CPA IRELAND | CERTIFIED PUBLIC ACCOUNTANTS

STRATEGIC CORPORATE FINANCE

PROFESSIONAL 2 EXAMINATION - APRIL 2016

NOTES:
Section A - Answer Question 1; **and**
Section B - Answer **any two** from Questions 2,3 and 4.
Should you provide answers to more questions than required in Section B, you must draw a clearly distinguishable line through the answer not to be marked. Otherwise, only the first two answers provided will be marked.

STRATEGIC CORPORATE FINANCE TABLES ARE PROVIDED

Time Allowed
3.5 hours plus **20 minutes** to read the paper.

Examination Format
This is an open book examination. Hard copy material may be consulted during this examination subject to the limitations advised on the Institute's website.

Reading Time
During the reading time you may write notes on the examination paper, but you may not commence writing in your answer booklet.

Marks
Marks for each question are shown. The pass mark required is 50% in total over the whole paper.

Answers
Start your answer to each question on a new page.

You are reminded to pay particular attention to your communication skills. Care must be taken regarding the format and literacy of your solutions. The marking system will take into account the content of your answers and the extent to which the answers are supported with relevant legislation, case law or examples, where appropriate.

Answer Booklets
List on the cover of each answer booklet, in the space provided, the number of each question attempted. Additional instructions are shown on the front cover of each answer booklet.

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CASE STUDY – Station Z

Mick Moloney is a CPA who is a partner in a busy practice in Dublin. Gerry Thornton has just stepped into Mick's office on a bright spring morning. Gerry is an old school friend and is a successful entrepreneur who has kept in touch off and on over the years. The meeting was arranged over the telephone last week when Gerry also informed Mick that he wished to engage him as a consultant to help sort out a few important financial matters.

Mick notices immediately that Gerry has a spring in his step and is clearly in a good mood. Having caught up with the general news over cups of hot coffee both are ready to deal with the business at hand. The reason for Gerry's good mood soon becomes apparent. He informs Mick that he has had an offer from Behemoth Plc to take over his company, Station Z. The latter is a company that Gerry founded about 10 years ago and manufactures PC games. While it is not in the same league as X-Box One or Playstation, Station Z has been very successful in its own right. Titans of Zog, Spartan Warfare, Antropolo and Rotten Romans are just some of its highly successful war games. Clearly it has caught the attention of Behemoth Plc which is a large conglomerate with a multitude of business interests. Behemoth already has a world-leading PC games subsidiary.

Behemoth has made two proposals to Gerry and his fellow shareholders.

Proposal 1
The first proposal involves buying all the shares of Station Z for €228 million. In this scenario 25% of the purchase consideration will be in the form of Behemoth's shares which are traded on the London Stock Exchange. The €57 million paid in shares will amount to 0.57 of one percent of Behemoth's market capitalisation. Part of this proposal also involves Gerry undertaking not to start up a competitor to Station Z during the following 5 years.

Proposal 2
The alternative proposal involves buying 51% of Station Z now for €22.80 per share and retaining Gerry as chief executive officer to run the business on a three-year renewable contract. This second proposal will also give Behemoth the option to buy out the remaining shareholders in 2019. The purchase consideration for the remaining shares would be in the range €22 to €24 per share, depending on the profitability and sales growth achieved. All of the consideration will be in cash. Should Gerry sell in 2019, he will have to undertake not to start a competing business until 2022.

The current ownership structure of Station Z is as outlined in Table 1

Table 1

Name	Number of Shares
Gerry Thornton	6,000,000
Emily Thornton, Gerry's wife	100,000
Frank Buckley, father-in-law	900,000
Vautour Venture Capital Fund	3,000,000
Total	10,000,000

