

## FOURTH MIDTERM EXAM

### EC26101: MONEY, BANKING AND FINANCIAL MARKETS

APRIL 14, 2004

**This exam has 20 questions on seven pages. Before you begin, please check to make sure that your copy has all 20 questions and all seven pages.**

**All questions will receive equal weight in determining your exam score.**

**Please answer all questions on the answer sheet provided.**

1. In the US economy, interest rates tend to fall during economic recessions. The loanable funds framework can explain this fact if, during recessions:

- A) The shift in the supply curve for loanable funds brought about by a decrease in the profitability of investment opportunities is more important than the shift in the demand curve for loanable funds brought about by a decrease in wealth.
- B) The shift in the supply curve for loanable funds brought about by a decrease in wealth is more important than the shift in the demand curve for loanable funds brought about by a decrease in the profitability of investment opportunities.
- C) The shift in the demand curve for loanable funds brought about by a decrease in the profitability of investment opportunities is more important than the shift in the supply curve for loanable funds brought about by a decrease in wealth.
- D) The shift in the demand curve for loanable funds brought about by a decrease in wealth is more important than the shift in the supply curve for loanable funds brought about by a decrease in the profitability of investment opportunities.
- E) None of the above.

2. According to the loanable funds framework, a bond with higher default risk should have an interest rate that is:

- A) Higher than the interest rate on default-free bonds.
- B) Lower than the interest rate on default-free bonds.

3. Which of the following is true?

- A) Based on considerations of default risk, the spread between the interest rate on a 10-year corporate bond rated Aaa by Moody's and the interest rate on a 10-year US Treasury note ought to be wider than the interest rate on a 10-year corporate bond rated Baa by Moody's and the interest rate on a 10-year US Treasury note.
- B) Based on considerations of default risk, the spread between the interest rate on a 10-year corporate bond rated Baa by Moody's and the interest rate on a 10-year US Treasury note ought to be wider than the interest rate on a 10-year corporate bond rated Aaa by Moody's and the interest rate on a 10-year US Treasury note.
- C) None of the above.

4. US Treasury bonds are more liquid than corporate bonds, which helps explain:

- A) Why interest rates on US Treasury bonds are typically lower than interest rates on corporate bonds.
- B) Why interest rates on US Treasury bonds are typically higher than interest rates on corporate bonds.
- C) None of the above.

5. Which of the following is true?

- A) Municipal bonds are default-free.
- B) Before 1940, the interest rate on municipal bonds tended to be lower than the interest rate on US Government bonds.
- C) Municipal bonds tend to be more liquid than US Government bonds.
- D) Both (A) and (C) above.
- E) Both (A) and (B) above.
- F) Both (B) and (C) above.
- G) All three, (A), (B), and (C), above.
- H) None of the above.

6. At 8:30am on Friday, April 2, the monthly payroll employment report showed that 308,000 new jobs were created in the US during the preceding month of March. This number was much higher than most bond traders expected and was widely interpreted as evidence that the US economy was entering into a new phase of economic expansion. Consistent with our analysis of the risk structure of interest rates from class, the spread between interest rates on corporate bonds and interest rates on US Government bonds:

- A) Widened sharply during the bond trading session on Friday, April 2.
- B) Narrowed sharply during the bond trading session on Friday, April 2.

7. Which of the following theories of the term structure of interest rates assumes that investors regard bonds of different maturities as not substitutes at all?

- A) Preferred habitat theory.
- B) Segmented markets theory.
- C) The expectations hypothesis.
- D) Both (A) and (B) above.
- E) Both (A) and (C) above.
- F) Both (B) and (C) above.
- G) All three, (A), (B), and (C), above.
- H) None of the above.

8. Which of the following theories of the term structure of interest rates assumes that investors regard bonds of different maturities as perfect substitutes?

- A) Preferred habitat theory.
- B) Segmented markets theory.
- C) The expectations hypothesis.
- D) Both (A) and (B) above.
- E) Both (A) and (C) above.
- F) Both (B) and (C) above.
- G) All three, (A), (B), and (C), above.
- H) None of the above.

9. Which of the following theories of the term structure of interest rates can explain why interest rates on bonds of different maturities tend to move together over time?

- A) Preferred habitat theory.
- B) Segmented markets theory.
- C) The expectations hypothesis.
- D) Both (A) and (B) above.
- E) Both (A) and (C) above.
- F) Both (B) and (C) above.
- G) All three, (A), (B), and (C), above.
- H) None of the above.

10. Which of the following theories of the term structure of interest rates can explain why the yield curve sometimes slopes up and sometimes slopes down, without appealing to implausible assumptions about changes in investors' preferences for short-term versus long-term bonds over time?

- A) Preferred habitat theory.
- B) Segmented markets theory.
- C) The expectations hypothesis.
- D) Both (A) and (B) above.
- E) Both (A) and (C) above.
- F) Both (B) and (C) above.
- G) All three, (A), (B), and (C), above.
- H) None of the above.

11. "The interest rate on a long-term bond equals the average of the short-term interest rates that are expected to prevail over the lifetime of that long-term bond" is an implication of

- A) Preferred habitat theory.
- B) Segmented markets theory.
- C) The expectations hypothesis.
- D) Both (A) and (B) above.
- E) Both (A) and (C) above.
- F) Both (B) and (C) above.
- G) All three, (A), (B), and (C), above.
- H) None of the above.

