Real Estate Financial Modeling – Certification Quiz Questions

Module 3 – 2-Hour Hotel Acquisition & Renovation Modeling Test (Jumeirah Beach Hotel)

1. **You are working on a model for the acquisition and renovation of a 5-star hotel in Dubai. Your firm plans to acquire it for ~$228 million (9.50% Going-In Cap Rate), spend ~$25 million on the renovation over 2 years, refinance the Acquisition Loan when the renovation is done, and sell the property in Year 5.**

   To analyze this deal, you have created Base, Upside, and Downside cases for the overall market as well as Independent and Franchise cases for this specific hotel. The Dubai hotel market has been declining over the past several years, but you believe it is set for a recovery and that your firm can capture the upside of such a recovery.

   You assume that the property "captures" a certain percentage of the Market Occupancy Rate and Market ADR based on the Independent vs. Franchise case. The Occupancy Rate and ADR Growth Rate assumptions are shown below:

Market Data and Scenarios:	Units:	Historical: FY16	Projected: FY17	FY18	FY19	FY20	FY21	Stabilized: FY22
Market Occupancy Rate:								
Base	%	85.0%	84.0%	82.0%	83.0%	83.5%	84.0%	84.5%
Downside	%	85.0%	83.0%	81.0%	81.5%	82.0%	82.5%	83.0%
Upside	%	85.0%	84.5%	84.0%	85.0%	86.0%	87.0%	87.0%
Selected Market Occupancy Rate:	%	**85.0%**	**84.0%**	**82.0%**	**83.0%**	**83.5%**	**84.0%**	**84.5%**
Market Average Daily Rate (ADR):	$ / Room Night	$ 450.00	$ 432.00	$ 423.36	$ 440.29	$ 457.91	$ 471.64	$ 481.08
Market Average Daily Rate (ADR) Growth Rate:								
Base	%	(5.0%)	(4.0%)	(2.0%)	4.0%	4.0%	3.0%	2.0%
Downside	%	(5.0%)	(7.0%)	(5.0%)	4.0%	3.0%	2.0%	2.0%
Upside	%	(5.0%)	(2.0%)	4.0%	3.0%	3.0%	3.0%	2.0%
Selected Market ADR Growth Rate:	%	**(5.0%)**	**(4.0%)**	**(2.0%)**	**4.0%**	**4.0%**	**3.0%**	**2.0%**
Market RevPAR:	$ / Room Night	382.50	362.88	347.16	365.44	382.35	396.18	406.51
Property's Occupancy Rate:	%	78.0%	79.8%	77.9%	78.9%	79.3%	79.8%	80.3%
Property's Average Daily Rate (ADR):	$ / Room Night	350.00	388.80	381.02	396.26	412.12	424.48	432.97
Property's RevPAR:	$ / Room Night	273.00	310.26	296.82	312.45	326.91	338.73	347.57

   What is the most PROBLEMATIC part of these assumptions?

   a. The Market Occupancy Rate does not fall enough in the first few projected years here when the market is still declining.

b. The Market Occupancy Rate in the Stabilized Year differs in different cases, but the Market ADR Growth Rate is the same in that year in all cases.

c. The Property's ADR jumps from 78% of the Market ADR to 90% of the Market ADR in Year 1 (FY 17), even though the renovation has only just begun.

d. The Market ADR Growth Rate assumptions are too pessimistic in the Base and Downside cases because they assume 3 straight years of declines.

2. The assumptions for the Independent and Franchise cases are shown below:

Operating Scenarios:		Selected:	Independent	Franchise
Property Occupancy % Market Occupancy:	%	95.0%	95.0%	100.0%
Property ADR % Market ADR:	%	90.0%	90.0%	95.0%
Renovation Costs per Key:	$ / Key	$ 35,000	$ 35,000	$ 40,000
Management Fee % Revenue:	%	2.0%	2.0%	3.0%
Franchise Fee % Revenue:	%	-	-	3.0%
NOI Margin Hurdle for Management Incentive:	%	20.0%	20.0%	30.0%
Incentive Fee % NOI Above Hurdle:	%	30.0%	30.0%	20.0%
Room Margin Through Holding Period:	%	81.0%	81.0%	81.0%
F&B Margin Through Holding Period:	%	25.0%	25.0%	25.0%
Other Revenue Margin Through Holding Period:	%	11.0%	11.0%	11.0%
Administrative & General % Revenue:	%	5.0%	5.0%	6.0%
Sales & Marketing % Revenue:	%	7.0%	7.0%	8.0%
Repairs & Maintenance % Revenue:	%	3.5%	3.5%	3.5%
Initial FF&E Reserves per Available Room:	$ / Key	$ 2,100	$ 2,100	$ 2,300