It is clear from Table 1 that a venture capitalist owns 30% of the shares of Station Z. Vautour Venture Capital Fund got involved with Station Z at an early stage and initially purchased 1.5 million shares eight years ago. It doubled its stake a couple of years later in order to get Station Z out of a difficulty with its bank when cash flow was particularly tight. Vautour paid €4 million for the first tranche of shares and €6 million for the second tranche. Gerry informs Mick that Vautour are very keen to accept the first proposal whereby Behemoth buys out all the shareholders in one transaction. On this basis he does not really consider that the second proposal of Behemoth is a viable option. However, he points out that Vautour are also of the opinion that Proposal 1 could be improved somewhat but have not yet indicated to Gerry by how much. The CEO of Vautour has informed Gerry that the acquisition of Station Z's excellent games by Behemoth will cause sales for Station-Z's products to grow by 20% in the year following the takeover and growth rates will remain higher as part of Behemoth for the foreseeable future. Vautour has prepared projections for Station Z, firstly as a stand-alone company and secondly as part of Behemoth. Vautour has been quite transparent with Gerry on this since they need him 'on side' for the negotiations with Behemoth. Gerry produces these projections which are outlined in Tables 2 and 3 respectively.

Gerry and Mick examine the projections for an hour or so and they both decide that these are a fair representation of how Station Z will develop over the next four years. The actual results for the year ending 31 March 2016 are also included in the table. Gerry explains the technical and market assumptions on which he believes the projections to be based. On this basis Mick and Gerry believe that the projections outlined in Table 2 and Table 3 can be used to come up with good estimates of the value of Station Z. At this stage they adjourn for lunch. Over lunch Mick pushes Gerry for more information on which to base the valuation.

Table 2 - Station Z Financial Projections as Stand alone Enterprise

		Income Statement €'000			
	2016 Actual	**2017**	**2018**	**2019**	**2020**
Sales	80,000	84,000	88,200	90,846	91,754
Operating Expenses	72,000	75,600	75,852	79,944	80,744
Operating Income	8,000	8,400	12,348	10,902	11,011
Interest	1,800	2,000	2,320	2,640	2,000
PBT	6,200	6,400	10,028	8,262	9,011
Taxation	775	800	1,253	1,033	1,126
Net Profit after Tax	5,425	5,600	8,775	7,229	7,884
Dividends	200	200	200	200	200
Addition to Equity	5,225	5,400	8,575	7,029	7,684

		Statement Of Financial Position €'000			
	2016 Actual	**2017**	**2018**	**2019**	**2020**
Fixed Assets	190,000	120,000	52,920	54,508	55,053
Net Operating Current Assets	20,000	16,800	17,640	19,077	19,268
Operating Assets	210,000	136,800	70,560	73,585	74,321
Cash	0	86,600	169,415	157,418	164,367
Net Assets	210,000	223,400	239,975	231,003	238,688
Shareholders' Equity	160,000	165,400	173,975	181,003	188,688
Debt	50,000	58,000	66,000	50,000	50,000
Total Financing	210,000	223,400	239,975	231,003	238,688

Mick discovers that the debt includes €50 million in ten-year debentures maturing in 2023 at 5%. Gerry tells Mick that Vautour has estimated that the average beta of companies engaged in the computer gaming industry is 1.7. Mick checks Sony's beta later on Yahoo Finance and finds it to be about 1.72 and so he is prepared to accept that the correct equity beta for firms in the gaming industry is 1.7.

Table 3 Projected Accounts for Station Z assuming it is acquired by Behemoth

	Income Statement €'000				
	2016 Actual	**2017**	**2018**	**2019**	**2020**
Sales	80,000	96,000	105,600	109,824	112,020
Operating Expenses	72,000	86,400	90,816	96,645	98,578
Operating Income	8,000	9,600	14,784	13,179	13,442
Interest	1,800	2,000	2,320	2,640	2,000
PBT	6,200	7,600	12,464	10,539	11,442
Taxation	775	950	1,558	1,317	1,430
Net Profit after Tax	5,425	6,650	10,906	9,222	10,012
Dividends	200	200	200	200	200
Addition to Equity	5,225	6,450	10,706	9,022	9,812

	Statement Of Financial Position €'000				
	2016 Actual	**2017**	**2018**	**2019**	**2020**
Fixed Assets	190,000	120,000	63,360	65,894	67,212
Net Current Assets	20,000	19,200	21,120	23,063	23,525
Operating Assets	210,000	139,200	84,480	88,957	90,737
Cash	0	85,250	158,676	147,221	155,253
Net Assets	210,000	224,450	243,156	236,178	245,990
Shareholders' Equity	160,000	166,450	177,156	186,178	195,990
Debt	50,000	58,000	66,000	50,000	50,000
Total Financing	210,000	224,450	243,156	236,178	245,990

