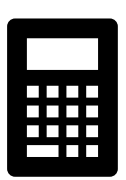
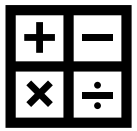
LBO Modelling Workshop

Session 1: LBO Fundamentals

Private Equity Society

Learning Objectives

1. Understand the Purpose of an LBO 
2. Recognise the Characteristics of an Attractive LBO Target 
3. Understand the Structure of LBO Debt Financing 
4. Learn Accounting Concepts Critical for LBO Modelling  
5. Identify and Gather the Key Transaction Details and Financial Data 
6. Learn how Returns are Calculated in an LBO 

What is a Leveraged Buy Out (LBO)?

1. LBO: a High-Level Overview

Key LBO Concepts

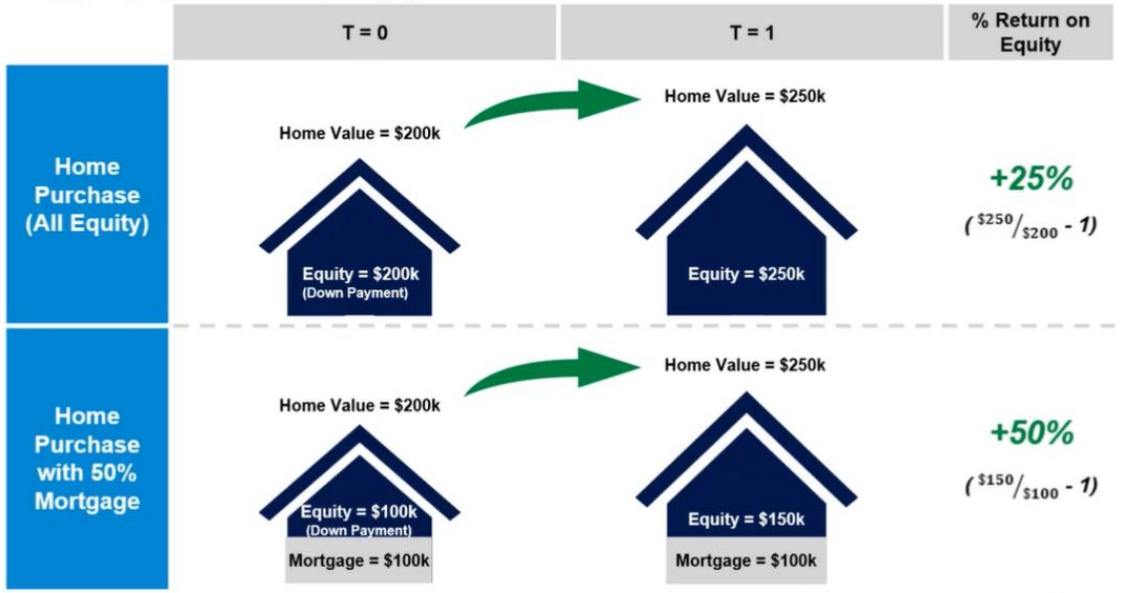
- LBO definition: a transaction where a company in purchased using a considerable portion of debt.
- The buyer is typically a Private Equity firm, which borrows from lenders so that debt is 50-60%+ of the purchase price.

Why PE firms do LBOs

- To amplify equity returns
- To create value through operational improvements
- To benefit from deleveraging, potentially multiple expansion

Why use so much leverage?

Analogy: Buying a home with a mortgage



A real-life analogy: LBO is akin to purchasing a house (or any other asset) with a mortgage & flipping it.

1. LBO: a High-Level Overview

Strategic vs. Financial Buyers

Strategic buyers seek long-term business synergies, cost savings, and strategic fit, which allows them to justify higher valuations. Financial buyers focus on returns through leverage and operational improvements, making them more price-disciplined and less willing to pay for synergies they cannot realise.

Strategic Buyers

- Operating company in the **same industry** as the target.
- The company may be expanding **horizontally** or **vertically**.
- More likely to realize **synergies** given the business similarities.

Financial Buyers

- Private equity firms are the **main sources** of LBO transactions.
- Uses judicious amounts of leverage to maximize equity returns.
- They often plan to exit the investment within 5-10 years.

How do PE Firms Make Money through LBOs?

1. Value Generation Themes in an LBO

3 Key Value Generation Themes

EBITDA Growth

EBITDA Growth

Growth in EBITDA will add value to equity investors. This can be achieved by increasing revenue, reducing costs or both.

Debt Paydown

Debt Paydown

Aggressive debt paydown using excess cash flows is common for a PE fund. This can enhance the equity return for fund from entry to exit.

Multiple Expansion

Multiple Expansion

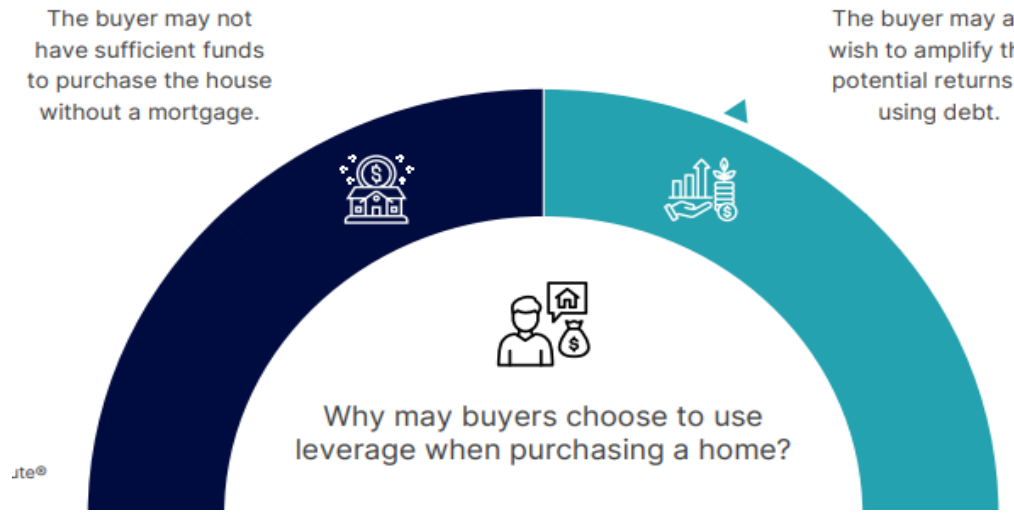
Relatively undervalued companies are potential targets. These companies may have their multiples re-rated to match their peers in the industry.

