

Tutorial Letter 101/3/2018

Investments: Equity Asset Valuation

INV3701

Semesters 1 and 2

Department of Finance, Risk Management and Banking

IMPORTANT INFORMATION:

Activate your myUnisa and myLife e-mail addresses and ensure you have regular access to the myUnisa module site INV3701-2018 S1 or S2, as well as your group site.

Note: This module is offered online only. All material will be made available on myUnisa under “Official study material” ,“Learning units” and “Additional resources”. However, in order to support you in your learning process, you will also receive some study materials in printed format.

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1 INTRODUCTION

Dear Student

Welcome to Investments: Equity Asset Valuation (INV3701). You have enrolled for an interesting yet challenging module. To succeed in this module, you will have to spend at least 120 hours reading, summarising and doing assignments.

Do not hesitate to contact us (on myUnisa, by e-mail or telephone) if you are experiencing problems with the content of this tutorial letter or any aspect of the module. I sincerely hope that you will find this module, as well as your online learning experience, interesting and rewarding, and I hope that you will complete the module successfully.

In addition, you are requested to provide Unisa with your cell number because important announcements may be sent to you by SMS. Also check your myLife e-mail address regularly for announcements.

1.1 To get started...

Note that this module is offered fully online; therefore you need to go online to see your study material and complete the learning activities. Go to the website at <https://my.unisa.ac.za> and login with your student number and password. You will see INV3701-18-S1/S2 module site in the row of modules in the orange blocks across the top of the webpage. Remember to also check in the – more site – tab if you cannot find it in the orange blocks. Click on the module you want to open and read the **Welcome page**.

We wish you success on your journey!

2 MODULE FORMAT: INV3701

2.1 Fully-online module

All study material for this module will be available on myUnisa. It is thus very important that you register on myUnisa and access the module site on a regular basis. You must be registered on myUnisa to be able to access your learning material and assignment questions, submit your assignments, gain access to various learning resources, “chat” to your lecturer or fellow students about your studies and the challenges that you might encounter, and to participate in online discussion forums. Importantly, myUnisa contains the **Learning Units** option from which you will be able to access the study material for this module, but only if you have registered and have access to myUnisa.

This tutorial letter (TL101/3/2018) is also available online under **Official Study Material** option. Also, go to **Additional Resources** and **Announcements** options for updates on the study material or other important messages. These are available online only.

2.2 Printed materials to support the online module

Because we want you to succeed in this online module, Unisa will also provide you with the **learning units or study guide** in printed format. This will allow you to read the study material, even if you are not online. While these printed materials may sometimes appear slightly different from the online study material, they are exactly the same and have been copied from myUnisa's website.

Remember, the printed support materials are a back-up to everything that is found online on myUnisa under the **Learning Units** and/or **Official Study Material** options. You must download all additional resources from myUnisa. **In other words, you should NOT wait for the printed support materials to arrive to start studying.**

Consult the brochure, *Study @ Unisa* for more information on activating your myLife e-mail address and obtaining access to the myUnisa module site.

3 LECTURERS AND E-TUTORS

3.1 Lecturers

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To contact the university, you should follow the instructions in the brochure, ***Study @ Unisa***. Remember to have your student number available when you contact the university. When you contact the lecturer, do not forget to always include your **student number** and **module code**. This will help the lecturer to assist you.

3.2 Lecturer availability

The lecturer for this module will be available to take phone calls on academic matters and/or to attend to students who may prefer to visit personally for academic engagement. However, the days and times of lecturer's availability will be communicated in the module page on myUnisa. These days and times are subject to change from time to time in order to accommodate the lecturer's work schedule and other

commitments. The changes on the days and times will be communicated by the lecturer in advance through the announcement option on myUnisa as and when this happen. Students are advised to check the module page on myUnisa before making phone calls or visiting the lecturer's office for academic enquiries/engagements.

3.3 E-tutors

Since 2013, Unisa has been offering online tutorials (e-tutoring) to students registered for modules at NQF levels 5, 6 and 7, which means qualifying first-year, second-year and third-year modules.

Once you have been registered for a **qualifying module**, you will be allocated to a group of students with whom you will be interacting during the tuition period, as well as an e-tutor who will be your tutorial facilitator. Thereafter, you will receive an SMS informing you about your group, the name of your e-tutor and instructions on how to log onto myUnisa in order to receive further information on the e-tutoring process.

Online tutorials are conducted by qualified e-tutors who are appointed by Unisa and are offered free of charge. All you need to be able to participate in e-tutoring is a computer with an internet connection. If you live close to a Unisa Regional Centre or a Telecentre contracted with Unisa, feel free to visit any of these to access the internet. E-tutoring takes place on myUnisa where you are expected to connect with other students in your allocated group. It is the role of the e-tutor to guide you through your study material during this interaction process. For you to benefit more from online tutoring, you need to participate in the online discussions that the e-tutor will be facilitating.

There are modules which students have been found to repeatedly fail; these modules are allocated face-to-face tutors and tutorials for these modules take place at the Unisa Regional Centres. These tutorials are also offered free of charge, however, it is important for you to register at your nearest Unisa Regional Centre to secure attendance of these classes.

