





indices to appear to have lower volatility and lower correlation with other assets than a transaction-based index would. (Module 32.1, LOS 32.e)

Related Material

SchweserNotes - Book 4

5. (A) frequent secondary equity offerings compared to other kinds of companies.

Explanation

Because REITs are not able to retain earnings as other companies do, REITs make frequent secondary equity offerings, in order to finance growth and property acquisitions. REITs' required distributions result in a dividend yield that is significantly higher than those of most other publicly-traded equities. REITs' focus on income from rental properties leads to low volatility of reported income.

(Module 32.3, LOS 32.k)

Related Material

SchweserNotes - Book 4

6. (B) 19.2%.

Explanation

-	
Net operating income	€264,000,000
Annual debt service	€121,220,135
Cash flows (PMT) for 10 years	€264,000,000 - €121,220,135 = €142,779,865
Cash initial outflow year 0 (PV)	€2,350,000,000 x 0.40 = €940,000,000
Terminal value (FV) in 10 years	€2,800,000,000 - €909,893,015 = €1,890,106,985

SHA

PMT = €142,779,865; PV = - €940,000,000; FV = €1,890,106,985; N = 10; Solve for I/Y. Internal rate of return is 19.23%.

(Module 32.2, LOS 32.j)

Related Material

SchweserNotes - Book 4

7. (A) market value.

Explanation

All assets and liabilities of a company are taken at current market value when calculating NAVPS. NAVPS is a superior measure of a company's net worth when compared to its book value per share.

(Module 32.3, LOS 32.I)

Related Material

SchweserNotes - Book 4

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8. (C) \$70

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Explanation

FFO/share = FFO / Shares outstanding = \$630,000/90,000 shares = \$7/share. The relevant subsector average P/FFO multiple is the value for industrial properties of 10x. FFO/share x P/FFO multiple = \$7.00 x 10x = \$70.00 (Module 32.3, LOS 32.m) **Related Material** SchweserNotes – Book 4

9. (C) 5.0%.

Explanation

Using your TI BAll Plus:

[CF] [2nd] [CLR WORK]

600,000 [+/−] [ENTER] [↓]

70,000 [ENTER] [↓] [↓]

50,000 [ENTER] [↓] [↓]

565,000 [ENTER] [↓] [↓] (note: CF3 = 65,000 + 500,000)

[IRR] [CPT] = 5.0056 percent

(Module 32.2, LOS 32.j) and a Enterprise

Related Material

SchweserNotes – Book 4

10. (A) Diversification by geography and property type is facilitated.

Explanation

One of the advantages of publicly traded real estate securities is that they offer investors greater potential for diversification by geography, property, and property type. Disadvantages of publicly traded real estate securities include the costs of maintaining a publicly traded corporate structure, and the potential for structural conflicts of interest that can occur between the partnership and REIT shareholders under an UPREIT or DOWNREIT structure.

(Module 32.1, LOS 32.a)

Related Material

SchweserNotes - Book 4

11. (A) €2.40 billion.



Explanation

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The estimated market value is the net operating income divided by the capitalization rate. We determine the rate using comparable properties, and we have three of them. Property A the cap rate is ≤ 192 million/ $\leq 1,600$ million = 12.0%. Property B the cap rate is ≤ 550 million/ $\leq 5,500$ million = 10.0%. Property C the cap rate is ≤ 715 million/ $\leq 6,500$ million = 11.0%. The average cap rate is 12.0% + 10.0% + 11.0% / 3 = 11.0%. Market value = NOI / capitalization rate = ≤ 264 million / 11.0% = ≤ 2.40 billion. 4J (Module 32.2, LOS 32.g) **Related Material** SchweserNotes - Book 4

12. (A) Buyout Venture capital

Explanation

Data on management, sales strategy, working capital, exit strategy, and risk suggest Belgarrique is a buyout candidate and KinderWerks is a venture capital candidate. Data on the companies' chief goals is inconclusive. Data on company financing is a red herring, as companies active in capital markets tend to be better candidates for buyouts than venture capital. However, five of the seven pieces of information in the relevant table above reflect characteristics that suggest Belgarrique is a buyout candidate, while KinderWerks is a better target for venture capital.

(Module 33.1, LOS 33.c)

Related Material

SchweserNotes - Book 4 and a Enterprise

13. (C) Pipeline analysis.

Explanation

The major due diligence factors that are likely to affect the value of a property include: operating expenses; structural integrity; environmental issues; leases and lease history; lien, ownership, and property tax history; and compliance with relevant regulations and laws.

