Concordia University
Department of Economics
ECON 203 Section 4F
Winter 2010
MIDTERM EXAMINATION VERSION 1 AND ANSWERS

Name: _____ **C. Lau**
Student ID: _____ **February 18th, 2010**
Mark: _____/50 marks **Time Limit: 75 minutes**

Part I. Multiple Choice Questions. Circle the best answers (10 marks).

1. If Y<AE, then inventory would (from past midterms)
   a. Increase and Y would increase. b. Increase and Y would drop.
   c. Decrease and Y would increase. d. Decrease and Y would drop.

2. In 2008 and 2009, the actual unemployment rate in Canada was around 8.5%. The cyclical unemployment rate was around
   a. 10%. b. 8%. c. 5%. **d. 1.5%.**

3. If consumption is $25,000 when income is $21,000, and consumption increases to $25,900 when income increases to $22,000, the Marginal Propensity to Save is (from sample final)
   a. 0.9 b. -0.1 **c. 0.1** d. -0.2.

4. If our actual unemployment rate is 10% and our natural unemployment rate is 4%, what would happen in the long run? (from past midterms)
   a. Input prices will rise and output will fall. b. Both input prices and output will rise.
   c. Input prices will fall and output will rise. d. Both input prices and output will fall.

5. In Pluto, 100,000 people are in the labour force and the unemployment rate is 25%. As Pluto moves out of a recession and jobs increase, 20,000 discouraged workers become "encouraged" to search for jobs. The unemployment rate becomes (from sample final)
   a. 20%. b. 25.75%. c. 35%. **d. None of the above.**

6. Since the LAS curve is vertical, a decrease in consumer confidence in the short run (AD↓) will eventually lead to (from past midterms)
   a. A rightward shift in the AS curve, a lower equilibrium price level and a lower Yp in the long run.
   b. A rightward shift in the AS curve, a lower equilibrium price level and no change in Yp in the long run.
   c. A leftward shift in the AS curve, a lower equilibrium price level and a lower Yp in the long run.
   d. A leftward shift in the AS curve, a higher equilibrium price level and no change in Yp in the long run.

7. The simple circular flow model shows that: (from tutorial)
   a. Firms hire the factors from households and produce the output consumed by households.
   b. Households provide the factors to firms and buy the output produced by firms.
   c. The source of household income is the producing sector and the source of firms' revenue is household spending.
   d. All of the above are correct.

8. Which of the following best describes automatic built-in stabilizers in Canada? (from past midterms)
   a. The size of the autonomous goods market multiplier varies inversely with the level of GDP.
   b. Income tax collections automatically fall as GDP falls.
   c. Government spending automatically rises as GDP falls.
   d. Both B and C.

9. The real GDP in Canada in 2000 was $767 billion and in 2001 it was $659 billion. It can be concluded that
   a. The price level in Canada declined between 2000 and 2001.
   b. The price level in Canada rose between 2000 and 2001.
   c. The quantity of goods and services produced in Canada fell between 2000 and 2001.
   d. A and C.

10. Suppose right now our money wage or nominal wage rate is $10 per hour, and the current CPI is 150. Our labour union believes that the CPI for next year would increase to 165. If we want to be able to afford the same goods and services that we typically buy, the new nominal wage rate that we should ask for in the coming year should be
a. at least $10.5. **b. at least $11.** c. at least $11.5. d. at least $12.

Part II: Answer all questions (Total=40 marks)

Question #1 GDP (Total=4 marks) (from Lyryx)
Use the following table to answer the questions below:

Item:	Amount ($ Billions)	Item:	Amount ($ Billions)
Government purchases of goods and services	600	Consumption expenditure	700
Wages paid to labor	800	Interest and investment income	260
Investment expenditure	250	Import	100
Indirect taxes	700	Depreciation	250
Income taxes	170	Fixed capital formation	200
Profits	600	Farmers' income	200
Export	600	Unincorporated non-farm business income	200
Subsidies	???		

(i) Use the aggregate expenditure approach to find the value of GDP (2 marks).
Ans: The following formula should be used to calculate GDP by the aggregate expenditure approach: Y = AE = C + I + G + NX = 700 + 250 + 600 + (600 - 100) = 2,050

(ii) Given the GDP value from part a), use the National income approach to find the value of subsidies (2 marks).
Ans: The correct answer was: 960.00. To calculate subsidies using the national income method we use the following formula: GDP = NDI - [subsidies], NDI = [wages] + [indirect taxes] + [profits] + [interest and investment income] + [depreciation] + [farmers' income] + [unincorporated non-farm income] = 3,010
So we get: 2,050 = 3,010 - [subsidies], And therefore: subsidies = 960

Question #2 CPI and Inflation (Total=6 marks) (from iStudy, Algebraic Questions)
There are two goods in the consumer basket, product A and product B. The prices of these goods, P_a and P_b (in dollars), are stated in the table below. Assume that 2001 is the base year.