What is the main PROBLEM with these assumptions?

a. The Property Occupancy Capture, Property ADR Capture, and Renovation Costs per Key are reversed and should be *higher* in the Independent Case and *lower* in the Franchise Case.

b. The NOI Margin required for the management team to receive an incentive fee should be higher in the Independent Case because the hotel owners have more discretion when they operate outside a franchise.

c. There should be some differences in the Room Margin, Food & Beverage Margin, and Other Revenue Margin in these cases.

d. It doesn't make sense that Administrative & General and Sales & Marketing as percentages of revenue differ, while Repairs & Maintenance is the same percentage of revenue in both cases.

e. None of the above – these assumptions seem reasonable at first glance.

3. This hotel's Pro-Forma in the Base Market Scenario and Independent Operating Scenario is shown below:

Property Pro-Forma:	Units:	Historical: FY16	Projected: FY17	FY18	FY19	FY20	FY21	Stabilized: FY22
Revenue:								
(+) Rooms:	$	$ 61,749,324	$ 52,489,417	$ 33,476,584	$ 70,480,457	$ 73,943,270	$ 76,408,287	$ 78,400,361
(+) Food & Beverage:	$	22,053,330	16,537,947	10,655,163	22,217,314	22,860,637	23,393,386	24,003,285
(+) Other:	$	4,410,666	3,307,589	2,131,033	4,443,463	4,572,127	4,678,677	4,800,657
Total Revenue:	$	**88,213,320**	**72,334,953**	**46,262,779**	**97,141,233**	**101,376,034**	**104,480,350**	**107,204,302**
Departmental Expenses:								
(-) Room Operating Expenses:	$	(11,732,372)	(9,972,989)	(6,360,551)	(13,391,287)	(14,049,221)	(14,517,575)	(14,896,069)
(-) Food & Beverage:	$	(16,539,998)	(12,403,460)	(7,991,372)	(16,662,985)	(17,145,477)	(17,545,039)	(18,002,464)
(-) Other:	$	(3,925,493)	(2,943,754)	(1,896,619)	(3,954,682)	(4,069,193)	(4,164,023)	(4,272,585)
Total Departmental Expenses:	$	**(32,197,862)**	**(25,320,204)**	**(16,248,542)**	**(34,008,954)**	**(35,263,892)**	**(36,226,637)**	**(37,171,117)**
Gross Operating Income:	$	**56,015,458**	**47,014,749**	**30,014,237**	**63,132,279**	**66,112,142**	**68,253,714**	**70,033,186**
Gross Operating Margin:	%	*63.5%*	*65.0%*	*64.9%*	*65.0%*	*65.2%*	*65.3%*	*65.3%*
Undistributed Expenses:								
(-) Administrative & General (A&G):	$	(4,410,666)	(3,616,748)	(2,313,139)	(4,857,062)	(5,068,802)	(5,224,018)	(5,360,215)
(-) Sales & Marketing (S&M):	$	(6,174,932)	(5,063,447)	(3,238,395)	(6,799,886)	(7,096,322)	(7,313,625)	(7,504,301)
(-) Repairs & Maintenance (R&M):	$	(3,087,466)	(2,531,723)	(1,619,197)	(3,399,943)	(3,548,161)	(3,656,812)	(3,752,151)
(-) Franchise Fee:	$	-	-	-	-	-	-	-
(-) Management Fee:	$	(1,764,266)	(1,446,699)	(925,256)	(1,942,825)	(2,027,521)	(2,089,607)	(2,144,086)
(-) Utilities:	$	(1,764,266)	(1,363,537)	(896,255)	(1,850,657)	(1,904,245)	(1,948,622)	(1,999,425)
Total Undistributed Expenses:	$	**(17,201,597)**	**(14,022,154)**	**(8,992,241)**	**(18,850,373)**	**(19,645,051)**	**(20,232,683)**	**(20,760,178)**
House Profit:	$	**38,813,861**	**32,992,596**	**21,021,996**	**44,281,906**	**46,467,091**	**48,021,031**	**49,273,008**
House Profit Margin:	%	*44.0%*	*45.6%*	*45.4%*	*45.6%*	*45.8%*	*46.0%*	*46.0%*
Fixed Expenses:								
(-) Insurance:	$	(927,000)	(936,270)	(945,633)	(964,545)	(983,836)	(1,003,513)	(1,023,583)
(-) Property Taxes:	$	-	-	-	-	-	-	-
(-) FF&E Reserves:	$	(1,297,800)	(1,310,778)	(1,323,886)	(1,350,363)	(1,377,371)	(1,404,918)	(1,433,017)
(-) Ground Lease:	$	(15,563,120)	(15,718,751)	(15,875,939)	(16,193,457)	(16,517,326)	(16,847,673)	(17,184,626)
Total Fixed Expenses:	$	**(17,787,920)**	**(17,965,799)**	**(18,145,457)**	**(18,508,366)**	**(18,878,533)**	**(19,256,104)**	**(19,641,226)**
Net Operating Income (NOI):	$	**21,025,941**	**15,026,797**	**2,876,539**	**25,773,540**	**27,588,558**	**28,764,927**	**29,631,782**
NOI Margin:	%	*23.8%*	*20.8%*	*6.2%*	*26.5%*	*27.2%*	*27.5%*	*27.6%*
(-) Incentive Fee to Management:	$	-	-	-	(1,903,588)	(2,194,005)	(2,360,657)	(2,457,276)
(-) Renovation Costs:	$	-	(10,815,000)	(10,815,000)	-	-	-	-
Adjusted Net Operating Income (NOI):	$	**21,025,941**	**4,211,797**	**(7,938,461)**	**23,869,952**	**25,394,552**	**26,404,270**	**27,174,505**
Adjusted NOI Margin:	%	*23.8%*	*5.8%*	*(17.2%)*	*24.6%*	*25.0%*	*25.3%*	*25.3%*
(-) Cash Interest Expense on Senior Loan:	$		-	-	(7,197,398)	(7,057,975)	(6,913,672)	
(-) Cash Interest Expense on Mezzanine:	$		-	-	(1,096,746)	(1,140,616)	(1,186,241)	
(-) Senior Loan Principal Repayment:	$		-	-	(3,983,520)	(4,122,943)	(4,267,246)	
Cash Flow to Equity Investors:	$		**4,211,797**	**(7,938,461)**	**11,592,288**	**13,073,018**	**14,037,111**	
PIK Interest on Acquisition Loan:	$		(11,854,204)	(12,802,541)	-	-	-	
PIK Interest on Mezzanine:	$		-	-	(1,096,746)	(1,140,616)	(1,186,241)	
(+) Ending Acquisition Loan Balance:	$	148,177,553	160,031,757	-	-	-	-	
(+) Ending Senior Loan Balance:	$	-	-	205,639,948	201,656,428	197,533,485	193,266,239	
(+) Ending Mezzanine Balance:	$	-	-	27,418,660	28,515,406	29,656,022	30,842,263	
Total Debt Balance:	$	**$ 148,177,553**	**$ 160,031,757**	**$ 233,058,607**	**$ 230,171,834**	**$ 227,189,508**	**$ 224,108,503**	

