

Advanced Group Accounting (RIKA)

Block 4

RECHTSWISSENSCHAFT WIRTSCHAFTSWISSENSCHAFTEN

Foto: Thomas Müller Ivan Reimann

Course Structure

Block	Topic
	<i>Preparation: recap double-entry bookkeeping (online, self-study)</i>
1	Key Concepts
2	Acquisition Method
3	Consolidation
4	Subsequent Consolidation Goodwill Impairment
5	Joint Arrangement and Investments at Equity Changes in Control
6	Analyzing Consolidated F/S

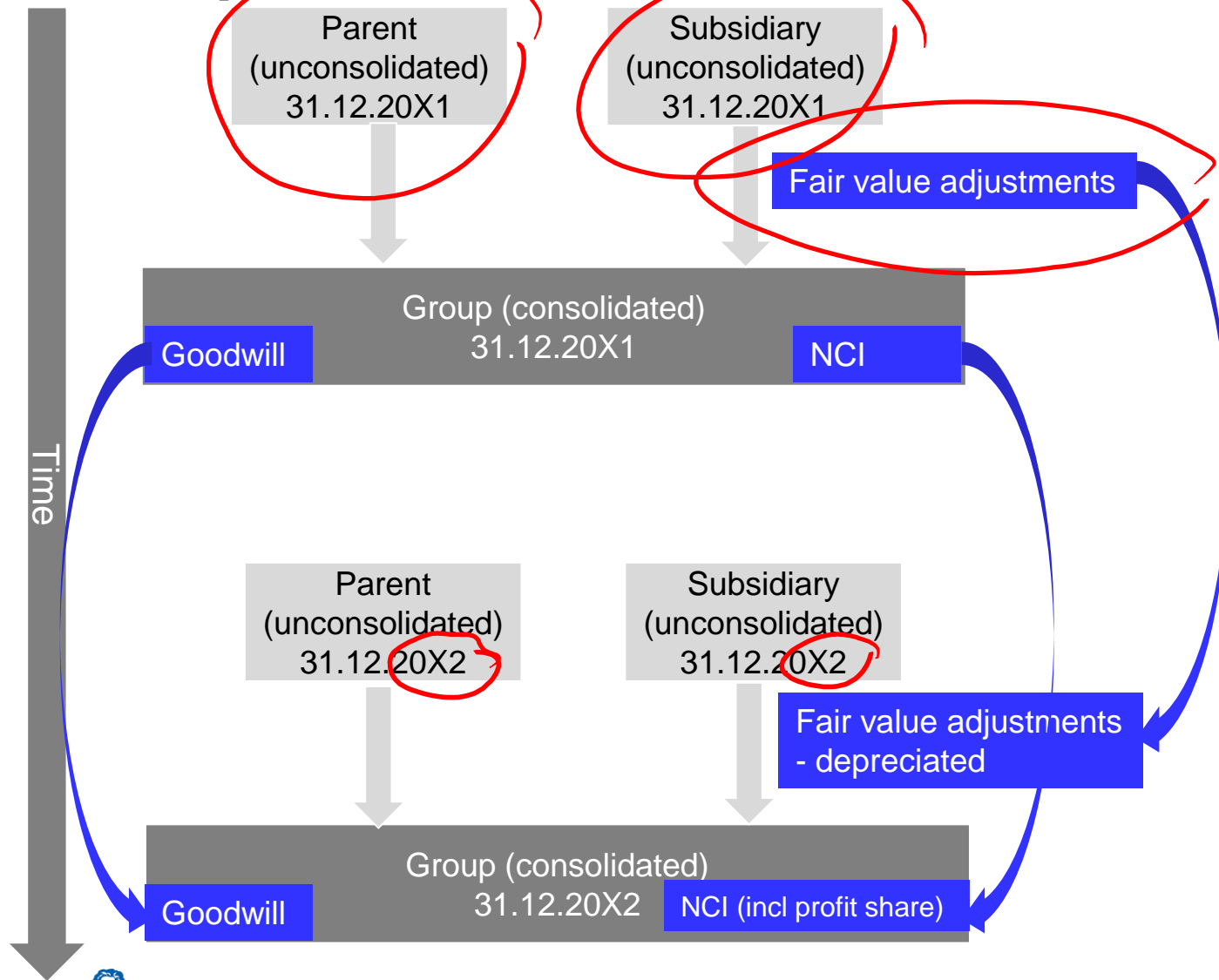
Course Structure

Block	Topic
4	Subsequent Consolidation & Goodwill Impairment
4.1	Subsequent Consolidation
4.2	Goodwill Impairment



- How do we account for an acquisition after its initial consolidation?

Subsequent Consolidation



20X1: Initial consolidation

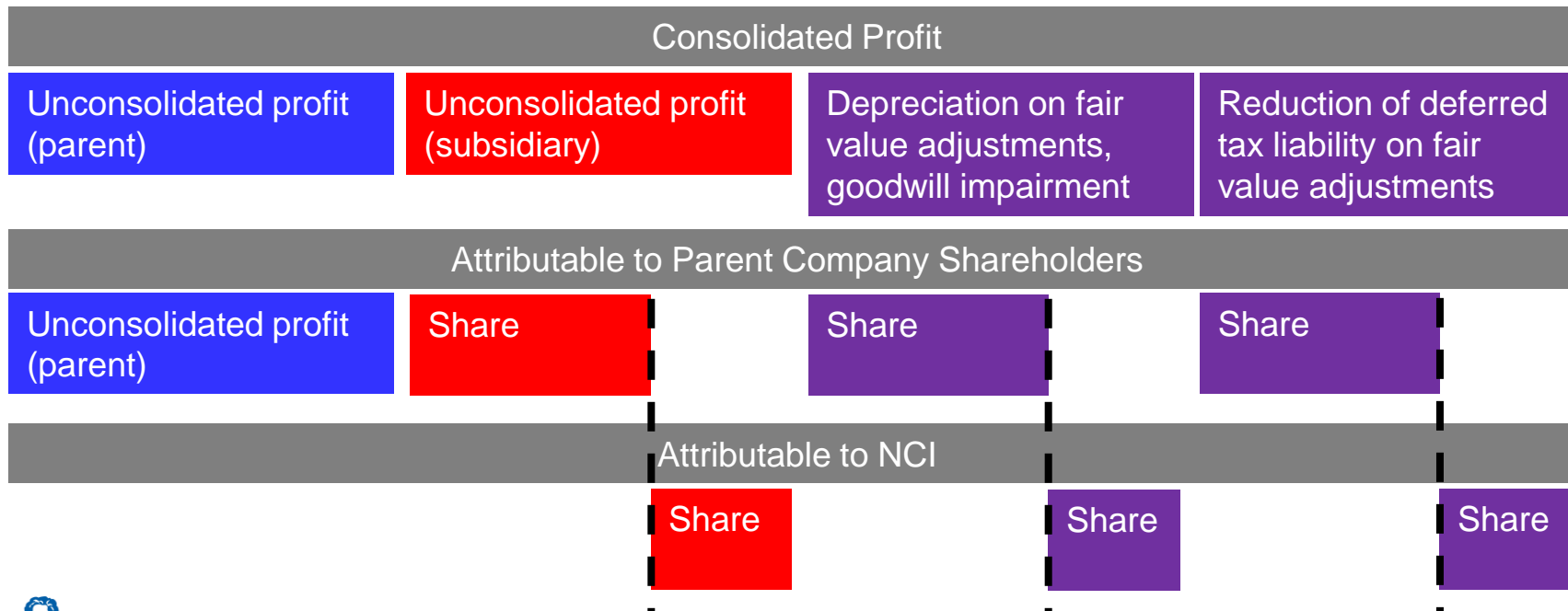
- Uncovering of fair value adjustments
- Uncovering of goodwill

