Dr. Barry Haworth
University of Louisville
Department of Economics
Economics 202 (Honors)
Spring 2023

Homework #4 (due by 9:00pm on Thursday, April 13)

Please submit your answers to this homework through the Assignment link at Blackboard. ***No credit will be given for answers submitted in class or emailed to the professor****, regardless of the excuse.* This includes unique excuses like the police confiscated my computer right before I was going to submit it, excuses like "I lost my Internet", etc. Please note that all submissions are final, again – regardless of the excuse (which includes "I accidentally hit the submit button"). Note that Blackboard allows you to save your answers, but you must hit the "Save and Submit" button to submit your answers. If you are unfamiliar with Blackboard, then it would be a good idea to visit the class page at Blackboard and check out the homework assignments as they are posted.

Please note that when Blackboard grades homework answers, more specifically – answers to the fill-in-the-blank questions – your answer must match exactly with the answer that Blackboard is looking for. Below, you'll find some instructions on how to properly format these answers. Reading this section is strongly recommended.

Homework Questions 1 and 2

Formatting matters with these answers, so be sure to read the comments below. As with each of the previous homeworks, **your answer can be technically correct but graded as wrong because you didn't follow the directions provided below.** Given that formatting is considered part of your answer, a wrongly formatted answer is still a wrong answer.

Please note the following comments regarding formatting below.

(i) In questions 1b, 1c and 1d, express your answer in dollars and not dollars and cents. E.g., if your answer is $300, then write it as $300 and not $300.00. Answers at Blackboard on these questions will also allow you to write in a number without the $, since the $ is provided with the question. E.g., $300 could also be written as 300.

(ii) In question 2, express your answer exactly as it is reported. E.g., if you look up the discount rate requested in the question, and that value is 11.00, then record your answer as 11.00, but not as 11 or 11.0.

<u>Homework #4 questions</u>

1. Assume that in Country X, you have a system of banks and that each bank has a T-account that is identical to what's displayed below. Assume further that the only assets ever held by banks would be required reserves (RR), excess reserves (ER), loans (L) and bonds (B), and that demand deposits (DD) represent the only liabilities.

	A	L	
$600	RR	DD	$3000
______	ER		
$600	L		
$900	B		

a. Given the information above, the required reserve ratio in this economy is ______________.
(express your answer above as a percentage, e.g. if your answer is 10%, then write it as 10%, not as 0.1 or 10)

b. Given the information above, the excess reserves held at this bank would be _____________.

In Questions 1c-1d, assume that in Country X, all transactions are by check (i.e. consumers hold no currency) and banks loan out all available excess reserves. Assume further that 1c and 1d each occur independently of one another.

c. If this bank sells $500 in bonds to the Federal Open Market Committee in exchange for $500 in excess reserves, then the money supply will expand by $____________

d. If demand deposits within this economic system increase by $10 million, then the money supply will expand by $________ million.

2. Go to the Course Documents folder of Blackboard and find the file *FRBSF Discount Rate.pdf* within the Homework #4 material folder. This file includes a table that reports every date when the Discount rate has changed between 1980 and now. Note that each entry shows when the discount rate was changed, and so the rate remained at that value until it was changed again. *(note that there is no partial credit for this problem, it's either all correct or all wrong)*.

When answering the questions below, ***please report your answer exactly as given in the table****.*

a. On the day we returned from Spring Break, March 23, 2023, the discount rate was __________

b. Since February 15, 1980, the lowest value for the discount rate is _____________

c. Since February 15, 1980, the highest value for the discount rate is _____________

In order to answer Questions #3-4, go to the Course Documents folder of Blackboard and find two files – first the file entitled GDP growth and Inflation rates file, and second, the file entitled FRBSF Discount Rate within the Homework #4 material folder. Note that this second file (FRBSF Discount Rate) is the same file you used to answer Question 2 above. You will use these two files to answer Questions #3-4.