Based <u>solely</u> on this Pro-Forma, what is the biggest risk factor in this hotel deal?

a. The property's Adjusted NOI and Cash Flow to Equity turn negative in Year 2, so the property won't be able to service the Acquisition Loan in that year.

b. The Gross Operating Margin and House Profit Margin are both quite low for a 5-star hotel, which creates extra risk in the Downside Case.

c. Due to the PIK Interest on the Acquisition Loan, the Debt balance may balloon to a high level and might be worth more than the property itself by the time it is refinanced in Year 2.

d. The Ground Lease is a huge fixed expense that will not go away or decrease, even in the Downside Case.

e. All the factors above create equal amounts of risk.

4. **You're reviewing the credit stats and ratios for this same deal, and you find that the Debt Service Coverage Ratio (DSCR) following the refinancing looks slightly better in the Downside Case (1.8x – 1.9x) than in the Upside Case (1.7x – 1.8x). Based on this information, what would you recommend doing?**

   a. Nothing – this could easily happen if the property's value upon refinancing is higher in the Upside Case, resulting in a higher Permanent Loan balance.

   b. Use a lower LTV for the Permanent Loan to improve the DSCR in both cases.

   c. Negotiate and propose a higher Interest Rate in exchange for an Interest-Only Period on the Permanent Loan to improve the DSCR.

   d. Delay the refinancing so that the property's NOI is more stable and the property is worth more when the Permanent Loan is put in place.

   e. This outcome should never happen in property models with multiple cases, so you may need to revisit your assumptions or the model mechanics.

