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Economics 202

Midterm #2: Old Exam Solutions

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|-------|-------|
| 1. b | 19. e |
| 2. c | 20. d |
| 3. d | 21. c |
| 4. c | 22. d |
| 5. d | 23. a |
| 6. c | 24. c |
| 7. a | 25. c |
| 8. c | 26. a |
| 9. d | 27. c |
| 10. a | 28. e |
| 11. e | 29. a |
| 12. b | 30. b |
| 13. a | 31. c |
| 14. b | 32. e |
| 15. c | 33. b |
| 16. a | 34. a |
| 17. c | 35. b |
| 18. c | |

Part 2. Short Answer Questions (30 points overall)

The equations below correspond with Question #1. To ensure that you receive full credit on this question, please show any relevant work. No work means no credit.

Assume these equations describe expenditure in an economy that fits the assumptions of the AE model from class.

$$C = 0.8(DI) + 4000 \quad C = \text{consumption expenditure, } DI = \text{disposable income}$$

$$I = 8000 \quad I = \text{investment}$$

$$G = 5000 \quad G = \text{government expenditure}$$

$$X = 3000 \quad X = \text{exports}$$

$$M = 2000 \quad M = \text{imports}$$

$$T = 5000 \quad T = \text{tax revenues}$$

$$DI = Y - T \quad Y = \text{real GDP}$$

[6 pts] 1. Assume that Potential GDP is equal to 80,000 and then show what type of output gap this economy experiences when producing at equilibrium (real) GDP.

$$AE = 0.8(Y - 5000) + 4000 + 8000 + 5000 + (3000 - 2000)$$

$$Y = 0.8Y + 14000$$

$$Y^* = 70000$$

This economy is experiencing a recessionary gap

Part 2. Short Answer Questions cont.

The equations below correspond with Questions #2-3. Questions #2-3 involve the use of a specific multiplier to answer the question. Note that in order to get full credit, you must use that multiplier and show any relevant work or make it clear as to how you got your answer. Simply writing a number down without supporting work will get no credit.

Assume these equations describe expenditure in an economy that fits the assumptions of the AE model from class.

$$C = 0.8(DI) + 2000 \quad C = \text{consumption expenditure, } DI = \text{disposable income}$$

$$I = 5000 \quad I = \text{investment}$$

$$G = 6000 \quad G = \text{government expenditure}$$

$$X = 2500 \quad X = \text{exports}$$

$$M = 1000 \quad M = \text{imports}$$

$$T = 6000 \quad T = \text{tax revenues}$$

$$DI = Y - T \quad Y = \text{real GDP}$$

[6 pts] 2. Assume that $Y_p - Y^* = 5000$, which means that this economy is producing \$5000 less than their Potential GDP. Use the government expenditure multiplier to show how much of a change in government spending is needed to close this gap.

$$\Delta Y = \left(\frac{1}{1 - m} \right) \Delta G$$

$$5000 = \left(\frac{1}{0.2} \right) \Delta G$$

$$\Delta G = 1000$$

[6 pts] 3. Use the government expenditure multiplier to show how a \$2000 decrease in government expenditure will affect equilibrium GDP.

$$\Delta Y = \left(\frac{1}{0.2} \right) (-2000)$$

$$\Delta Y = -10,000$$

Part 2. Short Answer Questions cont.

The equations below correspond with Question #4. Question #4 involves the use of a specific multiplier to answer the question. Note that in order to get full credit, you must use that multiplier and show any relevant work or make it clear as to how you got your answer. Simply writing a number down without supporting work will get no credit.

Assume these equations describe expenditure in an economy that fits the assumptions of the AE model from class.

$$C = 0.8(DI) + 4000 \quad C = \text{consumption expenditure, } DI = \text{disposable income}$$

$$I = 5000 \quad I = \text{investment}$$

$$G = 4000 \quad G = \text{government expenditure}$$

$$X = 3000 \quad X = \text{exports}$$

$$M = 1500 \quad M = \text{imports}$$

$$T = 4000 \quad T = \text{tax revenues}$$

$$DI = Y - T \quad Y = \text{real GDP}$$

[6 pts] 4. Assume that $Y_p - Y^* = 2000$, which means that this economy is producing \$2000 less than their Potential GDP. Use the tax multiplier to show how much of a change in taxes would be needed to close this gap.

$$\Delta Y = \left(\frac{-m}{1-m} \right) \Delta T$$

$$2000 = \left(\frac{-0.8}{0.2} \right) \Delta T$$

$$\Delta T = -500$$

Part 2. Short Answer Questions cont.

Credit on the question below will be based on the clarity of your answer and how well you demonstrate an understanding of the concept addressed in this question. Although not required, you may want to incorporate a graph into your answer.

[6 pts.] 5. Explain what crowding out is, how crowding out can arise, and how crowding out can affect the economy.

Crowding out is a situation where government borrowing leads to a decrease in private sector investment. We get crowding out when government borrowing increases interest rates. This interest rate increase means that the cost of borrowing has increased for investors, and as a result, we see less investment. The graph below illustrates this with the demand for private sector investment curve.

Government borrowing raises the interest rate from r_1 to r_2 , which lowers the quantity of private sector investment from Q_1 to Q_2 .