As Gerry and Mick are talking after lunch, Mick remarks to Gerry that assuming Gerry agrees a price with Behemoth he will be a very wealthy man. Gerry agrees and states that this is the second part of the advice which he needs. In particular, he asks what is he going to do with all those millions that that he would receive from Behemoth – besides hand over a few million to the Taxman? Gerry goes on to state that he reckons that he could have in excess of €100 million net of tax after the takeover and that he can hardly put it all in the bank. He also states that he is not sure about whether to sell only 51% of his shares to Behemoth. Vautour wants a clean break and has pretty much dismissed the second option. They may want to haggle a little over the price but are prepared to accept the 75% cash and 25% equity deal and transfer their shares to Behemoth as soon as possible. Mick establishes that most of Gerry's wealth is comprised of his shareholding in Station Z. He has €20,000 on deposit with an Irish owned bank and a further €49,000 on deposit with a Dutch bank. Gerry and his wife own their a home in an 'upmarket' area on the north side of Dublin. His twins Sophie and Sandra plan to go to college on the south side of the city next year. Gerry is considering moving the whole family to south of the city to be closer to the college so the offer from Behemoth has come at a good time.

Mick asks Gerry "given that Vautour wishes to sell its stake" does it have an alternative course of action if the price is not right? Gerry informs Mick that he is unsure as to what Vautour's plans are if it cannot get a price it deems satisfactory from Behemoth. However, he reiteriates that Vautour are not at all keen on Proposal 2 and wish to get a deal done with Behemoth under Proposal 1. Accordingly, they wish to concentrate on achieving the best price possible under this proposal.

Additional Information:

(i) The yield on short-term government stock is 0.15%.

(ii) The market risk premium {E(Rm) – RF} is 4.9%.

(iii) Firms in the gaming industry typically have debt to value ratios of about 25% and equity betas of 1.7.

(iv) The correlation between the returns of firms in the gaming industry and the return on the market is estimated at 0.5.

(v) Vautour estimates that the terminal growth rate for Station Z is 1% as a standalone entity, but as part of Behemoth it will be 2%.

(vi) The columns with A appended to the year in the Tables are actual figures for 2016.

(vii) Vautour and Mick agree that Station Z could raise debt capital at 4% per annum.

(viii) The capital gains tax rate is 33%.

(ix) The unusual decline in fixed assets in the projections is due to the planned sale and leaseback of buildings.

END OF CASE STUDY

SECTION A - Compulsory Question.

Explain fully and justify all answers and assumptions made in arriving at your conclusions.

1.
REQUIREMENT:
Write a detailed analytical report (as Mick Moloney) to Gerry which assesses whether Proposal 1, the offer of €228 million for 100% of the share capital of Station Z, is a reasonable one.

Your report should offer appropriate advice and information to Gerry which will help him to negotiate the best possible deal with Behemoth. It should explain why Vautour is of the opinion that the current offer can be improved on, quantify the potential level of improvement, and recommend an appropriate strategy that Gerry might employ in negotiating with Behemoth.

[Total: 50 Marks]

SECTION B – Answer only 2 questions from this section

2.
REQUIREMENT:
(a) Write a separate report to Gerry which critically evaluates both Proposal 1 and Proposal 2.

Your report should weigh both the immediate and deferred purchase alternatives, outlining the advantages and disadvantages of each proposal from the perspectives of both sets of shareholders (Station Z and Behemoth). The report should also recommend, with reasons, which proposal you (Mick) believe is better for Gerry.

(15 Marks)

(b) Advise Gerry as to why Vautour Venture Capital might be anxious to accept an immediate sale of all shares to Behemoth (Proposal 1) and not be keen on holding onto some of its stake in Station Z until 2019, as outlined in Proposal 2.

(10 Marks)

[Total: 25 Marks]

3.
REQUIREMENT:
(a) Gerry, in the course of the conversation alluded to in the case study, asks for some advice regarding what he might do with the rather substantial proceeds from the sale to Behemoth.

Write a report that considers Gerry's options and, using Finance theory, make and justify some general yet useful recommendations regarding how he should invest his new-found wealth.