3. To answer Question #3, you'll be comparing the following information:

- Find Table 1 in the file entitled *GDP growth and Inflation rates*. Note how the GDP growth rate changed over time during 1981 and 1982.
- Access the file FRBSF Discount rate. Note how the Discount rate changed over time during 1981 and 1982.

Based on what occurs during 1981 and 1982, note the correct observation below:

(a) in the last quarter of 1981 and for most of 1982, GDP growth is positive and the Fed responded by raising the discount rate

(b) in the last quarter of 1981 and for most of 1982, GDP growth is negative and the Fed responded by raising the discount rate

(c) in the last quarter of 1981 and for most of 1982, GDP growth is positive and the Fed responded by lowering the discount rate

(d) in the last quarter of 1981 and for most of 1982, GDP growth is negative and the Fed responded by lowering the discount rate

4. To answer Question #4, you'll be comparing the following information:

- Find Table 2 in the file entitled *GDP growth and Inflation rates*. Note how the inflation rate changed over time during 2021 and 2022.
- Access the file FRBSF Discount rate. Note how the Discount rate changed over time during 2022.

Based on what occurs during 2021 and 2022, note the correct observation below:

(a) over this period, the inflation rate steadily increases through mid 2022, and the Fed responded by raising the discount rate

(b) over this period, the inflation rate steadily decreases through mid 2022, and the Fed responded by raising the discount rate

(c) over this period, the inflation rate steadily increases through mid 2022, and the Fed responded by lowering the discount rate

(d) over this period, the inflation rate steadily decreases through mid 2022, and the Fed responded by lowering the discount rate

Multiple choice questions #5-7 (below) correspond with the money demand and money supply graph discussed in class. Each event below leads to a shift in a curve (or curves), which (in turn) affects the equilibrium within this market. Based on the shift(s) implied by each event, indicate the correct change in equilibrium.

5. A lack of trust in financial institutions leads to large numbers of citizens withdrawing money from their savings and checking accounts and holding that money as cash (e.g. hide that money in their closet or under the bed).

(a) increase in the equilibrium interest rate and increase in the equilibrium quantity of money
(b) decrease in the equilibrium interest rate and decrease in the equilibrium quantity of money
(c) increase in the equilibrium interest rate and decrease in the equilibrium quantity of money
(d) decrease in the equilibrium interest rate and increase in the equilibrium quantity of money
(e) no change in the equilibrium interest rate and increase in the equilibrium quantity of money
(f) increase in the equilibrium interest rate and no change in the equilibrium quantity of money
(g) no change in the equilibrium interest rate and no change in the equilibrium quantity of money

6. Increase in exchanges between the Federal Reserve and commercial banks which involve an open market purchase of government bonds.

(a) increase in the equilibrium interest rate and increase in the equilibrium quantity of money
(b) decrease in the equilibrium interest rate and decrease in the equilibrium quantity of money
(c) increase in the equilibrium interest rate and decrease in the equilibrium quantity of money
(d) decrease in the equilibrium interest rate and increase in the equilibrium quantity of money
(e) no change in the equilibrium interest rate and increase in the equilibrium quantity of money
(f) increase in the equilibrium interest rate and no change in the equilibrium quantity of money
(g) no change in the equilibrium interest rate and no change in the equilibrium quantity of money

7. The Federal Reserve raises the discount rate.

(a) increase in the equilibrium interest rate and increase in the equilibrium quantity of money
(b) decrease in the equilibrium interest rate and decrease in the equilibrium quantity of money
(c) increase in the equilibrium interest rate and decrease in the equilibrium quantity of money
(d) decrease in the equilibrium interest rate and increase in the equilibrium quantity of money
(e) no change in the equilibrium interest rate and increase in the equilibrium quantity of money
(f) increase in the equilibrium interest rate and no change in the equilibrium quantity of money
(g) no change in the equilibrium interest rate and no change in the equilibrium quantity of money

To answer the question below, go to Course Documents at Blackboard and, under HW 4 material, locate the handout entitled "Chapter 1: Overview of the Federal Reserve System".