Year	Pa	Pb	Consumption	Consumption
2001	10	20	Qa=100	Qb=100
2002	12	24	Qa=110	Qb=110
2003	14	29	Qa=120	Qb=120

(i) Calculate the consumer price index (NOT expenditure) for each of the three years (3 marks).
Ans: 2001 → $1000+$2000=$3000, 2001 → CPI=100; 2002 → $1200+$2400=$3600, 2002 → CPI=120; 2003 → $1400+$2900=$4300, 2003 → CPI=143.33. Notice that CPI uses the same quantities for all time periods unless it has been revised.

(ii) Using the answers obtained in part (i), calculate the annual rate of inflation over the period, starting from 2001 to year 2002, and year 2002 to year 2003 (2 marks).
Ans: 2001-2 → 20%, 2002-3 → 19.44%.

(iii) Suppose the Canadian borrowers borrowed $1000 from the Canadian lenders on December 31, 2001 and promised to pay back $1100 on December 31, 2002. Find the real interest rate (1 mark).
Ans: 10%-20%= -10%.

Question #3 True or False: Explain whether the following two statements are true or false. Marks are based solely on explanation. No marks for simply stating "true" or "false" without explanation (Total=6 marks).

(i) The US trade deficits (NX<0) can be narrowed by cutting taxes and encouraging higher savings (3 marks).
Ans: False → NX=(S-I)+(T-G), so if S and T drop, NX drops. If private citizens do not save enough to supply funds for private firms to borrow and the government does not collect enough taxes to cover G, the country has to borrow from somewhere. NX<0 means this country borrows from other countries (directly from past midterms).

(ii) If the Canadian government wants to minimize output gap, it should always run a balanced budget BB=0 (3 marks).
Ans: False → Should run "lean against the wind" policies, that is, if Y<Yp, then ↑G and/or ↓T, and if Y>Yp, then ↓G and/or ↓T (from past midterms multiple choice question.)

Question #4 Okun's Law and AD/AS (Total=6 marks) (from iStudy, Algebraic Questions)
Suppose gY is actual Y growth rate and gYp is potential Y growth rate.

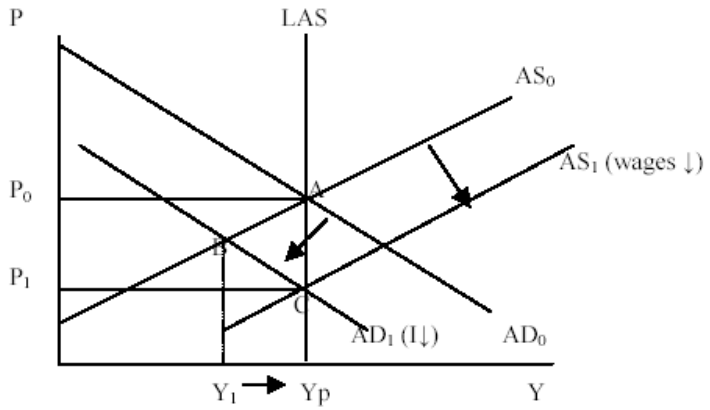
(i) Let the natural rate of unemployment in 2004 to be 6%. Fill in the table (4 answers = 2 marks).

Year	Potential Real GDP	Actual Real GDP	gYp	gY	Δu	U
2004	6,000	6,000	----	----	----	6
2005	6,600	6,300	**10%**	**5%**	**2.5**	**8.5%**

Ans: The gYp is found by solving (6,600-6,000)/6,000 then multiplied by 100, while gY is found by solving (6,300-6,000)/6,000 then multiplied by 100. The value for Δu is solved with Δu = -0.5 (gY – gYp), and u is 6% + Δu.

(ii) Consider your answer for 2005: In the absence of any fiscal or monetary policy intervention, explain how the economy would adjust back to Yp eventually. Use the AD/AS/LAS graph to illustrate your answers (4 marks).
Ans: This is a recessionary gap since actual GDP growth is lower than the potential GDP growth. Suppose this is callused by a drop in investment confidence. This is why unemployment has risen. This gap tend to persist because one way to eliminate this gap is for labour costs to drop, which in turn gives the firms incentives to hire more workers. However, it is very difficult for workers to agree to a wage cut, especially with union demands and minimum wage laws.