20X2: Subsequent consolidation

- Redo initial capital consolidation step
- Depreciate fair value adjustments, related deferred taxes, and adjust NCI
- Test goodwill for impairment

Subsequent Consolidation

- After subsequent consolidation, the financial statements reflect:
 - The unconsolidated profits/loss of parent and subsidiaries
 - The additional profit/loss that arises from depreciation of fair value adjustments, goodwill impairment (if any), and changes in deferred taxes
- Consolidated profit is allocated between parent company shareholders and NCI:



Subsequent Consolidation – Exercise

Fact Pattern:

- X AG purchases 75% of Y GmbH's shares at a price of 900 on Dec 31, **20X1**.
- Y GmbH's book value of equity equals 500 with hidden reserves (in non-current assets) of 300.
 - Hidden reserves are depreciated over 3 years.
- Non-controlling assets are carried at their proportionate share of revalued equity.
- Goodwill at initial consolidation is 300; no impairment in 20X2.
- Y GmbH made a profit (after tax) of 50 in 20X2, X made a profit (after tax) of 150.
- For simplicity, abstract from deferred taxes.

Questions:

- Calculate goodwill and non-controlling interests at initial consolidation.
- Calculate consolidated profit in 20X2 and its allocation across parent company shareholders and NCI.
- Calculate the amount of NCI including their allocated profit at the end of 20X2.
- Perform the subsequent consolidation on Dec 31, **20X2** measuring the non-controlling interest at their proportionate share of revalued equity.

Subsequent Consolidation

Subsequent Consolidation

Revalued equity = book value of equity plus fair value adjustment = $500 + 300 = 800$

Purchase price (75%):	900
Plus: NCI (25% * 800):	200
Less: revalued equity:	(800)
= Goodwill	300

Consolidated profit:	
Profit X	150
Plus: Profit Y	50
Less: Depreciation on FVA	$(300 / 3) = (100)$
= Consolidated profit	100

Attributable to parent company shareholders: $150 + 75\% * (50 - 100) = 112.5$

Attributable to NCI: $25\% * (50 - 100) = -12.5$

Value of NCI after profit allocation: $200 + (-12.5) = 187.5$

Subsequent Consolidation

31.12.20X2	X		Y		Reval.		Sum		Consolidation		Consolidated	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Non-current assets	1,800		550		300		2650					
Inv. in Y	900						900			900		
Goodwill									300			
Current assets	1,000		350				1350					
Equity		2,100		500		300		2900		200		
Profit		150		50				200				
non-controlling interest										200		
Debt		1,450		350				1800				
Sum							4900	4900				

Redo Initial Consolidation Steps

31.12.20X2	X		Y		Reval.		Sum		Consolidation		Consolidated	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Non-current assets	1,800		550		300		2,650					
Inv. in Y	900						900			900		
Goodwill									300			
Current assets	1,000		350				1,350					
Equity		2,100		500		300		2,900	600	200		
Profit		150		50				200				
non-controlling interest										200		
Debt		1,450		350				1,800				
Sum	3,700	3,700	950	950			4,900	4,900				

Depreciation on Fair Value Adjustments – Illustration

Assets	Equity & Liabilities
Non-current assets - Incl. fair value adjustments	Equity - Incl. profit attributable to parent company shareholders
Other assets	- Incl. profit attributable to NCI
Total	Liabilities Total