1. The Role of Leverage

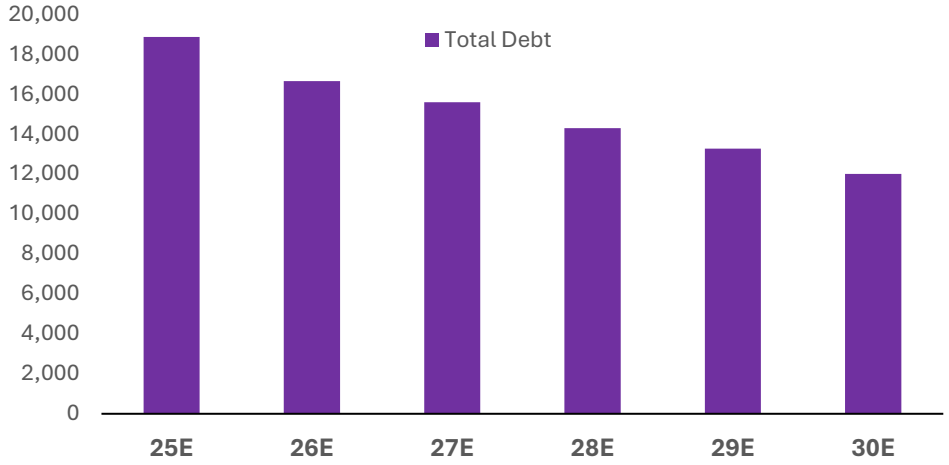
Key Leverage Concepts

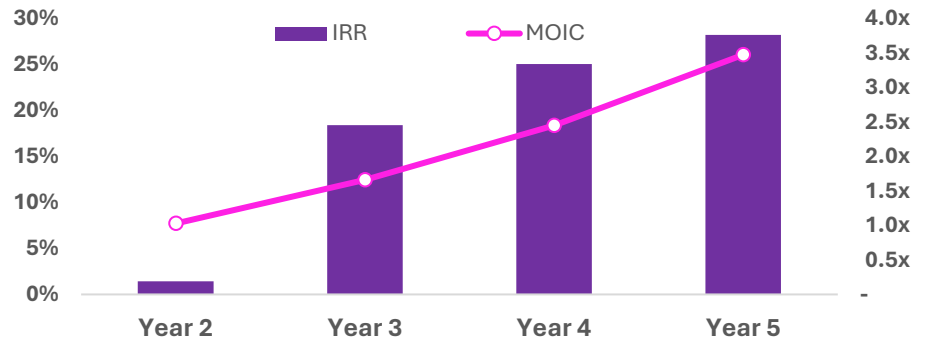
- Leverage (Debt) is a key component of LBOs.
- Decreases the required equity contribution , leading to amplified returns for a given equity contribution.
- Deleveraging: using the target's free cash flows to pay down debt increase Enterprise and Equity Values
- Risk Trade-Off Involved: Debt magnifies both upside and downside. Therefore, if the deal underperforms, returns with higher leverage will be even worse.

The House Analogy



In a real-world LBO transaction, Debt is typically gradually paid down using the company's Free Cash Flows. This leads to returns increasing over time. The example below is the Walgreens Boots Alliance LBO.





What Makes an Attractive LBO Target?

2. What Makes a Company an Attractive LBO Target?

Company A : PulseTech Solutions

- Fast revenue growth (25%+ YoY) driven by expansion into new digital markets
- Heavy spending on product development and marketing
- EBITDA margins volatile and compressed during growth cycles
- Low proportion of tangible assets
- High working capital needs with unpredictable collection cycles
- Concentrated customer base in a fast-growing industry

Company B : HarborLine Services

- Stable, recurring revenues from long-term service contracts (8-10% YoY)
- Strong and predictable cash flows with high cash conversion
- EBITDA margins consistently in the 25–30% range
- Low CapEx needs and limited reinvestment burden
- High proportion of marketable, tangible assets
- Fragmented customer network

2. What Makes a Company an Attractive LBO Target?

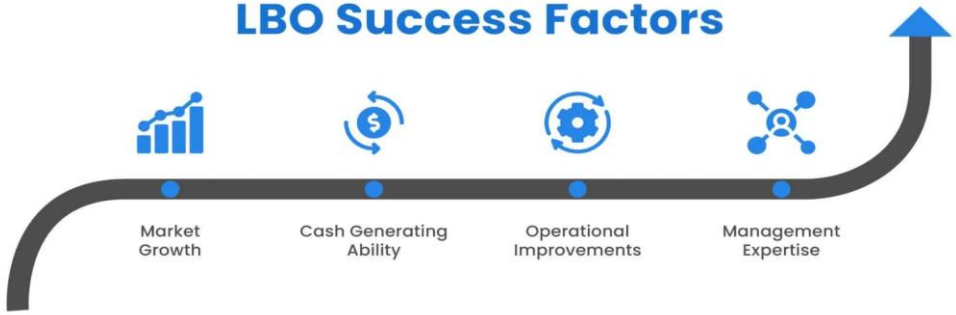
Key Characteristics

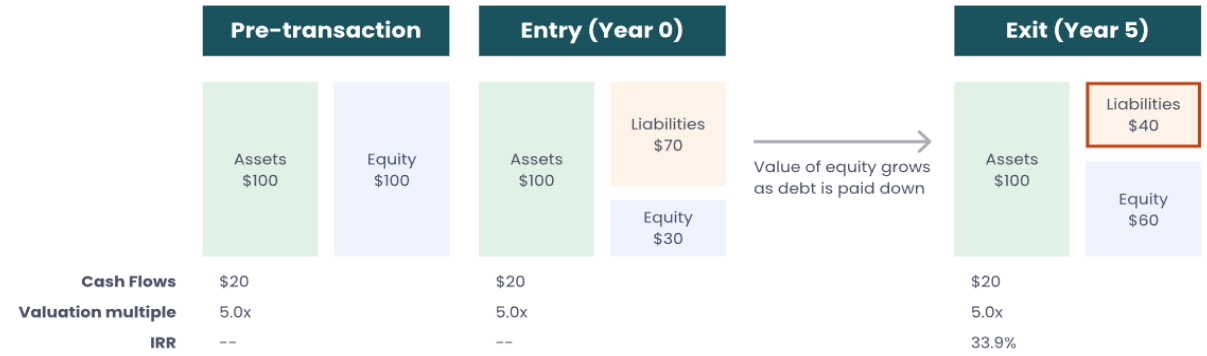
A strong LBO candidate has stable cash flows, high margins, low reinvestment needs, a defensible market position, and ideally opportunities for immediate value rationalisation. These traits make the business more debt-financeable, reduce risk, and increase the likelihood of successful deleveraging and value creation.

