

# Financial Modeling Fundamentals – Module 12

## Leveraged Buyouts and LBO Models – Quiz Questions

1. A colleague is explaining to a new co-worker the concept of a leveraged buyout (LBO). He shows this new co-worker the following Excel spreadsheet for an apartment purchase to demonstrate how the math behind an LBO works:

### Scenario 1 - 100% Cash Purchase:

Cash Used:  \$ 500  
 Debt Used:  -

Revenue and Expenses:	Purchase	Year 1	Year 2	Year 3	Year 4	Year 5
Rental Income:	\$ -	\$ 35	\$ 35	\$ 35	\$ 35	\$ 35
Interest Payments:	-	-	-	-	-	-
Debt Principal Payments:	-	-	-	-	-	-
Purchase or Sale of Property:	(500)	-	-	-	-	550
<b>Net Cash Flow:</b>	<b>\$ (500)</b>	<b>\$ 35</b>	<b>\$ 35</b>	<b>\$ 35</b>	<b>\$ 35</b>	<b>\$ 585</b>

Money-on-Money (MoM) Multiple:	1.5 x
Internal Rate of Return (IRR):	9%

### Scenario 2 - 30% Cash Purchase:

Cash Used:  \$ 150  
 Debt Used:  350

Revenue and Expenses:	Purchase	Year 1	Year 2	Year 3	Year 4	Year 5
Rental Income:	\$ -	\$ 35	\$ 35	\$ 35	\$ 35	\$ 35
Interest Payments:	-	(18)	(18)	(18)	(18)	(18)
Debt Principal Payments:	-	(9)	(9)	(9)	(9)	(9)
Purchase or Sale of Property:	(150)	-	-	-	-	244
<b>Net Cash Flow:</b>	<b>\$ (150)</b>	<b>\$ 9</b>	<b>\$ 9</b>	<b>\$ 9</b>	<b>\$ 9</b>	<b>\$ 253</b>

Money-on-Money (MoM) Multiple:	1.9 x
Internal Rate of Return (IRR):	15%

Based on this analysis, your colleague explains that debt will always boost the IRR and MoM multiple in a leveraged buyout because debt reduces the amount of cash a private equity firm contributes to acquire the company.

Is he correct?

- a. Yes, for the reasons stated: more debt always reduces the PE firm's upfront contribution.
- b. No, because you could never acquire a property or a company with only 30% equity, so these numbers are unrealistic.
- c. No – the math only works here because the rental income is so high relative to the interest expense and principal repayments.
- d. No, because he is ignoring the downside case – what happens if the property's value falls or the rental income falls?

**2. How are leveraged buyouts and LBO models different from normal M&A deals and merger models?**

- a. The Balance Sheet adjustments required in an LBO model are completely different because debt is always used in the deal.
- b. LBO models use only debt as an acquisition's funding source, whereas merger models can use cash, debt, or stock.
- c. LBO models assume that the buyer sells the target in the future, and they focus more on IRR and money-on-money multiples than accretion / dilution.
- d. You do not have to complete the purchase price allocation process in a leveraged buyout because there is no real "buyer."
- e. You use the standard valuation methodologies to determine the purchase price in an M&A deal, but in an LBO model you always determine the purchase price based on what's required to achieve a certain IRR or MoM multiple.

**3. Suppose that you build a simple LBO model and then calculate the returns from different sources, as shown below:**

**LBO Model - Drivers and Returns Attribution Analysis**  
(\$ in Millions)

**Assumptions:**

EBITDA Purchase Multiple:	10.0 x	EBITDA Exit Multiple:	13.0 x
Purchase Price:	\$ 1,000	Year 0 Revenue:	\$ 250
% Debt:	50.0%	Annual Revenue Growth Rate:	6.0%
Debt Used:	500	Annual EBITDA Margin:	40.0%
Equity Contribution:	500		
Initial Cash Balance:	\$ 20	D&A % Revenue:	2.0%
Interest Rate:	8.0%	CapEx % Revenue:	2.5%
Tax Rate:	40.0%	Change in WC % Change in Revenue:	10.0%

