

# INTRODUCTION TO COMPANY'S VALUE AND VALUATION TECHNIQUES



## Lesson 10

*Corporate Finance*

Castellanza, 21<sup>st</sup> November 2018

# SUMMARY



- Introduction to company's valuation
- Why valuation can be subjective
- Company's valuation techniques
  - Adjusted net asset method
  - Income method
  - Mixed approach
  - Cash flow approach
  - Market approach

# INTRODUCTION TO COMPANY'S VALUATION

- What if the investment decision involves the acquisition of a company? Which is the value of the company? How can the company's value be determined?
- Generally, a company's valuation is performed in order to determine the value of its shares or of its equity capital.
- The **value** should not be confused with the **price**, that is the quantity agreed between the seller and the buyer in the sell of a company.

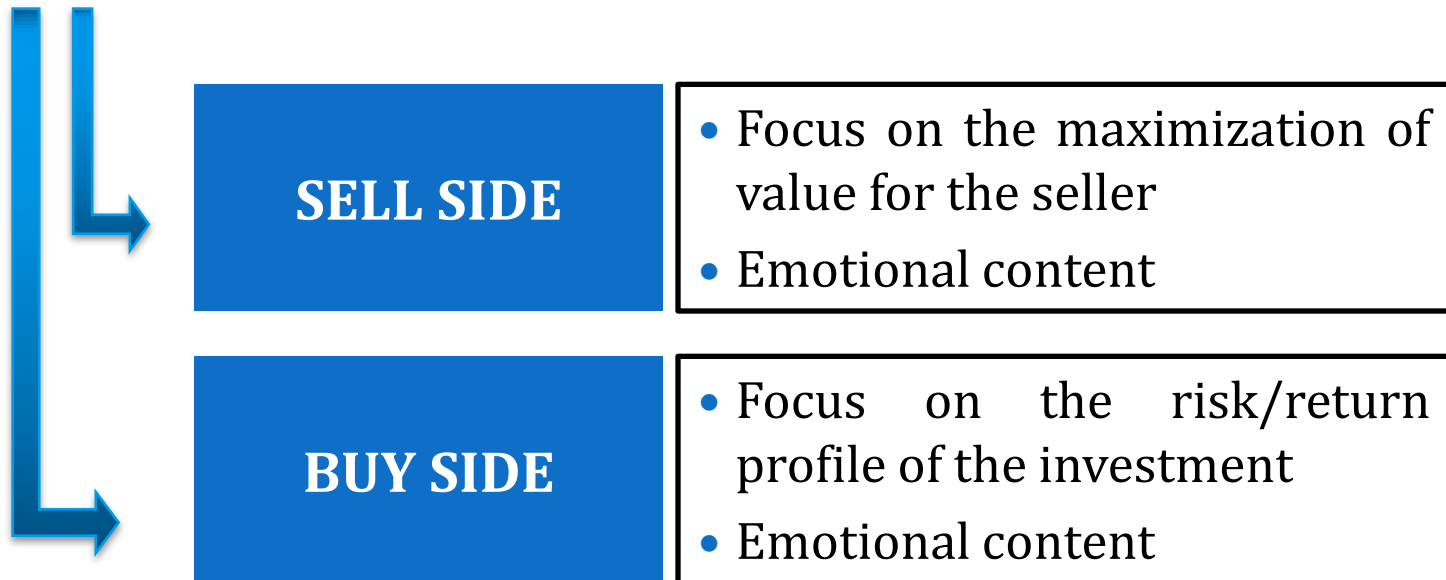
# INTRODUCTION TO COMPANY'S VALUATION

- In general, there are two different methods for valuing the equity value of a company ( $E_Q$ ):
  - The direct approach – direct valuation of equity capital
  - The indirect approach – the equity value results from the deduction/sum of the Net Financial Position from the enterprise value ( $E_V$ ), that is the value of the firm as a whole.
- Among both methods there are several techniques/methods that can be applied to obtain the value of the company.



# WHY VALUATION CAN BE SUBJECTIVE

- However, a company's value can be subjective mainly depending on:
  - The method (*following slides*)
  - The **point of view**



# COMPANY'S VALUATION TECHNIQUES

## DIRECT APPROACH

- Adjusted net asset method
- Income method
- Levered discounted cash flow
- Market approach: multiple X net income
- Mixed approach

## INDIRECT APPROACH

- Unlevered discounted cash flow
- Market approach: multiple X EBIT or EBITDA

# ADJUSTED NET ASSET METHOD



- In this method, a valuation analysis is performed for a company's identified FIXED, FINANCIAL and other TANGIBLE and INTANGIBLE ASSETS. The derived aggregate fair market value of these assets is equivalent to the value of the subject company.
- This method does not explicitly consider the earning potential of the business.