2. Value Creation in an LBO

Key Value Creation Concepts

- **EBITDA Growth**: can come from operational efficiency, cost reduction, margin improvement, and commercial initiatives.
- **Debt Paydown** occurs as the business generates cash, increasing the equity share of enterprise value.
- **Multiple Expansion**: may result from creating a more focused, stable, or higher-quality business at exit.
- **Strategic M&A**, including bolt-ons and divestitures, can reshape the business and support earnings and scale.
- **Value is measured** using metrics like **Equity and Enterprise Value**, while returns are estimated with **IRR** and **MOIC** metrics.



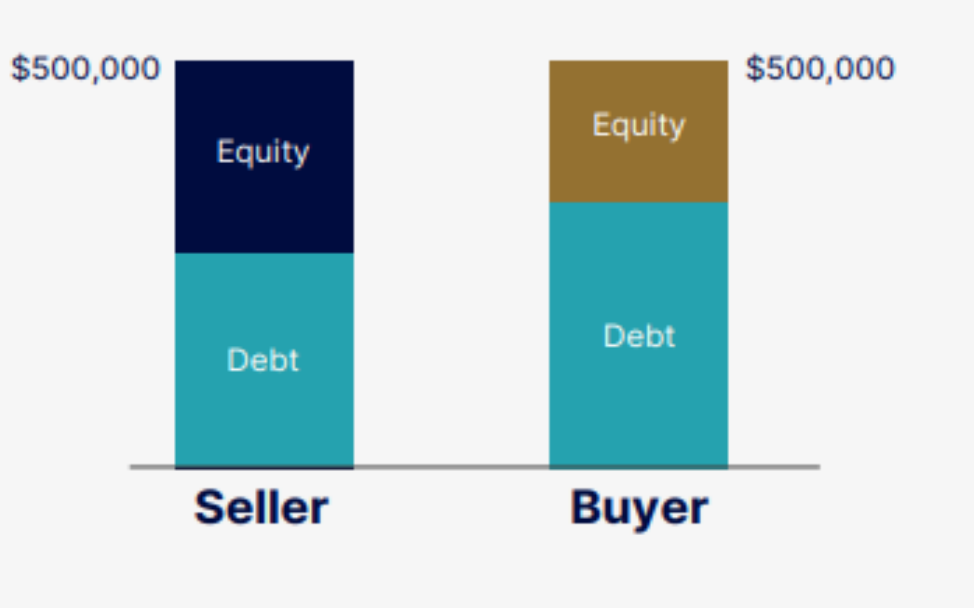


What is the Role and Structure of Debt Financing in an LBO?

3. Capital Structure in an LBO

Capital Structure: Core Concepts

- **Capital structure** in an LBO shows how the purchase price is financed through a mix of debt and equity
- **Debt** is layered by seniority and cost, each with different repayment and covenant features.
- **Financing Assumptions** include SOFR/SONIA/EURIBOR-based floating rates, amortisation schedules, and fees, all of which feed into interest expense in the model.
- **The mix of debt vs equity** shapes leverage, interest burden, and returns, directly influencing credit metrics and sponsor IRR.
- **Sources & Uses Tables** summarise where funds come from (debt/equity) and how they are applied (purchase consideration, fees, refinancing).



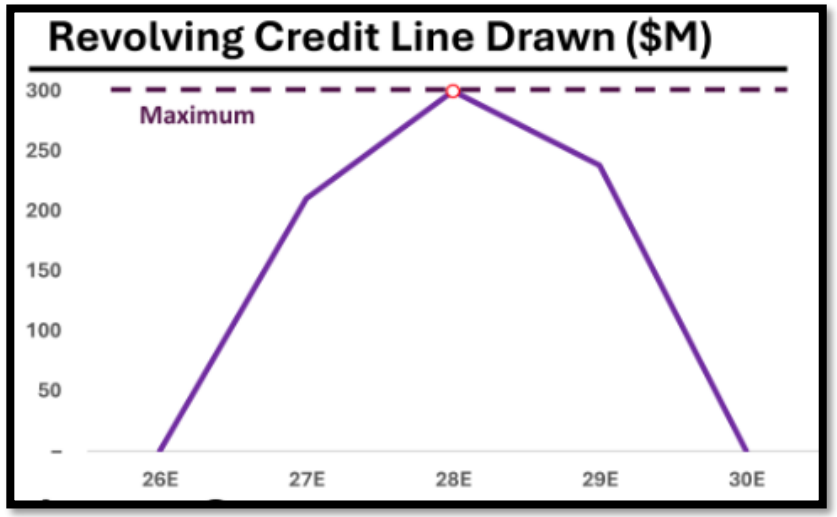
3. How Debt is Used and Repaid: The Debt Schedule

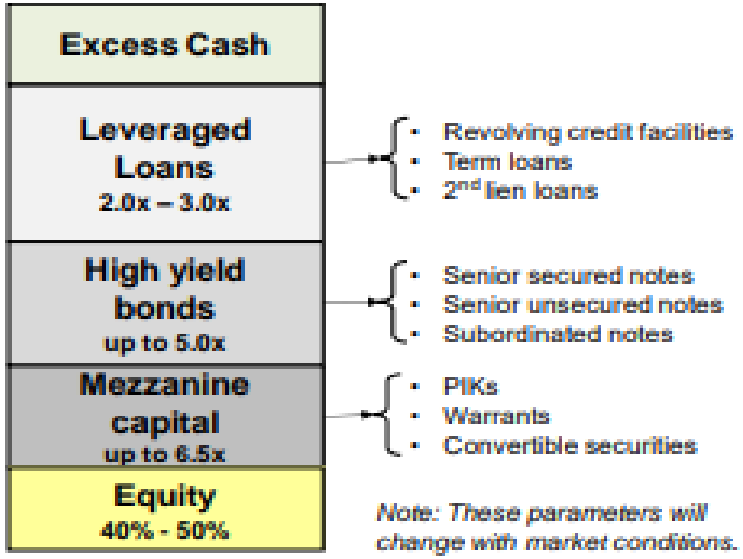
Key LBO Debt Types and Concepts

- **Revolver**: A working-capital backstop that is drawn only when needed and repaid first with excess cash.
- **Term Loan A**: Senior bank debt with rapid amortisation, reducing leverage quickly in early years.
- **Term Loan B**: Institutional loan with minimal amortisation, providing flexible, long-dated senior financing.
- **High-Yield Bonds**: Unsecured, higher-coupon debt with no amortisation and a bullet repayment at maturity.
- **Mezzanine Debt**: Subordinated, often partially PIK, used to fill leverage gaps and repaid at exit.