(15 Marks)

(b) In developing your answer to Question 1 above, you will have used beta to compute the cost of equity capital for the project. Critique why this may be a reasonable approach in valuing Station Z even though Gerry is not a well-diversified shareholder.

(10 Marks)

[Total: 25 Marks]

4.
REQUIREMENT:

(a) It is clear from the case that Vautour's projections show that the takeover by Behemoth clearly enhances the growth prospects of Station Z.

Detail and justify possible reasons for the synergies that may be generated by this particular acquisition.

(13 Marks)

(b) Assume that Behemoth decides to purchase another company Tuzo. Behemoth has 500 million shares trading at €20 each and Tuzo currently has 20 million shares in issue which trade at €10 each. Behemoth's investment bankers estimate that merger gains will amount to €50 million and both companies are fairly priced by the market before and after the acquisition. Transaction costs pertaining to the takeover, including the investment bankers' fees are €5 million.

(i) Assuming that Behemoth pays cash of €11 per share to Tuzo's shareholders and that Behemoth's investment bankers are correct in their valuation of the synergies, how much would Tuzo's and Behemoth's shareholders stand to gain or lose?

(4 Marks)

(ii) If Behemoth offers 0.6 of its shares for every share of Tuzo's, assess how much of the merger gains would be available to Tuzo's shareholders.

If Behemoth offers 0.6 of its shares for every four of Tuzo's, assess how much its own shareholders would gain or lose.

(4 Marks)

(iii) Suppose the investment bankers are proven incorrect and there are no synergies from the merger, with regard to the share offer described in part (ii) above: assess how much would each group of shareholders gain or lose? Discuss how the shortfall is distributed between Behemoth's and Tuzo's shareholders.

(4 Marks)

[Total: 25 Marks]

END OF PAPER

SUGGESTED SOLUTIONS

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SOLUTION 1

Report: to Gerry Thornton

Subject: The proposed Takeover of Station Z by Behemoth.

Date: April 2016

From my detailed computations which are outlined below I believe that the offer made by Behemoth plc to purchase all the share capital of Station Z values Stations Z fairly. If Station Z continues as a stand-alone entity Station Z it is worth €22.31 per share. Thus the offer of €22.80 appears to give a premium of about 2.2% on the current worth of the company. Thus, it appears to be a reasonable offer. This of course may not be a premium at all: it may be that Behemoth and I have used slightly different assumptions regarding the inputs to the valuation. However, I am confident that the projections are reasonable so a price in the range of €220 million to €230 million seems reasonable for Station Z.

However, as suggested by the Vautour analysis Station Z is expected to produce greater projected profits when under the control of Behemoth so is likely to be worth more to Behemoth than is suggested by its current stand-alone status. The valuation based on Vautour's projections assuming Station Z is controlled by Behemoth is also outlined below and amounts to approximately €257 million or €25.67 per share. This makes the original offer seem a lot less generous. However, it has to be admitted that the increase in the value of Station Z is coming largely from the synergies created by the amalgamation of Station Z's technically good games with Behemoths marketing prowess. Therefore the shareholders of Station Z cannot expect to capture all of the gains from the takeover for themselves.

Clearly as hinted at by Vautour venture capitalists the current offer captures the lion's share of the synergies from the merger for Behemoth. Accordingly, Station Z's shareholders should push for a better price that would give a more equitable distribution of the merger gains between the bidder's and the target's shareholders.

It has to be admitted that these gains will only come following hard work by Behemoth and they are not certain to be made. The fact that Behemoth are using their own shares as part consideration for the deal is an indication of some (but not too much) caution on their part. That fact that they are using cash for 75% of the purchase price suggests to me that they are fairly confident of achieving the growth in sales from Station Z by virtue of their slick marketing and distribution as well as their large advertising budget.

From the perspective of the shareholders of Station Z the fact that Behemoth is paying only part of the consideration in the form of shares in Behemoth is an indication of their confidence. Also if Vautour's projections are correct the gains achieved form the merger should enhance Behemoth's share price, other things being equal. It has, however, to be conceded that Station Z will comprise a small part of the Behemoth group so the impact of the anticipated gains from the takeover of Station Z may have only a marginal impact on the share price of Behemoth. There is also the consideration that Behemoth is a conglomerate and the whole may not be worth the sum of the parts. That being said Behemoth's shares are traded in large volumes on the London Stock Market which ought to be reasonable efficient. Accordingly, I would take it that the shares in Behemoth are worth their current price.

