

**Finance 432 – Investment Analysis and Management
Review Notes for Final Exam**

Chapter 8

1. EMH: Three forms, concepts, and implications
2. Evidence of market efficiency: concepts
3. Evidence of market anomalies: concepts
4. The role of portfolio manager in efficient market
5. Homework problems and examples discussed in class

Chapters 10&11

1. Characteristics of bonds
Coupon rate and interest payment
Maturity date
Call provision
Call premium and call price
Face value
Zero coupon bonds
Required rate of return
2. Interest rate risk: price risk vs. reinvestment risk
Interest rate price risk: risk that the bond price will fall if interest rates rise
Interest rate reinvestment risk: risk that reinvestment value will fall if interest rates drop
3. Bond rating
4. Bond valuation: concepts and calculations
P (intrinsic value); YTM; YTC; CY
5. Term structure theories
6. Principles of bond price behavior
7. Duration: concepts and calculations

$$\text{Macaulay duration, } D = \sum_{t=1}^T t * w_t, \text{ where } w_t = \frac{CF_t / (1+y)^t}{P_0}$$

Relationship between duration and bond price volatility

$$\frac{\Delta P}{P} = -D \frac{\Delta(1+y)}{1+y} = -D^* \Delta y, \text{ where } D^* = \frac{D}{1+y}, \text{ is the modified duration}$$

8. Bond immunization: concepts and applications
9. Homework problems and examples discussed in class

Chapter 12

1. Global economy
2. Domestic economic analysis: concepts
Business cycle and GDP
Demand and supply side shocks
Unemployment rate
Fiscal policy: government spending, budget deficit, and taxes
Monetary policy: interest rate, inflation and money supply

- Consumer spending
- Exchange rate
- Other factors
- 3. Industry analysis: cyclical vs. defensive
- 4. Company analysis
- 5. Fundamental analysis: concepts

Chapter 13

- 1. Characteristics of common stock: concepts
- 2. Common stock earnings and dividends
 - Net income, retained earnings, and cash dividends
 - EPS, DPS, dividend payout ratio and profit retention ratio
- 3. Valuation by comparable: concepts and calculations
- 4. Dividend discount models: concepts and calculations
 - Zero growth model: $V = D / k$
 - Constant growth model: $V = D_1 / (k-g)$
 - Variable growth (multi-stage growth) model
 - Other alternative models
- 5. Free cash flow approach: concepts
- 6. Preferred stock valuation: concepts and calculations
 - Preferred stocks are valued in the same way as common stocks with no growth
- 7. Homework problems and examples discussed in class

Sample Problems

- 1. The weak form of the EMH states that _____ must be reflected in the current stock price. (a)
 - a. All past information, including security price, return and volume data
 - b. All publicly available information
 - c. All information, including inside information
 - d. All costless information

- 2. Random price movements indicate _____. (d)
 - a. Irrational markets.
 - b. That prices cannot equal fundamental values.
 - c. That technical analysis to uncover trends can be quite useful.
 - d. That markets are functioning efficiently.

- 3. CFA questions 1-6 in Chapter 8

4. Find the duration of a 3-year bond with annual coupon payments of \$80 and a par value of \$1,000. The current market price of the bond is \$950.25. If the YTM of the bond dropped by 1%, what would happen to the bond price?

Answer:

PV = -950.25, N = 3, FV = 1,000, PMT = 80, solve for i/y to get YTM = 10%

Using the duration formula to get D = 2.78 years

Using the modified duration formula to get D* = 2.53 years

Bond price will increase by 2.53%, or the new price is \$974.27

5. Consider two bonds, A and B. Both bonds presently are selling at their par value of \$1,000. Each pays interest of \$120 annually. Bond A will mature in 5 years, while bond B will mature in 8 years. If the yields to maturity on the two bonds change from 12% to 13%, _____.
- (d)
- a. Both bonds will increase in value but bond A will increase more than bond B
 - b. Both bonds will increase in value but bond B will increase more than bond A
 - c. Both bonds will decrease in value but bond A will decrease more than bond B
 - d. Both bonds will decrease in value but bond B will decrease more than bond A
6. A coupon bond that pays interest of 4% annually has a par value of \$1,000, matures in 5 years, and is selling today at \$785. The actual yield to maturity on this bond is _____.
- (d)
- a. 7.20%
 - b. 8.80%
 - c. 9.10%
 - d. 9.62%
7. A callable bond pays annual interest of \$60, has a par value of \$1,000, matures in 20 years but is callable in 10 years at a price of \$1,100, and has a value today of \$1055.84. The yield to call on this bond is _____.
- (a)
- a. 6.00%
 - b. 6.58%
 - c. 7.20%
 - d. 8.00%
8. CFA questions 1-5 in Chapter 10 and CFA questions 10 in Chapter 11
9. A top-down analysis of a firm's prospects starts with an analysis of the _____.
- (b)
- a. Firm's position in its industry
 - b. U.S. economy or even the global economy
 - c. Industry
 - d. Specific firm under consideration.

10. Which one of the following stocks represents industries with below-average sensitivity to the state of the economy? (c)
- Financials
 - Technology
 - Food and beverage
 - Cyclical firms
11. Which of the following would not be considered a supply shock? (d)
- A change in the price of imported oil
 - Frost damage to the orange crop
 - A change in the level of education of the average worker
 - An increase in the level of government spending
12. Multi-stage growth model
 If $N = 3$ years, $g_s = 30\%$, $g_n = 8\%$, $D_0 = \$1.15$, $RRR = 13.4\%$, what should be the value of stock today? What are the expected dividend yield and capital gains yield today? How about in 5 years?
- Answer:
 $D_1 = \$1.495$
 $D_2 = \$1.9435$
 $D_3 = \$2.52655$
 $D_4 = \$2.728674$
 $V_3 = \$50.53$ (value of the stock in 3 years from the constant growth model)
 $V_0 = \$39.21$ (by discounting all the cash flows to the present)
 Dividend yield = 3.81%
 Capital gains yield = 9.59%
- In 5 years
 Dividend yield = 5.4%
 Capital gains yield = 8%
14. A share of stock is now selling at \$40.00. It will pay a cash dividend of \$2.00 at the end of the year. The stock has a beta of 0.8. The expected return on the market is 10% and the risk-free rate is 5%. What should be the expected stock price in one year?
- Answer: expected rate of return = 9% (CAPM), $g = 4\%$, $P_1 = \$41.60$
15. Problems 13-15 in Chapter 13