



CIFA PART III SECTION 5

ALTERNATIVE INVESTMENTS ANALYSIS

FRIDAY: 27 November 2020.

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) Securitisation may be the wave for the future as it appears to be a more efficient mechanism for bringing borrowers and investors together than traditional financing through intermediaries. This was the closing remark by a presenter in a securitisation seminar.

**Required:**

In relation to the above statement:

- (i) Explain the term "securitisation". (2 marks)
- (ii) Discuss three benefits that may accrue to a company that uses securitisation in its operations. (3 marks)
- (b) Nancy Chepkonga recently retired from employment and received a lumpsum pension benefit. The company had earlier arranged for a retirement planning seminar where one of the presenter noted that one can generate superior returns in their portfolio by incorporating alternative investments. Nancy is naive about these new products and has approached you for professional advice.

**Required:**

In light of the above statement, advise Nancy on two pros and two cons of alternative investments for retirees. (4 marks)

- (c) Evaluate three outside service providers involved during creation and operationalisation of alternative investments in your country. (6 marks)
- (d) An investment analyst working with Lion Capital has gathered the following data relating to four collateralised mortgage obligation (CMO) tranche:

Security	Nominal Spread (%)	Spread comparison Zero volatility spread (%)	Option adjustment Spread (%)
1	2.49	1.96	-0.01
2	3.74	1.53	0.37
3	2.16	1.72	0.71
4	1.83	1.39	-0.33

**Required:**

Advise on the most appropriate security for the investment analyst to invest in.

(5 marks)

(Total: 20 marks)

QUESTION TWO

- (a) Explain the meaning of the following terms as used in private equity:

- (i) An angel investor. (1 mark)
- (ii) An incubator. (1 mark)

(iii) Mezzanine capital. (1 mark)

(iv) Acceleration. (1 mark)

(b) The following are the details of Gemini Fund with a vintage year of 2017 and a committed capital of Sh.1.95 billion:

**Venture capital for Gemini Fund**

Year	Called-Down Sh."million"	Management fee Sh."million"	Operating results Sh."million"
2017	300	4.5	(100)
2018	250	8.3	550
2019	750	19.5	750

**Additional information:**

1. The distribution waterfalls calls for a 20% carried interest when Net Asset Value (NAV) before distribution exceeds committed capital.
2. The Gemini Fund is considering a new investment in Orion Company Limited. Orion Limited is a start-up Biotechnology Company seeking Sh.90million in venture capital financing. Orion's founders believe that, based on the company's new drug pipeline, a company value of Sh.3 billion is reasonable in five years.
3. The management at Gemini Fund views Orion Limited as a risky investment (15% risk of failure) and is using a discount rate of 40%.

**Required:**

- (i) Percentage management fee for Gemini Fund for the year 2019. (2 marks)
- (ii) The amount of carried interest for Gemini Fund for the year 2019. (4 marks)
- (iii) The Orion Limited's post money valuation using single period Net Present Value (NPV) method. (2 marks)
- (iv) Assuming that Orion founders will hold 2.5 million ordinary shares of Orion Limited and that the post valuation is Sh.900 million, determine the price per share for the venture capital. (3 marks)

(c) Amita Adeyo is a real estate analyst and has gathered the following data relating to a real estate proposal:

1. The market value of the land using comparables is Sh.12,500,000.
2. The total area is 2.5 million square feet.
3. The replacement cost and developer's profit is Sh.6.30 per square foot.
4. Curable deterioration is Sh.100,000.
5. The total economic life is 75 years and effective age is 15 years.
6. All estimated obsolescence costs are Sh.500,000.

**Required:**

Determine the estimated value of the real estate proposal using the cost approach.

(5 marks)

**(Total: 20 marks)**

**QUESTION THREE**

(a) Describe five key attributes of both timberland and farmland as types of alternative investments. (5 marks)

(b) Assess five control mechanisms used by hedge funds to align interest of the managers of portfolio companies with the hedge fund's interest. (5 marks)

(c) A global hedge fund has a value of Sh.100 million at the beginning of the year. The fund charges a 2% management fee based on assets under management (AUM) at the end of the year and a 20% incentive fee with a soft hurdle rate of London Interbank Offered Rate (LIBOR) plus 2.5%. Incentive fees are calculated net of management fees. The relevant LIBOR rate is 2.5% and the fund's value at the end of the year before fees is Sh.120 million.