<b>Income Statement:</b>	<b>Year 0</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Revenue:	\$ 250	\$ 265	\$ 281	\$ 298	\$ 316	\$ 335
EBITDA:	100	106	112	119	126	134
Less: Depreciation & Amortization:		(5)	(6)	(6)	(6)	(7)
Less: Interest:		(40)	(37)	(34)	(30)	(26)
Pre-Tax Income:		61	70	79	90	102
Less: Taxes:		(24)	(28)	(32)	(36)	(41)
Net Income:		\$ 36	\$ 42	\$ 48	\$ 54	\$ 61

<b>Cash Flow Statement:</b>	<b>Year 0</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Net Income:		\$ 36	\$ 42	\$ 48	\$ 54	\$ 61
Plus: Depreciation & Amortization:		5	6	6	6	7
Plus/Minus: Change in Working Capital:		2	2	2	2	2
Less: CapEx:		(7)	(7)	(7)	(8)	(8)
Free Cash Flow:		37	42	48	54	61
Cash Flow Used for Debt Repayment:		37	42	48	54	61
Debt Balance:	500	463	421	374	319	258
Cash Balance:	20	20	20	20	20	20

<b>Returns Attribution Analysis:</b>	<b>Amount:</b>	<b>%:</b>	<b>Exit Calculations:</b>	
EBITDA Growth:	\$ 338	34%	Exit Enterprise Value:	\$ 1,740
Multiple Expansion:	401	40%	Less: Debt:	(258)
Debt Paydown and Cash Generation:	262	26%	Plus: Cash:	20
<b>Total Return to Equity Investors:</b>	<b>\$ 1,002</b>	<b>100%</b>	<b>Equity Proceeds:</b>	<b>\$ 1,502</b>

<b>Money-on-Money (MoM) Multiple:</b>	<b>3.0 x</b>
<b>Internal Rate of Return (IRR):</b>	<b>24.6%</b>

Which of the following conclusions might you draw from this analysis?

- The deal is overly dependent on multiple expansion, which is almost certainly an unwise bet.

- b. If your firm is considering acquiring this company, you should see if it's possible to grow the EBITDA of the business more quickly or improve its cash flow so it can pay off more debt.
- c. It is unlikely that this deal will ever work, given that the IRR and MoM multiple are both in relatively normal ranges even \*with\* 30% multiple expansion.
- d. While some attributes of the deal look negative, the fact that returns are split in similar proportions between EBITDA Growth, Multiple Expansion, and Debt Paydown and Cash Generation is a positive sign.

**4. Consider the chart below, which summarizes the qualities of ideal leveraged buyout (LBO) candidates:**

**Ideal Leveraged Buyout (LBO) Candidates - Key Qualities**  
(\$ in Millions)

Aspect of Company:	Ideal LBO Candidate:	Non-Ideal LBO Candidate:
<b>Income Statement:</b>	Low fixed costs, high recurring revenue, relatively high EBITDA margins; revenue <i>growth</i> not necessarily essential.	The opposite; a pre-revenue tech or biotech startup would be the single worst possible LBO candidate due to lack of revenue, extremely high risk, etc.
<b>Balance Sheet:</b>		
<b>Cash Flow Statement:</b>	<b>Stable cash flows</b> above all else! Need them for interest and debt principal repayment. Minimal CapEx is ideal (e.g., mature company with lots of assets, but not spending much on new assets). Minimal Working Capital requirements also help, but tend to matter less.	Unstable cash flows and a high amount of CapEx (20-30% of revenue is quite high for most industries), especially if it's Maintenance CapEx rather than Growth CapEx; companies that require a lot of cash outlays for Working Capital (e.g., retailers with inventory) are also not ideal.
<b>Valuation:</b>	Lower to mid-range EBITDA multiple (varies wildly based on the industry - need to look at comps to determine this).	Moderate to high EBITDA multiple - creates a lot of risk for the PE firm if that multiple declines.
<b>Management Team:</b>	"Strong" CEO and CFO (What does that really mean?) - experienced and have worked together for a long time, ideally <i>participating</i> in the LBO by rolling over equity to get "skin in the game."	Constant management turnover / shuffling is a red flag; inexperienced C-level executives can also be trouble; if no one on the team is participating in the deal, that could also be a negative sign.

You'll notice that the "Balance Sheet" category row is blank for both Ideal LBO Candidates and Non-Ideal LBO Candidates.

Which of the following Balance Sheet qualities would you expect to see for an Ideal LBO Candidate?

