

Executive Education

# Advanced Management Program

## Corporate Finance for Senior Managers

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15. – 16. April 2026

# Corporate Finance

## AGENDA

**01** Profit and Creating Value

**02** Capital allocation and Valuation

**03** Organic growth or Acquisition

# 01

## CORPORATE FINANCE

# Profits vs Value Creation

- ROIC requires margins and capital efficiency
- Measuring and benchmarking performance: Dupont Analysis
- From ROIC to Economic Profit

# The Objective of the Firm

Whose value should managers focus on maximising...?

And which **KPI** (or KPIs) measure this?

# Meller S.A. : creating value?

The financial statements of the Meller company

Balance Sheets (€'000)			
	31/12/99	31/12/00	31/12/01
<b>Assets</b>			
Fixed Assets (net)	1200	1300	1450
Accounts Receivable	2730	3100	4200
Inventories	2800	3200	4300
Prepaid Expenses	0	0	0
Cash	600	350	300
<b>Total Assets</b>	<b>7330</b>	<b>7950</b>	<b>10250</b>
<b>Liabilities &amp; Owners' Equity</b>			
Owners' Equity	4130	4390	4850
Long-term debt	1300	1200	1100
Short-term debt	300	500	1900
Accounts payable	1400	1600	2050
Accrued expenses	200	260	350
<b>Total Liabilities &amp; Owners' Equity</b>	<b>7330</b>	<b>7950</b>	<b>10250</b>

Income Statements (€'000)			
	1999	2000	2001
<b>Revenues</b>	22100	24300	31600
Cost of goods sold (COGS)	17600	19300	25100
Selling, General & Administrative (SG&A)	3750	4000	5000
Depreciation expenses	100	100	150
<b>Earnings Before Interest &amp; Tax (EBIT)</b>	<b>650</b>	<b>900</b>	<b>1350</b>
Net interest expenses	110	130	260
<b>Earnings Before Tax (EBT)</b>	540	770	1090
Income tax expense	220	310	430
<b>Earnings after Tax (EAT)</b>	<b>320</b>	<b>460</b>	<b>660</b>
<b>Dividends</b>	<b>180</b>	<b>200</b>	<b>200</b>
Retained Earnings	140	260	460

**What do you look at? What else would you like to know?**

# Profitability: Margins

Margin ratios capture the **contribution of one Euro of sales to a measure of profit:**

The percentage of revenue left after deducting costs: either only cost of goods sold (COGS), or also other operating expenses (SG&A and depreciation), or... any and all costs.

## Gross Margin

$$\frac{\text{Revenues} - \text{Cost of Goods Sold}}{\text{Revenues}}$$

## Operating Margin

$$\frac{\text{EBIT}}{\text{Revenues}}$$

## Net Margin

$$\frac{\text{EAT}}{\text{Revenues}}$$

## REVENUES

– COGS

## GROSS PROFIT

– SG&A

– Depreciation

## EBIT

– Interest

## EBT

– Taxes

## EAT

# Profitable vs. Profitable Enough

**From investors' view, the profits represent the money they have “earned” on their investment.**

*(even if it will not be paid out immediately, but perhaps reinvested...)*

*Which investment?*

**Debt:** the cash given to the firm by lenders; banks or bonds

**Equity:** the cash given to the firm by its owners

The rights of debt and equity to demand immediate cash payment of returns differ – but they all expect to make money in some form at some point.

**Earnings of the firm must – *in the long-term* – be enough to satisfy these expectations.**

# Economic Profitability

Two Points of View...

...the company's investors as a whole:

**ROIC** (return on invested capital)

ROCE (return on capital employed)

before tax:

$$\frac{\text{EBIT}}{\text{Equity} + \text{Debt}}$$

after tax:

$$\frac{\text{EBIT} \cdot (1 - \text{tax rate})}{\text{Equity} + \text{Debt}}$$

...the owners:

**ROE** (return on equity)

$$\frac{\text{EBT}}{\text{Equity}}$$

$$\frac{\text{EAT}}{\text{Equity}}$$

*note: Equity + Debt is the sum of "Invested Capital" from the Managerial Balance Sheet !*

# Comparing across Companies

- two operationally identical firms – the only difference being the source of their funding.
- **COMPANY J** is **all equity** financed:  $E = € 20m$
- **COMPANY K** is **50% equity, 50% debt**:  $E = € 10m + D = € 10m$  (*interest  $r = 10\%$* )

	<b>company J</b>	<b>company K</b>
Revenues	20.000.000	20.000.000
- COGS	- 12.500.000	- 12.500.000
Gross Profit	7.500.000	7.500.000
- other operating expenses	- 2.500.000	- 2.500.000
<b>EBIT</b>	<b>5.000.000</b>	<b>5.000.000</b>
- interest (10%)	0	- 1.000.000
<b>EBT</b>	5.000.000	4.000.000
- taxes (50%)	- 2.500.000	- 2.000.000
<b>EAT</b>	<b>2.500.000</b>	<b>2.000.000</b>

# Return Differences Co. J vs K

$$\text{ROIC} = \frac{\text{operating profit}}{\text{Invested Capital}}$$

$$\text{ROE} = \frac{\text{net profit}}{\text{equity capital}}$$

COMPANY J

before taxes:  $\frac{5\text{ m}}{20\text{ m}} = 25\%$

after taxes:  $\frac{2,5\text{ m}}{20\text{ m}} = 12,5\%$

$\frac{5\text{ m}}{20\text{ m}} = 25\%$

$\frac{2,5\text{ m}}{20\text{ m}} = 12,5\%$

COMPANY K

before taxes:  $\frac{5\text{ m}}{20\text{ m}} = 25\%$

after taxes:  $\frac{2,5\text{ m}}{20\text{ m}} = 12,5\%$

$\frac{4\text{ m}}{10\text{ m}} = 40\%$

$\frac{2\text{ m}}{10\text{ m}} = 20\%$

# ROE: Tax- and Leverage Effect

Separating operational, locational, and financing effects

- **Operations:**

*before-tax*  $ROIC_K = ROIC_J$ ; the two companies are operationally identical.

- **Taxes:**

*after-tax*  $ROIC_K = ROIC_J$ ; debt's tax advantage – that interest payments are tax-deductible – is explicitly excluded.

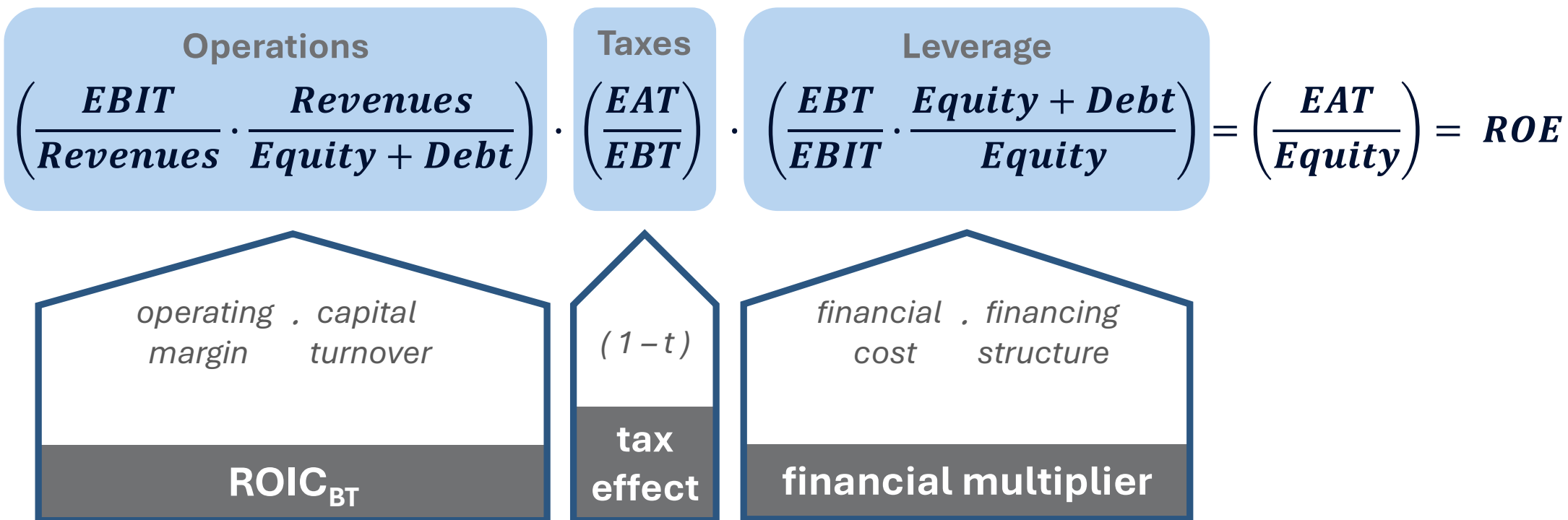
- **Leverage:**

$ROE_K > ROE_J$ , (in this case), due to financial leverage and the tax advantage of debt.

