Tutorial letter 202/2/2014

Application of financial management techniques

SEMESTER 2

Department of Management Accounting

IMPORTANT INFORMATION:
This tutorial letter contains important information about your module.

Dear Student

Enclosed please find the solution in respect of assignment 02/2014. It is in your own interest to work through the suggested solution in conjunction with the assignment and your own answer.

Kind regards

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SOLUTION FOR ASSIGNMENT 02/2014 FOR THE SECOND SEMESTER

QUESTION 1

(a)   Determining value of company using the fair rate of return provided

YEAR		(P0) Rand	2014 (P1) Rand	2015 (P2) Rand	2016 (P3) Rand	2017 (P4) Rand
Expected dividend to be paid						
2014	550 000 x 1,10		605 000			
2015	605 000 x 1,15			695 750		
2016	695 750 x 1,20				834 900	
2017	834 900 x 1,25					1 043 625
Gordon's dividend growth model 2018 and onward ①						43 484 375
		0	**605 000**	**695 750**	**834 900**	**44 528 000**
Fair rate of return	28,00%		0,781	0,610	0,477	0,373
Net present value	**17 904 104**	**0**	**472 505**	**424 408**	**398 247**	**16 608 944**

Calculation ①

$$P_4 = \frac{D_5}{k_e - g}$$

$$= \frac{R1\ 043\ 625 \times 1,25}{28\% - 25\%}$$

$$= \frac{R1\ 304\ 531,25}{3\%}$$

$$= R43\ 484\ 375$$

QUESTION 1 (continued)

The value of 100% of Kgorong (Pty) Ltd is R17 904 104

Therefore the value of 10% = R17 904 104 x 0,10

= R1 790 410

Alternative method by making use of the calculator

INPUT in calculator	
CF_0	R0
CF_1	R605 000
CF_2	R695 750
CF_3	R834 900
CF_4	R44 528 000
I/YR	28
COMP NPV (HP10bII)	R17 883 392

The value of 100% of Kgorong (Pty) Ltd is R17 883 392

Therefore the value of 10% = R17 883 392 x 0,10

= R1 788 339

(b) More reliable results will be obtained when the following conditions are met:

- The business enterprise is a going concern
- The source of the value to the shareholder is essentially only the future stream of dividends
- The dividends are expected to grow by a constant rate that is likely to be sustainable in future
- Expected dividend growth rate is lower than the discount rate

QUESTION 2

(a) Calculations of NPVI of the different projects:

Project	Investment	NPV	Calculation	NPVI
Project A	R 30 000	4 500	(30 000 + 4 500)/30 000	1,15
Project B	R 25 000	9 800	(25 000 + 9 800)/25 000	1,39
Project C	R 50 000	2 600	(50 000 + 2 600)/50 000	1,05

Conclusion

Due to the fact that the projects are indivisible, we select the highest NPV's and we don't evaluate according to NPVI. Indivisible projects are projects that cannot be expanded, contracted or combined. A whole project must be undertaken in its entirety or not at all.

The company will therefore first select **Project B and then Project A** because these projects have the highest NPV's and their initial investment is R55 000 which is below the R100 000 cap.

(b) NPV assumptions
- Investors are rational
- Investors seek to maximise their wealth in terms of cash
- Capital markets are perfect
- Investors are risk-averse

QUESTION 3

(a)   NPV calculation for Sam's new project

Description and (Calculation)		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
		Rand	Rand	Rand	Rand	Rand	Rand
Initial investment in vehicle		(450 000)					
Working capital		(50 000)					50 000
Cash inflow:							
Year 1:	①		30 000				
Year 2:	(R30 000 x 1,07)			32 100			
Year 3:	(R32 100 x 1,07)				34 347		
Year 4:	(R34 347 x 1,07)					36 751	
Year 5:	(R36 751 x 1,07)						39 324
Proceeds from sale at end of useful life							200 000
Taxation ②			16 800	16 212	15 583	14 910	(41 811)
Net cash in- / (outflow)		**(500 000)**	**46 800**	**48 312**	**49 930**	**51 661**	**247 513**
Fair rate of return @ 16% ③		1,000	0,862	0,743	0,641	0,552	0,476
Fair value per period		**(500 000)**	**40 342**	**35 896**	**32 005**	**28 517**	**117 816**
Net present value							**(245 424)**

①   **Cash flow year 1**

Cash inflow   =   Number of tours per annum x price per person x number of people per tour

=   60 x R250 x 12

=   R180 000

QUESTION 3 (continued)

Net cash flow = Cash inflow – variable cost – (fixed cost – depreciation)

= R180 000 – R60 000 – (R180 000 – (R450 000 x 20%)

= R30 000

② Taxation

Description		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Tax recoupment on sale		0					200 000
Cash inflows		0	30 000	32 100	34 347	36 751	39 324
Wear and tear allowance	(450 000 / 5)	0	(90 000)	(90 000)	(90 000)	(90 000)	(90 000)
Taxable income		**0**	**(60 000)**	**(57 900)**	**(55 653)**	**(53 249)**	**149 324**
Taxation at 28%		*0*	*16 800*	*16 212*	*15 583*	*14 910*	*(41 811)*

Alternative method by making use of the calculator (include the net cash flow)

INPUT in calculator	
CF_0	**(R500 000)**
CF_1	**R46 800**
CF_2	**R48 312**
CF_3	**R49 930**
CF_4	**R51 661**
CF_5	**R247 513**
I/YR	16
COMP NPV (HP10bII)	(R245 388)

QUESTION 3 (continued)

③ **Note**

WACC always includes inflation and we further always assume that the shareholders' required rate of return as well as the debt providers' required rate of return as given in a question includes inflation unless stated otherwise. Furthermore, we need to always compare apples with apples and therefore adjust cash flows with inflation due to the rate including inflation. The opposite is also true.

