Exam
Finance for Innovative Firms
(201100059)

Instructors: H. Kroon,
Date: 15 April 2015
Time:
Location:

After the exam, hand in
- your answers

language:
Questions are in English, answers can be given in English, German or Dutch.

Exam details:
The whole exam consists of 5 pages, including this front page, and a two pages formula sheet.

grading:

Problem 1:	**35 points**
Problem 2:	**20 points**
Problem 3:	**20 points**
Problem 4:	**25 points**

Problem 1

Pasman Corporation increased its sales from €375,000 in 2010 to €450,000 in 2011 as is shown in the firms income statements presented as follows. Gerrit Pasman, founder of the firm, expressed concern that the cash account and the firm's marketable securities declined substantially between 2010 and 2011. Pasman's complete balance sheets are also shown. Gerrit Pasman is seeking your assistance in the preparation of a statement of cash flows.

PASMAN CORPORATION annual income statements (in € Thousands)

	2010	2011
Net sales	375	450
Cost of goods sold	225	270
Gross profit	150	180
Operating expenses	46	46
Depreciation	25	30
EBIT	79	104
Interest	4	4
Income before tax	75	100
Income taxes	20	30
Net income	55	70
Cash dividends	17	20

PASMAN CORPORATION balance sheets as of December 31 (in € Thousands)

	2010	2011
Cash	39	16
Accounts receivable	50	80
Inventories	151	204
Total current assets	240	300
Gross fixed assets	200	290
Less accumulated depreciation	95	125
Net fixed assets	105	165
Total assets	345	465
Accounts payable	30	45
Bank loan	20	27
Accrued liabilities	10	23
Total current liabilities	60	95
Long-term debt	15	15
Common stock	85	120
Retained earnings	185	235
Total liabilities and equity	345	465

Question 1

When you start up a business, you can develop cash flow statements on a yearly basis or at a monthly basis. Which one would you prefer, and why?

Question 2

Provide a brief description of what happened in terms of cash flows for Pasman in 2011 (show a cash flow statement)

Question 3

Provide a brief description of what happened in terms of profitability in 2010 and 2011. Use in the description the words ROA, margin, ROE.

Question 4

What is the effect for Pasman if the accounts receivable will pay their invoices 10 days later (average).

Problem 2

Question 1

Why is debt capital, in general, cheaper than owner's equity

When you buy a small company you get as owner 100,000 euro's a year (= cash flows from operations – cash flows of investments). The return on equity is 13% , the return on liabilities is 7%; corporate taxation is 35%; the amount of equity is 30% of the total assets; and the return on assets is 9.5%.

Question 2

Calculate the WACC (weighted average cost of capital)

Question 3

Has this company created value? Show a calculation.

Problem 3

Question 1

Give and explain three types of -seed and startup- financing

Question 2

Which parts of the VOS indicator are less important when you screen mature organizations.

Question 3

The target rate of return in the early rapid growth stage is between 25% and 35%.
The target rate of return in the late rapid growth stage is between 20% and 30%.
Give two reasons why the target rate of return is lower in the late rapid growth stage.

Problem 4

All projected income statements of Tangeman Trade(amounts in Thousands €)

	2012	2013	2014
Net sales	150.0	200.0	200.0
Cost of goods sold	75.0	100.0	75.0
Gross profit	75.0	100.0	125.0
Other op. expenses	30.0	40.0	50.0
Depreciation	7.5	10.0	12.5
EBIT	37.5	50.0	62.5
Interest	2.7	3.5	3.5
EBT	34.8	46.5	59.0
Taxes (40%)	13.9	18.6	23.6
Net income	20.9	27.9	35.4

The WACC is 10%, the cost of equity is 15% and the equity-to-total-asset ratio is 30% and this corporation.

Question 1

Is this company interesting for you as a venture capitalist

Question 2

Why do we use a terminal value in some valuation methods

Question 3

Make an assumption about the growth you will expect and calculate the value of this firm

EF formula sheet

Cash burn = inventory –related purchases + administrative expenses + marketing expenses + R&D expenses+ interest expenses + change in prepaid expenses- (change in accured liabilities+change in payables) + capital expenses + taxes

Cash build =net sales - change in receivables

NWC = average current assets – average current liabilities

NCW –to total assets ratio = average NWC / average total assets

Inventory-to-sale conversion period = average inventories / (cost of goods sold / 365)

Sales to cash conversion period = average receivables / (net Sales/365)

Purchase- to- payment conversion period = (average payments + average accrued liabilities / (cost of good sold/365)

Cash conversion cycle = inventory- to-sale cp + sales to cash cp –purchase-to-payment cp

Total debt to total assets ratio = total debt / total assets

Interest coverage ratio = EBITDA / interest

Gross profit margin = (net sales – cost of goods sold)/ net sales

Operating profit margin = EBIT / net sales

Net profit margin = net profit / net sales

Nopat margin = EBIT (1-tax rate) / net sales

Sales to total assets ratio = net sales / average total assets

Operating return on assets = ebit / average total assets

Return on assets = net profit / average total assets

Asset turnover = net sales / average total assets (not in book)

Return on equity = net income / average owners'equity

G= ROA * FP

Additional funds needed = required increase in assets – spontaneously generated funds – increased in retained earnings

R_{debt}= RR+IP+DRP+LP+MP

R_f=RR+IP

$R_e=r_f+(r_m-r_f)$Beta

WACC = (1-tax rate) debt rate *(debt/ total assets) + equity rate *(equity/ total assets)

EVA = NOPAT- (WACC* capital used)

NOPAT = EBIT* (1-effective tax rate)

Formula's of the different valuation methods:

Net income / cost of equity

Net income / (cost of equity – growth)

Enterprise value = sum of (the discounted cash flows of operation – the discounted cash flows of investing). Discounted with the WACC as discount factor. Equity value is enterprise value - liabilities