100%
Depreciation



75%
Depreciation

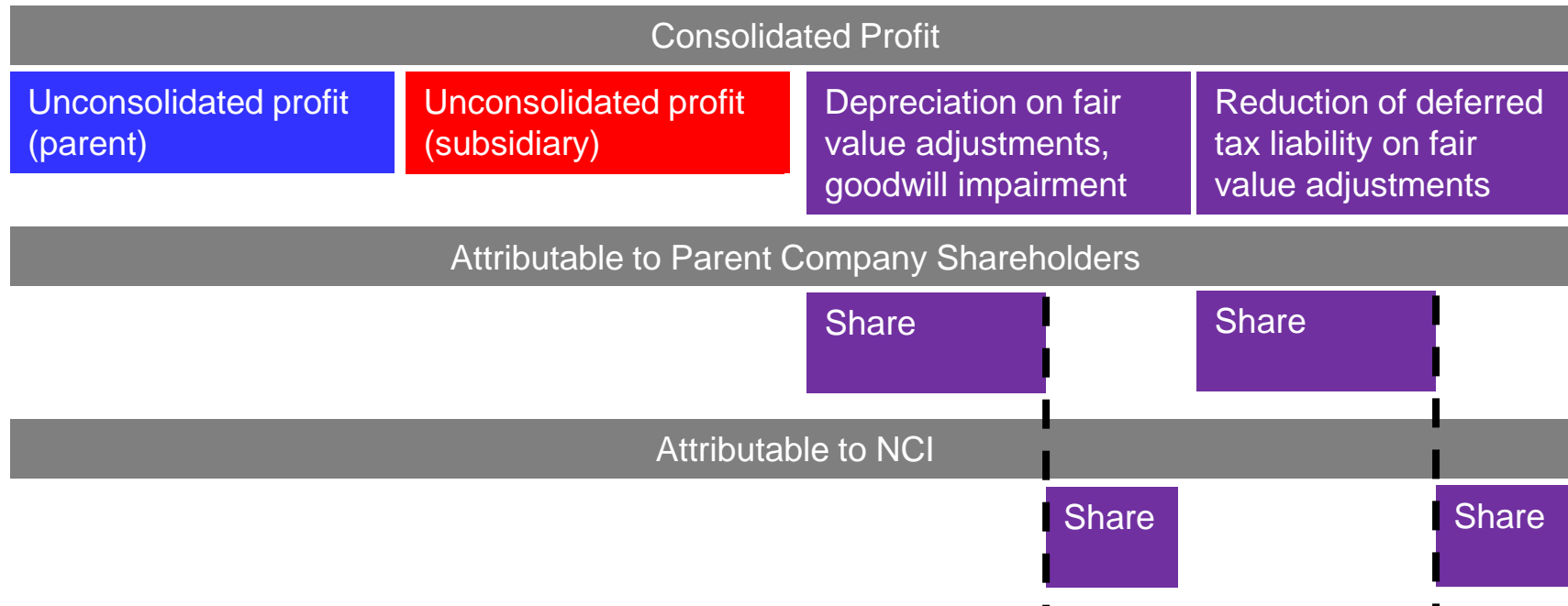


25%
Depreciation

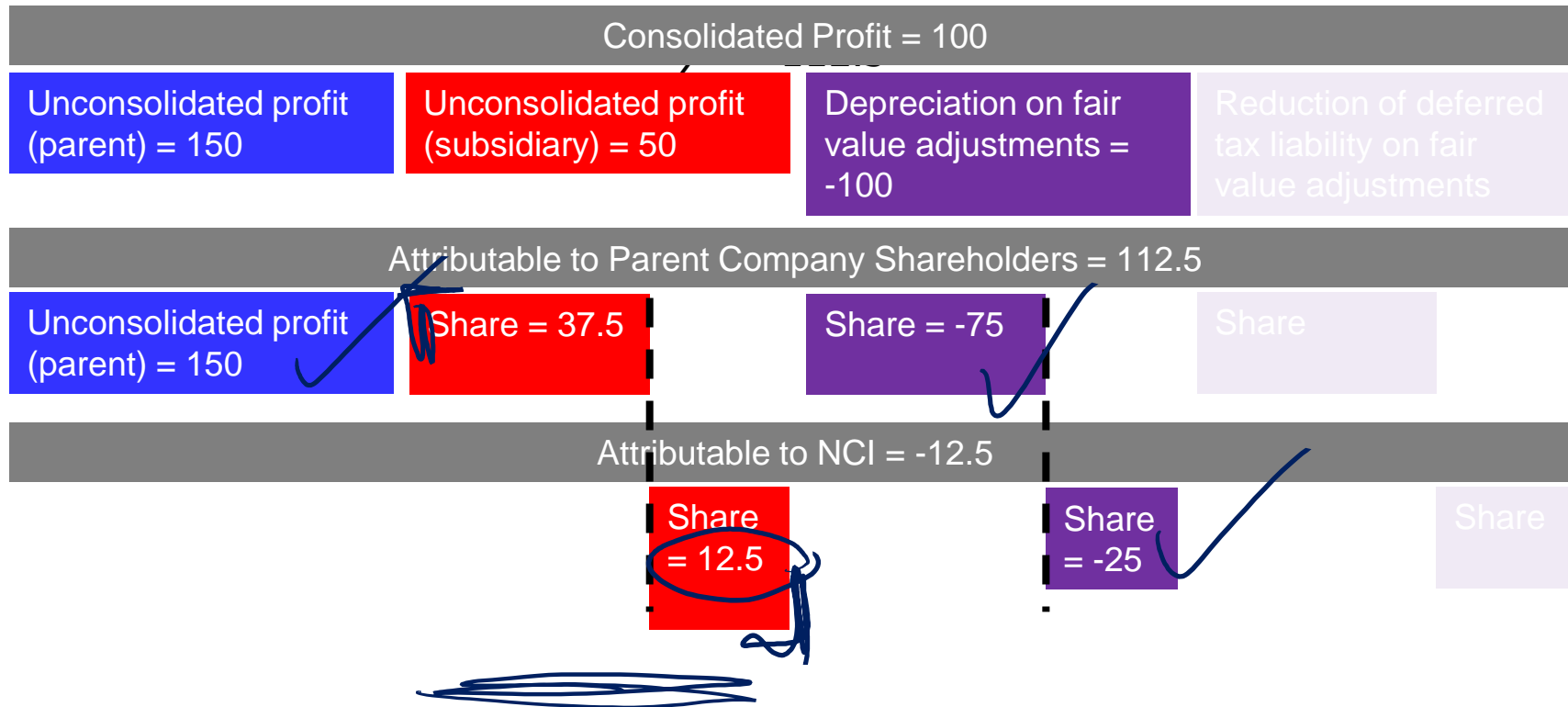
Depreciate Fair Value Adjustments

31.12.20X2	X		Y		Reval.		Sum		Consolidation		Consolidated	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Non-current assets	1,800		550		300		2,650			100		
Inv. in Y	900						900			900		
Goodwill									300			
Current assets	1,000		350				1,350					
Equity		2,100		500		300		2,900	600	200		
Profit		150		50				200	75			
non-controlling interest									25	200		
Debt		1,450		350				1,800				
Sum	3,700	3,700	950	950			4,900	4,900				

Allocation of Profit to Non-Controlling Interests - Illustration



Allocation of Profit to Parent Company and NCI



$$\textcircled{A} \quad 200 - 12.5 = 187.5$$

Allocate Profit Share to Non-Controlling Interests

31.12.20X2	X		Y		Reval.		Sum		Consolidation		Consolidated	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Non-current assets	1,800		550		300		2,650				100	2,550
Inv. in Y	900						900			900		---
Goodwill									300			300
Current assets	1,000		350				1,350					1,350
Equity		2,100		500		300		2,900	600	200		2,100
Profit		150		50				200	75	12.5		112.5
non-controlling interest									25	200		187.5
Debt		1,450	200	350			1,800					1,800
Sum	3,700	3,700	900	900	900		4,900	4,900			4,200	4,200

Subsequent Consolidation – Exercise

Break ends
4pm

Fact Pattern:

- X AG purchases 75% of Y GmbH's shares at a price of 900 on Dec 31, **20X1**.
- Y GmbH's book value of equity equals 500 with hidden reserves (in non-current assets) of 300.
 - Hidden reserves are depreciated over 3 years.
- Non-controlling assets are carried at their proportionate share of revalued equity.
- Goodwill at initial consolidation is 300; no impairment in 20X2.
- Y GmbH made a profit (after tax) of 50 in 20X2, X made a profit (after tax) of 150.
- Consider deferred taxes (tax rate 30%).

Questions:

- Calculate goodwill and non-controlling interests at initial consolidation.
- Calculate consolidated profit in 20X2 and its allocation across parent company shareholders and NCI.
- Calculate the amount of NCI including their allocated profit at the end of 20X2.
- Perform the subsequent consolidation on Dec 31, **20X2** measuring the non-controlling interest at their proportionate share of revalued equity.

Adding Deferred Taxes (Tax Rate: 30%)

Revalued equity = book value of equity plus fair value adjustment = $500 + 300 = 800$

Purchase price (75%):	900
Plus: NCI (25% * 800):	200
Less: revalued equity:	(800)
= Goodwill	300

Consolidated profit:	
Profit X	150
Plus: Profit Y	50
Less: Depreciation on FVA	(300 / 3) (100)
= Consolidated profit	100

Attributable to parent company shareholders: $150 + 75\% * (50 - 100) = 112.5$

Attributable to NCI: $25\% * (50 - 100) = -12.5$

Adding Deferred Taxes (Tax Rate: 30%)

Deferred tax liability = $300 * 30\% = 90$

Revalued equity = book value of equity plus fair value adjustment = $500 + 300 - 90 = 710$

Purchase price (75%):	900
Plus: NCI (25% * 710):	177.5
Less: revalued equity:	(710)
= Goodwill	367.5

(Intuition: Deferred tax liability of 90 is allocated to reduction of NCI ($25\% * 90 = 22.5$) and an increase in goodwill attributable to parent company shareholders ($75\% * 90 = 67.5$).)

Adding Deferred Taxes (Tax Rate: 30%)

Consolidated profit:

Profit X	150
Plus: Profit Y	50
Less: Depreciation on FVA (300 / 3)	(100)
Plus: Reduction of DTL (90 / 3)	+30
= Consolidated profit	130

Attributable to parent company shareholders: $150 + 75\% * (50 - 100 + 30) = 135$

Attributable to NCI: $25\% * (50 - 100 + 30) = -5$

Value of NCI after profit allocation: $177.5 + (-5) = 172.5$

Adding deferred taxes (Tax Rate: 30%)

31.12.20X2	X		Y		Reval.		Sum		Consolidation		Consolidated	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Non-current assets	1,800		550		300		2,650			100	2,550	
Inv. in Y	900						900			900	---	
Goodwill									367.5		367.5	
Current assets	1,000		350				1,350				1,350	
Equity		2,100		500	90	300		2,900	532.5	177.5		2,100
Profit		150		50				200	75	12.5	22.5	135
NCI										177.5	12.5	
									25	7.5		172.5
DTL						90			30			60
Debt		1,450		350				1,800				1,800
Sum	3,700	3,700	900	900			4,900	4,900			4,267.5	4,267.5

Course Structure

Block	Topic
4	Subsequent Consolidation & Goodwill Impairment
4.1	Subsequent Consolidation
4.2	Goodwill Impairment



- How do we account for the “consumption” of synergies (if any) following an acquisition?

Bayer + Monsanto = Synergies?

