VALUING COMPANIES USING MULTIPLES
“market or relative methodology”

TRIEST - 20 May 2016

Objective / targets of valuation….possible situations

- How much should you pay for a business in an M&A transaction (Investment banking perspective):
  - Is the value fair ?(fairness opinion)
  - Acquisition / divestiture advice
  - Break-up value of the business vs- combined
- Do you think the price of a stock is reasonable (equity research perspective)
- How much can you sell a company's share for? (equity capital markets perspective)
- How much can a private equity house pay for a business
  - Sponsors and leverage finance perspective)
- …value of an asset / participation / business in an impairment situation…
- Etc…

There are many different ways to value an enterprise…

…to mention a few…

(A) Cash flow based methods (cash flows, dividends)

(B) Economic profits (incremental difference in the rate of return over a company's cost of capital…in essence value creation)

(C) Comparable value relationship – a.k.a. relative methodologies (multiples)

(D) Asset based methodologies

Capital markets tend to prefer methodologies which are based on relative metrics as wall as cash

When looking at a relative valuation we analyse

(A) Comparable Companies (Peers)

-> Trading multiples

(B) Precedent Transactions

-> Transaction multiples

Families of multiples

Trading multiples

- Valuation methodology which aims at estimating the theoretical value of a company by comparing it to a panel **(peer group)** of companies listed on the market
- Company under scrutiny can be private or public
- Methodology assumes that the stock market is relatively efficient
- It uses market perception (i.e. investors perception) of public peers to form a view on the company's value
- It does not take into account control premium (only a minority stake)

Transaction multiples

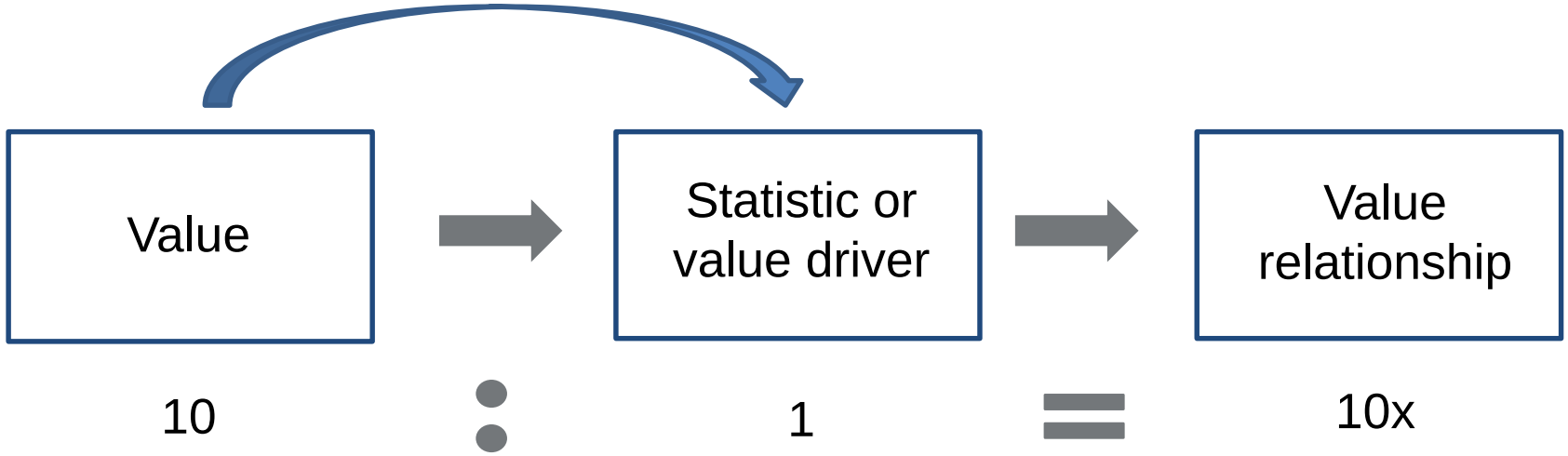
- Valuation based on implied multiples of precedent transactions
- Allows a potential acquirer to assess the price range which vendors have been willing to accept for a company / asset with similar characteristics
- Dependant on the accurate application of precedent multiples that are relevant benchmarks to the company / asset in question
- Key when you buy control
- Difficult to get comparable transactions, furthermore data can be out of date
- Used mostly for discussion purposes due to above mentioned limitation

Valuing companies on a relative basis

- Setting the scene….
- Multiples by themselves can tell us very little…
- ….they need to be placed in a context, i.e. they need to be compared
- What do they need to be compared with?
    1. Evolution through time
    2. Outlook
    3. Reference industry
    4. Wider market performance

What is a multiple?

- A multiple is simply an **expression of a value relative to a key statistic (or value driver)** that is assumed to **relate** to that value.
- To be useful, that statistic – whether earnings, cash flow or some other measure – must bear a **logical relationship** to the market value observed; to be seen, in fact, as the **driver** of that market value.



Valuation report outlook – mergermarket (extract) 2014

EXAMPLE

- The outlook **for global M&A** is optimistic, with dealm[illegible]xpecting **average EBITDA multiples to rise** from 9.2x in 2013 to 10.5x in 2014, and 11.3x in 201[illegible]

- **Private equity multiples** are e[illegible]support this increase, with buyout multiples rising from 9.5x in 2013 to 11.2x in 2015, and exit multiples [illegible]ing from 9.5x in 2013 to 11.4x in 2015.

- The **TMT** sector is thriving as consolidation drives up multiples, which [illegible]**to hit a new post-crisis peak** of 11.7x in 2015.

- Economic reforms in **China** have revitalized M&A and are expected to boost valuations from 11.3x in 2013 to 12.6x in 2015. However, multiples in **India** are expected to fall from 9.1x in 2013 to 8.4x in 2014, due to economic stagnation and political uncertainty.

- Although **North American** deal activity was flat in 2013, ec[illegible] and the availability of debt mean that **multiples are expected to increase** from 9.0x in 20[illegible] 2014, and 11.2x in 2015.

- In **Northern and Western Europe**, a[illegible]**entral and Eastern Europe**, valuations are **expected to reach new five-year highs** by 2015. Howeve[illegible]eak economic growth means that valuations in **Southern Europe** are expected to fall in 2014, before slightly rebounding in 2015.

Group by segment

Group by sector

Group by geographies

Ferrari Wants to Trade on Stock Multiples Similar to Hermès

EXAMPLE

July 30th 2015

- Fiat Chrysler Automobiles (FCA) announced that it will be conducting an initial public offering of its **luxury brand**, Ferrari. The deal is part of a series of transactions intended to fully separate Ferrari from FCA, which plans to transfer its remaining 80% stake in the company to its own shareholders, according to the IPO prospectus.
- Only 10% of its shares will actually be made available to the public through the New York stock exchange, 80% of its shares will be distributed to existing Fiat-Chrysler shareholders and the remaining 10% will continue to be owned by Piero Ferrari.
- Marchionne has also said the company should be judged as a maker of luxury goods, which trade on much higher stock market multiples than carmakers**. Luxury-product companies such as Prada SpA and Hermes International SCA trade at more than 20 times earnings, while automakers are generally less than half that.**
- Marchionne said the Ferrari IPO is expected to happen in mid-October, but there has been much speculation over valuation. **Investment banks have evaluated Ferrari in the range of 6 to 8 times EBITDA. According to a report compiled last February, UBS (acting as global coordinator and joint bookrunner), the brand would use a luxury-goods valuation, at around 10 to 12 times EBITDA, for a valuation of 7-8 billion euro. Assuming that the IPO would fetch around 6 billion euro at the very least.**
- Mergermarket analysts estimate an enterprise value of 8.5 billion euro and at around **11 times earnings**.
- According to Morningstar equity analysts, **Ferrari's stable growth, consistently high profitability and a strong global brand offers reasons for a wide economic moat, but compared to luxury brands such as Hermès, automotive brands' vulnerability to irreparable damage may limit Ferrari to a narrow economic rating**. Low volatility in both revenue and profitability, as well as high margins indicate pricing power for Ferrari and a luxury goods company valuation in Morningstar equity analysts' view.
- Management believes that Ferrari should fetch a valuation equal to that of Hermès (ie. 15 times earnings).

Mission accomplished: Ferrari debuts at Hermes multiples

EXAMPLE

October 22nd 2015

- What is the most expensive stock in the world? If you asked a trader, his answer until Tuesday would have been, without hesitation: Hermes. The luxury house trades **at 34 times 2015 forecast earnings**.
- But yesterday, when luxury sports car maker Ferrari debuted as a rocket on Wall Street, the answer would have been different. At $60 per share, a level hit at the opening, Ferrari is the new queen of luxury: **35 times 2015 forecast earnings.**
- At a $58 price, the maker of high-performance cars would match the French maison with a price/earning ratio of 34.
- Such valuations are driving fundamental analysts mad, because pricing emotions is little scientific exercise.
- But the mission has been accomplished: a dream landed on the stock market and its exclusivity -- with only 10% of free float and no comparable stock -- has achieved the rest.
- At $52 per share -- the IPO price, set at the high end of the indicative range -- Ferrari has an initial market capitalization of $9.8 billion (€8.7 billion), an enterprise value or nearly four times its revenues, EV/EBITDA multiples above 14, and p/e of nearly 30.5 times.
- These ratios are a far cry from the highs of the “new economy,” but at the top of the luxury sector -- excluding the record of Hermes -- average valuations stand at around 20-22 times earnings of the closest fiscal year.
- On the first day of trading, strong demand propelled Ferrari even higher.
- The true test however will come early next year, when the group graced with a prancing horse logo will leave the fold of Fiat Chrysler Automobiles to adventure on the market alone. With the spin-off, the shares of the expensive Maranello-based carmaker will be distributed to FCA shareholders and two-thirds of capital will float on the market.