The drop in I pushes AD inward, the economy moves from A to B. The lower Y, according to Okun's law, says that unemployment will rise accordingly. The higher unemployment rate means workers are more willing to take a pay cut, which allows the firms to increase hiring. AS shifts right, and hence the economy recovers to C. This process may take a long time, though (see past midterm fall 08).



Question #5 Policies (Total=18 marks) (from Lyryx and past midterms)
Suppose the Canadian economy can be described as follows:

$C = 65 + 0.8Y_d$	(Y_d is disposable income)	T = 0.1Y	(Percentage taxes)
I = 340	(Investment spending)	X = 75	(Exports are constant)
G = 120	(Government purchases)	Z = 0.22Y	(Imports depend positively on our own Y)

(i) Calculate the equilibrium Y (2 marks).
Ans: Y=1200 (See Lyryx and class notes for steps and derivations.)

(ii) Find the autonomous multiplier (1 mark).
Ans: 2.

(iii) Find the government budget balance BB, given your Y in (i). Is the government running a surplus or deficit or neither? (1 mark).
Ans: BB=0.

(iv) Suppose the recent banking problems have shaken firms' confidence. This translates to our investment spending dropping from 340 to 140 due to a weaker investment confidence. Find the new Y (2 marks).
Ans: Y=800, since ΔI=-200, with multiplier, ΔY= -400.

(v) Using three rounds, explain how the drop in our exports affects Y. Let the first round be related to autos, the second round related to clothing and the third round related to food (6 marks).
Ans: Round 1 $\rightarrow$ ΔI = -200, so ΔY= -200 in car production.
Round 2 $\rightarrow$ As the before-tax income of car workers drops by 200, their after-tax income really only drops by 0.9*200 = \$180 $\rightarrow$ their consumption drops by 0.8*\$180 = \$144 $\rightarrow$ However, part of this drop in consumption is suffered by foreign firms since imports would drop by 0.22*\$200 = \$44 $\rightarrow$ The net job/production loss in the clothing sector in this country is only \$100.
Round 3 $\rightarrow$ As the before-tax income of clothing workers drops by 100, their after-tax income really only drops by 0.9*100 = \$90 $\rightarrow$ their consumption drops by 0.8*\$90 = \$72 $\rightarrow$ However, part of this drop in consumption is suffered by foreign firms since imports would drop by 0.22*\$100 = \$22 $\rightarrow$ The net job/production loss in the food section in this country is only \$50.

Note: With the multiplier of 2, we expect the power series to be $1+0.5+(0.5)^2+\ldots$ Notice that from round 1 the ΔY=-200, from round 2 the ΔY= -100, and from round 3 the ΔY = -50, which is half of the previous round.

(vi) Find the budget balance, given your Y in (iv). Is the government running a surplus or deficit or neither? (1 mark).
Ans: BB=80-120= -40.

(vii) Suppose the government wants to push the economy back to the Y level in (i) but with investment still at 140. Find the new G necessary. Also find the new budget balance BB (2 marks).
Ans: BB=120-320 = -200, new G=320 since I has dropped by 200, G needs to rise by 200.

Structural deficit poses challenges for Feds: Page
CTV.ca News Staff, Updated: Wed. Jan. 13 2010 12:31 PM ET

Canada's parliamentary budget officer says Ottawa faces increasing challenges with the structural deficit it has created in the aftermath of the recession. Kevin Page told CTV's Canada AM that the country's swelling structural deficit is "very manageable" at the moment, but must be kept in check in the long term. Page predicts in his latest report that the structural deficit will reach \$18.9 billion in the 2013-14 year. "The big deficit we're seeing this year -- the \$55 billion, plus or minus -- is largely cyclical," Page said, noting the lower revenues and stimulus spending that weighed down the current fiscal year. In three years' time, most economists believe the Canadian economy will have returned to its full potential. But the country will still have a structural deficit at that stage, Page said, which poses problems.

(viii) Use your knowledge of BB and SBB to explain the article above (3 marks).
Ans: Structural deficits refer to SBB = tYp – G = \$18.9 billion. SBB would have $\uparrow$ after the recession because currently the government is $\uparrow$G and $\downarrow$T. The "big deficit" is BB = tY – G = \$55 billion, with Y<Yp. However, even if Y starts to recover and increase, the higher G and lower T will still leave us with SBB<0. BB is largely "cyclical" because Y<Yp is cyclical.

The End