€ million	Note	Dec. 31, 2017	Dec. 31, 2018
Noncurrent assets			
Goodwill	[14]	14,751	38,146
Other intangible assets	[14]	11,674	36,746
Property, plant and equipment	[15]	7,633	12,944
Investments accounted for using the equity method	[16]	4,007	515
Other financial assets	[17]	1,634	2,212
Other receivables	[20]	400	511
Deferred taxes	[11]	4,915	4,278
		45,014	95,352

Acquired Assets and Assumed Liabilities (Fair Values at the Respective Acquisition Dates)

€ million	2017	2018	Of which Zydus	Of which Monsanto June 30, 2018	Adjustment of purchase price allocation	Of which Monsanto December 31, 2018
Goodwill	51	24,503	48	22,998	1,457	24,455
Patents and technologies	-	17,152	-	17,350	(198)	17,152

Change in accounting methods

In connection with the planned acquisition of Monsanto and in preparation for the future combined business, the structure of the **Crop Science segment** was adjusted as of January 1, 2018, in line with the internal financial reporting system (management approach). In the new structure, all the strategic business entities are organizationally located directly below the operating and reportable Crop Science segment. Global impairment testing of **goodwill** will also be carried out at the Crop Science segment level each year in the future.

Source: AR 2018 Bayer AG.

But then...

- 2023: <https://www.ft.com/content/61a3b59d-4cd3-42d6-856e-4b133b9455c5>

Opinion Lex + Add to myFT

Monsanto: Anderson must uproot Bayer's perennial problem

New chief needs to signal to investors whether a restructuring is likely



Activist investors favour a spinout of Bayer's crop science unit © Jean-Francois Monier/AFP/Getty Images

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Changes in Intangible Assets

€ million	Acquired goodwill	Patents and technologies	Trade-marks	Marketing and distribution rights	Production rights	R&D projects	Other rights and advance payments	Total
Cost of acquisition or generation, December 31, 2022	44,374	33,167	13,766	3,778	1,656	5,454	4,172	106,367
Acquisitions	68	10	-	-	-	-	-	78
Capital expenditures	-	110	-	57	13	90	582	852
Retirements	-	(114)	(65)	(33)	-	(2)	(93)	(307)
Transfers	-	495	-	8	1	(495)	(9)	-
Transfers (IFRS 5)	-	-	-	-	-	-	-	-
Divestments/changes in scope of consolidation	6	-	-	(2)	-	-	(3)	1
Inflation adjustment (IAS 29)	41	11	-	3	-	-	17	72
Exchange differences	(1,033)	(744)	(293)	(50)	(2)	(130)	(89)	(2,341)
December 31, 2023	43,456	32,935	13,408	3,761	1,668	4,917	4,577	104,722
Accumulated amortization and impairment, December 31, 2022	4,726	22,029	7,574	2,377	1,647	1,690	2,493	42,536
Retirements	-	(98)	(37)	(33)	-	-	(86)	(254)
Amortization and impairment losses	6,690	2,393	539	161	2	259	410	10,454
Amortization	-	1,406	371	136	2	-	401	2,316
Impairment losses	6,690	987	168	25	-	259	9	8,138
Impairment loss reversals	-	(1,823)	(462)	(64)	-	(387)	-	(2,736)
Transfers	-	154	-	-	-	(154)	-	-
Transfers (IFRS 5)	-	-	-	-	-	-	-	-
Divestments/changes in scope of consolidation	-	-	-	(2)	-	-	(1)	(3)
Inflation adjustment (IAS 29)	8	11	-	3	-	-	16	38
Exchange differences	(267)	(427)	(149)	(41)	(1)	(32)	(58)	(975)
December 31, 2023	11,157	22,239	7,465	2,401	1,648	1,376	2,774	49,060
Carrying amounts, December 31, 2023	32,299	10,696	5,943	1,360	20	3,541	1,803	55,662
Carrying amounts, December 31, 2022	39,648	11,138	6,192	1,401	9	3,764	1,679	63,831

But then...

Impairment testing was conducted in the second quarter of 2023 in the Crop Science segment due to a further deterioration in business prospects and updated long-term corporate planning.

The unscheduled impairment testing in the Crop Science segment resulted in net impairment losses on intangible assets totaling €2,020 million. An impairment loss of €2,436 million was recognized on goodwill due to deteriorating business prospects overall, largely driven by significantly lower price expectations for glyphosate.

Impairment testing was conducted in the third quarter of 2023 due to interest-rate developments at that time and their related impact on the weighted average cost of capital.

Within the Crop Science segment, it resulted in the recognition of net impairment losses of €3,951 million on intangible assets, of which €3,621 million on goodwill, in the third quarter of 2023. In addition, there

But then...

Our regular annual impairment testing in the fourth quarter of 2023 resulted in the recognition of net impairment loss reversals of €562 million on intangible assets in the Crop Science segment. This included €633 million in impairment losses on goodwill, which were primarily the result of a deterioration in business prospects, particularly in the area of crop protection, and an inflation-driven increase in costs. This effect was offset by a decrease in the weighted average cost of capital compared to the third quarter of 2023.

Impairment loss reversals arose at the cash-generating units Corn Seed & Traits (€1,130 million, comprising €202 million on research and development projects, €721 million on patents and technologies, €176 million on trademarks and €31 million on marketing and distribution rights) and Soybean Seed & Traits (€65 million, comprising €8 million on research and development projects, €50 million on patents and technologies, €6 million on trademarks and €1 million on marketing and distribution rights). These impairment loss reversals were mainly attributable to a decrease in the weighted average cost of capital compared to the third quarter of 2023.

Questions

Scheduled Amortization

- How did Bayer account for the changes in its expected synergies with respect to Monsanto?
- Can you think of possible alternative accounting treatments?

- deterioration in business prospects
- price expectations
- changes in interest rate
- multiple assessments during the year
 - ↳ partly due to external indicators
 - ↳ annual impairment testing

Goodwill Impairment

"backdoor capitalization"
of internally generated
goodwill

- "Impairment only approach":
 - At a minimum, annual impairment tests (irrespective of indicators)
 - No scheduled amortization
 - No reversal of goodwill impairment losses
 - Impairment tested together with other assets (at the cash-generating unit)

