

Portfolio Management Club

Valuation - LS

24 September 2025

Fall 2025





AGENDA

Glossary

Business Planning Framework

Financial Statements Reorganization

Model Overview

Final Remarks

PMC

Glossary

24 September 2025

Fall 2025



Glossary

Some finance terms to get you up to speed

A	Assets	LT	Long term	ND	Net debt (=NFP)	EV	Enterprise value	FV	Fair value
A	Actual	LTM	Last twelve months	NFP	Net financial position (=ND)	EVA	Economic value added	FY	Fiscal year
A&L	Assets & liabilities	m	Millions	NI	Net income	PV	Present value	g	Growth
APV	Adjusted present value	M&A	Mergers & acquisitions	NOA	Non operating assets	r	Discount rate (general)	GAAP	Generally accepted accounting principles
AR	Annual report	Mcap	Market capitalization	NOI	Net operating income	R&D	Research & development	HR	Human resources
b	Billions	MM	Modigliani & Miller	NOPLAT	Net operating profit less adj. taxes	R^2	Metric R squared in regressions	IC	Invested capital
BOP	Beginning of period	CE	Capital employed	NOSH	Number of shares	rF	Risk free rate	IPO	Initial public offering
BP	Business plan	CF	Cash flows	OPEX	Operating expenses	rM	Return on market index	IR	Reinvestment rate of CE
BS	Balance sheet	CML	Capital market line	P	Price	ROCE	Return on capital employed	t	Tax rate
BU	Business unit	COGS	Cost of good sold	P / E	Price / earnings	ROE	Return of equity	TS	Tax shield
BV	Book value (mult: of equity)	CRP	Country risk premium	PEG	Price earnings growth ratio	RONIC	Return on new invested capital	TV	Terminal value
c	Control premium	CY	Calendar year	DSO	Days sales outstanding	RR	Required return	V	Value
CAPEX	Capital expenditures	D	Debt	DY	Dividend yield	SAL	Surplus assets and liabilities	V(TS)	Value of the tax shields
CAPM	Capital asset pricing model	D&A	Depreciation & amortization	E	Equity	SGAs	Selling, general and admin. expenses	VAT	Value added tax
CDS	Credit default swap	DCF	Discounted cash flows	E	Expected	SML	Security market line	VC	Variable costs
IRR	Internal rate of return	DDM	Divident discount model	EBIT	Earnings before interests and taxes	SOTP/SOP	Sum of the parts	WC	Working capital
IS	Income statement	DI	Days inventory	EBITDA	Earnings before interests, taxes, depreciation & amortization	ST	Short term	WACC	Weighted average cost of capital
ITM	In the money	DPO	Days payable outstanding	EBITDAR	EBITDA minus rentals	F	Forecast	x	Multiple sign
k	Thousands	DPS	Dividend per share	EBT	Earnings before taxes	F+1	Forward +1	β	Beta
kD	Cost of debt	DS	Default spread	EOP	End of period	FA	Fixed assets	βL	Levered beta
kEL	Cost of equity levered	DSCR	Debt service coverage ratio	EP	Economic profit	FC	Fixed costs	βU	Unlevered beta
KEU	Cost of equity unlevered	MRP	Market risk premium	EPS	Earnings per share	FCFE	Free cash flows to equity	ρ	Correlation
kTS	Cost of tax shields	MW	Megawatts	EqV	Equity value	FCFO	Free cash flows to operations	σ	Standard deviation
LBO	Leveraged buyout	NAV	Net asset value	ER	Expected return	FFO	Funds from operations		

