Hochschule Esslingen
University of Applied Sciences

Accounting and Financial Management

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I. Introduction to Financial Accounting

Literature

Basic Literature

- **Anthony/Hawkins/Merchant**: *Accounting*, 11thed., McGraw-Hill

Additional Literature

- **Dyckman/Dukes/Davis**: *Intermediate Accounting*, 4thed., McGraw-Hill
- **Horngren/Harrison/Bamber**: *Accounting*, 5thed., Prentice Hall
- **Hoyle/Schaefer/Doupnik**: *Advanced Accounting*, 5thed., McGraw-Hill
- **Perks**: *Financial Accounting for Non-Specialists*, McGraw-Hill

Table of Contents

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I. Introduction to Financial Accounting

The learning target of this chapter is to understand

- ✓ **the content of financial statements,**
- ✓ **the concept of the „double entry system“,**
- ✓ **the impact of different costing methods,**
- ✓ **the concept of depreciation,**
- ✓ **measures used in financial analysis,**
- ✓ **the consideration of business combinations.**

Drawing by Leo Cullum (©) 1985
The New Yorker Magazine, Inc.

0. Introduction

Introduction (2)

Goal:

- Corporations need to communicate their results.
- Business activity is recorded, summarized and analysed
- Within the company: accounting information provides means to control, evaluate and plan operations

Target groups:

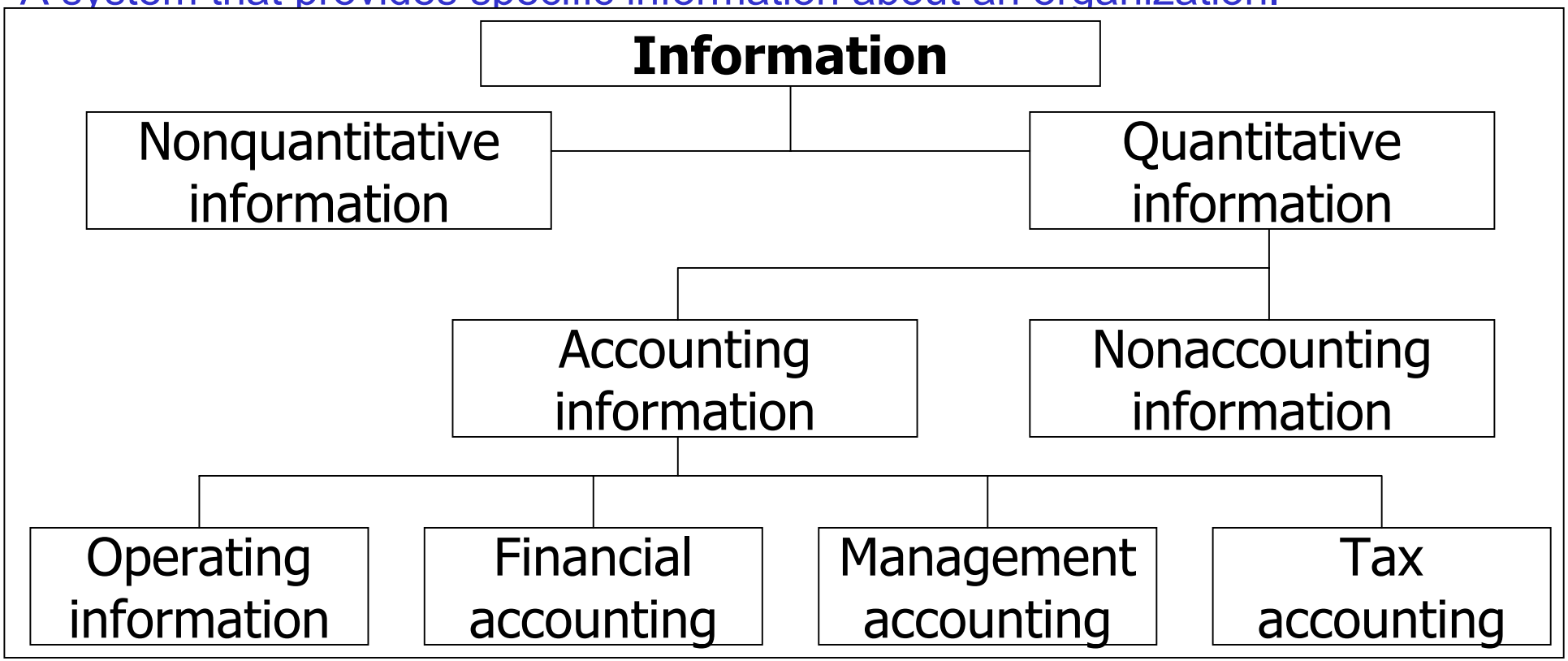
- Employees
- Investors
- Creditors
- Customers
- Suppliers
- Communities

