

Financial Modeling Mastery

– Certification Quiz Questions

Module 12 – Leveraged Buyout Concepts and Simpler LBO Models

- Consider the simple LBO model shown below for the cash-free, debt-free leveraged buyout of a restaurant business that is shifting to a franchise-based model to improve its margins and reduce its capital intensity:

LBO Model - Drivers and Returns Attribution Analysis

(\$ in Millions)

Assumptions:

EBITDA Purchase Multiple:	12.0 x	EBITDA Exit Multiple:	15.0 x
Purchase TEV:	\$ 600	Minimum Cash % EBITDA:	20.0%
Debt Used:	5.0 x		
Equity Contribution:	7.0 x		
Interest Rate:	5.0%		
Tax Rate:	25.0%		

Income Statement:	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue:	\$ 250	\$ 275	\$ 297	\$ 315	\$ 331	\$ 347
Growth Rate:		10%	8%	6%	5%	5%
EBITDA:	50	59	68	77	86	95
Margin:	20%	22%	23%	25%	26%	28%
Growth Rate:		18%	16%	13%	11%	11%
(-) Depreciation & Amortization:		(28)	(27)	(25)	(23)	(21)
% of Revenue:		(10%)	(9%)	(8%)	(7%)	(6%)
(-) Interest Expense:		(13)	(11)	(9)	(7)	(4)
Pre-Tax Income:		19	30	43	56	71
(-) Taxes:		(5)	(8)	(11)	(14)	(18)
Net Income:	\$ 14	\$ 23	\$ 32	\$ 42	\$ 53	

Cash Flow and Debt Repayment:	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Net Income:	\$ 14	\$ 23	\$ 32	\$ 42	\$ 53	
(+) Depreciation & Amortization:	28	27	25	23	21	
(+/-) Change in Working Capital:	(3)	(1)	-	0	1	
% of Change in Revenue:	(10%)	(5%)	0%	3%	5%	
(-) CapEx:	(5)	(4)	(3)	(2)	(2)	
% of Change in Revenue:	(20%)	(18%)	(15%)	(13%)	(10%)	
(+) Beginning Cash Balance:	-	12	14	15	17	
(+) Free Cash Flow:	34	44	55	64	73	
(-) Minimum Cash Balance:	(12)	(14)	(15)	(17)	(19)	
Cash Flow Available for Debt Repayment:	23	43	53	62	71	
Cash Flow Used for Debt Repayment:	23	43	53	62	70	
Debt Balance:	250	227	185	132	70	-
Cash Balance:	-	12	14	15	17	20
Equity Balance:	350	364	387	419	461	515
Invested Capital:	600	592	572	551	531	515
NOPAT:		24	31	39	47	56
<i>Return on Invested Capital (ROIC):</i>		4%	5%	7%	9%	11%

Returns Attribution Analysis:	Amount:	%:	Exit Calculations:
EBITDA Growth:	\$ 545	49%	Exit Enterprise Value: \$ 1,432
Multiple Expansion:	286	26%	(-) Debt: -
Debt Paydown/Cash Generation:	270	25%	(+) Cash: 20
Total Return to Equity Investors:	\$ 1,102	100%	Equity Proceeds: \$ 1,452

Money-on-Money (MoM) Multiple:	4.1 x
Internal Rate of Return (IRR):	33%

The private equity firm reviewing this deal believes that it can achieve this 30%+ IRR because of the company's strong EBITDA and FCF growth and the fact that the ROIC nearly triples, even as the revenue and EBITDA growth rates slow down by the end.

Also, it argues that since 49% of the returns come from EBITDA Growth, with only 26% from Multiple Expansion, the assumptions are not overly aggressive. What is the biggest POTENTIAL PROBLEM with these arguments?

