

Korea University
IIE 301 - Money & Banking
Summer 2007

Final Exam key

This exam is multiple choice and numerical calculation. Read each question carefully. For multiple choice questions, select the answer that is most correct. Write your answers on the answer sheet which is the final page of the exam. **Make sure to write your name AND student number on the answer sheet. Turn in the answer sheet only.** You may keep or discard the rest of the exam.

This exam is closed book and closed notes. Leave all bags & books at the front of the classroom and turn off all electronic devices, such as cell phones and PDAs. You may not paper or electronic dictionaries. A dictionary is available from the professor if you need to look up a particular word. There are 7 pages and 40 questions to this exam. Good luck!

Section I (multiple choice, 2 points each)

1. A contract where the borrower pays only a face-value on the date of maturity is called...
 - a. **a simple bond**
 - b. a coupon bond
 - c. a fixed payment loan
 - d. a simple loan
 - e. none of the above

2. The number of regional federal reserve banks in the US Federal Reserve System is:
 - a. 1
 - b. 4
 - c. 10
 - d. 15
 - e. **none of the above (12)**

3. Which of the following central banks has the least independence?
 - a. the Bank of England
 - b. the European Central Bank
 - c. the United States Federal Reserve
 - d. **the Bank of Korea**
 - e. all of the above are equally independent

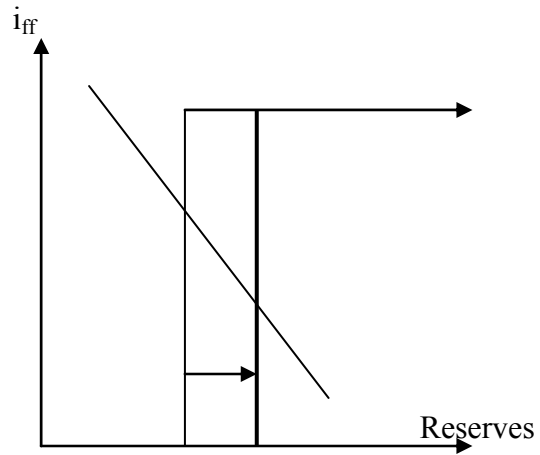
4. Duplicate reserves of commercial banks...
 - a. are always zero
 - b. are usually small, but not zero
 - c. are almost as big as required reserves
 - d. are several times bigger than required reserves
 - e. **“Duplicate reserves” is a term Dr. Phillips made up just for this exam and is not used in banking or finance.**

5. The price of foreign currency (in domestic currency units) set today, but to be traded at some future date is called...
- the spot exchange rate
 - the annualized forward premium
 - the future spot exchange rate
 - the forward exchange rate**
 - none of the above
6. The largest volume of trade in foreign currencies occurs in which of the following markets
- London**
 - Singapore
 - New York
 - Tokyo
 - all of the above have approximately the same volume of trade
7. Which of the following is *not* one of our important stylized facts about the behavior of interest rates in relation to the yield curve?
- The yield curve usually slopes upward
 - Interest rates of different maturities tend to rise and fall together
 - Long-term rates change more frequently and by larger amounts than short-term rates**
 - When short-term rates are low the yield curve is steep, when they are high it is flat or inverted
 - all of the above are important stylized facts

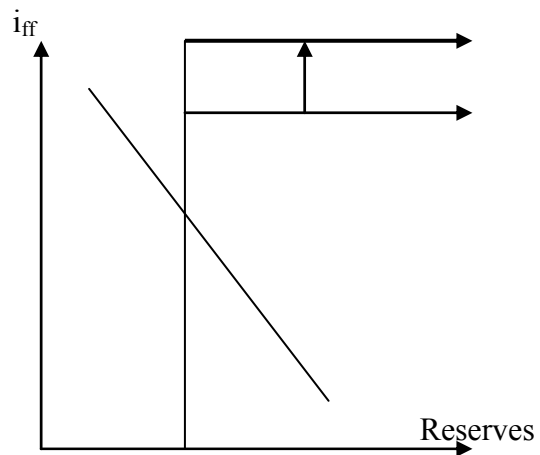
For questions 8 – 11 use the following answers. The start and end dates are approximate, that is accurate within a year or two.