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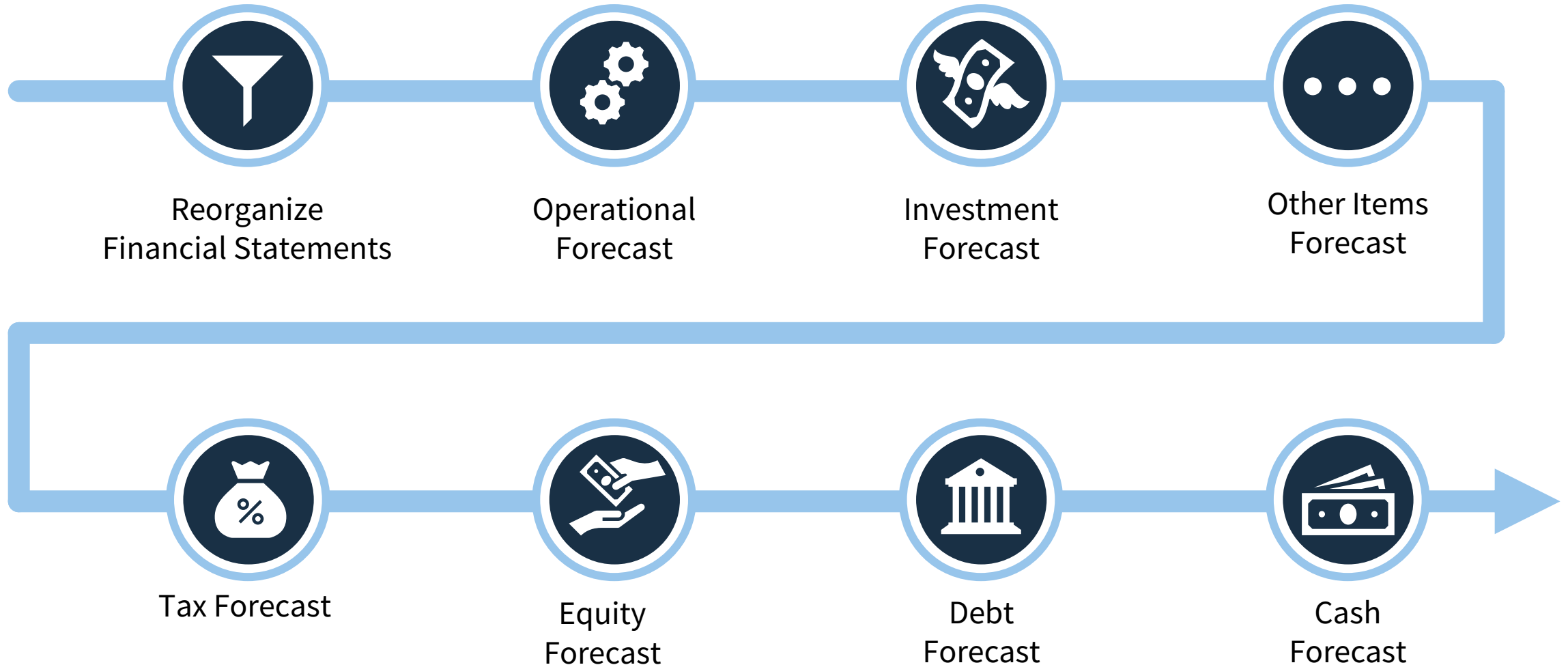
Business Plan Framework

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Business Planning Framework

A general step-by-step framework that will enable to value a company



Business Planning Framework

A general step-by-step framework that will enable to value a company

Reorganize Historical Financials

- Enter raw historical financials (IS & BS)
- Reorganize according to the desired layout (IS & BS)
- Build new cash flows
- Do not reorganize historical CFs

Operational Forecast - Sales

- The sales forecast is the **most important step** in business planning: most items use sales as a driver
- Therefore, break down the total sales forecast:
- Main decomposition:

$$\text{Sales (\$)} = \text{Price per unit} \left(\frac{\$}{\text{unit}} \right) * \text{volumes of sales (\# units)}$$

Top-down

$$\text{Sales (\$)} = \text{Market size(\$)} * \text{Market share (\%)}$$

$$\text{Market size(\$)} = \text{Market size(units)} * \text{Average sector unitary prices} \left(\frac{\$}{\text{unit}} \right)$$

Bottom-up:

$$\text{Sales(\$)} = \text{Sales BU}_1(\$) + \text{Sales BU}_2(\$) + (\dots)$$

$$\text{Sales BU}_1(\$) = \text{Price per unit BU}_1 \left(\frac{\$}{\text{unit}} \right) * \text{volumes of sales BU}_1 (\# \text{ units})$$

- Growth is both internal (organic) & external (M&A)
- Consider constraints such as space and production cap.

