

KASNEB

CIFA PART III SECTION 5

ALTERNATIVE INVESTMENTS ANALYSIS

THURSDAY: 25 May 2017.

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) Explain how the following primary structures distinguish alternative investments from other traditional investments:
- (i) Regulatory structure. (1 mark)
 - (ii) Trading structure. (1 mark)
 - (iii) Compensation structure. (1 mark)
 - (iv) Securities structure. (1 mark)
 - (v) Institutional structure. (1 mark)
- (b) (i) Analyse two factors which could have contributed to the creation of collateralised debt obligations (CDO's). (2 marks)
- (ii) Highlight three economic advantages of using a synthetic collateralised debt obligation (CDO) structure compared to a cash CDO structure. (3 marks)
- (c) Describe two types of private equity real estate investment indices. (2 marks)
- (d) Hedge funds across the globe have come under increasing pressure in regard to their operations including their fee structure.
- Required:**
Argue three cases against hedge fund fee structure. (3 marks)
- (e) The net operating income (NOI) of a leased property is expected to be Sh.1 million per year over the next four years. At the beginning of year five, the NOI is expected to increase to Sh.1.2 million and to grow at a rate of 3% per annum. The property is sold after four years. The investors require a 13% return.

Required:

The value of the property today. (5 marks)

(Total: 20 marks)

QUESTION TWO

- (a) Describe the role played by each of the following outside service providers in the creation and operation of alternative investments:
- (i) Advocates. (1 mark)
 - (ii) Hedge fund infrastructure. (1 mark)
 - (iii) Consultants. (1 mark)
 - (iv) Fund administrators. (1 mark)
 - (v) Depositories and custodians. (1 mark)
- (b) List three reasons that would motivate a portfolio manager to include hedge funds in a portfolio. (3 marks)
- (c) Explain the effect of decline in interest rates on each of the following types of collateralised mortgage obligations (CMOs):
- (i) Planned amortisation class (PAC). (1 mark)
 - (ii) Support bonds. (1 mark)

(d) The following information relates to a collateralised mortgage obligation (CMO) structure backed by 8% collateral:

Tranche	Par amount (Sh.million)	Coupon rate (%)
A	300	6.50
B	250	6.75
C	200	7.25
D	250	7.75

A client wants a notional interest only (IO) with a coupon of 8%.

Required:

The notional amount for this notional interest only (IO) tranche. (6 marks)

(e) Green Delivery Ltd. (GDL) has defaulted on its senior unsecured debt. Popat Finance Ltd. (PFL) owns Sh.5 million of bond series X as well as Sh.4 million in credit default swap (CDS) protection. Bond X is now trading at 25% of the par value. Snowline Securities Ltd. (SSL) owns Sh.10 million of bond series Y, also senior unsecured debt which is trading at 30% of the par value. SSL has Sh.9 million in CDS protection on bond Y.

Required:

The potential CDS payout amounts to:

- (i) Green Delivery Ltd. (2 marks)
- (ii) Snowline Securities Ltd. (2 marks)

(Total: 20 marks)

QUESTION THREE

(a) Describe the following types of alternative real estate investment vehicles:

- (i) Exchange-traded funds (ETFs). (1 mark)
- (ii) Commingled real estate funds (CREFs). (1 mark)
- (iii) Syndications. (1 mark)
- (iv) Joint ventures. (1 mark)
- (v) Open-end real estate mutual fund. (1 mark)

(b) Commodities are often viewed as an asset class that helps investors diversify a portfolio of traditional assets (shares and bonds) due to low return correlation between commodities and traditional assets.

Required:

In relation to the above statement, argue four cases why commodity returns might have low correlation relative to traditional assets. (4 marks)

(c) (i) Outline three benefits of applying price-to-funds from operations (P/FFO) and price-to adjusted funds from operations (P/AFFO) multiple in the valuation of a real estate investment trust (REIT) and a real estate operating company (REOC). (3 marks)

(ii) A financial analyst has gathered the following information relating to a real estate investment trust (REIT):

	Sh.
Non-cash (straight line) rent.	207,430
Depreciation	611,900
Recurring maintenance type capital expenditures and leasing commission	550,750
Adjusted funds from operations (AFFO)	3,320,000
AFFO per share	3.32

Required:

The REIT's fund from operations (FFO) per share. (4 marks)

(d) Suppose that wheat is trading in the spot market at Sh.800 per bushel since bad weather caused a decrease in supply during the previous harvest. Market participants expect a bountiful harvest in about six months which is expected to drive market prices down to Sh.500 per bushel. Forward prices with delivery dates after the next harvest are trading at the range of Sh.500 per bushel.

