Final Exam 2018: A Review

Lecture 25

December 4th, 2019

A Possible Strategy for the Final Exam

State your section number, and TA name, and pick up point.

Take Five minutes to consider each exam section.

If you know that one of the sections covers a topic that
DRIVES YOU CRAZY, do that section last.

The last question from each section tends to be the most challenging. Don't spent 20 minutes on a last question, and then fail top finish all the sections.

Don’t misread the 2018 Exam

The 2018 exam no Aggregate Demand/Aggregate Supply.

such a question might be on the 2019 exam

The 2018 exam no Aggregate Expenditure question.

such a question might be on the 2019 exam

In sum, this is a cumulative exam.

Part II: Central Banks and Monetary Policy (20 points)

(Note: It may help to read all 10 questions in this section, before beginning to answer each question)

1. Walter Bagehot, in the 1800s, wrote about how he thought England's central bank should operate. What was the issue that Bagehot felt central banks had to address?

2. In today's world, central banks have different mandates. Nonetheless, nearly all central banks have the same ultimate goals for the economies that they oversee. Name three goals:

3. Name and explain the mandate for the Federal Reserve and the mandate for the European Central Bank:

(reconcile answers to Q2 and Q3. Hint: divine coincidence)

4. The Federal Reserve Board, and other central banks, conduct day-to-day procedures, in an effort to achieve their ultimate goals. Name and describe these procedures.

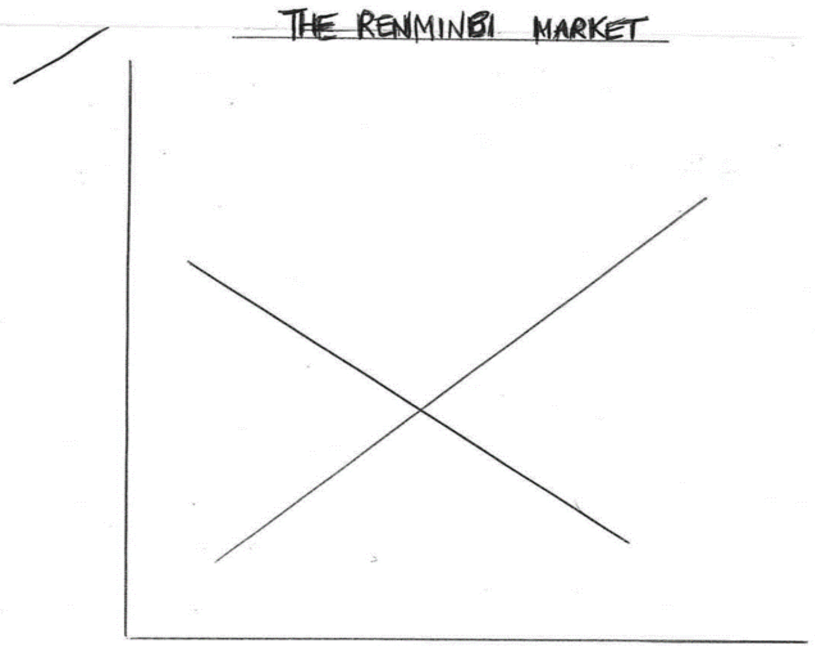
5. Some economists argue that central banks do poorly when they have discretion. These economists believe that day-to-day monetary policy operations should be tied to a rule. Name and write down two equations that specify targets for central bank policy

6. For the first equation you identified in question 5, explain how the central bank uses day-to-day procedures to home in on the specified target variable:

7. For the second equation you identified in question 5, explain how the central bank uses day-to-day procedures to home in on the specified target variable:

8. Some central banks, like the Peoples Bank of China, very much care about how their economy interacts with other economies around the world. What might such a central bank target?

9. Suppose the world had only two countries, China and the USA. Suppose trade after being illegal, opened up between the two nations. Suppose that this move to free trade produced a very large U.S. demand for Chinese goods. Before you consider any action by China's central bank, label the chart below and then use the chart to represent the effect of the USA's large demand for Chinese goods. (Label the effect you draw "a")



10. Now on the chart below, represent the action that the Central Bank of China might take, if their goal was to support continued strong demand for U.S. products.

(Label the effect you draw "b")

Part III (20 points)

For part III, use the following information

European Economic Circumstances, January of 2024

	Greece	Germany	Euro Area
Labor force growth	1%	1%	1%
Labor productivity trend	1%	2%	1.5%
Real GDP growth ($4^{th}/4^{th}$)	1%	3%	2%
Unemployment	20%	3%	7%
NAIRU	18%	5%	8%
Inflation	1%	2%	1.5%
π^*	2%	2%	2%
r*	1.5%	2.5%	2%

1. Its 2024. Suppose the euro area gave up on the euro. Greece, Germany, and all other euro area nations have reinstituted their old currencies and each now has its own central bank. Use the Taylor equation to recommend a monetary policy position for Greece for January of 2024.

