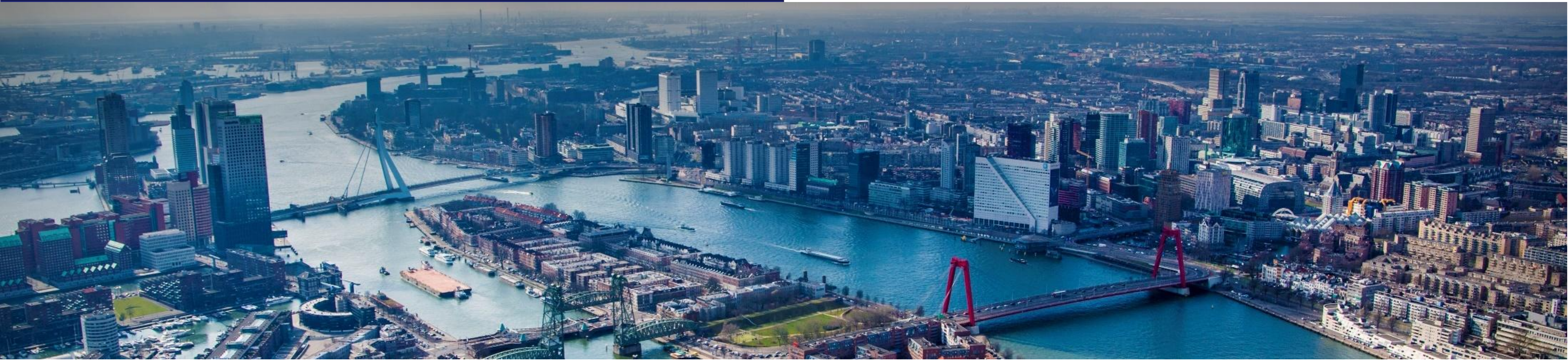
Rotterdam School of Management
Erasmus University

Investor analysis of companies

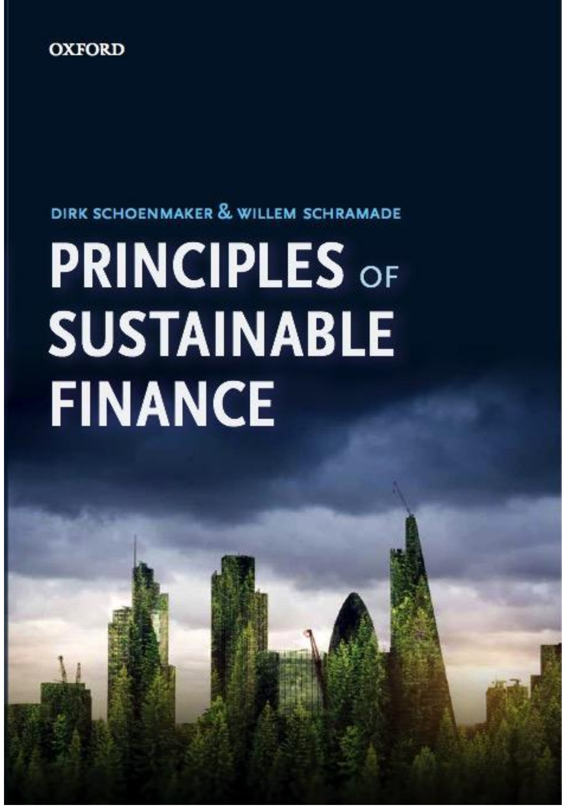
Dirk Schoenmaker, RSM



Sustainable finance course

Instructor:

Book:



Journey on sustainable finance

- Why relevant? -> sustainability challenges of society
- What is it about? -> steering companies towards positive impact
- How to do it? -> tools for investors and lenders
- Real challenge -> from incremental change to transition thinking

Agenda

Tools: equity (today) and debt (tomorrow) financing

Materials: book chapter 5 and 8 + Philips case

Method: case studies

- Business models, competitive positions and stakeholders
- Strategy and value driver approach
- In class, case-study on Israeli company (this afternoon)

Part 1: Business models, competitive positions, value drivers & stakeholders (Ch5)

Business models

Business models:

how do you make money?

Philips' **customer value propositions** are that it:

- enables **consumers** to improve and monitor their personal health and sustain a healthy lifestyle; and
- provides **healthcare professionals** the tools to diagnose, monitor, and improve the health of patients.

Purpose

Purpose: why does the company exist?

Philips' stated mission:
"Improving people's lives through meaningful innovation".

Philips' vision:
"We strive to make the world healthier and more sustainable through innovation. Our goal is to improve the lives of 3 billion people a year by 2025. We improve the quality of people's lives through technology-enabled meaningful innovations - as co-creator and strategic partner for the Philips businesses and complementary open innovation ecosystem participants."