As the main shareholder of Station Z, you Gerry Thornton, should also be cognisant of the risk that having so much of your wealth tied up on one asset, Station Z, can bring. This issue is explored in more detail under question 3(a) below.

Overall it appears to me that Behemoth has done a very professional job in valuing Station Z and have pitched a tempting bid at the level of €22.80 per share. This bid will leave them with the lion's share of the potential gains from the takeover. I would press a little for some improvement in price and expect that this would be forthcoming. It is my opinion that you will know when you have pushed Behemoth enough when they will only grant any further increase in the purchase price provided you are prepared to accept an increased amount of the consideration in the form of shares in Behemoth.

The value of your shares in Behemoth, should you agree to the proposal as outlined, would be €34.2 million. Regardless of the depth of the market in Behemoths shares I would be reluctant to try and exchange these for cash in one fell swoop. Note also that by keeping the shares in Behemoth you will be deferring the CGT on the that portion of the purchase price for Station Z.

Yours,

Michael P. Moloney, CPA

Workings

1. Compute the beta to be used in the calculation of the WACC.

$\beta_A = \beta_E \frac{E}{V} + \beta_D \frac{D}{V}$

$\beta_A = 1.7(.75) + 0(.25)$

$\beta_A = 1.275$

This is the unlevered beta for Station Z.

But Station Z has its own leverage. We can take the price offered by Behemoth for the shares 228 million to be indicative of its equity value. The value of its debt from the balance sheet is 50 million.

This gives a debt to value ratio of 50/278 = 18% and an equity to value ratio of 82%

$\beta_E \frac{E}{V} = \beta_A - \beta_D \frac{D}{V}$

$\beta_E = \beta_A \frac{V}{E} - \beta_D \frac{D}{V} . \frac{V}{E}$

$\beta_E = 1.275 \frac{278}{228} - 0. \frac{D}{V} . \frac{V}{E}$

$\beta_E = 1.55$

The cost of equity capital for Station Z is then 0.15 + 1.55(4.9) = 7.75

$$\rho_a = WACC = Ke \frac{E}{V} + Kd \frac{D}{V}$$

We will adjust the K_d for tax since it is projected that Station Z will be profitable but this will not matter that much.

WACC = $.0775\frac{228}{278} + .04\frac{50}{278}(1- .125)$ = .0635 + .006 = 0.0695 say 7%

Computation of Free Cash Flow (all figures in €'000 unless otherwise stated)

Operating Income After Tax		7,600	11,095	9,869	9,884
ΔNOA		-73,200	-66,240	3,025	736
Free Cash Flow (OI - ΔNOA)		80,800	77,335	6,844	9,148
Cash Flow Statement					
Dividends		200	200	200	200
Increase (Reduction)in Cash		86,600	82,815	-11,996	6,948
Reduction (Increase) in Debt		-8,000	-8,000	16,000	0
Interest on Debt		2,000	2,320	2,640	2,000
FCF		80,800	77,335	6,844	9,148

FCF		80,800	77,335	6,844	9,148
Discount Factor (units)		1.070	1.145	1.225	1.311
DFCF		75,514	67,547	5,586	6,979
Terminal Value					153,997
PVDFCF to 2019	155,627				
PVTV	117,484				
Enterprise Value	273,111				
Value of Debt	50,000				
Value of Equity	223,111				
Number of Shares in thousands	10,000				
Worth per share (€)	**22.31**				

Operating Income Aft Tax		7,600	11,095	9,869	9,884
Capital Charge		14,700	9,576	4,939	51,51
ReOI		-7,100	1,519	4,930	4,733
Discount Factor (units)		1.070	1.145	1.225	1.311
Discounted ReOI		-6,636	1,326	4,024	3,611
TV					79,676
PV of ReOI to 2019	2,326				
PV of TV	60,785				
Book Value	160,000				
Value of Equity	223,111				
Number of Shares in thousands	10,000				
Worth per share (€)	**22.31**				

The revised projections assuming that Behemoth is controlling Station Z.