# Performance metric: ROE or ROIC?

Decomposing into 3 factors: Operations, Taxes, Leverage

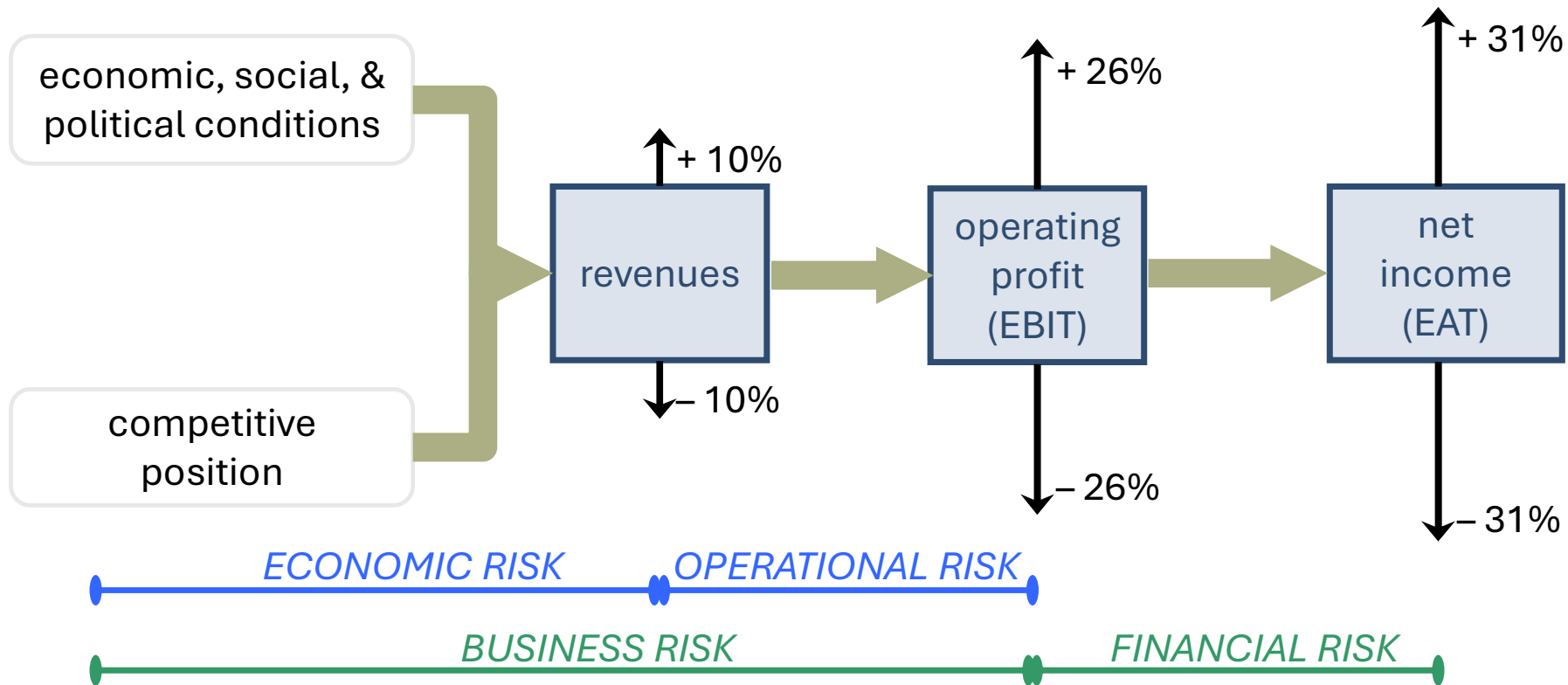
**ROIC** captures the operating profits generated. **ROE** includes how they are distributed among investor groups.



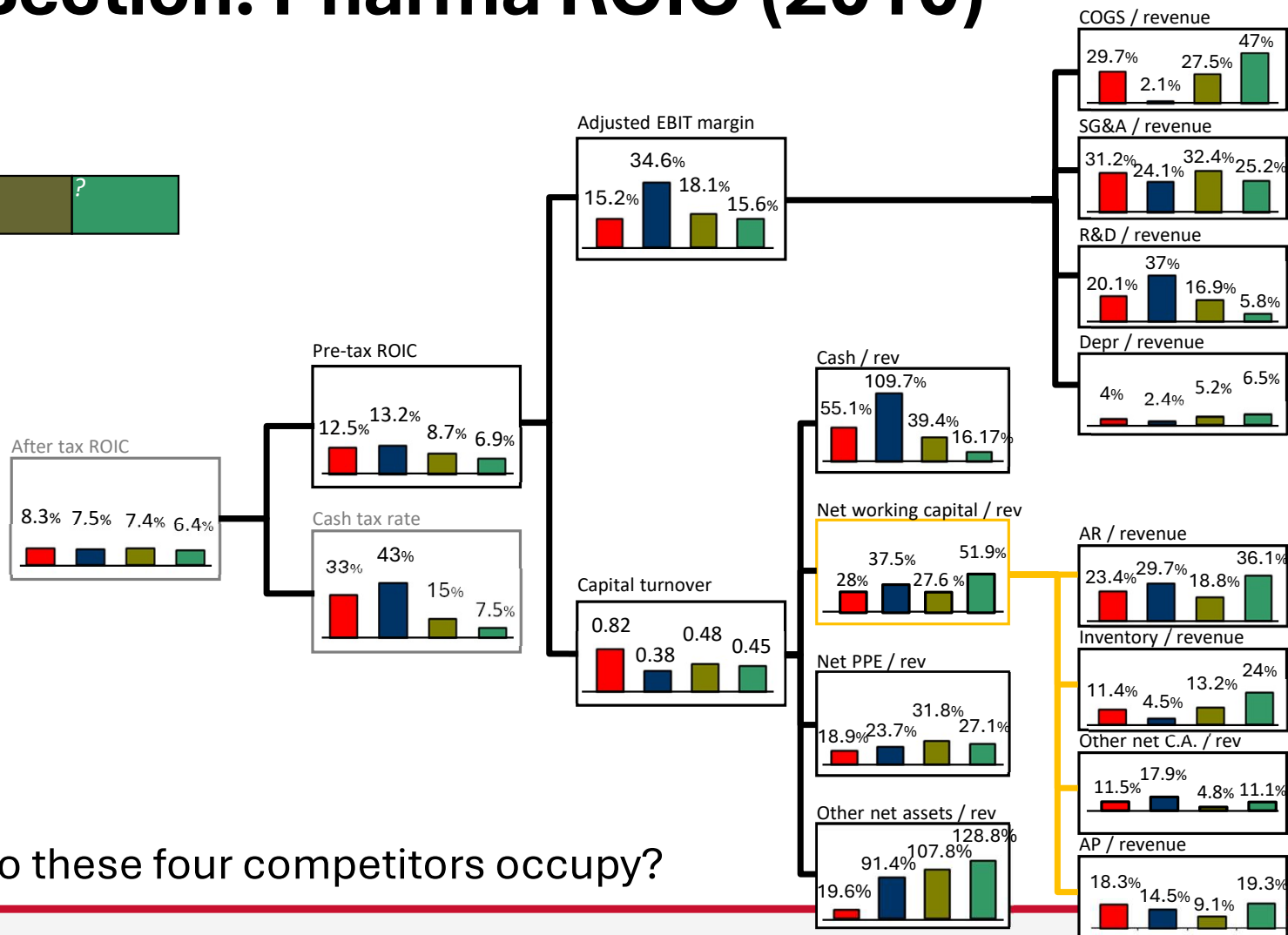
**Differences in ROE across firms could stem from any of these three sources.**

# Business vs. Financial Risk

Two questions: 1) does the firm make a profit? 2) for whom?