5. **Your firm is targeting a 30% IRR in the Upside Case, a 20% IRR in the Base Case, and a 10% IRR in the Downside Case. Based on the sensitivities below, with the Downside and Independent cases selected and a Year 5 Exit in the bottom two tables, what might you recommend to mitigate risk?**

Sensitivity Analysis - Equity IRR in Different Scenarios:

	Independent	Franchise
Base	21.9%	20.9%
Downside	10.4%	9.5%
Upside	35.0%	34.0%

	Exit Date:		
	FY19	FY20	FY21
Base	14.4%	20.0%	21.9%
Downside	(1.9%)	6.1%	10.4%
Upside	32.1%	35.3%	35.0%

	Exit Date:		
	FY19	FY20	FY21
Independent	(1.9%)	6.1%	10.4%
Franchise	(5.5%)	4.3%	9.5%

Sensitivity Analyses:

Going-In Cap Rate:	Exit Cap Rate:								
		8.00%	8.25%	**8.50%**	8.75%	**9.00%**	9.25%	9.50%	9.75%
	10.50%	23.0%	21.6%	**20.3%**	19.0%	**17.7%**	16.3%	15.0%	13.7%
	10.25%	21.3%	19.9%	**18.5%**	17.2%	**15.9%**	14.5%	13.2%	11.8%
	10.00%	19.5%	18.1%	**16.8%**	15.4%	**14.0%**	12.7%	11.3%	10.0%
	9.75%	17.8%	16.4%	**15.0%**	13.6%	**12.2%**	10.9%	9.5%	8.1%
	9.50%	**16.0%**	**14.6%**	**13.2%**	**11.8%**	**10.4%**	**9.0%**	**7.6%**	**6.2%**
	9.25%	14.2%	12.8%	**11.4%**	10.0%	**8.6%**	7.2%	5.8%	4.3%
	9.00%	12.5%	11.0%	**9.6%**	8.2%	**6.8%**	5.3%	3.9%	2.5%
	8.75%	10.7%	9.3%	**7.8%**	6.4%	**4.9%**	3.5%	2.1%	0.6%
	8.50%	8.9%	7.5%	**6.0%**	4.6%	**3.1%**	1.7%	0.2%	(1.3%)

Property Occupancy Rate % Market Occupancy Rate:	Property ADR % Market ADR:								
		88.0%	89.0%	**90.0%**	91.0%	92.0%	93.0%	94.0%	**95.0%**
	100.0%	**14.4%**	**16.0%**	**17.6%**	**19.2%**	**20.8%**	**22.4%**	**24.1%**	**25.7%**
	99.0%	13.0%	14.6%	**16.1%**	17.7%	19.3%	20.9%	22.5%	**24.2%**
	98.0%	11.6%	13.1%	**14.7%**	16.3%	17.9%	19.4%	21.0%	**22.6%**
	97.0%	10.2%	11.7%	**13.3%**	14.8%	16.4%	17.9%	19.5%	**21.1%**
	96.0%	8.8%	10.3%	**11.8%**	13.4%	14.9%	16.5%	18.0%	**19.6%**
	95.0%	**7.4%**	**8.9%**	**10.4%**	**11.9%**	**13.4%**	**15.0%**	**16.5%**	**18.0%**
	94.0%	6.0%	7.5%	**9.0%**	10.5%	12.0%	13.5%	15.0%	**16.5%**
	93.0%	4.7%	6.1%	**7.6%**	9.1%	10.5%	12.0%	13.5%	**15.0%**
	92.0%	3.3%	4.8%	**6.2%**	7.6%	9.1%	10.5%	12.0%	**13.5%**

a. Wait until Year 5 to exit so that the market has more time to recover (resulting in lower Cap Rates and higher ADR and Occupancy Rates).

b. If the hotel market does not start recovering within several years, consider a larger renovation, funded by Debt, to boost the Occupancy Rate Capture and ADR Capture.

c. Consider a higher Permanent Loan LTV, if possible, since the IRRs stay almost entirely positive even in the Downside Case (assuming a Year 5 Exit).

d. All of the above.