Computation of Free Cash Flow

Operating Income After Tax		8,650	13,226	11,862	12,012
ΔNOA		-70,800	-54,720	4,477	1,779
Free Cash Flow (OI - ΔNOA)		79,450	67,946	7,384	10,233
Cash Flow Statement					
Dividends		200	200	200	200
Increase (Reduction)in Cash		85,250	73,426	-11,456	8,033
Reduction (Increase) in Debt		-8,000	-8,000	16,000	0
Interest on Debt		2,000	2,320	2,640	2,000
FCF		79,450	67,946	7,384	10,233

FCF		79,450	67,946	7,384	10,233
Discount Factor (units)		1.070	1.145	1.225	1.311
DFCF		74,252	59,347	6,028	7,807
Terminal Value					208,753
PVDFCF to 2019	147,433				
PVTV	159,257				
Enterprise Value	306,690				
Value of Debt	50,000				
Value of Equity	256,690				
Number of Shares in thousands	10,000				
Worth per share (€)	**25.67**				

Operating Income Aft Tax		8,650	13,226	11,862	12,012
Capital Charge		14,700	9,744	5,914	6,227
ReOI		-6,050	3,482	5,948	5,785
Discount Factor (units)		1.070	1.145	1.225	1.311
Discounted ReOI		-5,654	3,041	4,855	4,413
TV					118,017
PV of ReOI to 2019	6,656				
PV of TV	90,034				
Book Value	160,000				
Value of Equity	256,690				
Number of Shares in thousands	10,000				
Worth per share (€)	**25.67**				

[Total : 50 Marks]

SOLUTION 2

First we must consider the motivation for the alternative structuring of the deal. Keeping Gerry in situ for a while is probably designed to ease the integration of Station Z into Behemoth. It will also allow time to establish if the synergies that are thought should accrue from the deal are indeed accruing. If there is more certainty with respect to these synergies Behemoth will be prepared to pay a higher price to acquire them.

What should be of concern to Gerry is the potential drop in the price to €22 per share. Since he will be getting these funds at a later date and given the time value of money there is really no justification for this. Behemoth have the option to buy the remaining shares if it wishes to at a later date. There is a deferred payment here plus the elimination of much uncertainty so I cannot see why the price should fall. It is also arguable that in proposal 2 since Behemoth is essentially acquiring a call option to purchase Station Z that this option is worth some money and this should be reflected in a higher price that Behemoth should pay for the initial 51% of the shares that it acquires.

If we use Vautour's projections to value Station Z at the end of its financial year in 2019 we get the following.

Computation of Free Cash Flow (all figures in €'000 unless otherwise stated)

Operating Income After Tax		12,012
ΔNOA		1,779
Free Cash Flow (OI - ΔNOA)		10,233
Cash Flow Statement		
Dividends		200
Increase (Reduction)in Cash		8,033
Reduction (Increase) in Debt		0
Interest on Debt		2,000
FCF		10,233
FCF		10,233
Discount Factor (units)		1.070
DFCF		9,564
Terminal Value		208,753
PVDFCF in 2020	9,564	
PVTV	195,096	
Enterprise Value	204,660	
Value of Net Debt	-97,220	
Value of Equity	301,880	
Number of Shares in thousands	10,000	
Worth per share (€)	**30.19**	
Operating Income Aft Tax		12,012
Capital Charge		6,227
ReOI		5,785
Discount Factor (units)		1.070
Discounted ReOI		5,407
TV		118,017
PV of REOI in 2020	5,407	
PV of TV	110,296	
Book Value	186,178	
Value of Equity	301,880	
Number of Shares in thousands	10,000	
Worth per share (€)	**30.19**	

Accordingly, the second proposal is not a good proposal at all since Station Z will be expected to have accumulated profits and cash due to the synergies created by the merger by 2019. The net debt will have fallen to €50,000 less €147,220 = -€97,220 or alternatively its book value will have risen to €30.19.

All of the above points to a higher price being paid immediately and even in 2019.

(15 marks)

(b) Vautour is to get 22.80 per share by 1.5 million for its investment of €4 million 8 years ago. This is a return of 34.2 million on a €4 million investment or a holding period return of 755%. Annualised this is a return of about 30.8% per annum. $(1+7.55) = (1 + r)^8$ so $(1+r) = 8.55^{.125} = 1.308$ which implies r = 30.8%.