- up to 1871
 - 1871 - 1914
 - 1914 - 1945
 - 1945 - 1971
 - 1971 – present day
8. The Bretton Woods system was which period? **D**
9. The Bimetallic Standard was which period? **A**
10. The classical Gold Standard was which period? **B**
11. Which period(s) did most exchange rates float? **C & E**

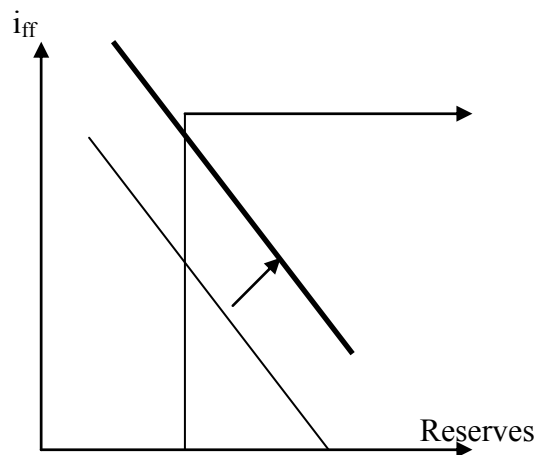
12. There are no non-borrowed reserves and the discount rate is higher than the federal funds rate. An open market purchase of bonds will cause the interest rate to (rise / **fall** / remain constant) and the total amount of reserves to (**rise** / fall / remain constant)



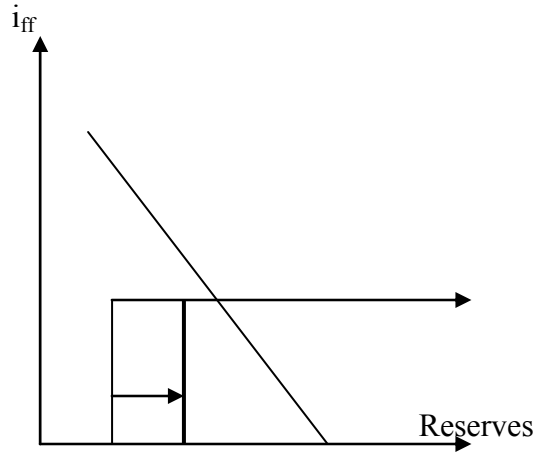
13. There are no non-borrowed reserves and the discount rate is higher than the federal funds rate. An increase in the discount rate will cause the interest rate to (rise / fall / **remain constant**) and the total amount of reserves to (rise / fall / **remain constant**)



14. There are no non-borrowed reserves and the discount rate is higher than the federal funds rate. An increase in the reserve requirement will cause the interest rate to (**rise** / fall / remain constant) and the total amount of reserves to (rise / fall / **remain constant**)



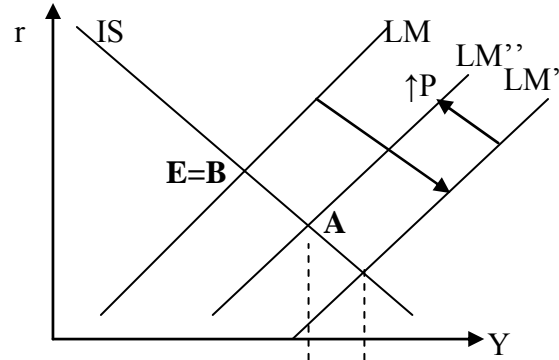
15. There are substantial non-borrowed reserves and the discount rate is the same as the federal funds rate. An open market purchase of bonds will cause the interest rate to (rise / fall / **remain constant**) and the total amount of reserves to (rise / fall / **remain constant**)



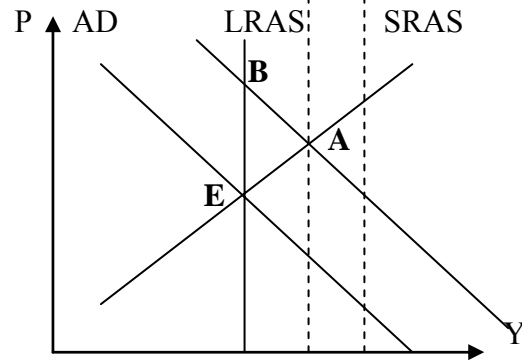
16. Which of the following is NOT a commonly accepted function of money?
- Unit of account
 - Index of Liquidity (again just a made-up term)**
 - Store of value
 - Medium of exchange
 - All of the above are commonly accepted functions of money
17. A type of money that is no longer very common is:
- Convertible Paper Currency**
 - Fiat Money
 - Electronic Stored-Value Money
 - Deposit Money
 - All of the above are commonly used today
18. According to the expectations theory of the yield curve, if the current 1-year interest rate is 4% and the current 2-year interest rate is 5%, then the expected 1-year interest rate for next year must be approximately...
- 3.0%
 - 4.5%
 - 6.0%; $i_t^2 \doteq \frac{1}{2}i_t^1 + \frac{1}{2}E\{i_{t+1}^1\}$ so $5\% = \frac{1}{2}4\% + \frac{1}{2}E\{i_{t+1}^1\}$ solving gives $\{i_{t+1}^1\} = 6\%$**
 - there is not enough information to answer
 - none of the above
19. According to the segmented markets theory of the yield curve, an increase in the interest rate on 5-year bonds will be associated with what change in the interest rate on 1-year bonds?
- an increase
 - no change**
 - a decrease
 - a change that is unpredictable
 - none of the above