Conclusion:

Sam should not invest in the new business venture since the Net Present Value is negative.

(b) Sam should consider the following business risks:

- Industry type risk
  Due to the economic recession less people are going on holiday to these luxury type lodges
- Fuel price hikes
  What impact will an increase in the fuel price have on the sales price of my game drives and will people be willing to pay a higher tariff?
- Reliability of the vehicle
- Public liability
  When there is an accident and one of the guests are hurt, who will pay for damages?
- Weather
  Guests are unlikely to go on game drives during seasons of rain

QUESTION 4

(a) Takeover

- Pretty Pictures (Pty) Ltd purchased a controlling interest in Snapshot Inc.
- The previous owner of Snapshot Inc. has no equity interest in Pretty Pictures (Pty) Ltd.

- Both the companies are now trading under the Pretty Pictures (Pty) Ltd brand.
- No voting rights for previous Snapshot Inc. owner
- *Any other valid point*

(4)

QUESTION 4 (continued)

(b) Name any two reasons why the two companies might consider the takeover beneficial: (name any two reasons)

- To **increase the production capacity** of the company in order to achieve economies of scale and hence lower unit costs. Lowering unit cost enables the company to become more competitive and thereby achieve flexibility in its pricing strategy.

- To **increase shareholder value** through higher profits and free cash flow. Sustainable increases in profits and cash often raise investors' expectations for more profits and cash in future and hence raise the share price.

- To achieve **market dominance** in the sector in which the company operates. Market dominance enables the company to have a price monopoly. When coupled with economies of scale, the company would be able to increase its profits and cash significantly.

- Due to pressure from shareholders to **find profitable opportunities for unused cash** holdings.

- As a **risk reduction strategy to diversify product markets**. Companies often compensate for slower growth in traditional geographic markets by developing

- To **market new products** arising from the company's innovation strategies.

(2)

(c) Give any three reasons why mergers sometimes fail (name any three)

- Lack of managerial fit.
- Lack of industrial or commercial fit.
- Lack of goal congruence.
- Paying too much.
- Failure to integrate the entities successfully.
- Inability to manage change.

(3)

QUESTION 4 (continued)

(d) What body regulates mergers and takeovers? (name any one)

- The Competition Commission of South Africa
- The Companies Act 71 of 2008
- The Securities Regulation Panel
- The JSE Limited
- The Securities Services Act 36 of 2004
- The Exchange Control Department

QUESTION 5

		Gama Ltd	Momento Ltd
		R'000	**R'000**
(i)	**Assets taken over**		
	PPE assets	1 650 000	900 000
	Goodwill (calculation ii)	240 200	102 168
		1 890 200	1 002 168

(ii)	**Goodwill**				
	Anticipated profits		298 000		170 000
	Fair return on assets				
	G (12% of R1 650 million)		(198 000)		
	M (14% of R900 million)				(126 000)
	Super profits		100 000		44 000
	Annuity factor for 3 years	(12%)	2,402	(14%)	2,322
			240 200		102 168

QUESTION 5 (continued)

(iii) **% cross shareholdings**

Momento holds 100 million shares in Gama, that has 1 000 million issued shares = 10%. ($\frac{1}{10}$)

Gama holds 100 million shares in Momento, that has 500 million issued shares = 20% ($\frac{1}{5}$)

(iv) **Total value of each company (including the investment in the other company) in R'000**

Gama Ltd (G) $\qquad$ = $\qquad$ 1 890 200 + $\frac{1}{5}$ M ① and

Momento Ltd (M) $\qquad$ = $\qquad$ 1 002 168 + $\frac{1}{10}$ G ①

G $\qquad$ = $\qquad$ 1 890 200 + $\frac{1}{5}\left(1002\,168 + \frac{1}{10}G\right)$

$\qquad\qquad$ = $\qquad$ 1 890 200 + 200 434 + $\frac{1}{50}$ G

$\frac{49}{50}$ G $\qquad$ = $\qquad$ 2 090 634

G $\qquad$ = $\qquad$ R2 133,300 million

∴ M $\qquad$ = $\qquad$ 1 002 168 + $\frac{1}{10}$ (2 133 300)

$\qquad\qquad$ = $\qquad$ R1 215,498 million

① This is to establish the % of the crossholding

QUESTION 5 (continued)

(v) **Number of shares issued to other shareholders in each company**

Gama Ltd $\left[2\,133,300 - \left(\dfrac{1}{10} \times 2\,133,300 \right) \right] \div 2 = 959,985$ million

Momento Ltd $\left[1\,215,500 - \left(\dfrac{1}{5} \times 1\,215,500 \right) \right] \div 2 = 486,200$ million

Check:

Total shares issued by Robust Ltd = 959,985 million + 486,200 million = 1 446,185 million

Value of total issue = 1 446,185 million x R2 = R2 892,370 million