Similarly Vautour is getting a return of 34.2 million on an investment of €6 million six years ago. This is a holding period return of 470% or approximately 33.6% per annum. These returns are substantial by any stretch of the imagination.

Assuming that the market is efficient deferring the sale until 2019 will allow Behemoth's shareholders capture the lion's share of the synergies gained by substantial growth in 2017 and 2018. From 2019 the growth rate will fall off and will be reflected in a lower share price in 2019.

Also it must be remembered the VCs like to have an exit mechanism whereby they can encash their investment. Behemoths proposal 1 gives Vautour an ideal exit mechanism and allows it cash out at a substantial profit. It may of course need the cash portion to invest in new ventures. There is also the uncertainty surrounding the price to be paid in 2019 and the possibility that Behemoth may not exercise its call option to buy the remainder of the shares in Station Z. In this scenario Vautour would be a minority shareholder in a subsidiary of Behemoth with little control over how to exit. Vautour may consider attempting to negotiate that all its shares are included in the 51% to be purchased immediately by Behemouth. However, Mick will advise Gerry not to countenance such a mover on the part of Vautour.

Overall the deferred purchase option gives Behemoth all the control over the deal. Accordingly, it is recommended that Gerry agree with Vautour and aim to tie up the proposal 1 at an improved price.

(10 marks)

[Total : 25 Marks]

SOLUTION 3

(a) Gerry asks in the course of the conversation alluded to in the case for some advice regarding what he might do with the rather substantial proceeds of the sale to Behemoth.

Please write a report that considers Gerry's options and using Finance theory make some general yet pertinent recommendations regarding how he should invest his wealth.

The report should contain some of the following arguments.

Gerry and Emily will receive a total of €139.08 million if they agree to sell their 6.1 million shares to Behemoth at 22.80 per share. Of this €104.31 will be in the form of cash and the remaining €34.77 million will be in Behemoth shares. The cash consideration will attract CGT which will leave Gerry and Emily with approximately €78 million to invest.

Clearly they will buy a house in the vicinity of the college on the southside of the city. They should consider retaining their present house and letting it out. Once they buy the house on the southside, this will be their principal private residence. They will effectively have a buy-to-let property (their former home) without the transactions costs of buying it or the hassle.

They should invest some of their wealth in risk free assets such as bank deposits or government stock. The remainder should be invested in risky assets. The choice of how much to invest in risky versus risk-free assets is a matter of personal choice so you would have to meet with both Gerry and Emily again in order to assess their consumption needs and risk aversion (risk appetite is the annoying phrase used in modern parlance).

The choice of which risky assets or more precisely (assets classes) invest in comes next.

You would expect some of the risky assets chosen to include shares in public companies. If Gerry and Emily were starting from scratch you would be recommending a well-diversified portfolio that that was similar to or even tracked the market portfolio. However, they are not starting from scratch since they have €34.77 million invested in Behemoth. This would appear to be a safe enough investment since Behemoth is a conglomerate – however having between 40% and 50% of their wealth in one stock is probably not ideal. They should probably start to sell off some of this holding gradually. It might be difficult to get the quoted price for such a large holding if it were to be sold in one fell swoop. In the meantime they should consider investing some of the remainder of their funds in other stocks which are not in any business that Behemoth is involved with. Essentially they should be trying to replicate the market portfolio less any businesses or industries that they have invested in through Behemoth.

Clearly they should make sure to invest in a pension fund to obtain the taxation benefit that comes with this type of investment. They should be made aware of the limits to the amount that they can invest here and note that this will only be a small part of their overall portfolio.

They should consider some investment in property as an alternative to equity shares. They should note that property is not as liquid an investment as shares.

Alternative investment classes include corporate bonds, commodities, fine art or wine. They would need specialist advice to invest in these types of asset class and may not feel comfortable with them in any event.

Other matters to consider would be the taxation implications of the investments – there are some very tax efficient types of investment. They should also consider their income needs and may choose some investments to generate a steady income. Investing in exchange traded funds may prove a cost effective way of diversifying as much as possible. The only difficulty here is that they would not be able to fine to diversification away from their Behemoth holding efficiently.