Competitive position

Philips’ **competitive position**

Winning propositions

>60% of sales from leadership positions[1]

Personal Health	**Male grooming** Global leader	**Oral healthcare** Global leader	**Sleep care** Global leader	**Respiratory care** Global leader	**Mother and child care** Global leader	**Healthy breathing** #1 in China
Diagnosis & Treatment	**Diagnostic imaging** Global top 3	**Ultrasound** Global leader	**Image-guided therapy systems** Global leader	**Image-guided therapy devices** Global leader		
Connected Care & Health Informatics	**Patient monitoring** Global leader	**ICU telemedicine** #1 in North America	**Non-invasive ventilation[2]** Global leader	**Personal emergency response** #1 in North America	**High-end radiology and cardiology informatics** #1 in North America	

Valuation

- Discounted cash-flow model for company value:

$$V = \sum_{n=0}^{N} \frac{CF_n}{(1+r)^n}$$

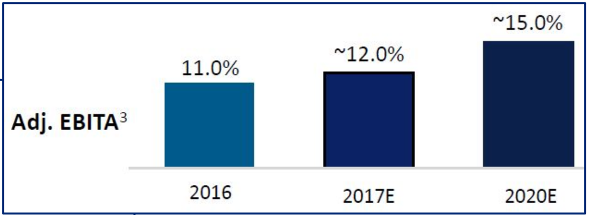
- Cash flows driven by
  - Sales: revenues
  - EBIT margin: income (profit) for financiers after deducting costs

- Discount rate driven by

Value drivers

Value drivers at Philips

Philips to reach EUR 20 billion[1] sales with significant return improvements



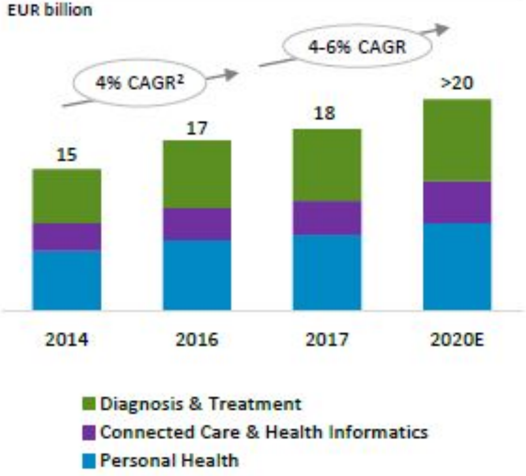
Focus on

- Growth in core businesses
- Growth in adjacencies
- Customer and operational excellence

2017-2020 annual targets

- 4-6% comparable sales growth rate
- On average 100bps Adj. EBITA margin improvement annually
- Free cash flow generation of ~EUR 1–1.5 billion annually
- Organic plans ROIC improvement to mid-to-high-teens ROIC by 2020

Sales



Value drivers

Value driver summary (base case)

	Philips
Sales growth	4%
EBIT margins	13%
Capital - WACC	8%

Trends

Trends

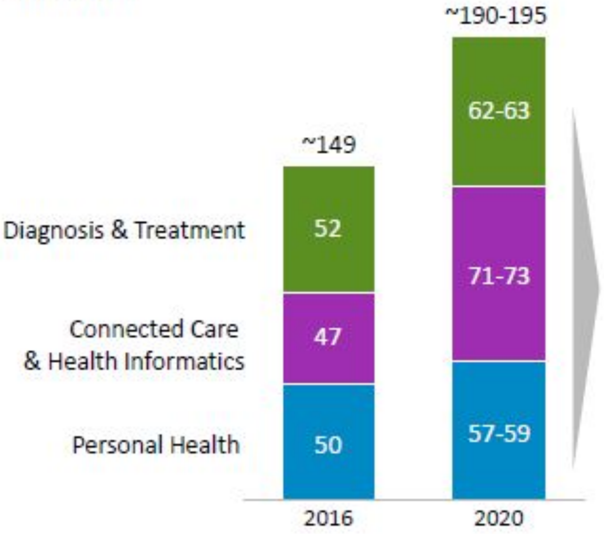
for

Philips

Our markets have sustained growth and attractive profit pools

Markets increasing across segments[1]

EUR billion



Market growth (2017–2020)

Mid-single-digit

Market EBITA (2016)

Mid-teens

Market trends

- Population growth, ageing and rise in chronic diseases
- Consumerization and digitalization of healthcare
- Shift to outcome focused, value-based healthcare
- Care shifting to ambulatory and home care settings with consumers increasingly engaged in their health
- Data enabled healthcare delivery with higher productivity
- Consolidation of hospitals into large health system delivery networks
- Convergence of professional healthcare and consumer health

6 [1] Source: Philips internal estimates, McKinsey analysis; Philips-defined addressable markets including adjacencies

PHILIPS

Stakeholders

Philips' **Stakeholder impact map**

	Employees	Patients, doctors & hospitals	Governments
Short term goals	Good work-life balance and salaries	Best health outcomes, sometimes at any cost; but also within budget	Compliance, job preservation, tax income, healthcare costs
Long term goals	Personal development, professional pride & financial/job security	Best health outcomes at affordable prices; new solutions to problems that are currently not well treated	Strong healthcare outcomes at limited costs (both financial, and environmental and social)
How the company helps those goals	Pay and job fulfilment	Partnerships, better analysis results in better treatment	Improve efficiencies in the system
How the company hurts those goals	Sometimes demanding work environment; restructurings put people out of their jobs	Affordability is hurt slightly by the prices Philips charges, but they are limited versus the cost of hospitals and medicine	Jobs may be moved abroad