Business Planning Framework

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Operational Forecast - Costs

- Variable OPEX is usually forecasted with a driver:
 - % of sales
 - % of units sold
- The estimate might be:
 - A historical average
 - A given management/analyst target
- Evolution of the driver:
 - Constant
 - Growing (e.g. economies of scale)
 - Management targets are to be achieved gradually

Investment Forecast – FA, D&A & Capex

- Fixed Assets are usually paired with a control acc.

$$\boxed{\text{BOP fixed assets}} + \boxed{\text{CAPEX}} - \boxed{\text{D\&A}} = \boxed{\text{EOP fixed asset}}$$

- Capex estimation:
 - % of sales
 - Management targets for each year's capex by projects/maintenance/acquisitions
- D&A estimation:
 - % of Capex
 - Detailed breakdown:
 - Depreciate yearly CAPEX with a target useful life (years)
 - EOP Fixed Assets are amortized as well until expiration
 - By best practice, the first year's D&A for each Capex is halved

Years:	1	2	3	4	5	6	7	8
D&A from historical FA	■	■	■	■	■	■	■	■
D&A from CAPEX year +1		■	■	■	■	■	■	■
D&A from CAPEX year +2			■	■	■	■	■	■
D&A from CAPEX year +3				■	■	■	■	■
= Total D&A								

Amortization rate = 1 / Chosen driver useful life
D&A = Asset / useful life, or
D&A = Asset * amortization rate

Business Planning Framework

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Investment Forecast - NWC

- Usually forecast with a driver:
 - Trade receivables - DSO
 - Trade payables - DPO
 - Inventory – Days in Inventory
 - Other Assets & Liabilities - % of sales

$$\text{Inventories} = \frac{\text{Days in Inventory}}{252} * \text{COGS}$$

$$\text{Trade Payables} = \frac{\text{DPO}}{252} * (\text{Purchases} + \text{VAT})$$

$$\text{Trade Receivables} = \frac{\text{DSO}}{252} * (\text{Sales} + \text{VAT})$$

Other Items Forecast

- Exceptional P&L / One-off charges: **0**
- Surplus Assets & Non-Operating Liabilities: **Constant**



Put on your detective's hat:

Often, companies will register expenses as a one-time occurrence, **BUT** it is your job to really figure out if they are that infrequent.

Even if the expense has a slightly different name (e.g., Lawsuit, legal expenses, outside consulting fee, restructuring costs), **ALWAYS** look at it through a skeptical lens

Business Planning Framework

A general step-by-step framework that will enable to value a company

Tax Forecast

- Usually, 2 ways of doing it:
 - Drivers such as the historical effective tax rate:

$$\text{Effective tax rate} = \frac{\text{Income taxes}}{\text{EBT}}$$

- According to each country's tax code:

E.g. Italian taxation

✓ IRES: 24% Tax base: EBT
✓ IRAP: 3,9% Tax base: ≈ EBIT

E.g. USA taxation

✓ State: ≈ 7,5% Tax base: EBT
✓ Federal: 21% Tax base: EBT – state taxes

At this point, taxes will be incomplete because of the circular nature of the model (**Taxes depend on EBT**, which **depends on interests**, which **depend on cash**, which depends on the CF statement, which depends on the IS, which depends on Taxes)

Equity Forecast

- Share Capital:
 - Constant (Assuming no rights issue / capital increase)
- Dividends:
 - % of NI (Payout ratio)

$$\text{Payout ratio} = \frac{\text{Dividends}}{\text{Net income}}$$

- Retained Earnings:

$$\text{BOP retained earnings} + \text{Net income} - \text{Dividends} = \text{EOP retained earnings}$$

