



Soochow University, Winter Session I, 2021
ECON202 (Dr. Lei Pan)
Final Exam Solution
Due Friday, January 7 2022 at 2:50pm Taipei Time

Instruction to Students:

1. The exam duration is **2 hours plus 10 minutes** reading time.
2. This is a **closed-book** exam and calculators are permitted.
3. This exam consists of **THREE** sections: Section A: TRUE/FALSE questions, Section B: multiple-choice questions, and Section C: problem solving questions.
4. Read each statement in Section A carefully. State “TRUE” or “FALSE” for each of the statement. You **MUST** justify your answers. There are four questions in total, each of them is worth 5 marks.
5. Read each multiple choice question and answer choice carefully and choose the **ONE** best answer. There are 20 questions in total, each of them is worth 3 marks.
6. The third section contains four problem solving questions. All of them carrying 20 marks in total. Student **MUST** answer each question in Section C on a **FRESH page** of the answer book.
7. Try to answer all questions. In general, if you have some knowledge about a question, it is better to try to answer it. You will not be penalized for guessing.
8. You may work on the three sections in any order that you choose. Be sure to allocate your time carefully so that you are able to complete the entire exam with the exam session.

Please do NOT start this exam until instructed to do so.

Have a wonderful 2022 and Good luck!



2022 firework in Perth, Australia (where your instructor is located)

Section A: TRUE/FALSE Questions [Total = 20 marks]

Consider each of the following statement. Say whether you believe the statement is true or false. Briefly explain your answer in words. Note that most of the marks will be given for the explanation.

Question 1. [5 marks] Workers like inflation since it raises their wages.

Answer False. Workers only care about real wages (W/P) and not about the nominal level of wages which presumably increases with inflation.

Question 2. [5 marks] A monetary contraction cannot affect the government budget since it is not a fiscal policy.

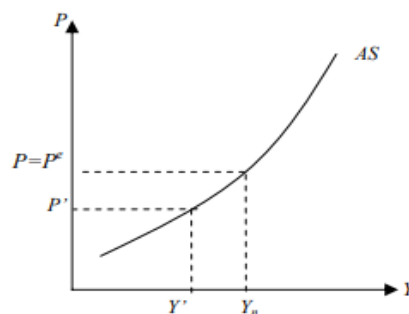
Answer False. A monetary contraction tends to increase the interest rate (shifts money supply curve to the left). The demand for investment decreases and the equilibrium level of output is smaller. If part of the government revenues were collected with proportional income tax, the total amount of government revenues will decrease and the government budget will be affected.

Question 3. [5 marks] The money multiplier is always less than 1.

Answer False. $0 < R < 1$, where R is the reserve ratio. Since money multiplier = $1/\text{reserve ratio}$, therefore money multiplier is always greater than 1.

Question 4. [5 marks] When output is below the full employment output, the actual price level is lower than the expected price level.

Answer True. The actual price level equals the expected price level when output is equal to the full employment output. Because the AS curve is upward-sloping, if output is below its natural level, the actual price level is lower than expected. See the diagram below:



Section B: Multiple Choice Questions [Total = 60 marks]

Choose ONE of the best answers for each of the following questions. Each question is worth 3 marks.

Question 5. [3 marks] If the ratio of the real money stock to real GDP is 0.25, the velocity of money is:

- A. 0.25
- B. 4
- C. 10
- D. 25

Answer B

Question 6. [3 marks] If the nominal interest rate increases, the money demand curve

- A. Does not move
- B. Shifts to the left
- C. Shifts to the right
- D. Becomes steeper

Answer A

Question 7. [3 marks] Which of the following is most likely to increase United States real exchange rate?

- A. A fall in foreign prices
- B. A fall in domestic prices
- C. An depreciation of the US dollar
- D. A appreciation of the Australian dollar

Answer A

Question 8. [3 marks] In which of the following situations is PPP theory likely to NOT hold?

- A. Countries remove all trade barriers
- B. All goods and services are traded internationally
- C. Countries produce products that are perfect substitutes for one another
- D. Consumer willingness to pay for the same products differs across countries

Answer D

Question 9. [3 marks] A permanent rise in potential output would most likely:

- A. Shift both the short- and long-run aggregate supply curves to the left.
- B. Shift both the short- and long-run aggregate supply curves to the right.
- C. Shift the LRAS to the right and leave the SRAS unchanged.
- D. Shift the LRAS to the left and leave the SRAS unchanged.

Answer B

Question 10. [3 marks] Which of the following situations would immediately lead to a leftward shift in the short-run aggregate supply curve?