In class exercise – stakeholder map

Air France-KLM's stakeholder impact map

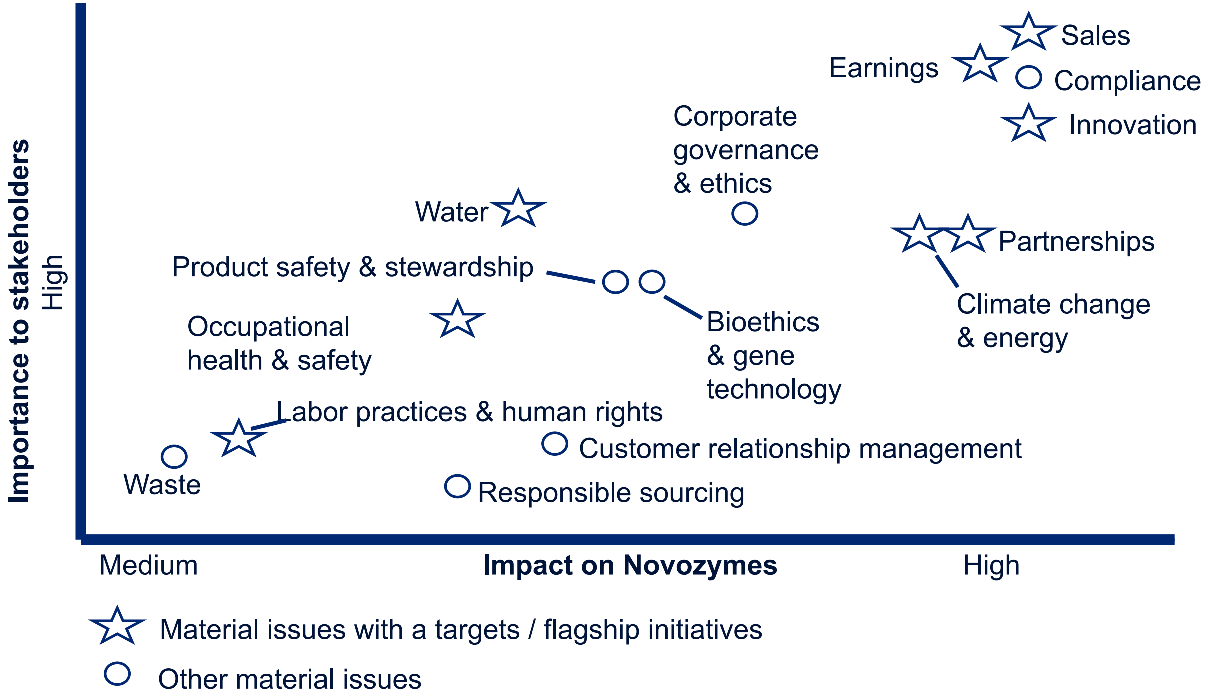
	Stakeholder 1	Stakeholder 2	Stakeholder 3	Stakeholder 4
Goals				
How the company helps or hurts those goals				

Part 2: Strategy, (again) value drivers & investment conclusions (Ch 5)

Materiality

Materiality matrix

Figure 5.6: Novozymes' materiality matrix



Typical material sustainability issues

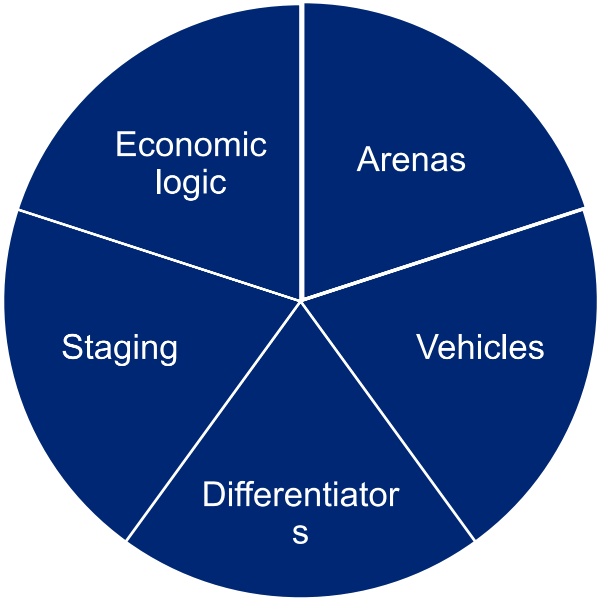
Environmental	Social
Governance	Other

Strategy

Strategy

=The plan to achieve a desired future state

Five parts to a strategy (Hambrick & Fredrickson, 2001):