Net income is the link from the income statement into the balance sheet

Notes: At this stage, circularity problems start to occur. It might seem that we're building an house from the roof but don't panic, continue on building the model and you should be fine. #Iterative Calculation ON

Business Planning Framework

A general step-by-step framework that will enable to value a company

Debt Forecast

- Gross Debt can be forecasted either by:
 - Modelling specific debt maturities
 - Using target or historical leverage ratios as a driver for EOP debt (e.g. ND/E). This method just implies the net effect (New issues-Repayments) automatically.

$$\boxed{\text{BOP debt}} + \boxed{\text{New issues}} - \boxed{\text{Repayments (principal)}} = \boxed{\text{EOP debt}}$$

At this point, taxes will be incomplete because of the circular nature of the model (**Taxes depend on EBT**, that **depends on interests**, that **depend on cash**, that **depend on the CF statement**, that **depends on the IS**, that **depends on Taxes**).

Cash Forecast

- At this stage, the CF of the year is incomplete because interests are still missing, and taxes are incomplete.
- We get EOP cash with:

$$\boxed{\text{BOP cash}} + \boxed{\text{CF of the year}} = \boxed{\text{EOP cash}}$$

CF of the year is the link from the CF statement into the balance sheet

The balance sheet balances! $\text{CE} + \text{SA} = \text{E} + \text{ND}$

Notes: At this stage, circularity problems start to occur. It might seem that we're building an house from the roof but don't panic, continue on building the model and you should be fine. #Iterative Calculation ON

Business Planning Framework

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Cash Forecast

- The nature of the cash balance: *The revolver*
 - Cash is usually positive (negative if seen as an ND item); therefore, it generates interest income
 - If the cash balance is a liability, it will generate interest expense
 - If the yearly CF brings the cash balance to below 0 (positive ND item), it can mean 2 things:
 - The company went bankrupt (not enough cash to cover all needs)
 - Cash balance is sort of a bank overdraft (negative balance), referred to as a revolver in modeling
- Int. Income and Expense need to be modeled separately, given their different interest rates

$$\text{Interest income rate} = \frac{\text{Interest income}}{\text{Avg cash (BOP - EOP)}}$$

$$\text{Interest expense rate} = \frac{\text{Interest expenses}}{\text{Avg gross debt (BOP - EOP)}}$$

Next Step: Deep Dive

With all the tabs/stages of the model having been laid out, we will move towards some specificities of certain stages of the mode, while also including some finance theory about it!



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Financial Statements

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Financial Statements Reorganization

Adapting the available information to our own interest: understanding the true value of a business

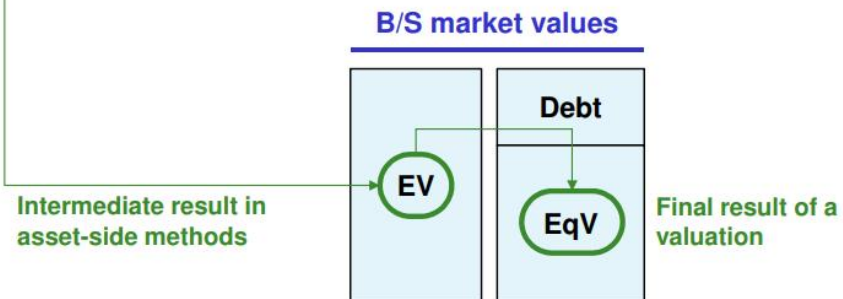
Why care about Financial Statements?

Financial Accounting Data is fundamental during the valuation process in two main stages:

1. **Forecasting Cash Flows**
2. **Moving from EV to Equity Value**

$$EV_0 = \sum_{t=1}^T \frac{FCFO_t}{(1+WACC)^t} + \frac{TV}{(1+WACC)^T}$$

- Analysis of historical CFs (today)
- Forecasting CF in the following years (modeling)



Why reorganizing them?

