

Portfolio Management 2010-2011

QUESTION 1

a. Assume the following information for a stock:

Beta	1.2
Risk Free Rate	5%
Expected rate of return on the market	12%
Dividend payout ratio	40%
Expected dividend growth rate	10%

Using a dividend discount approach, what is the value of the earnings multiplier (P/E ratio)?

b. The preferred stock of ABC Company has a 5% dividend, which the company intends to pay forever. In order to value the preferred stock, what would an investor need to know?

c. What tend to be the asset turnover (low/high) and return to assets (low/high) of companies in an industry in its pioneering stage?

d. What are the limitations of the P/E ratio?

e. Discuss the impact of competitive structure on global industrial analysis? Which are the most common ratios used?

QUESTION 2

a. XYZ company's current earnings are \$1.06 per share and are estimated to increase 6% annually. The Company's policy of retaining 60% of earnings is expected to continue. The risk free interest rate is 5% and the equity risk premium for XYZ shares is 3%. What is the P/E ratio of XYZ common shares?

b. Beside the price-earnings ratio which other multiples are common used?

c. Discuss the impact of the industry life cycle on global industry analysis?

d. Briefly define top/down analysis.

e. Describe the characteristics of the following alternative investments:

1. Investment companies
2. Exchange traded funds

QUESTION 3

a. The following information is available to an analyst attempting to determine the appropriate price for XYZ common shares:

Risk free rate	5%
Expected return on the market	15%
Beta of XYZ	1.5
Current XYZ earnings per share	\$4.00
XYZ dividend payout policy	40%
XYZ long-term annual growth rate	5%

What is the appropriate price for XYZ common shares?

b. Discuss the impact of risk considerations on global industry analysis.

c. Distinguish among cyclical company and cyclical stock?

d. What are the forms of real Estate Investments and its characteristics?

e. What are the main characteristics of hedge funds?

QUESTION 4

a. The XYZ Company is expected to pay a dividend of \$4.00 per share next year. If XYZ's long term dividend growth rate is 5% per year and its cost of equity capital is 12%, what will be the price of XYZ common shares using the constant growth dividend discount model?

b. Distinguish between good companies and good stocks and growth companies and growth stock?

c. What are the three assessments needed in the Venture capital valuation?

d. John Money is considering an investment in a mutual fund that offers three different classes of shares. The expense structures of each class are as follows:

Class A: Front-end load 5%

Class B: Back-end load starting at 5% declining by 1% per year.

Class C: 1.0% annual distribution fee.

If John expects a 12% annual rate of return, which class of shares should he choose for a 1-year and 3-year time horizon, respectively?

(10 marks)

SOLUTIONS

QUESTION 1

a.

$$r_{CE} = r_F + \beta (r_M - r_F) = 5\% + 1.2 (12\% - 5\%) = 13.4\%$$

$$P/E_1 = K/r_{CE} - g = 40\% / (13.4\% - 10\%) = 11.76$$

b. Investor's required rate of return. The numerator of the calculation is the dividend paid, and the denominator is the investor's required rate of return (usually the required return on the preferred stock of known quality).

c. Low/Low. A company in its pioneering stage places assets in service to meet future needs, so the asset base is high relative to current assets, resulting in low asset turnover. In addition, profits are small or negative, resulting in a low return on assets.

d. Accounting methods / non-recurring items

Management bias / Estimates

Earnings tend to be volatile / Negative earnings

e. As number of competitors goes up, rivalry intensify goes up and profit margins goes down. N-firm concentration ratio and Herfindhal Index.

QUESTION 2

a. The P/E is the following:

$$r_{CE} = (1+r_F)(1+r_{ERP}) - 1 = (1.05)(1.03) - 1 = 8.15\%$$

$$P_0 = DIV_1 / r_{CE} - g = (\text{payout ratio}) E_1 / (r_{CE} - g) = KE_1 / (r_{CE} - g)$$

$$P_0/E_1 = K / (r_{CE} - g) = 1 - 0.60 / (0.0815 - 0.06) = 18.6$$

b. Price to cash flow, Price to book, Price to sales

c. Stage 1: Low volume/No profits (Pioneering Development). Stage 2: High profits (rapid accelerating growth). Stage 3: More competition (mature growth), profit margin goes down. Stage 4: Small margins (stabilization and market maturity). Stage 5: Consolidation (deceleration of growth and decline).

d. Analyze macroeconomic data to identify favorable countries. Identify favorable markets and industry growth prospects. Select individual companies for investment.

e.

Investment Companies

Open end funds issue and redeem shares whenever investors choose to invest/divest.

Close-end funds only issue shares one, which are then traded among investors in the secondary market

Open-end funds are priced at their NAV per share

Close-end funds can trade at a premium or discount to their NAV

Exchange traded funds

Trade like stocks that are based on indexes

Advantages over mutual funds: ease to trading, continuous pricing and low cost for major indexes.

QUESTION 3

a. $r_S = R_F + \beta_S (R_M - R_F) = 5\% + 1.5 \times (15\% - 5\%) = 20\%$

$DIV_0 = 0.4 \times \$4.00 = \1.60

$P_{CS} = DIV_1 / (r_S - g) = \$1.60 (1.05) / (20\% - 5\%) = \11.20

b. Porter's 5 forces. Threat of new entrants. Rivalry among firms within the industry. Availability of substitutes. Bargaining power to customers. Bargaining power to suppliers.

c. Cyclical company: Earnings correlated with the business cycle.

Cyclical stock: Volatile price, high beta

d. Forms of Real Estate Investments

Unleveraged equity interest, leveraged equity interest, mortgages and aggregation vehicles.

Characteristics: Immobile, indivisible and unique. Lack comparability. Illiquid. Real Estate markets are not homogeneous. Transaction costs are high. Information inefficiencies.

e. Diverse objectives (some may actually hedge, but many employ leverage to exploit perceived opportunities).

Largely unregulated (limited number of investors allowed, limited to high net worth investors, restricted from advertising).

High fee structures (management fees and incentive fees).

QUESTION 4

a. Since \$4.00 is next year's dividend, $D_1 = \$4.00$, the price is calculated as:

$PCS = D_1 / (r_{CE} - g) = \$4.00 / (0.12 - 0.05) = \$57.14$

b. Good companies: it is already priced in the stock? Good stocks: undervalued

Growth companies: sales grow. Growth stock: Price grow

c. Exit value of the firm. Time until exit (IPO) and the probability of failure.

d. Calculations summary on a hypothetical \$1,000 investment for the different time horizons. Class C provides the highest return for the 1-year horizon while Class B provides the highest return for the 3-year time horizon. The lower the fees the better an investor does.

1-year horizon

Class A: $(\$1,000 - \$50) \times (1.12) = \$1,064$

Class B: $\$1,000 \times (1.12) \times (1 - 0.04) = \$1,075$

Class C: $\$1,000 \times (1.12) \times (1 - 0.01) = \$1,109$

3-year horizon

Class A: $(\$1,000 - \$50) \times (1.12)^3 = \$1,335$

Class B: $\$1,000 \times (1.12)^3 \times (1 - 0.02) = \$1,377$

Class C: $\$1,000 \times (1.12)^3 - (1 - 0.01)^3 = \$1,363$

Solution 1-year horizon (Class C) and 3-year horizon (Class B)