- a. The assumptions driving the EBITDA and FCF growth are very aggressive, as most companies do not increase their margins by nearly 50% over 5 years.
- b. Multiple Expansion should never contribute to the returns because it's too speculative; this model should assume an Exit Multiple equal to the Purchase Multiple instead.
- c. Even with a significantly higher ROIC, the higher Exit Multiple is not justified because both Revenue Growth and EBITDA Growth decline by Year 5.
- d. It's unrealistic for the company to cut its CapEx by more than 50% and turn its Change in Working Capital into a source of funds as the company's EBITDA nearly doubles.

2. Consider the Sources & Uses schedule shown below for the leveraged buyout of a Canadian public company:

Sources & Uses Schedule:

Sources of Funds:	\$ M CAD	x EBITDA	% Sources
Revolver:	\$ -	0.0 x	0.0%
Term Loan A:	813.6	1.5 x	20.4%
Term Loan B:	813.6	1.5 x	20.4%
Subordinated Notes:	1,084.8	2.0 x	27.2%
Management Rollover:	108.5	0.2 x	2.7%
Excess Cash:	234.8	0.4 x	5.9%
Investor Equity:	938.2	1.7 x	23.5%
Total Sources:	\$ 3,993.5	7.4 x	100.0%

Uses of Funds:	\$ M CAD	x EBITDA
Purchase Equity Value:	\$ 2,569.6	4.7 x
Assume/Replace Target's Debt:	1,333.9	2.5 x
Transaction Fees:	35.7	0.1 x
Financing Fees:	54.2	0.1 x
Total Uses:	\$ 3,993.5	7.4 x

Ownership Details:	\$ M CAD	%
Management:	\$ 108.5	10.4%
Sponsor:	938.2	89.6%
Total Equity:	\$ 1,046.7	100.0%

If this were a leveraged buyout of a PRIVATE company, how would this Sources & Uses schedule differ?

- a. The Management Rollover would not exist because the management teams of private companies rarely own shares in their companies.

- b. The Assume/Replace Target's Debt line would not exist because when a private company is acquired, the PE firm must repay the company's entire Debt balance right away using Investor Equity.
 - c. The Transaction and Financing Fees would be lower because banks tend to charge lower percentages on deals involving private companies.
 - d. The Uses side would be based on Purchase Enterprise Value, and the Assume/Replace Target's Debt and Excess Cash lines would not exist.
 - e. All of the above.
3. Consider the "Cash Flow Available for Debt Repayment" metric in the Cash Flow Projections and Debt Schedule of an LBO Model.

The statements below list similarities and differences between this metric and the "Free Cash Flow" metric, as it is normally defined and used in 3-statement models.

Which of these statements list(s) a similarity or difference that is INCORRECT?

- a. Both figures deduct the Net Interest Expense but exclude Optional Principal Repayments on New Debt used to fund the LBO.
- b. Free Cash Flow is a component of Cash Flow Available for Debt Repayment, along with an addition for the Beginning Cash, a deduction for the Minimum Cash, and other possible adjustments.
- c. Free Cash Flow is capital structure-neutral, but Cash Flow Available for Debt Repayment is not because it changes throughout the LBO holding period as the company repays its Debt balance.
- d. The Change in Debt each year should equal the Cash Flow Available for Debt Repayment each year, but it will never equal the annual Free Cash Flow.
- e. Statements 1, 3, and 4 are all incorrect.

- f. Statements 1 and 2 are incorrect.
- g. Statements 3 and 4 are incorrect.
- h. All four statements are incorrect.

4. You have built an LBO model for a leveraged buyout funded by a combination of a Revolver and Term Loans. The Term Loans have a fixed annual amortization and a 50% Cash Flow Sweep. The relevant sections of the Debt Schedule in the model are shown below:

	A	B	C	D	I	J	K	L	M	N
137										
138										
139			Debt Schedule:	<i>Units:</i>			Projected			
140					FY21	FY22	FY23	FY24	FY25	
141										
150			Cash Flow and Revolver Calculations:							
151			Cash - Beginning of Period:	¥ M	¥ 20,000	¥ 20,000	¥ 20,000	¥ 22,386	¥ 25,595	
152			(+) Free Cash Flow:	¥ M	3,431	7,209	12,390	14,889	16,103	
153			(-) Amortization:	¥ M	(6,086)	(6,086)	(6,086)	(6,086)	(6,086)	
154			(-) Minimum Cash:	¥ M	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	
155			Cash Flow Surplus / (Shortfall):	¥ M	(2,655)	1,123	6,304	11,190	15,612	
156										
157			BoP Revolver:	¥ M	-	2,655	1,532	-	-	
158			Revolver (Repayments) / Drawdowns:	¥ M	2,655	(1,123)	(1,532)	-	-	
159			EoP Revolver:	¥ M	2,655	1,532	-	-	-	
160			Cash Interest Expense:	¥ M	-	93	57	-	-	
161										
162			Term Loans:							
163			BoP Term Loans:	¥ M	60,858	54,772	48,686	40,215	28,534	
164			(-) Amortization:	¥ M	(6,086)	(6,086)	(6,086)	(6,086)	(6,086)	
165			(-) Cash Flow Sweep:	¥ M	=IF(I155+I158>0,-MIN((I155+I158)*\$I\$46,SUM(I163:I164)),0)					
166			EoP Term Loans:	¥ M	54,772	48,686	40,215	28,534	14,642	
167			Cash Interest Expense:	¥ M	3,043	2,739	2,434	2,011	1,498	

Cell I46 in the formula above contains 50% for the Cash Flow Sweep percentage on the Term Loans, and the Revolver has the top repayment priority with a 100% Cash Flow Sweep.

Is there a way to SIMPLIFY the “Cash Flow Sweep” formula in cell I165 and still get the same results in the model?

- a. Yes – we could check to see if the Revolver Drawdown (I158) is positive, and if so, set the Cash Flow Sweep to 0 for the current year.
 - b. Yes – since the Annual Amortization is a fixed number, we don't need the second part of the inner MIN formula, which takes the Beginning Term Loan balance and subtracts the Annual Amortization.
 - c. Yes – we could remove the "+ I158" within the inner MIN formula because if the company has a Cash Flow Surplus, we don't need to factor in Revolver Drawdowns or Repayments.
 - d. No, not with the current layout of this Debt Schedule.
5. Consider the partial Debt Schedule shown below for the leveraged buyout of a company that recently experienced a downturn and expects to recover over the next several years:

Debt Schedule:	Units:	FY20	Projected				
			FY21	FY22	FY23	FY24	FY25
Interest Paid on Debt:							
Revolver:			-	8.9	15.2	17.6	18.5
Term Loan A:			36.6	33.0	32.5	31.3	29.3
Term Loan B:			44.7	44.3	43.9	47.4	50.8
Subordinated Notes:			86.8	88.5	90.3	92.1	93.9
Total Interest Paid (Cash + PIK):			168.1	174.6	181.9	188.4	192.5
Cash Flow Available for Debt Repayment:							
Cash - Beginning of Period:			200.0	200.0	200.0	200.0	200.0
(+) Free Cash Flow:			(205.8)	(49.5)	82.7	118.8	133.0
(-) Mandatory Debt Repayments:			(89.5)	(89.5)	(89.5)	(89.5)	(89.5)
(-) Minimum Cash:			(200.0)	(200.0)	(200.0)	(200.0)	(200.0)
Cash Flow Available for Debt Repayment:			(295.3)	(139.0)	(6.8)	29.3	43.5
(+) Revolver Draw / (-) Repayment:			295.3	139.0	6.8	(29.3)	(43.5)
Cash Flow Available for Term Loan A:			-	-	-	-	-
(-) Optional Repayments of Term Loan A:			-	-	-	-	-
Cash Flow Available for Term Loan B:			-	-	-	-	-
(-) Optional Repayments of Term Loan B:			-	-	-	-	-
Cash Flow Available for Subordinated Notes:			-	-	-	-	-
(-) Optional Repayments of Subordinated Notes:			-	-	-	-	-
(-) Call Premium Paid:			-	-	-	-	-
Cash Generated ABOVE Minimum Cash Balance:			-	-	-	-	-
BoP Revolver:			-	295.3	434.3	441.1	411.8
(+) Revolver Draw:			295.3	139.0	6.8	-	-
(-) Revolver Repayment:	100.0%		-	-	-	(29.3)	(43.5)
EoP Revolver:			-	434.3	441.1	411.8	368.3

Which of the following answer choices is a CORRECT inference that you can make based on *only* this Debt Schedule?