Reported statements are not organized for the assessment of a company's operations and for future forecasting

For this purpose, financial statements should separate:

- **Operational Items:** *Daily Company Activities*
- **Financing Items:** *Raising and Repaying Debt & Equity*
- **Surplus (non-operating) Items:** *Renting Unused Property...*

- Always base your analysis on **Consolidated Financial Statements**, the ones where the whole company is represented
- **Neutralize accounting standard differences**

Financial Statement Reorganization

Adapting the available information to our own interest: understanding the true value of a business

The Balance Sheet

<u>Assets</u>	<u>Liabilities and equity</u>
Non-current (fixed) assets	Equity
	Non-current liabilities
Current assets	Current liabilities

<u>Capital employed</u>	<u>Financing sources</u>
Fixed assets	Net debt (Debt – Cash)
"Noncash" WC (Operating assets – Operating liabilities)	
Surplus assets & Non-operating liabilities	Equity

- *Capital Employed represents the cumulative amount the business has invested in its operations*
- *Sources of financing represent all the financing sources of the company*
- *Items can be dragged within sides (=sign) or across sides (change the sign)*

Balance Sheet Reorganization

Moving from Assets, Liabilities and Equity to Capital Employed and Financing Sources

Fixed Assets

Most of the time, they **match the as-reported non-current assets**

Fixed Assets:

- Tangible
- Intangible
- Capitalized leasing assets
- Goodwill...

Surplus Assets and Non-Operating Liabilities

Assets and Liabilities that are **not strictly related** with the **daily core operations** of the firm or resemble a financial nature

Usually, SA & NOL will include items, such as:

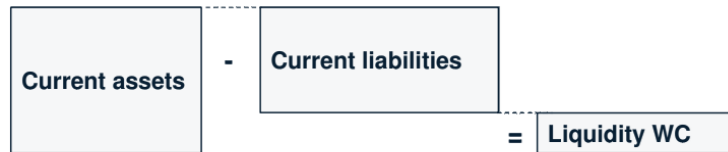
Asset Side	Liability Side
Assets and Liabilities Held for Sale	Pensions
Less Liquid Financial Assets	Exceptional Provisions
Shares in Subsidiaries outside the consolidation perimeter	

Balance Sheet Reorganization

Moving from Assets, Liabilities and Equity to Capital Employed and Financing Sources

Non-Cash Working Capital

The traditional definition of liquidity analysis has no relevance for the valuation process, since it **contains items with a financial nature** (e.g., short-term loans):



For valuation purposes, the items included are **operational in nature**, meaning assets and liabilities generated from the ordinary execution of the business model.



Non-Cash Working Capital

The definition is not set in stone, so it might require a degree of flexibility, depending on the firm. For example, it might include some non-current liabilities.

Usually, Non-Cash WC will include items, such as:

Asset Side	Liability Side
Trades Receivables	Trade Payable
Inventory	Employee Salaries
Pre-paid and accrued assets	Prepaid and Accrued Liabilities
"Working" Cash	Tax Current Liabilities
Tax Current Assets	"Ordinary Provisions"

Balance Sheet Reorganization

Moving from Assets, Liabilities and Equity to Capital Employed and Financing Sources

Net Debt

Represents the net exposure to third-party investors (banks, bondholders, other lenders, ...)

Usually includes Items such as:

Net debt

From the liabilities side:

- Interest-bearing loans and bonds
- Convertible securities
- Financial leasing debt
- (...)

From the assets side:

- Excess cash
- Cash equivalents

Equity

Usually, Equity will match as-reported items and includes:

Equity

- Share capital
- Reserves
- Minority interest

Income Statement Reorganization

From Revenues to EBITDA, using both P&L By Nature and By Account

Revenues	Sales; other operating revenues
- Operating costs (no D&A)	Raw materials, Δ inventory, salaries, operating leases, expensed R&D, allowances for provisions, write-offs on receivables, service cost component on pensions
= EBITDA	
- D&A	Also impairment and write-offs on fixed assets
= EBIT	
+/- Net interests	Interests on debt (a cost) and on cash (a revenue), interest cost components on pensions (if ND)
+/- Exceptional items	Dividends by non-consolidated subsidiaries...
= EBT	
- Income taxes	
= Net income	

Income statements will show costs in one of two ways:

- **By nature:**

- Personnel, raw materials, D&A, etc...
- Used mainly in EU national GAAPs

- **By function:**

- Cost of Goods Sold, Selling General and Administrative (SG&A), etc...
- Used mainly in IFRS and US GAAPs

In the latter case, you need to find the D&A breakdown in the company's report and adjust the IS accordingly.