2. Use the Taylor equation to recommend a monetary policy position for Germany for January of 2024.

1. If Greece adopts the monetary policy position you recommended, it can be characterized as,

   a) EASY b) NEUTRAL c) TIGHT

2. If Germany adopts the monetary policy position you recommended, it can be characterized as,

   a) EASY b) NEUTRAL c) TIGHT

3. Given the monetary policy differences in place between Greece and Germany, Germany's currency will likely do what vs the Greek currency?

   a) Stay steady b) fall c) rise

1. Now suppose the ECB remained in charge and European nations all kept the euro as their currency. If the ECB used the Taylor rule, how would they set monetary policy for Europe?

2. Given your answer to question 6, is policy in Germany stimulative, neutral or restrictive? Briefly explain

3. Based upon your answer to question 7, what would you expect to happen to the German unemployment rate? (Briefly explain)

4. Based upon your answer to question 7 and question 8, what would you expect to happen to the German inflation rate? (Briefly explain)

5. Suppose Germany were able to control ECB policy. What might they demand of the ECB, and what would it mean for Greece?

Part IV (15 points)

1. What does the acronym PPP stand for?
2. When we convert Chinese GDP from Renminbi to Dollars we can use either the PPP exchange rate, or the Nominal exchange rate. Which will result in a larger number?
3. The US State Department is worried about the number of aircraft carriers that China will be able to build by 2040. They roughly estimate that the number of aircraft carriers is proportional to GDP. Should they use the PPP exchange rate or the Nominal exchange rate to compare with the US? Why?

Labor time to make one Big Mac: 2 minutes

Labor cost in the US: $15/hour

Labor cost in China: 45 Renminbi/hour

Nominal Exchange Rate: 6 Renminbi/US dollar

PPP Exchange Rate: 4 Renminbi/US dollar

Cost of ingredients (meat, bun etc) in the US: 50 cents

1. If there is free trade in the ingredients to make a Big Mac, and no shipping costs, what is the price of the ingredients in China?
2. If the cost of a Big Mac is the cost of labor required plus the cost of the ingredients, how much does a Big Mac cost in both the US and in China?
3. If Big Macs were the only thing produced in both economies, what would the PPP exchange rate be according to your answer to Q5?

Part IV, continued

1. Suppose a Chinese company invents Flippy the Robot. She can be hired for 120 Renminbi/hour in either China or the US and is twice as productive as a human worker at making Big Macs. What will the price of a Big Mac now be in both the US and China?

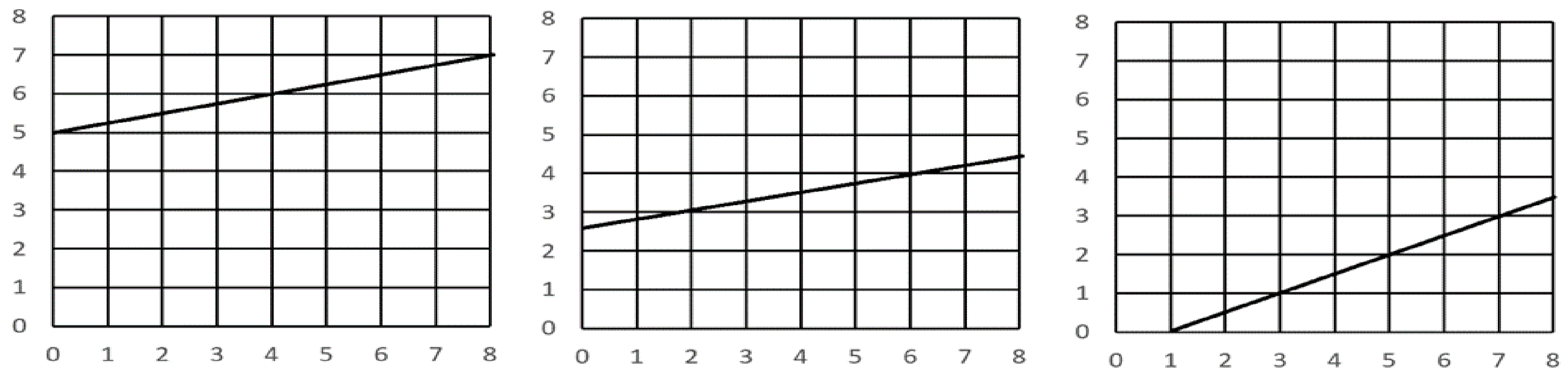
2. **2.** Wages are expected to grow faster in China than in the US. Given the analysis above, do you think the PPP exchange rate will move closer to, stay the same, or further away from the Nominal exchange rate? Explain

Part V (24 points)

The FOMC of the U.S. Federal Reserve, 12/25, provides the following median forecast for year-end 2026:

FOMC Expectations			**FOMC Parameters:**	
Inflation	**2.50%**		**α for Taylor Rule**	**0.5**
Unemployment	**3.50%**		**U***	**4%**
r*	**1.25%**		**π***	**2%**
Budget Deficit	**$800 billion**		**Deficit Financing Plan**	**50% t-bills and 50% t-bonds**
Risky/Risk Free Bond Spread	**2.00%**			

1. What would you expect the fed funds rate to be, year-end 2026?



2. Label the three quadrants in the diagram above. Based upon the deficit financing draw in the demand curve for both T-bonds and T-bills.