20. The current president of the European Central Bank is:
- Benjamin S. Bernanke
 - Antonio Sáinz de Vicuña
 - Jürgen Stark
 - Philippe Moutot
 - none of the above (Jean-Claude Trichet)**
21. One implication of the efficient markets hypothesis is...
- prices of financial assets move in regular, predictable ways
 - if the price of an asset goes up today it is likely to continue going up tomorrow
 - if the price of an asset goes up today it is likely to go down tomorrow
 - unexpected new will cause prices to change, but expected announcements will not**
 - none of the above
22. The IS curve will move to the right in response to...
- an increase in the government budget deficit**
 - an increase in the money supply
 - an increase in the general level of prices
 - a decrease in consumer confidence
 - none of the above
23. The LM curve will move to the left in response to...
- an increase in the government budget deficit
 - an increase in the money supply
 - an increase in the general level of prices**
 - a decrease in consumer confidence
 - none of the above
24. The AD curve will move to the left as a result of...
- an increase in the government budget deficit
 - an increase in the money supply
 - an increase in the general level of prices
 - a decrease in consumer confidence**
 - none of the above
25. The LRAS curve will move to the right in response to...
- an increase in the government budget deficit
 - an increase in the money supply
 - an increase in the general level of prices
 - a decrease in consumer confidence
 - none of the above**

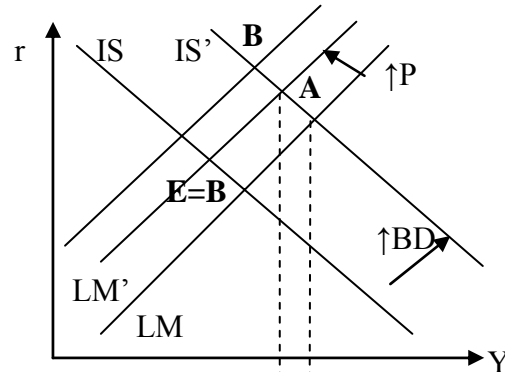
26. Relative to initial values, in the short-run, an increase in the money supply leads to (a **rise** / a fall / no change) in real output, (a **rise** / a fall / no change) in prices, and (a rise / a **fall** / no change) in the real interest rate. **Move from E to A**



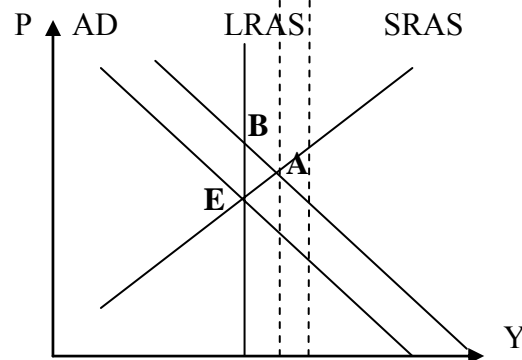
27. Relative to initial values, in the long-run, an increase in the money supply leads to (a rise / a fall / **no change**) in real output, (a **rise** / a fall / no change) in prices, and (a rise / a fall / **no change**) in the real interest rate. **Move from E to B**



28. Relative to initial values, in the short-run, a permanent increase in the budget deficit leads to (a **rise** / a fall / no change) in real output, (a **rise** / a fall / no change) in prices, and (a **rise** / a fall / no change) in the real interest rate. **Move from E to A**



29. Relative to initial values, in the long-run, a permanent increase in the budget deficit leads to (a rise / a fall / **no change**) in real output, (a **rise** / a fall / no change) in prices, and (a **rise** / a fall / no change) in the real interest rate. **Move from E to A**



