Advanced Financial Modelling

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Course Outline

1
- Introduction to modelling in Excel
- Key principles of financial modelling
- Setting up a model – basic principles and useful functions

2
- Review of Assignment #1 – Financial Statement
- Nuts and bolts of DCFs

3
- Review of Assignment #2 - DCF
- Revisiting Firm Value in the context of financial modelling
- Introduction to M&A structuring and modelling

4
- Review of Assignment #3 – Merger Model
- Modelling debt and credit analysis
- Introduction to inner world of leverage buy-outs

5
- Review of Assignment #4 – LBO Model
- Combining IB valuation approaches and techniques
- Final Q&A

Review of Assignment Three

Individual Assignment Three

- Reviewing the logic of an M&A modelling set-up
  - Debt / Cash funding comes first –equity & % premium come second
  - Unrealistic capital structure will lead to wrong conclusions
- Fixing Pro Forma ownership
  - Wrong calculation of shares invalidates merger impact analysis
  - Watch out for target's options roll-over (both # and $ need to be reset)
- Pro Forma balance sheet
  - Goodwill / intangibles line is not a plug!
  - Double check for target's cash and debt balances / disposals
- Contribution Analysis
  - Reality check on accretion / dilution: buying lower rated stock has to be accretive

Common Deal Breakers

Even a fundamentally sound merger proposition can collapse at 11th hour on asymmetry in views or a technicality.

- Valuation, Perception and Perspective
  - "Rear view mirror" on past stock performance
  - Asymmetry in performance expectations
- Structural implications pre-deal vs. post deal
  - Relative valuation strength of surviving currency / liquidity / collars
  - Tax leakage / domicile / listing
  - Shareholding / Board Representation / Management Positions

Common Deal Breakers – cont'd

Some of deal breakers are less obvious than others but nevertheless are very likely to derail a transaction if not addressed early.

- Corporate Governance
  - Power split or "Us vs. Them", which metric would make merger a take-over?
  - Minority protection rights in surviving entity in case of new dominant shareholder or a group
- Debt levels and Covenants
  - Change of control covenants vs. Additional debt indebtedness tests
  - Relevant for Acquirer or for Target?
  - Ability to refinance in absolute terms vs. maxing credit ratios

Credit Analysis & Modelling

Introduction

Debt rationale and tactics is not just treasury operations.

For example, if a seller's prime objective is raising funds, debt finance is always a viable alternative to a sale or a divestiture.

- Ample debt capacity adds to purchase price
  - Even with one strategic bidder, threat of competition from financial sponsors or an ability to walk away creates desired competitive environment
- Debt market is vast and liquid
  - Primary markets are many times bigger than equities
- Corporate Bonds and Bank Debt
  - Investment Grade Bonds
  - High Yield Bonds (former Junk Bonds)
  - Bank Loans (Bank Debt)

Financing – Bank Debt

Save for lending desks debt modelling is always simplified.

However, it is worth noting key features for a particular debt type.

For bank debt these are

- Cash % with or w/o grace, floating or fixed
- Fees on arrangement and undrawn commitments
- Secured by assets
- Amortisation requirement over 5 to 7 years
- Maintenance covenants
  - Per agreed model the covenants are set at ~20% headroom to forecasts
- Allows early prepayment w/o penalties
- Recent decades have produced lots of cross overs between bank and bond markets…
  - E.g. bridges, asset backs, etc.

Financing – HY Debt

Corporate bonds, in particularly HY variety, give more flexibility to borrowers but are considerably more expensive.

A choice between bank or bond funding is thus optimising desired level of flexibility vs. cost of capital.