(Module 32.1, LOS 32.d)

Related Material

SchweserNotes - Book 4

14. (A) \$140.

Explanation

We estimate the value of the operating real estate using the familiar NOI/cap rate formula = 420,000 / 6% = \$7,000,000

(A)

15.

16.

17.

18.

(A)

\$137.

\$9.55.

(A) \$116.





$$\begin{split} C_{A} &= \frac{NOI_{A}}{MV_{A}} \frac{200,000}{2,250,000} = 8.89\% \\ C_{B} &= \frac{NOI_{B}}{MV_{B}} \frac{220,000}{2,000,000} = 11.0\% \\ C_{C} &= \frac{NOI_{C}}{MV_{C}} \frac{250,000}{2,500,000} = 10.0\% \\ \end{split}$$
Estimated capitalization rate: $C_{D} = \frac{8.89 + 11.0 + 10.00}{3} = 9.96\% \\ Then, using the direct income capitalization approach we have:$

$$\mathsf{MV}_{\mathsf{D}} = \frac{\mathsf{NOI}_{\mathsf{D}}}{\mathsf{C}_{\mathsf{D}}} \frac{230,000}{0.0996} = 2,309,236.95$$

(Module 32.2, LOS 32.i)

Related Material

SchweserNotes - Book 4

19. (A) \$10.00

Explanation

NAVPS per share can be calculated by beginning with assets, subtracting liabilities, and then dividing the result by the number by shares outstanding. Thus, \$3,000,000 - \$2,000,000 = \$1,000,000 and \$1,000,000/100,000 = \$10.00 per share.

(Module 32.3, LOS 32.I)

Related Material Condo Enterprise

20. (B) unusual properties.

Explanation

The cost approach is typically used for unusual properties, for which market comparables are difficult to obtain; the cost approach estimates a property's value based on adjusted replacement cost. Single-family homes are commonly valued using the sales comparison approach, where sales data for reasonable comparables is available, and because income is not relevant. A commercial (income-producing) property is most likely to be valued using an income approach.

(Module 32.2, LOS 32.f)

Related Material

SchweserNotes - Book 4

21. (A) Income growth is equal to expense growth. Explanation



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typical NOI (NOI normally expected) and not to atypical NOI (NOI estimate artificially too high or too low temporarily). If the terminal cap rate and going-in cap rate are inconsistent (based on different set of assumptions), the valuation using DCF will be flawed.

(Module 32.2, LOS 32.g)

Related Material

SchweserNotes - Book 4

22. (A) Both the gross income multiplier approach and the direct income capitalization approach.

Explanation

Both valuation approaches are limited to use with income producing properties. Neither approach can provide an accurate value estimate for owner-occupied properties because the benefit derived by the owner is difficult to measure in monetary terms.

(Module 32.2, LOS 32.h)

Related Material

SchweserNotes - Book 4

23. (A) Hotel and hospitality.

Explanationa Varanda Enterprise

Hospitality properties such as hotels represent relatively risky investments because these properties do not use long-term leases and their performance may be highly correlated with the business cycle. The core commercial income-producing real estate property types are retail, multi family, office, industrial and warehouse. These "core" property types are the main properties used to create a low-risk real estate portfolio. (Module 32.1, LOS 32.a)

Related Material

SchweserNotes - Book 4

24. (C) more-volatile returns.

Explanation

Disadvantages of investing in real estate through publicly traded securities include the volatile returns that result from pricing that is determined by the stock market. Publicly traded real estate securities offer investors the advantages of superior liquidity, and liability that is limited to the amount invested.

(Module 32.1, LOS 32.a)

Related Material



SchweserNotes - Book 4

25. (B) private equity.

Explanation

The category that 3CC would most likely recommend as first choice is private equity option. Chekov prefers equity to debt option and Chanwit prefers private over public option. Clarkson wants to eliminate private debt option. Their statements are also consistent with the real estate market expectations.

(Module 32.1, LOS 32.a)

Related Material

SchweserNotes - Book 4

26. (C) may offer higher rates of returns because of higher operational risk.

Explanation

All real estate values are affected by cost and availability of capital. Apartments and other multi-family units are considered commercial real estate. Hotels require more active management making them more risky ventures as more operational expertise is needed. This additional risk requires a higher rate of return.

(Module 32.1, LOS 32.a)

Related Material

SchweserNotes - Book 4

27. (A) cap rate.

