Real Estate & REIT Modeling: – Quiz Questions

Module 4 – REIT Operating Model

1. **Which of the following statements regarding "Redeemable Noncontrolling Interests" on a REIT's financial statements are TRUE?**

    a. Redeemable Noncontrolling Interests refer to "OP Units" (Operating Partnership Units), which relate to the UPREIT vs. DownREIT structure.

    b. Net Income Attributable to Redeemable Noncontrolling Interests is a non-cash expense which gets added back in the Cash Flow from Operations section.

    c. "OP Units" from the Redeemable Noncontrolling Interests need to be added to the diluted share count, or the value of the Redeemable NCI must be added to Enterprise Value – but not both.

    d. "Redeemable Noncontrolling Interests" are a component of Equity, similar to traditional Noncontrolling Interests.

2. **Consider an equity REIT's Cash Flow Statement, shown in the screenshot below (note the area circled in red for the "Adjustment for Straight-Lining of Rent"):**

ACME REIT - Cash Flow Statement								
($ in Millions)								
		Historical				Projected		
December 31,	Prior Yr. 2	Prior Yr. 1	**Hist. Yr.**	Forward Yr. 1	Forward Yr. 2	Forward Yr. 3	Forward Yr. 4	Forward Yr. 5
Operating Activities:								
Net Income:	$ 411	$ 154	**$ 174**	$ 8	$ 54	$ 80	$ 91	$ 101
Adjustments to Net Income and Non-Cash Charges:								
Depreciation:	183	209	**233**	384	399	415	433	452
Depreciation from Discontinued Ops:	16	9	**0**	6	6	6	6	6
Amort. of Financing Fees & Debt Premium:	6	8	**8**	7	7	7	7	7
Stock-Based Compensation:	12	6	**6**	8	8	8	8	8
Adjustment for Straight-Lining of Rent	**(10)**	**(5)**	**(3)**	**-**	**2**	**5**	**7**	**8**
Equity Interest (Earnings) / Loss:	(3)	(1)	**2**	(2)	(2)	(2)	(2)	(2)
Impairment Loss - Land Holdings:	58	21	**-**	-	-	-	-	-
Abandonment of Development:	9	2	**-**	-	-	-	-	-
(Gain) / Loss on Debt Extinguishment:	(2)	26	**-**	-	-	-	-	-
(Gain) / Loss on Sale of Real Estate Assets:	(285)	(69)	**(74)**	(61)	(61)	(61)	(61)	(61)
Changes in Operating Assets & Liabilities:								
Escrow Cash:	3	(2)	**(5)**	(1)	(1)	(1)	(1)	(1)
(Increase) / Decrease in Assets:	(6)	2	**(15)**	49	(13)	(13)	(13)	(13)
Increase / (Decrease) in Liabilities:	(16)	12	**4**	31	28	27	31	30
Cash Flow from Operations:	**376**	**374**	**329**	**428**	**426**	**470**	**504**	**534**

Which of the following types of REITs does this Cash Flow Statement MOST likely belong to?

a. Healthcare REIT.

b. Hotel REIT.

c. Apartment REIT.

d. Office REIT.

3. **TRUE OR FALSE: Funds from Operations (FFO) is superior to Free Cash Flow for equity REITs because it adjusts for real estate-specific one-time charges and is closer to the actual cash flow generated.**

a. True.

b. False.

4. **For this question and the next 4 questions, please refer to Exhibit 4.4 below, which shows an equity REIT's Disposition activity over a projected 5-year period. There are several blank rows with line items that you will have to calculate for these questions:**

Exhibit 4.4 – Equity REIT Disposition Schedule:

ACME REIT - Dispositions of Communities								
($ in Millions)								
		Historical				**Projected**		
December 31,	Prior Yr. 2	Prior Yr. 1	**Hist Yr.**	Proj. Yr. 1	Proj. Yr. 2	Proj. Yr. 3	Proj. Yr. 4	Proj. Yr. 5
Asset Sales Net Proceeds:	$ 550	$ 150	**$ 210**	$ 135	$ 135	$ 135	$ 135	$ 135
Gain / (Loss) on Sale of RE Assets:	285	69	**74**					
Gain / (Loss) % Net Proceeds:	51.8%	45.8%	**35.3%**	44.3%	44.3%	44.3%	44.3%	44.3%
Book Value of Dispositions:	**265**	**81**	**136**					
Cap Rate (Other Stabilized Average):	20.7%	24.6%	**3.7%**	5.9%	5.9%	5.9%	5.9%	5.9%
Net Operating Income:	55	20	**5**					
NOI Margin:	73.3%	66.7%	**50.0%**	64.3%	64.3%	64.3%	64.3%	64.3%
Rental Income:	75	30	**10**					
Operating & Other Expenses:	(20)	(10)	**(5)**	(2)	(2)	(2)	(2)	(2)
Interest Expense, Net:	(5)	(2)	**-**	-	-	-	-	-
Depreciation:	(20)	(10)	**(3)**	(6)	(6)	(6)	(6)	(6)
Income from Discontinued Operations:	**$ 30**	**$ 8**	**$ 2**	**$ (1)**	**$ (1)**	**$ (1)**	**$ (1)**	**$ (1)**
Depreciation % Book Value:	7.5%	12.3%	**2.2%**	7.4%	7.4%	7.4%	7.4%	7.4%

What is the correct value for the Gain / (Loss) on Sale of Real Estate Assets line item in Projection Year 1?

a. Gain / (Loss) on Sale of RE Assets, Projection Year 1 = ($60 million).

b. Gain / (Loss) on Sale of RE Assets, Projection Year 1 = ($55 million).

c. Gain / (Loss) on Sale of RE Assets, Projection Year 1 = $60 million.

d. Gain / (Loss) on Sale of RE Assets, Projection Year 1 = $55 million.

5. **What is the Net Operating Income for these disposed properties in Projection Year 1?**

a. Net Operating Income, Projection Year 1 = $3 million.

b. Net Operating Income, Projection Year 1 = $4 million.

c. Net Operating Income, Projection Year 1 = $7 million.

d. Net Operating Income, Projection Year 1 = $27 million.

6. **What is the Rental Income in Projection Year 1?**

a. Rental Income, Projection Year 1 = $3 million.

b. Rental Income, Projection Year 1 = $5 million.

c. Rental Income, Projection Year 1 = $7 million.

d. Rental Income, Projection Year 1 = $10 million.

7. **Which of the following statements are TRUE regarding how you would link the Dispositions schedule shown in Exhibit 4.4 above to the REIT's projected financial statements?**

    a. 'Income from Discontinued Operations' of ($1 million) will flow into the 'Discontinued Operations' section of the Income Statement.

    b. Depreciation from Continuing Operations and Depreciation from Discontinued Operations (i.e. the 4th row from the bottom in Exhibit 4.4) will be added together and shown in a single "Depreciation" line item on the Income Statement.

    c. The Gain or Loss on the sale of properties within the "Continuing Operations" segment will be subtracted or added to calculate FFO, but we will ignore the Gain or Loss from Discontinued Operations since it's non-recurring.

    d. The Gain / (Loss) shown above will impact Net Income, but you may have an additional Gain / (Loss) line item that affects Income from Continuing Operations as well.

    e. The Depreciation line item shown above will INCREASE the REIT's cash flow on the Cash Flow Statement.

    f. The Gain / (Loss) shown above will be the only one that you adjust for in the Cash Flow from Operations section – after all, you will only record a realized gain or loss on assets that have been sold.

    g. You must reflect the Book Value, NOI, and Revenue impact of these disposed assets in another segment of the REIT's business, such as "Other Stabilized" or "Same-Store" properties.