# INCOME METHOD



- In the income method the value of a company's business is based on its ability to earn positive net incomes. In particular, the value of a company is equal to the present value of the future net incomes which will be produced for a limited, or unlimited, period.
- The income method is frequently applied to trading or service businesses, or where economic aspects prevail over invested capital as the basis of the value of the business.

## MIXED APPROACH



- In this method, a valuation analysis is performed for a company's identified fixed, financial and other tangible and intangible assets, net of liabilities.
- The net current assets thus identified are adjusted to account for the excess profits of the company relative to the expected normal return of similar companies.

# CASH FLOW APPROACH



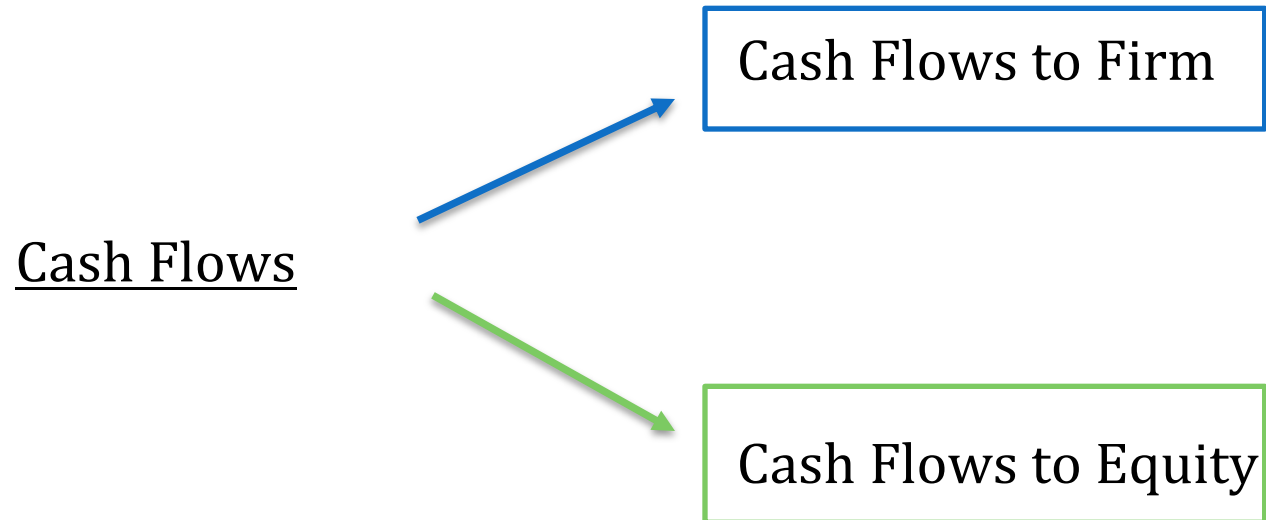
- In the cash flow method the value of a company's business is based on its ability to produce positive cash flows to equity or to investors. In particular, the value is equal to the present value of the future cash flows which will be produced for a limited, or unlimited, period.
- The cash flow method is often applied when medium-long term business plan for the business are available.

# GENERAL FORMULA FOR CASH FLOW DISCOUNTING

$$W = \sum_{t=1}^n \frac{F_t}{(1+k)^t} + TV + SA$$

- W                      company's value
- $F_t$                     cash flows
- k                        discount rate
- n                        number of periods considered
- TV                      terminal value of the company
- SA                      surplus assets

# CASH FLOWS ( $F_T$ )



# CASH FLOW TO FIRM: UNLEVERED DCF

- The free cash flow to firm is the operating cash flow, that is, the cash flow generated by operations, without taking into account the flows deriving from the financial position, after tax. It is the money that would be available in the company after covering fixed asset investment and working capital requirements.
- The appropriate discount rate ( $K$ ) for the free cash flow to firm is the Weighted average cost of capital (WACC).

# CASH FLOW TO FIRM: UNLEVERED DCF

EBIT

-/+ Change in Net Working Capital

+ Depreciation, amortization

- Investments

+ Divestments

- Taxes

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***Free Cash Flow to Firm***

# CASH FLOW TO EQUITY: LEVERED DCF

- The cash flow to equity is calculated by netting the free cash flow to firm from the interest and principal payment (after tax) made in each period to the debt holders and adding the new debt provided.
- The appropriate discount rate ( $K$ ) for the free cash flow to equity is the required return to equity ( $K_e$ ).