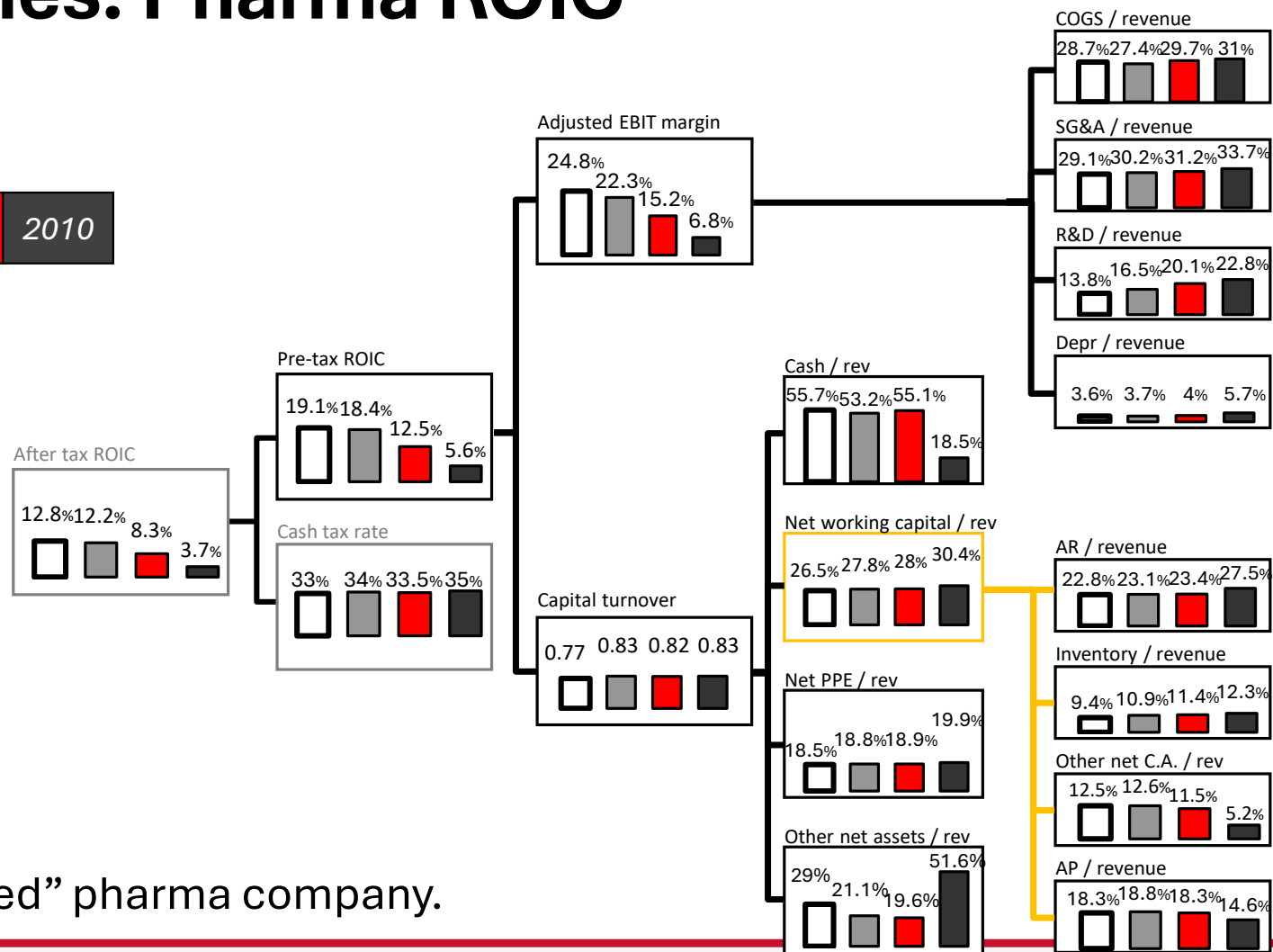
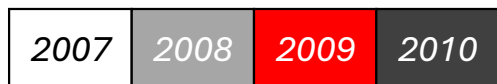


# Cross-Section: Pharma ROIC (2010)



Which niche do these four competitors occupy?

# Time-Series: Pharma ROIC

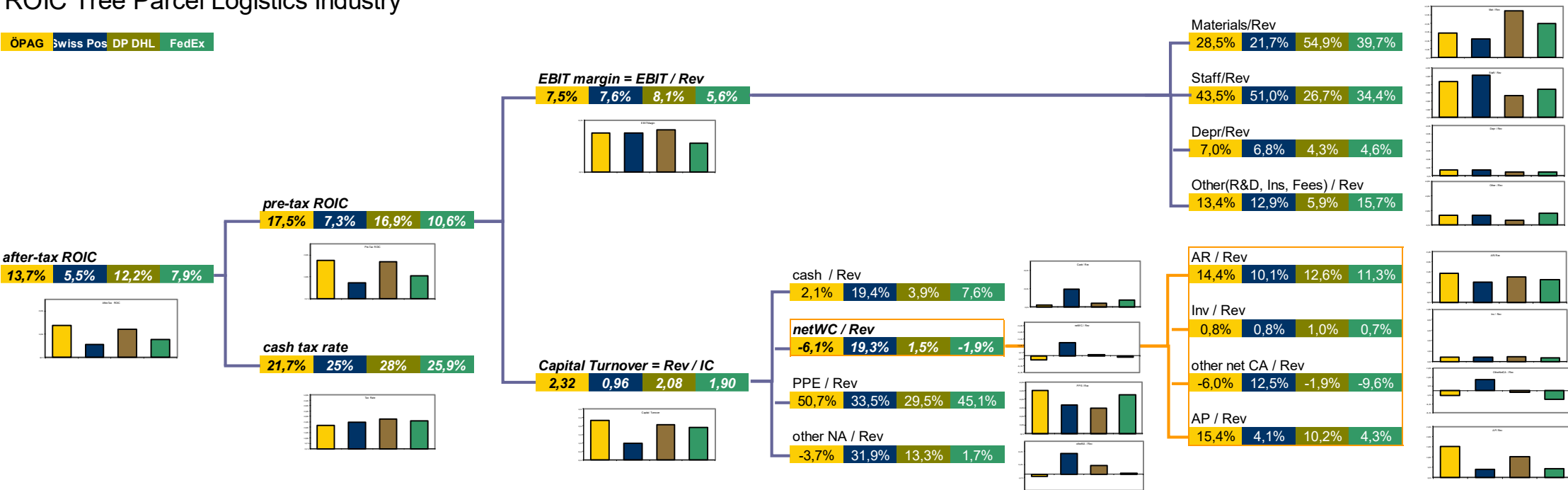


4 years of the “red” pharma company.

# Industry: Österreichische Post AG

## ROIC Tree Parcel Logistics Industry

ÖPAG Swiss Pos DP DHL FedEx



# Time-Series: Österreichische Post AG

## ROIC Tree - Time Trends ÖPAG

2019 2020 2021 2022 2023(F)

after-tax ROIC (F)  
14,4% 11,9% 17,0% 13,7% 12,1%

pre-tax ROIC (F)  
21,0% 16,7% 23,2% 17,5% 16,1%

cash tax rate (F)  
32% 29% 26,8% 21,7% 25%

adj. EBIT margin = EBIT / Rev (F)  
9,3% 7,0% 8,0% 7,5% 6,6%

Capital Turnover = Rev / IC (F)  
2,25 2,37 2,89 2,32 2,44

to assess the effect of the proposed plan for margins and working capital management, adjust your forecasts for 2023 by moving the scrollbar/slider.\* (it rounds to the nearest %)

Materials/Rev (F)

23,0% 26,5% 27,4% 28,5% 29,0%

Staff/Rev

45,4% 46,2% 44,4% 43,5% 44,0%

Depr/Rev

5,5% 6,3% 6,3% 7,0% 7,0%

Other(R&D, Ins, Fees) / Rev

16,8% 14,0% 13,9% 13,4% 13,4%

cash / Rev (F)

2,4% 4,8% 3,3% 2,1% 2,0%

netWC / Rev

-4,4% -8,1% -9,2% -6,1% -6,0%

PPE / Rev

49,1% 50,5% 46,1% 50,7% 50,0%

other NA / Rev

-2,6% -5,0% -5,7% -3,7% -5,0%

AR / Rev (F)

13,8% 16,4% 14,4% 14,4% 14%

Inv / Rev

0,7% 0,7% 0,6% 0,8% 1%

other net CA / Rev

-2,2% -6,7% -9,4% -6,0% -6%

AP / Rev

16,6% 18,5% 14,8% 15,4% 15%

# How does ROIC link to NPV?

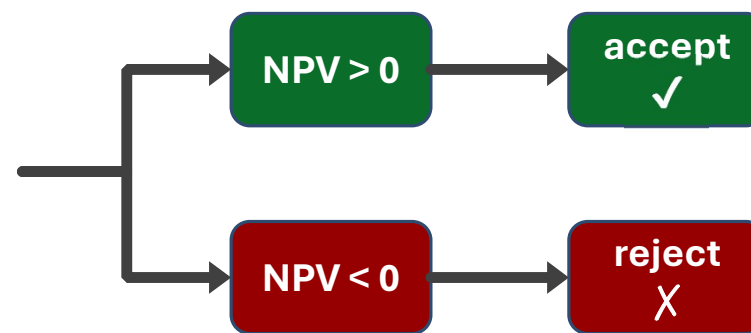
The most common capital budgeting tool used is Net Present Value:

“the value created by undertaking a project is the *value* of all future cash flows generated, net of investment cost.”