(15 marks)

(b) In developing your answer to question 1 you will have used beta to compute the cost of equity capital for the project. Critique why this may be a reasonable approach in valuing Station-Z even though Gerry is not well-diversified shareholder.

First, Behemoth is a large public conglomerate. While we are not explicitly told anything about its shareholders in the case it is fair to assume that they will be well-diversified. Accordingly they will perceive risk as primarily systematic and beta is the correct measure of risk for them. Nonetheless Gerry is not diversified and his considerable wealth is almost entirely concentrated in Station Z. Accordingly the discount rate applied in the case underestimates the level of risk that Gerry is currently exposed to. This would imply that Gerry should use a higher discount rate that the 7% used in the solution above.

Students who have read the eBulletion may compute a revised beta of 1.55/.5 = 3.1.

The cost of equity capital for Station Z from Gerry's perspective is then 0.15 + 3.1(4.9) = 15.34 say 15.5%.

The WACC is

$$\text{WACC} = .155\frac{228}{278} + .04\frac{50}{278}(1- .125) = .127 + .006 = .133 \text{ say } 13.5\%$$

From his perspective station Z is worth less than the €22.31.

Thus the use of beta to estimate the discount rate provides useful information to Gerry in that it gives him an idea what a well-diversified shareholder would value Station Z at. Note the Behemoth is a conglomerate so has even diversified itself.

It is also worth noting that it is far from ideal to have €133.86 tied up in one risky asset if it represents over 99% of one's wealth as Station Z clearly does with respect to Gerry (and Emily). The adjustment to beta to reflect the fact that Gerry is undiversified illustrates this point.

It can be shown that the value of Station Z if discounted at 13.5% is only about €136 million.

(10 marks)

[Total: 25 Marks]

SOLUTION 4

(a) It is clear from the case that Vautour's projections show that the take-over by Behemoth clearly enhances the growth prospects of Station Z.

Detail and justify possible reasons for the synergies generated by this particular merger.

One would expect that Behemoth has superior access to marketing and distribution channels which would enhance the sales of the products manufactured by Station Z. For example, Behemoth probably has access to more international markets that Station Z has.

Behemoth may also be able to lever the sales of Station Z's products with better advertising.

There may be some economies of scale to be achieved as well.

Station Z appears to be largely a one man show so the support or employment of a professional management team may lead to efficiencies.

(13 marks)

(b) Behemoth is worth €20 X 500 million shares = 10,000 million before the merger

Tuzo is worth €10 by 20 million shares = 200 million before the merger.

The gains are 50 and the net gains after costs are €45 million.

(i) Behemoth pays €11 X 20 million = €220 so Tuzo's shareholders gain €220 – €200 = €20 Million Behemoth's shareholders have a firm worth 10,000 + 200 + 50 - 5 = €10,245 and have paid out€ 220 which gives a gain of €25. Both add to the total gain of €45 million.

(4 marks)

(ii) Behemoth issues 12 million extra shares. Each share is now worth $\frac{€10{,}245}{512} = €20.01$

Behemoths shareholders stake is worth 500 X 20.01 = €10,004.89 : A gain of €4.89 million

Tuzo's shareholders get 12 million by €20.01 = €240.11

Their gain is €240.11 – €200 = €40.11

The sum of the two gains is again €45 million

€10,195512 = €19.91

(4 marks)

(iii) If there are no synergies the value of the combined firm is now €10,195.

Each Share is worth $\frac{€10{,}195}{512} = €19.91$

Behemoths shareholder's stake is worth 500 million by €19.91 = €9,956.05: this gives a loss of €43.95 million.

Tuzo's shareholders own 12 million share worth €19.91 = €238.92 which is a gain of €38.95 say.

We combine this with the loss of €43.95 to get an overall loss of €5, the cost of the transaction.

Compared with the gain situation the shareholders of Tuzo share in the losses but only to the extent that they own Behemoth (they don't own much given the respective sizes). Their reverse is 50 by

$\frac{12}{512} = 1.17$ and 40.11 gain less 1.17 = a gain of €38.94.

(4 marks)

[Total: 25 Marks]