Strategy

Strategy @Philips

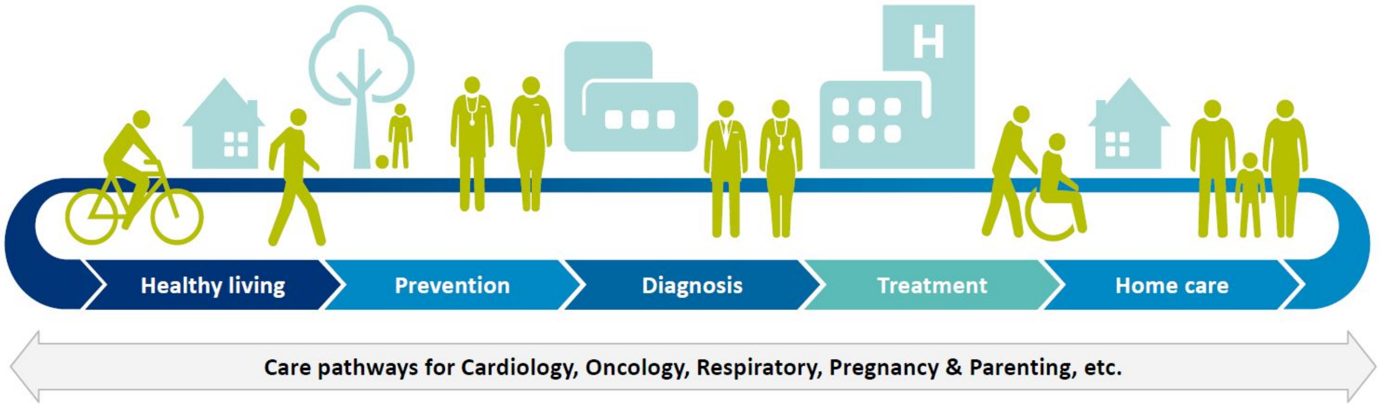
Focus on	Driven by	Resulting in	
Growth in core businesses	• Capture geographic growth opportunities • Pivot to consultative customer partnerships and business models • Drive innovative value-added, integrated solutions	Revenue growth Margin expansion Increased cash generation Improved return on invested capital	Increased shareholder value
Growth in adjacencies	• Portfolio extensions through M&A, organic investments and partnerships		
Customer and operational excellence	• Continue to lead the digital transformation • Improve customer experience, quality systems, operational excellence and productivity		

Strategy consistent with company purpose?

Strategy @Philips again

Health continuum drives our strategy

Driving better outcomes for people and higher productivity for care providers

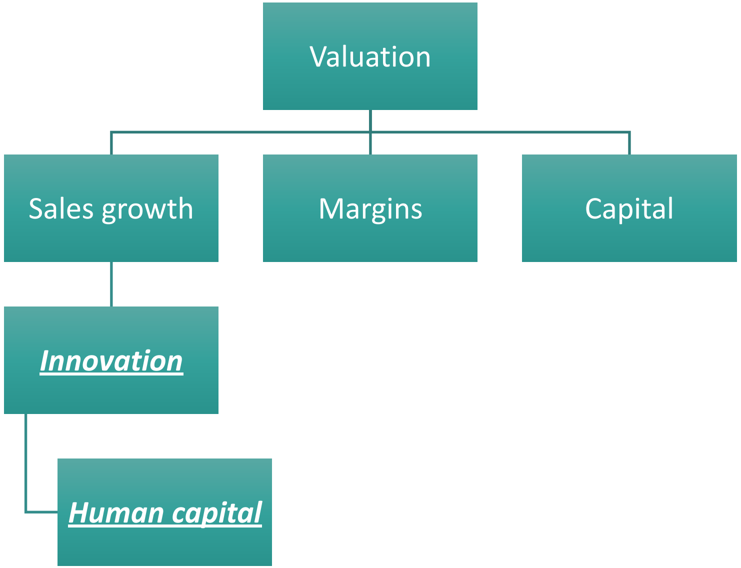


Personalization of care	Industrialization of care	Inclusive care
Driving **convergence** of professional healthcare and consumer health	Enabling providers to deliver lower-cost care and **better outcomes**	Increasing **access** to affordable care and making care more inclusive