- No debt or minimal debt.
- Some amount of debt already, perhaps up to 2x Debt / EBITDA, to prove it is capable of servicing debt obligations.
- An excess cash balance.
- Significant fixed assets, such as PP&E, to use for debt collateral.
- A significant amount of Goodwill, to represent the company's untapped value.
- A low cash balance.

5. Consider the Transaction Funding Assumptions and Valuation Information shown below for a leveraged buyout of a Chinese company listed in the US, with financials denominated in RMB:

Valuation of Target:	\$ in Millions	¥ in Millions
Current Equity Value:	\$ 519.3	¥ 3,262.2
Current Enterprise Value:	494.8	3,108.4
LTM EV / Revenue:		1.2 x
LTM EV / EBITDA:		5.5 x
Forward EV / Revenue:		1.0 x
Forward EV / EBITDA:		4.2 x

Valuation of Target at Purchase Price:	\$ in Millions	¥ in Millions
Purchase Equity Value:	\$ 686.6	¥ 4,313.5
Purchase Enterprise Value:	662.2	4,159.8
LTM EV / Revenue:		1.6 x
LTM EV / EBITDA:		7.4 x
Forward EV / Revenue:		1.4 x
Forward EV / EBITDA:		5.6 x

Fees and Other Assumptions:	%:	\$ in Millions	¥ in Millions
Advisory Fee %:	0.6%	\$ 4.1	¥ 25.6
Debt Issuance Fee %:	3.0%	3.6	22.6
Legal and Other Fees:		9.9	62.4
Minimum Cash Balance:		20.0	125.6
Maximum Cash Available:		40.8	256.6

		Amounts Used:	
Transaction Funding:	% Used:	\$ in Millions	¥ in Millions
Debt Used:	28.9%	\$ 120.0	¥ 753.8
Equity Used:	71.1%	295.5	1,856.5

Funds Required:	\$ in Millions	¥ in Millions
Equity Purchase Price:	\$ 686.6	¥ 4,313.5
Plus: Debt Refinanced:	40.0	251.4
Less: Excess Cash:	-	-
Less: Equity Rollover:	(311.1)	(1,954.6)
<b>Total Funds Required (Excl. Fees):</b>	<b>\$ 415.5</b>	<b>¥ 2,610.4</b>

As you can see, the “Total Funds Required (Excluding Fees)” is substantially different from both the Purchase Enterprise Value and the Purchase Equity Value.

What explains this large discrepancy?

- a. This statement is actually misleading, because once we factor in the transaction fees the Funds Required will be close to the Purchase Enterprise Value.
- b. It’s mostly because of the equity rollover, which reduces the funds required to do the deal.
- c. It’s primarily because we \*have\* refinanced the existing debt, but we have not subtracted the company’s cash balance; with both of those, it would be much closer to the Purchase Enterprise Value.
- d. It’s mostly because we have refinanced the existing debt; without that, it would be much closer to the Purchase Equity Value.

6. Consider the screenshot below, which shows the debt assumptions for a leveraged buyout transaction involving the same company as above:

**Debt Assumptions**

Debt Amounts:	%:	\$ in Millions	¥ in Millions	Other Debt Information:	Interest:	Principal:
Total Debt Used:		\$ 120.0	¥ 753.8	Senior Notes:	L + 375	20.0%
% Senior Notes:	75.0%	90.0	565.4	Subordinated Notes:	10.0%	0.0%
% Subordinated Notes:	25.0%	30.0	188.5			
Initial LIBOR Rate:	0.30%					
Annual Step-Up:	25 bps					

Assume that the company’s LTM EBITDA was \$50 million USD, and that its projected EBITDA one year after the transaction close is \$40 million USD.

The USD / RMB exchange rate holds constant during this period, and the company’s existing debt is refinanced in this deal.

The comparable public companies have a median Debt / EBITDA ratio of 2.5x. The Senior Notes shown above have maintenance covenants that specify a maximum Debt / EBITDA ratio

of 2.45x, and the Subordinated Notes have incurrence covenants that require all proceeds from asset sales to be used on repayment of senior debt.

What is the problem for the company if it uses debt with these requirements to fund this leveraged buyout?