Race : NYSE (IPO to date)

EXAMPLE

EXAMPLE

Social Media (Source: forbes Oct 2015)

Metric	facebook		LinkedIn
Market Capitalization ($ billion)	250.2	17.2	24.4
Number Of Monthly Active Users (million)	1,490	316	380
Market Cap Per User	167.9	54.4	64.2
Revenue (TTM) – USD million	14,640	1,779	2,561
Revenue Growth (2014)	58%	111%	45%
Operating Margin (TTM)	32.3	-30.2%	-3.0%
P/E (trailing)	91.2	—	—
P/Sales	16.9	9.0	9.2

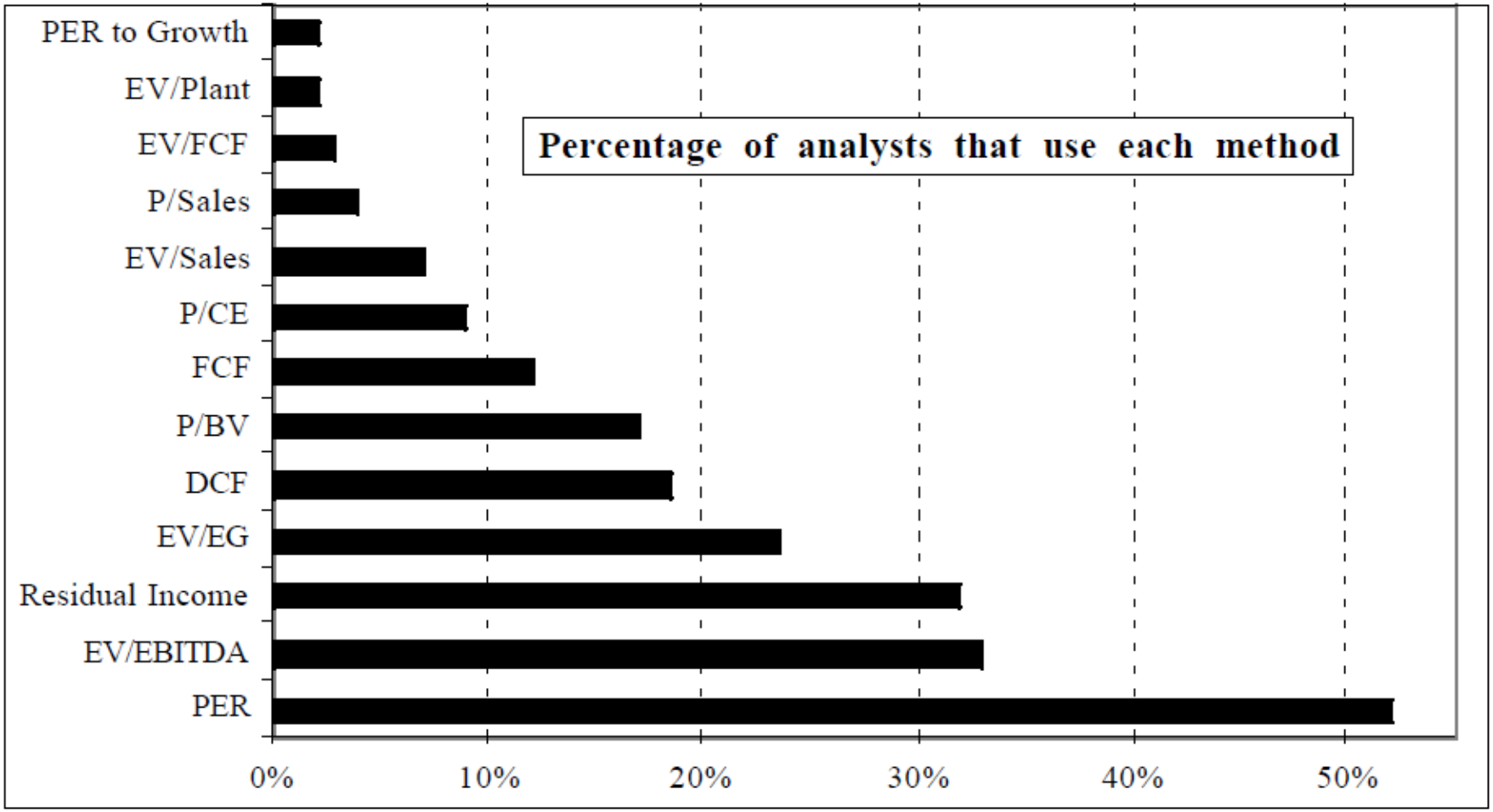
Valuing companies using trading multiples

Comparable / Relative Valuation is

A process where we:

- **Use market values** (as opposed to book values)
- Establish relationships between **value of an assets and what drives its value**
- **Compare value relationships** of similar assets
- **Analyse differnces between relationships** by looking at (Growth, margins, return on capital, etc.)

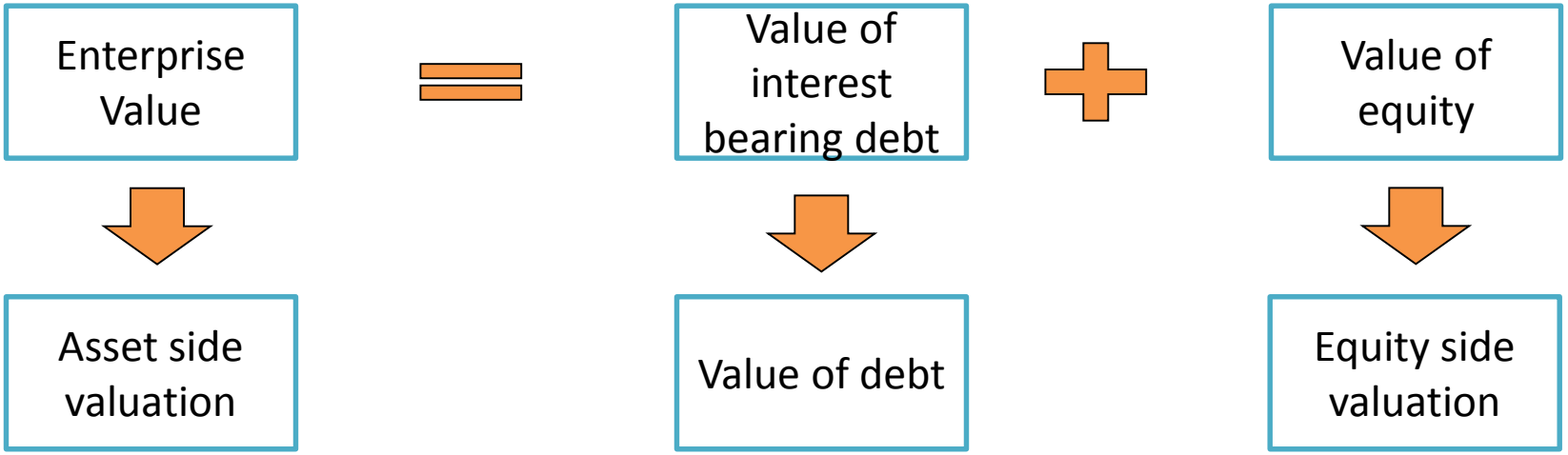
An old chart ….. many different multiples



Source: Morgan Stanley Dean Witter Research

Let’s focus on the relationship between value (of an asset) and drivers by looking at Equity Value and Enterprise Value (EV)

What are we valuing: the Enterprise or the Equity?