## NPV:

“how much money (in €), after compensating appropriately for time and risk (by  $k$ ), is generated beyond initial investment?”

$$NPV = -CF_0 + \frac{E[FCF_1]}{1+k} + \frac{E[FCF_2]}{(1+k)^2} + \dots + \frac{E[FCF_T]}{(1+k)^T}$$



Does the firm have the competence and resources to turn €x of cash today into *more* than €x(1+k) tomorrow...?

# Recall: the Cash Flow Statement

Opening Cash Balance

CASH FLOW FROM OPERATING ACTIVITIES

- EBIT
- + Depreciation
- Tax Expenses
- Change in Net Working Capital

A. Net Operating Cash Flow

CASH FLOW FROM INVESTING ACTIVITIES

- Sale of fixed assets
- Capital expenditures and acquisitions

B. Net Cash Flow from Investing Activities

CASH FLOW FROM FINANCING ACTIVITIES

- + new short- or long-term debt / - ST or LT debt repaid
- + new equity issued / - equity repurchased
- Interest Payment
- Dividend Payment

C. Net Cash Flow from Financing Activities

Closing Cash Balance:  $Opening\ Cash + A + B + C$

Is the firm making money from day to day operations, including required working capital?

Is the firm spending cash on its long-term goals?

**“Free Cash Flow”** =  
Operating + Investment  
Cash Flows

# From FCF to Value Drivers

$$1. FCF = NOPAT - \Delta Invested Capital$$

$$2. ROIC = \frac{NOPAT}{Invested Capital}$$

But where does the money to invest come from? Profits...



$$3. Investment Rate = \frac{\Delta Invested Capital}{NOPAT}$$

Is it a big amount? Depends...

$$4. g_{IC} = \frac{\Delta Invested Capital}{Invested Capital}$$

$$g_{IC} = ROIC \cdot Investment Rate$$

↔

$$Investment Rate = \frac{g_{IC}}{ROIC}$$

Reinvesting a high proportion of high profits will raise growth

$$\begin{aligned} FCF &= NOPAT - \Delta Invested Capital \\ &= NOPAT - NOPAT \cdot Inv. rate \\ &= NOPAT \cdot \left(1 - \frac{g_{IC}}{ROIC}\right) \end{aligned}$$

Which fraction of profits must be reinvested to grow at rate g?

**High FCF today requires either: (1) high ROIC, (2) low growth, or (3) both**

# Can we just choose investment rates?

(separate question: is what we want sensible...?)

## Company A

Our firm has a profitability of 20%.

Target capital growth rate is 10%.

How much of our profits do we have to reinvest to achieve this?

**50% of profits are reinvested to fund  
10% growth, the other 50% are „free“.**

$$ROIC = \frac{NOPAT}{Invested\ Capital} = 20\%$$

$$g_{IC} = \frac{\Delta Invested\ Capital}{Invested\ Capital} = 10\%$$



$$Investment\ Rate = \frac{g_{IC}}{ROIC} = \frac{10\%}{20\%} = 50\%$$

# Can we just choose investment rates?

(separate question: is what we want sensible...?)

## Company B

Our firm has a profitability of 7%.

Target capital growth rate is 21%.

How much of our profits do we have to reinvest to achieve this?

**300% of profits would have to be reinvested to fund 21% growth; we need investors!**

$$ROIC = \frac{NOPAT}{Invested\ Capital} = 7\%$$

$$g_{IC} = \frac{\Delta Invested\ Capital}{Invested\ Capital} = 21\%$$



$$Investment\ Rate = \frac{g_{IC}}{ROIC} = \frac{21\%}{7\%} = 300\%$$

# Strategic Liquidity

Paying for optionality

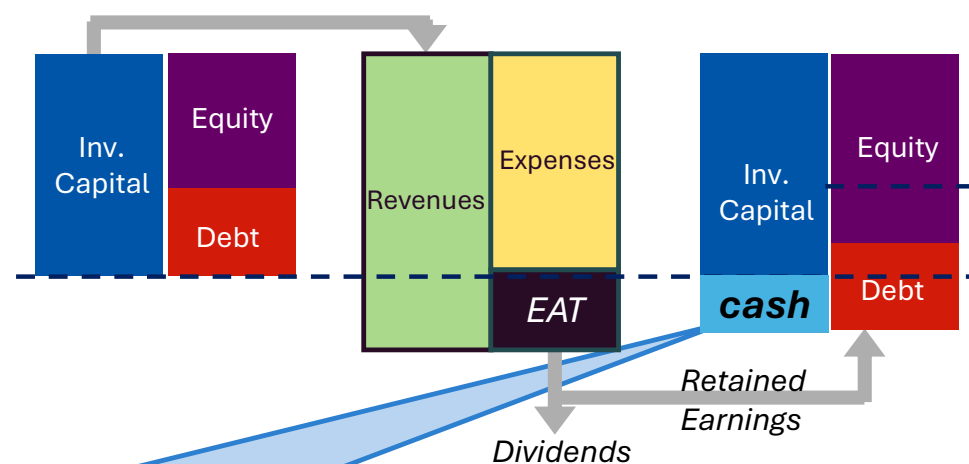
To reinvest profits, you have to retain **cash**, but too much is costly

Uber

*until recently – more projects than cash*

Microsoft

*Cash accumulates faster than projects appear*



Having cash provides **insurance** and **flexibility** to move fast.  
The cost is lower **ROIC**.

# 02

## CORPORATE FINANCE

# Capital Allocation

- Reinvest, acquire or return capital
- Sustainable growth rate: is it necessarily the right growth rate?
- Effect of financing structure on capital allocation

# Value Creation KPIs

## Three competitors

	<i>ValueCo</i>	<i>VolumeCo</i>	<i>GrowthCo</i>
NOPAT (in €million)	100 €	100 €	100 €
Invested Capital (in €million)	500 €	1.000 €	500 €
ROIC			
Target growth (g)	5%	5%	8%

*First steps:*

*profits, reinvestment, and growth*

In the excel sheet provided, calculate and discuss the following questions:

- (1) What are the firms' investment rates?
- (2) How high are the FCF that the firms are generating this year?

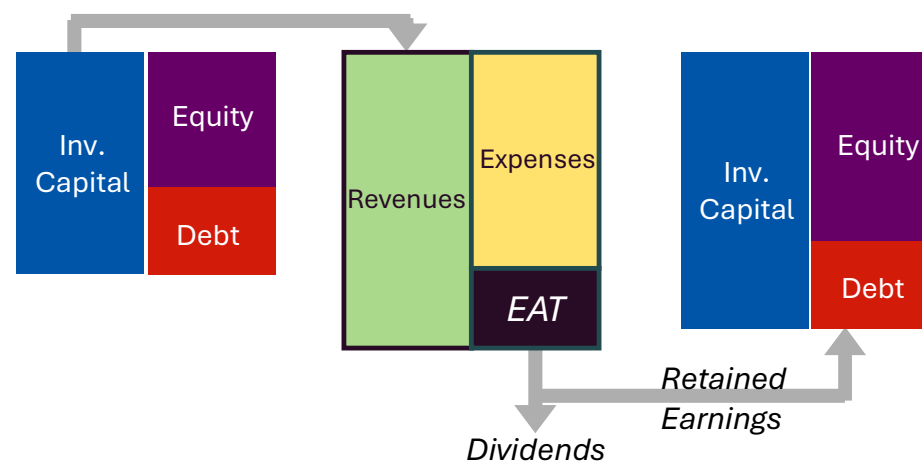
# Sustainable Growth

How much can our capital base grow *just* with the funds we generated internally through profits?

