Finance 303 – Financial Management
Review Notes for Midterm #1

Chapter 1

- Cash flow chart between capital markets and firm's operations
- The goal of a firm – to maximize shareholders' wealth or stock price
- Alternative forms of business organization – focus on corporations
- Intrinsic value and market price of a stock
- Agency problems – potential conflict in interests between two groups of people
- The role of financial managers

Chapter 2

- Capital allocation process – three forms
- Financial markets – money vs. capital; primary vs. secondary; spot vs. futures; organized vs. OTC; private vs. public
- Financial institutions
- The stock market
- Market efficiency – three forms and information content, implications

Chapter 3

- Annual report
- Basic financial statements – remember the basic format
- Free cash flow
- Income taxes – concepts and calculations

Chapter 4

- Financial ratio analysis – 5 groups, each group measures one aspect of performance
- Du Pont equations – focus on ROA and ROE
- Applications

Chapter 5

- Time line
- Future value (FV) and present value (PV)
- Future value annuity (FVA) and present value annuity (PVA): ordinary vs. due
- Perpetuities
- Uneven cash flows
- Semiannual and other compounding periods
- Applications

Sample Questions

1. Which of the following statements is correct? (c)

   a. One of the advantages of the corporate form of organization is that it avoids double taxation.
   b. It is easier to transfer one's ownership interest in a partnership than in a corporation.
   c. One of the disadvantages of a sole proprietorship is that the proprietor is exposed to unlimited liability.
   d. One of the advantages of a corporation from a social standpoint is that every stockholder has equal voting rights, i.e., "one person, one vote."
   e. Corporations of all types are subject to the corporate income tax.

   (You should concentrate on corporations)

2. Which of the following statements is correct? (e)

   a. The proper goal of the financial manager should be to maximize the firm's expected cash flows, because this will add the most wealth to each of the individual shareholders of the firm.
   b. The financial manager should seek that combination of assets, liabilities, and capital that will generate the largest expected projected after-tax income over the relevant time horizon.
   c. The riskiness inherent in a firm's earnings per share (EPS) depends on the characteristics of the projects the firm selects, which means it depends upon the firm's assets, but EPS does not depend on the manner in which those assets are financed.
   d. Large, publicly-owned firms like AT&T and GM, are controlled by their management teams. Ownership is generally widely dispersed, hence managers have great freedom in how they manage the firm. Managers may operate in stockholders' best interests, but they may also operate in their own personal best interests. As long as managers stay within the law, there are no effective tools that can be used to motivate them to take actions that are in the stockholders' best interests.
   e. The proper goal of the financial manager should be to maximize shareholders' wealth even though potential conflicts of interest may exist between stockholders and managers.

   (The goal of a corporation is to maximize shareholders' wealth or stock price)

3. Sims Inc. earned $1.00 per share in 2002. Five years later, in 2007, it earned $2.00. What was the growth rate in Sims' earnings per share over the 5-year period? (b)

   a. 15.82% b. 14.87% c. 13.61% d. 12.28% e. 11.17%

   (PV = -1.00, FV = 2, N = 5, PMT = 0, solve for i/y)

4. Your sister turned 30 today, and she is planning to save $3,000 per year for retirement, with the first deposit to be made one year from today. She will invest in a mutual fund, which she expects to provide a return of 10% per year. She plans to retire 35 years from today when she turns 65, and she expects to live for 30 years after retirement, to age 95. Under these assumptions, how much can she spend each year after she retires? Her first withdrawal will be made at the end of her first retirement year. (d)

a. $78,976
b. $91,110
c. $88,513
d. $86,250
e. $83,049

(Step 1: PMT = -3,000, i/y = 10% (enter 10), N = 35, PV = 0, solve for FV = 813,073.11; Step 2: PV = -813,073.11, FV = 0, N = 30, i/y = 10%, solve for PMT)

5. Companies generate income from their "regular" operations and from things like interest on securities they hold, which is called non-operating income. Mitel Metals recently reported $9,000 of sales, $6,000 of operating costs excluding depreciation, and $1,500 of depreciation. The company had no amortization charges and no non-operating income. It had issued $4,000 of bonds that carry a 7% interest rate, and its federal-plus-state income tax rate was 40%. What was the firm's operating income, or EBIT? (e)

a. $1,100 b. $1,200 c. $1,300 d. $1,400 e. $1,500

(Sales – operating cost – depreciation and amortization = EBIT)

