

KASNEB

CIFA PART III SECTION 5

ALTERNATIVE INVESTMENTS 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.

QUESTION ONE

(a) Consider the following asset backed security (ABS) structure:

Tranche	Sh.
Senior tranche	200,000,000
Subordinate tranche A	150,000,000
Subordinate tranche B	70,000,000
Total	420,000,000

If the assets in the pool are worth Sh.450,000,000, what is the amount of collateralisation and at what amount of losses will the senior tranche investors begin to lose money? (2 marks)

(b) In the context of mortgage backed securities (MBS), explain five factors that affect prepayments and the types of prepayment risks. (10 marks)

(c) An appraiser has been asked to estimate the value of a warehouse. He has collected the following information:

Unit of comparison	Subject property	Comparable Transactions		
		1	2	3
Size in square feet	30,000	40,000	20,000	35,000
Age in years	5	9	4	5
Physical condition	Average	Good	Average	Poor
Location	Prime	Prime	Secondary	Prime
Sale date months ago		6	18	12
Sale price		9,000,000	4,500,000	8,000,000

Each adjustment is based on the unadjusted sales price of the comparable. Properties depreciate at 2% per annum.

Additional information:

- Since comparable No.1 is four years older than the subject, an upward adjustment of Sh.720,000 is made [Sh.9,000,000 x 2% x 4 years].
- Condition adjustment: Good: +5%, average: none; poor:-5%. Because comparable No. 1 is in better condition than the subject, a downward adjustment of Sh.450,000 is made [Sh.9,000,000 x 5%]. Similarly, an upward adjustment of Sh.450,000 is made [Sh.9,000,000 x 5%]. Similarly, an upward adjustment is made for comparable No.3 to the tune of Sh.400,000 [Sh.8,000,000 x 5%].
- Location adjustment: Prime - none, Secondary - 10%. Because both comparable No.1 and the subject are in a prime location, no adjustment is made.
- Over the past 24 months, sales prices have been appreciating at 0.5% per month. Because comparable No.1 was sold six months ago, an upward adjustment of Sh.270,000 is made [Sh.9,000,000 x 0.5% x 6 months].

Compute the value of the subject property using the sales comparison approach.

(8 marks)

(Total: 20 marks)

QUESTION TWO

- (a) Explain four alternative exit strategies in private equity and their impact on value. (8 marks)
- (b) Two private equity funds, fund X and fund Y, are being considered by an investor. Financial performance of private equity fund X and fund Y is shown below:

	Fund X	Fund Y
Gross IRR	22.1%	2.4%
Net IRR	17.6%	-0.3%
Performance quartile	1	3
DPI (Distributed to paid-in capital)	1.43	0.29
RVPI (Residual value to paid-in capital)	1.52	1.03
TVPI (Total value to paid-in capital)	2.95	1.32
Maturity of fund	6 years	4 years

Required:

- (i) Interpret and compare the financial performance of private equity funds X and Y. (5 marks)
- (ii) Describe motivations for hedge fund replication strategies. (6 marks)
- (iii) Distinguish between alternative investments and traditional investments. (1 mark)
- (Total: 20 marks)

QUESTION THREE

- (a) Jenga Ltd.'s bonds have a duration of 5.6 years and a convexity of 38.2. Tengeneza Ltd.'s bonds have a duration of 7.3 years and a convexity of 38.2.

Required:

Determine which bond is exposed to more interest rate risk when the interest rate increases by 100 basis points.

(2 marks)

- (b) A company is valued at Sh.10,000,000 prior to a capital infusion of Sh.4,000,000 by a venture capital investor.

Required:

The post-money valuation and the venture capital investor's proportional ownership.

(4 marks)

- (c) Kumiko fund is a hedge fund with a value of Sh.100 million at the beginning of the year (an all-time high). Kumiko funds charges 2% management fee based on assets under management at the beginning of the year and a 20% incentive fee with a 5% hard hurdle rate and uses a high water mark. Incentive fees are calculated on gains net of management fees. The ending values before fees are:

Year 1: Sh.125.75 million.

Year 2: Sh.127.40 million.

Year 3: Sh.138.44 million.

Required:

The total fees and investor's net return for all three years.

(14 marks)

(Total: 20 marks)

QUESTION FOUR

- (a) Describe the three broad strategies applicable to hedge funds. (15 marks)
- (b) Explain the following terms as used in commodities:
- (i) Contango. (1 mark)
- (ii) Back Wardation. (1 mark)
- (iii) Collateral yield. (1 mark)
- (iv) Price return. (1 mark)
- (v) Roll yield. (1 mark)

(Total: 20 marks)

QUESTION FIVE

(a) James Adanje, a quantitative analyst dealing with commodities investments for Alpha investment recently returned from a seminar. In that seminar, Jack Baker, a well publicised quantitative analyst at national brokerage firm, discussed one of his new models in great detail, and Adanje was intrigued by the new concepts. He proceeds to test this model making some minor changes but retaining the overall concept, until he produces some very positive results. Adanje quickly announces to his supervisors at Alpha Investment that he has discovered a new model and that clients and prospective clients alike should be informed of this positive finding as ongoing proof of Alpha's continuing innovation and ability to add value.

Required:

Explain whether Adanje has violated any ethical principles applicable in the investment and financial analysis profession. (5 marks)

(b) Assume the current spot price is Sh.1500 per bag of wheat and the effective monthly interest rate is 1%. The monthly storage costs for wheat is Sh.40 per bag.

Calculate the 3-month forward price for a bag of wheat. (7 marks)

(c) A real estate lender agreed to make a 10% interest-only loan on a property that had just been appraised for Sh.1,200,000 as long as the debt service coverage ratio is at least 1.5 and the loan-to-value ratio does not exceed 80%.

Required:

The maximum loan amount assuming the property's net operating income (NOI) is Sh.135,000. (5 marks)

(d) Distinguish between traditional investing and hedge fund investing. (3 marks)

(Total: 20 marks)

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