A Debt Schedule is a detailed breakdown of all a company's borrowings, showing balances, maturities, interest expenses, and required repayments over time.

From Smartsheet Deal Report



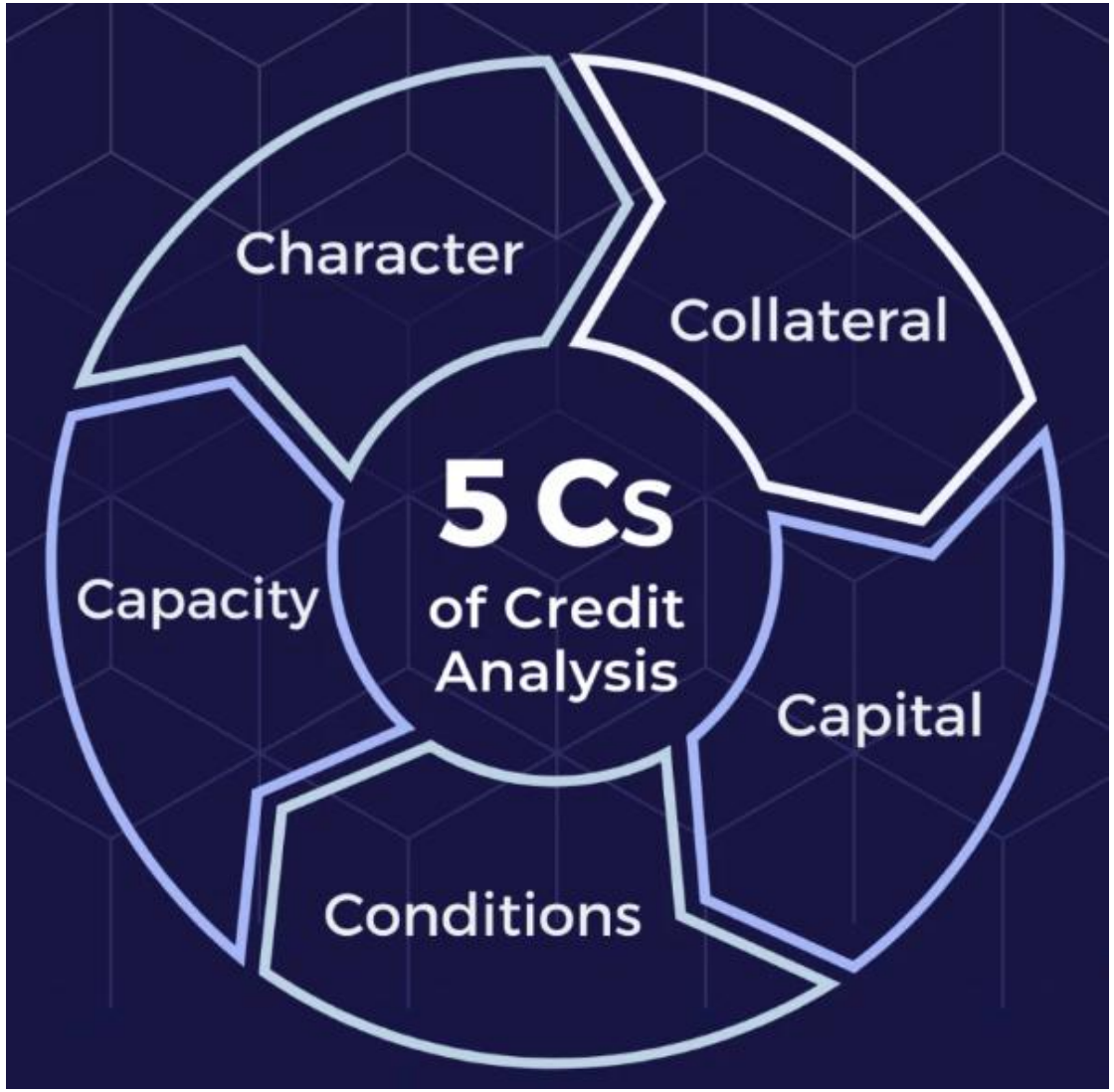


How do lenders determine their financing for an LBO?