3. Based upon your answer to 1. draw in the action taken by the Fed to achieve the desired interest rate.

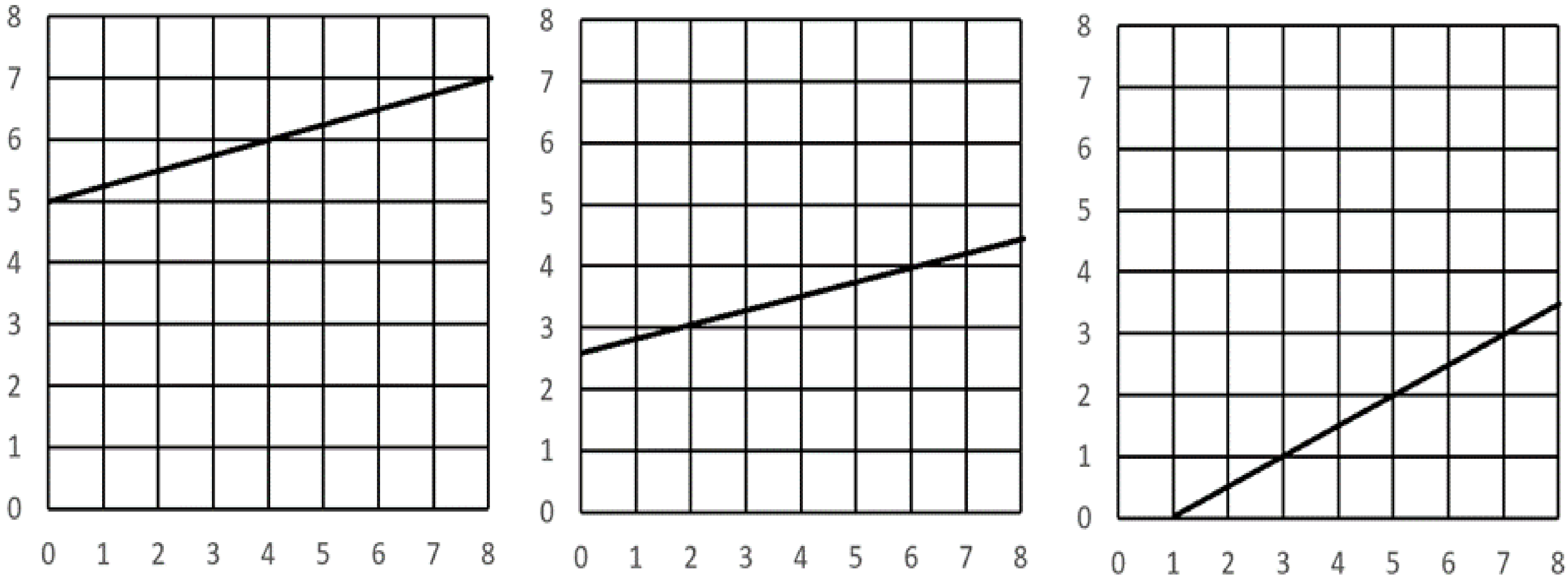
4. ASSUME THE GOVERNMENT BOND SUPPLY CURVE ALREADY ACCOUNTS FOR THE FEDERAL RESERVE ACTION IN 2026. Now fill in the remaining quadrant, making sure to correctly identify the equilibrium interest rate.

5. Based upon your answer to question 1, is Fed policy neutral? IF NOT, SHOW QUANTITATIVELY HOW TIGHT OR EASY POLICY IS:

6. Why do you think they chose to be easy/tight or neutral?

7. Does the Fed need to buy or sell T-bills to achieve their monetary policy objective? BRIEFLY EXPLAIN.

8. A White House Economist is frustrated with the Fed's plans for 2026. She comes up with what she believes is an ingenious plan. She argues her plan will deliver easier monetary policy, without demanding that the Fed change its plans. She explains to President West that he should direct the Treasury to change the mix of bill and bond sales. She wants the treasury to sell $700 billion worth of t-bills and only $100 billion worth of t-bonds. Suppose she convinces the President to enact this plan. Suppose, in addition, that the Fed makes the same judgment about monetary policy that it did in question 1. Draw the shifts that occurs in the T-bill market.



9. Does the Fed, still enacting the target it planned to hit, before the treasury change, need to buy or sell t-bills to achieve its objective?

10. What IS THE NEW EQUILIBRIUM VALUE FOR t-bond real interest rates? Why DID THIS CHANGE OCCUR?

11. What happens DIRECTIONALLY, to corporate bond real interest rates? Why?

Part V, continued

12. Directionally, what would likely happen to real GDP, Unemployment, and inflation, if the new financing plan was enacted without any change in Fed policy plans?

13. WHAT ONE TERM in the Taylor equation COULD THE Fed change, if they wanted to account for the new treasury t-bill/t-bond financing plan?