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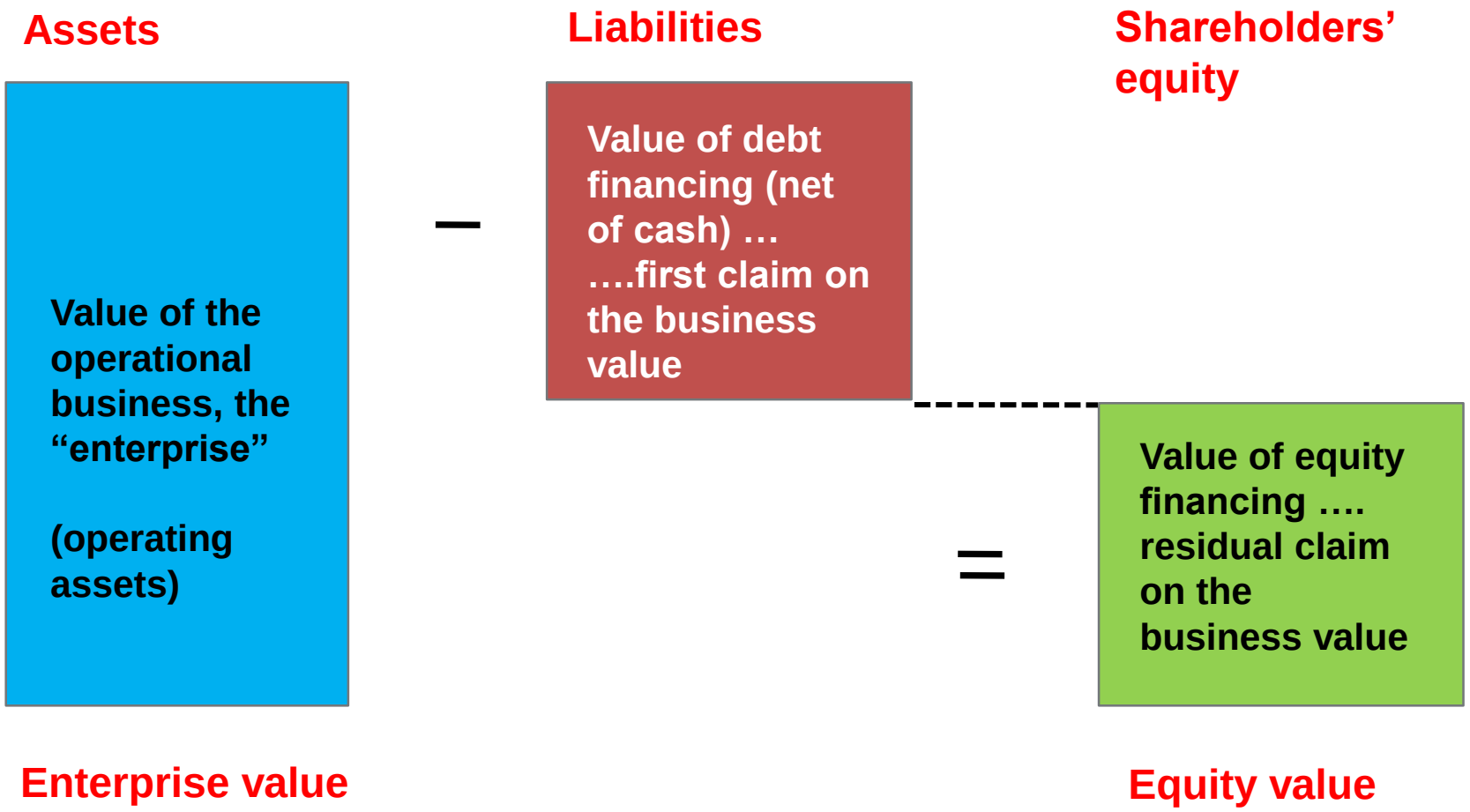
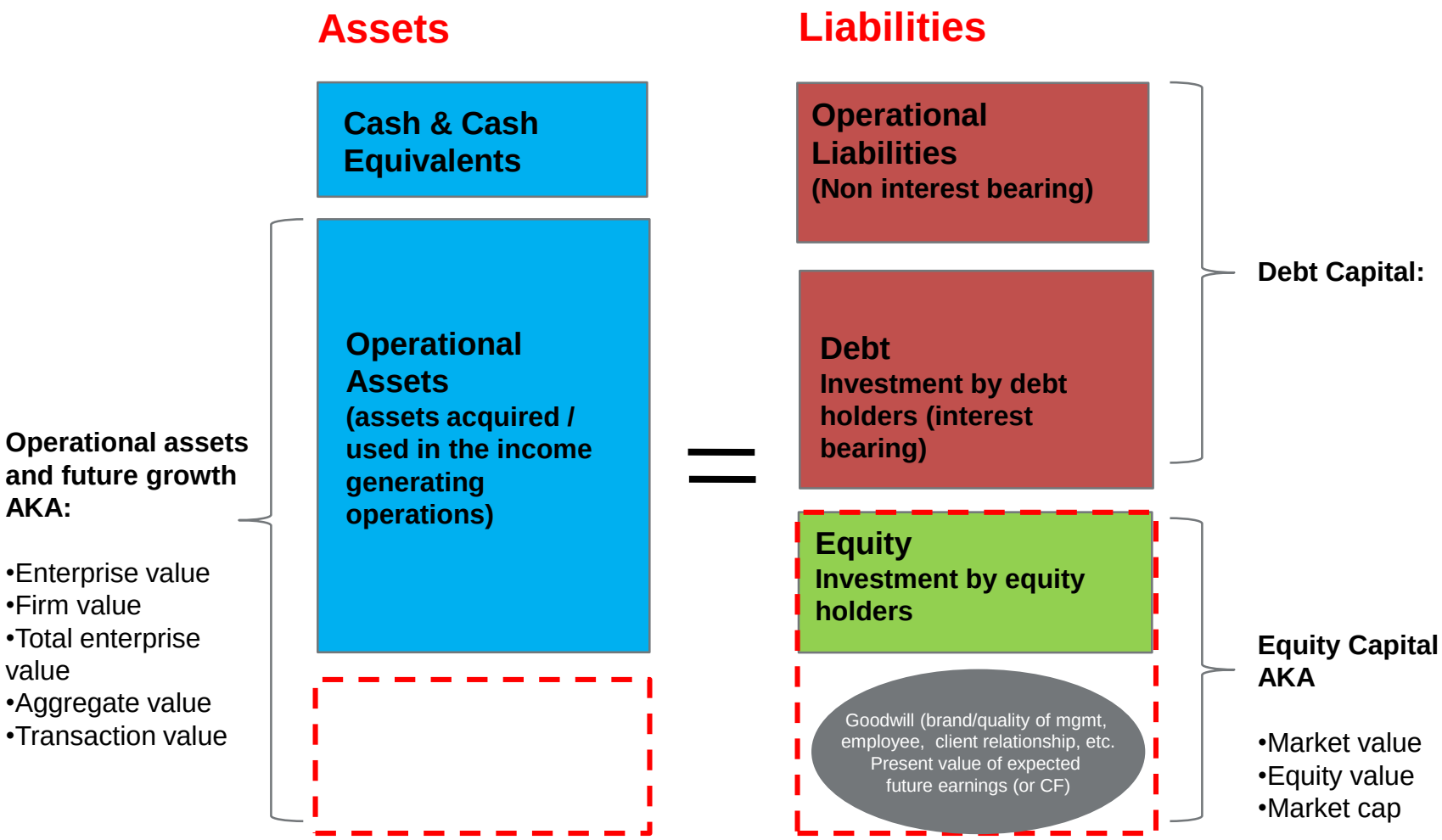
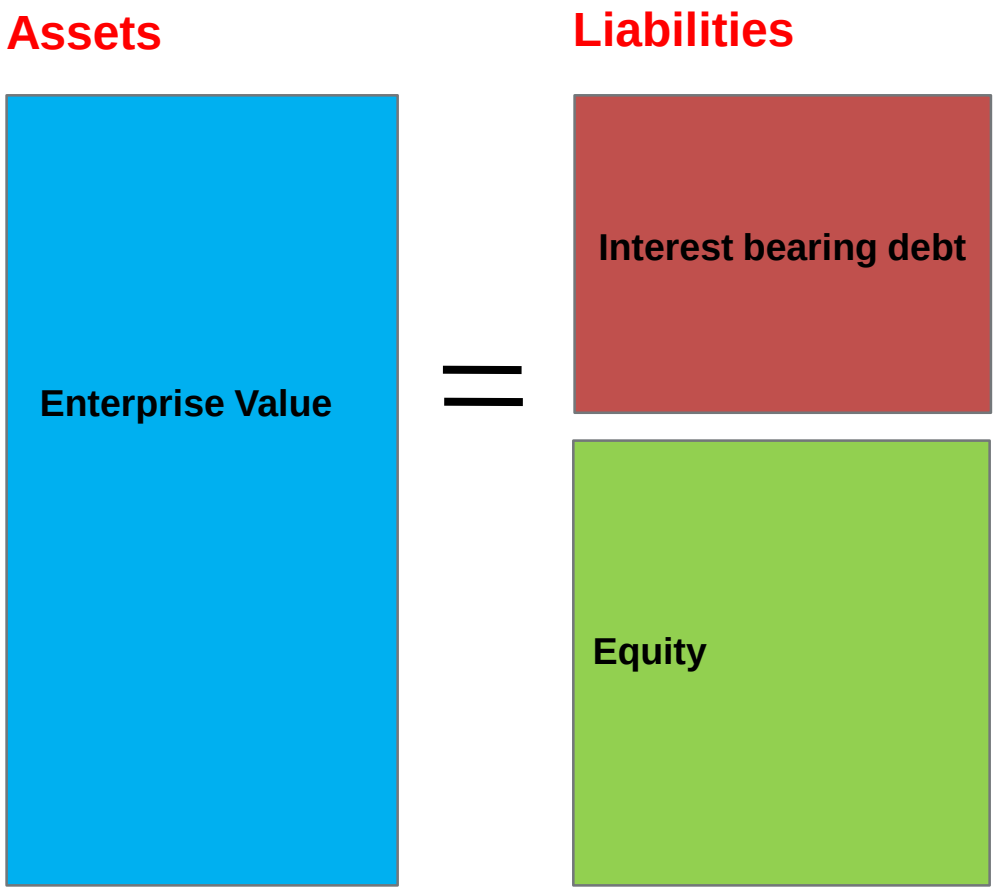
The value of the Enterprise is reflected by its funding



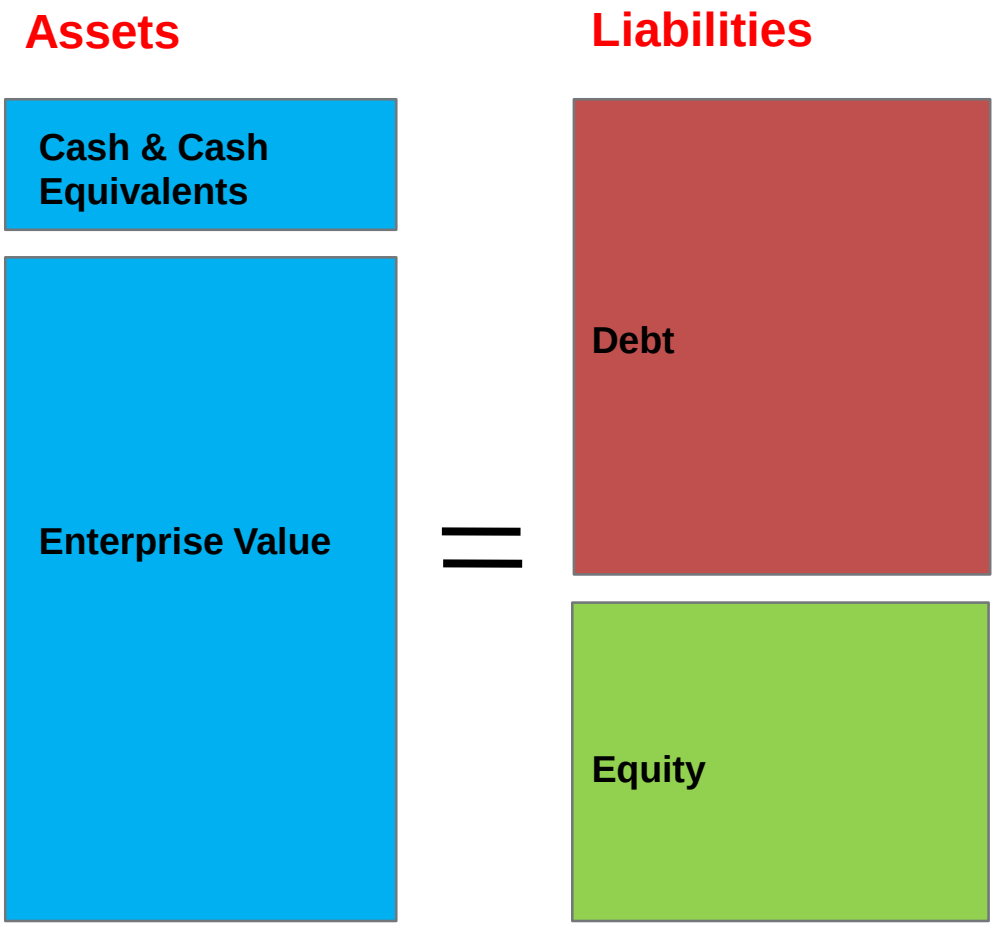
Market value is usually much higher than book value



Enteprise value = Equity + Interest Bearing Debt



What is the enterprise worth?



Solving for EV (starting from Equity)

1,200 shares outstanding
15 Share price
6,000 debt
200 surplus cash
What is the Enterprise value?