But: Financing creates commitments... **interest** and **dividends**

→ Only retained earnings of equity contribute to sustainable growth  $g^*$

$$\begin{aligned}
 g^* &= \frac{\text{Retained Earnings}}{\text{Equity}} \\
 &= \frac{\text{EAT}}{\text{Equity}} \cdot \frac{\text{Retained Earnings}}{\text{EAT}} \\
 &= \text{ROE} \cdot \text{retention rate}
 \end{aligned}$$



**Is this much growth necessarily value-creating?**

*No. It's just possible without asking for permission...*

# Rethinking Growth $g$

Back to capital budgeting logic:

When is an investment opportunity worth it? NPV says when returns exceed the cost of capital...

$$g^* = ROE \cdot RetentionRate$$

**But retaining money to grow is value creating if and only if**

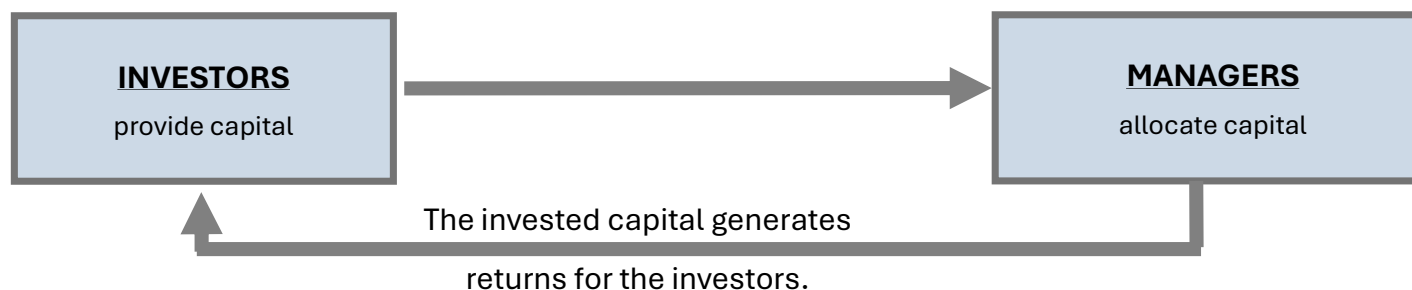
$$ROIC_{afterTax} > WACC$$

**Otherwise, a higher growth rate leads to higher value destruction.**

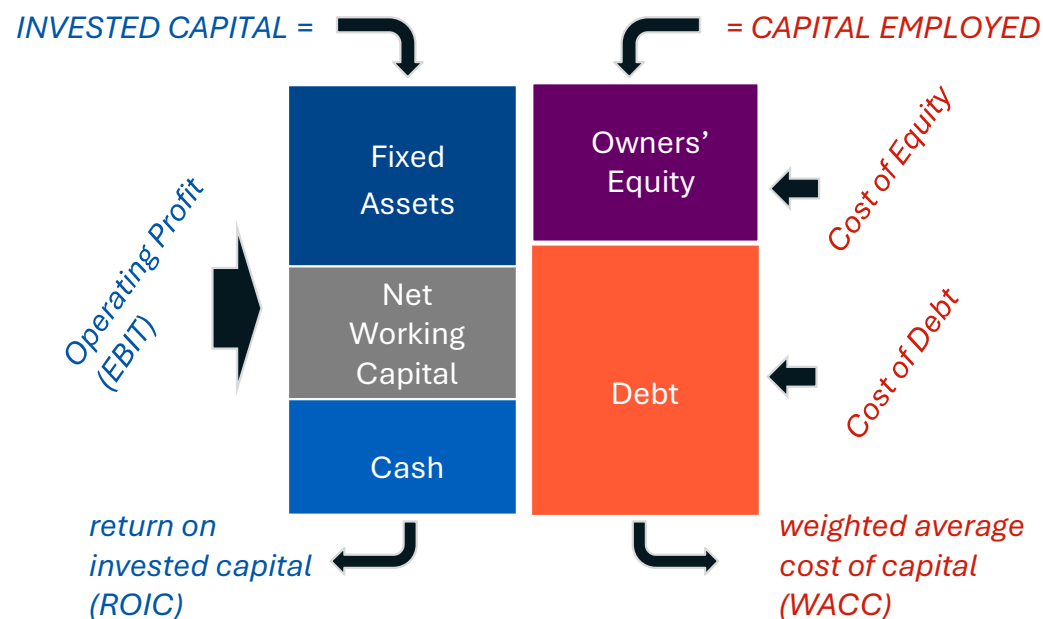
*Careful:*

*Accounting numbers are necessarily a snapshot of individual years, but cannot reflect unfinished / early projects!*

# Rethinking the Value Creation Process



**Generating value** implies undertaking projects that **generate a return** on the capital invested in them (ROIC) that is **higher than the opportunity costs of capital** (OCC, estimated by WACC).



# Economic Profit: accounting view on value

“Economic Value Added<sup>®</sup>” was developed as a quantifiable measure of value creation.

*idea:*

**“A firm creates value when it generates higher returns on the capital it is given than investors expect.”**

*implementation using accounting data:*

**“A firm creates value when the Return on Invested Capital (ROIC) is higher than the Cost of Capital.”:**

$$\text{ROIC}_{\text{at}} > \text{WACC}$$

This indicator *Economic Value Added*<sup>®</sup> is calculated as follows:

$$EVA^{\text{®}} = [ \text{ROIC}_{\text{afterTax}} - \text{WACC} ] \cdot \text{Invested Capital}$$

WACC = “Weighted Average Cost of Capital”

# Why another KPI when we have ROIC?

Compare the following two companies A and B, both have a cost of capital of 8%:

$$EVA^{\circledR} = [ ROIC_{\text{afterTax}} - WACC ] \cdot \text{Invested Capital}$$

## Company A

*Our firm has a profitability of 20%, on €1bn in capital base.*

*What is the Economic Profit for investors?*

$$EVA = (20\% - 8\%) \cdot \text{€1bn} = \text{€120m}$$

## Company B

*Our firm has a profitability of 7%, on €1bn in capital base.*

*What is the Economic Profit for investors?*

$$EVA = (7\% - 8\%) \cdot \text{€1bn} = -\text{€10m}$$

# Drill-Down: Improving EVA: profitability or size?

EVA = Operating Result (after tax) minus Costs for Capital Use

operating  
margin

capital  
turnover

growth

growth

$$\text{EVA} = \text{ROIC}_{\text{at}} \cdot \text{Invested Capital} - \text{WACC} \cdot \text{Invested Capital}$$

tax rate?

cost of capital?

*...But do investors really support growth only in highly profitable companies?*

# Accounting: a rear view mirror

As a board member, what would you recommend your managers do based on these numbers? Invest more, shrink, give all the money back to shareholders...?

	FY 2021	FY 2022
<b>NOPLAT BUILD (USD \$m)</b>		
<b>Adjusted EBIT (= Adj. EBITDA + D&amp;A line above)</b>	<b>(1.676)</b>	<b>766</b>
<i>Normalised tax rate (input — change for sensitivity)</i>	20, %	20, %
<b>NOPLAT (Net Operating Profit Less Adjusted Taxe)</b>	<b>(1.341)</b>	<b>613</b>
<b>INVESTED CAPITAL (USD \$m)</b>		
<b>Invested Capital</b>	<b>23.734</b>	<b>16.605</b>
<i>of which: Goodwill &amp; Intangibles (approx.)</i>	10.832	10.487
<i>Average IC (start + end / 2)</i>	21.780	20.170
<b>Net Investment (<math>\Delta</math>IC year-on-year)</b>	<b>3.908</b>	<b>(7.129)</b>
<b>RETURN ON INVESTED CAPITAL</b>		
<b>ROIC</b>	<b>(6,2%)</b>	<b>3,0%</b>
<i>Assumed WACC (input — adjust for discussion)</i>	9, %	9, %
<b>ROIC – WACC (value creation spread)</b>	<b>(15,2%)</b>	<b>(6,0%)</b>
<b>Economic Profit = Avg IC <math>\times</math> (ROIC – WACC) (\$m)</b>	<b>(3.301)</b>	<b>(1.202)</b>

	FY 2021	FY 2022
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Net income (loss) incl. non-controlling interests	(570)	(9.138)
Depreciation & amortisation	902	947
Stock-based compensation	1.935	1.811
Unrealized (gain) loss on equity securities, net	(1.294)	7.079
Deferred income taxes	77	(303)
Bad debt expense	109	114
<i>NWC changes &amp; other operating items (net plug)</i>	(1.604)	132
<b>Net cash provided by (used in) operating activities</b>	<b>(445)</b>	<b>642</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Capital expenditures	(298)	(252)
Purchases of non-marketable equity securities		
Purchases of marketable securities		
Proceeds from maturities & sales of marketable securities		
Acquisitions of businesses, net	(1.038)	(59)
Other investing activities (net)		
<b>Net cash used in investing activities</b>	<b>(1.201)</b>	<b>(1.637)</b>
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Proceeds from issuance of term loans & notes	1.766	-
Repayments of term loans & notes	(998)	(52)
Repurchases of common stock	-	-
Proceeds from stock issuance (options/ESPP)	675	255
Other financing activities (net)	337	(188)
<b>Net cash provided by (used in) financing activities</b>	<b>1.780</b>	<b>15</b>
<b>CASH &amp; LIQUIDITY SUMMARY</b>		
<b>Cash, equivalents &amp; restricted cash – end of year</b>	<b>7.391</b>	<b>6.677</b>
<b>FREE CASH FLOW BRIDGE</b>		
Net cash from operating activities	(445)	642
Less: Capital expenditures	(298)	(252)
<b>Free Cash Flow (FCF)</b>	<b>(743)</b>	<b>390</b>