- Senior or Junior unsecured with limited "incurrence" covenants
  - Overall leverage (don't per se restrict further borrowing)
  - Additional indebtedness (don't per se ban acquisitions)
  - Change of control / asset sales (don't allow asset stripping, etc.)
- Interest charges:

  cash pay, PIK or zero, escrow
- Bullet maturities of 10 years or more
- Fixed rate with no drawdown and limited prepayment
  - all HY is non call (normally 3 years)

Debt Finance Fundamentals

Corporate Credit Ratings

Average Credit Ratios - Industrials

		Moody's	S&P	EBIT Interest Coverage	EBITDA Interest Coverage	FFO / Total Debt	Total Debt / EBITDA	Total Debt / Capitalisation
Investment Grade	Triple A	Aaa	AAA	17.5x	20.0x	130%	0.5x	20%
		Aa1	AA+					
	Double A	Aa2	AA	10.0x	15.0x	65%	1.0x	30%
		Aa3	AA-					
		A1	A+					
	Single A	A2	A	7.0x	10.0x	50%	1.3x	40%
		A3	A-					
		Baa1	BBB+					
	Triple B	Baa2	BBB	4.0x	6.0x	35%	2.2x	50%
		Baa3	BBB-					
High Yield		Ba1	BB+					
	Double B	Ba2	BB	2.5x	4.0x	20%	3.0x	60%
		Ba3	BB-					
		B1	B+					
	Single B	B2	B	1.4x	2.6x	15%	4.5x	70%
		B3	B-					
	Triple C	Caa	CCC	-	-	-	-	-

Basic Debt Financing Rules

When populating a model with debt assumptions one can not be absolutely right without up to date input from capital markets desks.

But it helps to be directionally right

- Measured in EBITDA multiples, or "turns"
- Ranked by seniority: Senior Secured, Senior and Junior Unsecured, Mezzanine
- Has to be pre-funded (unless undrawn commitments included in debt ratios)
- Senior debt should amortise over the forecast period (5-7 years)
- Max debt at sensible levels (e.g. 3-5x times subject to industry fundamentals and co's future growth)
- Debt (covenants) modelled monthly or quarterly
  - Test LTM covenants on rolling basis (illustrated in my M&A / LBO templates)

Private Equity / LBO Modelling

Private Equity - Common Features

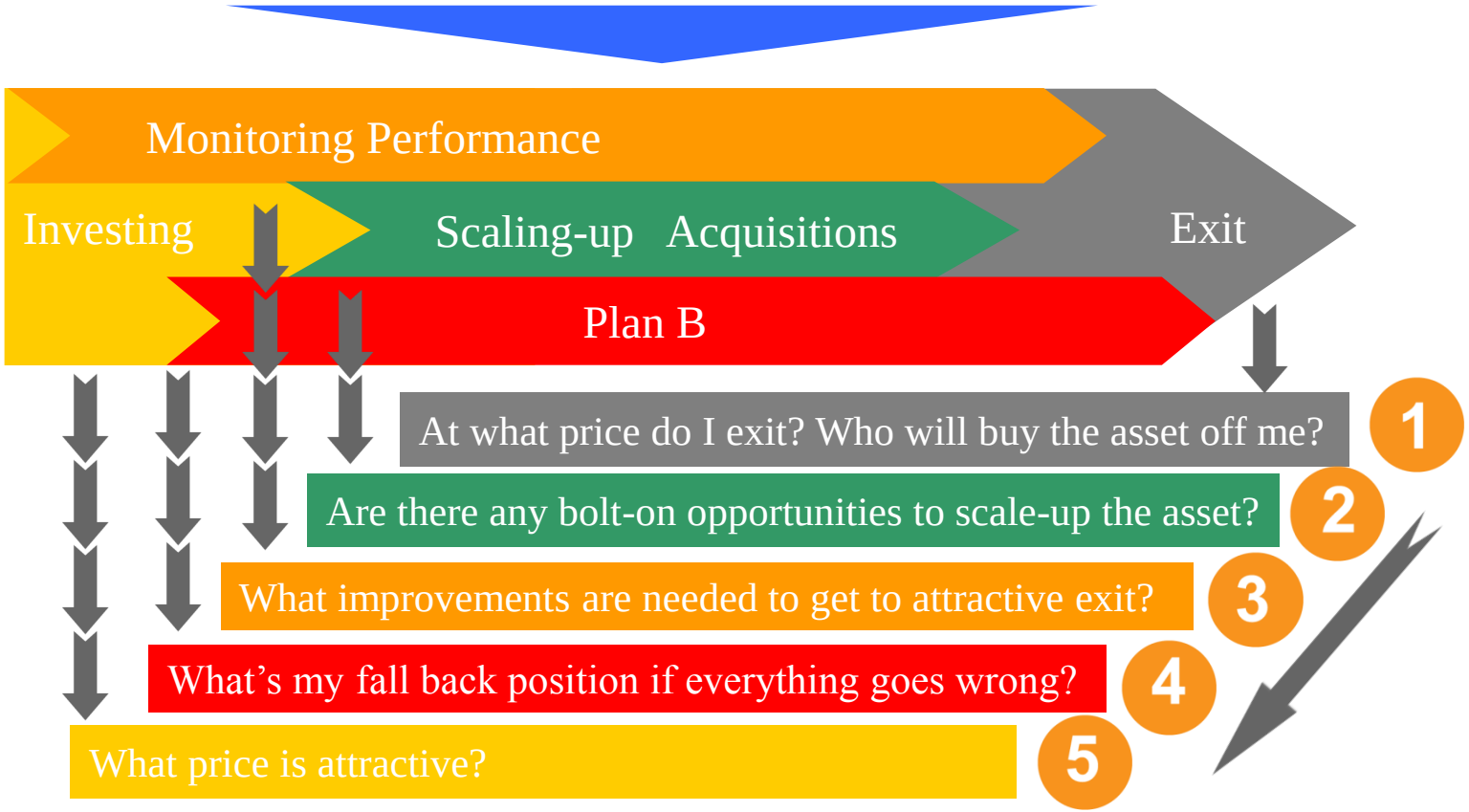
Intuitively, there are certain features that all Private Equity players have in common:

TIMING, VALUE and FOCUS!

- Timing: counter-cyclical to public market:
  - Private Equity activity declines during bull markets
  - "Not to act in our business is probably a more valuable talent than any other" the Vulture Investors
- Value: capital more expensive than public
  - Unlikely to win a bidding war against strategic…
  - …but a public company may be constrained / guided by market sentiment
- Focus: active outside of strategic footprint / public markets
  - Not all industries are dominated by public companies and not all companies are suitable for public space
  - Relationships matter: MBO's bring unique insight into target's true value / add value

Private Equity Investment Cycle

The fact that Private Equity investment is finite in time, unlike Strategic play, completely reverses investment decision process:



LBO Valuation - Base Level Mechanics

Capital Source	% Cap'n	x, EBITDA
Bank Debt (Senior Secured)	45-50%	3.5x-4.0x
High Yield Debt (Senior Unsecured)	25-30%	4.0x-5.5x
Mezzanine or Preferred Equity (Junior PIK)	0-15%	5.5x-6.5x
Sponsor Equity	15-30%	???

IRR Logic Example

- Target IRR is 30%
- Current EBITDA of $100 mm
- 5 Year EBITDA forecast of $200 mm
- Financing: bank $350 mm / HY $200 mm
- Bank Debt amortises fully over five years with no headroom
- No mez or preferred piece
- Exit multiple of 6.0x

How much are we prepared to pay?

Translating Concept into Modelling Task

Remember that unlike DCFs LBO is a levered model producing levered returns, e.g. outside of WACC/CAPM framework.

1. Recycle standard financials down to EBIT level plus standard tax calculator
2. Assume Exit Multiple
   - Hard look at exit valuations / strategic scenarios / benchmarks
3. Insert New Capital Structure
   - Max doable / Capital markets input
4. Plug in required return
   - Function of asset risk and leverage – difficult to quantify
5. Solve for Transaction Price as function of target returns

LBO Capital Structure and Returns

Structurally an LBO model resembles a merger model.

However, to accommodate emphasis on levered nature of the exercise the controls look different

- Acquisition vehicle (shell with cash/debt/new equity) takes over the target (operating company)
- Balance sheet adjustment rules are the same as in merger model
  - New Share Capital / New Net Financing / Goodwill
  - Rolling forward on standard financials
- Sources & Uses Summary
  - Funds sourced and used in a deal
- IRR Analysis toolbox on the model front
  - Equity Sponsor / Roll-over Equity / Mezzanine (if present)