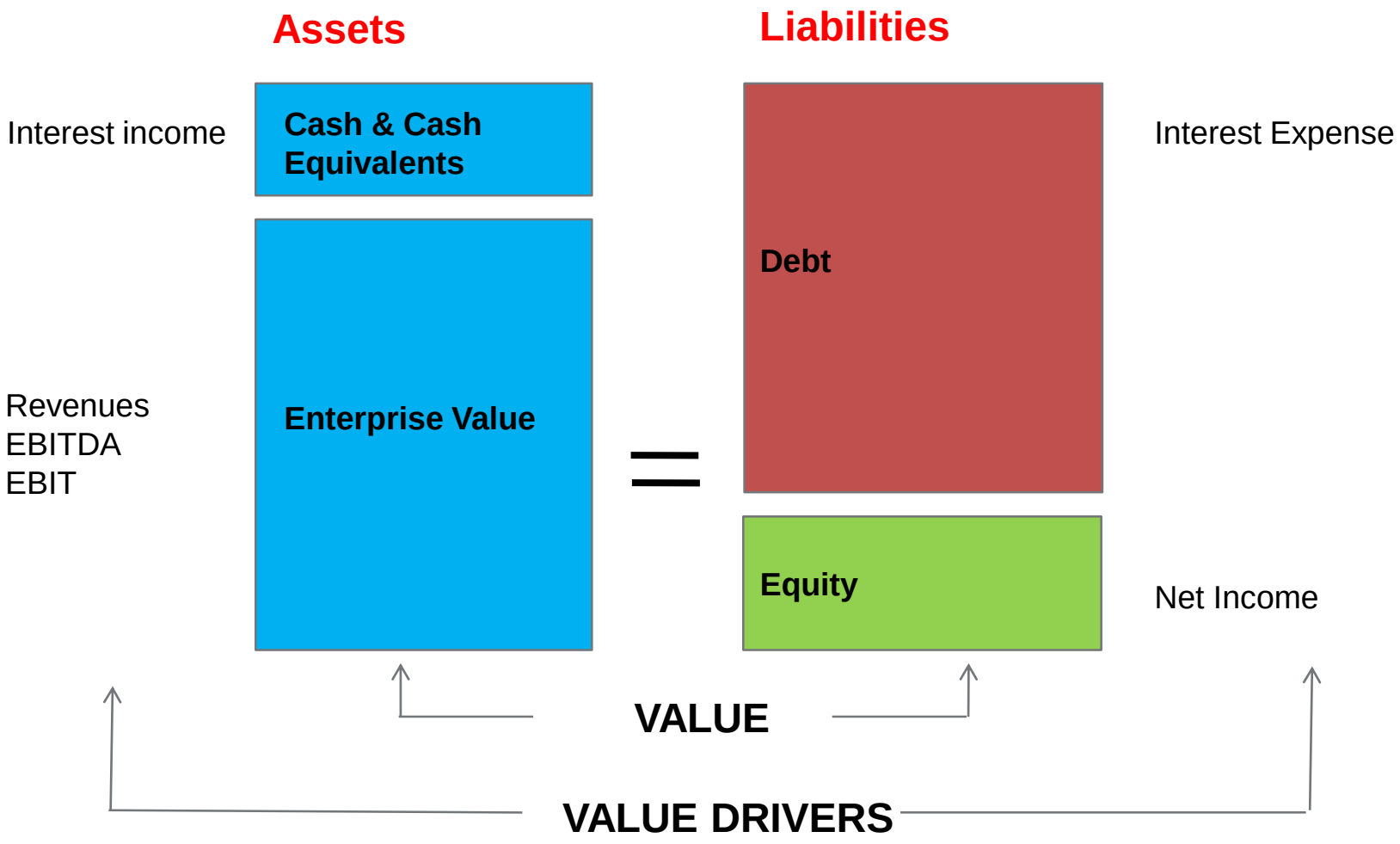
1,200*15+6,000-200=23,800

What if there is no traded stock price? (starting from EV)

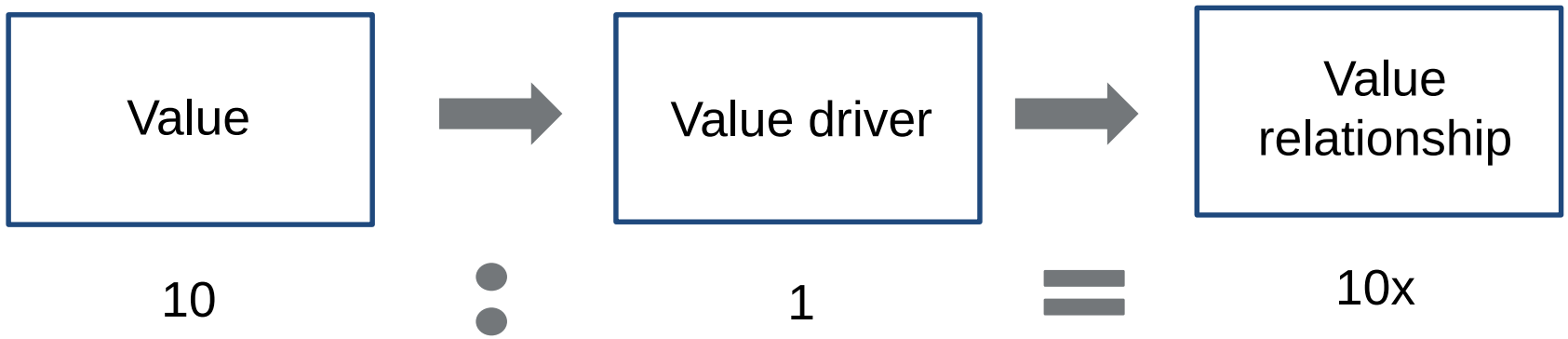
10,000 enterprise value
2,000 Investments
500 cash
5,000 debt
200 number of shares
What is the share price?

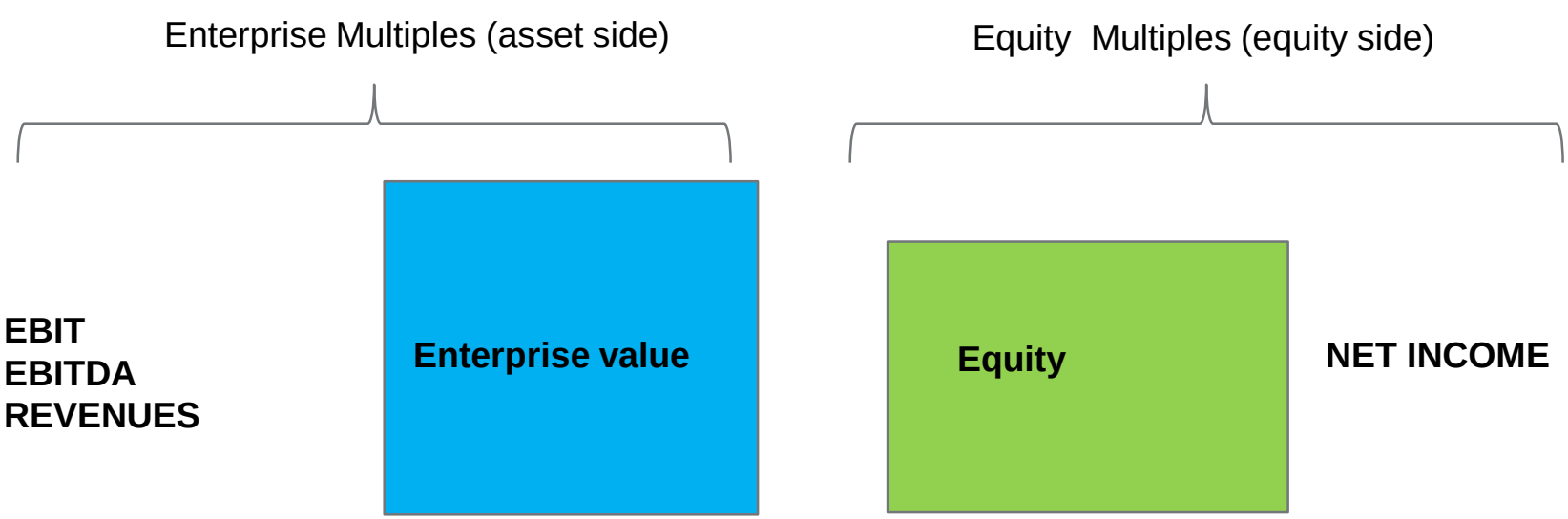
10,000+2,000+500-5,000 / 200 = 37.5

Linking P&L and BS



Enterprise multiples vs. equity multiples





Asset side vs. equity side multipls

Enterprise multiples (asset side valuation)

- express the value of an entire enterprise – the value of all claims on a business – relative to a driver that relates to the entire enterprise, such as sales or EBIT.

Equity multiples (equity side valuation)

- express the value of shareholders' claims on the assets and cash flow of the business. An equity multiple therefore expresses the value of this claim relative to a driver that applies to shareholders only, such as earnings (the residual left after payments to creditors, minority shareholders and other non-equity claimants).