- A. A fall in expected inflation
- B. A rise in expected inflation
- C. Output moving below potential output
- D. Output moving above potential output

Answer B

Question 11. [3 marks] Suppose the economy is in long-run equilibrium. If there is an income tax cut at the same time that major new sources of oil are discovered in the country, then in the short-run

- A. real GDP will rise and the price level might rise, fall, or stay the same.

- B. real GDP will fall and the price level might rise, fall, or stay the same.
- C. the price level will rise, and real GDP might rise, fall, or stay the same.
- D. the price level will fall, and real GDP might rise, fall, or stay the same.

Answer A

Question 12. [3 marks] An economic contraction caused by a shift in aggregate demand remedies itself over time as the expected price level

- A. rises, shifting aggregate demand right.
- B. rises, shifting aggregate demand left.
- C. falls, shifting aggregate supply right.
- D. falls, shifting aggregate supply left.

Answer C

Question 13. [3 marks] Which of the following contains a list only of things that decrease when the budget deficit of the U.S. increases?

- A. U.S. net exports, U.S. domestic investment, U.S. net capital outflow
- B. U.S. supply of loanable funds, U.S. interest rates, U.S. domestic investment
- C. U.S. imports, U.S. interest rates, the real exchange rate of the dollar
- D. None of the above is correct.

Answer A

Question 14. [3 marks] If U.S. residents want to buy more foreign bonds, then in the market for foreign-currency exchange the exchange rate

- A. rises and the quantity of dollars traded rises.
- B. rises and the quantity of dollars traded falls.
- C. falls and the quantity of dollars traded rises.

D. falls and the quantity of dollars traded falls.

Answer C

Question 15. [3 marks] If there is a shortage of loanable funds, then

A. the demand for loanable funds will shift right so the real interest rate rises.

B. the supply of loanable funds will shift left so the real interest rate falls.

C. there will be no shifts of the curves, but the real interest rate rises.

D. there will be no shifts of the curves, but the real interest rate falls.

Answer C

Question 16. [3 marks] When inflation rises, the nominal interest rate

A. rises, and people desire to hold less money.

B. rises, and people desire to hold more money.

C. falls, and people desire to hold more money.

D. falls, and people desire to hold less money

Answer A

Question 17. [3 marks] Suppose one year ago the price index was 120 and Maria purchased \$20,000 worth of bonds. One year later the price index is 126. Maria redeems his bonds for \$22,250 and is in a 40 percent tax bracket. What is Maria's real after-tax rate of interest to the nearest tenth of a percent?

A. 3.1 percent

B. 4.3 percent

C. 1.2 percent

D. 1.8 percent

Answer D

Question 18. [3 marks] According to the quantity equation, the price level would change less than proportionately with a rise in the money supply if there were also

- A. either a rise in output or a fall in velocity.
- B. either a rise in output or a rise in velocity.
- C. either a fall in output or a rise in velocity.
- D. either a fall in output or a fall in velocity.

Answer A

Question 19. [3 marks] There is evidence that the rate at which money changed hands rose during the German hyperinflation. This means that

- A. velocity rose. If monetary neutrality holds the rise in velocity increased the ratio M/P .
- B. velocity rose. If monetary neutrality holds the rise in velocity decreased the ratio M/P .
- C. velocity fell. If monetary neutrality holds the fall in velocity increased the ratio M/P .
- D. velocity fell. If monetary neutrality holds the fall in velocity decreased the ratio M/P .

Answer B

Question 20. [3 marks] Other things the same, if the government increases transfer payments to households, then the effect of this on the government's budget

- A. will make the rate of interest rise.
- B. will make investment rise.
- C. will make public saving rise.
- D. All of the above are correct.

Answer A

Question 21. [3 marks] In the United States, a three-pound can of coffee costs about \$5. If the exchange rate is about 0.8 euros per dollar and a three-pound can of coffee in Belgium costs about 7 euros. What is the real exchange rate?

- A. $7/4$ cans of Belgian coffee per can of U.S. coffee
- B. $5.6/5$ cans of Belgian coffee per can of U.S. coffee
- C. $5/5.6$ cans of Belgian coffee per can of U.S. coffee
- D. $4/7$ cans of Belgian coffee per can of U.S. coffee

Answer D

Question 22. [3 marks] Which of the following would do the most to reduce a trade deficit?

- A. increase domestic saving
- B. increase domestic political stability and respect of property rights
- C. other countries reduce their trade restrictions
- D. raise tariffs

Answer A

Question 23. [3 marks] The country of Frequencia is politically very stable and has a long tradition of respecting property rights. If several other countries suddenly became politically unstable, we would expect Frequencia's

- A. real interest rate to rise.
- B. real exchange rate to fall.
- C. net exports to fall.
- D. None of the above is likely.