Creditworthiness in an LBO

The 5Cs of Credit

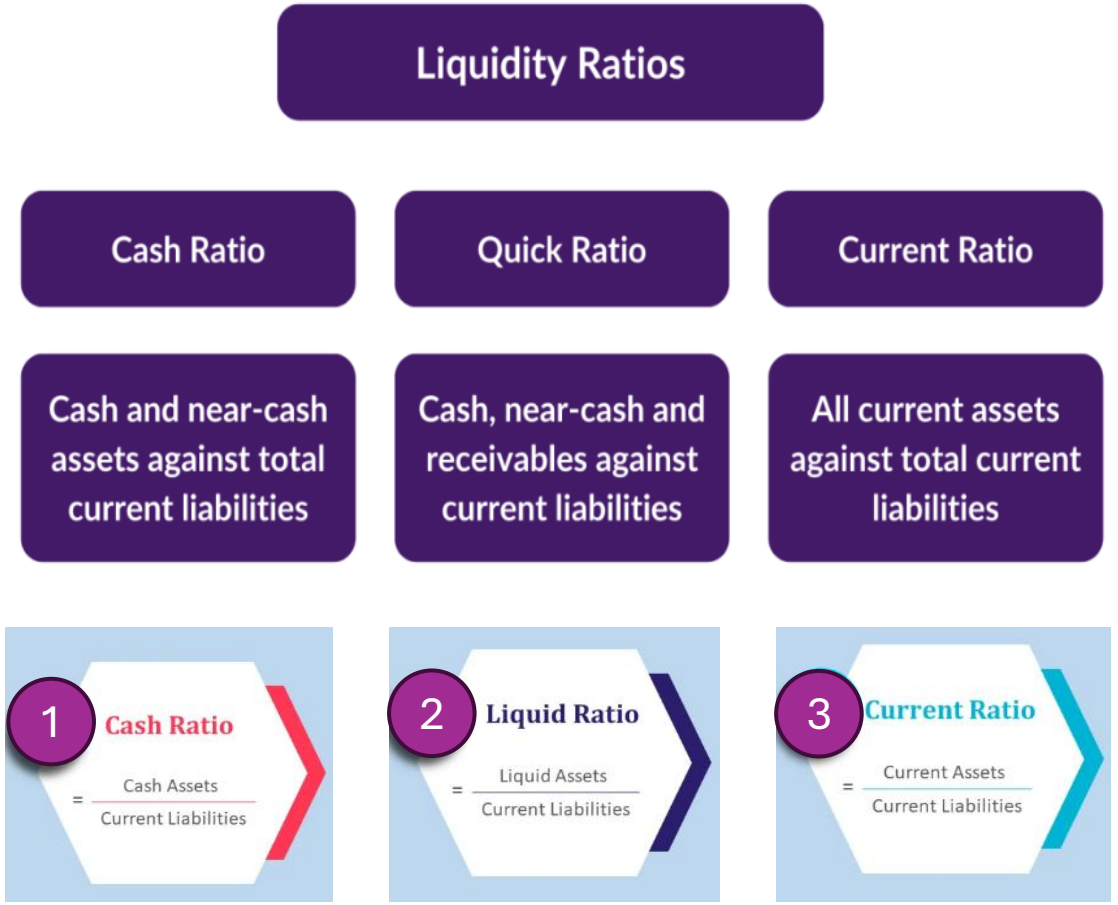
- **Character**: Lenders assess the credibility and track record of management and the sponsor to gauge reliability, governance quality, and trustworthiness.
- **Capacity**: They evaluate the company's ability to service debt through stable EBITDA and free cash flow, using metrics like Interest Coverage, DSCR, and Debt/EBITDA.
- **Capital**: Lenders look at how much equity the sponsor is contributing and whether the capital structure provides a sufficient buffer against downside risks.
- **Collateral**: They examine the quality and recoverability of the company's assets, ensuring there is meaningful security backing the loan in a downside scenario.
- **Conditions**: Lenders consider the broader industry, macro environment, and deal-specific terms to understand how external factors may affect credit risk and covenant strength.



Credit Metrics 1: Liquidity

Key Credit Metrics

- Evaluates **the firm's ability to meet near-term cash needs** using cash on hand, operating cash flow, and revolver capacity.
- **Tracks** working-capital movements, seasonality, and cash conversion to identify pressure points that may require external funding.
- **Lenders use liquidity metrics to** judge short-term solvency, the likelihood of revolver draws, and the company's resilience to operational volatility.
- **Key Liquidity Ratios**: Current Ratios, Quick Ratio, Working Capital, Operating Cash Flow Ratio



Credit Metrics 2: Leverage

Key Credit Metrics

- **Measures the level of debt** relative to earnings or capital, typically using ratios like Net Debt / EBITDA, to assess how stretched the capital structure is.
- **Higher leverage increases financial risk**, reduces flexibility, and magnifies both upside and downside outcomes in an LBO.
- **Lenders rely on leverage ratios to** set maximum debt limits, determine pricing, and evaluate whether the business can support the proposed debt load.
- **Key Leverage Ratios**: Total Debt / EBITDA, Net Debt / EBITDA, Total Debt / Equity, Debt / Enterprise Value

Leverage Ratios Formula

$$\text{Debt-to-Assets Ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

$$\text{Debt-to-Equity Ratio} = \frac{\text{Total Debt}}{\text{Total Equity}}$$

$$\text{Debt Equity Ratio Formula} = \frac{\text{Total Debt}}{\text{Total Equity}}$$

$$\text{Debt Capital Ratio Formula} = \frac{\text{Total Debt}}{\text{Total Equity} + \text{Total Debt}}$$

$$\text{Debt-Assets Ratio Formula} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

$$\text{Debt EBITDA Ratio Formula} = \frac{\text{Total Debt}}{\text{EBITDA}}$$

Credit Metrics 3: Coverage

Key Credit Metrics

- **Assesses the firm's ability to service interest and make mandatory principal payments**, using measures like Interest Coverage and DSCR.
- **Strong coverage ratios signal** durable cash flows and lower risk of covenant breaches or refinancing difficulties.
- **Lenders use coverage metrics to** test repayment capacity, stress-test the capital structure, and determine whether the deal can withstand adverse scenarios.
- **Key Coverage Ratios**: Interest Coverage Ratio, Debt Service Coverage Ratio (DSCR)

Debt Coverage Ratio Formula

$$\text{Debt Service Coverage Ratio} = \frac{\text{EBITDA}}{\text{Interest + Principal}}$$

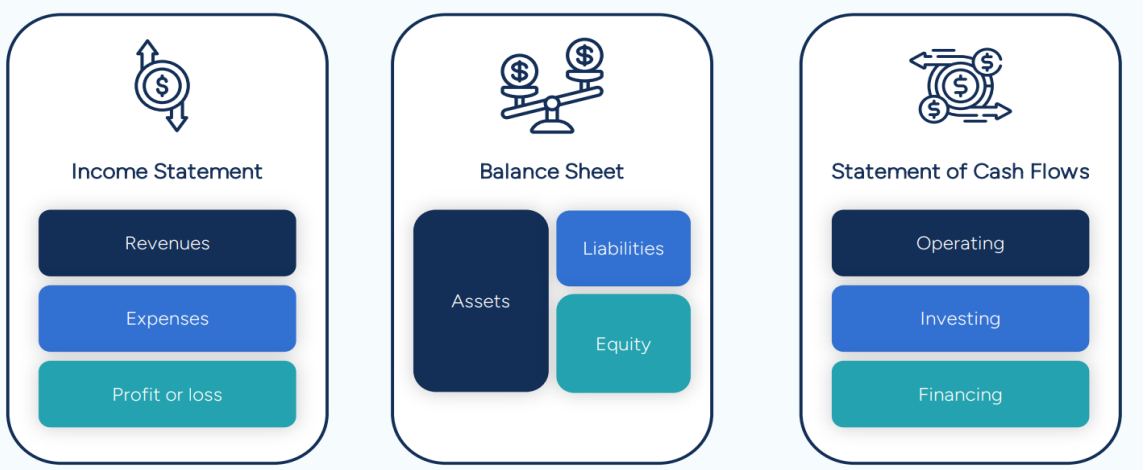
$$\text{Debt Service Coverage Ratio} = \frac{\text{EBITDA – Capex}}{\text{Interest + Principal}}$$

Accounting Essentials for LBO Modelling

4. Accounting Essentials for LBO: Part A

EBITDA, FCF, Financial Statements, Enterprise vs Equity Value

- **EBITDA** is a cash-proxy metric used for valuation and leverage sizing (e.g., EV = EBITDA × multiple).
- **Levered Free Cash Flow:** The amount of cash a company has left over after paying all its financial obligations, including debt, interest, operating expenses, and CapEx.
- The **three financial statements** (IS, CF, BS) are linked to show how earnings translate into cash generation and ending debt balances.
- **Enterprise Value (EV)** reflects the value of the core business independent of capital structure; Equity Value = EV – Net Debt.
- **Net Debt** is gross debt minus cash and cash equivalents and is key for leverage ratios and sizing the equity cheque.
- **In an LBO**, these metrics connect operating performance → cash generation → deleveraging → equity returns, making them the core accounting essentials.