Valuation roadmap

Balance Sheet

Enterprise value

+ Cash
-Debt

Equity Value

Each value number lines up to a “value driving” earnings number

Income Statement

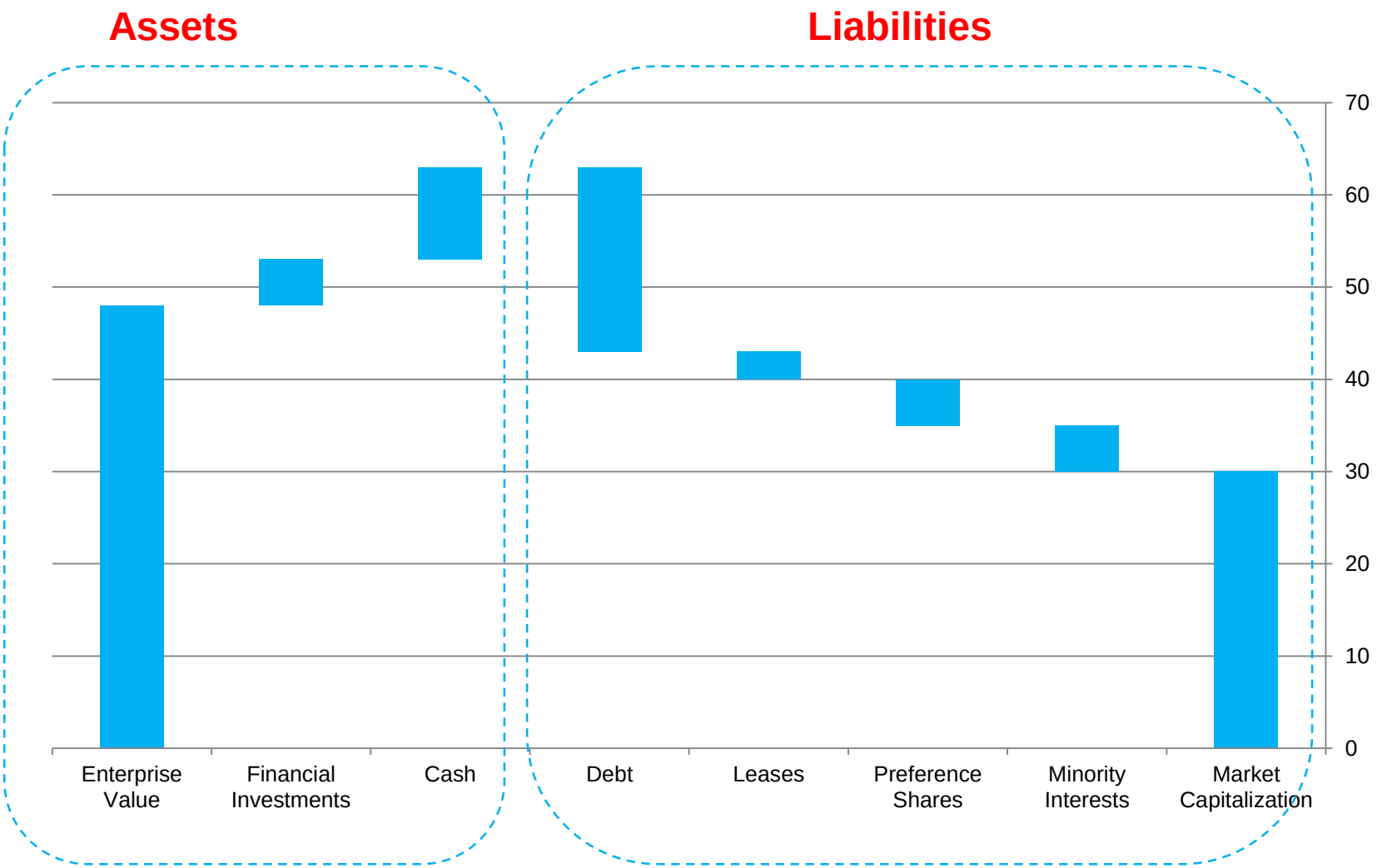
EBIT

+ Interest income
-Interest expenses
-Tax expenses

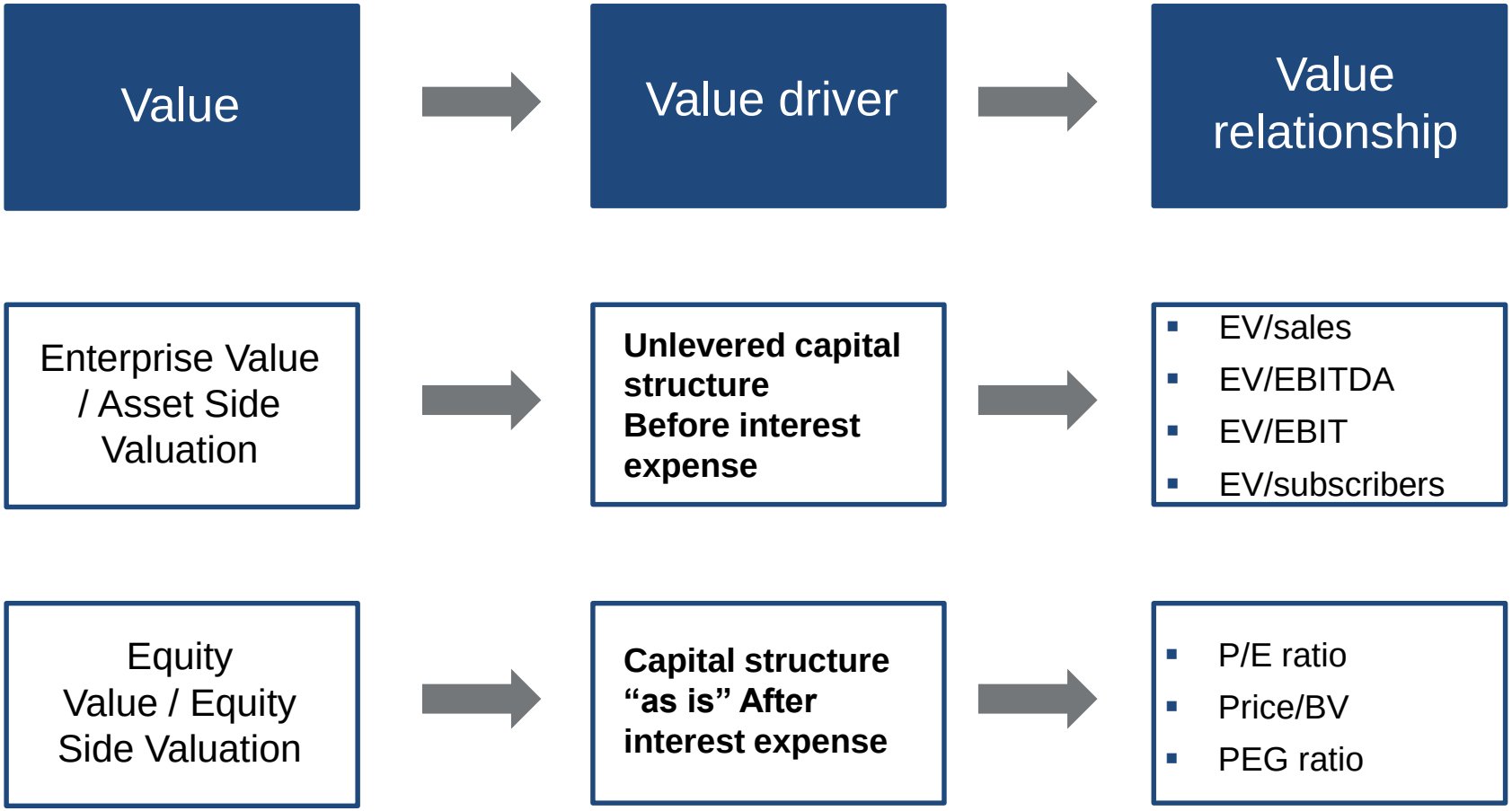
Net Income

The bottom half of the income statement

Bridge to equity



Types of multiples (cont.)



Some considerations on multiples

EV/SALES	EV/Sales is commonly used in the valuation of companies whose operating costs still exceed revenues, as might be the case with nascent Internet firms, for example. However, revenue is a poor metric by which to compare firms, since two firms with identical revenues may have wildly different margins. EV/Sales multiples are often in the range of 1.00x to 3.00x
EV/EBITDA	EV/EBITDA is one of the most commonly used valuation metrics, as EBITDA is commonly used as a proxy for cash flow available to the firm. EV/EBITDA is often in the range of 6.0x to 18.0x
EV/EBIT	Unlike EBITDA, EBIT recognizes that depreciation and amortization, while non-cash charges, reflect real expenses associated with the utilization and wear of a firm's assets that will ultimately need to be replaced. EV/EBIT is often in the range of 10.0x to 25.0x
PE	P/E is one of the most commonly used valuation metrics, where the numerator is the price of the stock and the denominator is EPS. Note that the P/E multiple equals the ratio of equity value to net Income, in which the numerator and denominator are both are divided by the number of fully diluted shares. P/E multiples are often in the range of 15.0x to 30.0x
PEG	The PEG ratio is simply the P/E ratio divided by the expected EPS growth rate, and is often in the range of 0.50x to 3.00x. PEG ratios are more flexible than other ratios in that they allow the expected level of growth to vary across companies, making it easier to make comparisons between companies in different stages of their life cycles.

…but in practice…

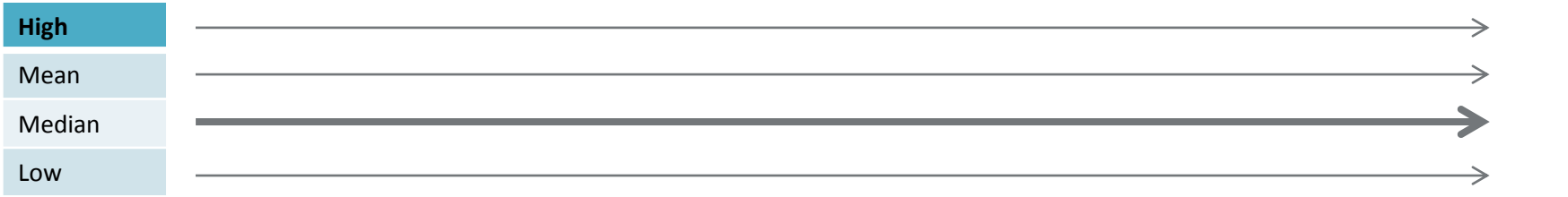
How does the output look like?