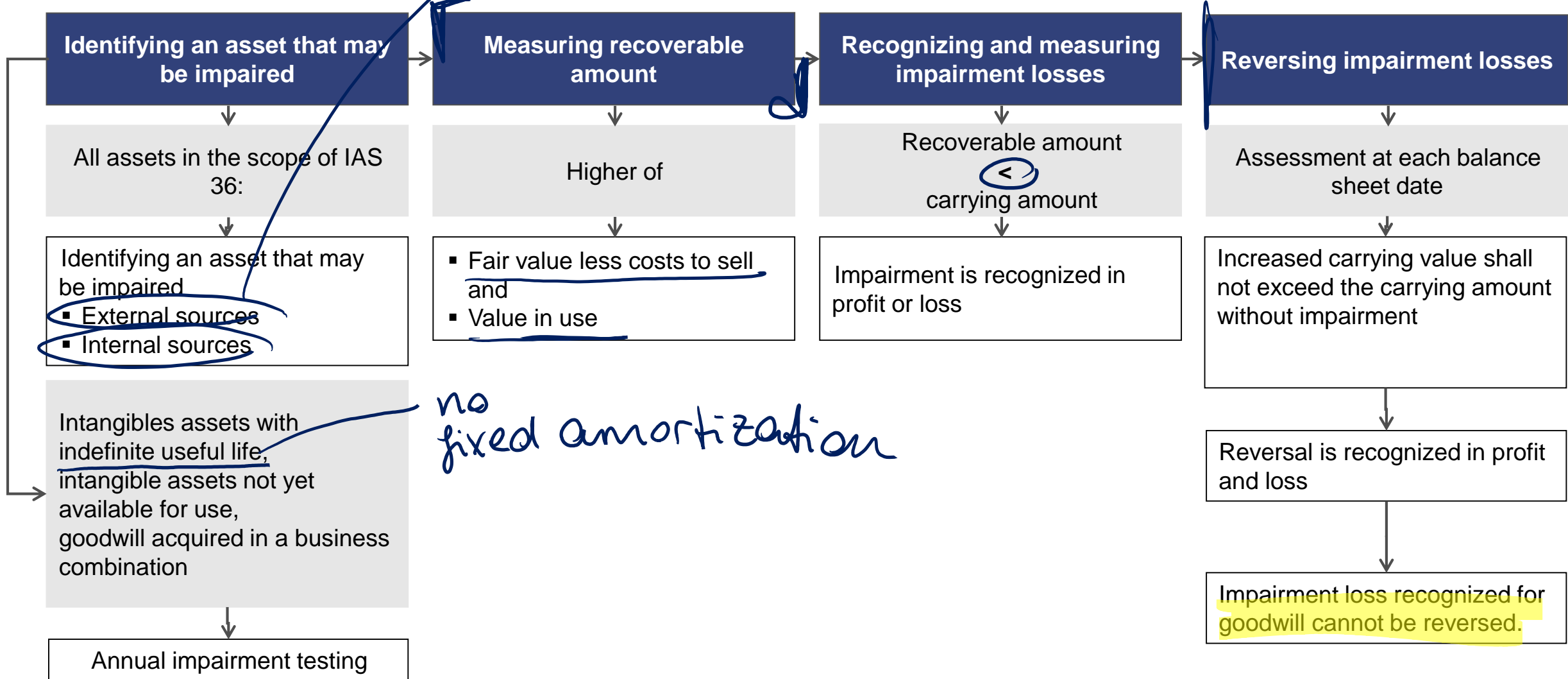
→ synergies

Advantages/disadvantages?

- ⊕ synergies not necessarily consumed over time
- ⊕ consumption of synergies difficult to schedule / predict
- ⊖ impairment test also difficult to quantify
↳ managerial discretion

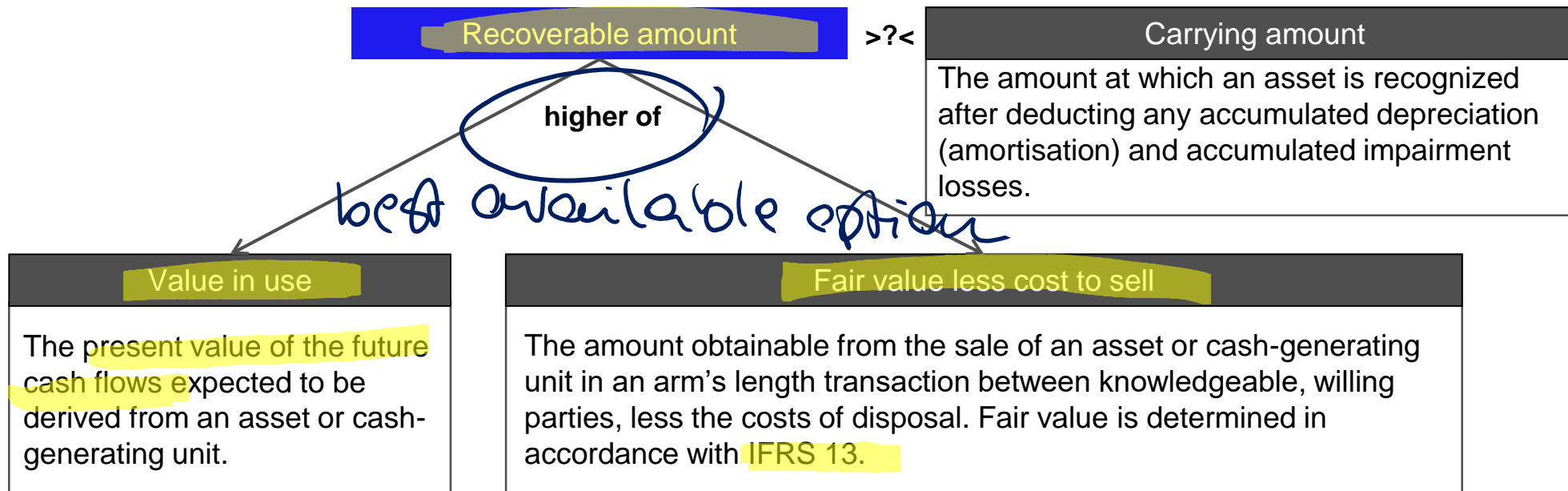
Impairment Test (IAS 36): Basic Idea

customer demand, competition, regulation



Impairment Test (IAS 36): Basic Idea

59 If, and only if, the recoverable amount of an asset is less than its carrying amount, the carrying amount of the asset shall be reduced to its recoverable amount. That reduction is an impairment loss.



An impairment loss has occurred when an asset's recoverable amount has fallen below its carrying amount. In that case, an impairment write-off is recorded

Impairment Test (IAS 36): Example

Fact pattern:

- Company X owns a machine with a carrying amount (after regular depreciation) of 26,000 CU at the end of 20X1; this machine could be sold at an active market for 12,000 CU (no costs to sell).
- Over the last three years combined, the machine generated positive cash flows of 13,500 CU. It can be estimated reliably, that the average cash flow per year of the last three years will be earned in the next six years (20X2 – 20X7) as well.
- Company X expects that the machine can be sold for 1,500 CU by the end of 20X7.
- The interest rate is 5%.

Task:

- Provide the journal entries to account for the machine by the end of 20X1.
- Calculate the annual depreciation in 20X2.

Impairment Test (IAS 36): Example

Recoverable amount:

FV less cost to sell: 12 000

Value in use:

annual cash flow: $\frac{13,500}{3} = 4,500$

+ 1,500 at the end of sixth year

~ 23 960

↳ carrying amount: 26 000

→ $26\,000 - 23\,960 = 2\,040$

Impairment Test (IAS 36): Example

- Comparison of book value (= 26,000 CU) and recoverable amount

- **Calculation of recoverable amount:** higher value of
 - FV less cost to sell = 12,000 CU (take from fact pattern)
 - Value in use = $4,500 \times [(1.05)^6 - 1] / [(1.05)^6 \times 0.05] + 1,500 / 1.05^6$
 - = $4,500 \times 5.07569 + 1,119.23$
 - = 23,959.84 ~ 23,960 CU
 - (discounted yearly cash flows plus discounted residual value)

- $\max(12,000 \text{ CU}; 23,960 \text{ CU}) < 26,000 \text{ CU} \rightarrow$ impairment loss needs to be recognized!
- Journal entry:

Dr. Impairment loss	Cr. Machine	2,040
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- Depreciation for 20X2: $23,960 \text{ CU} / 6 = 3,993.33 \text{ CU}$

Goodwill Impairment Test: CGU

Cash generating unit = the **smallest identifiable group of assets** that generates **cash inflows** that are largely **independent** of the cash inflows from other assets or groups of **assets**

IAS 36 Impairment of Assets

Follow



Standard 2024 Issued

- 80 For the purpose of impairment testing, goodwill acquired in a business combination shall, from the acquisition date, be allocated to each of the acquirer's **cash generating units**, or groups of cash-generating units, that is expected to benefit from the synergies of the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units or groups of units. Each unit or group of units to which the goodwill is so allocated shall:
- (a) represent the lowest level within the entity at which the goodwill is monitored for internal management purposes; and
 - (b) not be larger than an operating segment as defined by paragraph 5 of IFRS 8 *Operating Segments* before aggregation.

