Project Appraisal - Q&A Lecture 6

A. Multiple Choice Questions

1 Which of the following sentences is not true?

a) Long-term financial planning establishes guidelines for change and growth in a firm;
b) Long-term financial planning does not examine the individual components of investment and financing policies
c) Firm's investment and financing policies do not interact:
d) The assets a firm plans on purchasing must be considered along with the firm's ability to raise the necessary capital to fund those investments;
e) None, all are true.

2 Long-term financial planning …

a) Makes explicit the interactions between investment proposals and financing choices
b) Allows the firm to explore scenarios in a consistent way
c) Makes explicit linkages between different corporate goals imposing a unified structure to reconciling those goals;
d) All the above;
e) Only a) and c).

3 Which of the following are inputs of a financial planning model?

a) Sales forecasts and assets requirements;
b) Economic assumptions;
c) Financial requirements;
d) Proforma financial statements;
e) All the above.

4 Laplace PLC internal growth rate is 5% and the company does not want to increase debt nor issue new shares in a wary stock market. The investment projects under appraisal assume sales to grow at an 8% pace. As a CFO what is your decision?

a) Growth is a must, forecasts look reasonable;
b) Forecasts are slightly optimistic, revise it to 6%;
c) Forecasts are an utterly nonsense, revise it to 3%;
d) Forecasts are overoptimistic, revise it to 5%;
e) Forecasts are optimistic, revise it to 4%;

5 The internal growth rate can be calculated using two ratios. Which are they?

a) Return on Equity and the Plowback Ratio;
b) Return on Assets and the Payout Ratio;
c) Return on Equity and the Playout Ratio;
d) Asset Turnover and Profit Margin;
e) Asset Turnover and Equity Multiplier.

6 Your trainee came up with estimates for the internal and sustainable growth rates of 5% and 3%, respectively. As his mentor what is your reaction?

a) Perfect! Good work;
b) I believe both rates are too pessimistic. We need to grow at 7%;
c) I smell a rat. The two rates should be identical;
d) Please revise the estimates because the internal growth rate should be lower than the sustainable growth rate;
e) Please, provide me with figures consistent with the industry average.

7 Kunst AG sustainable growth rate is 5%. This means that …

a) 5% is the minimum growth rate that a firm can achieve;
b) 5% is the maximum growth rate that a firm can achieve with no external financing;
c) 5% is the maximum growth rate that a firm can achieve with no external equity financing and a constant debt-to-equity ratio;
d) 5% is the maximum growth rate that a firm can achieve with no external financing and a constant debt-to-equity ratio;
e) 5% is the maximum growth rate that a firm can achieve while keeping a constant debt-to-equity ratio.

8 Corporate revenue growth depends on which set of factors?

a) Profit margin, dividend policy, asset turnover and operating efficiency;
b) Profit margin, dividend policy, asset turnover and financial leverage;
c) Profit margin, dividend policy, operating efficiency, and financial policy;
d) Operating efficiency, dividend policy, asset use efficiency and plowback ratio;
e) Profit margin, dividend policy, inventory turnover and financial policy;

B. Open Questions

1 Consider the following simplified financial statements for the Wesney Corporation (assuming no income taxes):

Income Statement		Balance Sheet			
Sales	39,400	Assets	29,200	Debt	9,400
Costs	34,700			Equity	19,800
Net Income	4,700	Total	29,200	Total	29,200

The company has predicted a sales increase of 15 percent. Costs and assets vary with sales, but debt and equity do not. Assume the company pays out half of net income in the form of a cash dividend. Prepare the pro forma statements and determine the external financing needed.

2 The most recent financial statements for Mandy Co. are shown here.

Income Statement		Balance Sheet			
Sales	16 400	Assets			
Costs	11 200	Current	11 200	Debt	13 600
Taxable Income	5 200	Fixed	24 300	Equity	21 900
Taxes (21%)	1 092				
Net Income	4 108	Total	35 500	Total	35 500

Assets and costs are proportional to sales. Debt and equity are not. The company maintains a constant 30 percent dividend payout ratio. What is the internal and sustainable growth rates?

3 If Fairlane Co. has an ROA of 8.3 percent and a payout ratio of 35 percent, what is its internal growth rate?

4 Pinnacle Mfg., Inc., is currently operating at only 94 percent of fixed asset capacity. Current sales are $830,000. How fast can sales grow before any new fixed assets are needed?