- The Leverage Ratio is too high relative to the comparables; due to the added risk in an LBO, it should ideally be below 2.0x rather than close to 2.5x.
- Investors may not be willing to fund a deal for a company with EBITDA expected to decline immediately after transaction close.
- The incurrence covenants on the Subordinated Notes may be problematic because this company may be planning to sell off assets, as indicated by its declining EBITDA.
- The maximum Debt / EBITDA covenant on the Senior Notes will be violated in the first year following the transaction close.

## 7. Consider the Sources & Uses schedule for this same deal, as shown below:

### Sources & Uses

Sources:	\$ in Millions	¥ in Millions	x EBITDA
Senior Notes:	\$ 90.0	¥ 565.4	1.0 x
Subordinated Notes:	30.0	188.5	0.3 x
Target Debt Assumed:	-	-	0.0 x
Founder/Management Rollover:	311.1	1,954.6	3.5 x
Cash for Transaction Fees:	17.6	110.6	0.2 x
Excess Cash from Target:	-	-	0.0 x
Investor Equity:	295.5	1,856.5	3.3 x
<b>Total Sources:</b>	<b>\$ 744.3</b>	<b>¥ 4,675.6</b>	<b>8.3 x</b>

Uses:	\$ in Millions	¥ in Millions	x EBITDA
Equity Value of Company:	\$ 686.6	¥ 4,313.5	7.7 x
Advisory & Legal Fees:	14.0	88.0	0.2 x
Capitalized Financing Fees:	3.6	22.6	0.0 x
Target Debt Assumed:	-	-	0.0 x
Target Debt Refinanced:	40.0	251.4	0.4 x
<b>Total Uses:</b>	<b>\$ 744.3</b>	<b>¥ 4,675.6</b>	<b>8.3 x</b>

Ownership Percentages:	Pre-Deal:	Post-Deal:
Founder / Management Ownership %:	45.9%	51.3%
Existing Investor Ownership %:	54.1%	0.0%
New Investor Ownership %:	0.0%	48.7%
<b>Total:</b>	<b>100.0%</b>	<b>100.0%</b>

The Sources & Uses schedule ensures that the funding sources match the costs to do the deal, and spells out explicitly the treatment of existing debt.

A secondary purpose is to show how the ownership of the company changes after the transaction closes, as seen in the "Ownership Percentages" area at the bottom.

**Which of the following items impact the “New Investor Ownership %” entry in the Post-Deal column?**

- a. Everything above “Investor Equity” in the Sources column will impact it, EXCEPT for “Target Debt Assumed.”
  - b. Everything above “Investor Equity” in the Sources column will impact it, EXCEPT for “Target Debt Assumed,” “Cash for Transaction Fees,” and “Excess Cash from Target.”
  - c. Everything in the “Uses” column will impact it, EXCEPT for “Target Debt Assumed.”
  - d. The percentage split between Senior Notes and Subordinated Notes will also make an impact.
  - e. ALL items in the Sources column and ALL items the Uses column will affect it.
- 8. Normally in a leveraged buyout analysis, you use the existing 3-statement projections you have for a company.**

**However, in some cases you will have to revisit your assumptions and build a new model, especially when the company is changing its core business model.**

**If a retailer, restaurant, or hotel is switching from an owned & operated business model to a franchised business model, what would change in your LBO model and deal analysis?**

- a. Potentially, franchised revenue could be much higher-margin and carry lower fixed costs than revenue from owned & operated locations.
- b. Franchised revenue is effectively “free” since there are no associated costs or corporate overhead, so COGS and Operating Expenses would be 0 for that segment.
- c. The franchise business model does present some additional risk because the brand name and quality of the experience may not be maintained, which could hurt sales.
- d. The franchise model may make the company less attractive to private equity firms since it will result in a lower fixed asset base.

**9. You're building an LBO model, and you have just calculated the "Cash Flow Available for New Debt Repayment" line item. How is this different from normal "Free Cash Flow"?**

- a. This figure is closer to Levered Free Cash Flow, since both Levered Free Cash Flow and Cash Flow Available for New Debt Repayment include the net interest expense.
- b. Both figures include the net interest expense, but Cash Flow Available for New Debt Repayment is *after* the minimum cash balance and principal repayments of assumed debt have been subtracted.
- c. Cash Flow Available for New Debt Repayment also adds the company's beginning cash balance in each year.
- d. It's actually the same as normal Free Cash Flow since both figures include the net interest expense on debt, but exclude principal repayments.