Cash Flow Reorganization

Reconciling FCFF and FCFE

Year 2

= EBIT	1
+/- Net interests	6
+/- Exceptional items	7
= EBT	
- Total taxes	2 8
= Net income	12

"Delta" Year 2 – Year 1

4 Working capital	Gross debt	10
5 Fixed assets	Equity	11
9 Surplus assets		
● Cash		

Year 2

EBIT	Y2	1
- Operational taxes	Y2	2
+ D&A	Y2	+
= Gross Cash Flows		
- ↑ or + ↓ in noncash WC	-(Y2 – Y1)	4
- Capital expenditures	-(Y2 – Y1) – D&A Y2	5 -
= FCFO		
+/- Net interests	Y2	6
+/- Exceptional items	Y2	7
+/- Tax shields	Y2	8
- ↑ or + ↓ in surplus items	-(Y2 – Y1)	9
+ ↑ or - ↓ in gross financial debt	+(Y2 – Y1)	10
= FCFE		
+ ↑ or - ↓ in equity	+(Y2 – Y1) – NI Y2	11 12
= CF of the year (= ↑ in cash)	-(Y2 – Y1) It balances!	●

$$\text{Effective tax rate} = t = \frac{\text{Income taxes}}{\text{EBT}}$$

- **Operational taxes** are taxes that would have been paid on EBIT only

$$\text{Operating taxes} = \text{EBIT} * t$$

$$\text{Tax shield} = \text{Income taxes} - \text{oper. taxes}$$

- **Tax savings** generated on all items below EBIT (interests, exceptional items...)

$$\text{NOPLAT} = \text{EBIT} - \text{operating taxes}$$

- **NOPLAT** represents operational performance generated by capital employed

!
Make sure to check if every item in the IS & BS is linked either directly or indirectly to the CF statement