4 RESOURCES

4.1 Prescribed books

You must acquire the following two prescribed books:

1	Prescribed book	<i>Equity asset valuation</i>
	Edition	3rd edition
	Year	2015
	Authors	Jerald E. Pinto, Elaine Henry, Thomas R. Robinson, John D. Stowe
	Publisher	John Wiley & Sons, Inc., Hoboken, New Jersey
	ISBN	978-1-119-10426-1

AND

2	Prescribed book	<i>Equity asset valuation workbook</i>
	Edition	3rd edition
	Year	2015
	Authors	Jerald E. Pinto, Elaine Henry, Thomas R. Robinson, John D. Stowe
	Publisher	John Wiley & Sons, Inc., Hoboken, New Jersey
	ISBN	978-1-119-10461-2

4.2 Recommended books

There are no recommended books for this module.

5 ASSESSMENT

5.1 Assessment plan

Assignments are part of the learning material for this module. As you do the assignments, study the reading texts, consult other resources, discuss the work with fellow students or do research, you are actively engaged in learning. Paying attention to the assessment criteria for each assignment will help you to understand what is required of you more clearly.

You may submit assignments either by post or electronically via myUnisa. You may not submit assignments by fax or e-mail. For detailed information and requirements concerning assignments, see the brochure, *Study @ Unisa* that is available on the Unisa website.

Compulsory assignments

There are two compulsory assignments for this module which take the form of multiple-choice questions. There are non-negotiable submission deadlines for each of the assignments. You must submit Assignment 01, if you wish to gain entry to the examination. Both assignments contribute to your year mark (see below).

Year marks

Your year mark, based on the marks obtained for the two compulsory assignments, contributes 20% towards your final mark, and your examination mark contributes 80%.

The combined weighted average of your year mark and examination mark must be 50% or higher for you to pass the module. However, you must obtain a minimum of 40% in the examination, regardless of your year mark. If you obtain less than 40% in the examination, your year mark will not be taken into account and you will fail.

For example:

Assignment 01 mark = 50%, Assignment 02 mark = 90%. These marks each contribute 50% towards the final 20% year mark.

Assignment no	Mark	Weight	Total
01	50%	50%	25
02	90%	50%	45
			70 x 20% of final = 14

Let us assume an examination mark of 45%.

80% of the examination mark is 36.

$$\begin{aligned}\text{Final mark} &= (20\% \text{ of the average assignment marks}) + (80\% \text{ examination mark}) \\ &= 14 + 36 \\ &= 50\%\end{aligned}$$

The example demonstrates that your year mark can help you to pass the module. To pass the module you need a final mark of at least 50% and to qualify for a supplementary examination you will need a final mark of more than 40%.

5.2 General assignment numbers

Assignments are numbered consecutively per module, starting from 01.

Assignment 01 consists of 20 multiple-choice questions that cover study units 1 to 3. Study unit 1 (chapters 1 and 2) focuses on the equity valuation process and return concepts, study unit 2 (chapter 5) focuses on the dividend discount model, and study unit 3 (chapter 6) focuses on the free cash flow model. This assignment counts 20 marks.

Assignment 02 also consists of 20 multiple-choice questions that cover study units 1 to 5. Study unit 1 (chapters 1 and 2) focuses on the equity valuation process and return concepts; study unit 2 (chapter 5) focuses on the dividend discount model; study unit 3 (chapter 6) focuses on the free cash flow model; study unit 4 (chapter 8) focuses on the residual income model and study unit 5 (chapter 7) focuses on price multiples. This assignment counts 20 marks.

5.2.1 Unique assignment numbers

Each assignment has been allocated a unique number in order to identify it in the Unisa assessment plans. Ensure you always indicate the correct unique number when submitting assignments.

5.2.2 Due dates for assignments

You should preferably submit your assignments online at <https://my.unisa.ac.za>. Do not wait until the day just prior to the due date to submit your assignment. Technical problems with the computer servers of myUnisa may prevent you from submitting your assignment at the last minute.

Should you not be able to submit your assignments at myUnisa and need to mail us your assignments in hardcopy format, ensure that your assignments reach the Unisa main campus by the due dates. Requests for extension of due dates for assignments will not be granted. These due dates have been set to allow you sufficient time to complete other assignments and prepare for the examination.

You can obtain information about whether Unisa has received your assignment and the mark obtained for an assignment from <https://my.unisa.ac.za>.

5.3 Submission of assignments

To submit an assignment **via myUnisa**:

- Go to myUnisa at <https://my.unisa.ac.za>.
- Log in with your student number and password.
- Select the module.
- Click on assignments in the left-hand menu.
- Click on the assignment number you want to submit.
- Follow the instructions on the screen.

5.4 Assignment due dates

DUE DATES FOR THE FIRST SEMESTER 2018			
Assignment No	Unique No	Closing Date	Assignment Content
01	746793	13 March 2018	Study units 1 to 3
02	772004	10 April 2018	Study units 1 to 5

DUE DATES FOR THE SECOND SEMESTER 2018			
Assignment No	Unique No	Closing Date	Assignment Content
01	801811	14 August 2018	Study units 1 to 3
02	895487	11 September 2018	Study units 1 to 5

5.5 Assignments

USE FOUR DECIMALS IN ALL YOUR CALCULATIONS AND THEN ROUND OFF THE FINAL ANSWER TO TWO DECIMALS IN BOTH THE ASSIGNMENTS.

SEMESTER 1

ASSIGNMENT 01 DUE DATE: 13 MARCH 2018

Unique number: 746793

Aim: To evaluate your knowledge of some of the fundamental aspects of equity valuation: application and process, equity return concepts, the dividend discount model and free cash flow models. Refer to study units 1 to 3 in the study guide, which include chapters 1, 2, 5 and 6 in the textbook.