Required:

Explain how an arbitrageur could attempt to profit from the above prices. (4 marks)

(Total: 20 marks)

QUESTION FOUR

- (a) (i) Argue three cases for the fast growth and concentration of the hedge fund industry in the recent past. (6 marks)
- (ii) Evaluate three disadvantages of investing in funds of funds. (3 marks)
- (b) Identify three possible ways through which a leveraged buyout (LBO) firm could generate its revenue. (3 marks)
- (c) Burbon Limited, a venture capital firm will require Sh.3 million in the first round of financing and a second round of financing three years later of Sh.2 million to finance the firm's expansion to the size expected at exit. The firm is expected to be worth Sh.40 million after five years. The founders will hold 1 million shares.

The relevant discount rate is 40% for the first three years and 30% for the last two years.

Required:

The price per share of Burbon Ltd. at the time of second round of financing. (8 marks)
(Total: 20 marks)

QUESTION FIVE

- (a) Examine three reasons that could motivate an entity to enter into a credit default swap agreement. (3 marks)
- (b) Describe three distressed debt investment strategies. (3 marks)
- (c) Propose four strategies which could be used by leveraged buyout (LBO) firms to exit investments. (4 marks)
- (d) A 12-year-old industrial property is being valued using the cost approach. The appraiser feels that it has an effective age of 15 years based on its current condition. For instance, there are cracks in the foundation that are not feasible to repair (incurable physical depreciation). That is, it would cost more to try to repair these problems than the value that would be created in the property. The appraiser believes that the industrial property has 60-year remaining economic life (75-year total economic life).

The building was constructed using a greater ceiling height than users require in the current market (super-adequacy). It would cost Sh.27 million to reproduce (reproduction cost) the building with the same ceiling height but Sh.25 million to construct a replacement property (replacement cost) with the same utility but a normal ceiling height. The higher ceiling results in increased heating and air conditioning costs of Sh.50,000 per annum. A capitalisation rate that would be used to value the property would be 10 per cent.

The building was designed to include a cafeteria that is no longer functional (functional obsolescence). This area can be converted to usable space at a conversion cost of Sh.25,000 and it is believed that the value of the property would increase by at least this amount (curable functional obsolescence).

The roof needs to be replaced at a cost of Sh.250,000 and other necessary repairs amount to Sh.50,000. The costs of these repairs will increase the value of the building by at least Sh.300,000 (curable physical depreciation).

The road providing access to the property is a two-lane road, whereas newer industrial properties are accessible by four-lane roads. This has a negative impact on rents (locational obsolescence), which is estimated to reduce the net operating income (NOI) by Sh.100,000 annually.

Based on comparable sales of vacant land, the land is estimated to be worth Sh.5 million.

Required:

Estimate the value of the land using the cost approach. (10 marks)
(Total: 20 marks)

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Present Value of 1 Received at the End of *n* Periods:

$$PVIF_{r,n} = 1/(1+r)^n = (1+r)^{-n}$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174	.9091	.8929	.8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	.7353
2	.9803	.9612	.9426	.9246	.9070	.8900	.8734	.8573	.8417	.8264	.7972	.7695	.7561	.7432	.7182	.6944	.6504	.6104	.5739	.5407
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	.6750	.6575	.6407	.6086	.5787	.5245	.4768	.4348	.3975
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	.5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	.2923
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209	.5674	.5194	.4972	.4761	.4371	.4019	.3411	.2910	.2495	.2149
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	.1890	.1580
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	.1776	.1432	.1162
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	.3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.0462
11	.8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	.2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555	.3186	.2567	.2076	.1869	.1685	.1372	.1122	.0757	.0517	.0357	.0250
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	.3152	.2745	.2394	.1827	.1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	.0099
16	.8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	.2176	.1631	.1229	.1069	.0930	.0708	.0541	.0320	.0193	.0118	.0073
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	.2502	.2120	.1799	.1300	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	.1486	.1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	.1160	.0923	.0588	.0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	.0005
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754	.0573	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.0001
40	.6717	.4529	.3066	.2083	.1420	.0972	.0668	.0460	.0318	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001		
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001				
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	.0004	.0002	.0001						

* The factor is zero to four decimal places

Present Value of an Annuity of 1 Per Period for *n* Periods:

$$PVIF_{r,n} = \sum_{t=1}^n \frac{1}{(1+r)^t} = \frac{1 - \frac{1}{(1+r)^n}}{r}$$

Number of Payments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.8929	0.8772	0.8696	0.8621	0.8475	0.8333	0.8065	0.7813	0.7576
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.6901	1.6467	1.6257	1.6052	1.5656	1.5278	1.4568	1.3916	1.3315
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4018	2.3216	2.2832	2.2459	2.1743	2.1055	1.9813	1.8684	1.7663
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.0373	2.9137	2.8550	2.7902	2.6901	2.5887	2.4043	2.2410	2.0957
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6048	3.4331	3.3522	3.2743	3.1272	2.9906	2.7454	2.5320	2.3452
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7655	4.6229	4.4859	4.3553	4.1114	3.8887	3.7845	3.6847	3.4976	3.3255	3.0205	2.7594	2.5342
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.5638	4.2883	4.1604	4.0386	3.8115	3.6046	3.2423	2.9370	2.6775
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	4.9676	4.6389	4.4873	4.3436	4.0776	3.8372	3.4212	3.0758	2.7860
9	8.5660	8.1622	7.7851	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.3282	4.9464	4.7716	4.6065	4.3030	4.0310	3.5655	3.1842	2.8681
10	9.4713	8.9825	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.6502	5.2161	5.0188	4.8332	4.4941	4.1925	3.6819	3.2689	2.9304
11	10.3676	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	5.9377	5.4527	5.2337	5.0286	4.6560	4.3271	3.7757	3.3351	2.9776
12	11.2551	10.5753	9.9540	9.3851	8.8533	8.3838	7.9427	7.5361	7.1607	6.8137	6.1944	5.6603	5.4206	5.1971	4.7932	4.4392	3.8514	3.3868	3.0133
13	12.1337	11.3484	10.6350	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.4235	5.8424	5.5831	5.3423	4.9095	4.5327	3.9124	3.4272	3.0404
14	13.0037	12.1062	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.6282	6.0021	5.7245	5.4675	5.0081	4.6106	3.9616	3.4587	3.0609
15	13.8651	12.8493	11.9379	11.1184	10.3797	9.7122	9.1079	8.5595	8.0607	7.6061	6.8109	6.1422	5.8474	5.5755	5.0916	4.6755	4.0013	3.4834	3.0764
16	14.7179	13.5777	12.5611	11.6523	10.8378	10.1059	9.4466	8.8514	8.3126	7.8237	6.9740	6.2651	5.9542	5.6685	5.1624	4.7296	4.0333	3.5026	3.0882
17	15.5623	14.2919	13.1661	12.1657	11.2741	10.4773	9.7632	9.1216	8.5436	8.0216	7.1196	6.3729	6.0472	5.7487	5.2223	4.7746	4.0591	3.5177	3.0971
18	16.3983	14.9920	13.7535	12.6593	11.6896	10.8276	10.0591	9.3719	8.7556	8.2014	7.2497	6.4674	6.1280	5.8178	5.2732	4.8122	4.0799	3.5294	3.1039
19	17.2260	15.6785	14.3238	13.1339	12.0853	11.1581	10.3356	9.6036	8.9501	8.3649	7.3656	6.5504	6.1982	5.8775	5.3162	4.8435	4.0967	3.5386	3.1090
20	18.0456	16.3514	14.8775	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285	8.5136	7.4694	6.6231	6.2593	5.9288	5.3527	4.8696	4.1103	3.5458	3.1129
25	22.0232	19.5235	17.4131	15.6221	14.0939	12.7834	11.6536	10.6748	9.8226	9.0770	7.8431	6.8729	6.4641	6.0971	5.4669	4.9476	4.1474	3.5640	3.1220
30	25.8077	22.3965	19.6004	17.2920	15.3725	13.7648	12.4090	11.2578	10.2737	9.4269	8.0552	7.0027	6.5660	6.1772	5.5168	4.9789	4.1601	3.5693	3.1242
40	32.8347	27.3555	23.1148	19.7928	17.1591	15.0463	13.3317	11.9246	10.7574	9.7791	8.2438	7.1050	6.6418	6.2333	5.5482	4.9966	4.1659	3.5712	3.1250
50	39.1951	31.4236	25.7298	21.4822	18.2559	15.7619	13.8007	12.2335	10.9617	9.9148	8.3045	7.1327	6.6605	6.2463	5.5541	4.9999	4.1666	3.5714	3.1250
60	44.9550	34.7509	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6.2402	5.5553	4.9999	4.1667	3.5714	3.1250