



LBO Valuation: How to Determine the Deal Purchase Price with an LBO Model



Reversing an LBO Model with
Middle-School Math

Question the Other Day...

“I recently completed an LBO modeling test at a PE fund, but **lost points** because they said my solution for an ‘LBO valuation’ was not flexible enough.

I used **Goal Seek** to back into the purchase price, but they did not like that.”

Question the Other Day...

“Is there a way to build a simple, flexible formula into an LBO model that determines the **purchase price** based on your **targeted IRR** and **exit year**?”

ANSWER: Yes, but... (you must make some simplifications/compromises)

LBO Valuation: Crash Course

For the files and resources, go to:

<https://breakingintowallstreet.com/kb/leveraged-buyouts-and-lbo-models/lbo-valuation/>

(Update/expansion to previous video.)

Model Modifications

- **Assumptions:** The standard model parts (cash flows, Debt repayment, exit multiple, exit proceeds, etc.) all work properly
- **Additions:** Targeted IRR, Exit Year, Exit Equity Proceeds, and Required Investor Equity
- **Exit Equity Proceeds:** Use XLOOKUP to pull these in from the current model based on the Exit Year



Required Investor Equity

- **Assumptions:** If there's just the initial purchase and a single exit, you can use the Compound Annual Growth Rate (CAGR) formula to calculate the IRR



- **CAGR** = $(\text{Ending Value} / \text{Starting Value})^{(1 / \# \text{ Years})} - 1$
- **CAGR + 1** = $(\text{Ending Value} / \text{Starting Value})^{(1 / \# \text{ Years})}$
- **(CAGR + 1) ^ # Years** = Ending Value / Starting Value
- **((CAGR + 1) ^ # Years) / Ending Value** = 1 / Starting Value

Required Investor Equity

- $(\text{CAGR} + 1)^{\text{\# Years}} / \text{Ending Value} = 1 / \text{Starting Value}$
- $\text{Starting Value} = \text{Ending Value} / ((\text{CAGR} + 1)^{\text{\# Years}})$
- **Principle:** If two fractions equal each other, you can flip the numerator and denominator on both sides, and they'll still equal each other (e.g., $1 / 2 = 2 / 4$)

$$\frac{1}{2} \quad \frac{1}{4} \quad \frac{1}{8}$$

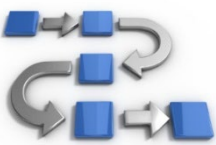
Backing Into the Purchase Multiple

- **Key Insight:** Investor Equity is *not* the same as the Purchase Equity Value!
- **Total Sources** = Investor Equity + Debt Used
- Since **Total Uses = Total Sources**, Purchase TEV = Total Sources – Fees – Min Cash
- And then **divide by EBITDA** to get the purchase multiple



Footnotes and Fine Print

- **Linking:** If you make the purchase price *drive the model input*, you'll get a circular reference due to the transaction fees
- **Simplest Solution:** Make the fees constant to avoid this
- **Limitations:** Items like dividend recaps, add-on acquisitions, and additional investments (cash inflows/outflows during the holding period) also break this setup
- **More Complex Cases:** We recommend using Goal Seek or Goal Seek + VBA to automate it because it's not reasonable to write a single, simple formula to handle these complexities



Recap and Summary

- **Part 1:** Model Modifications
- **Part 2:** Required Investor Equity
- **Part 3:** Purchase TEV and Purchase Multiple
- **Part 4:** Footnotes and Fine Print