**10. Suppose that you are calculating the optional principal repayment on Senior Notes in an LBO model. These Senior Notes are the most senior form of debt the company has. In other words, there are no Term Loans or Revolvers above them in the capital structure.**

**How would you calculate the Optional Repayment on these Senior Notes in a given year, assuming that early principal repayment is allowed?**

- a. Take the Minimum between (Beginning Balance less the Mandatory Repayments) and (Cash Flow Available for New Debt Repayment less the Mandatory Repayments) each year.
- b. Take the Maximum between 0 and (Cash Flow Available for New Debt Repayment less the Mandatory Repayments) each year.
- c. Simply subtract the Mandatory Repayments from the Cash Flow Available for New Debt Repayment each year.
- d. None of the above – you can't build this formula in isolation since it has to link to the more junior forms of debt used in the deal as well.

**11. Consider the Key Metrics and Ratios and FCF Conversion Analysis shown below for a potential leveraged buyout candidate:**

Key Metrics and Ratios:	Units	Historical			Projected												
		FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17								
Revenue Growth:	%	31.3%	33.7%	<b>27.6%</b>	18.5%	11.1%	10.9%	8.0%	8.4%								
Operating Margin:	%	10.3%	7.5%	<b>9.4%</b>	12.5%	12.7%	12.7%	12.4%	12.3%								
EBITDA Margin:	%	22.3%	19.8%	<b>22.0%</b>	24.7%	24.8%	24.7%	24.3%	23.9%								
Net Margin:	%	8.0%	5.7%	<b>6.2%</b>	8.4%	8.8%	9.1%	9.1%	9.2%								
Effective Tax Rate:	%	23.1%	24.1%	<b>29.8%</b>	25.7%	25.7%	25.7%	25.7%	25.7%								
D&A % Revenue:	%	12.1%	12.3%	<b>12.7%</b>	12.2%	12.1%	12.0%	11.8%	11.6%								
CapEx % Revenue:	%	28.4%	28.3%	<b>21.4%</b>	18.3%	13.8%	11.7%	9.8%	8.1%								
Total Debt / EBITDA:	x				0.6 x	0.2 x	0.2 x	0.2 x	0.2 x								
Total Debt / (EBITDA - CapEx):	x				2.3 x	0.5 x	0.4 x	0.3 x	0.3 x								
Total Debt / (EBITDA - CapEx +/- Change in WC):	x				1.8 x	0.5 x	0.4 x	0.3 x	0.3 x								
Net Debt / EBITDA:	x				0.4 x	0.0 x	(0.5 x)	(1.0 x)	(1.5 x)								
Net Debt / (EBITDA - CapEx):	x				1.7 x	0.0 x	(0.9 x)	(1.6 x)	(2.3 x)								
Net Debt / (EBITDA - CapEx +/- Change in WC):	x				1.3 x	0.0 x	(0.8 x)	(1.5 x)	(2.2 x)								
EBITDA / Net Interest Expense:	x				19.5 x	29.4 x	58.8 x	123.2 x	(802.3 x)								
(EBITDA - CapEx) / Net Interest Expense:	x				5.1 x	13.0 x	31.0 x	73.5 x	(531.1 x)								
(EBITDA - CapEx +/- Change in WC) / Net Interest E	x				6.6 x	14.4 x	34.0 x	78.3 x	(567.5 x)								
Total Debt / Equity:	x				0.1 x	0.0 x	0.0 x	0.0 x	0.0 x								
Total Debt / Capital:	%				10.1%	4.2%	3.9%	3.6%	3.4%								
Net Debt / Equity:	x				0.1 x	0.0 x	(0.1 x)	(0.2 x)	(0.3 x)								
Net Debt / Net Capital:	%				7.5%	0.2%	(10.3%)	(23.7%)	(42.2%)								
Debt Service Coverage Ratio:	x				1.3 x	2.4 x	24.1 x	28.3 x	34.0 x								
Cumulative Debt Paydown:	¥ M				305.5	565.4	565.4	565.4	565.4								
Cumulative Debt Paydown % of Initial Debt:	%				40.5%	75.0%	75.0%	75.0%	75.0%								
<b>Free Cash Flow Conversion Analysis:</b>																	
EBITDA:	¥ M	¥	334.8	¥	396.5	¥	<b>563.8</b>	¥	748.2	¥	836.4	¥	921.6	¥	979.2	¥	1,045.0
Less: CapEx:	¥ M		(425.6)		(566.8)		<b>(546.2)</b>		(553.6)		(466.0)		(435.6)		(395.0)		(353.3)
Less: Net Interest Expense:	¥ M		1.0		(1.0)		<b>(13.6)</b>		(38.4)		(28.5)		(15.7)		(8.0)		1.3
Less: Taxes:	¥ M		(35.8)		(36.3)		<b>(67.5)</b>		(87.5)		(102.7)		(117.5)		(126.7)		(138.4)
Plus: Stock-Based Compensation:	¥ M		15.5		43.5		<b>27.1</b>		43.1		47.9		53.1		57.3		62.2
Plus/Less: Other Non-Cash Items:	¥ M		(1.8)		(3.7)		<b>(7.1)</b>		(9.1)		(13.5)		(14.9)		(20.2)		(21.9)
Plus/Less: Change in WC:	¥ M		21.6		58.2		<b>69.8</b>		56.9		40.5		47.5		38.6		47.5
<b>Free Cash Flow:</b>	¥ M	¥	<b>-90.4</b>	¥	<b>-109.5</b>	¥	<b>26.3</b>	¥	<b>159.5</b>	¥	<b>314.2</b>	¥	<b>438.5</b>	¥	<b>525.2</b>	¥	<b>642.4</b>
FCF Conversion %:	%		(27.0%)		(27.6%)		<b>4.7%</b>		21.3%		37.6%		47.6%		53.6%		61.5%
FCF Yield %:	%								4.2%		8.2%		11.5%		13.8%		16.9%

