^*$ .

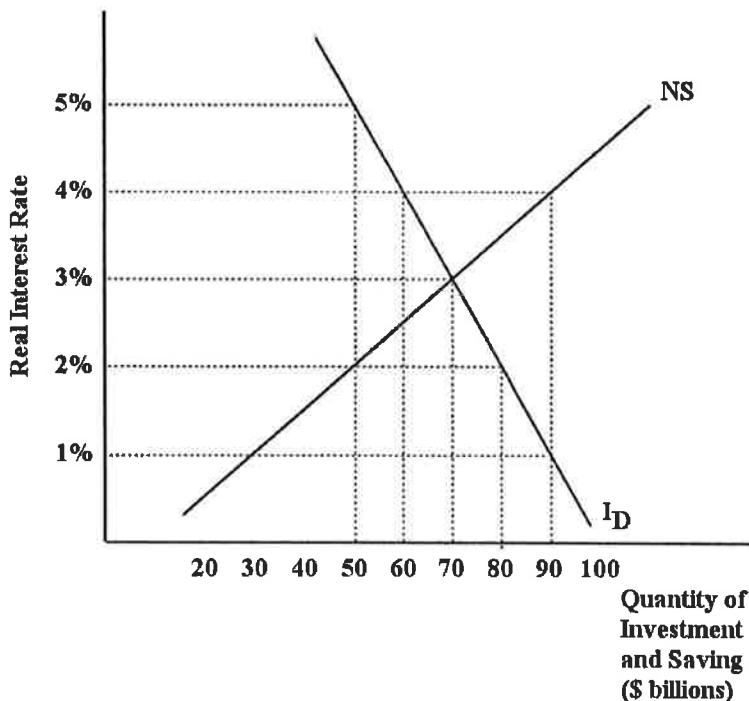


FIGURE 25-3

16. Refer to Figure 25-3. Suppose the interest rate in this market for financial capital is 2%. Which of the following statements correctly describes the adjustment that will occur in this market?
- The excess demand for investment will push down the real interest rate, which will decrease the quantity demanded of investment and increase the quantity supplied of saving.
  - The excess supply of saving will push down the real interest rate, which will decrease the quantity demanded of investment and increase the quantity supplied of saving.
  - The excess supply of saving will push up the real interest rate, which will decrease the quantity demanded of investment and increase the quantity supplied of saving.
  - The excess demand for investment will push up the real interest rate, which will increase the quantity demanded of investment and decrease the quantity supplied of saving.
  - The excess demand for investment will push up the real interest rate, which will decrease the quantity demanded of investment and increase the quantity supplied of saving.

*The table below shows various values of labour (L), capital (K), and technology (T) for Economies A, B, and C. In each case, the aggregate function takes the following form:*

$$Y = T \times \sqrt{KL}$$

Economy A			Economy B			Economy C		
L	K	T	L	K	T	L	K	T
100	50	2	100	50	2	100	50	2
110	50	2	110	55	2	110	55	4
120	50	2	120	60	2	120	60	6
130	50	2	130	65	2	130	65	8
140	50	2	140	70	2	140	70	10
150	50	2	150	75	2	150	75	12

TABLE 25-4

17. Refer to Table 25-4. Consider the changes shown for L, K, and T for Economy B, where output (Y) is the economy's real GDP. As total labour and capital inputs rise, this economy will show
- rising GDP and rising per capita GDP.
  - GDP rising faster than capital.
  - rising GDP but falling per capita GDP.
  - GDP rising more slowly than capital.
  - rising GDP but constant GDP per capita.
18. Consider the basic AD/AS model, and suppose there is a negative output gap. If an expansionary fiscal policy is pursued and the AS curve shifts right unexpectedly, the fiscal policy may be \_\_\_\_\_, and real GDP may \_\_\_\_\_ potential GDP.
- appropriate; equal
  - too weak; stay below
  - too strong; rise above
  - too strong; stay below
  - too weak; rise above

19. Suppose Canada's economy is in a long-run equilibrium with real GDP equal to potential output. Now suppose there is a decrease in the Canadian price of all imported raw materials. In the short run, \_\_\_\_\_. In the long run, \_\_\_\_\_.
- (a) real GDP rises and the price level falls; real GDP and the price level return to their original levels
  - (b) real GDP and the price level both fall; real GDP is below its original level with a lower price level
  - (c) real GDP and the price level both rise; real GDP is above its original level with a higher price level
  - (d) real GDP falls and the price level rises; real GDP is below its original level with a higher price level
  - (e) real GDP and the price level both rise; real GDP returns to its original level with a higher price level
20. Consider a simple macro model with a constant price level and demand-determined output. The equations of the model are:  $C = 60 + 0.43Y$ ,  $I = 150$ ,  $G = 260$ ,  $T = 0$ ,  $X = 90$ ,  $IM = 0.06Y$ . The value of the simple multiplier in this model is
- (a) 0.37.
  - (b) 2.70.
  - (c) 2.04.
  - (d) 2.32.
  - (e) 1.59.

**PART II:** Short Answer Questions. Answer these questions in the space given below each question. Marks for each part is in parenthesis.

II.1) Consider two economies, Economy A and Economy B, that are identical except for the fact that tax rates ( $t$ ) are higher in Economy A than Economy B. Assume that these economies are in different galaxies and therefore do not interact with one another.

1. Carefully draw an AS/AD diagram of each economy in long-run equilibrium. Discuss the reasons for any differences between the two diagrams. **Total of 8 Marks** (4 Marks for the diagrams, 4 Marks for discussion)
2. Suppose that the Supreme Leader of each economy thinks that the easiest way to increase GDP is by depreciating their currency. Draw and discuss the effects of this currency devaluation on your AD/AS diagrams from Part (1) of this question. Be sure to discuss any differences between the two diagrams. Assume that Economy A is not affected by Economy B depreciating their currency (and vice-versa), that they depreciate their currency by the same amount, and that there are no other changes taking place in either economy. **Total of 10 Marks** (4 marks for diagrams, 6 marks for discussion)
3. What is the natural process that would take these economies back to long-run equilibrium? Describe the process, and show this on your diagrams. Did their plan to raise GDP by depreciating their currencies work? **Total of 8 Marks** (4 marks for explanation, 4 marks for diagrams)
4. Which economy is likely to be more stable when faced with future shocks? Why? **Total of 4 Marks**

II.2) In 2011, Japan experienced a devastating earthquake followed by a tsunami. This natural disaster destroyed significant amount of capital in Japan, including roads, buildings and a nuclear power plant.

1. Use an AS/AD curve to show the effects of this natural disaster on the economy of Japan (assume Japan was at long-run equilibrium before this event). Carefully explain the reasoning for the effects that you illustrate on your diagram. Be sure to discuss price levels, unemployment, and real GDP levels. **Total of 10 Marks** (6 marks for explanation, 4 marks for diagram)
2. What would be the short-run consequences of this natural disaster on the Canadian economy? Carefully explain with the aid of a diagram (assume the Canadian economy is in long-run equilibrium). **Total of 8 Marks** (4 marks for explanation, 4 marks for diagram)
3. If the government of Canada was interested in using fiscal policy to get back to long-run equilibrium, what are two of their policy choices? Pick one policy, and describe the advantages and disadvantages of using this fiscal policy as opposed to naturally letting the economy return to its long-run equilibrium. Include a diagram in your answer. **Total of 8 Marks** (6 marks for explanation, 2 marks for diagram)