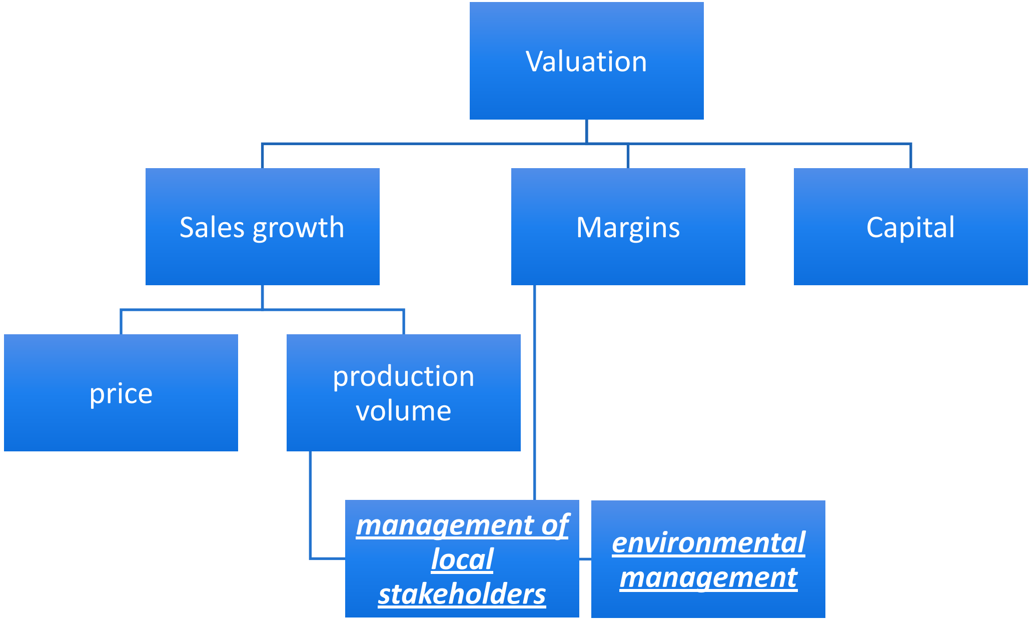
Part 3: Strategy, (again) value drivers & investment conclusions

Value drivers

@Novozymes:



@Anglo American:



Value drivers – part 2

Value drivers & valuation @Philips

Value driver	Positive/ negative/ neutral	Explanation
Sales growth	Positive	Philips' strong focus on digital innovation puts the company ahead of the competition and could boost sales growth by another 100bps
Profitability	Positive	Innovation and circularity/energy savings could help drive Philips' margins up by as much as 200bps
Capital	Neutral	Balancing the various issues, we see no clear reason to apply a higher or lower discount rate to Philips

Value driver	Philips ex ESG advantage	Philips incl ESG advantage	Philips advantage
Sales growth	4%	5%	100bps
Margins	13%	15%	200bps
Cost of capital	8%	8%	0
DCF value	€39.3	€48.1	€8.8 (18% of value, i.e. 22% higher than without)

Investment conclusions

- What are your investment conclusions on Philips?
  - Buy
  - Sell, or
  - Hold

- Advise on engagement?

Value drivers & valuation

Value drivers & valuation @Philips

		Sales growth				
		3.0%	**4.0%**	**5.0%**	**6.0%**	**7.0%**
	9.0%	25.7	27.6	29.6	31.9	34.3
	11.0%	30.9	33.3	35.8	38.6	41.5
EBIT	**13.0%**	36.1	38.9	42.0	45.2	48.8
margin	**15.0%**	41.4	44.6	**48.1**	51.9	56.0
	17.0%	46.6	50.3	54.3	58.6	63.3
	19.0%	51.8	56.0	60.5	65.3	70.5
	21.0%	57.1	61.7	66.6	72.0	77.8

See Chapter 8 for doing DCF valuation (Section 8.1, Table 8.2) and how to adjust value drivers

Example Philips case study

	WACC:	7.5%		CV growth:	2%										
	FY 2015	FY 2016	FY 2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024	12/31/2025	12/31/2026	12/31/2027	12/31/2028	12/31/2029
Sales growth	-21.4%	3.7%	2.1%	2.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	2.0%
margin	9.8%	10.4%	10.6%	11.0%	12.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
tax rate	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Depreciation/sales	5.8%	5.6%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%
CAPEX/sales	2.6%	2.1%	2.4%	2.2%	2.4%	2.6%	2.8%	3.0%	3.2%	3.4%	3.6%	3.8%	4.0%	4.2%	5.8%
WC/sales	16.9%	17.8%	13.4%	13.4%	13.4%	13.4%	13.4%	13.4%	13.4%	13.4%	13.4%	13.4%	13.4%	13.4%	13.4%
Sales	16806	17422	17780	18136	19042	19994	20994	22044	23146	24303	25519	26795	28134	29541	30132
EBIT	1640	1804	1883	1995	2285	2999	3149	3307	3472	3646	3828	4019	4220	4431	4520
Taxes on EBIT	165	366	379	499	571	750	787	827	868	911	957	1,005	1,055	1,108	1,130
NOPLAT	494	1098	1138	1496	1714	2249	2362	2480	2604	2734	2871	3014	3165	3323	3390
Depreciation	972	976	1025	1046	1098	1153	1210	1271	1334	1401	1471	1545	1622	1703	1737
Gross CF	1466	2074	2163	2542	2812	3402	3572	3751	3938	4135	4342	4559	4787	5026	5127
CAPEX	432	360	420	399	457	520	588	661	741	826	919	1018	1125	1241	1737
increase in WC	-777	110	48	47	121	127	134	140	147	155	162	170	179	188	79
Gross investment	-345	470	468	446	578	647	721	802	888	981	1081	1189	1304	1429	1816
FCF	1811	1604	1695	2095	2233	2755	2851	2949	3050	3154	3261	3370	3483	3598	3311
			CV												60751
			period	0.87	1.87	2.88	3.88	4.88	5.88	6.88	7.88	8.88	9.88	10.88	10.88
			DF	0.939	0.874	0.813	0.757	0.704	0.656	0.610	0.568	0.528	0.492	0.458	0.458
			PV	1968	1952	2241	2158	2077	2000	1924	1851	1781	1712	1646	27794
			Sum of PV: Enterprise value	49104										CV/TV	57%
			Stake in Philips Lighting	1757											
			Net debt	5576											
			Equity value	45286											
			Number of shares outstanding	941											
			Fair value stock price euro	48.1											
			Current stock price	31.2											
			implied upside	54%											
IC	22573	23382	17401	16802	16282	15777	15288	14818	14372	13952	13562	13205	12888	12613	12692
ROIC	2.3%	4.8%	5.6%	8.7%	10.4%	14.0%	15.2%	16.5%	17.8%	19.3%	20.9%	22.5%	24.3%	26.1%	26.8%