Company	EV	Mkt Cap	Turnover	EBITDA	EBIT	NI	EBITDA %	EBIT %	Did Yield %	EV/SALES	EV/EBITDA	EV/EBIT	PE	PEG
Company 1														
Company 2														
Company 3														

Key valuation numbers

Financial comparison metrics

Enterprise and Equity Multiples



Examples – trading comparables (operating metrics)

€mm	CAGR 16E-18E Revenue	CAGR 16E-18E EBITDA	EBITDA margin 2015A/E	EBITDA margin 2016E	EBITDA margin 2017E	EBIT margin 2015A/E	EBIT margin 2016E	EBIT margin 2017E	NWC / Sales Avg. last 3y	Capex / Sales Avg. 16E-18E
White goods										
Whirpool	6.8%	11.3%	10.3%	12.1%	13.2%	7.1%	9.2%	10.2%	3.5%	n.a.
Electrolux	2.9%	7.8%	5.9%	7.7%	8.1%	2.7%	4.7%	5.3%	7.6%	3.2%
Arcelik	12.4%	11.0%	10.3%	11.1%	10.8%	7.7%	8.5%	8.2%	38.1%	4.0%
Vestel	n.a.	n.a.	9.5%	7.4%	6.6%	6.3%	4.4%	3.8%	2.3%	n.a.
Median	**6.8%**	**11.0%**	**9.9%**	**9.4%**	**9.4%**	**6.7%**	**6.6%**	**6.8%**	**5.5%**	**3.6%**
Small appliances										
Groupe SEB	5.0%	12.6%	n.a.	11.2%	11.7%	8.3%	8.8%	9.2%	22.1%	2.8%
De'Longhi	8.1%	15.1%	15.2%	14.9%	15.0%	12.3%	12.3%	12.6%	17.8%	2.8%
Median	**6.5%**	**13.8%**	**15.2%**	**13.1%**	**13.4%**	**10.3%**	**10.5%**	**10.9%**	**20.0%**	**2.8%**
Professional equipment										
ITW	2.8%	2.5%	24.9%	25.7%	26.4%	21.4%	22.1%	22.4%	21.1%	3.2%
Rational	8.4%	6.9%	31.4%	31.3%	31.0%	29.4%	29.4%	29.2%	20.0%	n.a.
Middleby	N/A	N/A	24.5%	24.3%	24.9%	21.4%	21.1%	23.0%	24.3%	1.2%
Manitowoc	3.9%	7.0%	10.1%	10.5%	12.1%	7.1%	7.5%	8.8%	8.3%	2.4%
Median	**3.9%**	**6.9%**	**24.7%**	**25.0%**	**25.7%**	**21.4%**	**21.6%**	**22.7%**	**20.6%**	**2.4%**
Kitchenware / Consumer durables										
Newell Rubbermaid	3.6%	8.2%	14.4%	17.8%	18.3%	11.5%	14.8%	15.2%	22.2%	5.1%
Helen of Troy	n.a.	n.a.	14.2%	14.7%	14.9%	11.3%	11.8%	12.8%	30.6%	n.a.
Tupperware Brands	n.a.	n.a.	18.0%	17.4%	17.7%	15.3%	14.7%	15.2%	12.6%	n.a.
Fiskars	3.1%	5.0%	9.3%	10.9%	11.4%	5.9%	7.2%	7.7%	26.5%	3.6%
Duni	3.3%	5.3%	15.6%	15.1%	15.3%	11.7%	11.8%	12.1%	20.0%	3.2%
Libbey	n.a.	n.a.	14.1%	14.1%	15.1%	8.9%	8.5%	9.6%	21.7%	6.4%
Median	**3.3%**	**5.3%**	**14.3%**	**14.9%**	**15.2%**	**11.4%**	**11.8%**	**12.5%**	**22.0%**	**4.4%**

Source: Company information, J.P. Morgan estimates, broker research, FactSet as of March 2016
Note: All figures calendarized to December year-end

Examples – trading comparables (multiples)

€mm	Market cap	Firm value	Net Debt / EBITDA 15 A/E	EV / Revenue		EV / EBITDA		EV / EBIT		P / E	
				2016E	2017E	2016E	2017E	2016E	2017E	2016E	2017E
White goods											
Whirpool	11,259	15,977	1.5x	0.84x	0.81x	6.9x	6.1x	9.1x	8.0x	12.2x	n.a.
Electrolux	6,239	6,905	0.2x	0.52x	0.51x	6.8x	6.3x	11.2x	9.5x	14.6x	12.4x
Arcelik	3,902	4,928	2.3x	0.98x	0.88x	8.9x	8.1x	11.6x	10.7x	13.7x	12.3x
Vestel	550	1,130	2.0x	0.37x	0.34x	5.0x	5.2x	8.3x	9.0x	7.6x	7.5x
Median			**1.7x**	**0.68x**	**0.66x**	**6.8x**	**6.2x**	**10.2x**	**9.2x**	**12.9x**	**12.3x**
Small appliances											
Groupe SEB	4,179	4,802	n.a.	0.97x	0.92x	8.6x	7.9x	11.0x	10.0x	18.1x	15.3x
De'Longhi	3,119	2,954	(0.7x)	1.48x	1.38x	9.9x	9.2x	12.0x	11.0x	19.8x	17.9x
Median			**(0.7x)**	**1.22x**	**1.15x**	**9.3x**	**8.5x**	**11.5x**	**10.5x**	**18.9x**	**16.6x**
Professional equipment											
ITW	32,344	35,927	1.3x	2.94x	2.86x	11.4x	10.8x	13.3x	12.8x	18.2x	17.4x
Rational	5,189	4,987	(1.2x)	8.14x	7.46x	n.m.	24.1x	27.7x	25.5x	38.1x	35.4x
Middleby	5,166	5,793	1.6x	2.85x	2.44x	11.7x	9.8x	13.5x	10.6x	18.4x	14.1x
Manitowoc	2,133	3,449	3.9x	1.14x	1.11x	10.8x	9.2x	15.2x	12.7x	21.3x	16.1x
Median			**1.4x**	**2.89x**	**2.65x**	**11.4x**	**10.3x**	**14.3x**	**12.7x**	**19.9x**	**16.8x**
Kitchenware / Consumer durables											
Newell Rubbermaid	10,109	12,852	3.3x	2.36x	2.25x	13.2x	12.3x	16.0x	14.9x	18.2x	16.6x
Helen of Troy	2,532	2,947	2.1x	2.05x	1.98x	14.0x	13.3x	17.4x	15.4x	19.3x	17.8x
Tupperware Brands	2,508	3,161	1.7x	1.58x	1.53x	9.1x	8.6x	10.7x	10.1x	13.0x	12.1x
Fiskars	1,450	1,174	2.4x	0.94x	0.92x	8.6x	8.0x	13.0x	11.8x	21.0x	20.1x
Duni	679	770	0.9x	1.68x	1.64x	11.1x	10.7x	14.2x	13.6x	16.9x	15.9x
Libbey	334	697	3.3x	0.92x	0.90x	6.5x	6.0x	10.8x	9.4x	10.9x	9.0x
Median			**2.3x**	**1.63x**	**1.58x**	**10.1x**	**9.7x**	**13.6x**	**12.7x**	**17.5x**	**16.3x**

Source: Company information, J.P. Morgan estimates, broker research, FactSet as of March 2016
Note: All figures calendarized to December year-end

P&L structures – an example

NET SALES	
COGS	
Direct material	Full cost accounting
Direct labor	
Factory overheads	
Tooling	
R&D	
GROSS PROFIT 1	performance measurement to follow up gp at standard cost.
Factory cost variances	
Stock value adjustiment	
GROSS PROFIT 2	performance measurement to follow up gp level at standard cost and with actual factory cost.
Warranty	
Transportation	
Warehousing	
GROSS PROFIT 3	performance measurement to follow up gp at actual cost together with warehousing, transportation and warranty cost
SG&A	
OPERATING RESULT (EBIT)	

NET SALES
COGS
GROSS PROFIT
Trasport & warehousing
Advertising & promotions
Other fixed selling expenses
R&D
G&A
EBITDA
Depreciation
EBITA
Amortization
OPERATING RESULT (EBIT)

In any case, rely on financial analysis

Understand:

- Revenue and GM drivers
  - Volume
  - Average selling prices
  - New products
  - Mix effects
- Opex drivers
- Capital utilization
  - W/C
  - Capex

Watch out for, examples:

- One-off items
- Capitalization on inventory, intangibles
- Slow depreciation
- Release of provisions
- Stand-alone issues
- Lack of working capital
- Currency gains/losses
- Accounting principles
- Stuffing distribution channels to inflate sales
- Recent decline in discretionary spending

Back to the multiples…

Trading multiples: advantages, disadvantages and methodology

Trading multiples (cont.)

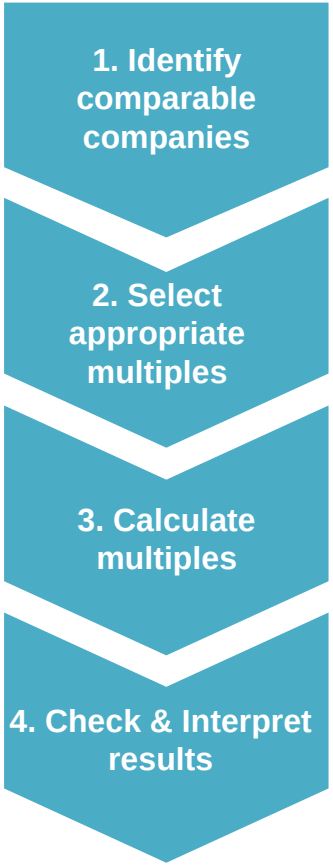
Advantages

- Useful in assessing a company against its peers
- Helps understand which strategy the market values most highly
- Usually is based on forward looking earnings / results

Disadvantages

- Finding direct comparables is often challenging
- Accounting and product mix differences make the comparison difficult
- Comparison is many times affected by
  - Liquidity
  - Availability of info (i.e. earning forecasts)
  - M&A activity in the sector
- Reliant on equity research quality