Cash Generating Unit - Examples

- Stores of a supermarket chain that have **different customer bases**
 - **Independent** cash flows because of differences in customer base
 - Notwithstanding centralized management, HR, accounting department, etc.
- Two plants within a firm, where the **output of Plant A is used as input to Plant B** and no other ('outside') market exists for Plant A's product
 - Cash flow of the two plants are linked
 - Alternative scenario: Plant A's also sells its products in another market

Cash Generating Units – Bayer

- CGUs defined based on product families:

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Impairment Testing Parameters

%	After-tax cost of capital			
	Q4 2022	Q2 2023	Q3 2023	Q4 2023
Corn Seed & Traits	10.5	10.6	11.3	10.3
Soybean Seed & Traits	9.9	10.0	10.9	9.9
Glyphosate	11.5	11.3	13.2	11.7
Dicamba	7.7	7.7	8.5	7.6
Cotton Seed	7.6	7.8	8.5	7.8
Canola	8.3	8.2	8.9	7.8
Vegetable Seeds	9.9	10.2	11.6	11.4

Cash Generating Units – L’Oreal

Goodwill is allocated by Cash Generating Units or by groups of Cash Generating Units. A Cash Generating Unit corresponds to one or more worldwide brands.

€ millions					
2023	31.12.2022	Acquisitions/ Disposals	Other movements	Translation difference	31.12.2023
Redken/PureOlogy	708.2	8.3		-18.0	698.4
L'Oréal Professionnel/Kérastase	429.5			-7.1	422.4
Matrix	428.8			-12.3	416.5
Professional Products Total	1,566.5	8.3	—	-37.4	1,537.4
L'Oréal Paris	1,186.9		10.1	-16.6	1,180.4
Mass Market make-up	1,060.6		4.4	-26.4	1,038.6
Garnier	422.4		9.4	-5.9	425.9
Stylenanda	420.1			-13.2	406.9
NYX Professional Makeup	341.3			-9.8	331.4
LaSCAD	156.4				156.4
Other	372.6			-19.8	352.9
Consumer Products Total	3,960.3	—	23.9	-91.6	3,892.6
Aēsop ⁽¹⁾	—	1,682.3		56.2	1,738.4
Perfumes	1,472.1			-0.3	1,471.8
Lancôme	836.4			-5.0	831.4
YSL Beauté	536.5			-0.2	536.2
Luxe skincare ⁽²⁾	428.7			-19.3	409.4
IT Cosmetics	534.5		-249.9	-7.3	277.3
Urban Decay	159.3			-4.8	154.5
Shu Uemura	127.6			-11.5	116.1
Other	227.4			—	227.4
Luxe Total	4,322.3	1,682.3	-249.9	7.7	5,762.4
SkinCeuticals/Skinbetter Science	718.5		28.7	-19.3	727.9
CeraVe	650.9			-11.2	639.6
Vichy	327.3	-1.5		-3.4	322.4
La Roche-Posay	171.9			-2.3	169.6
Dermatological Beauty Total	1,868.5	-1.5	28.7	-36.1	1,859.5
Lactobio ⁽¹⁾	—	50.7	—	—	50.7
GROUP TOTAL	11,717.7	1,739.8	-197.3	-157.6	13,102.6

(1) Allocation of the goodwill from Aēsop and Lactobio to the Cash Generating Units has not yet been finalised.

(2) The Cash Generating Unit includes Kiehl's, Takami and Youth To The People.

Impairment tests consist of comparing the carrying amount of assets including goodwill and brands with the recoverable amount of each Cash Generating Unit. A Cash Generating Unit corresponds to one or more worldwide brands. A Cash Generating Unit can contain several brands in case of similar marketing position or depending on organisational criteria and particularly when distribution circuits and commercial/management structures are pooled. Recoverable values are determined on the basis of discounted operating cash flow forecasts covering a period of 10 years (the period considered necessary for the strategic positioning of an acquisition) and a terminal value.

Cash Generating Units – Deutsche Bank

Goodwill allocated to cash-generating units

in € m.	Investment Bank	Corporate Bank	Asset Management	Private Bank	Total
Balance as of January 1, 2022	0	0	2,806	0	2,806
Goodwill acquired during the year	0	0	0	0	0
Purchase accounting adjustments	0	0	0	0	0
Transfers	0	0	0	0	0
Reclassification from (to) "held for sale"	0	0	0	0	0
Goodwill related to dispositions without being classified as "held for sale"	0	0	0	0	0
Impairment losses ¹	0	0	0	0	0
Exchange rate changes/other	0	0	113	0	113
Balance as of December 31, 2022	0	0	2,919	0	2,919
Gross amount of goodwill	4,079	629	3,408	3,717	11,834
Accumulated impairment losses	(4,079)	(629)	(489)	(3,717)	(8,915)
Balance as of January 1, 2023	0	0	2,919	0	2,919
Goodwill acquired during the year	235	0	0	0	235
Purchase accounting adjustments	0	0	0	0	0
Transfers	0	0	0	0	0
Reclassification from (to) "held for sale"	0	0	0	0	0
Goodwill related to dispositions without being classified as "held for sale"	0	0	0	0	0
Impairment losses ¹	0	0	0	0	0
Exchange rate changes/other	0	0	0	0	0
Balance as of December 31, 2023	0	0	2,919	0	2,919
Gross amount of goodwill	4,079	629	3,408	3,717	11,834
Accumulated impairment losses	(4,079)	(629)	(489)	(3,717)	(8,915)

Goodwill on the acquisition of subsidiaries is capitalized and reviewed for impairment annually or more frequently if there are indications that impairment may have occurred. For the purposes of impairment testing, goodwill acquired in a business combination is allocated to cash-generating units ("CGUs"), which are the smallest identifiable groups of assets that generate cash inflows largely independent of the cash inflows from other assets or groups of assets and that are expected to benefit from the synergies of the combination and considering the business level at which goodwill is monitored for internal management purposes. In identifying whether cash inflows from an asset (or a group of assets) are largely independent of the cash inflows from other assets (or groups of assets) various factors are considered, including how management monitors the entity's operations or makes decisions about continuing or disposing of the entity's assets and operations.

¹ Impairment losses of goodwill are recorded as impairment of goodwill and other intangible assets in the income statement.

Goodwill allocation to CGU - exercise

- Chicken AG acquires 100% of the shares of Muller AG. The purchase price of Muller AG is 1,200 CU. The book value of Muller AG's equity capital is 600 CU. Muller AG has additional hidden reserves of 200 CU. Total goodwill is 400 CU.
- After the acquisition, Muller AG is an independent CGU within Chicken AG. In addition to Muller AG, there are three other independent CGUs operated by Chicken AG.
 1. If no other independent CGU of Chicken AG generates any additional synergies from the acquisition of Muller AG, what is the goodwill allocated to Muller AG?
 2. If three other independent CGUs of Chicken AG expect the following synergies from the acquisition of Muller AG, what is the goodwill allocated to Muller AG?

CU	CGU 1	CGU 2	CGU 3
Value without synergies	1,000	800	1,200
Value including synergies	1,060	800	1,220

Goodwill allocation to CGU

Goodwill allocation to CGU

1. If no other independent CGU of Chicken AG generates any additional synergies from the acquisition of Muller AG, what is the goodwill allocated to Muller AG?

→ The total goodwill of 400 CU is allocated to Muller AG.