**Based on this analysis, what conclusions can you draw about the viability of this deal?**

- The company appears to be switching to a much less capital-intensive business model; if it is executed successfully, that could be a big positive factor for the deal.

- b. It appears that the FCF growth is driven almost entirely by EBITDA growth in the core business, which could be positive, but could also be a risk factor.
- c. The company generates a high cash balance during the holding period, which completely offsets the risk of debt since cash can be used to repay outstanding debt.
- d. It seems as if the company's decreasing Working Capital requirements, as a direct result of its business model shift, are driving FCF growth.
- e. There's room to boost the returns via additional debt repayment, dividends, or otherwise returning cash flow to the PE investors prior to the exit.
- f. The company de-levers relatively quickly, so it may be able to raise more debt in the beginning or use a dividend recap midway through the holding period.

**12. Which of the following items DIRECTLY factor into the calculation of a private equity firm's internal rate of return (IRR) in a leveraged buyout?**

- a. Net Income.
- b. Dividends.
- c. Cash flow available for new debt repayment.
- d. Initial investor equity contribution from the PE firm.
- e. Optional debt principal repayments.
- f. Net interest expense.
- g. Net sale proceeds upon exit.
- h. Capital expenditures.
- i. Mandatory debt principal repayments.

**13. A private equity firm acquires a company for an Enterprise Value of \$245 million, which represents a 7.0x EBITDA multiple.**

**The PE firm is able to get 4.0x EBITDA of debt financing to complete the transaction.**

**Seven years later, the private equity firm sells the company for the same 7.0x multiple, but the company's EBITDA has doubled.**

**During that time, the company has repaid \$97 million of debt principal and has not made any distributions to the PE firm in the form of dividends, dividend recaps, or anything else.**

**What is the PE firm's IRR on this investment? Do NOT factor cash or excess cash into the calculations at all.**

- a. 19%.
- b. 34%.
- c. 23%.
- d. 25%.

**14. Consider the previous question, but now assume that the PE firm enacts a \$50 million dividend recap in Year 4 and that all the other numbers remain the same.**

**Assume that the company can still meet its interest and principal repayment obligations, even after this dividend recap.**

**How does this affect the private equity firm's IRR?**

- a. IRR would increase.
- b. IRR would decrease.
- c. IRR would remain the same.
- d. Not enough information to determine.