6. Temple Square Inc. reported that its retained earnings for 2007 were $490,000. In its 2008 financial statements, it reported $60,000 of net income, and it ended 2008 with $510,000 of retained earnings. How much were paid out as cash dividends to shareholders during 2008? (e)

a. $20,000 b. $25,000 c. $30,000 d. $35,000 e. $40,000

(R/E in 2008 = 510,000 – 490,000 = 20,000, so cash dividend = 60,000 – 20,000 = 40,000)

7. Collins Inc's latest net income was $1 million, and it had 200,000 shares outstanding. The company wants to pay out 40% of its income. What dividend per share should the company declare? (e)

a. $1.60 b. $1.70 c. $1.80 d. $1.90 e. $2.00

(1,000,000 * 40% = 400,000 dividend, DPS = 4000,000 / 200,000 = $2 per share)

8. Approximately how long will it take to double your money if the interest rate is 12% compounded annually? (d)

a. 12 years b. 10 years c. 8 years d. 6 years e. None of the above

(PV = -1, FV = 2, i/y = 12% (enter 12), PMT = 0, solve for N)

9. Which of the following statements is correct? (e)

a. If you purchase 100 shares of Disney stock from your brother-in-law, this is an example of a primary market transaction.
b. If Disney issues additional shares of common stock through an investment banker, this would be a secondary market transaction.
c. The NYSE is an example of an over-the-counter market.
d. Only institutions, and not individuals, can engage in the derivatives markets.
e. As they are generally defined, money market transactions involve debt securities with maturities of less than one year.

(You need to know the definitions of different financial markets)

10. Suppose you have a daughter who just turned 8. You would like to set up an education account for her. You plan to save each year in next 10 years and the first investment will be made in one year. The money in the education account earns 12%, compounded annually. It is expected that your daughter needs $20,000 per year for 4 years to finish her college. The first withdraw will take place when she turns 18 (ordinary annuity or annuity due?). How much should you save each year in next 10 years? (d)

a. $8,000.00
b. $5,454.45
c. $4,356.34
d. $3,877.01
e. $3,233.05

(This is an annuity due problem for the daughter. Step 1: PMT = 20,000, N = 4, FV = 0, i/y = 12% (enter 12), solve for PV = -60,746.99, then multiply that by (1 + 12%) to get -68,036.63. Then it is an ordinary problem for the father Step 2: FV = 68,036.63, PV = 0, i/y = 12% (enter 12), N = 10, solve for PMT)

11. Capital markets are markets for (e)

a. short-term debts.
b. consumer automobile loans.
c. corporate stocks.
d. long-term bonds.
e. Both c and d are correct.

(Capital markets are markets for long term debt and stocks while money markets are markets for short term debt)

12. All of the following represent cash outflows to a firm except (a)

a. Depreciation.
b. Interest payments.
c. Dividends.
d. Purchase of plant and equipment.
e. Taxes.
(Only depreciation is not a cash outflow)

13. What will be the present value of the following uneven cash flows if the interest rate is 8%? (b)

	100	200	200	200	200
0	1	2	3	4	5

a. 650.25 b. 705.95 c. 805.50 d. 855.90 e. None of the above
(Use CF functions. CF0 = 0, press enter, press arrow done, C01 = 100, press enter, press arrow done, F01 = 1, press arrow down, C02 = 200, press enter, press arrow done, F02 = 4, press enter, press arrow done, press NPV, i/y = 8% (enter 8), press enter, press arrow done, and press CPT)

14. ABC's return on equity (ROE) is 15%. If sales were $10 million, the debt ratio was 40%, and total liabilities were $5 million, what would be ABC's return on assets (ROA)? (c)

a. 15% b. 10% c. 9% d. 8% e. 7%
(ROE = ROA * EM. If debt ration is 40%, then equity ratio is 60% and EM is 5/3)

15. If you buy a condominium for $200,000 and the terms are 10% down, the balance of $180,000 to be paid off over 15 years at a 6% rate of interest on the unpaid balance, what is your annual payment? (a)

a. 18,533.30 b. 19,976.23 c. 20,143.56 d. 21,367.12 e. 22,102.31
(PV = 180,000, N = 15, I/y = 6% (enter 6), FV = 0, solve for PMT)

16. In the above question, what is your monthly payment? (b)

a. 1,456.89 b. 1,518.94 c. 1,606.25 d. 1,664.67 e. 1,734.29
(PV = 180,000, N = 180 (monthly payments), i/y = 0.5% per month (enter 0.5), FV = 0, solve for PMT)

17. You are considering investing in either XYZ bonds that yield 6% or state of California municipal bonds that yield 4.0%. What should be your marginal tax rate such that you will be indifferent between these two investments based on after tax returns (ignore the risk)? (c)

a. 28.00% b. 31.00% c. 33.33% d. 36.66% e. 38.00%
(4% = 6%*(1-T), solve for T = 33.33%. You are indifferent if two investments provide you the same after-tax returns)