- This leveraged buyout is unlikely to be viable (i.e., produce an IRR above 20%) because there is almost no Debt Repayment, and the company's Interest Expense keeps rising until the exit.
- If this LBO does produce an acceptable IRR, Debt Repayment is unlikely to be a key source of returns in the model.
- The PE firm should use less Debt to fund this leveraged buyout because the company is likely to violate the Leverage Ratio and Interest Coverage Ratio covenants.

d. While the deal might still produce an IRR above 20%, EBITDA Growth is unlikely to be a key source of returns in the model.

6. Consider the Returns Calculations in the LBO model shown below, which includes Earn-Out Payments to the management team of \$15 million, \$20 million, and \$25 million in Years 3, 4, and 5, respectively, based on EBITDA targets:

Returns Calculations:	Units:	FY20	Projected				
			FY21	FY22	FY23	FY24	FY25
Numerical Year:	#		1.0	2.0	3.0	4.0	5.0
Earn-Out Payments:	\$ M				\$ 15.0	\$ 20.0	\$ 25.0
EBITDA Thresholds:	\$ M				600.0	700.0	800.0
EBITDA:	\$ M				687.4	839.3	880.0
(x) Exit Multiple:	x				9.5 x	9.0 x	8.5 x
Exit Enterprise Value:	\$ M				6,530.7	7,554.0	7,479.8
(+) Cash & Investments:	\$ M				238.6	258.8	282.4
(+) Net Operating Losses:	\$ M				-	-	-
(-) Total Debt:	\$ M				(2,355.4)	(2,112.6)	(1,799.4)
(-) Operating Leases:	\$ M				(689.1)	(593.9)	(495.3)
(-) Noncontrolling Interests:	\$ M				(182.2)	(242.5)	(309.2)
Exit Equity Value:	\$ M				3,542.7	4,863.7	5,158.2
Project-Level Returns:							
Multiple:	x				3.4 x	4.6 x	4.9 x
IRR:	%				50.1%	46.8%	37.6%
Returns to Management:							
<i>Management Common Equity:</i>							
Initial Investment:	\$ M	(108.5)					
(+) Earn-Out Received:	\$ M		-	-	15.0	20.0	25.0
(+) Exit Equity Proceeds:	\$ M		-	-	-	-	534.6
Total Cash Flows:	\$ M	(108.5)	-	-	15.0	20.0	559.6
Multiple:	x	5.5 x					
IRR:	%	41.6%					

The private equity firm is considering offering management a 5% Options Pool rather than these Earn-Outs. The Initial Investor Equity here was approximately \$940 million, and the exercise price of the options will be linked to this Initial Investor Equity figure.

Which of the following statement(s) represent(s) the correct ADVANTAGES and DISADVANTAGES of these two incentive schemes?

- a. The 5% Options Pool would have a higher upfront cost for the PE firm but would cost less in the holding period since the options are only paid out once rather than in 3 consecutive years.
- b. Both the Earn-Outs and the Options Pool would reduce the PE firm's ownership in the company by the exit.
- c. An Options Pool would be sensitive to the Exit Multiple and the Exit EBITDA, while the Earn-Outs depend only on EBITDA in the holding period.
- d. To estimate the relative costs, you could compare the total Earn-Out payments here to $5\% / (1 + 5\%) * \text{MAX}(0, \text{Exit Equity Value} - \$940 \text{ million})$.
- e. All of the statements above are correct.
- f. Only statements 1, 3, and 4.
- g. Only statements 2, 3, and 4.
- h. Only statements 3 and 4.
- i. Only statements 1, 2, and 3.