

# KASNEB

## CIFA PART II SECTION 4

### EQUITY INVESTMENT ANALYSIS

#### PILOT PAPER

September 2015.

Time Allowed: 3 hours.

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

#### QUESTION ONE

(a) Briefly explain the following terms as applied in equity investment evaluation:

- (i) Intrinsic value. (2 marks)
- (ii) Going concern value. (2 marks)
- (iii) Fair market value. (2 marks)
- (iv) Investment value. (2 marks)

(b) In a research note on the ordinary shares of Rivet Fashion Group (RFG) dated early July 2015, when the share price was Sh.700 and projected annual dividend was Sh.50, an analyst started a target price of Sh.920. The research note did not explain how the target price was obtained or how it should be interpreted. Assume that the target price represents the expected price of RFG.

**Required:**

Describe any further information that you would need to form an opinion on whether RFG was fairly valued or undervalued. (4 marks)

(c) Historical estimates of the equity risk premium in developing markets are often attended by a range of concerns. In one of the markets, a number of equity indexes are available and each has possible limitations. Although not as broad-based as the alternatives, the stock exchange index (Sensex 30) returns, a market capitalization weighted index of the shares of 30 leading companies, the largest available record compiled since 2006, go back to 1999. Note the following facts concerning the index and other relevant information to estimating the equity risk premium:

1. The backfilled returns from 1999 to 2005 are based on the initial 30 issues selected in 2006, which were among the largest market-caps as of 2006.
2. The Sensex is a price index; a total return version of the index incorporating dividends is available from 2007 forward.
3. Interest rates were suppressed by regulations prior to 2011 and moved higher thereafter. The post-regulation period appears to be associated with higher stock market volatility.
4. Objective estimates of the extent of any bias can be developed.

**Required:**

Based on the information given, explain the following:

- (i) The factors that could bias an unadjusted historical risk premium estimate upwards. (2 marks)
- (ii) The factors that could bias an unadjusted historical risk premium estimate downwards. (2 marks)
- (iii) Two indications that the historical time series is non-stationary. (2 marks)
- (iv) Whether the historical or an adjusted historical equity risk premium is preferable. Justify your answer. (2 marks)

(Total: 20 marks)

## QUESTION TWO

- (a) Explain the five steps involved in equity valuation. (10 marks)
- (b) Shitieka, an investment analyst at Value Trackers Fund is researching on Kapu Oil Limited's shares to estimate a required return on equity. Kapu Oil Limited has no long term debt. Shitieka uses an equally weighted average of the capital asset pricing model (CAPM) and Fama French Model (FFM) estimates, unless one method appears to be superior as judged by a more than five point difference in the adjusted  $R^2$ , in which case, only the estimate with superior explanatory power is used. The cost of equity information for Kapu Oil Limited is provided below. All the beta estimates are significant at 5% level.

### CAPM and FFM required return estimates

#### Kapu Oil Limited

	Model A	Model B
1. Current risk free rate	4.7%	4.7%
2. Beta	1.04	1.14
3. Market (equity) risk premium	5.5%	5.5%
Premium for stock (2) x (3)	5.72%	6.27%
4. Size beta	-	-0.222
5. Size Premium (SMB)	-	2.7%
Premium for stock (4) x (5)	-	-0.60%
6. Value beta	-	-0.328
7. Value premium	-	4.3%
Premium for stock (6) x (7)	-	-1.41%
$R^2$	0.34	0.35
Adjusted $R^2$	0.33	0.32

#### Additional information:

Value Trackers Fund holds positions for 4 years on average. Shitieka has determined that the market place will favour growth oriented equities over the coming year. Reviewing all the information, Shitieka makes the following statements:

- Kapu Oil Limited's cost of capital benefits from the company's above average market capitalisation, which offsets the stock's above average risk premium for market risk.
- If our economic unit's analysis is correct, growth-oriented portfolios are expected to outperform value-oriented portfolios over the next year. As a consequence, we should favour the CAPM required return estimate over the Fama French estimate.

#### Required:

- (a) Estimate Kapu Oil Limited's cost of equity using:
- Capital asset pricing model (CAPM). (2 marks)
  - Fama-French model. (2 marks)
- (b) Assess whether Shitieka's first statement concerning Kapu Oil Limited's cost of equity is accurate. (3 marks)
- (c) Assess whether Shitieka's second statement concerning the expected relative performance of growth oriented portfolios and the use of the CAPM and FFM required return estimates, is correct. (3 marks)
- (Total: 20 marks)**

## QUESTION THREE

- (a) The shares of Xtronics Limited are selling for Sh.30 each. The mean analysts earnings per share forecast for next year is Sh.4.0 and the long run growth rate is 5%. Xtronics Limited has a dividend pay-out ratio of 60%. The required rate of return is 14%.