Methodology - steps



Most widely used valuation tool

1. Identify comparable companies

companies with similar business mix, size, operations and capital structure

Business mix

- Products
- Markets and Geographies served
- Customers

Size

- Assets
- Revenues

Operations

- Production process
- Operational gearing

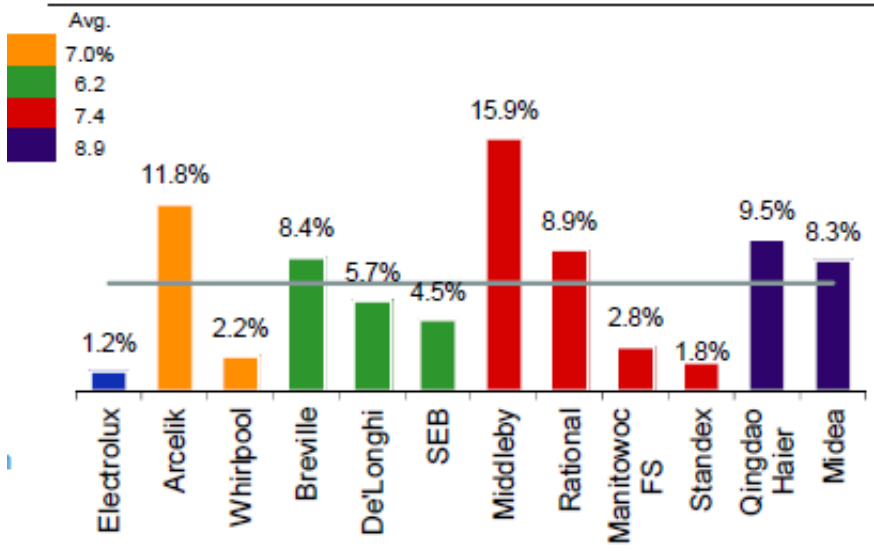
Capital structure

- Leverage
- Dividend payout

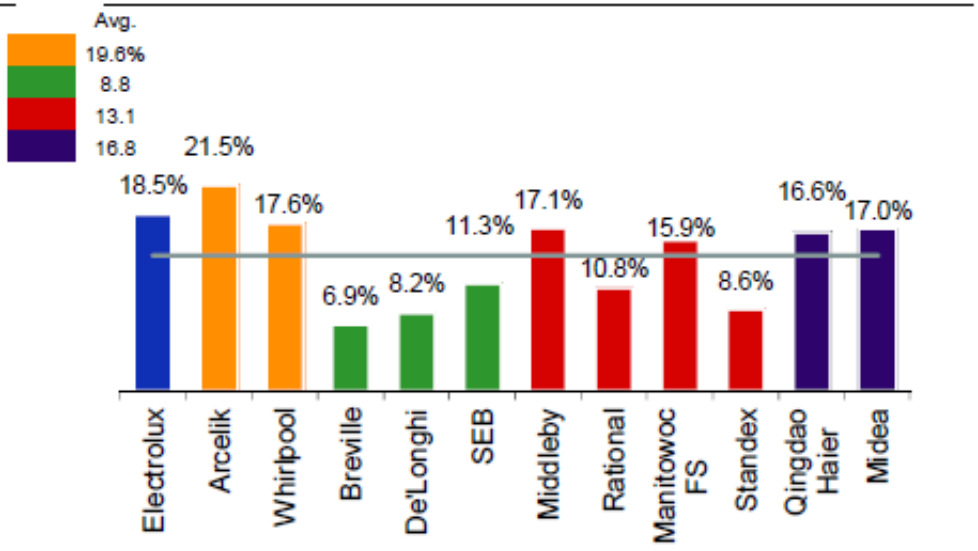
Profitability

- Margins

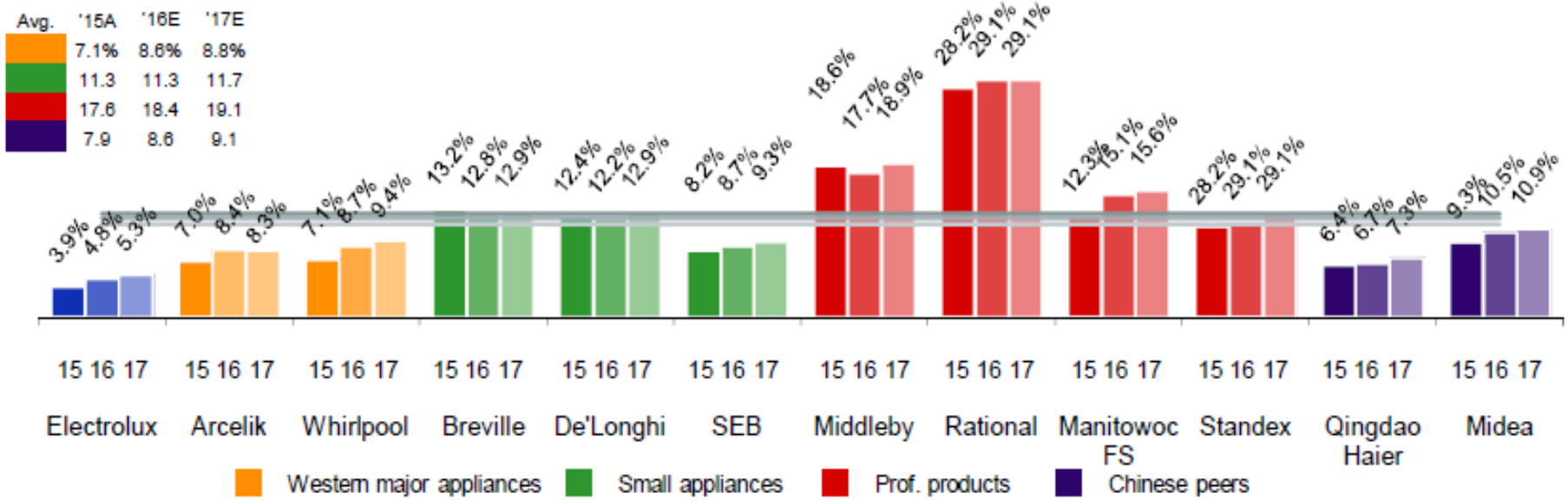
Sales growth (CAGR 2015A – 2017E)



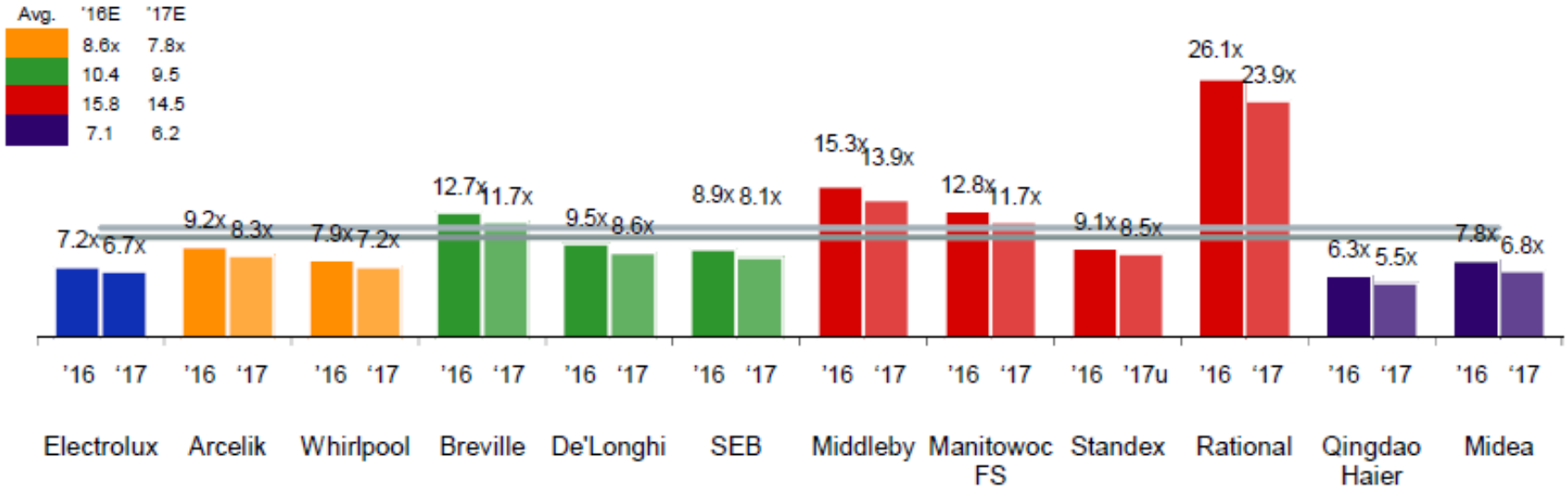
EBIT growth (CAGR 2015A – 2017E)



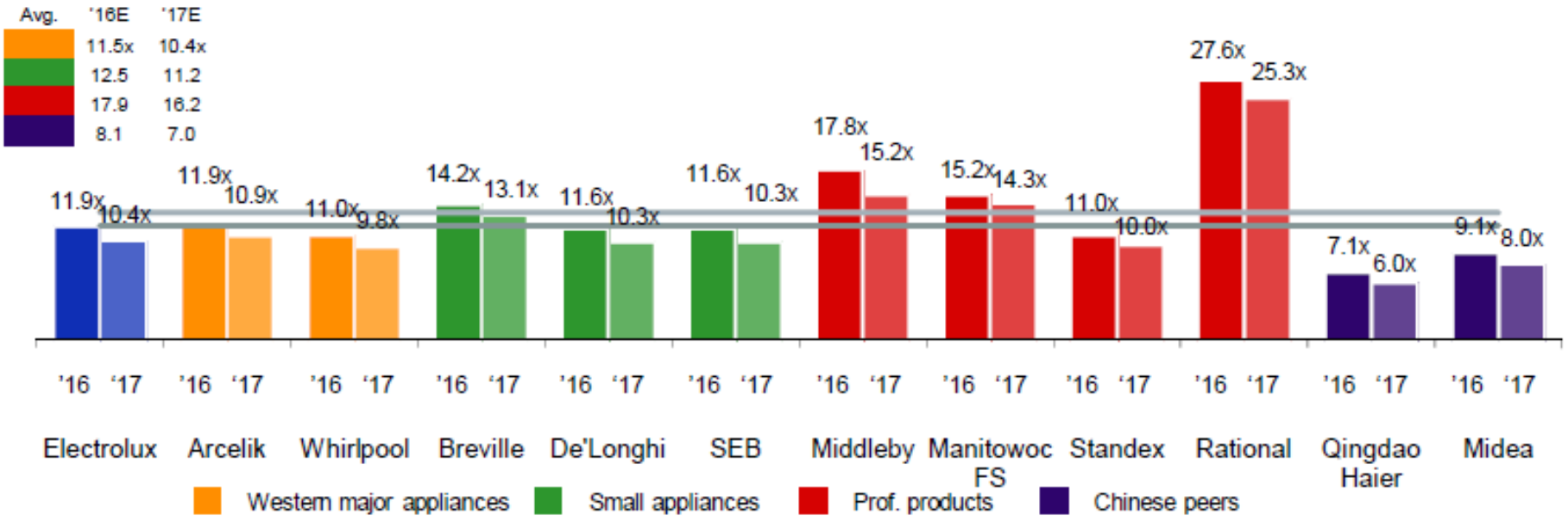
2015A – 2017E EBIT margin



EV/EBITDA 2016E – 2017E



EV/EBIT 2016E – 2017E



1. Identify comparable companies (example.)

Examples of Research Reports called «initiation coverage»

2. Select appropriate multiples (Enterprise vs. Equity)

No debt and no cash	Value	%		Earnings	Multiple
Enterprise Value	1000		EBIT	100	**10 x**
+cash	0	2.0%	+ interest income	0	
-debt	0	6.0%	- interest expense	0	
		30.0%	-tax expense	-30	
=equity value	1000		=net income	70	**14.3 x**

No debt but cash	Value	%		Earnings	Multiple
Enterprise Value	1000		EBIT	100	**10 x**
+cash	800	2.0%	+ interest income	16	
-debt	0	6.0%	- interest expense	0	
		30.0%	-tax expense	-34.8	
=equity value	1800		=net income	81.2	**22.2 x**

Debt but no cash	Value	%		Earnings	Multiple
Enterprise Value	1000		EBIT	100	**10 x**
+cash	0	2.0%	+ interest income	0	
-debt	-800	6.0%	- interest expense	-48	
		30.0%	-tax expense	-15.6	
=equity value	200		=net income	36.4	**5.5 x**

Enterprise multiples stay constant but net income and the PE multiple change with the company's capital structure

Different industries use different multiples

- The choice of multiple(s) in valuing and comparing companies depends on the nature of the business or the industry in which the business operates. For example, EV/(EBITDA−CapEx) multiples are often used to value capital intensive businesses like cable companies, but would be inappropriate for consulting firms. To figure out which multiples apply to a business you are considering, try looking at equity research reports of comparable companies to see what analysts are using.