0. Introduction

Introduction (3)

Accounting:

A system that provides specific information about an organization.



Source: Anthony et.al., „Accounting", McGraw-Hill, 2003, p.3

0. Introduction

Introduction (4)

Definition (from the American Accounting Association Committee):

Accounting is the process of identifying, measuring, and communicating economic information to permit informed judgements and decisions by users of the information.

Financial statements are the final product of the accounting process, they typically consist of
Balance Sheet, Income Statement, Cash Flow Statement

Profession of Accountants:

- Bookkeepers and other data-entry employees
- Staff accountants who decide how items should be reported, prepare the reports, interpret these reports, etc.
- Independent public accountants: Certified Public Accountants (CPAs), American Institute of Certified Public Accountants (AICPA)

History:

Accounting has been around from the beginning of time:

- **In biblical times to keep track of how much grain was stored in the community‘s silos**
- **Luca Pacioli: Summa – Codification of the double entry bookkeeping 1494**
- **In modern times accounting answers basic questions about a business as:**
  - What does a company own?
  - How much does a company owe others?
  - How well did a company‘s operations perform?
  - How does the company get the cash to fund itself?

Study Goals:

- Ability to ask for relevant accounting information
- Ability to use relevant accounting information
- **Not** to acquire expert knowledge of complex accounting rules

It is relevant

- for decision making
- in settlement negotiations
- if personal performance is evaluated with accounting data

1. Financial Statements

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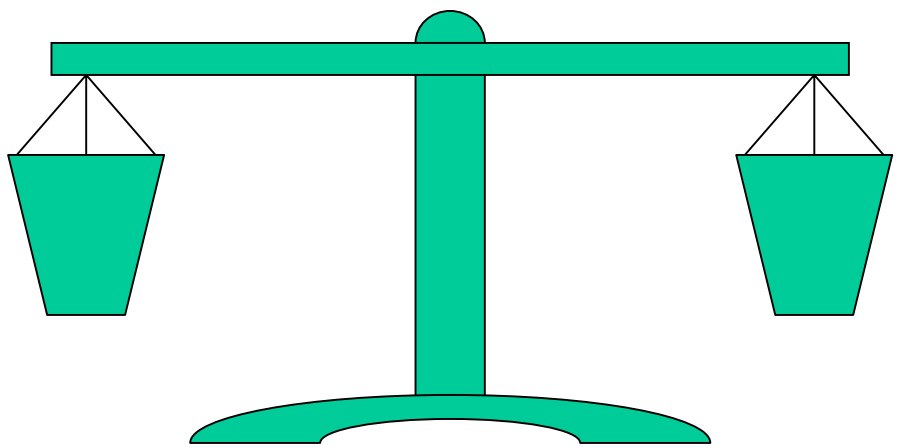
Contents

Definition:

A Balance Sheet (formal: statement of financial position) reports the assets and equities (liabilities and owners' equity) of the entity (company) at a specific moment in time → status report

Fundamental Accounting Equation

Assets = Liabilities + Owner's Equity



Assets:

Assets are the resources that the company possess for the future benefit of the business

- Cash
- Marketable Securities
- Accounts Receivables
- Inventory
- Prepaid Expenses
- Land
- Equipment
- Buildings
- Investments
- Intangible Assets

1. Financial Statements

1.1. Balance Sheet (3)

Liabilities:

Liabilities are obligations to repay borrowing, debts, and other obligations to provide goods or services to others.