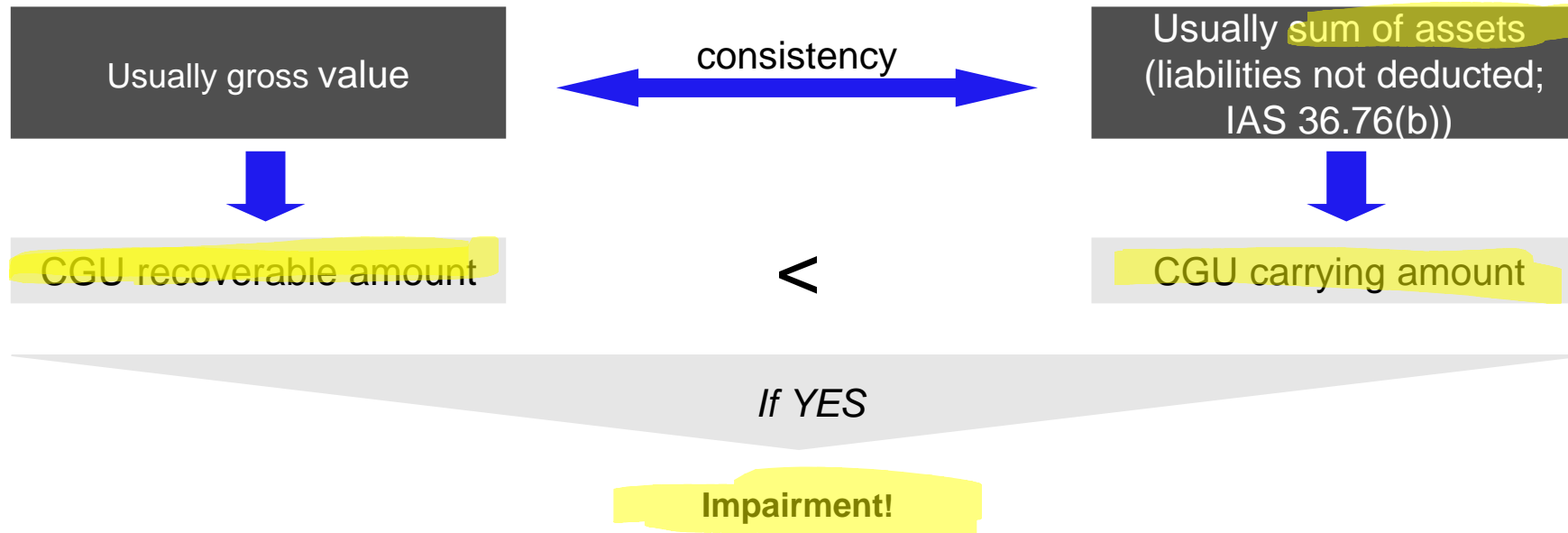
2. If three other independent CGUs of Chicken AG expect the following synergies from the acquisition of Muller AG, what is the goodwill allocated to Muller AG?

→ The goodwill of Muller AG is 320 CU.

60 CU are allocated to CGU 1 and 20 CU are allocated to CGU

CU	CGU 1	CGU 2	CGU 3
Value without synergies	1,000	800	1,200
Value including synergies	1,060	800	1,220
Expected synergies = goodwill allocation	60	0	20

Testing Goodwill at the CGU-Level



Has to be allocated to reduce the carrying amount of the assets of the unit in the following order:

- **first**, to reduce the carrying amount of any goodwill allocated to the cash-generating unit; and
- **then**, to the other assets of the unit pro rata on the basis of the carrying amount of each asset in the unit.

Impairment test of a cash-generating unit

CGU recoverable amount

650

CGU carrying amount

Balance Sheet CGU 1			
Machinery	400	Debt	250
Property&Plant	150		
Current assets	200		
Sum	750		850

Impairment test of a cash-generating unit

CGU recoverable amount	<	CGU carrying amount																
650		Balance Sheet CGU 1																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Machinery</td> <td style="text-align: right; padding: 5px;">400</td> <td style="padding: 5px;">Debt</td> <td style="text-align: right; padding: 5px;">250</td> </tr> <tr> <td style="padding: 5px;">Property&Plant</td> <td style="text-align: right; padding: 5px;">150</td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">Current assets</td> <td style="text-align: right; padding: 5px;">200</td> <td></td> <td></td> </tr> <tr style="background-color: #d9d9d9;"> <td style="padding: 5px;">Sum</td> <td style="text-align: right; padding: 5px;">750</td> <td></td> <td style="text-align: right; padding: 5px;">850</td> </tr> </table>	Machinery	400	Debt	250	Property&Plant	150			Current assets	200			Sum	750		850
Machinery	400	Debt	250															
Property&Plant	150																	
Current assets	200																	
Sum	750		850															

not subjected to impairment test

➔

Impairment loss!

750 - 650

Journal Entries

<i>Dr. Impairment loss</i> 100	Cr.	<i>Machinery</i> <u>73</u> (= 400/550*100)	
		<i>PP&E</i> <u>27</u> (= 150/550*100)	

Impairment test of a cash-generating unit

CGU recoverable amount

700

CGU carrying amount

Balance Sheet CGU 1			
Goodwill	100	Equity	600
Machinery	400	Debt	250
Property&Plant	150		
Current assets	200		
Sum	850		850

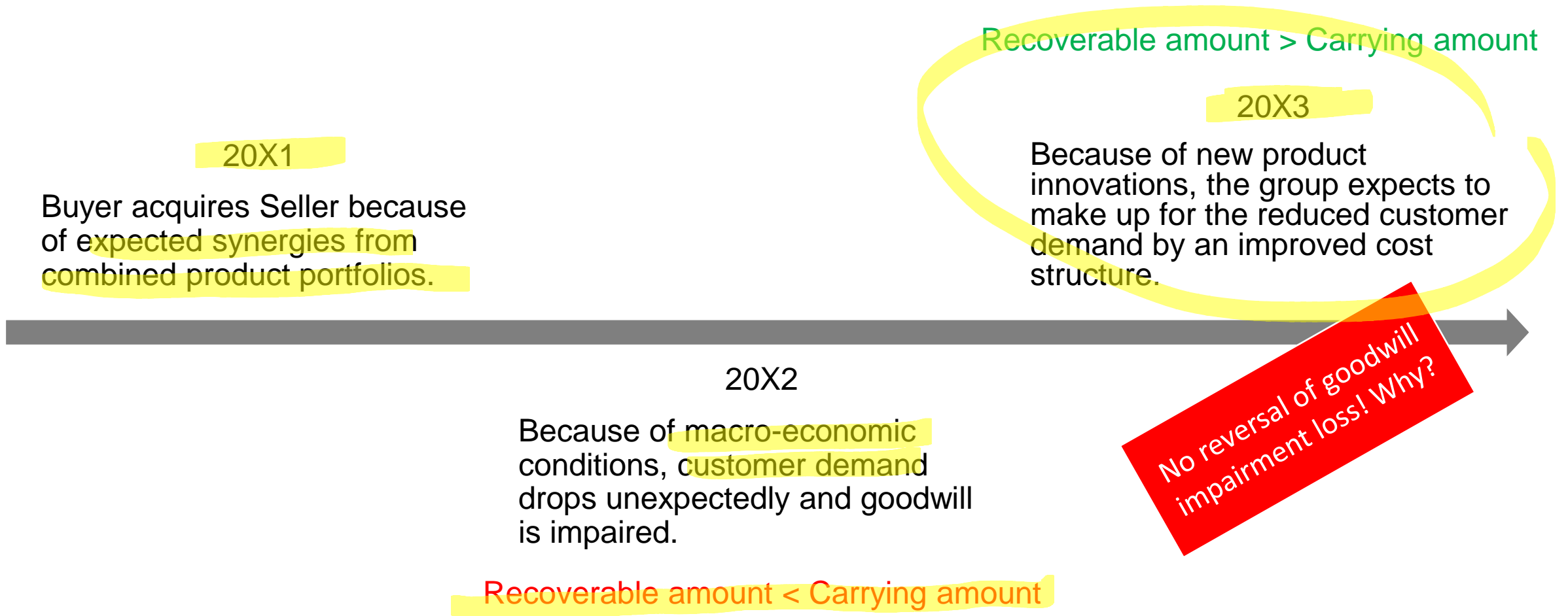
Impairment test of a cash-generating unit