- Enterprise value multiples are better than equity value multiples because the former allow for direct comparison of different firms, regardless of capital structure. Recall, that the value of a firm is theoretically independent of capital structure. Equity value multiples, on the other hand, are influenced by leverage. For example, highly levered firms generally have higher P/E multiples because their expected returns on equity are higher. Additionally, EV multiples are typically less affected by accounting differences, since the denominator is computed higher up on the income statement.

2. Different industries use different multiples

Sector	Calculation	Where/why
Consumer brands	PE - EV/EBITDA	Stable business
Energy & Utilities	EV/reserves of gas/oil	Value is driven by reserves of oil and gas
Mining	EV/reserves or production ton	Value of business is driven by reserves and efficiency
Banks	Equity value/Shareholders' equity	Banks value is driven by balance sheet Equity is limiting factor Always look at ROE at the same time
Industrials/capital intensive	EV/(EBITDA−CapEx)	
Real estate	Equity value/NAV	Property value is the key value driver
Hotels	EV/rooms	Where number of rooms is driver of value
Social Media	EV/User	Try and quantify the value of each single user and the multipliers in terms of clicks/advertising channels

3. Calculate multiples - choosing the appropriate period

Period	Advantage(+) / disadvantage(-)
Last calendar year	+ Enables consistent comparison with historic / future calendar years – Can be over by several months, and therefore of limited interest for stock market
Last twelve months (LTM) or trailing period	+ Provides the most recent historic information – But might be different from the future
Current calendar year	+ Usually the period that the stock market focuses on most – Clearly some degree of uncertainty over the year end result (it requires normalised results)
Next calendar year	+ Focuses on future revenues and profit + Especially relevant for fast-growing companies – Projections become less accurate the further you go into the future

3. Calculate multiples – consistency

Make sure that numerator and denominator are consistent

	Levered multiple	Unlever	Adjustments	Unlevered multiple
Numerator	**Equity value**	+ Net debt Bank debt + Bonds + Leases + Preferred stock – Cash – Securities	+ Minority interest (market value) – Financial investments	**Enterprise value**
Denominator	**Net income**	+ Taxes + Net interest + Interest expense – Interest income	+ Minority interest in net income – Financial investments	**Sales/EBITDA/EBIT**

4. Check and interpret the results

Possible reasons of why companies trade at different multiples

Long-term growth / risk "Fundamental"	▪ Historic / projected growth rates ▪ Competitive position ▪ Leverage (P/E ratios) ▪ Capital intensity (EBITDA multiples) ▪ Margins (revenue multiples) ▪ Quality of earnings (i.e. aggressive accounting) ▪ Quality of business mix ▪ Regulatory environment
Other "Imperfections"	▪ Free float ▪ Market listing (where listed) ▪ Market has different expectations to the broker ▪ Mistake or imprecision in spreading comp

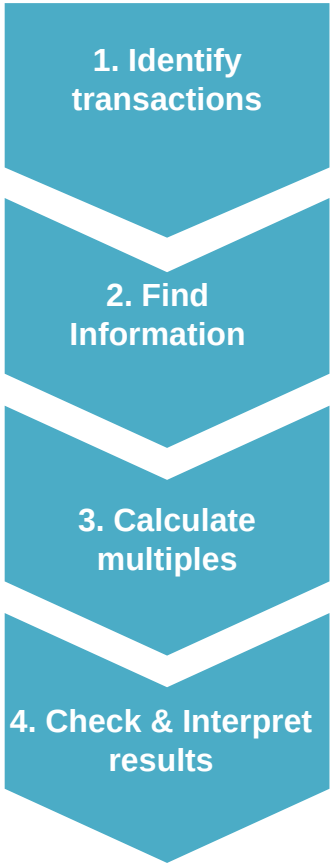
Transaction multiples

Transaction multiples

Description recap

- Valuation based on implied multiples of precedent transactions (sales, profit or other parameters)
- Allows a potential acquirer to assess the price range which vendors have been willing to accept for a company / asset with similar characteristics
- Dependant on the accurate application of precedent multiples that are relevant benchmarks to the company / asset in question
- Key when you buy control
- Difficult to get comparable transactions, furthermore data can be out of date

Steps



Most important in M&A situations

Transaction multiples (cont.)

Advantages

- Actual price paid for business – reality
- Gives the sense of how strong of weak the market is for a particular asset
- Very useful in M&A negotiation
- Based on public information

Disadvantages

- Sametimes very difficult to get accurate data (particularly when private companies are involved)
- Premium paid is driven by the transaction concept
  - Financial versus strategic buyer
  - Competition in sale
  - Consolidation in the sector
- Data in news can be misleading
- Transactions have their own specific lives

1. Identify transactions

Understanding target and target sector

- Gain a clear understanding of the target company's business including
  - Primary competitors
  - Major deals
- Define target sector

Find information

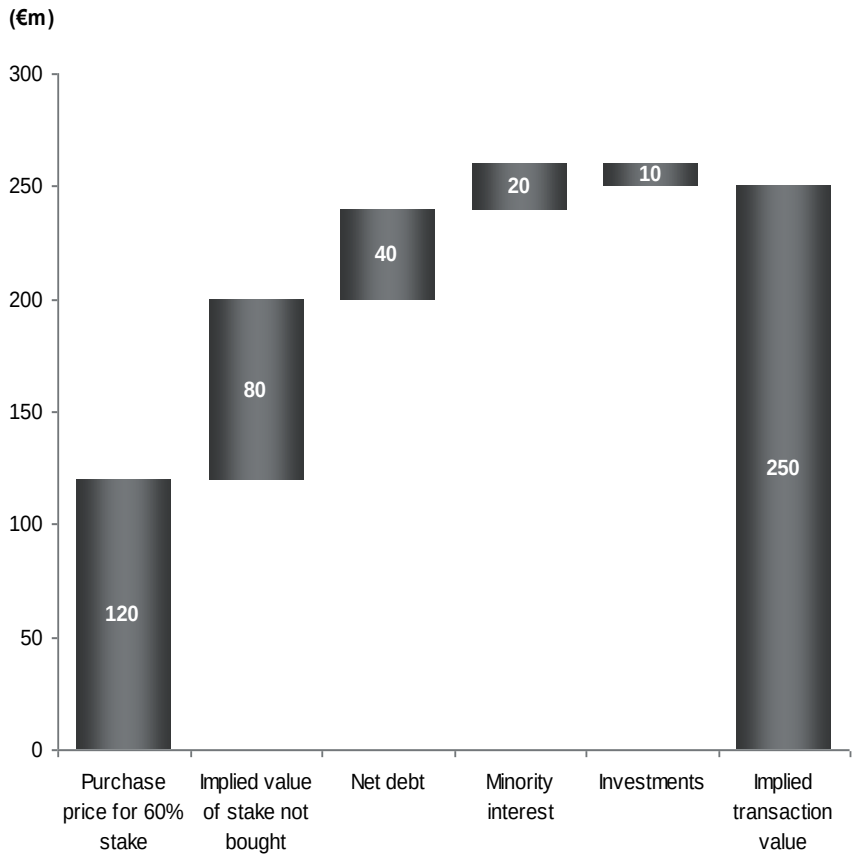
- Check for any previously existing deal sheets in order to verify the completeness of any new deal runs
- Go back in time – usually between 2 and 5 years maximum)
- Use criteria that limits the scope (size of deals, geographic region, public, majority control, etc)

2. Calculate multiple - EV

Example

- A buys a 60% stake in B for €120m
- B has net debt of €40m
- B has minority interest of €20m
- B has investments of €10m

Choose relevant sample



4. Check and interpret the results

- Profit trend

  EPS 2002 > EPS 2001

  P/E 2002 < P/E 2001

- Relative multiple comparison

  EBIT multiple > EBITDA multiple > revenue multiple

- Compare multiples to outside sources

Selected precedent transactions

Date	Target	Acquiror	Transaction value (EURmm)	Implied transaction value/LTM EBITDA	LTM EBITDA margin
4-Dec-15	N&W	Lone Star	690	9.2x	24.0%
18-Jun-14	WMF	KKR	980	7.7x	12.3%
02-Oct-13	Rancilio Group	Ali Group	N/A	N/A	14.9%
27-Jun-13	Caffitaly System	Groupe Alpha	200	8.0x	25.0%
28-Aug-08	N&W	Investcorp	N/A	9.0x[1]	23.2%
Median				8.5x	

Date	Target	Acquiror	Transaction value (EURmm)	Implied transaction value/LTM EBITDA	LTM EBITDA margin
17-Sep-15	Intermetro Industries	Ali Group	376	N/A	N/A
16-Oct-13	IMI	Marmon	875	8.0x	16.9%
05-Nov-12	Scotsman Industries	Ali Group	513	10.6x	17.8%
14-Apr-08	Enodis	Manitowoc	1,336	12.0x	11.3%
19-Oct-07	AGA Foodservice	Ali Group	330	9.9x	10.5%
Median				10.1x	

Date	Target	Acquiror	Transaction value (EURmm)	Implied transaction value/LTM EBITDA	LTM EBITDA margin
29-Feb-16	Hydro Flask	Helen of Troy	192	12.0x	25.0%
11-Jan-16	World Kitchen	Mirae Asset Private Equity	458	6.3x	11.4%
11-May-15	WWRD	Fiskars	400	10.0x	10.4%
12-Dec-12	Royal Copenhagen	Fiskars	66	8.0x	12.5%
13-Oct-11	Universal Industries Corporation	Ethos Private Equity	74	9.4x	15.1%
Median				9.4x	

Source: Company information, Dealogic, Mergermarket
[1] Available through news articles