# CASH FLOW TO EQUITY: LEVERED DCF

EBIT

+/- Change in Net Working Capital

+ Depreciation, amortization

- Investments

+ Divestments

- Interests Expenses

- Principal payments

- Taxes

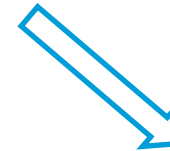
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***Free Cash Flow to Equity***

# TERMINAL VALUE

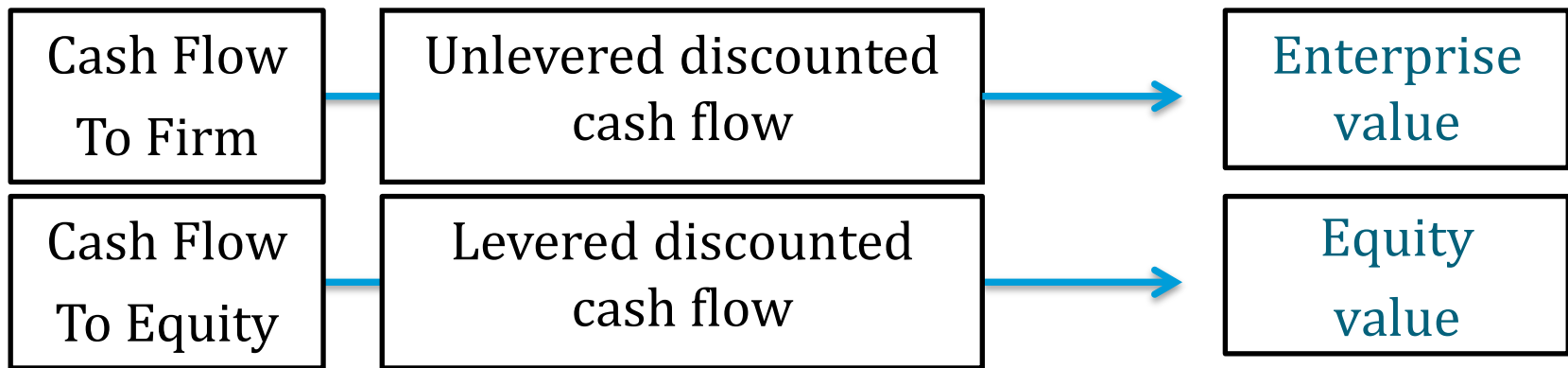
$$W = \sum_{t=1}^n \frac{F_t}{(1+k)^t} + \text{TV} + SA$$

$$\text{TV} = \frac{F_n / (k - g)}{(1+k)^{n+1}}$$



$g$  = sustainable growth rate  
(usually: long-term expected  
rate of inflation)

# DCF



$$\text{Enterprise value} + / - \text{NFP} = \text{Equity value}$$

*company's overall debt situation net by cash (liquid assets)*





$$\text{NFP} = - (\text{ST Debt} + \text{LT Debt} - \text{Cash \& Cash Equivalents})$$

# CASH FLOW APPROACH



- DCF capitalizes the cash flows the firm is expected to generate.
- Strength: reflects actual benefits that investors care about better than other methods.
- Weakness: relies heavily on projections. Valuations are only as good as these projections.

# MARKET APPROACH

- Value estimates are established through an analysis of metrics of similar businesses.
- Application of MULTIPLES deriving from similar or “comparable” publicly traded companies (peer group).
- Multiples (most frequently used):
  - P/E ratio: current stock price / (net profit / nr. shares)  EQUITY VALUE
  - Enterprise value (EV) based multiples: EV / most important element to value (EBIT, EBITDA, sales)  ENTERPRISE VALUE

# MARKET APPROACH



- Compute the average of multiples of the companies of the peer group.
- Multiply the average multiples obtained for EBIT, EBITDA, Sales or Net Profit of your company.
- Reliability depends on the level of comparability of the selected publicly traded companies.

## EXAMPLE – MARKET APPROACH

- In Private Equity, the most frequently used multiple is the EBITDA MULTIPLE.
- Why? It normalizes the differences in capital structure, taxation, fixed asset accounting and extraordinary flows.
- Let's assume that the Ebitda Multiple is 5
- Enterprise value: 5 X Ebitda target company
- Enterprise value +/- PFN = Equity value

# EXERCISE 1

- Compute the Equity Value of the firm according to the Unlevered Discounted Cash Flow approach.
- The WACC calculation must be performed on the basis of 2010 figures.

<b>k(e)</b>	7%
<b>k(d)</b>	4%
<b>g</b>	1%



# PROFIT & LOSS

Profit & Loss				
	2010	2011	2012	2013
Revenues		29.508	30.363	31.244
Operating Costs		25.199	25.929	26.682
EBITDA		4.309	4.434	4.562
Deprec. Technical assets		(1.058)	(1.138)	(1.197)
EBIT		3.251	3.296	3.365
Financial expenses		(526)	(476)	(423)
EBT		2.725	2.820	2.942
Taxes		(981)	(1.012)	(1.051)
Net Income		1.744	1.808	1.891