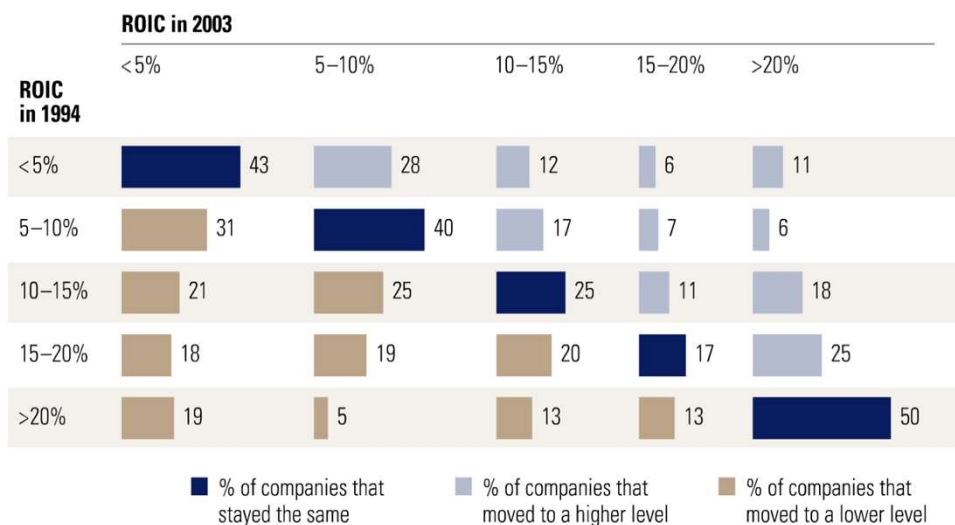
# ROIC or Growth: Conflict?

Ideally, investors would like both.

But growth is more difficult to sustain than ROIC in the **long run**.

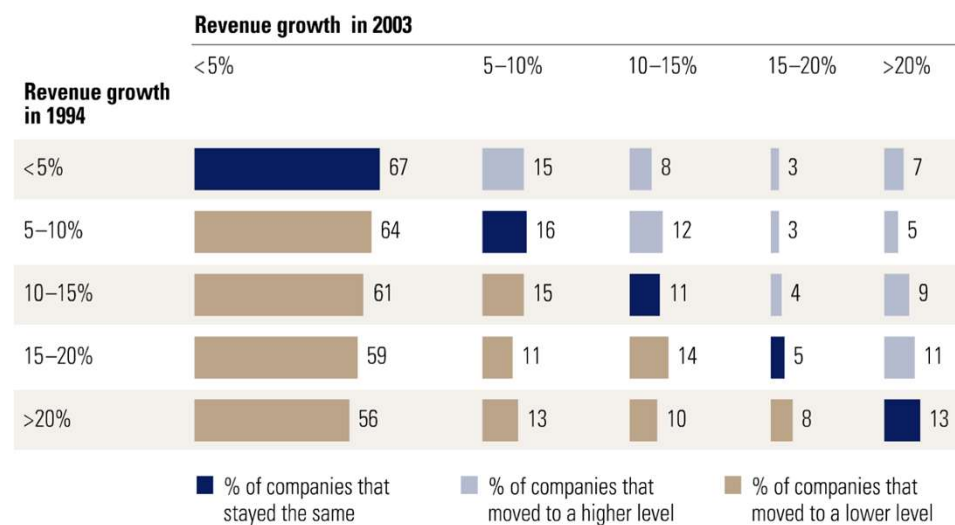
## Individual companies can sustain a high ROIC . . .

3-year average ROIC, without goodwill, of all publicly listed US companies with real revenues >\$200 million, %



## . . . but cannot sustain growth

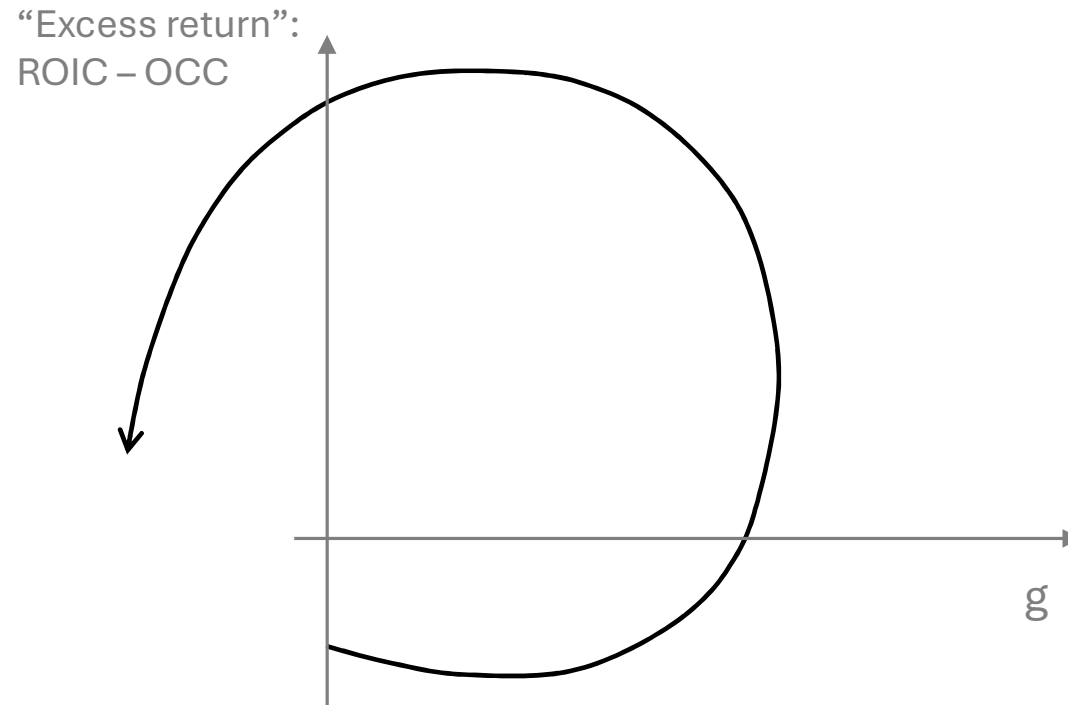
3-year compound annual growth rate of real revenues of all publicly listed US companies with real revenues >\$200 million, %



source: McKinsey

# Firm Life Cycle

If growth and profitability naturally change over time... how do investors think of **value**?



\* Opportunity Cost of Capital, which is estimated through WACC (Weighted Average Cost of Capital)

# Valuing the future

Investors do what they always do:

assess a firm's future **cash generation**, given **growth** rates and the required **investments**, and how **profitable** those investments will be – compared to other **opportunities**.

$$Value = \frac{E[FCF_1]}{1+k} + \frac{E[FCF_2]}{(1+k)^2} + \frac{E[FCF_3]}{(1+k)^3} + \dots + \frac{E[FCF_t]}{(1+k)^t} + \dots [??]$$

If these cash flows grow... at rate  $g$   
 $FCF_3 = FCF_2 \cdot (1+g)$   
 There is a convenient solution for this calculation:

$$Value = \frac{E[FCF_1]}{k-g} = \frac{E \left[ NOPAT_1 \cdot \left( 1 - \frac{g}{ROIC} \right) \right]}{k-g}$$

# Valuation with Multiples

This formula is the basis of **Multiples** to value firms.

