ANSWERS TO STUDY QUESTIONS

Chapter 23

23.1. The idea was to do for commercial real estate investment what mutual funds had done for stocks; to provide small individual investors ("retail investors") a means to invest in a diversified portfolio of many individual assets without requiring a huge fortune to do so. REITs thus offer investors a *liquid* way to invest in a *diversified* portfolio of commercial property. At the same time, they provide a way for commercial property to obtain equity capital financing via the public stock market.

23.3. REITs must pass "tests" on Ownership, Assets, Income, and Distributions. Their ownership cannot be closely held, they must have five or fewer shareholders with 50 percent or more of equity. Their assets must be 75 percent or more in real estate, mortgages, cash, or federal government securities. Their income must be 75 percent or more from primarily passive sources like rents and mortgage interest, as distinct from short-term trading or sale of property assets. And they must distribute 90 percent or more of their otherwise taxable earnings each year as dividends to their shareholders.

23.5. Funds From Operations (FFO) is essentially the property-level NOI minus REIT entity level overhead or "general & administrative" expenses, and minus interest expenses; or equivalently, FFO is the firm's traditional GAAP net income with depreciation expenses added back in. Adjusted FFO (AFFO) makes additional adjustments so as to reflect reasonably closely the actual free net cash flow of the firm (before dividend distributions to shareholders). Equivalently, AFFO is often defined as essentially GAAP net income with depreciation expenses added back but actual capital improvement expenditures removed, and with GAAP revenue adjusted to reflect actual rental receipts rather than "straight-lined" GAAP rental revenue.

23.7. The Net Asset Value (NAV) of an REIT is the value within the private property market of the REITs' assets minus its liabilities. It is estimated by estimating the value of all the REIT's property holdings, adding in estimations of the value of other assets the REIT holds, then subtracting the amount of the REIT's debts and liabilities.

23.9. (See section 23.3 in the text.)

23.11. (Middlepoint Industrial Property Trust)

a. Minimum dividend = (0.90)(4) = \$3.60

b. FFO = GAAP Net Income + Depreciation = 4 + 3 = \$7. Dividends are paid out of REIT cash flow not accounting earnings.

c. NOI ≈ FFO + Interest = 7 + (50)(.07) = \$10.50

d. NAV = Estimated Private Market Property Value less Liabilities = 10.50/0.08 − 50 = 131.25 − 50 = 81.25

$$\text{Share Price Premium} = \frac{P_{REIT} - NAV}{NAV} = 10\% \Rightarrow P_{REIT} = (1.10)(NAV) = (1.10)(81.25) = \$89.375.$$

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23.13. a. Blackstone's 2005 FFO was \$289,731,000, computed as follows:

GAAP net income:	\$ 78,806,000
+ Depreciation:	147,746,000
+ Preferred Stock Dividends:	24,468,000
+ Operating Partnership distribution:	26,983,000
− Net gain asset sales:	2,058,000
+ Extraordinary loss:	13,786,000
= FFO:	\$ 289,731,000

b. Blackstone's 2005 FAD was \$247,612,000, computed as follows:

FFO:	\$ 289,731,000
− Straight-line rent adjustment	14,619,000
− Capital expenditures:	27,500,000
= FAD:	\$ 247,612,000

c. Blackstone's 2005 FAD/GAAP net income ratio was 247,612/78,806 = 3.14.
d. Blackstone's 2005 dividend/FFO ratio was 143,826/289,731 = 0.50 = 50%.
e. Blackstone's 2005 plowback ratio based on FAD was 21%, computed as follows. Blackstone's equity distributions were \$195,277,000 (including \$143,826,000 common share dividends, \$24,468,000 preferred dividends, and \$26,693,000 unit holder distributions). This left \$247,612,000 − \$195,277,000 = \$52,335,000 plowed back into the firm, or 52,335/247,612 = 0.21 = 21%.
f. They exceeded their 90% GAAP income minimum payout requirement by: \$143,826,000/[(\$78,806,000)(0.9)] − 1 = 1.028 = 102.8%; or by \$143,826,000 − (\$78,806,000)(0.9) = \$72,900,600.

23.15. a. The equity average cost of capital is given to be 13%.
b. The overall firm-level average cost of capital is 10.8%, found as (0.4)7.5% + (1 − 0.4)13% = 3.0% + 7.8% = 10.8%.

23.17. a. Rentleg OCC = 10% + 1% = 11%
b. Rentleg value = \$2,500,000/(11% − 1%) = \$2,500,000/0.10 = \$25,000,000
c. Same as (b). Use the marginal OCC of acquisition, not the average OCC of the firm.
d. NPV = \$25,000,000 − \$24,000,000 = +\$1,000,000

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