

Exam 1
Review slides

—

Quiz 2

Balance Sheet (2008)

Assets		Liabilities & Equity	
Current Assets	3500	Current Liabilities	2600
Fixed Assets	4200	Long-term debt	2300
Total Assets	7700	Owners' Equity	2800
		Total Liabilities and Equity	7700

Income Statement (2008)

Sales	4300
Costs (including interest)	3200
EBT	1100
Taxes	374
Net Income	726

Assumptions:

- Costs and asset requirements increase in proportion to sales.
- Current liabilities do **not** increase with sales.
- Dividend payout is 60% of net income.
- The tax rate is 34%.
- Dividend payout ratio and tax rate remain constant.

—

Quiz 2, continued

- (a) What is the maximum growth rate the firm can achieve without taking on any additional debt?
- (b) What is the maximum growth rate the firm can achieve while maintaining the present debt-equity ratio?
- (c) How much additional long-term debt would be required to achieve a sales growth target of 10% if no new equity is raised?

—

HW3, #3

A firm wishes to maintain an internal growth rate of 9 percent and a dividend payout ratio of 30 percent. The current profit margin is 8 percent and the firm uses no external financing sources. What must total asset turnover be?

—

HW 3, #4

Using the following information, calculate the sustainable growth rate and internal growth rate for Hendrix Guitars, Inc.:

Profit margin = 6.4%
Total asset turnover = 1.80
Total debt ratio = .60
Payout ratio = 60%

—

5

HW 3, #5

Balance Sheet (2004)			
Current Assets		Current liabilities	
Cash	\$25,000	Accounts payable	\$65,000
Accounts receivable	43,000	Notes payable	9,000
Inventory	76,000	Total	\$74,000
Total	\$144,000	Long-term debt	\$156,000
Fixed assets		Owners' equity	
Net plant and equipment	\$364,000	Common stock and paid-in surplus	21,000
		Retained earnings	257,000
		Total	\$278,000
Total assets	\$508,000	Total liabilities and equity	\$508,000

Income statement (2004)

Sales	\$905,000
Costs	710,000
Other expenses	12,000
EBIT	\$183,000
Interest	19,700
Taxable income	\$163,300
Taxes (35%)	57,155
Net income	\$106,145

Dividends	\$42,458
Addition to retained earnings	\$63,687

- Sales for 2005 are projected to grow by 20 percent.
- Interest expense, notes payable, and the tax rate will remain constant.
- Costs, other expenses, current assets, fixed assets, and accounts payable increase proportionally with sales.
- The firm would like to maintain the same dividend payout ratio.

—

6

HW 3, #5 (continued)

(a) Suppose the firm is operating at full capacity. What is the EFN? Can the firm achieve the sales growth target without issuing any new debt or equity? How?

(b) If the firm was operating at only 80 percent capacity in 2004 and could operate at up to 100% capacity in 2005, what would the EFN be?

—

7

IRR

Consider the cash flows associated with the following two projects:

Year	A	B
0	-200	-400
1	100	100
2	100	100
3	100	100
4	0	350

- What is the IRR of each project?
- Suppose that at most one of these projects can be undertaken. If the appropriate discount rate is 10%, which (if any) should be accepted? (Why?)

—

8

IRR (continued)

For the preceding problem, describe what the cross-over point is and compute it. For what values of the discount rate is project A preferred? For what values is project B preferred?

Year	A	B
0	-200	-400
1	100	100
2	100	100
3	100	100
4	0	350

—

Minimum bid

LMN Corp. is thinking of undertaking a project with the following characteristics. They have been asked to prepare a bid for the job. The bid should be a fixed amount for each year of the project. At what bid (per year) do they exactly break even in NPV?

Project details:

- Discount rate is 10%
- Tax rate is 35%
- Initial cost is \$50,000. This is to be depreciated using the straight-line method over 5 years.
- Other costs are \$8,000 per year
- The project is to run for 4 years. At the end of the project, the fixed assets will not be sold, but will be used for another project at the company. The market value of these assets at that time is estimated to be \$6000.
- The firm will finance the project using long-term debt. It believes it can borrow the needed funds at 7%.
- The project will require \$7000 in additional net working capital.

—

Minimum bid (Solution)

—

Cash flow discounting

John is thinking of buying a perpetuity that makes quarterly payments beginning 5 years from today. The first payment is \$100 and the payments increase at a rate of 8%.

If the appropriate discount rate is 12%, what is this perpetuity worth today?

—

AAR

Given the following accounting information, what is the projected AAR?

	0	1	2	3	4	5
CA	100	100	100	100	100	100
FA	500	400	300	200	100	0
TA	600	500	400	300	200	100
CL	75	75	75	75	75	75
LTD	125	125	125	125	125	25
OE	400	300	200	100	0	0
NI		29	27	25	23	21

—

HW 6, #2

Given the cash flows below, compute the NPV, IRR, PI, payback period, and discounted payback period (use a discount rate of 12%).

Year	0	1	2	3	4	5	6
Cash flow	-5000	1500	1500	1300	1300	1300	-1000

—

Ratios

Balance Sheet (2004)

Current Assets		Current liabilities	
Cash	\$25,000	Accounts payable	\$65,000
Accounts receivable	43,000	Notes payable	9,000
Inventory	76,000	Total	\$74,000
Total	\$144,000		
Fixed assets		Long-term debt	
Net plant and equipment	\$364,000		\$156,000
Total assets		Owners' equity	
		Common stock and paid-in surplus	21,000
		Retained earnings	257,000
		Total	\$278,000
		Total liabilities and equity	\$508,000

Income statement (2004)

Sales	\$905,000
Costs	710,000
Other expenses	12,000
EBIT	\$183,000
Interest	19,700
Taxable income	\$163,300
Taxes (35%)	57,155
Net income	\$106,145

Dividends	\$42,458
Addition to retained earnings	\$63,687

—

Using the accounting information on the previous slide, compute the following ratios:

- Current ratio
- Quick ratio
- Cash ratio
- Total debt ratio
- Debt-equity ratio
- Equity multiplier
- Long-term debt ratio
- Total asset turnover
- Capital intensity
- Profit margin
- ROE
- ROA

—

Ratios (continued)

Suppose this firm has 100,000 shares outstanding and that the share price is \$8.

- What is the EPS ratio?

- What is the PE ratio?

- What is the market-to-book ratio?

—

17

Cash flows

Balance Sheet (1000's of \$)

	2003	2004		2003	2004
Current Assets			Current liabilities		
Cash	\$23	\$25	AP	60	\$65
AR	40	43	NP	9	9
Inventory	62	76	Total	69	\$74
Total	125	\$144			
			Long-term debt	188	\$156
Fixed assets			Owners' equity		
Net plant and equipment	350	\$364	Common stock	21	21
			Retained earnings	197	257
			Total	218	\$278
Total assets	475	\$508	Total L & E	475	\$508

Income statement (2004)

Sales	\$905,000
Costs	710,000
Depreciation	12,000
EBIT	\$183,000
Interest	19,700
Taxable income	\$163,300
Taxes (35%)	57,155
Net income	\$106,145
Dividends	\$46,145
Addition to retained earnings	\$60,000

—

18

Cash flows (continued)

Using the accounting information on the previous slide, compute the following:

- OCF

- NCS

- ChNWC

- CFFA

- CF2Cr

- CF2SH

—

19

IRR vs NPV

In most situations, IRR and NPV will both lead to the same conclusions.

What are the two common situations where IRR can give a misleading result?

—

20