- Bank debt
- Amounts owed to suppliers: accounts payable
- Prepaid accounts or advances from customers to deliver goods and services
- Taxes owed
- Wages owed to employees

Owner's equity:

Owner's equity is the accumulated measure of the owners' investment in the company.

- Common stock
- Additional paid-in capital
- Retained earnings

The Balance Sheet is always in *balance*.

Four categories of accounting transactions affect the balance sheet

- Assets Exchange
  Example: Company buys a machine and pays in cash (price 1.000 €)
- Liabilities/Equity Exchange
  Example: Company takes loan to pay accounts payable
- Assets and Liabilities/Equity increase
  Example: Company buys a machine on credit (price 1.000 €)
- Assets and Liabilities/Equity decrease
  Example: Company pays back credit with cash (10.000 €)

1. Financial Statements

1.1.1. Accounting Transaction (2)

Example: You decide to start your own business.

Starting Balance Sheet:

Assets	**01**	**02**
Cash	0	
Accounts receivable	0	
Inventory	0	
Net fixed assets	0	
Total assets	0	

Liabilities and Equity	**01**	**02**
Current liabilities	0	
Long-term debt	0	
Paid-in capital	0	
Retained earnings	0	
Total liabilities and equity	0	

Transactions:

- You start your own business by depositing 10.000 € in a bank account.
- You buy inventory for 2.000 € (term of credit: 3 month).
- You buy furniture for your office for 1.000 €.
- After 3 month: you pay for your inventory.

1. Financial Statements

1.1.1. Accounting Transaction (3)

Example: Balance Sheet Changes:

You start your own business by depositing 10.000 € in a bank account.

Assets	**01**	**02**
Cash	0	10.000
Accounts receivable	0	0
Inventory	0	0
Net fixed assets	0	0
Total assets	0	10.000

Liabilities and Equity	**01**	**02**
Current liabilities	0	0
Long-term debt	0	0
Paid-in capital	0	10.000
Retained earnings	0	0
Total liabilities and equity	0	10.000

You buy inventory for 2.000 € (term of credit: 3 month).

Assets	**01**	**02**
Cash	0	10.000
Accounts receivable	0	0
Inventory	0	2.000
Net fixed assets	0	0
Total assets	0	12.000

Liabilities and Equity	**01**	**02**
Current liabilities	0	2.000
Long-term debt	0	0
Paid-in capital	0	10.000
Retained earnings	0	0
Total liabilities and equity	0	12.000

1. Financial Statements

1.1.1. Accounting Transaction (4)

Example: Balance Sheet Changes:

You buy furniture for your office for 1.000 €.

Assets	**01**	**02**
Cash	0	9.000
Accounts receivable	0	0
Inventory	0	2.000
Net fixed assets	0	1.000
Total assets	0	12.000

Liabilities and Equity	**01**	**02**
Current liabilities	0	2.000
Long-term debt	0	0
Paid-in capital	0	10.000
Retained earnings	0	0
Total liabilities and equity	0	12.000

After 3 month: you pay for your inventory

Assets	**01**	**02**
Cash	0	7.000
Accounts receivable	0	0
Inventory	0	2.000
Net fixed assets	0	1.000
Total assets	0	10.000

Liabilities and Equity	**01**	**02**
Current liabilities	0	0
Long-term debt	0	0
Paid-in capital	0	10.000
Retained earnings	0	0
Total liabilities and equity	0	10.000

Nonprofit Inc.:

You intend to open a bookstore.

Consider the following transactions one by one and show the respective effects of these transactions on the balance sheet.

- You start your own business by depositing 20.000 € in a bank account.
- In addition, you take out a loan from the bank (amount 14.000 €)
- You purchase a computer for 2.000 € on credit.
- You purchase merchandise (books) for 20.000 €.
- You pay back part of the loan (4.000 €).
- You sell books for 10.000 €.
- You purchase books for 6.000 € on credit.
- You pay back the credit for your computer.
- Has your business been successful?