**Required:**

The net return to investors.

(3 marks)

- (d) Joram Muhia believes he has identified an arbitrage opportunity for a commodity as indicated by the information below:

**Commodity price and interest rate information:**

Spot price for commodity	Sh.120
Futures price for commodity expiring in 1 year	Sh.125
Interest rate for one year	8%

**Required:**

- (i) Describe the transactions necessary to take advantage of this specific arbitrage opportunity. (2 marks)
- (ii) Calculate the arbitrage profit. (2 marks)
- (iii) Propose three market imperfections that could limit Joram's ability to implement this arbitrage strategy. (3 marks)

**(Total: 20 marks)**

**QUESTION FOUR**

- (a) Explain two advantages and two disadvantages of issuing mezzanine debt. (4 marks)
- (b) A collateralised debt obligation (CDO) structure has Sh.100 million in issue which is the collateral:

Tranche	Par value (Sh. "million")	Coupon rate
Senior	80	LIBOR + 70 basis point
Mezzanine	10	10 year Treasury bond rate + 200 basis point
Equity	10	-

The collateral consist of all bonds that mature in 10 years and that the coupon rate for every bond is the 10 year Treasury bond rate plus 400 basis point.

The manager of the trust has entered into an interest rate swap under which the trust will pay a fixed rate each year equal to the 10 year Treasury rate plus 100 basis point and receive LIBOR. The notional amount of the interest rate swap is the par value of the senior tranche.

The 10 year Treasury bond rate at the time this CDO is issued is 7%. The CDO's management fee is Sh.500,000.

**Required:**

- (i) The arbitrage profit from this collateralised debt obligation (CDO) transaction. (8 marks)
- (ii) Describe two motivations of creating a collateralised debt obligation in (b) (i) above. (2 marks)
- (c) Faida Consultants is reviewing various mortgage backed securities (MBS) for its clients. The consultants are interested in calculation of a single monthly mortality (SMM) rate. The consultants use the Public Securities Association (PSA) standard prepayment benchmark. They also calculate the sum for month 22, assuming a 140 PSA to be 0.37%. They also calculate the SMM for month 200, assuming a 90 PSA to be 0.46%.

**Required:**

Justify the validity of their estimates for months 22 and 200. (6 marks)

**(Total: 20 marks)**

**QUESTION FIVE**

- (a) Evaluate three factors that could affect prepayment behavior for mortgage backed securities (MBS). (6 marks)
- (b) Nyumba Investment Company is a member-owned property investment firm whose main objective is to invest in domestic homes. The company has partnered with a local bank for financing of its two projects.

The following housing units are complete and available for sale:

Bungalows units	Sh.
BY-A	3,980,000
BY-B	8,540,000
BY-C	9,750,000

**Additional information:**

1. The gross project value is Sh.1.565 billion.
2. The loan finance available is Sh.867 million
3. The units will be paid at 133% of the rate at which revenue will be received.

**Required:**

The release price for each house unit.

(4 marks)

- (c) Ayub Kimeu is analysing two specific apartments. Blue Oaks apartment and Green Ridge apartment. Both apartments are next to each other and were built 10 years ago by the same construction company. The apartments have the same number of units and amenities. The apartments are also managed by the same property management company.

The following information relates to the two apartments:

	<b>Blue Oaks Apartment</b>	<b>Green Ridge Apartment</b>
Annual net operating income end of year 1	Sh.2,187,500	Sh.2,125,000
Loan to value (LTV) ratio	75.0%	70.0%
Loan interest rate	4.00%	3.50%
Monthly debt service	Sh.113,621	Sh.101,493
Loan term	20 years	20 years
Expected sale price in 10 years	Sh.30 million	Sh.30 million
Principal owed at the end of 10 years	Sh.11,222,397	Sh.11,144,755
Asking price	Sh.25 million	Sh.25 million

A pension fund can buy one or both apartments provided they meet the minimum criteria of a debt service coverage ratio of at least 1.50 times and a levered internal rate of return (IRR) of at least 7.5%.

**Required:**

Determine whether one or both apartments meet the minimum criteria for investment.

(10 marks)

(Total: 20 marks)

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