

OLLSCOIL NA hEIREANN, GAILLIMH  
NATIONAL UNIVERSITY OF IRELAND, GALWAY

Semester 1, 2001/02

**THE ECONOMICS OF FINANCIAL MARKETS (EC 362)**

3<sup>rd</sup> Arts, 3<sup>rd</sup> Commerce, 3<sup>rd</sup> Financial Mathematics and Economics, and Visiting  
Students

Professor H. Dixon  
Professor M. Cuddy  
Dr. S. Fountas

Time allowed: **TWO** hours

Please answer any **SIX** questions from Part A and any **TWO** questions from Part B.  
Each question in Part A is worth 8 points and each question in Part B is worth 26  
points.

**PART A**

1. Explain the concept of the “securities spread” in the securities market and the factors that affect the size of the spread.
2. Explain the effect of expansionary monetary policy on the slope of the yield curve.
3. “Nominal interest rates are procyclical, i.e., they tend to rise during business cycle booms and fall during recessions”. True or false? Explain.
4. Explain (i) why the yield on a discount basis tends to underestimate the yield to maturity and (ii) under what conditions the current yield equals the yield to maturity.
5. Assume the following:  $i_{t+1} = 6\%$ ,  $i_{t+2} = 8\%$ ,  ${}_t i^e_{t+2} = 4\%$ ,  ${}_{t+2} i^e_{t+3} = 5\%$ , and  $i_{t+3} = 10\%$ .
  - (a) Find the term premia for two- and three-year bonds.
  - (b) Plot the yield curve assuming the preferred habitat theory of the term structure is valid.
6. Explain briefly the meaning of the following:
  - (a) Primary Market

- (b) Foreign exchange risk
  - (c) Federal Funds market
  - (d) Bankers' Acceptance
7. Under the efficient market approach, an unanticipated monetary policy might have an unintended impact on the economy. True or false ? Explain.
  8. Consider two assets A and B with expected returns  $R_A = 10\%$  and  $R_B = 6\%$  and standard deviations  $\sigma_A = 6\%$  and  $\sigma_B = 4\%$ .
    - (i) Assuming the correlation coefficient of returns  $\rho = -1$ , find the shares of assets A and B in the zero-risk portfolio.
    - (ii) Assuming the correlation coefficient of returns  $\rho = 0$ , find the shares of assets A and B in the minimum-risk portfolio.

### PART B

1. Suppose that assets A and B have expected rates of return of 15% and 20% per annum, respectively, and an identical standard deviation of 10% per annum. The correlation coefficient between their returns is 1.
  - (a) Find the expected rate of return and the standard deviation of return on a portfolio p composed of a fraction x of asset A and a fraction (1-x) of asset B. Does diversification between assets A and B pay? Explain. (10 pts)
  - (b) Plot the combinations of standard deviation and expected return that lie in the feasible and efficient sets of portfolios p. Explain. (8 pts)
  - (c) Suppose that the risk-free interest rate is 5% per annum. Plot the combinations of risk and return that an investor facing identical borrowing and lending rates can obtain by holding portfolio p and borrowing or lending. Write down the equation for the capital market line. Show the equilibria for a very risk-averse investor and a moderately risk-averse investor. (8 pts)
2.
  - (i) Explain the Fisher effect using the Loanable Funds theory. (12 pts)
  - (ii) How can economic theory (income effect and interest income taxation) justify the empirical finding against the Fisher effect ? (14 pts)
3. Explain the effects of each of the following on the equilibrium exchange rate:
  - (a) An expansionary domestic monetary policy. (9 pts)

- (b) An increase in domestic nominal interest rates caused by higher inflationary expectations. (7 pts)
  - (c) An increase in protectionist sentiment in domestic trade policies. (5 pts)
  - (d) An increase in foreign government deficits financed by the issue of government debt. (5 pts)
- 4.
- (a) Compare and contrast the expectations theory and the segmented markets theory of the term structure of interest rates in terms of their:
    - (i) Assumptions. (4 pts)
    - (ii) Explanation of the slope of the yield curve. (6 pts)
    - (iii) Ability to explain the empirical evidence on the relationship between short-term and long-term interest rates. (10 pts)
  - (b) Explain the price-risk hypothesis and the money-substitutes hypothesis of a variable term premium. (6 pts)