Explanationa Udranda Enternris

The cap rate is NOI for next year divided by the current value. Since the asking price for both properties is same, higher NOI for Green Oaks hotel would have to have a higher cap rate. Net operating income is not calculated using the debt service. The amount owed at the end of a loan is determined by the interest rate, term of the loan and the amount borrowed. The discount rate is the sum of the cap rate and growth rate. The growth rate is not determined by the amount owed at the end of a loan period.

(Module 32.1, LOS 32.a)

Related Material

SchweserNotes - Book 4

28. (A) Clarkson's statement.

Explanation

Clarkson's concerns about Lincoln Hedonic Index if individual properties don't sell more than once are unfounded. Hedonic Index construction does not require multiple sales of the same property.

(Module 32.1, LOS 32.a)

Related Material

SchweserNotes - Book 4

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29. (C) Sensitivity to the credit market.

Explanation

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Real estate values are sensitive to the cost and availability of debt capital since large amounts of borrowing are required to purchase real estate properties. Real estate is heterogeneous, as no two properties are the same. Direct ownership of real estate properties is management intensive. Other unique characteristics possessed by real estate properties include: fixed location, high unit value, depreciation, high transaction cost, illiquidity, and difficult to value.

(Module 32.1, LOS 32.a)

Related Material

SchweserNotes - Book 4

30. (C) it may be difficult to obtain the necessary data to determine the appropriate capitalization rate.

Explanation

The gross income multiplier approach does not use a capitalization rate.

(Module 32.2, LOS 32.h)

Related Material

SchweserNotes - Book 4

31. (A) Repeat sales index. Explanation

Repeat sales index relies on repeat sales of individual properties. Since individual properties have long holding periods, repeat sales index would be least suitable. Hedonic price index relies on transaction data and the regression model explains the variation in transaction prices based on differences between individual properties sold. Appraisal based indices use transaction prices also to estimate value after adjustments for differences. Since there are plenty of transactions, appraisal and hedonic price index have sufficient data to provide good value estimates.

(Module 32.1, LOS 32.e)

Related Material

SchweserNotes - Book 4

32. (C) net operating income.

Explanation

Both the direct capitalization method and the discounted cash flow methods focus on net operating income (a proxy for cash flow) as a key input to the value of a property. In the DCF method, future operating income is discounted to generate a present value. In the direct capitalization method, current NOI is capitalized using the cap rate. An alternative form of direct capitalization uses a gross income multiplier. Terminal valuation under a DCF methodology may use terminal cap rate based on expected NOI

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CFA® at some future horizon. However, this is not used under direct capitalization (of first year NOI). (Module 32.2, LOS 32.g) **Related Material** SchweserNotes - Book 4 The capitalization rate is the rate of return that equity investors require on similar-33. **(B)** risk real estate investments net of the expected constant growth rate of net operating income. **Explanation** The capitalization rate (C) is the rate of return that equity investors require on similarrisk real estate investments (r) net of the expected constant growth rate of net operating income (g). That is, C = r - g. (Module 32.2, LOS 32.h) **Related Material** SchweserNotes - Book 4 34. (B) \$2,415,000. Explanation Gross income multiplier technique: MV = gross income x income multiplier. MV = \$230,000 x 10.5 = \$2,415,000 (Module 32.2, LOS 32.i) **Related Material** SchweserNotes - Book 4 and a Enterprise (C) 35. operating flexibility. Explanation REOCs have greater operating flexibility to invest in a wide range of real estate than do REITs. REITs offer higher yields compared to REOCs. REITs offer income tax exemption while REOCs generally do not. (Module 32.3, LOS 32.k) **Related Material** SchweserNotes - Book 4 holding all else constant, the risk of a real estate investment is directly related to its 36. (C) estimated value. **Explanation** $MV = \frac{NOI}{r - q} = \frac{NOI}{C}$ where: MV = estimated market value



- r = the rate that equity investors require from a real estate investment.
- g = the growth rate of NOI (assumed to be constant).
- C = r g = the market capitalization rate.

As the riskiness of a real estate investment increases, the uncertainty of its future cash flows increases. This has the effect of increasing investors' required return (r) and increasing the capitalization rate. As cap rates rise, values decline.

(Module 32.2, LOS 32.h)

Related Material

SchweserNotes - Book 4

37. (A) The discounted cash flow approach typically consists of intermediate-term cash flow projections plus a terminal value based on cash flow multiples.