#### Required:

- The fundamental value of the share using the Gordon growth model. (4 marks)
- Determine whether Xtronics Limited's shares are overvalued or undervalued using the method of forecasted fundamentals. (3 marks)

- (b) Josphine Akinyi, a Certified Investment and Financial Analysts (CIFA) student, is evaluating a purchase of Zedtum Investment Limited. Current book value per share is Sh.12.9 and the current price per share is Sh.32.41. Josphine expects long term return on equity (ROE) to be 10% and long term growth rate to be 8%.

**Required:**

The intrinsic value of the share using a residual income model.

NB: Assume a cost of equity of 9%.

(3 marks)

- (c) Biashara Limited was a publicly traded production company that supplied a number of products to the market. Biashara Limited capitalised production costs including expenses for advertising, publicity and promotion, production costs, salaries and fares paid to staff. The company then amortised those capitalised costs over the expected life of the production based on anticipated venues.

**Required:**

- (i) State the effects of Biashara Limited accounting for pre-production costs on its reported earnings per share.

(5 marks)

- (ii) An analyst calculated earnings before interest, tax, depreciation and amortisations (EBITDA) interest expenses and debt; (EBITDA) based on Biashara Limited's accounting pre-production costs without adjustment.

Explain how the analyst might be misled in assessing Biashara Limited's financial strength using the above measure.

(5 marks)

**(Total: 20 marks)**

**QUESTION FOUR**

- (a) During the period 1960-2007, earnings of S&P 500 index companies have increased at an average rate of 8.18% per year and dividends paid have increased at an average rate of 5.9% per year.

Assume that:

1. Dividends will continue to grow at the 1960-2007 rate.
2. The required return on the index is 8%.
3. Companies in the S&P 500 index collectively paid Sh.246 billion in dividends.

**Required:**

Estimate the aggregate value of the S&P 500 index component companies at the beginning of 2008 using the Gordon growth model.

(4 marks)

- (b) Signet Ltd. has free cash flows to the firm (FCFF) of Sh.700 million and free cash flows to equity (FCFE) of Sh.620 million. The firm's before tax cost of debt is 5.7% and its required rate of return on equity is 11.8%. The company expects a target capital structure consisting of 20% debt financing and 80% equity financing. The tax rate is 33.33% and FCFF is expected to grow forever at a rate of 5%. Signet Ltd. has debt outstanding with a market value of Sh.2.2 billion and 200 million outstanding common shares.

**Required:**

- (i) Signet Ltd.'s weighted average cost of capital.

(4 marks)

- (ii) The value of Signet's equity using the FCFE valuation approach.

(4 marks)

- (iii) The value per share using the FCFF approach.

(2 marks)

- (c) Robotics Limited's shares are currently selling for Sh.24 and have paid a dividend of Sh.1 per share in the most recent year.

The following additional information is given:

1. The risk free rate is 4%.
2. The shares have an estimated beta of 1.2.
3. The equity risk premium is estimated at 5%.

**Required:**

The constant dividend growth rate that would be required to justify the market price of Sh.24.

(6 marks)

**(Total: 20 marks)**

**QUESTION FIVE**

(a) In a valuation of a financial services company, a business appraiser estimated four values for the company using four different approaches.

**Required:**

Explain four approaches to the valuation of a financial services company. (8 marks)

(b) Shamira, a financial analyst, decides to use the Guideline Public Company Method (GPCM) to develop value indication for Able Limited that is independent of the Free Cash Flow (FCF) indication. He believes that many acquirers apply a multiple of market value of invested capital to EBITDA to value companies in Able Limited's industry. A search for comparable public companies indicated several companies that might serve as guidelines or benchmarks for valuing Able Limited. However, all of these companies were much larger than Able Limited. His research on guideline public companies indicates the following:

1. The market value of invested capital (MVIC) to EBITDA multiple of such public companies averages 7.0.
2. A combined downward adjustment of 15% for relative risk and growth characteristics of Able Limited compared with the GPCM suggests an adjusted MVIC to EBITDA multiple of 5.95 rounded to 6 for Able Limited.
3. A control premium of 20% was reported in a single strategic acquisition several years ago. The transaction involved an exchange of stock with no cash consideration paid.
4. Shitakuli is not aware of any strategic buyer that might incorporate synergies into their valuation of Able Limited.
5. Normalised EBITDA is Sh.16,900,000.
6. Market value of debt capital is Sh.2,000,000.

**Required:**

- (i) Explain the elements included in the calculation of a pricing multiple for Able Limited. (4 marks)
  - (ii) Calculate the pricing multiple appropriate for Able Limited including a control premium adjustment. (4 marks)
  - (iii) Calculate the value of Able Limited using the guideline public company method (GPCM). (4 marks)
- (Total: 20 marks)**
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