15. You have created a Returns Attribution Analysis below for a potential leveraged buyout candidate, and you're using this analysis to plan your investment recommendation presentation for the deal:

Investor Returns:	Units	Historical			Projected				
		FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17
EBITDA:	¥ M			¥ 563.8					¥ 1,045.0
EBITDA Multiple:	x			7.4 x					7.4 x
Enterprise Value:	¥ M			4,159.8					7,710.0
Equity Value:	¥ M			4,313.5					9,307.6
Investor Equity:	¥ M			(1,856.5)	-	-	-	-	4,534.1
<b>Money-on-Money (MoM) Multiple:</b>	x			<b>2.4 x</b>					
<b>Internal Rate of Return (IRR):</b>	%			<b>19.6%</b>					
<b>Returns Attribution Analysis:</b>			<b>Amount:</b>	<b>%:</b>					
EBITDA Growth:	¥ M		¥ 1,729.5	64.6%					
Multiple Expansion:	¥ M		-	0.0%					
Debt Paydown and Cash Generation:	¥ M		948.1	35.4%					
<b>Total Return to Equity Investors:</b>	¥ M		<b>¥ 2,677.6</b>	<b>100.0%</b>					

Based on these figures, what's the biggest risk factor if you're *\*recommending\** the deal?

- There may be significant multiple contraction, which would reduce the IRR below the level shown here.
- There might be lower-than-expected EBITDA growth due to declining sales or higher-than-expected operating expenses.
- If CapEx does not decline to the extent we expect (see the Key Metrics and Ratios and FCF Conversion screenshot above), then we won't generate as much in returns from debt pay-down.
- If the company's FCF conversion ratio falls, the returns from debt pay-down and cash generation will also decline significantly.

16. You are creating sensitivity tables for use in your case study presentation on a leveraged buyout deal, but you have gotten ambiguous results so far.

Specifically, the IRR fluctuates between 15% and 25% depending on the assumptions, and the PE firm is targeting a 20% IRR.

**How might you decide whether or not to recommend the deal in this case?**

- a. Make your decision mostly based on the exit multiple – if the deal still works even when the exit multiple declines, you should recommend it.
- b. Rely more on the operational assumptions rather than the financial ones, since they're easier to predict.
- c. Recommend the acquisition of only a minority stake in the company – with ambiguous numbers, a minority stake lets you reduce risk but still take advantage of the potential upside.
- d. Sensitize the assumptions you're most uncertain of, and take a stand on the key assumption(s) based on industry research and historical trends.

**17. Suppose you are creating a 20-slide investment recommendation in a private equity interview. You are recommending FOR a leveraged buyout of a company they have assigned to you.**

**Which of the following points should NOT be part of your argument in favor of the deal, as presented on the introduction and conclusion slides?**

- a. The company's valuation is reasonable, and its multiples are in-line with those of the comparable public companies.
- b. In the best case scenario, an IRR of 25-28% seems possible, and even in the worst case scenario, the IRR is only likely to decline to ~15%.
- c. The company is switching to a different business model that will require less capital, but you can hedge against this risk by requiring higher collateral.
- d. The company is the #1 or #2 player in a fast-growing and highly fragmented market.
- e. The biggest operational risk factor in the deal, a decline in product pricing, is unlikely based on the market research you've conducted.

**18. XYZ Capital is considering a leveraged buyout of SteadyCo.**

SteadyCo has had flat revenue and EBITDA for the past three years, but XYZ is confident it can boost the company's financial performance and grow its EBITDA at a steady rate.

SteadyCo currently has EBITDA of \$100 million, and XYZ believes that with its new strategies and team in place, SteadyCo's EBITDA could increase by \$5 million per year.

XYZ Capital has obtained debt financing of \$500 million at 8% interest, and SteadyCo expects working capital to be a use of funds at \$3 million per year.

SteadyCo requires capital expenditures of \$10 million per year, and it has a tax rate of 40%. Assume no transaction fees, no minimum cash balance, and that PP&E on the balance sheet remains constant for the next 5 years.

Assume that excess cash is NOT used to repay debt, and instead simply accumulates on the Balance Sheet.

Calculate the purchase price required for XYZ Capital to obtain a 2.5x multiple of invested capital (MOIC) if it plans to sell SteadyCo after five years at an EV / EBITDA multiple of 6.0x.

This initial purchase price should be equal to the debt used + the equity contribution from the private equity firm.

- a. \$672 million.
- b. \$600 million.
- c. \$684 million.
- d. \$594 million.