If you assume that next year's profit  $NOPAT_1$  is approximately this year's,  $NOPAT_0$ , then

$$Value = \frac{E[FCF_1]}{k - g} = NOPAT_1 \cdot \frac{1 - \frac{g}{ROIC}}{k - g}$$

The value of the firm – taking into account all expectations of future profits and growth – is just a **multiple** of today's profits.

e.g. ROIC is 12%, WACC is 9%, growth rate  $g$  is 2%:

„The firm should trade at a multiple of  $\frac{1 - \frac{2\%}{12\%}}{9\% - 2\%} = 11.9x$  earnings.“

# Value Creation KPIs

## Three competitors

	ValueCo	VolumeCo	GrowthCo
NOPAT (in €million)	100 €	100 €	100 €
Invested Capital (in €million)	500 €	1.000 €	500 €
ROIC			
Target growth (g)	5%	5%	8%

First steps:  
profits, reinvestment, and growth

In the excel sheet provided, calculate and discuss the following questions:

- (3) What is the Economic Profit (EVA) for the firms this year?
- (4) What is the value of the firm?

$$Value = \frac{E[FCF_1]}{k - g} = NOPAT_1 \cdot \frac{1 - \frac{g}{ROIC}}{k - g}$$

		growth rate g									
		0.5%	1%	1.5%	2%	2.5%	3%	3.5%	4%	4.5%	
ROIC	9%	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	
	8%	20.4	20.8	21.4	22.2	23.3	25.0	27.8	33.3	50.0	
	7%	20.8	21.4	22.4	23.8	26.7	30.8	38.3	49.9	71.4	
	6%	20.8	21.9	23.3	25.6	27.5	33.3	43.3	59.9	87.5	
	5%	21.0	22.2	23.8	26.9	28.9	33.3	40.7	55.6	100.0	
	4%	21.1	22.5	24.3	28.7	30.9	35.0	43.3	60.0	110.0	
	3%	21.2	22.7	24.7	27.3	30.9	36.4	45.6	63.6	118.2	
	2%	21.3	22.9	25.0	27.8	31.7	37.5	47.2	66.7	125.0	
	1%	21.4	23.1	25.3	28.2	32.3	38.5	48.7	69.2	130.8	
	0%	21.4	23.2	25.5	28.6	32.9	39.3	50.0	71.4	135.7	
10%	21.5	23.3	25.7	28.9	33.3	40.0	51.1	73.3	140.0		

# That seems too good to be true...

The formula is convenient, but it does come with caveats.

$$\frac{1 - \frac{g}{ROIC}}{k - g}$$

**g**

Growth Rate

- $g_{IC}$ ?  $g_{FCF}$ ?  $g_{NOPAT}$ ?
- Does it matter?

**ROIC**

Profitability

- Is this year's *ROIC* representative?
- Is future *RONIC* the same as historic *ROIC*?

**k**

Cost of Capital  
(WACC)

- Difficult to estimate
- Large impact on multiple

# That seems too good to be true...

The formula is convenient, but it does come with caveats.

$$\frac{1 - \frac{g}{ROIC}}{k - g}$$

**g**

Growth Rate


**ROIC**

Profitability

- $g_{IC}$ ?  $g_{FCF}$ ?  $g_{NOPAT}$ ?
- Does it matter?

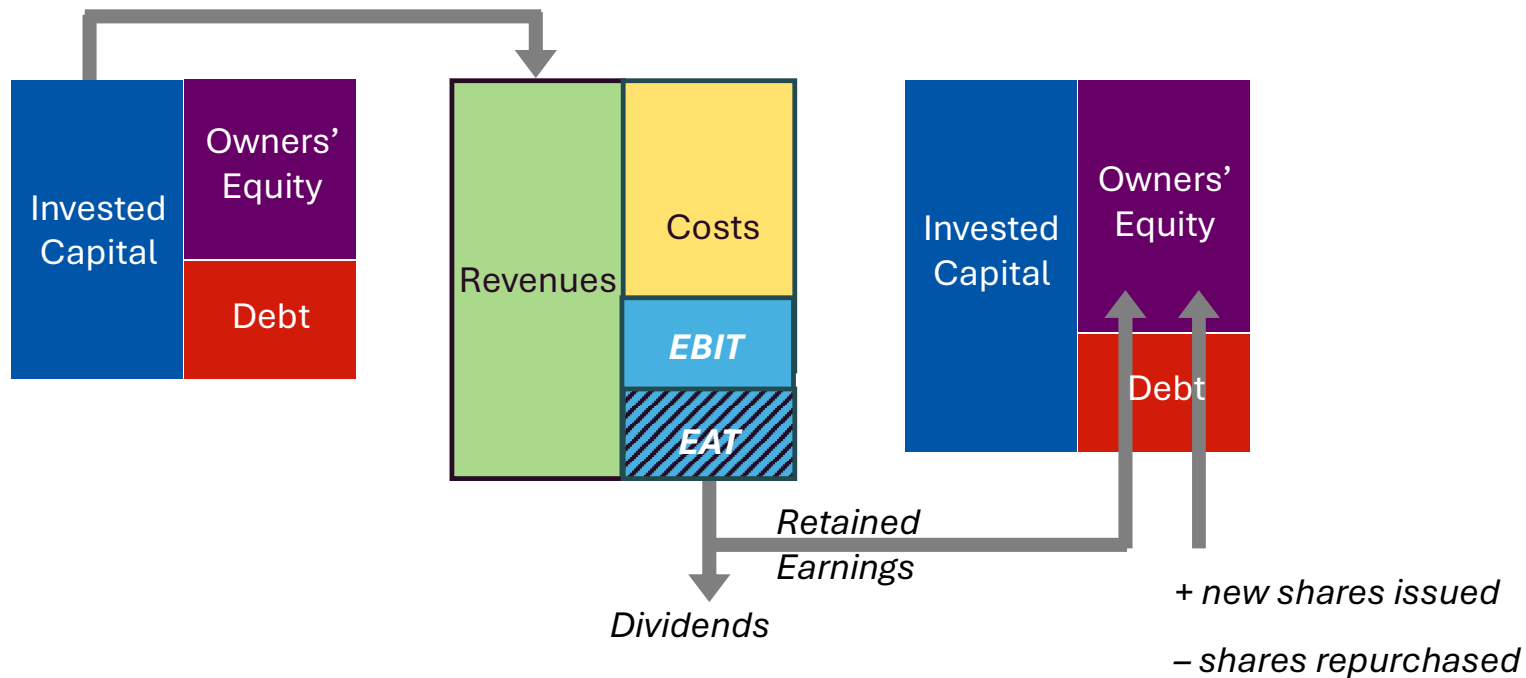
- Is this year's *ROIC* representative?
- Is future *RONIC* the same as historic *ROIC*?

- ✓  $g_{IC} = g_{NOPAT}$  when  $ROIC = RONIC$
- ✓  $g_{NOPAT} = g_{FCF}$  when investment rate ***IR*** constant

 ***Which types of firms does this capture?***

# ROIC dynamics

$$ROIC = \frac{NOPAT}{Invested\ Capital}$$



ROIC links **Income Statement** and **Balance Sheet**.

But depending on the nature of an investment, these two components do not move at the same time.

# 03

## CORPORATE FINANCE

### Build vs Buy

- ... and what to pay
- Valuation methods, synergies, and critical assumptions
- Capital budgeting tools

# Acquisitions are unique ,projects‘

Looking at **valuation multiples** for acquiring targets is tempting, but what about the underlying assumptions

✓ ***ROIC = RONIC ?***

✓ ***ROIC*** stable ?

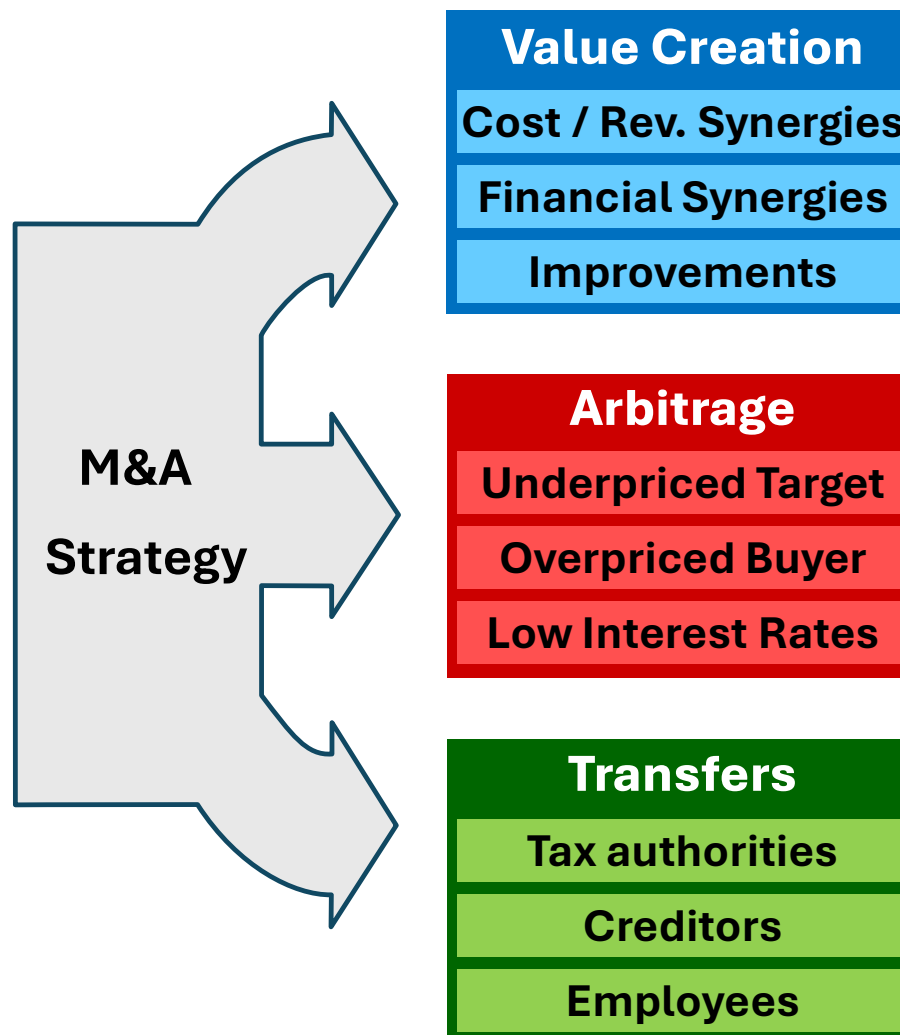
✓ ***IR*** stable?