CGU recoverable amount	<	CGU carrying amount																								
700		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #34495e; color: white;"> <th colspan="4">Balance Sheet CGU 1</th> </tr> </thead> <tbody> <tr> <td style="width: 30%;">Goodwill</td> <td style="width: 15%;">100</td> <td style="width: 30%;">Equity</td> <td style="width: 25%;">600</td> </tr> <tr> <td>Machinery</td> <td>400</td> <td>Debt</td> <td>250</td> </tr> <tr> <td>Property&Plant</td> <td>150</td> <td></td> <td></td> </tr> <tr> <td>Current assets</td> <td>200</td> <td></td> <td></td> </tr> <tr style="background-color: #bdc3c7;"> <td>Sum</td> <td>850</td> <td></td> <td>850</td> </tr> </tbody> </table>	Balance Sheet CGU 1				Goodwill	100	Equity	600	Machinery	400	Debt	250	Property&Plant	150			Current assets	200			Sum	850		850
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		Impairment loss!																								

Journal Entries

<i>Dr. Impairment loss</i> 150	Cr.	<i>Goodwill</i> 100 <i>Machinery</i> 36 (= 400/550*50) <i>PP&E</i> 14 (= 150/550*50)
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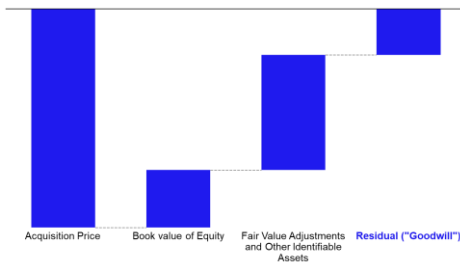
Goodwill Impairment Testing - Reversals



Goodwill Impairment Testing – Areas of Discretion

Initial Consolidation and Allocation of Goodwill

- **Purchase price allocation** / determination of goodwill amount relative to other assets



~~100 - 120~~
100 - 120

- Allocation of goodwill to **CGUs**

Subsequent Measurement

- Determination of recoverable amount
 - Cash flow forecasts ✓
 - Discount rate ✓
 - Terminal value

Discretion in Goodwill Accounting – Purchase Price Allocation

- Buyer purchases 100% of the shares in Seller as of 01 January 20X1.
 - Acquisition Price: 120 CU

Seller (Unconsolidated)

Assets		Equity & Liabilities	
Cash	10	Equity	20
PP&E	50	Debt	40

- Current estimates of the market value of Seller’s investment property range between 60 CU and 100 CU.
 - Useful life of Seller’s PP&E: 10 years
- What are the accounting consequences in future periods of a higher versus lower fair value adjustment of Sellers’s investment property?

Discretion in Goodwill Accounting – Purchase Price Allocation

Low Fair Value Adjustment	
Acquisition Price	120
Equity (Book Value)	20
Fair Value Adjustments	10
Goodwill	90
Annual depreciation (PPE)	$60 / 10 = 6$

⊖ higher risk of goodwill impairment

High Fair Value Adjustments	
Acquisition Price	120
Equity (Book Value)	20
Fair Value Adjustments	50
Goodwill	50
Annual depreciation (PPE)	$100 / 10 = 10$

⊕ more resources allocated to tangible assets
↳ collateral value
(TNW ratio)
⊖ potentially lower EPS

Discretion in Goodwill Accounting – Purchase Price Allocation

Low Fair Value Adjustment	
Acquisition Price	120
Equity (Book Value)	20
Fair Value Adjustments	10
Goodwill	90
Annual depreciation (PPE)	$60 / 10 = 6$

High Fair Value Adjustments	
Acquisition Price	120
Equity (Book Value)	20
Fair Value Adjustments	50
Goodwill	50
Annual depreciation (PPE)	$100 / 10 = 10$

- Trade-off between higher goodwill amount (→ exposure to potential impairment loss) and higher annual depreciation on fair value adjustments

Discretion in Goodwill Accounting – Case Study

Fact pattern:

BUY AG purchases all shares of TARGET AG for a total purchase price of 1,000 CU at the beginning of year 20X1. You are provided with the following information about TARGET as of the beginning of year 20X1:

	Book value	Fair value
Cash (in TEUR)	500	500
Non-current assets (in TEUR)	100	?
Total liabilities (in TEUR)	300	200
Brand value (unregonized, in TEUR)		200

TARGET AG does not have any assets other than non-current assets and cash. The remaining useful life of non-current assets is 10 years.

Discretion in Goodwill Accounting – Case Study

Task (continued):

Assume BUYER AG's management has some discretion about the purchase price allocation. In particular, experts somewhat disagree on the fair value of TARGET's non-current assets (with estimates ranging between 50 CU and 500 CU).

BUYER AG has a credit covenant which is based on the group's EBIT. BUYER AG expects that, at the end of year 20X1, the EBIT of the group *without TARGET* will exceed the EBIT required in the covenant by 30 CU.

After the transaction, TARGET will be consolidated in BUYER's group financial statements and, hence, affect the group's EBIT relevant for the covenant.

Assume that BUYER wants to avoid goodwill impairments in future periods. How would the management of BUYER AG rationally exercise its discretion relating to the purchase price allocation? Please explain and provide the goodwill that would result under BUYER AG's rational accounting judgment.

Discretion in Goodwill Accounting – Case Study

covenant slack: 30

↓ useful life
of 10 yrs:

max. fair value 300

value w/o
covenant breaks

→ fair value adjustment: 200

Discretion in Goodwill Accounting – Case Study

- To avoid goodwill impairment, minimize the amount of goodwill uncovered in the purchase price allocation.
- They allocate as much as they can to non-current assets, without breaching the covenant.
- Advantage: non-current assets can be depreciated on a regular basis (without sending a bad signal to the market, by contrast to goodwill impairment).
- Maximum additional depreciation they can take on non-current assets without covenant breach: 30 CU. With a useful life of 10 years, this corresponds to book value of 300 CU.
- Hence, the purchase price allocation would look as follows:

Purchase price	1000
- Book value of equity	-300
- Brand	-200
- hidden reserves on liabilities	-100
- hidden reserves on non-current assets	-200
= Goodwill	200

Discretion in Goodwill Accounting – Allocation to CGUs

- Allocation to CGU with greater hidden reserves lowers probability of goodwill impairment
 - Hidden reserves provide a buffer, leading to recoverable amount > carrying amount of CGU
- Due to accounting rules, hidden reserves are typically more likely than hidden liabilities (i.e., most assets are carried at lower amounts compared to their recoverable amount)
 - Provides incentives to form large, high-level CGUs: accumulate hidden reserves across numerous assets
 - But: CGU must not be larger than segment!

market-to-book ratio < 1

Block 4: Key take-aways



- Subsequent consolidation builds upon the current year's unconsolidated statements and:
 - A re-doing of the initial capital consolidation
 - Depreciation of fair value adjustments (incl. deferred tax implications)
 - Impairment of goodwill (if any)

- Consolidated profit for the year is allocated among parent company shareholders and NCI:
 - Parent company shareholders: 100% of parent company unconsolidated profit, share in profit of subsidiary, share in profit/loss from depreciation of hidden reserves
 - NCI: share in profit of subsidiary, share in profit/loss from depreciation of hidden reserves

- Goodwill in subsequent periods is accounted for using the “impairment-only” approach.
 - No scheduled/fixed amortization
 - Impairment test at the level of the CGU
 - Discretion w.r.t. measurement and allocation to CGUs