18. Loan amortization schedule
Amount borrowed: $100,000
Years: 5
Rate: 6% compounded annually
PMT: -$23,739.64
(PV = 100,000, N = 5, i/y = 6, FV = 0, solve for PMT)

Year	Beginning Amount (1)	Payment (2)	Interest (3)	Repayment of Principal (4)	Ending Balance (5)
1	$100,000.00	$23,739.64	$6,000.00	$17,739.64	$82,260.36
2	82,260.36	23,739.64	4,935.62	18,804.02	63,456.34
3	63,456.34	23,739.64	3,807.38	19,932.26	43,524.08
4	43,524.08	23,739.64	2,611.44	21,128.20	22,395.89
5	22,395.89	23,739.64	1,343.75	22,395.89	0.00

Interest (3) = Beginning Amount (1)*6%
Repayment of Principal (4) = Payment (2) – Interest (3)
Ending Balance (5) = Beginning Amount (1) – Repayment of Principal (4)

For the next three questions suppose the following holds:
You are given the following information about ABC Company for 2007:
Sales = $600,000
- Cost of goods sold = $200,000
- Operating expenses = $100,000
- Depreciation expenses = $6,000
+ 30% of Dividend income = $20,000 or $6,000
Common stock dividend paid = $35,000 (irrelevant, should not be included)
+ Interest income = $20,000
- Interest paid = $40,000
+ Capital gains = $30,000
- Capital loss carried forward from 2006 = $20,000

Corporate Tax Rates

Corporate Income	Base	Tax Rate
$ 0 - 50,000	$ 0	15%
$ 50,000 - 75,000	7,500	25%
$ 75,000 - 100,000	13,750	34%
$ 100,000 - 335,000	22,250	39%
Over $335,000	113,900	34%

19. What is taxable income for ABC in 2007? (c)

a. $355,000
b. $310,000
c. $290,000
d. $276,000
e. $250,000
(See above)

20. How much in taxes should ABC pay in 2007? (a)

a. $ 96,350
b. $114,580
c. $104,150
d. $ 90,890
e. $ 80,750
(22,250 + (290,000 – 100,000)*(0.39)) = 96,350

21. What are the marginal and average tax rates for the company in 2007? (b)

a. 34%, 32.45%
b. 39%, 33.22%
c. 39%, 35.23%
d. 34%, 30.23%
e. 39%, 34.00%
(Marginal is 39% and average is 96,350/290,000 = 33.22%)

For the next three questions, suppose the following holds:
The projected taxable income for ABC to be formed in 2008 is indicated in the following table. The tax rate for ABC is 40%.

Year	Taxable income
2008	($5,000,000)
2009	4,000,000
2010	4,000,000
2011	(2,000,000)

22. What would be the tax liability for ABC in year 2009? (b)

a. There would be no taxes due and there would be $5,000,000 loss to carry forward.
b. There would be no taxes due and there would be $1,000,000 loss to carry forward.
c. There would be no taxes due and there would be no loss to carry forward.
d. There would be a tax liability of $1,000,000.
e. There would be a tax liability of $400,000.

(No taxes due in 2009 since the loss of 5 mil from 2008 can be used to offset 4 million of income in 2009. In addition, there will be 1 million of loss to carry forward to 2010)

23. What would be the tax liability for ABC in year 2010? (e)

a. There would be no taxes due and there would be $3,000,000 loss to carry forward.
b. There would be no taxes due and there would be $1,000,000 loss to carry back.
c. There would be no taxes due and there would be no loss to carry forward.
d. There would be a tax liability of $3,000,000.
e. There would be a tax liability of $1,200,000.

(The firm has a taxable income of 3 million and needs to pay 1.2 million of taxes since the loss of 1 million carried forward from 2009 can only offset 1 million of income)

24. What is the tax liability for ABC in year 2011? (a)

a. There would be no taxes due and there would be $2,000,000 loss to carry back for a refund of $800,000.
b. There would be no taxes due and there would be $1,000,000 loss to carry back for a refund of $400,000.
c. There would be no taxes due and there would be no loss to carry back.
d. There would be a tax liability of $1,000,000.
e. There would be a tax liability of $400,000.

(No taxes due in 2011 since the firm will suffer a loss again. In addition, the firm can carry the loss of 2 million back to 2010 to offset 2 million of taxable income in 2010 and get a refund of 800,000)

25. Self-Test questions, problems assigned at the end of each chapter, and sample problems discussed in class