

Memo random and notes to the Examination 31/05/2018

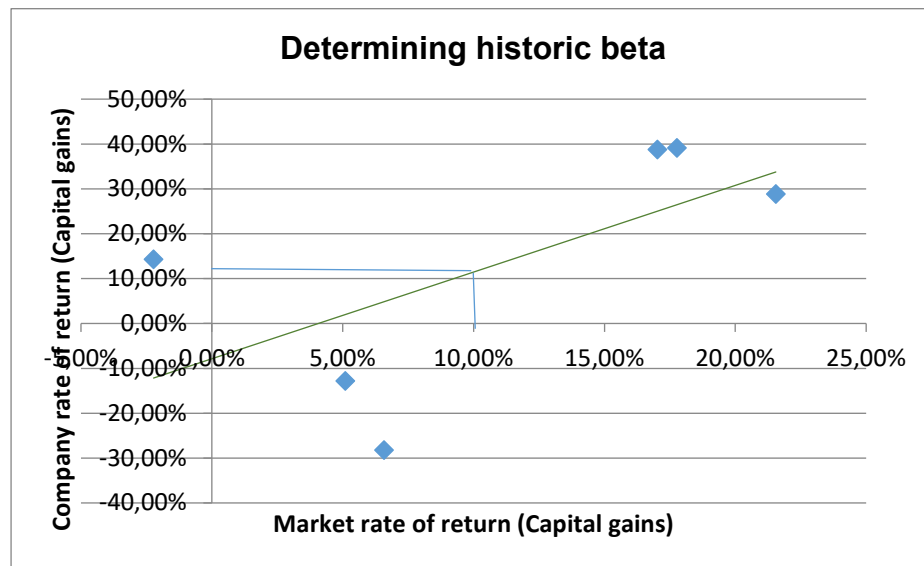
Question 1

This assessment has to be done in line with the SML procedure. a) determine required return via CAPM b) determine expected return as per the expected dividend approach where $E(R) = D_1 / P_0 + g$. NB to note is that the last year sales had a negative return therefor adjustment to the process of determining a more realistic return might have been needed. Also please note that a negative growth in sale is not sustainable. Related to the data there were two years 2017 and 2012 carrying outlier data points. The impact might or should have been accounted for because as per the financial information there are specific reason attached.

Determine required return as per CAPM determine Expected Growth rate and compare it. Using the SML and determination of Beta graphs might have helped in the discussion of the issue to be considered. For determining of Beta probably the graphic approach is best but the equation route will do as well. In case the equation $\text{Cov}_{(\text{market}, \text{share})} / \text{Variance market}$, is used without showing the process, and the value is incorrect it is difficult to allocate marks.

Adjust the Current share price in the relation Expected return / Required return X Current Share price

Calculating historic beta				
	JSE CRI (YE) Index	JSE Capital Gains %	Class Case Share Price	Class Case Capital Gains %
2011	30430		R 13.24	
2012	35838	17.77%	R 18.42	39.12%
2013	43560	21.55%	R 23.73	28.83%
2014	50974	17.02%	R 32.92	38.73%
2015	49840	-2.23%	R 37.62	14.28%
2016	52380	5.10%	R 32.81	-12.79%
2017	55829	6.58%	R 23.54	-28.25%
Average		10.97		13.32



BETA as per graph $(Y1 - Y0) / (X1 - X0) = (12 - 2) / (10 - 5) = 2$

Required return

Assumptions: Risk free rate (R_f) = long bond rate of around 8%

Market rate of return (R_m) = Average for years as in table above

CAPM Required return (RR) = $R_f + \beta(R_m - R_f)$

Therefor $RR = 8\% + 2(11\% - 8\%)$

$14\% = 8\% + 6\%$

Expected return

As per question Expected return ($E(R)$) = $D_1 / P_0 + g$

D_0 as per financial information = R0.95

G = Retention rate x ROE (cannot be used for last year because is Negative – may use other related variable)

For purposes of this solution use avg growth for sales as indicated in Question 2 for 2013 to 2016 it is equal to 10%