12. "The interest rate on a long-term bond equals the average of the short-term interest rates that are expected to prevail over the lifetime of that long-term bond plus an additional liquidity (or term) premium" is an implication of

- A) Preferred habitat theory.
- B) Segmented markets theory.
- C) The expectations hypothesis.
- D) Both (A) and (B) above.
- E) Both (A) and (C) above.
- F) Both (B) and (C) above.
- G) All three, (A), (B), and (C), above.
- H) None of the above.

13. According to the expectations hypothesis, why might the yield curve slope up?

- A) Because short-term bonds are more liquid than long-term bonds.
- B) Because investors want to avoid the risk associated with the possibility that they might suffer capital losses if they have to sell a long-term bond before maturity.
- C) Because short-term interest rates are expected to rise.
- D) Both (A) and (B) above.
- E) Both (A) and (C) above.
- F) Both (B) and (C) above.
- G) All three, (A), (B), and (C), above.
- H) None of the above.

14. Suppose that short-term interest rates are expected to rise slightly and that investors prefer short-term bonds to long-term bonds. Then which of the following theories implies that the yield curve will slope up?

- A) Preferred habitat theory.
- B) Segmented markets theory.
- C) The expectations hypothesis.
- D) Both (A) and (B) above.
- E) Both (A) and (C) above.
- F) Both (B) and (C) above.
- G) All three, (A), (B), and (C), above.
- H) None of the above.

15. Suppose that short-term interest rates are expected to rise sharply and that investors prefer short-term bonds to long-term bonds. Then which of the following theories implies that the yield curve will slope up?

- A) Preferred habitat theory.
- B) Segmented markets theory.
- C) The expectations hypothesis.
- D) Both (A) and (B) above.
- E) Both (A) and (C) above.
- F) Both (B) and (C) above.
- G) All three, (A), (B), and (C), above.
- H) None of the above.

16. Consider a group of investors who want to lend money out in financial markets for a two-year period and who must therefore choose between one of the following two strategies. Strategy 1: Buy a one-year bond today and when it matures, buy another one-year bond. Strategy 2: Buy a two-year bond today and hold it to maturity. Suppose, too, that the expected return on strategy 1 is higher than the expected return on strategy 2. If these investors behave according to the assumptions of segmented markets theory, they will:

- A) All follow strategy 1 by buying one-year bonds.
- B) All follow strategy 2 by buying two-year bonds.
- C) Follow either strategy 1 by buying one-year bonds or strategy 2 by buying two-year bonds, depending on whether they prefer one-year bonds or two-year bonds and paying no attention to differences in expected returns.
- D) None of the above.

17. In the example from question 16 above, where investors behave according to the assumptions of segmented markets theory and where the expected return on strategy 1 is higher than the expected return on strategy 2, their behavior will necessarily:

- A) Cause interest rates on one-year bonds to fall and interest rates on two-year bonds to fall until the expected returns on the two strategies are approximately equal.
- B) Cause interest rates on one-year bonds to fall and interest rates on two-year bonds to rise until the expected returns on the two strategies are approximately equal.
- C) Cause interest rates on one-year bonds to rise and interest rates on two-year bonds to fall until the expected returns on the two strategies are approximately equal.
- D) Cause interest rates on one-year bonds to rise and interest rates on two-year bonds to rise until the expected returns on the two strategies are approximately equal.
- E) None of the above.

18. Now consider the same example as in question 16 above, where the expected return on strategy 1 is higher than the expected return on strategy 2, but suppose instead that investors behave according to the assumptions of the expectations hypothesis. In this case, investors' behavior will necessarily:

- A) Cause interest rates on one-year bonds to fall and interest rates on two-year bonds to fall until the expected returns on the two strategies are equal.
- B) Cause interest rates on one-year bonds to fall and interest rates on two-year bonds to rise until the expected returns on the two strategies are equal.
- C) Cause interest rates on one-year bonds to rise and interest rates on two-year bonds to fall until the expected returns on the two strategies are equal.
- D) Cause interest rates on one-year bonds to rise and interest rates on two-year bonds to rise until the expected returns on the two strategies are equal.
- E) None of the above.

19. Let  $i_t$  denote today's interest rate on one-year bonds, let  $i_{t+1}^e$  denote the interest rate on one-year bonds that is expected to prevail one year from now, let  $i_{2t}$  denote today's interest rate on two-year bonds, and let  $l_{2t}$  denote the liquidity (or term) premium on two-year bonds. Now consider the formula

$$i_{2t} = \frac{i_t + i_{t+1}^e}{2} + l_{2t}.$$

This formula is the one implied by:

- A) Preferred habitat theory.
- B) The expectations hypothesis.
- C) Segmented markets theory.
- D) Both (A) and (B) above.
- E) Both (A) and (C) above.
- F) Both (B) and (C) above.
- G) All three, (A), (B), and (C), above.
- H) None of the above.

20. The same formula shown in question 19 above implies that:

- A) When the interest rate on one-year bonds rises, the interest rate on two-year bonds will also rise.
- B) When the interest rate on one-year bonds rises, the interest rate on two-year bonds will fall.
- C) Interest rates on one-year bonds and two-year bonds will display no tendency to move together over time.
- D) None of the above.