Answer C

Question 24. [3 marks] Suppose a country has a consumption tax that is similar to a state sales tax. If its government were to eliminate the consumption tax and

replace it (i.e. raise same revenue) with an income tax that includes an income tax on interest from savings, what would happen?

- A. There would be no change in the interest rate or saving.
- B. The interest rate would decrease and saving would increase.
- C. The interest rate would increase and saving would decrease.
- D. None of the above is correct.

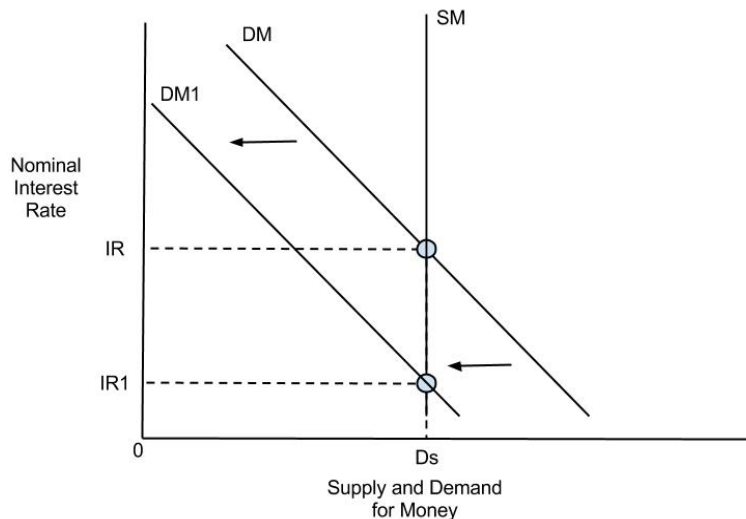
Answer C

Section C: Problem Solving Questions [Total = 20 marks]

Question 25. [5 marks] Using the theory of liquidity preference to illustrate the impact of the following events on the equilibrium interest rate. Make sure to use a fully labeled graph for full credit.

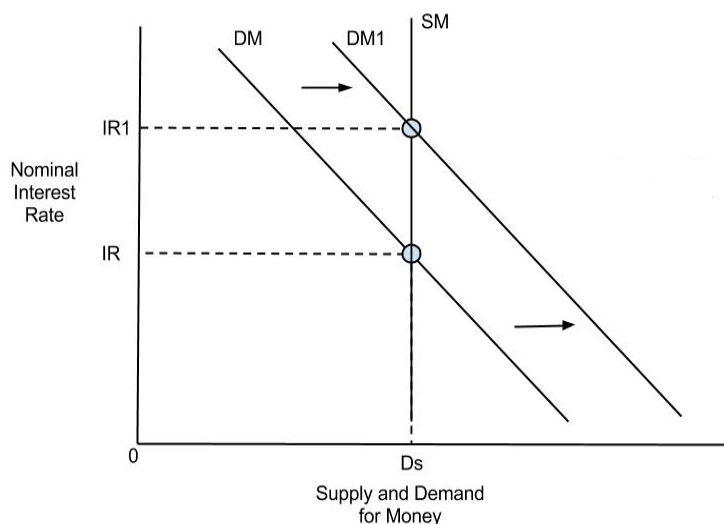
- (a) [2 marks] The expanded use of credit cards

Answer When the use of credit card increases, the demand for money will decrease because credit card will be used for making transactions. With less demand for money, money demand curve will shift to the left and thus the interest rate will decrease (see figure below).



- (b) [3 marks] Show why interest rates are said to be pro-cyclical (i.e. it rises when the economy is expanding, and falls when it is contracting).

Answer When economy is contracting, the effect is the same as part (a). The money demand curve shifts to the left. The equilibrium interest rate decreases. When economy is expanding, the money demand curve shifts to the right. The equilibrium interest rate increases (see figure below).



Question 26. [5 marks] Suppose a Big Mac costs 4 USD in the US and 5 AUD in Australia.

(a) [1 mark] If a Big Mac is of the same value in all countries, how much USD should one AUD buy at equilibrium?

Answer Since a Big Mac costs the same in both countries, $4 \text{ USD} = 5 \text{ AUD} \Rightarrow 0.8 \text{ USD/AUD}$.

(b) [2 marks] If the current market exchange rate is 2 AUD per USD, then according to the Big Mac Index, does the market overvalue or undervalue the AUD and by how much in percentage terms? Show your calculation.

Answer The current market exchange rate is 0.5 USD/AUD. So the market values AUD at a price lower than the equilibrium rate, i.e. the market undervalues the AUD. The percentage of undervaluation is equal to: $100 \times (0.8 - 0.5)/0.8 = 37.5\%$

(c) [2 marks] Give two reasons why purchasing power parity does not hold in reality.

Answer

- Some goods and services are not traded internationally by nature (e.g. houses).