Therefor $E(R) = R0.95 (1+0.1) / R23.54 + 0.10 = 14.44\%$

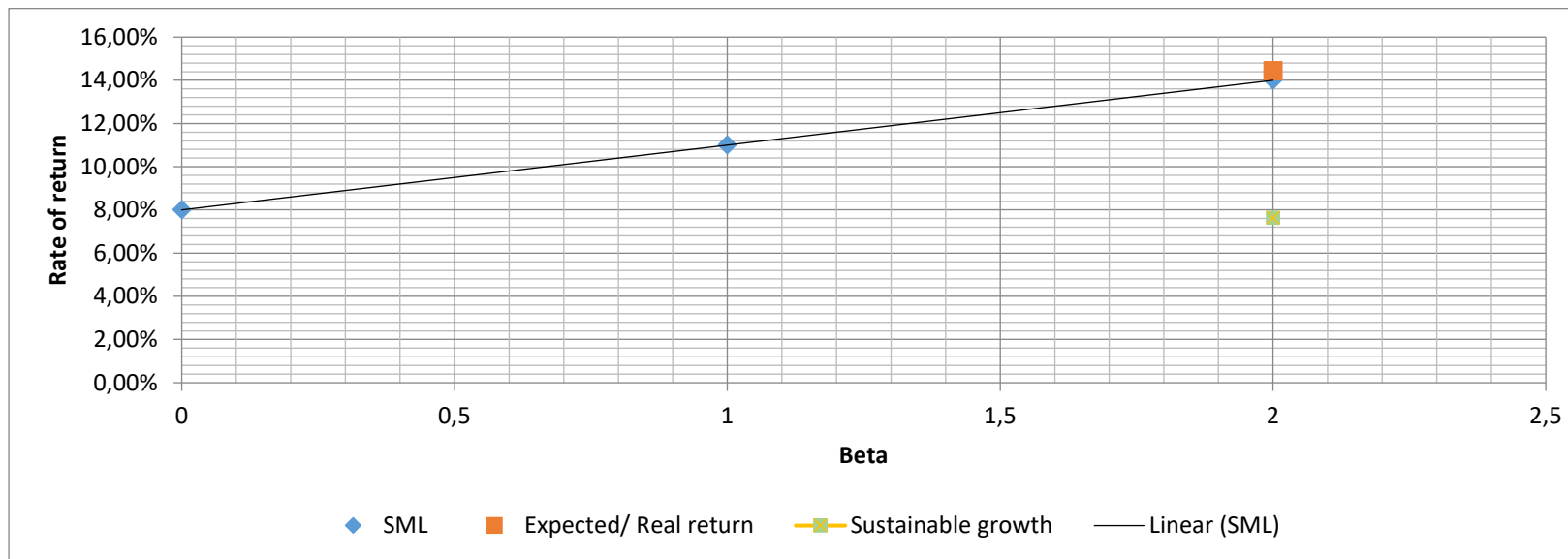
This expected return is not in line with earnings ability one could rather see the dividend payment of R0.95 an important variable in the determination of expected return as a dividend to give a positive signal to the market. As such it is an important variable to

manage. Important however, it will not be sustainable in the long run unless the operating profit change from negative to positive. Therefore variables to manage specifically from Sales to EBIT. Also important to manage gearing not to put too “big” burden in terms of interest payable. An average dividend could also have been used.

Required return 14% compared to expected return 14.44% is virtually the same if a difference then the share is according to this scenario slightly under valued.

Proposed share price $E(R) / RR \times \text{Current Share price} = 14.44\% / 14\% \times R23.54 = R24.28$

For graphic use SML approach



Discussion of Q1 needs to focus on the variables used in the formulas and their determination variables. To consider include 1) factors that influence Beta, 2) market return (to a lesser extent) 3) From a company perspective Net income via management of Sales, Cost of sales, Fixed cost, Dividend payments, and some profitability ratios.

Question 2

Get the average sales growth rate as per examination question for the years 2013 to 2016. FCF based on the last year's financial data result, due to big reduction in fixed assets in a positive FCF which may have specific consequences in the context of the longer term growth or sustainability. Specifically since a major contributor for the lost in the last year can be attributed to currency losses and a specific unit losses – the latter being addressed by withdrawing from the UK.

Nonetheless some form of FCF analysis needed to be done. Then Calculate FV for the FCF at $FCF(1 + \text{Average growth} + 5\%)^3$ - for 3 years then average long term large company growth of 6% is assumed. To determine terminal value use Gordon /Constant growth equation. Then calculate the present value of the expected FCF values – discount rate/ required rate of return as per CAPM as determined in question 1. Divide sum/present value/operating value of discounted FCF values by the number of shares it gives the share price as at current time. Finally calculate the future value of the share price by – Share price $\times (1 + g)^3$. Growth rate g can be any acceptable rate most probably g as determined for either Q1 or Q3.