Conclusions

- It is all related >> you need a holistic, integrated approach to assess the viability of a company's business!
- Value drivers is a simple method for fundamental analysis of a company
- What are your key takeaways?

Group case study

- 4 Groups: each group gets a company

- Questions on
  - Business model & competitive position
  - Value drivers – part 1
  - Stakeholder map
  - Sustainability
  - Strategy
  - Value drivers – part 2
  - Investment conclusions

Appendix

Sustainable investing (Ch 8)

Basics of equity

Public equity: $70 trillion

- **Equities**
  - **Private**
  - **Public**
    - **Fundamental** - choice of business fundamentals
    - **Quant** - choice of quant factors
    - **Passive** - choice of index

Equity valuation

Relative valuation

$$P = EPS * \frac{P}{E}$$

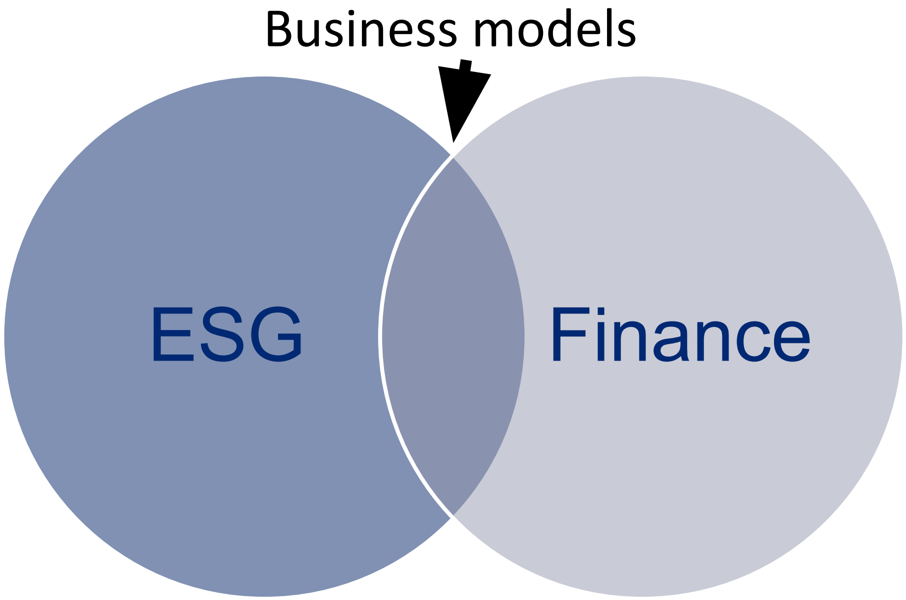
Absolute valuation

$$V_0 = \frac{FCF_1}{(1+WACC)} + \frac{FCF_2}{(1+WACC)^2} + \ldots + \frac{FCF_N + V_N}{(1+WACC)^N}$$