# BALANCE SHEET

<b>Assets</b>	2010	2011	2012	2013
Technical assets	7.347	6.967	6.407	5.686
Accounts receivable	13.460	13.819	14.188	14.568
Inventories	5.381	5.542	5.708	5.879
Cash&cash equivalents	8	1.104	2.385	3.845
<b>Total</b>	<b>26.196</b>	<b>27.432</b>	<b>28.688</b>	<b>29.978</b>

<b>Liabilities</b>	2010	2011	2012	2013
Long term financial loan	7.847	7.147	6.397	5.592
Accounts payable	6.682	6.871	7.065	7.265
ETP fund	1.469	1.472	1.476	1.480
Equity	8.500	10.198	11.942	13.750
Profit	1.698	1.744	1.808	1.891
<b>Total</b>	<b>26.196</b>	<b>27.432</b>	<b>28.688</b>	<b>29.978</b>

# THE WEIGHTED-AVERAGE COST OF CAPITAL

- A company can decide to finance itself with either debt or equity.
- The WACC is the average rate of return demanded by investors in the company's debt and equity securities:

$$\text{WACC} = [K_e E / (E + D)] + [K_d D / (E + D)]$$

Where:

E = Equity

D = Debt

$K_e > \text{WACC} > K_d$

# CASH FLOW STATEMENT AND VALUATION

<b>Cash Flow Statement</b>	2011	2012	2013
EBIT	3.251	3.296	3.365
Depreciation	1.058	1.138	1.197
Δ ETP Fund + other funds	3	4	4
Taxes	(981)	(1.012)	(1.051)
Δ Working Capital	(331)	(341)	(351)
<b>Cash Flow from operations</b>	<b>3.000</b>	<b>3.085</b>	<b>3.164</b>
Invest / Capex	(678)	(578)	(476)
<b>Free cash flow</b>	<b>2.322</b>	<b>2.507</b>	<b>2.688</b>

<b>Working Capital</b>	2011	2012	2013
Inventories	(161)	(166)	(171)
Account receivables	(359)	(369)	(380)
Account payables	189	194	200
<b>WC</b>	<b>(331)</b>	<b>(341)</b>	<b>(351)</b>

# CASH FLOW STATEMENT AND VALUATION

## Unlevered DCF

**WACC: 5,70%**

**DCF to firm**

$$2.322/(1+0,057) + 2.508/(1+0,057)^2 + 2.687/(1+0,057)^3 = \mathbf{6.716,90}$$

**Terminal Value**

$$(2.687/(0,057 - 0,01)) / (1+0,057)^4 = \mathbf{45.800,46}$$

**Enterprise Value:**  $6.716,90 + 45.800,46 = \mathbf{52.517,36}$

**Equity Value:**  $52.517,36 + (8 - 7.847) = \mathbf{44.678,36}$

# EXERCISE 2

- Compute the Equity Value of the firm according to the Unlevered Discounted Cash Flow approach.
- The WACC calculation must be performed on the basis of 2012 figures.

<b>k(e)</b>	7%
<b>k(d)</b>	4%
<b>g</b>	1%

# PROFIT & LOSS

<i>Profit &amp; Loss</i>				
	2012	2013	2014	2015
Revenues	7.294	7.795	8.658	10.694
<b>Ebitda</b>	<b>2.078</b>	<b>2.354</b>	<b>3.049</b>	<b>3.567</b>
Depreciation intangible assets	(30)	(26)	(28)	(30)
Depreciation tangible assets	(1.056)	(1.145)	(1.398)	(1.436)
<b>Ebit</b>	<b>992</b>	<b>1.183</b>	<b>1.623</b>	<b>2.101</b>
Financial expenses	(250)	(230)	(190)	(145)
Extraordinary expenses	0	0	0	0
Taxes	(356)	(408)	(468)	(641)
<b>Net income/ (loss)</b>	<b>386</b>	<b>545</b>	<b>965</b>	<b>1.315</b>

# BALANCE SHEET

<i>Balance Sheet</i>				
<i>Assets</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>
Intangible assets	119	125	128	130
Tangible assets	1.759	2.045	2.389	2.701
Inventories	1.387	1.508	1.709	1.789
Account receivables	2.985	3.195	3.982	4.108
Other receivables	270	295	295	307
Cash & cash equivalents	351	324	281	222
<b>Total</b>	<b>6.871</b>	<b>7.492</b>	<b>8.784</b>	<b>9.257</b>
<i>Liabilities</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>
Short term financial debts	1.058	1.126	1.040	841
Long term financial debts	2.431	2.361	2.117	1.541
Account payables	1.041	1.158	1.369	1.387
Other payables	645	661	709	661
ETP fund	570	437	509	532
Equity & reserves	740	1.204	2.075	2.980
Profit	386	545	965	1.315
<b>Total</b>	<b>6.871</b>	<b>7.492</b>	<b>8.784</b>	<b>9.257</b>