- Some goods and services are not traded internationally due to high transportation costs.
- Product and consumer preferences are different across countries, so the baskets of goods and services are not identical.
- Countries impose barriers (e.g. tariffs and quotas) to trade.

Question 27. [5 marks] Imagine that you are the chairman of the Federal Reserve. Assume, further, that the money supply has been growing at 3% per year. You have been called before Congress to testify about the long-run effects of increasing the growth of the money supply to 10% per year. State and then explain the long-run effects of this change on each of the following (give numerical estimates when possible):

(a) [2 marks] The annual rate of inflation.

Answer If money supply grows at 10%, then inflation rises by 7% ($\pi = 10\% - 3\% = 7\%$).

(b) [1 mark] The real interest rate.

Answer By classical dichotomy, real interest rate remains unchanged.

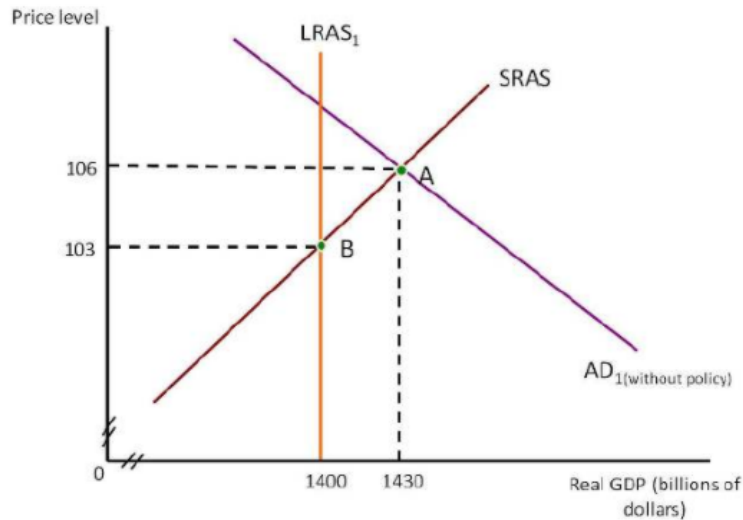
(c) [2 marks] Investment

Answer Investment is a function of real interest rate, so investment is unchanged.

Question 28. [5 marks] The current real GDP of an economy is equal to \$1430 billion and the price level is equal to 106 units. The potential real GDP of the economy is equal to \$1400 billion and the corresponding price level is equal to 103 units.

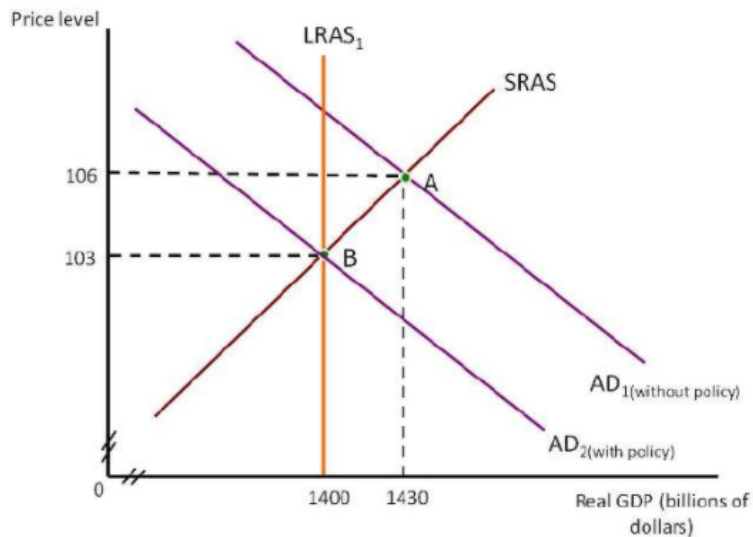
(a) [1 mark] Use the above information to draw a diagram based on the AD-AS model framework. Label all the axes and curves, and indicate all the given figures on the diagram.

Answer See the diagram on next page.



(b) [2 marks] Following part (a), the Treasury is considering the use of fiscal policy to move the GDP to its potential level. If the Treasury decides to use government purchases as an instrument, what direction of change is required to achieve its policy objective? Illustrate the impact of the policy change on the diagram in part (a).

Answer Government needs to reduce government purchases and the effect is shown in the figure below.



(c) [1 mark] Following part (b), now the Treasury decides to change taxes instead of government purchases. Should the tax change be a tax rise or tax reduction?

Answer It is a tax rise because the Treasury wants to reduce GDP.

(d) [1 mark] Will the fiscal policy action in part (b) crowd out private investment?
Explain your answer.

Answer Since the government reduces purchases in part (b), there should be no crowding out effect on private investment (if anything, there should be crowding in effect).

End of Examination