# M&A Strategies

Good assets do not mean a good target.

At least one of the following must apply:

- improve them
- not pay full value
- get someone else to pay



# Value Creation through M&A

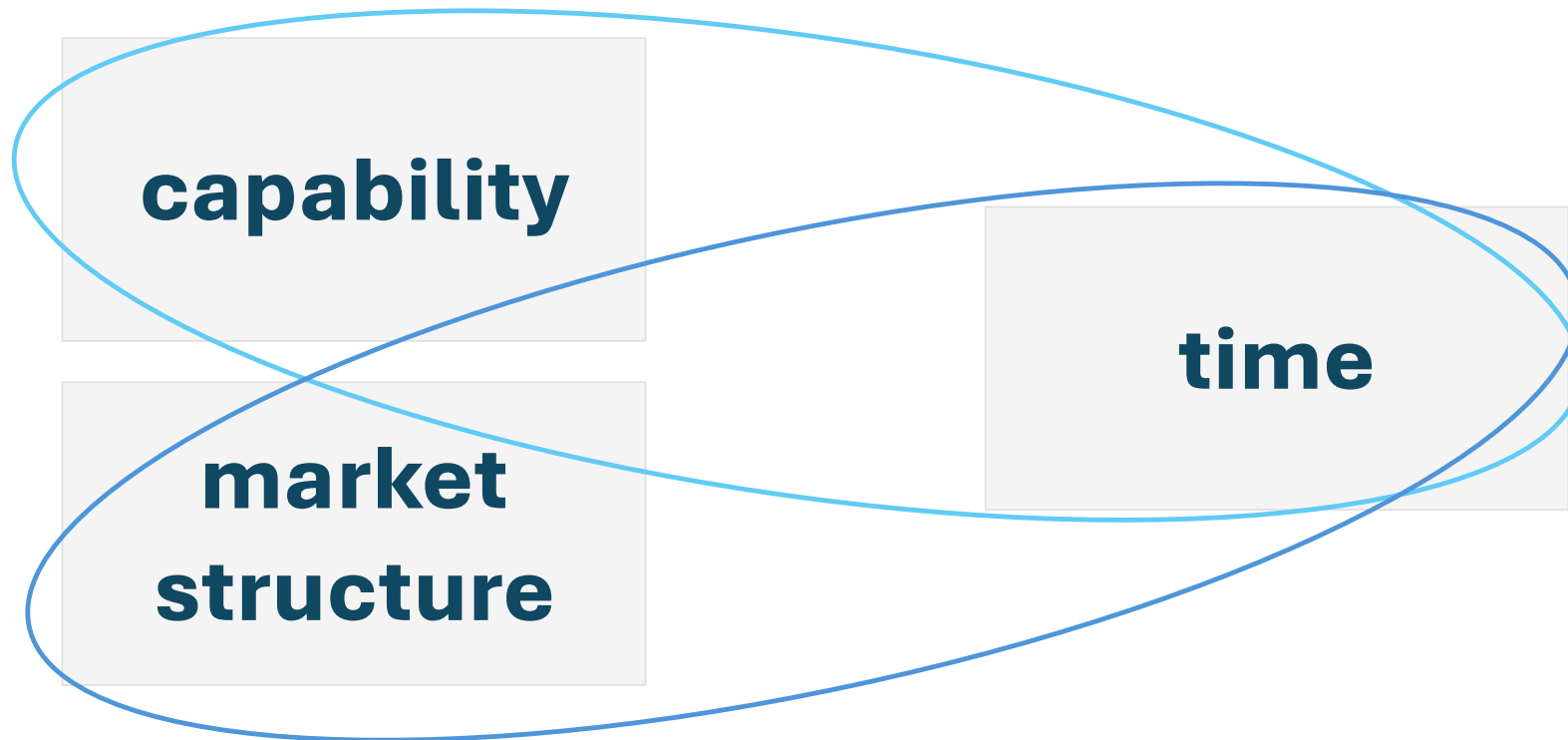
Value Creation
Cost / Rev. Synergies
Financial Synergies
Improvements



Are you really **creating value** or just **consolidating it** under one roof?

$$1+1=3$$

$$1+1=2$$



# Back to the roots

If multiples are not reliable, the sources of value accessed through M&A must be modeled via the Discounted Cash Flow method:

How much should a competitor be willing to pay, based on the projected synergies of cost and market expansion?

The synergies can be toggled on **1** and off **0**

RONALDSON TOOL CO. DCF ASSUMPTIONS									
Discount rate (WACC)	k =	8,0%	PPE (2002)	19,0	Dep (2002)	2,1			
			PPE/Sales	34%	Dep/PPE	10%			
Sales growth 2007-∞	g =	3%							
			2023	2024(F)	2025(F)	2026(F)	2027(F)	2028(F)	
Improve Sales (Y=1 N=0)	0		3,00%	7%	6%	6%	5%	5%	
Improve COGS/Sales (Y=1 N=0)	0		67,27%	67%	65%	65%	65%	65%	2023 actual, 2024+ scenario
Improve SGA/Sales (Y=1 N=0)	0		21,52%	21%	20%	19%	19%	19%	2023 actual, 2024+ scenario
Improve NWC/Sales (Y=1 N=0)	0		36,17%	24%	24%	24%	24%	24%	2023 actual, 2024+ scenario
Year			2023	2024(F)	2025(F)	2026(F)	2027(F)	2028(F)	Explanation
Sales			55,3	57,0	58,7	60,4	62,2	64,1	growth
COGS			37,2	38,3	39,5	40,6	41,9	43,1	% Sales
SGA			11,9	12,3	12,6	13,0	13,4	13,8	% Sales
PPE			19,0	19,6	20,2	20,8	21,4	22,0	% Sales
DPPE				0,6	0,6	0,6	0,6	0,6	
Depreciation			2,1	2,0	2,0	2,1	2,1	2,2	2023 actual, 2024+ as % PPE
EBIT			4,1	4,4	4,6	4,7	4,8	5,0	=Sales-COGS-SGA-Dep
(1-t)EBIT (t=40%)			2,5	2,7	2,7	2,8	2,9	3,0	
Depreciation			2,1	2,0	2,0	2,1	2,1	2,2	
CAPX				2,5	2,6	2,7	2,8	2,8	=DPPE + Dep
NWC			20,0	20,6	21,2	21,9	22,5	23,2	2023 actual, 2024+ as % Sales
DNWC				0,6	0,6	0,6	0,7	0,7	
FCF				1,5	1,5	1,6	1,6	1,7	=(1-t)EBIT+Dep-CAPX-DNWC
TV								34,5	=(1+g)FCF <sub>2007</sub> /(r-g)
Discount factor		1,000		0,926	0,857	0,794	0,735	0,681	=1/(1+r) <sup>t</sup>
PV(FCF)				1,4	1,3	1,3	1,2	24,6	=DF x FCF
EV			29,7						=sum(PVFCF)
Cash 2002			1,0						from Balance Sheet
Debt 2002			14,0						from Balance Sheet
Equity			16,7						=EV+Cash-Debt
# shares (in millions)			0,584						from Balance Sheet
<b>Value per share (in \$)</b>									<b>28,7</b>

# AMP: Corporate Finance

## For performance assessment:

Is **ROIC above WACC** — and if not, is growth making it better or worse?

## For capital allocation decision:

What fraction of earnings is being **reinvested**, at what prospective **return**, and is that **creating or destroying value** at the margin?

## For deal rationale:

Which specific **assumption on value drivers** is doing most of the work — and what happens to the price if it is wrong?

Executive Education

# Thank You

# Corporate Finance

Advanced Management Program

Prof. Dr. Astrid Schornick