Free Cash Flow	Year 1	Year 2	Year 3	Year 4	Year 5
Net Income	$20	$20	$25	$35	$35
(+) D&A	5	5	5	5	10
(–) Capex	(5)	(5)	(5)	(5)	(10)
(–) Δ in NWC	--	--	--	--	--
Free Cash Flow (FCF)	**$20**	**$20**	**$25**	**$35**	**$35**

Exit Valuation	
Exit EBITDA (Year 5)	$80
(x) Exit Multiple	10.0x
Exit Enterprise Value (TEV)	**$800**
Initial LBO Debt	$300
(–) Cumulative FCF	(135)
Ending Net Debt	**$165**
Exit Equity Value	**$635**

Return Metrics	
Multiple on Invested Capital (MOIC)	3.2x
Internal Rate of Return (IRR)	26.0%

- TEV = Exit year EBITDA x Exit Multiple
- Ending Net Debt = Initial Debt Amount – Cumulative FCFs
- Exit Equity Value = TEV – Ending Net Debt

4. Accounting Essentials for LBO: Part B

CapEx & D&A, Credit Metrics, Types of Debt

- **CapEx** reduces cash but does not impact EBITDA immediately; **D&A** is non-cash and added back in the cash flow statement.
- **Credit metrics**: Debt/EBITDA, Interest Coverage and DSCR measure leverage sustainability and covenant headroom.
- **Senior vs. subordinated debt** differs in collateral priority, security, interest cost, and required amortisation.
- **Term loans** typically follow structured amortisation; subordinated/high-yield debt generally repays via bullet maturities.
- **Debt schedules** track each tranche's balance, interest rate, amortisation, and mandatory/voluntary repayments.
- These **schedules feed directly into** credit ratios and cash-flow availability, linking financing structure to leverage capacity and returns.

Debt Schedule Summary

All figures in $USD mn, except on a per share basis

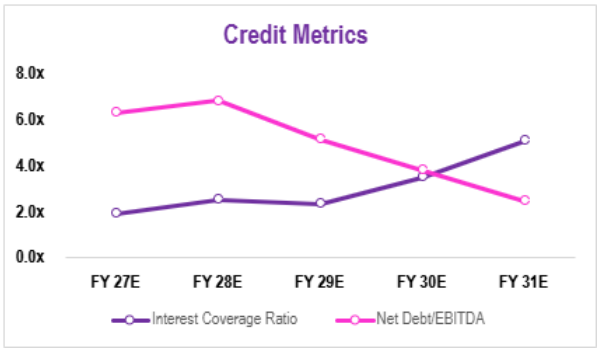
	FY 2026E	FY 2027E	FY 2028E	FY 2029E	FY 2030E	FY 2031E	FY 2032E
	(401)	(1,499)	–	–	–	–	–
Principal Issuance (Repayments)	0	0	0	0	0	0	0
Existing Debt (ST & LT)		1,982	(19.8)	(19.6)	(19.4)	(19.2)	(19.0)
Revolving Credit Facility		15,209	(2,348)	(1,917)	(1,961)	(2,198)	(2,583)
Senior Debt				5,000	–	–	–
Term Loan							
TLB	**(401)**	**15,693**	**(2,368)**	**(1,937)**	**(1,980)**	**(2,217)**	**(2,602)**
Total Principal (Repayments) / Issuances							
	1,499	(0)	-	-	-	-	-
Ending Balances		-	-	-	-	-	-
Existing Debt (ST & LT)		1,982	1,963	1,943	1,924	1,904	1,885
Revolving Credit Facility		15,050	12,702	10,784	8,823	6,626	4,042
Senior Debt				5,000	4,625	4,278	3,957
Term Loan							
TLB	**1,499**	**17,032**	**14,664**	**17,727**	**15,372**	**12,808**	**9,885**
Total Ending Debt Balance							
	(49)	(5)	-	-	-	-	-
Cash Interest Expense		(2)	(3)	(3)	(3)	(3)	(3)
Existing Debt (ST & LT)		(109)	(113)	(112)	(111)	(96)	(90)
Revolving Credit Facility		(949)	(867)	(734)	(613)	(425)	(280)
Senior Debt				-	(301)	(245)	(216)
Term Loan							
TLB	**(49)**	**(1,066)**	**(983)**	**(849)**	**(1,027)**	**(768)**	**(589)**
Total Interest Expense							

Operational Schedules

- Revenue
- Cost
- Working Capital
- Depreciation
- Asset
- Income Tax

Capital Structure Schedules

- Credit Line (Drawn)
- Credit Line (Undrawn)
- Term Loan A
- Term Loan B
- Subordinated Debt
- Equity



Information and Data Gathering

5. Key Operational and Financial Data

Key Data Points & Gathering Methods

- Provide **historical and projected** revenue, EBITDA, and margin trends using sources such as **S&P Capital IQ**, Refinitiv, Bloomberg, and company annual reports.
- Include **core operational drivers** (e.g., volume, pricing, customer mix, store count, churn) to explain how performance is generated.
- Show **key cash flow components**: CapEx, working-capital movements, taxes, and recurring/non-recurring adjustments.
- Present **credit-relevant metrics** such as cash conversion, EBITDA-to-FCF ratios, and seasonality affecting liquidity and revolver usage.
- Add Excel-ready **driver schedules** linking operations to financial outcomes.
- **Use**: 10-Ks/10-Qs, annual reports, investor presentations, industry research, and financial databases to gather and validate all operational and financial inputs.