Calculate average sales growth rate for 2013 to 2016

Growth in sales for the past five years.						
	2017	2016	2015	2014	2013	2012
Sales / Turnover	34125000	37796000	33711000	31783000	27801000	25731000
Growth in turnover	-9.71%	12.12%	6.07%	14.32%	8.04%	
Average 2013 to 2017	6.17%	Notes:				

Average 2013 to 2016	10.14%					
----------------------	--------	--	--	--	--	--

Calculate FCF

Current Assets	2016	2017	2016	2017
Total Inventory	R 1 019 000	R 984 000	R 1 019 000	R 984 000
Debtors	R 5 030 000	R 4 595 000	R 5 030 000	R 4 595 000
Short Term Loans Advances	R 0	R 0		
Cash And Bank	R 1 980 000	R 2 531 000	R 1 980 000	R 2 531 000
Other Current Assets	R 0	R 0		
Tax Receivables	R 16 000	R 6 000	R 0	R 0
Total Current Assets	R 8 045 000	R 8 116 000		

Current liabilities	2016	2017	2016	2017
Short Term Borrowings	R 0	R 0		
Creditors	R 6 017 000	R 5 921 000	R 6 017 000	R 5 921 000
Bank Overdraft (Short term interest bearing)	R 0	R 0		
Provision For Taxation	R 0	R 0		
Provision For Distribution	R 0	R 0		
Total Current Liabilities	R 7 489 000	R 7 661 000		

Longterm Assets	2016	2017	2016	2017
Total Long Term Assets (Non Current Assets)	R 22 614 000	R 19 996 000	R 22 614 000	R 19 996 000

Free cash flow			2016	2017
NOPAT	-R 1 017 800			
Operating Current assets			R 8 029 000	R 8 110 000
Operating Current liabilities			R 6 017 000	R 5 921 000
NOWC			R 2 012 000	R 2 189 000
Change in NOWC	-R 177 000		-R 177 000	
Change in total long term assets	R 2 618 000		R 2 618 000	
FCF	R 1 423 200			

2) The constant growth model: Value = $FCF_{new} / (r - g)$		Required return			14%
We calculated FCF_{old} to be	R 987 000	Growth rate	Year	1	10.14%
Expected FCF_{16}	R 1 087 082	Growth rate	Year	2	10.14%
Expected FCF_{17}	R 1 197 312	Growth rate	Year	3	10.14%
Expected FCF_{18}	R 1 318 719	Growth rate (Terminal)			6%
Expected FCF_{19}	R 1 397 842				
Present Value FCF_{16}	R 953 581				
Present Value FCF_{17}	R 1 197 312				
Present Value FCF_{18}	R 890 098				
Present Value FCF_{19}	R 11 793 798	R 17 473 031		Terminal value	
Company value Variable Growth model	R 14 834 789				
Shares Issue as per financial information	1360000				
Value per share	R 10.91				

The value as per FCF is much lower than the value as per SML valuation process. A big problem here is the negative operating profit (EBIT). FCF come out positive mainly because of the huge decrease in the value of fixed assets. Most likely a reason why taxes have been paid. Taxes paid in this context has been ignored for determination of NOPAT.

Management actions - manage all the variables in the income statement from sales to specifically EBIT to get a “big” positive EBIT. Utilize assets effectively and at full capacity.

Question 3

To solve the problem use the sustainable growth equation substitute the values from the financial statements into the equation and solve then compare to the target of Current sales growth plus 5%. The challenge here is to find an appropriate sales growth value since sales growth for the last financial year is negative. Then a discussion needs to follow as to what to manage and how to enable the target growth rate.

$$g^* = \frac{m(1-d)A/E}{A/S - m(1-d)A/E}$$

The retention growth equation (Retention rate X ROE) or any other could have been use provided that for the discussion the determination variables needed be broken-up into it's determination and determination of determination variables.

Calculate the Net profit margin for the past number of years.						
	2017	2016	2015	2014	2013	2012
Net profit margin (arithmetic)	-7.86%	1.70%	6.15%	5.92%	17.10%	-38.65%
Average 2013 to 2017	4.60%					
Average 2013 to 2016	7.72%					

Net profit margin calculated as: Profit after Interest and Taxes (NI) / Total turnover)

m = Average for past 5 years = 4.60% if used past four positive net income years 2013 to 2016 then 7.72%

Dividend payout ratio: The only years that dividend payouts made sense are in the years 2013, 2014 and 2015 and the average payout seems to be around 60%. Calculation = Dividend / (Net Income / Number of shares) i.e for 2015 then R0.92 / (R2072000 / 1349000 Shares) = R0.92 / R1.54 = around 60% (59.74%).

. Dividend payouts in 2012 and 2017 probably due to conversion of assets into cash?

Sustainable Growth Rate						
(m (1-d) A/E) / (A/S - m(1-d) A/E)			2013 to 2017	2013 to 2016		
Profit Margin (m)			4.60%	7.72%		
Retention rate = (1 -d) (d = Dividend payout rate)			40.00%			
Assets			R28 112 000		0.046 X 0.4 X 28112000 /8862000 /	
Equity			R8862000		(28112000 / 3412500 -	
Sales			R34125000		4.6 X 0.6 X 28112000 /8862000)	
Sustainable Growth rate			7.63%	13.5%		

Average sales growth: 2013 to 2017 = 6.17%

Sales growth suggested as per question = 6.17% + 10% = 16.17%

Average sales growth: 2013 to 2016 = 10.14% %

Sales growth suggested as per question = 10.14% + 10% = 24.14%

Sustainable growth either 7.63% (2013 to 2017) or 13.50% (2013 to 2016) Therefore suggested sales growth not possible without Management intervention.

Possible actions 1) Increase Net profit margin by either decreasing cost to sales and or fixed cost to sales ratios. 2) Increase asset to equity ratio in other words increase gearing the precondition is must earn more on debt than interest paid for debt (positive gearing) 3) Decrease Assets to sales ratio meaning that assets has to be used more efficiently 4) decrease dividend payout percentage it leave more money (equity) in the company to invest.

Question 4

Stand-alone business risk (SD of some EBIT related variable) to Stand-alone risk share price return (SD of some share price return variable ROE not the correct approach)

Business risk as indicated is normally created by the factors that influence the operating effectivity of an entity. Business risk in the context of the Statement of Comprehensive Income is a result of the operating activities that influence and is numerically reflected in the section from Sales to EBIT.

Share price risk is related to either changes in share price or changes in rates of return of share price. Return will mostly be considered to be capital gains only or capital gains plus dividend yield

Compare Business risk to Share price risk on standalone basis:

- 1) Calculate Standard Deviation (SD) and specifically Coefficient of Variation (CV) for an operating profit/EBIT related variable. One that could work well is Operating profit margin (EBIT/ Sales) ROIC (EBIT/ Total Operating Capital) can also work and there are other approaches as well.
- 2) Do the same as in 1 above for either change in Share price or change in share Rate of return or any variable related to share price rate of return.
- 3) Then compare values determined in 1 and 2 specifically look at CV because it is a “standardize” measure of volatility/risk

- 4) Offer your arguments to rectify the situation in case of differences or what to do to sustain situation if no differences
- 5) Management factors to consider for Business risk – the most relevant variables (80:20 principle) from Sales to EBIT that directly or indirectly influence EBIT or variability of EBIT
- 6) For Share price risk follow the same recipe as in 5 above but in this case variables that influence Share Price.

Operating Profit Margin (last 5 years)				
Year	Operating Profit Margin%	AVG		
	A	B	A - B	(A - B) ²
2017	-4.26	8.79	-13.05	170.42
2016	5.56	8.79	-3.24	10.48
2015	10.66	8.79	1.87	3.49
2014	9.98	8.79	1.19	1.42
2013	22.03	8.79	13.23	175.15
Avg	8.79			90.24
Standard deviation				9.50
Coefficient of variation				1.08

Share price - capital gains (last 5 years)				
Year	Capital Gains %	AVG		
	A	B	A - B	(A - B) ²
2017	-28.25	8.16	-36.41	1325.84
2016	-12.79	8.16	-20.94	438.66
2015	14.28	8.16	6.12	37.44
2014	38.73	8.16	30.57	934.46
2013	28.83	8.16	20.67	427.20

Avg	8.16		790.90
	Standard deviation		28.12
	Coefficient of variation		3.45

Conclusion in terms of CV Share price return is more volatile than Operating profit margin. A factor might be the transfer of the negative Operating profit margins over the past year and the drop in Operating profit margin for the second last year into the share price. The latter in combination with the withdrawing from the UK and consequently drop in assets and sales.

Used last 5 years data to avoid huge negative return in operating profit in 2012. Can use more figures - process is important. Management actions – manage variability in Operating profit to avoid perception of risk which may be transferred into variability in share price. Also make sure that consistence is achieved in profitability ratios (ROIC; ROE; ROA etc).