1. Financial Statements

1.1.2. Exercise (2)

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Nonprofit Inc.:

You start your own business by depositing 20.000 € in a bank account.

Assets		**1.**	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
Cash	0	20.000							
Accounts Rec.	0	0							
Inventory	0	0							
Fixed Assets	0	0							
Total Assets	0	20.000							
Liabilities and Equity									
C/Liabilities	0	0							
Long-term debt	0	0							
Owners‘ equity	0	20.000							
Ret. Earnings									
Total Liabilities and Equity	0	20.000							

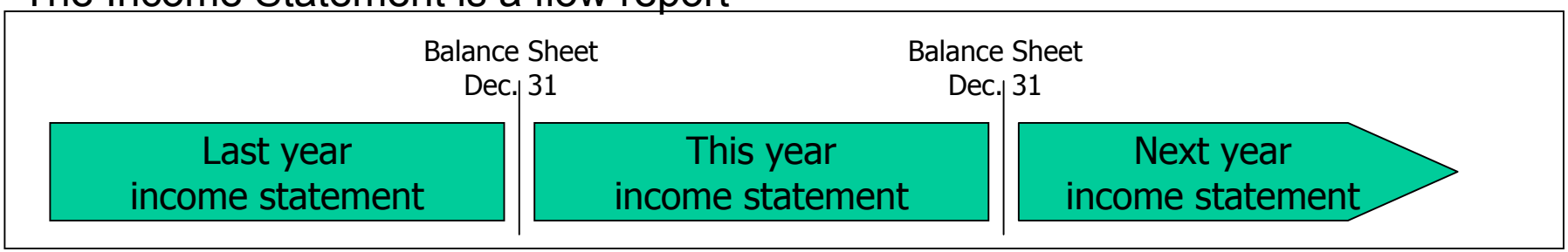
Definition:

An **Income Statement** (or: profit and loss statement) reports how profitable a company has been during a period. The income statement explains how this income was earned. It summarizes the revenues and the expenses.

The basic income statement equation is:

Revenues – Expenses = Net income

The Income Statement is a flow report



Source: Anthony et.al., „Accounting“, McGraw-Hill, 2003, p.54

Typical Income Statement:

Net Sales - Cost of Sales (Goods Sold)
= Gross Margin - Research and Development Expense - Selling, General, and Administrative Expenses
= Operating Income - Other Revenues (Expenses)
= Income (Profit) before Income Taxes - Provision for Income Tax (Tax Expenses)
= Net income - Dividends **= Retained Earnings**

Items of the Income Statement:

- Net Sales = Gross Sales – Returns and Allowances – Sales Discounts:
  Usually sales tax is not included
- Cost of Sales
- Gross Margin (or Gross Profit)
- Research and Development Expense, Selling, General, and Administrative Expenses: mainly fixed costs
- Other Revenues: Interest and dividends earned on marketable securities, royalties etc.
- Other Expenses: Interest
- Tax Expenses
- Net Income or Net Loss
- Earnings per Share of Common Stock (common in USA)
- Statement of Retained Earnings:
  Add: Net Income Deduct: Dividends

Accrual Accounting:

Accrual Accounting measures income for a period as the difference between the revenues recognized in that period and the expenses that are matched with those revenues.

Other Concepts of Income:

- **Cash-basis Accounting:** Sales and costs are not recorded until the period in which they received cash.
- **Modified Cash-basis Accounting:** Depreciation for long-lived assets
  - ➔ For smaller companies with rather no fixed assets
- **Income Tax Accounting:** general goal: reduce taxable income and/or postpone
  - ➔ tax payments

1. Financial Statements

1.2.1. Accounting Transaction

Example Company ABC Inc. made the following financial statements in 2001.

Assets	**2001**	**Liabilities and Equity**	**2001**
Cash	1000	Current liabilities	4000
Accounts receivable	1000	Long-term debt	4000
Inventory	1000	Common stock	4000
Net fixed assets	9000	Retained earnings	0
Total assets	12000	Total liabilities and equity	12000

Income statement	**2001**
Sales	8000
- Costs	- 7200
- Depreciation	- 0
= EBIT	800
- Interest paid	- 800
- Taxes	- 0
= Net income	0

What are the impacts of the following accounting transactions?