Explanation

In discounted cash flow REIT models, investors generally use intermediate-term cash flow projections and a terminal value based on historical cash flow multiples. FFO does not adjust for the impact of recurring capital expenditures needed to keep properties operating. AFFO adjusts for routine maintenance type capital expenditures, but assumptions and estimates (which may vary widely) are required in the calculation of AFFO.

(Module 32.3, LOS 32.n)

Related Material

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SchweserNotes - Book 4
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Veranda Enterprise

(C) Generally, as interest rates increase, capitalization rates increase and value estimates decline.

Explanation

$$MV = \frac{NOI}{r - g} = \frac{NOI}{C}$$

where:

38.

MV = estimated market value

- NOI = the net operating income from a real estate investment.
- r = the rate that equity investors require from a real estate investment.
- g = the growth rate of NOI (assumed to be constant).
- C = r g = the market capitalization rate.

From this relationship, we see that:

As the growth rate of NOI increase, capitalization rates decline and value estimates will rise,

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Alternative Investments
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Real Estate Investments

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- the capitalization rate is the spread between r and g. Thus, as the spread widens, value estimates decline, and
- holding r constant, value is directly related to g.

The effect of inflation on value estimates depends on its combined effect on the required return (r) and the growth rate (g). If the net result is to decrease (increase) the capitalization rate, value estimates will rise (fall).

(Module 32.2, LOS 32.h)

Related Material

SchweserNotes - Book 4

39. (C) Depreciation expense

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Explanation

Depreciation on real estate is excluded from FFO because most investors believe that real estate maintains its value to a greater extent than does other types of long-term business assets. Therefore, taking depreciation deductions, which reduce the value of the real estate, does not represent economic reality. FFO is accounting net earnings excluding depreciation charges on real estate, deferred tax charges, and gains or losses from sales of property and debt restructuring. Property operating expenses and property taxes are both normal rental expenses deducted to arrive at operating income.

(Module 32.3, LOS 32.m)

Related Material

SchweserNotes - Book 4 and a Enterprise

40. (B) BGN 35,000.

Explanation

Rental income at full occupancy 10 units x BGN 500 pcm x 12 months = BGN 60,000 Other income 12 months x BGN 400 = BGN 4,800 Potential gross income = 60,000 + 4,800 = BGN 64,800Vacancy loss = 10% x 64,800 = BGN 6,480Effective gross income = 64,800 - 6,480 = BGN 58,320Operating expenses = 40% x 58,320 = BGN 23,328 (notice operating expenses should be estimated on the basis of effective not potential income) NOI = 58,320 - 23,328 = BGN 34,992(Module 32.2, LOS 32.g) **Related Material** SchweserNotes - Book 4



41. (A) BGN 770,000.

Explanation

We first obtain the cap rate based on the comparable properties by dividing their respective NOI by their respective value as shown in the table below.

Property	А	В	C
NOI	45,000	88,000	102,000
Value	780,000	1,200,000	1,600,000
Cap rate (NOI/Value)	5.77%	7.33%	6.38%

We then take an arithmetic average: (5.77 + 7.33 + 6.38)/3 = 6.49%

We then apply this cap rate to Valery's estimate of NOI: 50,000/6.49% = BGN 770,117. Notice that the provision of a 2% growth in NOI is a distracter. Remember: capitalization rate = discount rate – growth rate, so no further application of a growth rate is required in solving this problem.

(Module 32.2, LOS 32.i)

Related Material

SchweserNotes - Book 4

42. (C) BGN 973,000.

Explanation

The terminal value at Year 4 is estimated using NOI from Year 5: [53,000 (1.03)]/5% = BGN 1,091,800

The undiscounted cash flows are then present valued using the discount rate of 8%.

	Year 1	Year 2	Year 3	Year 4
NOI				53,000
Terminal Value	50,000 46,296	51,000	52,000	1,091,800
PV		43,724	41,279	841,462
NPV	972,761			

(Module 32.2, LOS 32.i)

Related Material

SchweserNotes - Book 4

43. (B) BGN 509,000.

Explanation

Based on LTV, the bank would extend $60\% \times 900,000 = BGN 540,000$. Based on DSCR, the maximum debt service that will satisfy a DSCR of 1.8 is NOI/DSCR = 55,000/1.8 = BGN 30,556. As the mortgage is interest-only, this means a loan value of 30,556/6% = BGN 509,259. The typical conservative lender will extend the lower of the values based on LTV and DSCR.