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5. Transaction Details

Transaction Details

- **Purchase Price**: Entry EV from EV/EBITDA; bridge to Equity Value using cash, total debt, and net debt; include share price offer and premium.
- **Deal Structure**: Clarify full buyout vs majority; show management/PIF rollover and any consortium equity.
- **Sources & Uses**: Uses = cash to seller, debt refinancing, fees; Sources = new debt tranches, rollover equity, sponsor equity.
- **Fees**: Include financing issuance fees, standby fees, advisory/closing fees, and restructuring fees.
- **Debt Package**: List each tranche with amount, interest (underlying + spread), issuance fees, and required amortization/cash sweep.
- **Model Bridge**: Provide EV → Equity Value → Cash to Seller → Refinancing → Fees → Total Uses aligned with Total Sources.

Purchase Price

All figures in $USD mn, except on a per share basis

EBITDA Multiples	
Entry EV / EBITDA (Implied)	28.4x
Exit EV / EBITDA	23.5x
EBITDA	1,938
Assume Entry mult = Exit mult	No

Enterprise and Equity Offer Value	
Equity Offer Value	52,362
Cash & Equivalents	2,136
Total Debt	1,484
Net Debt	(652)
Implied Enterprise Value Offer	55,000
Fully Diluted Shares Outstanding	249.343
Share Price Offer	$210.00
Unaffected Share Price	$168.32
Premium / (Discount)	25%

Sources and Uses of Cash

Sources	Amount	Multiple
Revolving Credit Facility	0	-
Senior Debt	2,000	1.0x
Term Loan	17,000	8.8x
Equity Consortium Contribution	30,816	15.9x
PIF Equity Rollover	5,184	2.7x
Total Sources	**55,000**	**28.4x**

Uses	
Equity Offer Value	52,362
Debt Refinancing	1,484
Fees	1,154
Total Uses	**55,000**

Equity % Used	Debt % Used
65.5%	34.5%

Other Inputs

General Inputs	
First Forecast Fiscal Year (Model)	4/1/2026
Fiscal Year End	3/31/2026
Transaction Close Date	5/15/2026
First Year of Forecast	2026
Days in Period	365
Effective Tax Rate	30%
Minimum Cash Balance	750

Fees	%	$mn
Debt Restructuring	2.00%	30
Debt Financing		290
Advisory / Closing Fees	1.6%	834
Total Fees		1,154

Financing Assumptions

Type of Financing	Amount	Percent	Limit	Issuance Fee %	Issuance Fee	Standby Fee	SOFR Spread
Revolving Credit Line	0	0%	1,000	1.00%	10	0.25%	200bps
Senior Debt	2,000	4%	N/A	1.25%	25	N/A	225bps
Term Loan	17,000	31%	N/A	1.50%	255	N/A	275bps
PIF Equity Rollover	30,816	56%	N/A	N/A	N/A	N/A	N/A
Equity Consortium Contribution	5,184	9%	N/A	N/A	N/A	N/A	N/A
TLB	5,000	0%	N/A	2.00%	100	N/A	275bps

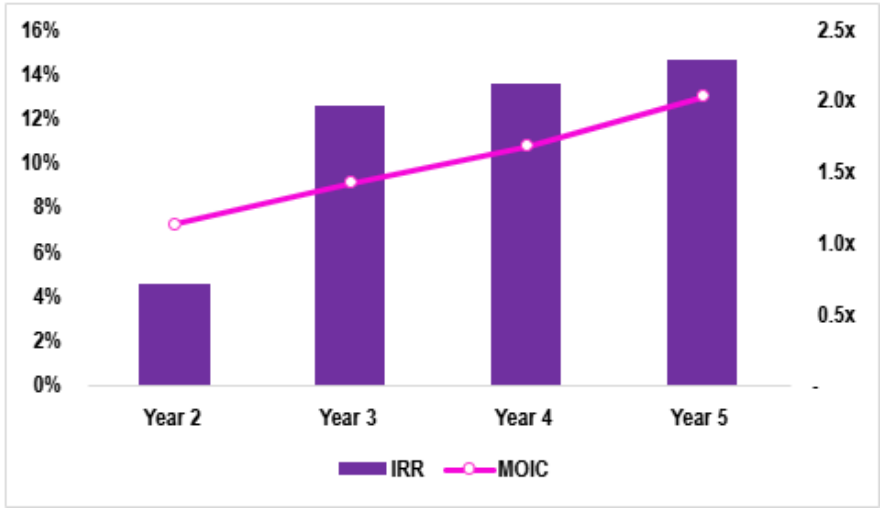
		Mandatory Principal Repayment						
Debt Type	Cash Sweep	Year 0 (2027)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Revolving Credit Line	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Senior Debt	0.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Term Loan	75.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%
TLB	0.00%	N/A	N/A	7.50%	7.50%	7.50%	7.50%	7.50%

How do you calculate returns and evaluate an LBO deal?

6. Calculating Returns: IRR & MOIC

Measuring Returns: Key Concepts

- **Build an Equity Returns Schedule** in Excel showing sponsor equity invested, interim cash flows, and exit equity proceeds to calculate total return.
- **MOIC = Exit Equity Value ÷ Equity Invested**; shows the multiple of capital returned, a simple measure of money-in vs money-out.
- **IRR** is the annualised return based on the timing of cash flows; reflects the speed of value creation and is key for comparing deals.
- Use charts to **visualise IRR vs MOIC**, equity value build-up, and returns sensitivity to operational and valuation drivers.
- **IRR is driven by** entry vs exit multiples, EBITDA growth, debt paydown, and the holding period.
- **Exit equity value = Exit Enterprise Value – Net Debt**; this links operating performance + valuation + deleveraging directly to investor returns.