1. Financial Statements

1.2.1. Accounting Transaction (2)

Example: 1. Reimbursement of long-term debt (amount 500 €) with cash

Assets	2001	2002/1.
Cash	1000	500
Accounts receivable	1000	1000
Inventory	1000	1000
Net fixed assets	9000	9000
Total assets	12000	11500

Liabilities and Equity	2001	2002/1.
Current liabilities	4000	4000
Long-term debt	4000	3500
Common stock	4000	4000
Retained earnings	0	0
Total liabilities and equity	12000	11500

Income statement	2001	2002/1.
Sales	8000	8000
- Costs	- 7200	- 7200
- Depreciation	- 0	- 0
- Accruals	- 0	- 0
= EBIT	800	800
- Interest paid	- 800	- 800
- Taxes	- 0	- 0
= Net income	0	0

1. Financial Statements

1.2.1. Accounting Transaction (3)

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Example: 2. Additionally, buying inventory for 500 € (cash) selling it for 800 € (cash)

Assets	2002/1.	2002/2.
Cash	500	800
Accounts receivable	1000	1000
Inventory	1000	1000
Net fixed assets	9000	9000
Total assets	11500	11800

Liabilities and Equity	2002/1.	2002/2.
Current liabilities	4000	4000
Long-term debt	3500	3500
Common stock	4000	4000
Retained earnings	0	300
Total liabilities and equity	11500	11800

Income statement	2001	2002/1.	2002/2.
Sales	8000	8000	8800
- Costs	- 7200	- 7200	- 7700
- Depreciation	- 0	- 0	- 0
- Accruals	- 0	- 0	- 0
= EBIT	800	800	1100
- Interest paid	- 800	- 800	- 800
- Taxes	- 0	- 0	- 0
= Net income	0	0	300

1. Financial Statements

1.2.1. Accounting Transaction (4)

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Example: 3. Additionally, depreciate net fixed assets by 200 €

Assets	2002/2.	2002/3.
Cash	800	800
Accounts receivable	1000	1000
Inventory	1000	1000
Net fixed assets	9000	8800
Total assets	11800	11600

Liabilities and Equity	2002/2.	2002/3.
Current liabilities	4000	4000
Long-term debt	3500	3500
Common stock	4000	4000
Retained earnings	300	100
Total liabilities and equity	11800	11600

Income statement	2001	2002/1.	2002/2.	2002/3.				
Sales	8000	8000	8800	8800				
- Costs	- 7200	- 7200	- 7700	- 7700				
- Depreciation	- 0	- 0	- 0	- 200				
- Accruals	- 0	- 0	- 0	- 0				
= EBIT	800	800	1100	900				
- Interest paid	- 800	- 800	- 800	- 800				
- Taxes	- 0	- 0	- 0	- 0				
= Net income	0	0	300	100				

1. Financial Statements

1.2.1. Accounting Transaction (5)

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Example: 4. Additionally, suppose 800 € of the sales are on credit

Assets	2002/3.	2002/4.
Cash	800	0
Accounts receivable	1000	1800
Inventory	1000	1000
Net fixed assets	8800	8800
Total assets	11600	11600

Liabilities and Equity	2002/3.	2002/4.
Current liabilities	4000	4000
Long-term debt	3500	3500
Common stock	4000	4000
Retained earnings	100	100
Total liabilities and equity	11600	11600

Income statement	2001	2002/1.	2002/2.	2002/3.	2002/4.			
Sales	8000	8000	8800	8800	8800			
- Costs	- 7200	- 7200	- 7700	- 7700	- 7700			
- Depreciation	- 0	- 0	- 0	- 200	- 200			
- Accruals	- 0	- 0	- 0	- 0	- 0			
= EBIT	800	800	1100	900	900			
- Interest paid	- 800	- 800	- 800	- 800	- 800			
- Taxes	- 0	- 0	- 0	- 0	- 0			
= Net income	0	0	300	100	100			