(Module 32.2, LOS 32.j)

Related Material

SchweserNotes - Book 4



44. (A) greater liquidity.

Explanation

One of the main advantages of investing in publicly traded equity real estate securities stems from the fact that these securities trade on stock exchanges, which results in greater liquidity compared with buying and selling real estate directly. The downside of trading on a stock exchange is that publicly traded equity real estate securities have greater price volatility than do directly owned properties. Another disadvantages of publicly traded real estate securities is that they offer investors little to no control over investment decisions.

(Module 32.1, LOS 32.a) **Related Material**

SchweserNotes - Book 4

45. (A) A mortgage real estate investment trust (Mortgage REIT).

Explanation

Mortgage REITs are publicly traded securities that make loans secured by real estate, therefore they are publicly traded debt investments. REOCs are classified as equity (not debt) securities, while bank debt is classified as a private rather than public investment.

(Module 32.1, LOS 32.a)

Related Material

SchweserNotes - Book 4

46. **(B)** cost approach.

Explanationa Veranda Enterprise

Three main methods are used by appraisers to estimate value: cost, income, and sales comparison. The cost approach is based on replacement cost, and is usually used for unusual properties for which comparable market prices are not available. The sales comparison approach estimates a property's value based on what comparable properties are selling for. The income approach uses net operating income to value a property.

(Module 32.2, LOS 32.f)

Related Material

SchweserNotes - Book 4

47. (C) Direct mortgage lending.

Explanation

The main types of publicly traded real estate securities are REITs (real estate investment trusts), REOCs (real estate operating companies), and RMBS and CMBS (residential and commercial mortgage-backed securities). Direct mortgage lending is most likely to be a private rather than public investment.

(Module 32.1, LOS 32.a)

Related Material





Related Material

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51. (A) there exist active private markets for real estate assets.

Explanation

Because active private markets for real estate assets exist, REITs lend themselves to a net asset value approach to valuation. NAV reflects the estimated value of REIT assets to a private market buyer, however this may be different from the value that public equity investors would attach to the REIT. REITs have historically traded at a large premium or discount to NAV.

(Module 32.3, LOS 32.I)

Related Material

SchweserNotes - Book 4

52. (A) Investment return exceeds cost of debt.

Explanation

Leverage results in higher returns to equity investors when the return on investment exceeds the cost of debt. Even if debt is cheap, low investment returns would not lead to higher returns due to use of leverage. Similarly, even if return on investment is high, as long as it does not exceed the cost of debt, leverage will not generate higher

returns.

(Module 32.2, LOS 32.j) Related Material Condo Enterprise

SchweserNotes - Book 4

53. (A) Cost approach

Explanation

The cost approach involves an analysis of how much it would cost to buy land and construct a new property that provides the same function as the subject property being appraised. The sales comparison approach simply compares the sales price (after appropriate adjustments) estimated using recent transactions of comparable properties. The income approach estimates the value of a property based on estimated income generated by the property.

(Module 32.2, LOS 32.f)

Related Material

SchweserNotes - Book 4

54. (C) \$1,363,636.

Explanation

 $\mathsf{MV} = \frac{\mathsf{NOI}}{\mathsf{C}} = \frac{150,000}{0.11} = \$1,363,636$



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		(Module 32.2, LOS 32.i)	
		Related Material	
		<u>SchweserNotes - Book 4</u>	
55.	(C)	GBP47,268 18%	
		Explanation	
		Using your TI BAH Plus:	
		[CF] [2nd] [CLR WORK]	
		–200,000 [+/–] [ENTER] [↓]	
		90,000 [ENTER] [↓] [↓]	
		55,000 [ENTER] [↓] [↓]	
		35,000 [ENTER] [↓] [↓]	
		125,000 (note: CF4 = 25,000 + 100,000)	
		[NPV] {8.5} [ENTER] [↓]	
		[CPT] = GBP 47,267.91	
		[IRR] [CPT] = 18.39%	
		(Module 32.2, LOS 32.j)	
		Related Material	
		SchweserNotes - Book 4	

56. (C) mitigate unforeseen potential problems.

Explanation

Due diligence can be very costly but it can potentially lower risk of unexpected legal and physical real estate problems. Due diligence will usually increase current operating costs. A review of lease and rental history is one example of due diligence not a possible result of due diligence.

(Module 32.1, LOS 32.d)

Related Material

SchweserNotes - Book 4