8. According to this article, the Federal Reserve performs five key functions. Select those five areas from the list below *(note that there is no partial credit for this problem, it's either all correct or all wrong)*:

(a) conducting the nation's monetary policy
(b) promote the stability of the financial system by seeking to minimize and contain systemic risks
(c) print the currency and coins necessary for exchange to occur within the economy
(d) promotes the safety and soundness of individual financial institutions
(e) foster payment and settlement system safety and efficiency through services to the banking industry and the U.S. government
(f) promotes consumer protection and community development
(g) set taxes on households and business that allow the Federal Government to create a more equitable income distribution

To answer the question below, go to Course Documents at Blackboard and, under HW 4 material, locate the handout entitled "Chapter 2: Monetary Policy and the Economy".

9. According to this article, what are the three specific goals of Monetary Policy that were "spelled out in the Federal Reserve Act". Select those goals from the list below.
(note that there is no partial credit for this problem, it's either all correct or all wrong).

(a) maximum employment
(b) prompting annual increases in Potential GDP
(c) stable prices
(d) moderate long-term interest rates
(e) printing currency and coinage
(f) low short-term interest rates
(g) supervising National banks and thrift institutions
(h) enforcing Federal finance laws
(i) keeping the money supply growth rate within a 3-5% target

To answer the question below, go to Course Documents at Blackboard and, under HW 4 material, locate the handout entitled "Chapter 2: Monetary Policy and the Economy".

10. According to this article, when we consider how Monetary Policy affects the economy, how does the Fed manage to "exercise considerable control over the federal funds rate"?

(a) by decreasing the availability of credit when the economy is in need of stimulus
(b) by increasing or decreasing the printing of money
(c) by setting market interest rates at various financial institutions
(d) through appropriate changes in the discount rate during economic fluctuations
(e) through influence over the supply of and demand for balances at the Reserve Banks
(f) by fixing the exchange rate at a level that allows for smooth changes in the money supply

To answer the question below, go to Course Documents at Blackboard and, under HW 4 material, locate the handout entitled "Chapter 3: Conducting Monetary Policy".
Note: *this file is fairly large, so you may have issues with viewing the file on your phone.*

Read pages 27-32, which is the section entitled "How Monetary Policy Affects the Economy"

11. When the Fed lowers its target for the federal funds rate, which of the following is cited by the article as an effect on wealth and spending:

(a) this change in the federal funds rate will lead to lower interest rates on consumer loans which, in turn, will elicit increased spending on durable goods
(b) this change in the federal funds rate will lead to lower mortgage rates, which leads to more home purchases
(c) this change in the federal funds rate will lead to lower mortgage rates, which encourages homeowners to refinance their mortgages, freeing up some cash for other purchases
(d) this change in the federal funds rate will lead to higher stock prices, which adds to wealth, which helps increase spending
(e) all of the above

12. To answer the question below, you'll use information provided at the FAQ page of the Bureau of Engraving and Printing Web site (*https://www.bep.gov/currency/faqs*).
What is the largest denomination of U.S. currency ever printed:
(a) $100 note
(b) $500 note
(c) $1000 note
(d) $10,000 note
(e) $50,000 note
(f) $100,000 note (also known as the $100,000 Gold Certificate)
(g) $500,000 note (also known as the $500,000 Gold Certificate)
(h) $1,000,000 note (also known as the $1,000,000 Gold Certificate)

13. To answer this question, you'll use information provided at the FAQ page of the Bureau of Engraving and Printing Web site (*https://www.bep.gov/currency/faqs*).
What is the largest denomination of U.S. currency currently in circulation:
(a) $100 note
(b) $500 note
(c) $1000 note
(d) $10,000 note
(e) $50,000 note
(f) $100,000 note (also known as the $100,000 Gold Certificate)
(g) $500,000 note (also known as the $500,000 Gold Certificate)
(h) $1,000,000 note (also known as the $1,000,000 Gold Certificate)