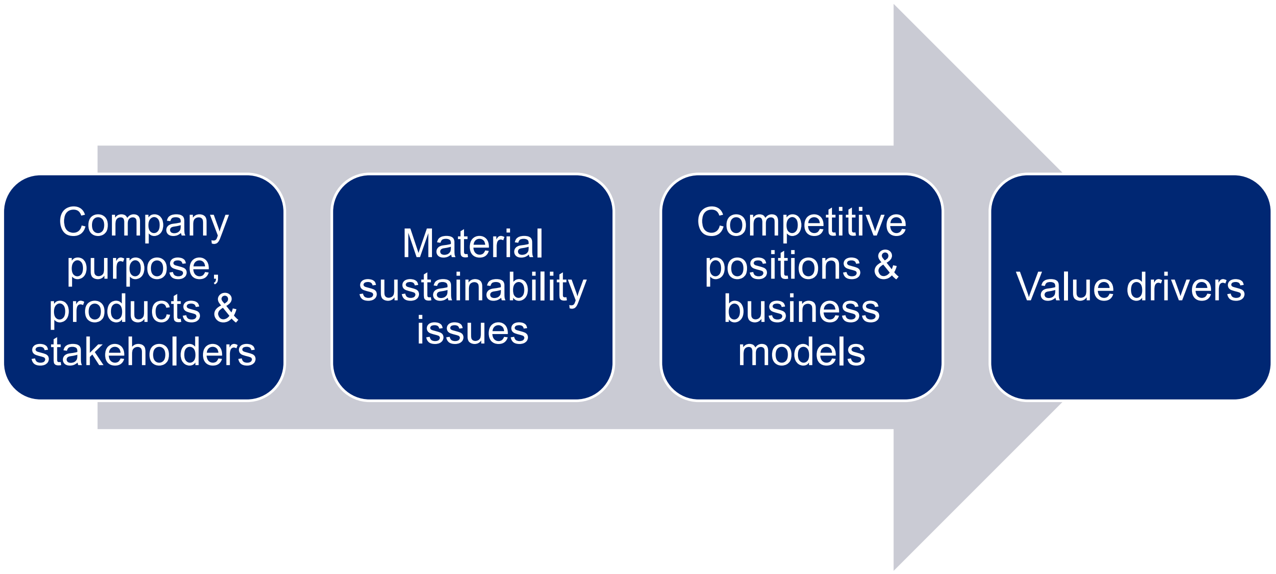
Application of value drivers approach:

- Free cash flows (FCF) based on sales and sales growth
- WACC based on cost of capital

Relevance of sustainability to equity



Relevance of sustainability to equity



Academic evidence on ESG and stock return

ESG integration into equities

Why? Does it happen? How?

Suitability of the approach	Fundamental equities	Quant equities	Passive equities	Explanation
Exclusionary screening	High	Medium-high	Medium-hig h	Can be done on scores
Best in class	High	Medium	Low	Can be done on scores, to a certain degree
Thematic investing	High	Medium	Low	Fundamental analysis is needed
Active ownership	High	Low	Low	Fundamental analysis is needed, which can be bought externally with loss of quality
Impact investing	High	Very low	Very low	Fundamental analysis is needed
ESG integration	High	Very low	Not at all	Fundamental analysis is needed

ESG integration into fundamental equities

Steps in the Value driver adjustment (VDA) approach:

1) Identify & focus on the most material issues

2) Analyse the impact of these material issues on the individual company

3) Quantify competitive (dis)advantages to adjust for value driver assumptions

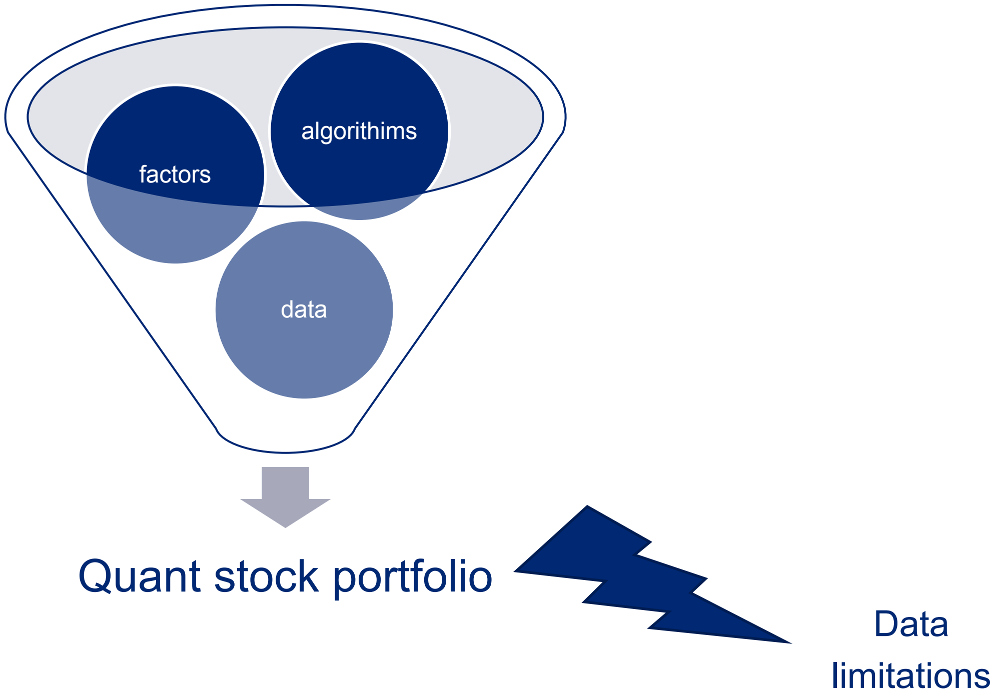
4) Have an active dialogue

ESG integration into fundamental equities

KUKA VDA example:

Value driver	Sales growth	Margins	Cost of capital	Target price
Benchmark (i.e. performance excluding ESG advantage)	5-6%	5-6%	10%	EUR 67
Impact from ESG factors	Innovation & high-growth markets: +200bps	Innovation: +100bps	Capital management -100bps	EUR 32
Total	7-8%	6-7%	9%	EUR 99