5 Based on the following information, calculate the sustainable growth rate for Hendrix Guitars, Inc.:

Profit margin = 5.9%

Total asset turnover = 1.15

Total debt ratio = .45

Payout ratio = 40%

6 The most recent financial statements for Crosby, Inc., follow. Sales for 2021 are projected to grow by 20 percent. Interest expense will remain constant; the tax rate and the dividend payout rate will also remain constant. Costs, other expenses, current assets, fixed assets, and accounts payable increase spontaneously with sales

CROSBY INC - 2020 Income Statement	
Sales	686 530
Costs	554 420
Other expenses	14 020
Earnings before interest and taxes	118 090
Interest paid	12 090
Taxable income	106 000
Taxes (21%)	22 260
Net income	83 740
Dividends	27 475
Addition to retained earnings	56 265

CROSBY INC. - Balance Sheet as of December 31 2020			
Assets		Liabilities and Owners' Equity	
Current assets		Current liabilities	
Cash	20 940	Accounts payable	53 790
Accounts receivable	31 970	Notes payable	13 215
Inventory	71 320	Total	67 005
Total	124 230	Long-term debt	127 500
Fixed assets		Owners' equity	
Net plant and equipment	341 980	Common stock and paid-in	
Total	341 980	surplus	105 000
		Retained earnings	166 705
		Total	271 705
Total assets	466 210	Total liabilities and owners' equity	466 210

D/E	0.715868

a) If the firm is operating at full capacity and no new debt or equity is issued, what external financing is needed to support the 20 percent growth rate in sales?

b) Now, suppose the firm was operating at only 80 percent capacity in 2020. What is EFN now?

c) And if the firm wishes to keep its debt-to-equity ratio constant. What is EFN now?

C. Answers to Multiple Choice Questions

1 Which of the following sentences is not true?

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- e) None, all are true.

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c) Profit margin, dividend policy, operating efficiency, and financial policy;

d) Operating efficiency, dividend policy, asset use efficiency and plowback ratio;

e) Profit margin, dividend policy, inventory turnover and financial policy;

D. Answers to Open Questions

1

Income Statement		Balance Sheet			
Sales	45 310	Assets	33 580	Debt	9 400
Costs	39 905			Equity	22 503
Net Income	5 405	Total	33 580	Total	31 903

EFN 1 678

2

ROA	12%	ROE	19%
b	70%	b	70%
ROA*b	8%	ROE*b	13%
IGR	8.81%	SGR	15.12%

3

ROA	8.30%
b	65.00%
ROA*b	5%
IGR	5.70%

4

Sales	830
Assets Use	94%
Sales Growth	6.38%

Max. Sales = 830/94%

Sales Growth = Max. Sales/Sales -1

5

Profit margin	5.90%	Equity Multiplier	1.82
Total asset turnover	1.15	ROE	12%
Total debt ratio	0.45	b	60%
Payout ratio	40%	ROE*b	7%
		SGR	7.99%

6

EFN = 13 683

a

CROSBY INC - 2021 Income Statement	
Sales	823 836
Costs	665 304

Other expenses	16 824
Earnings before interest and taxes	141 708
Interest paid	12 090
Taxable income	129 618
Taxes (21%)	27 220
Net income	102 398
Dividends	33 597
Addition to retained earnings	68 801

CROSBY INC. - Balance Sheet as of December 31 2021			
Assets		Liabilities and Owners' Equity	
Current assets		Current liabilities	
Cash	25 128	Accounts payable	64 548
Accounts receivable	38 364	Notes payable	13 215
Inventory	85 584	Total	77 763
Total	149 076	Long-term debt	127 500
Fixed assets		Owners' equity	
Net plant and equipment	410 376	Common stock and paid-in surplus	105 000
Total	410 376	Retained earnings	235 506
		Total	340 506
Total assets	559 452	Total liabilities and owners' equity	545 769
EFN	13 683	D/E	0.602817

Max Sales @ 80% Capacity Utilization 858 163

Sales can grow 20% with no need of additional investment in fixed assets.

b

CROSBY INC. - Balance Sheet as of December 31 2021			
Assets		Liabilities and Owners' Equity	
Current assets		Current liabilities	
Cash	25 128	Accounts payable	64 548
Accounts receivable	38 364	Notes payable	13 215
Inventory	85 584	Total	77 763
Total	149 076	Long-term debt	127 500
Fixed assets		Owners' equity	
Net plant and equipment	341 980	Common stock and paid-in surplus	105 000
Total	341 980	Retained earnings	235 506

		Total	340 506
Total assets	491 056	Total liabilities and owners' equity	545 769
EFN	-54 713	D/E	0.602817

If the firm wishes to keep its debt-to-equity ratio constant at 0.72 it can take debt up to $38,495, above our first calculation of the EFN. Hence, under this conditions and without new issuance of equity is possible to sustain a growth rate above 20%.

c

D/E	0.715868
Add debt	38 495