30. The Phillips curve...
- shows a negative relation between the inflation rate and the unemployment rate
 - is vertical even in the short run
 - is unaffected by expectations
 - all of the above
 - none of the above

Section II (short answers, 4 points each) – when appropriate express percentages to 2 decimal places (i.e. 1.23%)

31. If the nominal interest rate today is 10% and the desired/expected real interest rate is 3%, then what must the expected rate of inflation be (approximately)? **7.00%** $i = r + \pi^e$ so $10\% = 3\% + \pi^e$

32. What is the **current yield** on a 30-year coupon bond with a face value of \$100,000 and a 7% coupon selling for a price today of \$90,000? **7.78%** **payment is \$100,000 x 7% = \$7000. cy = pmt/price = \$7000/\$90,000**

33. What is the yield to maturity on a no-coupon \$100,000 T-bond that comes due in 2 years and which sells for a price today of \$95,000? **2.60%** $ytm = (100,000/95,000)^{1/2} - 1$

34. What is the **discount yield** on a 60-day bond with a face value of \$10,000 selling today for \$9950? **3.00%**, **find the percent discount (\$10,000 - \$9950)/\$10,000 and then multiply this by (360 days / 60 days) [3.02% if you take % using price as the base]**

35. Suppose we observe the following data:

Date	Dec. 31, 2004	Dec. 31, 2005	Dec. 31, 2006
Price of TVs	\$300	\$310	\$325
Price of Chairs	\$100	\$110	\$115
Price of Pizza	\$ 8	\$ 10	\$ 11

If the market basket is 1 TV, 2 chairs, & 10 pizzas, what was the inflation rate for 2005?
8.62%

Value of basket in 2004 was $1 \times \$300 + 2 \times \$100 + 10 \times \$8 = \580

Value of basket in 2005 was $1 \times \$310 + 2 \times \$110 + 10 \times \$10 = \630

% change in price of basket was 8.62%

36. Using the same data as above, what was the inflation rate for 2006? **5.56%**

Value of basket in 2006 was $1 \times \$325 + 2 \times \$115 + 10 \times \$11 = \665

% change from 2005 to 2006 was 5.56%

37. Suppose we observe the following data:

Currency in Bank Vaults	\$ 70 million
Currency in Circulation	\$210 million
Demand Deposits and other Checkable Deposits	\$400 million
Reserve Deposits of Commercial Banks at the Central Bank	\$ 50 million
Short-term Time Deposits	\$700 million
Traveler's Checks	\$ 10 million

What is the value of the monetary base (M0)? **Currency in Vaults + Currency in Circulation + Reserve Deposits = \$330 million**

38. Using the same data as above, what is the value of M1? **Currency in Circulation + Demand Deposits and other Checkable Deposits + Traveler's Checks = \$620 million**
39. Suppose the reserve requirement is 2% and that banks desire to hold .5% excess reserves. Further assume that the general public wishes to hold 25% of its demand deposit balances in the form of currency. What is the long-run money multiplier? Round to 2 decimal points. **4.55 the formula is $(1+c)/(c+e+r)$ where $c=.25$, $e = .005$ and $r = .02$.**
40. A 6-month U.S. Treasury bill with a face value of \$10,000 sells for \$9800. A 6-mo commercial paper bill issued by Motorola Inc. with a face value of \$10,000 sells for \$9400. Assuming that difference in prices reflects only risk, what is the risk premium on Motorola commercial paper in APR terms?
Rate of return on T-bill (which is approximately riskless) is $(\$10,000/\$9800)^2-1 = 4.12\%$. Expected rate of return on commercial paper is $(\$10,000/\$9400)^2-1 = 13.17\%$. So the risk premium in APR terms is $13.17\% - 4.12\% = 9.05\%$

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Final Exam Answer Sheet A

Name: _____

Student Number: _____

1 A	11 C&E	21 D	31 7.00%
2 E	12 i) fall ii) rise	22 A	32 7.78%
3 D	13 i) constant ii) constant	23 C	33 2.60%
4 E	14 i) rise ii) constant	24 D	34 3.02%
5 D	15 i) constant ii) rise	25 E	35 8.62%
6 A	16 B	25 i) rise ii) rise iii) fall	36 5.56%
7 C	17 A	26 i) no ch. ii) rise iii) no ch.	37 \$330 million
8 D	18 C	27 i) rise ii) rise iii) rise	38 \$620 million
9 A	19 B	28 i) no ch. ii) rise iii) rise	39 4.55
10 B	20 E	30 A	40 9.05%