Equity Returns Schedule

All figures in JPY millions unless stated

	Transaction Date		Close	2025E	2026E	2027E	2028E	2029E	2030E
	30/06/25	(DD-MM-YY)	Forecast Fiscal Year End						
			30/06/25	31/12/25	31/12/26	31/12/27	31/12/28	31/12/29	31/12/30
Enterprise Value									
EBITDA				28,351	30,121	34,275	38,752	43,490	51,159
Exit Multiple				22.7x	22.7x	22.7x	22.7x	22.7x	22.7x
Enterprise Value				**644,459**	**684,682**	**779,101**	**880,865**	**988,578**	**1,162,893**
Net Debt									
Debt Balance				479,402	482,523	486,011	486,275	485,006	478,382
Cash				(13,520)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)
Total Net Debt				**465,882**	**472,523**	**476,011**	**476,275**	**475,006**	**468,382**
Equity Value									
Enterprise Value				644,459	684,682	779,101	880,865	988,578	1,162,893
Net Debt				(465,882)	(472,523)	(476,011)	(476,275)	(475,006)	(468,382)
Equity Value				**178,577**	**212,159**	**303,090**	**404,590**	**513,572**	**694,511**
Dividends				–	–	–	–	–	–

Equity Investor	IRR	MOIC	Close	Year 0 (25)	Year 1	Year 2	Year 3	Year 4	Year 5
5-Year-Horizon	27.7%	3.8x	(180,614)	–	–	–	–	–	694,511
4-Year-Horizon	26.1%	2.8x	(180,614)	–	–	–	–	513,572	
3-Year-Horizon	25.9%	2.2x	(180,614)	–	–	–	404,590		
2-Year-Horizon	23.0%	1.7x	(180,614)	–	–	303,090			
1-Year-Horizon	11.3%	1.2x	(180,614)	–	212,159				
0-Year-Horizon	(2.2%)	1.0x	(180,614)	178,577					

LBO Mechanics Summary

LBO Model: Summary

- **The model links** transaction terms, financing structure, and operating assumptions to produce investor returns.
- We **project revenues, EBITDA, and cash flows**, incorporating key value-creation levers such as EBITDA growth, multiple expansion, and deleveraging.
- **Debt schedules** calculate interest expense, required amortisation, and cash sweep paydowns, driving changes in net debt over time.
- **Debt, cash flow, and equity schedules** track how deleveraging and performance improvements increase the sponsor's equity value.
- The **success of the deal is measured through** IRR and MOIC, showing both speed and magnitude of value creation.
- The **LBO model** is essentially a financing model layered on top of operational cash-flow projections, converting business performance into equity returns.

Purchase Price

All figures in $USD mn, except on a per share basis

EBITDA Multiples	
Entry EV/EBITDA	28.4x
Exit EV/EBITDA	23.5x
EBITDA	1,938

Enterprise and Equity Offer Value	
Equity Offer Value	52,362
Net Debt	(652)
Cash & Fees	3,290
Implied Enterprise Value	55,000

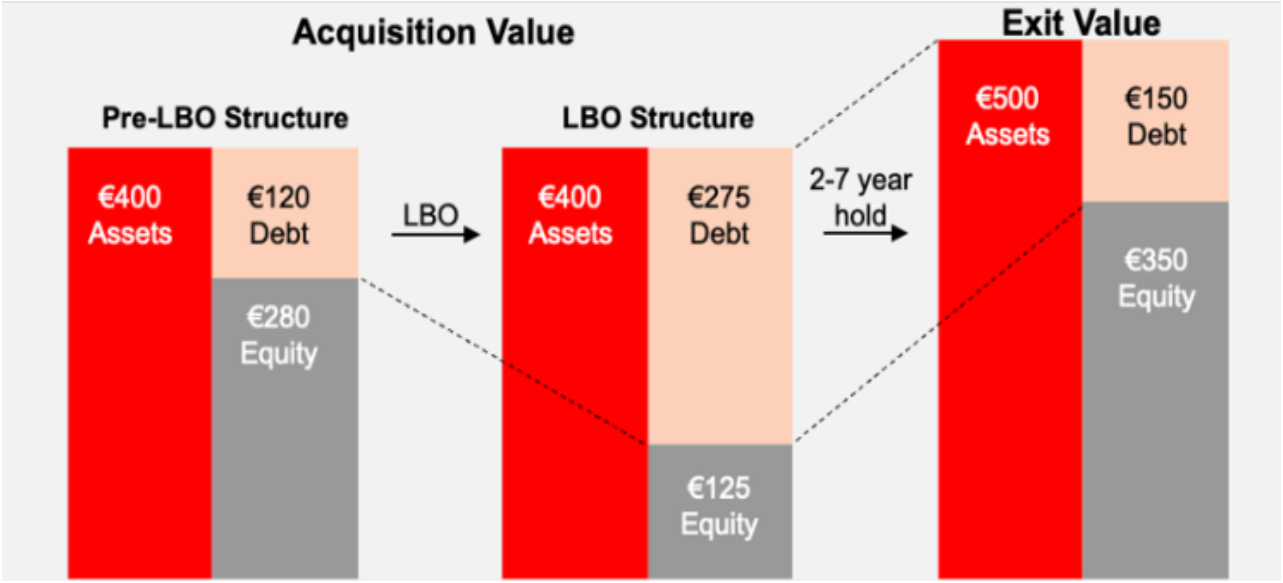
Shares Outstanding (million)	249
Price Per Share Offer	210
Unaffected Share Price	168.32
Premium / (Discount)	25%

Sources and Uses of Cash

Sources	Multiple	Amount
Revolving Credit Facility	-	0
Senior Debt	1.0x	2,000
Term Loan	8.8x	17,000
Equity Consortium Contribution	15.9x	30,816
PIF Equity Rollover	2.7x	5,184
Total Sources	28.4x	55,000

Uses	
Equity Offer Value	52,362
Debt Refinancing	1,484
Fees	1,154
Total Uses	55,000

Proportion of Leverage	35%



LBO Case Study – Lemon Grove Ltd

You are evaluating the potential leveraged buyout of Lemon Grove Ltd, a non-alcoholic beverages manufacturer with stable demand and predictable operating performance.

The company generated £480 million of LTM revenue and £96 million of LTM EBITDA (20% margin).
The proposed acquisition assumes an entry multiple of 9.5x EBITDA.

The business currently carries £40 million of cash, £220 million of existing debt, and £48 million of net working capital (equal to 10% of revenue).

Assume revenues grow 7% per year, EBITDA margins remain at 20%, D&A is 2.5% of revenue, CapEx is 4% of revenue, and NWC continues to represent 10% of revenue each year. The Corporate Tax Rate is 20%

The transaction will be funded with £500 million of new term-loan debt at a 9% interest rate, with no amortisation (bullet repayment), and all remaining capital provided by the sponsor as equity.

At the end of Year 5, assume the company is sold at an exit multiple of 9.5x EBITDA, the same as at entry, and all outstanding debt is repaid at exit.

Using this information, calculate the entry Enterprise Value, the equity contribution, the 5-year forecasts, and determine the sponsor's MOIC and IRR over the 5-year holding period.

Revisiting the Debt Schedule

Q&A

The End

Private Equity Society

Submit Feedback/Questions: