

Carleton University
ECON 2103 A
Late Summer 2011
Mid-term Examination
Duration: 2 Hours

This examination has two parts. In part A there are 25 multiple choice questions worth 2 marks each. Please record your answer on the first page of your examination booklet. In part B, there are 5 short answer/analytical questions worth 50 marks. Please explain your answers and show all your work.

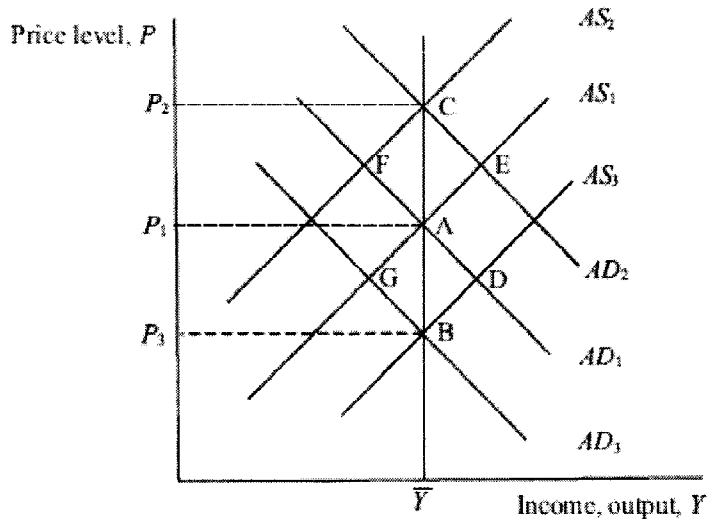
PART A: Multiple-Choice Questions

1. For a fixed money supply, the aggregate demand curve slopes downward because at a lower price level real money balances are _____, generating a _____ quantity of output demanded.
A) higher; greater
B) higher; smaller
C) lower; greater
D) lower; smaller
2. If the short-run aggregate supply curve is horizontal, then a change in the money supply will change _____ in the short run and change _____ in the long run.
A) only prices; only output
B) only output; only prices
C) both prices and output; only prices
D) both prices and output; both prices and output
3. If the Bank of Canada reduces the money supply by 5 percent, then the real interest rate will:
A) rise in both the short run and the long run.
B) rise in the short run but return to its original equilibrium level in the long run.
C) rise in the short run but will fall below its original equilibrium level in the long run.
D) be unaffected in both the short run and the long run.
4. Starting from long-run equilibrium, without policy intervention, the long-run impact of an adverse supply shock is that prices will:
A) be permanently higher and output will be restored to the natural level.
B) return to the old level and output will be restored to the natural level.
C) be permanently higher and output will be permanently lower.
D) return to the old level, but output will be permanently lower.

5. Which of the following will shift the aggregate supply curve up to the left?
- A) an increase in the price level
 - B) a decrease in the level of output
 - C) an increase in the expected price level
 - D) a decrease in the price level

Use the following to answer question 6:

Exhibit: *AD-AS* Shifts

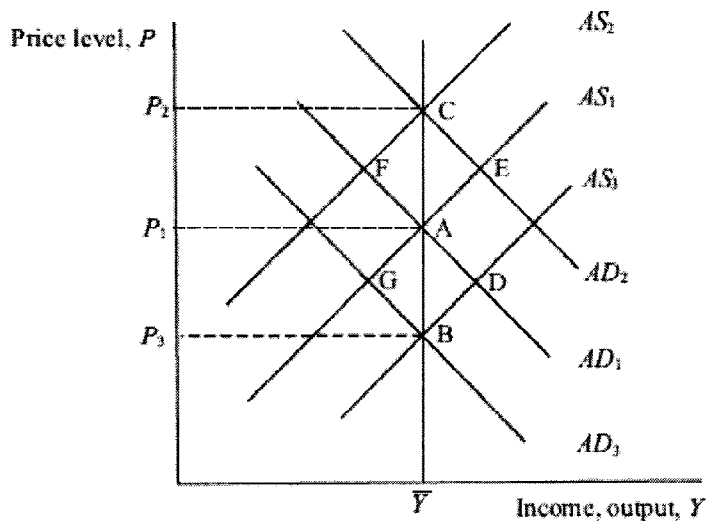


6. (Exhibit: *AD-AS* Shifts) Starting from long-run equilibrium at A with output equal to \bar{Y} and the price level equal to P_1 , if there is an unexpected monetary contraction that shifts aggregate demand from AD_1 to AD_3 , then the long-run neutrality of money is represented by the movement from:
- A) A to B.
 - B) A to G.
 - C) A to C.
 - D) A to D.
7. According to the Phillips curve, other things being equal, inflation depends positively on *all* of the following *except*:
- A) expected inflation.
 - B) the unemployment rate.
 - C) the natural unemployment rate.
 - D) a supply shock, if one occurs.

8. If the equation for a country's Phillips curve is $\pi = .02 - .8(u - .05)$, where π is the rate of inflation and u is the unemployment rate, what is the short-run inflation rate when unemployment is 4 percent (.04)?
- A) above 2 percent (.02)
 - B) below 2 percent (.02)
 - C) 2 percent (.02)
 - D) -2 percent (-.02)

Use the following to answer question 9:

Exhibit: *AD-AS* Shifts



9. (Exhibit: *AD-AS* Shifts) Starting from long-run equilibrium at A with output equal to Y and the price level equal to P_1 , a demand-pull inflation would be represented by a shift from:
- A) AD_1 to AD_2 .
 - B) AD_1 to AD_3 .
 - C) AS_1 to AS_2 .
 - D) AS_1 to AS_3 .
10. Assume that the sacrifice ratio for an economy is 4. If the central bank wishes to reduce inflation from 10 percent to 5 percent, this will cost the economy _____ percent of one year's GDP.
- A) 4
 - B) 5
 - C) 20
 - D) 40

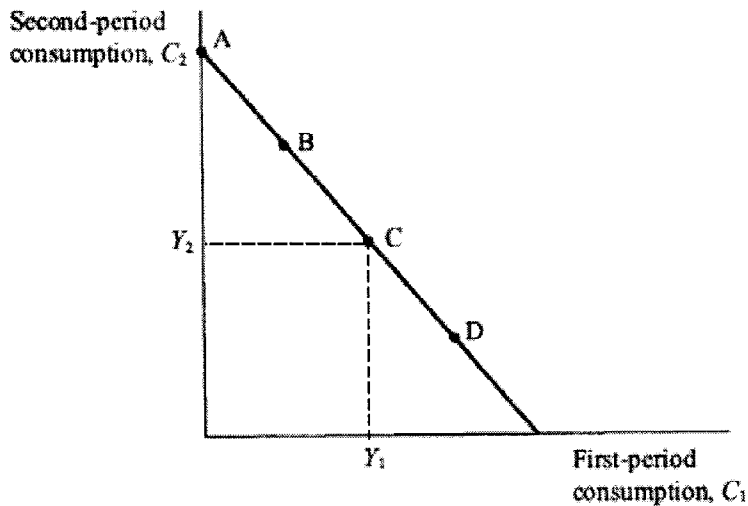
11. According to the Phillips curve model, other things equal, the unemployment rate rises in all the following situations *except* when:
- A) actual inflation rises.
 - B) expected inflation rises.
 - C) the country's real exchange rate falls.
 - D) the natural unemployment rate rises.
12. Assume that an economy has the Phillips curve $\pi = \pi_{-1} - 0.5(u - 0.06)$. Then the natural rate of unemployment is:
- A) 0.5.
 - B) 0.12.
 - C) 0.06.
 - D) 0.03.
13. According to Modigliani's life-cycle hypothesis, if a consumer wants equal consumption in every year, and the interest rate is zero, there are 40 years until retirement, and 60 years of life remaining, then the marginal propensity to consume out of income equals:
- A) 0.016.
 - B) 0.40.
 - C) 0.60.
 - D) 0.67.
14. According to the life-cycle model, the average propensity to consume does *not* fall as income increases in the long run because:
- A) wealth and income grow together.
 - B) as income increases, wealth decreases.
 - C) saving is constant over the life cycle.
 - D) wealth is constant over the life cycle.
15. According to Friedman's permanent-income hypothesis, if the marginal propensity to consume out of permanent income equals 0.9 and current income equals \$55,000 (of which \$5,000 is transitory income), then consumption should equal:
- A) \$5,000.
 - B) \$45,000.
 - C) \$49,500.
 - D) \$55,000.

16. If consumers have rational expectations and follow the permanent-income hypothesis, their current consumption will increase when:
- A) previously announced tax reductions are implemented.
 - B) they receive an anticipated raise.
 - C) they receive an unexpected inheritance.
 - D) they make the last payment on their automobile loan.
17. If the real rental price of capital is \$10,000 per unit and the real cost of capital is \$9,000 per unit, to maximize profits a firm should:
- A) add to its capital stock.
 - B) let its capital stock shrink.
 - C) keep its capital stock unchanged.
 - D) reduce the real rental price of capital.
18. According to the neoclassical model of investment, when the real interest rate increases, business fixed investment _____ because the _____ of capital increases.
- A) increases; marginal product
 - B) increases; cost of
 - C) decreases; marginal product
 - D) decreases; cost of
19. If the replacement cost of installed capital equals \$20 trillion and the market value of installed capital equals \$25 trillion, then according to q theory, businesses should:
- A) add to capital stock.
 - B) let capital stock shrink.
 - C) keep capital stock unchanged.
 - D) reduce product prices to increase profits.
20. The profit rate of a firm that rents capital is equal to:
- A) the marginal product of capital minus the cost of capital.
 - B) the cost of capital minus the marginal product of capital.
 - C) zero.
 - D) a negative number, if it is adding to its capital stock.

21. The investment demand function would shift for *all* of the following reasons *except*:
- A) an improvement in technology raises the marginal product of capital.
 - B) an increase in population raises the demand for housing.
 - C) an increase in government spending raises the real interest rate.
 - D) the investment tax credit is reinstated.

Use the following to answer question 22:

Exhibit: Budget Constraint



22. (Exhibit: Budget Constraint) Based on the graph, if Y_1 and Y_2 represent income in period one and period two, respectively, at which point along the budget constraint would a consumer be a borrower in period one?
- A) A
 - B) B
 - C) C
 - D) D
23. The Keynesian consumption function exhibits *all* of the following properties *except* that:
- A) the marginal propensity to consume is between zero and one.
 - B) the average propensity to consume decreases as income increases.
 - C) only unexpected policy changes influence consumption.
 - D) current income is the primary determinant of consumption.

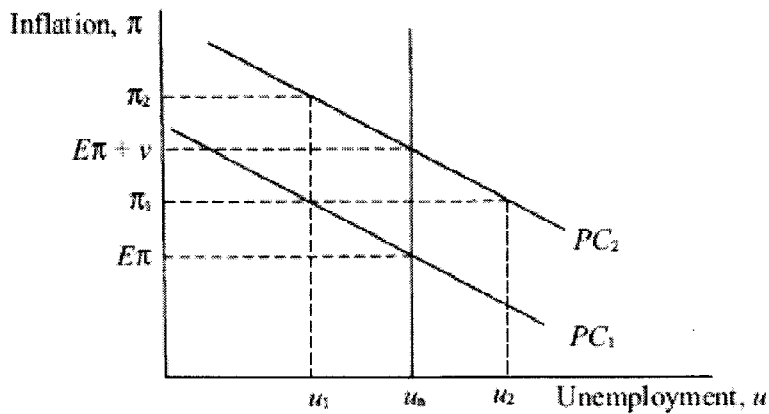
24. If the Keynesian consumption function is written as $C = \bar{C} + cY$, then the average propensity to consume is:
- A) c .
 - B) \bar{C} .
 - C) $\bar{C}/Y + c$.
 - D) $\bar{C} + c/Y$.
25. If an example of a Keynesian consumption function is $C = 2,000 + 0.8Y$, and Y is 30,000, then the average propensity to consume is about:
- A) 0.8.
 - B) 0.82.
 - C) 0.85.
 - D) 0.87.

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Short-Answers

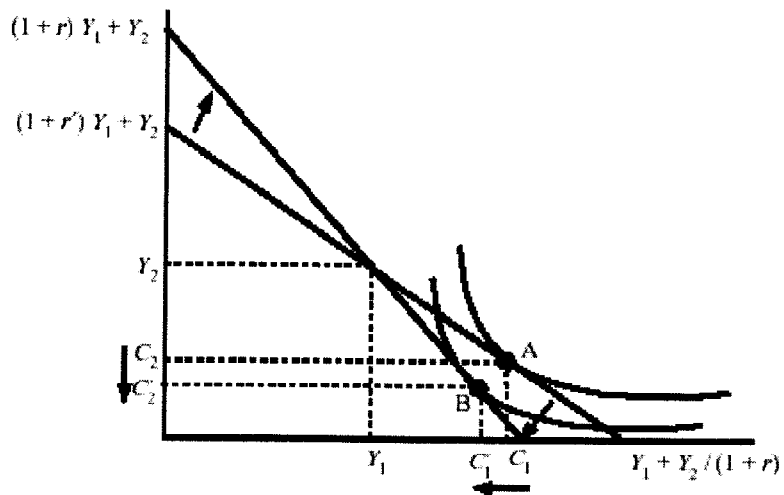
1. a. In the short run, output will increase as the reduction in money demand shifts the aggregate demand curve out to the right. There will be little change in prices in the short run.
- b. The central bank could counteract the decline in money demand by reducing the money supply, shifting the aggregate demand curve back to the left.
- c. In the long run, with no central bank stabilizing action, output will return to the full-employment level with a higher price level.

2.



An adverse supply shock (v) would shift the Phillips curve up from PC_1 to PC_2 . The inflation rate at the natural rate of unemployment increases by the amount of the inflation shock. Now a policymaker would face a higher inflation rate associated with every unemployment rate. For example, at u_1 , the inflation rate now shifts from π_1 to π_2 . Alternatively, every inflation rate is now associated with a higher unemployment rate. For example, at π_1 the unemployment rate now shifts from u_1 to u_2 . Either way, an adverse supply shock leads to a bigger short-run tradeoff between inflation and output.

3.



In this drawing both C_1 and C_2 decrease. C_1 must decrease because both the substitution and income effects work to reduce C_1 . However, C_2 may either increase (if the substitution effect is greater than the income effect) or decrease (if the income effect is greater than the substitution effect).

4. The cost of capital per car is \$6,800.
5. a. In the Keynesian consumption function, the temporary tax cut increases disposable income and consumption increases by the MPC times the change in disposable income.
- b. According to the permanent-income hypothesis, the additional income available as a result of the temporary tax cut would be spread over the remaining lifetime, so the increase in current consumption would be only a tiny fraction of the increase in income.