8. **Assume that a REIT disposes of a property for $200. Its Book Value was $100, the revenue generated by the property was $10, the NOI was $7, and its Depreciation was $2. Which of the following statements is (are) TRUE regarding how this sale will flow through the REIT's financial statements?**

   a. The 'Gain on the Sale of Assets' is $100 and it will appear under Discontinued Operations on the Income Statement.

   b. 'Income from Discontinued Operations' is $5 and it will also appear under Discontinued Operations on the Income Statement.

   c. On the Balance Sheet, Gross Real Estate Assets will decrease by $200.

   d. The net CASH FLOW IMPACT of this entire transaction in the year will be $107.

   e. The net CASH FLOW IMPACT of this entire transaction in the year will be $205.

   f. The net CASH FLOW IMPACT of this entire transaction in the year will be $107.

   g. Net Income at the top of the CFS will not change because it only reflects Income from Continuing Operations.

9. **For this question and the next 3 questions, please review Exhibits 4.9.1 through 4.9.3 below, which show the partial financial statements of an equity REIT and key calculations such as the ones for FFO, AFFO, and Dividends:**

Exhibit 4.9.1 – Equity REIT's Income Statement

ACME REIT - Income Statement								
($ in Millions Except Per Share Data)								
		Historical				Projected		
December 31,	Prior Yr. 2	Prior Yr. 1	Hist. Yr.	Forward Yr. 1	Forward Yr. 2	Forward Yr. 3	Forward Yr. 4	Forward Yr. 5
Revenue:								
Rental and Other Income:	$ 807	$ 844	$ 888	$ 953	$ 1,016	$ 1,078	$ 1,147	$ 1,214
Management, Development & Other Fees:	7	7	7	7	7	7	7	7
Total Revenue:	814	851	895	$ 960	$ 1,023	$ 1,085	$ 1,154	$ 1,221
Expenses:								
Property Operating Expenses:	198	221	233	239	256	272	290	308
Property Taxes:	74	84	93	91	97	104	111	117
Non-Property Operating Expenses:	33	30	30	35	37	40	42	45
Investment Management Expense:	5	4	4	5	5	5	6	6
Expensed Development & Pursuit Costs:	13	6	3	8	9	9	10	10
Interest Expense, Net:	115	150	175	215	188	181	189	197
(Gain) / Loss on Debt Extinguishment:	(2)	26	-	-	-	-	-	-
Depreciation from Continuing Operations:	183	209	233	384	399	415	433	452
General & Administrative:	43	29	27	37	40	42	45	47
Impairment Loss - Land Holdings:	58	21	-	-	-	-	-	-
Total Expenses:	719	780	798	1,015	1,031	1,068	1,126	1,183
Earnings / (Loss) from Equity Investments:	5	1	1	2	2	2	2	2
Gain / (Loss) on Sale of Land:	-	5	-	2	2	2	2	2
Income from Continuing Operations:	99	77	98	(51)	(4)	21	32	43
Discontinued Operations:								
Income from Discontinued Operations:	27	13	2	(1)	(1)	(1)	(1)	(1)
Gain / (Loss) on Sale of Communities:	285	64	74	60	60	60	60	60
Total Discontinued Operations:	312	77	76	59	59	59	59	59
Net Income:	$ 411	$ 154	$ 174	$ 8	$ 54	$ 80	$ 91	$ 102
NCI Loss / (Earnings):	1	1	1	1	1	1	1	1
Net Income Attributable to AVB:	$ 411	$ 156	$ 175	$ 9	$ 56	$ 81	$ 92	$ 103
Preferred Stock Dividends:	(10)	-	-	-	-	-	-	-
Net Income to Common:	$ 401	$ 156	$ 175	$ 9	$ 56	$ 81	$ 92	$ 103