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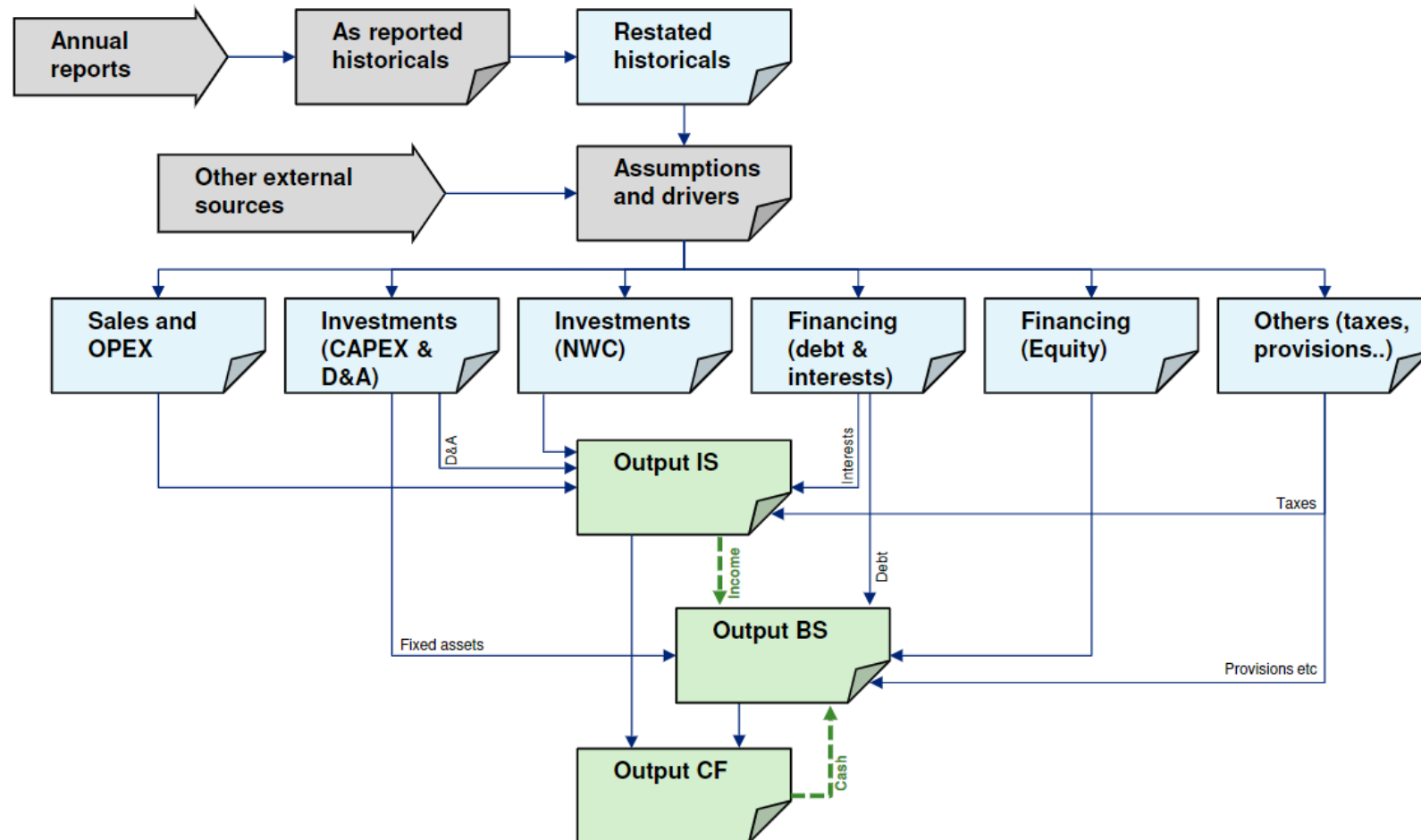
Model Overview

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Model Overview

A macro view of the model's logic



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Final Remarks

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Recommendations and Suggestions

Always seeking to improve

Professor Damodaran

- If you are interested in learning more about valuation and finance in general, the best online & free resource is Professor Damodaran's YouTube channel
- Professor Damodaran maintains an [online database](#) with market data, projections, and auxiliary inputs in the valuation process. Furthermore, he is known as the “Dean of Valuation,” and all his classes, taught at NYU (Corporate Valuation, Corporate Finance, and Statistics), are made available on his [YouTube channel](#)



Professor Damodaran

For any other remaining questions and/or to talk about the topic in general, feel free to reach out to Alexandre or to anyone in the club

The club is supposed to be a knowledge-sharing environment, where standing on the shoulders of giants is one of the key factors for the success of everyone, especially newcomers