ESG integration into quant equities



ESG integration into passive equities

This is not really integration, but it does move capital away from the worst companies

Impact investing

Intentionality to make the world better	Return expectations (i.e. not charity)
Range of return expectations & asset classes	Impact measurement

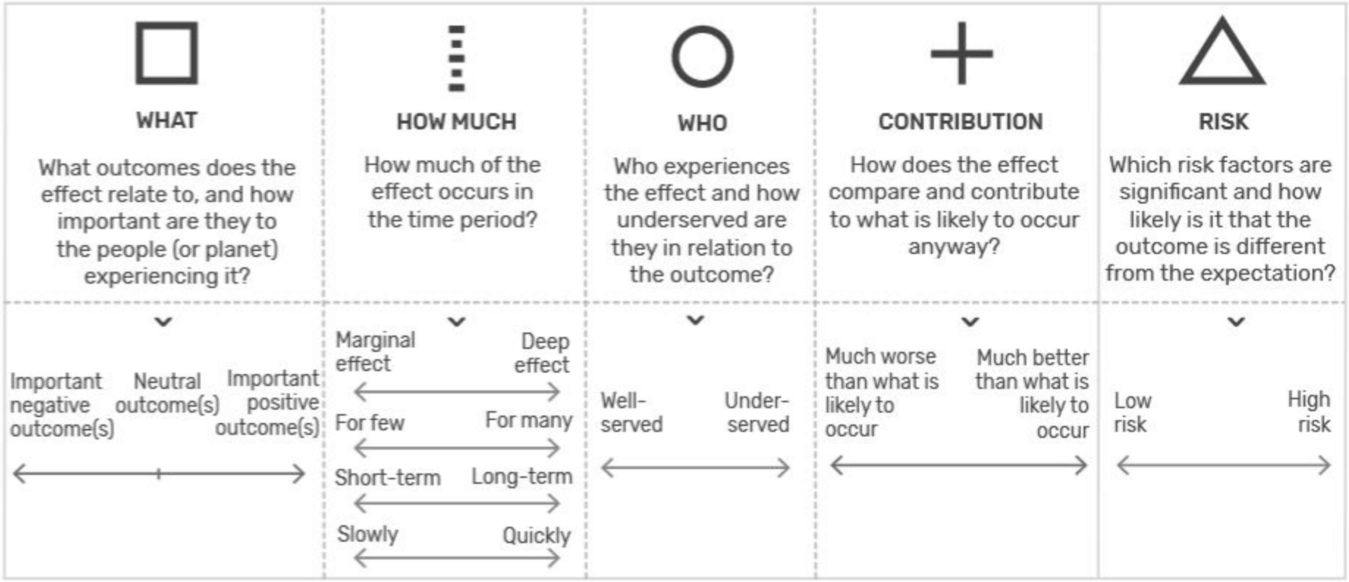
GIIN impact criteria

Impact investing: challenges

- Data
- Scale
- Barriers to change
- Perception problems
- Complex investment chains

Impact investing

Criteria by the Impact Management Project:



Impact investing example (1)

NN IP's impact criteria applied to Novozymes:

Impact criterion	Company assessment
Material: relevance to value drivers sales, profits, capex, and risk	Superior performance and energy savings at clients help Novozymes grow twice as fast as the chemicals industry at twice the profitability
Intentional: deliberate choice, strategy, purpose	• Corporate strategy and business model are built on providing more environmentally friendly solutions • Novozymes was involved in setting the SDGs • Works with partners to develop and drive adoption of proven biological innovations that improve feed efficiency and animal health • One of few companies that reports on its impact, with serious targets
Transformational: does the company drive major change for the better by means of its business model, technology, scale or standards?	Enzymes have the potential to replace nearly all chemical processes, which would mean much less environmental footprint (CO_2 emissions and waste).

Impact investing example (2)

NN IP's impact KPIs applied to Novozymes:

	Emissions saved, SDG 7	Innovation, SDG 9	Health & well-being, SDG 3
Ideal impact KPI	Emissions saved	Value of innovations to society	Improvement in human health
Actual KPIs reported	Emissions saved	#transformative innovations; #active patent families; R&D/sales; #R&D employees; pipeline	#people reached with biological solutions
Number	69 mn ton	8 new products in 2016; 13% R&D/sales; 1400 R&D employees; 1123 active patent families	Reached approximately 5 billion consumers with more than one of their solutions on a weekly basis – 100 million more than in 2015
Target	Save 100 mn ton in 2020	Deliver 10 transformative innovations from 2015 to 2020	6 billion people reached with biological solutions by 2020
Engagement on KPIs	Not needed	Get more granularity	Get detail on quality - focus

Conclusions – sustainable companies

- Equity investors have strong incentives to help companies achieve the conditions for long-term value creation
- However, most equity investors fail to properly take material sustainability issues into account
- Fundamental equity investing is more suitable for ESG integration than quant and passive
- Impact investing is essentially an extreme form of sustainability integration that starts with the intention to make the world better