Exhibit 4.9.2 – Equity REIT's Partial Cash Flow Statement

ACME REIT - Cash Flow Statement								
($ in Millions)								
	Historical			Projected				
December 31,	Prior Yr. 2	Prior Yr. 1	**Hist. Yr.**	Forward Yr. 1	Forward Yr. 2	Forward Yr. 3	Forward Yr. 4	Forward Yr. 5
Operating Activities:								
Net Income:	$ 411	$ 154	**$ 174**	$ 8	$ 54	$ 80	$ 91	$ 102
Adjustments to Net Income and Non-Cash Charges:								
Depreciation:	183	209	**233**	384	399	415	433	452
Depreciation from Discontinued Ops:	16	9	**0**	6	6	6	6	6
Amort. of Financing Fees & Debt Premium:	6	8	**8**	7	7	7	7	7
Stock-Based Compensation:	12	6	**6**	8	8	8	8	8
Equity Interest (Earnings) / Loss:	(3)	(1)	**2**	(2)	(2)	(2)	(2)	(2)
Impairment Loss - Land Holdings:	58	21	**-**	-	-	-	-	-
Abandonment of Development:	9	2	**-**	-	-	-	-	-
(Gain) / Loss on Debt Extinguishment:	(2)	26	**-**	-	-	-	-	-
(Gain) / Loss on Sale of Real Estate Assets:	(285)	(69)	**(74)**	(61)	(61)	(61)	(61)	(61)
Changes in Operating Assets & Liabilities:								
Escrow Cash:	3	(2)	**(5)**	(1)	(1)	(1)	(1)	(1)
(Increase) / Decrease in Assets:	(6)	2	**(15)**	49	(13)	(13)	(13)	(13)
Increase / (Decrease) in Liabilities:	(16)	12	**4**	31	28	27	31	30
Cash Flow from Operations:	**386**	**379**	**332**	**428**	**424**	**465**	**497**	**526**

Exhibit 4.9.3 – Equity REIT's FFO, AFFO, and Dividend Schedule

ACME REIT - FFO, AFFO, and Dividend Calculations								
($ in Millions Except Per Share Data)								
	Historical			Projected				
December 31,	Prior Yr. 2	Prior Yr. 1	**Hist. Yr.**	Forward Yr. 1	Forward Yr. 2	Forward Yr. 3	Forward Yr. 4	Forward Yr. 5
Net Income Attributable to AVB:	**$ 411**	**$ 156**	**$ 175**					
Less: Preferred Stock Dividends:	(10)	-	**-**					
Plus: Total Depreciation:	203	221	**237**					
Plus: Distributable to NCI:	0	0	**0**					
Less: Gain on Sale of Eq. Interest Depr. RE:	(3)	-	**-**					
Less: Gain on Sale of Depreciated RE:	(285)	(64)	**(74)**					
Funds from Operations (FFO):	**$ 316**	**$ 313**	**$ 338**					
FFO Per Diluted Share:	$ 4.07	$ 3.89	**$ 4.00**					
FFO Per Diluted Share Growth:		(4.6%)	**2.9%**					
FFO Dividend Payout Ratio:	88.2%	90.6%	**88.1%**	89.0%	89.0%	89.0%	89.0%	89.0%
Dividends Issued:	279	284	**298**					
Adjusted Funds from Operations (AFFO) Calculation:								
Funds from Operations (FFO):	316	313	**338**	339	401	442	471	501
Less: Capital Expenditures:	(21)	(12)	**(17)**	(18)	(19)	(20)	(21)	(22)
Plus: Stock-Based Compensation:	12	6	**6**	8	8	8	8	8
Plus: Total Amortization:	6	8	**8**	7	7	7	7	7
Less: Gain on Sale of Undepreciated RE:	-	(5)	**-**	(2)	(2)	(2)	(2)	(2)
Adjusted Funds from Operations (AFFO):	**$ 313**	**$ 311**	**$ 335**	**$ 334**	**$ 395**	**$ 435**	**$ 464**	**$ 493**

REITs are required to distribute 90% of their taxable income as Dividends in order to maintain their status as REITs. If that's true, why do we link Dividends to Funds from Operations (FFO) rather than Net Income in Exhibit 4.9.3 above?

a. For REITs, FFO is a commonly accepted GAAP / IFRS figure and so it is more readily available than Net Income.

b. Because FFO better represents the actual funds available to distribute in the form of Dividends.

c. Because Dividends / FFO in the historical years might follow a much more consistent trend than Dividends / Net Income.

d. This issue is only relevant if Dividends / Net Income ever falls below 90% – if it is well above that in each year, it doesn't matter how Dividends are projected.

e. None of the above – in practice, REIT investors do, in fact, use Net Income to project Dividends as they are more strongly correlated than FFO and Dividends.