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Appendix

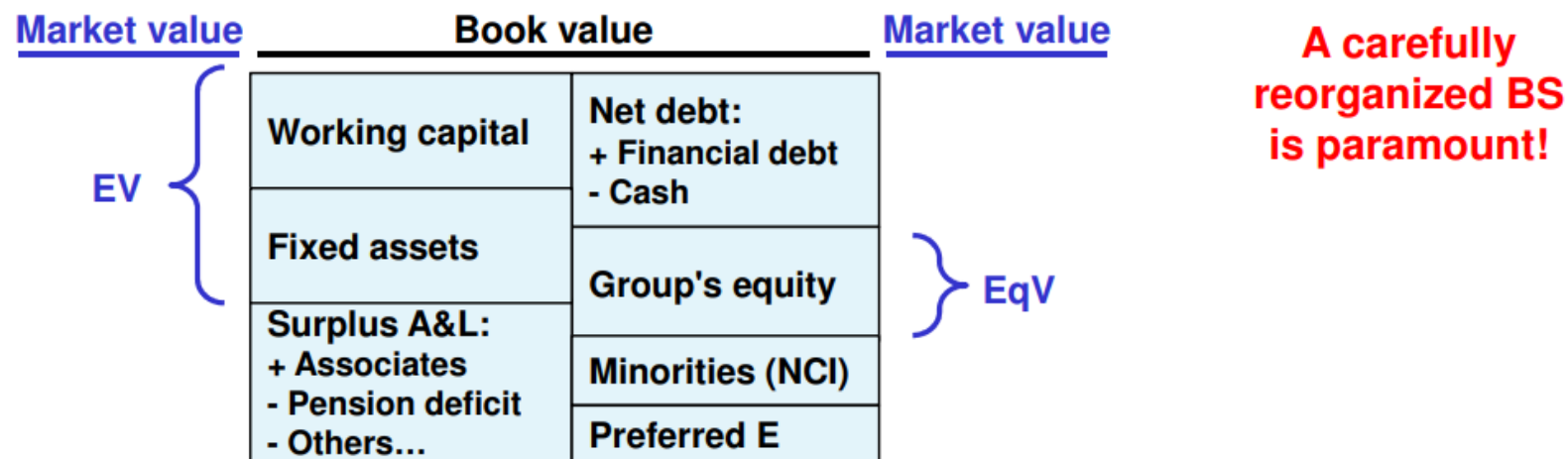
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Appendix

The Bridge



- The present value of FCFO gives the market value of capital employed
- Moving from EV to EqV and vice versa is implied in the bridge of other B/S items

$$\text{EV} - \text{Net debt} + \text{Associates} - \text{Pension deficit} - \text{NCI} - \text{Preferred shares} \pm \text{Other surplus A\&L} = \text{Equity value}$$

Appendix

Consolidation Parameters

Stake (S)	Degree of influence	Type of asset	Accounting Treatment	Valuation Treatment
S>50%	Control	Subsidiary	Full consolidation	Core asset
20%<S<50%	Significant influence	Associate	Equity method	Surplus asset
S<20%	No influence	Financial asset	Fair value or cost	Surplus asset

(80% stake)

	"Combined"	Parent	Subsidiary
Revenues	600	500	100
Cost	(465)	(400)	(65)
Ebit	135	100	35
Taxes	(41)	(30)	(11)
NCI	(5)	-	-
Net result	90	70	25

Full Consolidation

(40% stake)

	"Combined"	Parent	Associate
Revenues	500	500	100
Cost	(400)	(400)	(65)
Ebit	100	100	35
Taxes	(30)	(30)	(11)
Equity investments	10	-	-
Net result	80	70	25

Equity Method

Appendix

Net Debt vs Gross Debt

Net Debt is the standard metric used in the model for any leverage purpose, as it is the industry standard.

The tradeoff between Gross and Net Debt is that the Gross number does not accurately reflect the financial riskiness of the firm neither the benefit from tax shields.

However, when using the Net figure, sometimes results are not very intuitive, given we can indefinitely reduce the cost of capital just by hoarding cash and equivalents.

Basic vs Diluted Shares

Besides current market cap where basic shares outstanding are used, common practice and industry standard is to use fully diluted shares.

To be completely “theoretically” correct, we would need to calculate what portion of convertible securities (e.g. convertible bonds) or stock compensation plan (e.g. call options given to management) are likely to be exercised.

For the sake of being conservative, use fully diluted.

Thank you!



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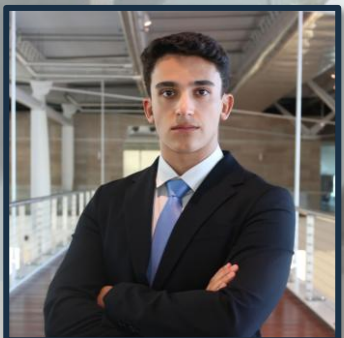


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