Answer the following questions and submit your assignment online at <https://my.unisa.ac.za>.

The following assignment contains 20 multiple-choice questions.

[20 marks]

Questions

Use the information below to answer questions 1 and 2.

Zuzu Holdings is a growth company that has never paid a dividend. Free cash flow is forecasted to be negative for the next five years because of Zuzu's aggressive expansion plans. Zuzu has always received a clean audit from its auditors and is generally considered to have high-quality earnings.

Abba Limited is a mature firm that is profitable but operates outside the economy's fastest-growing industries. Its investors seek a minority stake in the firm. Abba's analysts have a 10-year history of the firm paying regular annual dividends.

1. Which of the following models is *most appropriate* to value Zuzu?
 1. Free cash flow model
 2. Residual income model
 3. Dividend discount model

2. Which of the following models is *most appropriate* to value Abba?
 1. Free cash flow model
 2. Residual income model
 3. Dividend discount model

The information provided in the table below relates to Nova Limited. Use the information to answer question 3.

	Factor sensitivity	Risk premium (%)
Market factor	1.25	2.6
Value factor	0.85	4.2
Size factor	-1.15	3.7

3. Based on the Fama-French model, calculate the required return for Nova using the above estimates. Assume the risk-free rate of return is 3.5%.
1. 2.50%
 2. 6.07%
 3. 10.32%
4. Macmillan Investments (MI) shares are currently selling at R88. MI recently paid a dividend of R1.50 per share; the risk-free rate is 4%, the estimated beta 0.90 and the equity risk premium 10.20%. Determine the constant dividend growth rate that Macmillan Investments requires to justify the market price.
1. 8.86%
 2. 11.28%
 3. 13.81%
5. Assume Greenfield Corporation listed its preference shares on the JSE in 2014. They pay an annual dividend of R5.24 and the required rate of return is 7.10%. The market growth rate which is independent from the company growth rate is 5% and its estimated beta is currently 1.1. The market return is 13%. Calculate the value of the preference shares of Greenfield Corporation.
1. R39.13
 2. R58.54
 3. R73.80
6. Pluto is a new firm that currently does not pay dividends. The firm recently reported earnings of R4.50 per share and these earnings are expected to grow at a rate of 12% for the next three years. Pluto will begin to pay dividends from year four into the indefinite future. The firm is expected to have a dividend payout of 15% and to have a constant growth rate of 6%. The required rate of return is 10%. Calculate the value of Pluto's shares today.
1. R18.88
 2. R21.34
 3. R25.13

7. Financial analyst Floyd Manala, CFA, is evaluating Las Vegas Inc, which farms and processes tomatoes for national distribution. Which one of the following steps is Manala **most likely** to take as part of the top-down valuation process?
1. Understand the business.
 2. Calculate market volatility.
 3. Perform technical analysis.

Use the following information to answer questions 8 and 9.

Jules Limited is selling for R330. The beta of Jules is 0.62 and its current dividend is R7.45. The equity risk premium and the risk-free rate is 8.40% and 3% respectively. An analyst covering the share expects Jules's share to grow at 22% initially, declining linearly during a twelve-year period to a final and perpetual growth rate of 4%.

8. Calculate the value of Jules's dividend stream using the H-model.
1. R312.25
 2. R375.15
 3. R644.90
9. According to the H-model valuation, Jules's share is:
1. overpriced.
 2. underpriced.
 3. fairly priced.
10. Which one of the following statements is most likely correct?
1. FCFF model is an example of a relative valuation model.
 2. FCFF is cash flow available only to common shareholders.
 3. The value of a firm is equal to the value of the operating assets and the non-operating assets.
11. Which of the following non-cash charges will result in a decrease in cash flow from operations (CFO)?
1. Amortization of intangible assets
 2. An expense from restructuring charges
 3. Amortization of long-term bond premiums

12. Which of the following statements are most likely correct regarding FCFF?
1. $FCFF = \text{Net income} + \text{net non-cash charges} + \text{interest expense} (1 - \text{Tax rate}) - \text{investment in fixed capital} - \text{investment in working capital}$
 2. $FCFF = \text{Net income} - \text{net non-cash charges} + \text{interest expense} (1 - \text{Tax rate}) - \text{investment in fixed capital} - \text{investment in working capital}$
 3. $FCFF = \text{Net income} + \text{net non-cash charges} + \text{interest expense} (1 + \text{Tax rate}) - \text{investment in fixed capital} - \text{investment in working capital}$

13. Secunda Limited (JSE:SEC) is a JSE listed company that trades in oil, gases and other chemicals, believes that the demand for its products will increase in the following four years then stabilise thereafter and remain constant forever at 3%. One of their analysts has forecasted their growth rates as follows:

- Year 1 5.5%
- Year 2 6.5%
- Year 3 7.5%
- Year 4 8.1%
- Year 5 8.0 %

Secunda Limited (JSE: SEC) will have earnings per share of R15.00 in the upcoming year and its required rate of return is 12%. Its dividend payout ratio is 25%. Calculate the intrinsic value of Secunda Limited using the multi-stage growth model.

1. R47.93
 2. R54.38
 3. R143.79
14. Zanin Motors plans to pay R1.48 dividends in year 1, R2.06 in year 2 and R0.99 in year 3. You can sell the ordinary shares of Zanin Motors for R156 each if you hold the shares until the end of year 3. If you require 9.11% return on your investment, how much will you be willing to pay for Zanin Motor shares today?
1. R118.46
 2. R123.95
 3. R132.61

Use the following information to answer questions 15 to 18.

- Net income R1 030
- Interest expense R270
- Depreciation R450
- Loss on sale of asset R52
- Investment in working capital R345
- Investment in fixed capital R106
- Market value of debt R4 410
- Ordinary share capital R20 000
- Number of issued shares 2 600 million
- Company tax 30%
- Required rate of return based on CAPM 16.5%
- Weighted average cost of capital 11.6%
- Sustainable growth rate 4.05%
- Khawa pays 40% of its earnings as dividends

15. Calculate the FCFF.

1. R1 218 million
2. R1 270 million
3. R1 351 million

16. Calculate the value of the firm.

1. R10 613.94 million
2. R13 932.77 million
3. R17 502.45 million

17. Calculate the equity value.

1. R6 203.94 million
2. R10 135.96 million
3. R13 092.45 million

18. Calculate equity value per share.

1. R2.39
2. R5.04
3. R6.48

19. Plains Limited pays out 25% of its earnings as dividends and has:

Net income for the year	R903 150
Sales	R4 001 852
Total assets turnover ratio	0.86
Financial leverage	1.63

Use the DuPont analysis to calculate the company's sustainable growth.

1. 7.91%
2. 15.24%
3. 23.73%

Use the information below to answer question 20.

An analyst following Clean Energy has compiled the following information for the year ended 2014 in preparation for additional analysis to include in a report she has been asked to produce (data is in hundreds of millions of Rands). Clean Energy uses preference shares, bond and equity financing.

Security type	Market value	Before-tax required return
Preference share	R300	8.20%
Bonds	R500	6.50%
Shares	R700	13.40%
Total	R1 500	

Preference share dividends:	R22
Net income available to common shareholders	R140
Increase in investment in working capital	R36
Increase in investment in fixed capital	R58
Loss on sale of an asset	R5
Depreciation	R43
Interest expense	R32.50
Tax rate	30%
Long-term growth rate of FCF	3.5%

20. The value of Clean Energy's equity is:

1. R1 629.89
2. R2 129.89
3. R2 429.89

USE FOUR DECIMAL PLACES IN ALL YOUR CALCULATIONS AND ROUND OFF YOUR FINAL ANSWER TO TWO DECIMAL PLACES.

SEMESTER 1

ASSIGNMENT 02 DUE DATE: 10 APRIL 2018

Unique number: 772004

Aim: To evaluate your knowledge of some of the fundamental aspects of equity valuation: application and process, equity return concepts, the dividend discount model and the free cash flow model, residual income model and price multiples models. Refer to study units 1 to 5 in the study guide which include chapters 1, 2, 5 to 8 in the textbook.

Answer the following questions and submit your assignment online at <https://my.unisa.ac.za>.

The following assignment contains 20 multiple-choice questions.

[20 marks]

Questions

1. Which one of the following statements is most likely correct?
 1. Valuation is the estimation of firm's tangible assets value.
 2. Mispricing is the departure of market price from the estimated intrinsic value.
 3. Going-concern value of a company is its value if it were dissolved and its assets sold individually.

Use the following information for Woodlands Holdings to answer questions 2 to 4.

Residual income will equate to the same value when calculated in two different approaches if we assume that marginal cost of debt equals the current cost of debt and that the weights used to calculate capital charge are derived from the book value of debt and equity.

Total assets (which are financed with twice as much debt capital as equity capital)	R3 000 000
EBIT	R525 000
The NOPAT of Woodlands Holdings is	R341 250
Before tax cost of debt	10%
Required rate of return	13%
Tax rate	35%

2. Calculate the total capital charge.
 1. R130 000
 2. R200 000
 3. R260 000

3. What is the residual value of Woodlands Holdings?
 1. R81 250
 2. R81 520
 3. R81 270

4. Based on your answer for questions 2 to 3, which of the following statements is most likely correct?
 1. Woodlands Holdings has a negative value.
 2. Woodlands Holdings can pay for its total capital charge.
 3. Woodlands Holdings has a positive residual value and it is therefore creating value.

Use the information below to answer question 5.

Beginning book value of equity	R310
Beginning book value of debt	R290
Sales	R1 600
Cost of sales	R500
Operating expenses	R100
Depreciation	R103.45
Interest expense	R65
Dividend	R70
Tax rate	42%
WACC	9.00%

5. Calculate the Economic Value Added (EVA) of Bay Limited.
 1. R466
 2. R493
 3. R520

6. In a single-stage residual income model for a firm with return on equity (ROE) less than the required rate of return, which statement is most accurate? The company would ...
 1. be valued at book value.
 2. have a negative residual income.
 3. the justified price-to-book value (P/B) ratio will be greater than one.

Use the following information to answer questions 7 to 9.

Zulu Ltd has a required rate of equity return of 15.60%, a growth rate of 7.40% and an industry P/E of 18. Its retention ratio is 60%.

7. Calculate the P/E of Zulu Ltd based on the trailing P/E.
1. 4.88
 2. 5.24
 3. 7.86
8. Calculate the P/E of Zulu Ltd based on the next year's P/E.
1. 4.88
 2. 5.24
 3. 7.86
9. Which of the following statements is most likely correct regarding the P/E model?
1. A decrease in beta will cause P/E to decrease.
 2. An increase in growth rate of earnings will cause P/E to increase.
 3. An increase in market risk premium will cause P/E to increase.

Use the following information to answer questions 10 and 11.

Required rate of return = 0.106

Dividend payout rate = 0.45

Industry average ROE = 23.10%

Industry average P/E = 9

$E_4 = R4.20$

$S_4 = R7.30$

10. Calculate the terminal value V_4 based on comparables.
1. R30.00
 2. R37.80
 3. R65.70
11. Calculate the $\frac{P_4}{S_4}$ ratio based on the forecasted fundamentals.
1. 5.18
 2. 7.47
 3. 9.00

12. Banele Madiba makes the following statement: "Unlike many valuation models that incorporate dividend discounting, the P/E-to-growth (PEG) ratio may be used to value firms with zero expected dividend and earnings growth prospects." Is this statement correct?
1. No, because the PEG ratio is undefined for zero-growth companies.
 2. Yes, because the calculation of the PEG ratio does not use the rate of expected dividend growth.
 3. Yes, because the expected dividend growth rate is cancelled out in the calculation of the PEG ratio.
13. Which one of the following statements is most likely correct?
1. An increase in earnings before interest and tax (EBIT) will have a positive effect on free cash flow to equity (FCFE).
 2. FCFF includes a reduction for investments in working capital and after-tax interest expense.
 3. The DDM model is best for valuing firms for takeovers or in situations that have a reasonable chance for a change in corporate control.
14. Which one of the following statements is most likely correct about price multiples?
1. The P/E ratio is hardly recognised and is rarely used by investors.
 2. P/B ratio will generally be negative even when earnings per share (EPS) is negative.
 3. Price to cash flow is less subject to manipulation by management than earnings.

Use the information below to answer questions 15 and 16.

Constania Limited reported total liabilities of R450 million and total assets of R720 million at the end of 2016. Constania Limited has 20 million shares outstanding, ROE of 21.80% and dividend payout of 75%. The firm's required rate of return is 9.50% and its market price is R57.70.

15. Determine the value of Constania Limited's using a single-stage residual income model.
1. R16.54
 2. R54.50
 3. R59.20
16. Constania Limited's shares are most likely:
1. overpriced.
 2. fairly priced.
 3. underpriced.

Use the following information on Ringo Inc to answer question 17.

An analyst researching Ringo Inc has determined that the firm has:

- A dividend payout ratio of 65%.
- A return on equity of 16.90%.
- Earnings per share of R4.50.
- Sales per share of R210.
- Expected growth rate 5.30%.
- Shareholders' required return of 15%.

17. Calculate the company's P/S ratio based on the above fundamentals.

1. 0.08
2. 0.10
3. 0.15

Use the information below to answer questions 18 and 19.

Serengeti Ltd is expecting an ROE of 20% over each of the next five years. Its current book value is R4.40 per share, it pays no dividends, and all earnings are reinvested. The required return on equity is 12%. Forecasted earnings in years 1 to 5 are equal to ROE times beginning book value. Assume that after five years, continuing residual income falls to zero.

18. The terminal value of Serengeti Limited, is closest to:

1. R0.45.
2. R0.54.
3. R0.65.

19. Calculate the intrinsic value of Serengeti Ltd, using a residual income model.

1. R5.40
2. R6.21
3. R7.63

20. Khoza Limited has earnings per share of R2.50 and a retention rate of 40%. The company will grow at 20% per year for the next 2 years, followed by 10% for 1 year and then settle at a 5% per year growth indefinitely. The required rate of return is 12.40%. Using the three-stage dividend discount model, calculate the intrinsic value of Khoza Limited.

1. R28.73
2. R33.35
3. R37.15

USE FOUR DECIMALS IN ALL YOUR CALCULATIONS AND THEN ROUND OFF THE FINAL ANSWER TO TWO DECIMALS IN BOTH THE ASSIGNMENTS.

SEMESTER 2

ASSIGNMENT 01 DUE DATE: 14 AUGUST 2018

Unique number: 801811

Aim: To evaluate your knowledge of some of the fundamental aspects of equity valuation: application and process, equity return concepts, the dividend discount model and free cash flow models. Refer to study units 1 to 3 in the study guide, which include chapters 1, 2, 5 and 6 in the textbook.

Answer the following questions and submit your assignment online at <https://my.unisa.ac.za>.

The following assignment contains 20 multiple-choice questions [20 marks]

Questions

1. Interpret this formula $V_0 = \sum_{t=1}^{\infty} \frac{CF_t}{(1+r)^t}$.
 1. An asset's value is equal to the future value of its expected cash flows.
 2. An asset's value is equal the present value of past cash flows.
 3. An asset's value is equal to the present value of the sum of all its expected future cash flows.

2. Which one of the following statements is most accurate regarding return concepts?
 1. A realised return is based on forecasts of future prices and cash flows.
 2. The required return is the maximum return an investor requires, given the asset's risk.
 3. The internal rate of return is the rate that equates the value of the discounted cash flows to the current price of the security.

3. An analyst values shares using a dividend discount model and the CAPM. Holding all others factors constant, which one of the following is most likely to decrease the estimated intrinsic value of the share?
 1. A decrease in the share's systematic risk.
 2. An increase in the next period's expected dividend.
 3. A decrease in the expected growth rate of dividends.

4. The most preferable situation in which to use free cash flow to equity is when the firm has ...
 1. significant debt outstanding.
 2. a capital structure that is stable.
 3. negative free cash flow to equity.

Use the following information to answer questions 5 and 6.

The following information is available on three shares in a portfolio. The dividend growth rate for all the shares in the portfolio is perpetual. The required rate of return is 8.40% for all shares in the portfolio.

Shares	Current price	Current dividend ($t = 0$)	Dividend growth rate	Value (Gordon growth model)
Abba foods	R34	R0.70	?	R35.00
Lulu foods	R34	R2.175	3.0%	?
Coco foods	R34	?	5.5%	R41.00

5. Calculate the value of Lulu foods using the Gordon growth model.
 1. R40.28
 2. R41.49
 3. R42.73

6. An analyst who holds all three shares in his portfolio will most likely (i) more shares in (ii) at a market price of R34, because the share is (iii).

	<u>(i)</u>	<u>(ii)</u>	<u>(iii)</u>
1.	buy	Abba foods	overvalued
2.	sell	Lulu foods	overvalued
3.	buy	Coco foods	undervalued

7. Captain America Limited's initial dividend growth is 30%; it will decline linearly during an 18-year period to a final and perpetual growth rate of 4.50%. The estimated required rate of return on equity is 9.60%. Calculate the value of Captain America Limited using the H-model, if the current earnings are R2.00 and its retention ratio is 20%.
 1. R26.20
 2. R104.78
 3. R130.98

Use the information below to answer question 8.

Shares in Hluvukani Ltd are currently selling for R37.50 and have recently paid a dividend of R1 per share.

The following additional information is available:

- Risk-free rate of return 6%
- Estimated beta 0.9
- Estimated equity risk premium 5.7%

8. Calculate the constant dividend growth rate that Hluvukani Ltd requires to justify its share price of R37.50.

1. 2.98%
2. 8.24%
3. 11.30%

9. Laduma Inc is a company involved in producing and supplying organic coffee and coffee products to retail food chain stores. You expect the demand for coffee and coffee products to be above average for the next three years. You establish the following facts and forecast:

- Current earnings per share R4.
- Laduma Inc pays 35% of its earnings as dividends.
- You anticipate that Laduma Inc will grow at 15 % for three years, 10% for two years and 5% thereafter.
- The required rate of return is 10%.

Calculate the intrinsic value of Laduma Inc using the three-stage dividend discount model.

1. R41.39
2. R68.29
3. R81.40

10. A company has a book value of R80 per share. All its earnings are paid out as dividends and the value of the company's share is R56. The required rate of return on equity is 5.50%. Calculate the value of the dividend an investor will receive for this perpetuity.

1. R3.08
2. R4.40
3. R6.10

Use the following information on Limpopo Limited to answer questions 11 to 13.

The following information is available on Limpopo Limited:

Security type	Market value (R'million)	Before-tax required return
Preference shares	400	5.5%
Bonds	700	8.0%
Ordinary shares	900	12.0%
Total	2 000	

(R'million)

- Preference dividends R54
- Net income R360
- Restructuring expense R39
- Gain on sale of asset R20
- Investment in working capital R68
- Investment in fixed capital R103
- Depreciation R85
- Net borrowing R70
- Corporate tax rate 30%
- Bonds are trading at par

11. Calculate Limpopo Limited's weighted average cost of capital (WACC).
1. 7.90%
 2. 8.46%
 3. 9.30%
12. Calculate Limpopo Limited's current free cash flow to the firm (FCFF).
1. R386.20 million
 2. R403.00 million
 3. R426.20 million
13. Calculate Limpopo Limited's current free cash flow to equity (FCFE).
1. R363.00 million
 2. R402.20 million
 3. R456.20 million

Use the information below to answer question 14.

Azania Bopelo is evaluating Cornex Manufacturing (COM) by using the FCFE valuation approach. Azania has collected the following information:

- COM has net income of R250 million, depreciation of R110 million, capital expenditure of R220 million and an increase in working capital of R75 million.
- COM will finance 60% of the increase in new fixed assets and 60% of the increase in working capital with debt financing.
- Interest expenses are R310 million. The current market value of COM's outstanding debt is R2 900 million.
- FCFE is expected to grow at 6% indefinitely
- The tax rate is 30%.
- COM is financed with 60% debt and 40% equity (Assume no preference share capital).
- The before-tax cost of debt is 8.20% and the cost of equity is 14%.
- COM has 150 million shares outstanding.

14. COM 's value per share of equity is closet to:

1. R13.86
2. R14.67
3. R15.55

15. Siphon Phooko has calculated the return based on the capital asset pricing model (CAPM) as 13.10%. He has gathered the following information on risk premiums and factor sensitivities:

Risk premium	Factor sensitivity
Small cap return premium = 3.00%	0.65
Value return premium = 2.50%	0.90
Liquidity risk premium =1.40%	0.45

Calculate the required return based on the Fama-French model.

1. 17.30%
2. 17.75%
3. 18.60%

Use the information below to answer questions 16 and 17.

Ballito Holdings (BH) next financial year will start on 28 February 2017. BH expects to pay a dividend of R1.80 at the end of that financial year. The dividends are expected to grow at 4.2% indefinitely thereafter and beta is 1.5. Ziyanda Ngcobo determines that the risk premium is 3.5% and that the return on publicly traded debt of KB is 9.0%, while the liquidity premium and size premium are 0.2% and 1.6% respectively.

16. Calculate the value of BH by using the bond yield risk premium, on 28 February 2017.
1. R17.91
 2. R21.69
 3. R22.60
17. Assume the market price of BH is R25.04 on 28 February 2017. The share is ...
1. fairly priced.
 2. underpriced.
 3. overpriced.

Use the information below to answer questions 18 and 19.

Market price of Hout Bay Limited	R164
Earnings per share of Hout Bay Limited	R6.80
Return on the market index	9.3%
Risk-free rate	2.7%
Beta of Hout Bay Limited	1.20

18. The present value of growth opportunities (PVGO) for Hout Bay Limited is ...
1. R90.88.
 2. R99.97.
 3. R114.94.
19. The fraction of Hout Bay's value that comes from its growth opportunities is ...
1. 0.61.
 2. 0.65.
 3. 0.70.

Use the information below to answer question 20.

The management of Consolidate, a firm based in South Africa, believes that the recent strong performance of its wholly-owned manufacturing subsidiary, Sahara, has gone unnoticed. Phillip Modise, an analyst at Brand and Associates, is interested in the ROE and the firm value of Sahara. He gathers the information shown in Table A and Table B below.

He also learns that the board of directors at Sahara is considering the following changes in policy that will affect the sustainable growth rate of Sahara:

- Director A proposed a 3-for-1 share split.
- Director B proposed a decrease in the quarterly dividend by R0.05 per share.
- Director C proposed a bond issue of R20 million, the proceeds of which will be used to increase production.

Table A: Selected financial information

Required rate of return on equity on Sahara	20%
Growth rate of industry	10%
Industry P/E	14

Table B: Sahara's actual 2014 and 2015 financial statements for the year ending 31 December (R' million, except for per-share data)

Income statement	2014	2015
Sales	R 557	R684
Depreciation	54	36
Other operating expenses	338	462
Income before taxes	165	186
Net income	115.50	130.20
Dividends	44.35	51
Statement of financial position	2014	2015
Current assets	R124	R169
Net property, plant and equipment	576	680
Total assets	700	849
Current liabilities	75	95
Long-term debt	0	0
Total liabilities	75	95
Shareholders' equity	736	815
Total liabilities and equity	811	910

20. Calculate the sustainable growth rate of Sahara, using the 2015 financial statements.
1. 6.26%
 2. 8.04%
 3. 9.72%

USE FOUR DECIMAL PLACES IN ALL YOUR CALCULATIONS AND ROUND OFF YOUR FINAL ANSWER TO TWO DECIMAL PLACES.

SEMESTER 2

ASSIGNMENT 02 DUE DATE: 11 SEPTEMBER 2018

Unique number: 895487

Aim: To evaluate your knowledge of some of the fundamental aspects of equity valuation: application and process, equity return concepts, the dividend discount model and the free cash flow model, residual income model and price multiples models. Refer to study units 1 to 5 in the study guide, which include chapters 1, 2, 5 to 8 in the prescribed book.

Answer the following questions and submit your assignment online at <https://my.unisa.ac.za>.

The following assignment contains 20 multiple-choice questions [20 marks]

Questions

1. Which one of the following statements is most likely correct regarding various aspects of equity valuation?
 1. The value of a share should increase when the required rate of return increases.
 2. When calculating the justified P/E based on a constant growth model, the trailing P/E should be greater than the forward P/E.
 3. A free cash flow approach might be preferable when the company's cash flows differ substantially from dividends or when the investor takes a minority perspective.

2. Which one of the following non-cash charges will most likely result in a decrease in earnings before interest and taxes (EBIT)?
 1. Loss on sale of an asset.
 2. Impairment of intangible assets.
 3. Income from reversal of restructuring charges.

3. Which one of the following statements is most likely correct?
 1. Residual income is suitable for a firm that has positive free cash flow for the foreseeable future.
 2. The dividend discount model is suitable for a firm that has the perspective of a minority shareholder.
 3. Free cash flow models are suitable for firms that have a dividend payment history or have a dividend payment history that is clearly and appropriately related to earnings.

4. Imbizo Gold (IG) shares are currently selling at R230 and IG's recent earnings are R15.40 per share. Its dividend payout ratio is 25%. The risk-free rate is 4.40%, the estimated beta 0.7 and the return on the market index is 9.60%. Determine the constant dividend growth rate that IG requires to justify the market price.
 1. 6.26%
 2. 8.30%
 3. 10.54%

Use the following information to answer questions 5 to 6.

Mandisa Kalawe wants to value Nkosi Ltd using a single-stage free cash flow to the firm (FCFF) approach. Kalawe gathered the following information regarding Nkosi Ltd. The total assets of Nkosi Ltd are financed with four times as much equity capital as of debt capital.

Shares outstanding	R400 000
Market value of debt	R660 140
Most recent FCFF	R420 150
Beta	0.80
Return on the market index	10%
Risk-free rate	4%
Before tax cost of debt	6.50%
Tax rate	30%
FCFE growth rate	4%
FCFF growth rate	3%

5. Calculate the weighted average cost of capital (WACC) of Nkosi Ltd.
 1. 7.08%
 2. 7.95%
 3. 9.13%

6. Calculate the value of the firm of Nkosi Ltd using the single-stage FCFF approach.
 1. R7 614 325
 2. R8 742 515
 3. R10 329 929

7. An analyst is evaluating a mature company whose current earnings are R550 000 and its retention ratio is 85%. The company has issued 50 000 shares and is expecting to grow at a rate of 5% per year for the foreseeable future. The equity risk premium of the company is 10.5%, its beta is 0.75 and the risk-free rate is 3%. The current value of the share is closest to ...
 1. R29.46.
 2. R47.73.
 3. R166.96.

8. Identify the statement that is most likely correct from the following alternatives:
 1. P/E is a decreasing function of the return on equity (ROE) of the company.
 2. P/E is an increasing function of the market risk premium.
 3. P/E is an increasing function of the growth rate of the company.

9. Which one of the following statements is most likely correct regarding sustainable growth?
 1. A share split will increase the sustainable growth rate.
 2. A decrease in the debt ratio will increase the sustainable growth rate.
 3. A decrease in the quarterly dividends will increase the sustainable growth rate.

10. Motovun will maintain its current ROE of 21.50% and growth rate of 6.5% over the next few years. The company has a book value per share of R56 and a required rate of return on its equity of 11.30%. The value of Motovun's equity using the single-stage residual income model is *closest* to:
 1. R119.
 2. R175.
 3. R198.

11. Which one of the following statements is most likely correct about the residual income model?
 1. Higher persistence factors will be associated with historical persistence in the industry.
 2. Lower persistence factors will be associated with low dividend pay-outs.
 3. Lower persistence factors will be associated with significant levels of nonrecurring items.

Use the following information to answer questions 12 to 14.

PQ Ltd has a required rate of equity return of 15% and a growth rate of 4%. It also has an industry P/E of 25 and a retention rate is 40%.

12. Calculate the P/E of PQ Ltd based on the trailing earnings.
1. 3.78
 2. 5.45
 3. 5.67
13. Calculate the P/E of PQ Ltd based on the next year's earnings.
1. 3.78
 2. 5.45
 3. 5.67
14. A decrease in the equity risk premium in question 13 will lead to?
1. A decrease in the P/E ratio.
 2. An increase in the P/E ratio.
 3. It will have no impact on the P/E ratio.

Use the information below to answer question 15.

An analyst is using market value added (MVA) to measure the performance of a firm. She uses the information below for the year ended 2015 for her analysis.

Market price of the firm	R24
Adjusted net operating profit after tax (NOPAT)	R210 million
The firm's long-term debt	R1 200 million
Beginning of year invested capital	R800 million
End of year invested capital	R1 000 million
Total number of shares outstanding	150 million
The weighted average cost of capital	8.80%

15. The firm's market value added (MVA) is *closest* to ...
1. R2 600 million.
 2. R3 800 million.
 3. R4 800 million.

16. Healthy Us Corporation is a family-controlled firm that dominates the natural health products market. The required return on the firm's equity is 8% and it has a book value of R60 per share. Healthy Us is expected to earn R7.50 per share forever and pays out all of its earnings as dividends. The current market price of the firm is R52 per share. What is the value of Healthy Us, if the residual income model is used?
1. R33.75
 2. R85.75
 3. R93.75

Use the information below to answer questions 17 and 18.

Dali Tabani is an equity analyst for Alpha Investments. The tool that Alpha uses to compare share valuations is the dividend discount model. The firm particularly evaluates shares in terms of justified multiples of sales and book value. Over time, these multiples seem to provide a good check on the market valuation of a stock relative to the company's fundamentals. Dali will derive valuation estimates from selected financial information in respect of two companies in the telecommunications industry, namely, Data Inc and Network Inc, for the year ended 2016.

	Data Inc	Network Inc
Sales per share	R95	R62.40
Earnings per share (EPS)	R2.10	R5.00
Dividends per share (DPS)	R1.80	R4.40
Retention ratio	14.29%	12%
Return on equity (ROE)	22%	14%
Book value per share	R13.50	R28
Current stock price per share	R72	R28
Required return on equity	16%	13%

17. Determine whether the shares are overvalued or undervalued by comparing the justified price-to-book ratio P/B with the market P/B of each share.

	<u>Data Inc</u>	<u>Network Inc</u>
1.	Overvalued	Undervalued
2.	Undervalued	Overvalued
3.	Overvalued	Overvalued

18. Determine the justified price-to-sales ratio (P/S) of Data Inc.

1. 0.15
2. 3.42
3. 6.87

Use the following information to answer questions 19 to 20.

An analyst is conducting a valuation of Khulula Limited. Khulula Limited pays 55% of its earnings as dividends and is expected to exhibit a ROE of 20% over the next three years. The book value per share of Khulula is currently R64.20, the required return on equity is 15% and estimated annual earnings per share are R20, R22 and R24 for year 1, year 2 and year 3 respectively. Thereafter, the residual income will remain constant forever at year 3's residual income.

19. The terminal value based on a perpetuity of year 3's residual income is closest to:

1. R73.47.
2. R76.90.
3. R78.58.

20. The intrinsic value of Khulula Limited today is closest to:

1. R75.52.
2. R133.12.
3. R139.70.

5.6 Concluding remarks

Do not hesitate to contact your lecturer by e-mail, if you experience problems with the content of this tutorial letter or any other aspect of the module.

I hope you enjoy this journey through the learning material and trust that you will complete the module successfully.

Enjoy the journey!

Your Lecturers

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