10. Which of the following statements is TRUE regarding the treatment of Capital Expenditures when calculating Adjusted Funds from Operations (AFFO)?

a. Capital Expenditures relating to Development/Redevelopment should be subtracted from FFO to calculate AFFO.

b. Capital Expenditures relating to Acquisitions should be subtracted from FFO to calculate AFFO.

c. Maintenance Capital Expenditures should be subtracted from FFO to calculate AFFO.

d. All of the above.

e. None of the above.

11. **In Exhibit 4.9.3 above, what are the correct figures for Funds from Operations (FFO) and Dividends Issued for Forward Year 1?**

    a. FFO, Forward Yr. 1 = $300; Dividends Issued, Forward Yr. 1 = $284.

    b. FFO, Forward Yr. 1 = $339; Dividends Issued, Forward Yr. 1 = $302.

    c. FFO, Forward Yr. 1 = $442; Dividends Issued, Forward Yr. 1 = $393.

    d. FFO, Forward Yr. 1 = $471; Dividends Issued, Forward Yr. 1 = $419.

12. **You're reviewing a completed operating model for an equity REIT, and you notice that FFO is growing at a faster rate than FFO Per Share. Why might this be happening, and what does it mean?**

    a. It's an error – REITs buy back large amounts of stock each year, so the share count should be declining over time and FFO Per Share should be growing more quickly.

    b. It just means that the company is choosing not to distribute all of its FFO to shareholders, which it has the right to do.

    c. It is normal and just reflects how FFO Per Share is always much lower, numerically, than FFO.

    d. It is normal and reflects that this REIT, like most REITs, issues large amounts of equity each year, thereby increasing its share count over time.

13. Which of the following answer choices are VALID methods of building schedules for a REIT's revenue and expenses?

a. Separating out a REIT's properties by region, and projecting how the acquisitions, developments, rental increases, and dispositions will impact that region, and then aggregating all the regions to determine total revenue and expenses.

b. Splitting the REIT into Acquisitions vs. Developments vs. Same-Store vs. Dispositions and making assumptions in each of those segments, and then aggregating them to determine total revenue and expenses.

c. If you have the data, looking at each property individually and making the same assumptions as above, but on the individual property-level instead.

d. All of the above.

14. You are analyzing the key metrics for an operating model you have built for an equity REIT, and you notice that its Portfolio Cap Rate (i.e., Net Operating Income / Gross Real Estate Operating Assets, recorded at cost on the Balance Sheet) is INCREASING in each historical and projected year. What are the MOST likely explanations for this trend?

a. The NOI margin for its portfolio of real estate assets has been increasing over time.

b. The REIT's Same-Store rental growth is increasing each year.

c. Since a REIT's Balance Sheet is marked-to-market, perhaps the value of its real estate assets is declining or staying the same each year, even as its NOI increases.

d. Its portfolio of real estate properties may be UNDERVALUED given that higher Cap Rates represent lower valuation multiples – all else being equal, a growing REIT should have increasing Cap Rates each year as it becomes more valuable.

e. It's hard to say anything definitive without comparing this Portfolio Cap Rate to the Cap Rate implied by the REIT's share price.

15. You are reviewing the operating model for an equity REIT, and you notice that its total cash number on the Balance Sheet increases from $100 million in Year 1 to $900 million in Year 5. Why does this mean your model is likely INCORRECT, or at least has several oversights?

a. Given the amount of Interest Expense and Debt Repayments that REITs need to make, the cash balance should NOT be growing by close to 10x in 5 years.

b. Given the funds that REITs spend on buying and developing new properties (i.e. Acquisitions and Development/Redevelopment spending), the cash balance should not be growing by this much in 5 years.

c. Given that 90% of taxable income needs to be paid out in the form of dividends, it would be almost impossible for the REIT's cash balance to grow by this much in 5 years.

d. None of the above – REITs are 'cash cows' that can operate at very high margins, and the growing cash balance reflects this fact.