1. Financial Statements

1.2.1. Accounting Transaction (6)

Example: 5. Additionally, suppose 200 € of the inventory is on credit (by suppliers)

Assets	2002/4.	2002/5.
Cash	0	200
Accounts receivable	1800	1800
Inventory	1000	1000
Net fixed assets	8800	8800
Total assets	11600	11800

Liabilities and Equity	2002/4.	2002/5.
Current liabilities	4000	4200
Long-term debt	3500	3500
Common stock	4000	4000
Retained earnings	100	100
Total liabilities and equity	11600	11800

Income statement	2001	2002/1.	2002/2.	2002/3.	2002/4.	2002/5.		
Sales	8000	8000	8800	8800	8800	8800		
- Costs	- 7200	- 7200	- 7700	- 7700	- 7700	- 7700		
- Depreciation	- 0	- 0	- 0	- 200	- 200	- 200		
- Accruals	- 0	- 0	- 0	- 0	- 0	- 0		
= EBIT	800	800	1100	900	900	900		
- Interest paid	- 800	- 800	- 800	- 800	- 800	- 800		
- Taxes	- 0	- 0	- 0	- 0	- 0	- 0		
= Net income	0	0	300	100	100	100		

1. Financial Statements

1.2.1. Accounting Transaction (7)

Example: 6. Additionally, suppose you must pay 50% taxes

Assets	2002/5.	2002/6.
Cash	200	150
Accounts receivable	1800	1800
Inventory	1000	1000
Net fixed assets	8800	8800
Total assets	11800	11750

Liabilities and Equity	2002/5.	2002/6.
Current liabilities	4200	4200
Long-term debt	3500	3500
Common stock	4000	4000
Retained earnings	100	50
Total liabilities and equity	11800	11750

Income statement	2001	2002/1.	2002/2.	2002/3.	2002/4.	2002/5.	2002/6.
Sales	8000	8000	8800	8800	8800	8800	8800
- Costs	- 7200	- 7200	- 7700	- 7700	- 7700	- 7700	- 7700
- Depreciation	- 0	- 0	- 0	- 200	- 200	- 200	- 200
- Accruals	- 0	- 0	- 0	- 0	- 0	- 0	- 0
= EBIT	800	800	1100	900	900	900	900
- Interest paid	- 800	- 800	- 800	- 800	- 800	- 800	- 800
- Taxes	- 0	- 0	- 0	- 0	- 0	- 0	- 50
= Net income	0	0	300	100	100	100	50

1. Financial Statements

1.2.1. Accounting Transaction (8)

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Example: 7. Additionally, suppose you set up accruals for 100 €

Assets	2002/6.	2002/7.
Cash	150	200
Accounts receivable	1800	1800
Inventory	1000	1000
Net fixed assets	8800	8800
Total assets	11750	11800

Liabilities and Equity	2002/6.	2002/7.
Current liabilities	4200	4200
Accruals		100
Long-term debt	3500	3500
Common stock	4000	4000
Retained earnings	50	0
Total liabilities and equity	11750	11800

Income statement	2001	2002/1.	2002/2.	2002/3.	2002/4.	2002/5.	2002/6.	2002/7.
Sales	8000	8000	8800	8800	8800	8800	8800	8800
- Costs	- 7200	- 7200	- 7700	- 7700	- 7700	- 7700	- 7700	- 7700
- Depreciation	- 0	- 0	- 0	- 200	- 200	- 200	- 200	- 200
- Accruals	- 0	- 0	- 0	- 0	- 0	- 0	- 0	- 100
= EBIT	800	800	1100	900	900	900	900	800
- Interest paid	- 800	- 800	- 800	- 800	- 800	- 800	- 800	- 800
- Taxes	- 0	- 0	- 0	- 0	- 0	- 0	- 50	0
= Net income	0	0	300	100	100	100	50	0

1. Financial Statements

1.2.1. Accounting Transaction (9)

What's really going on? Cash flows from operating activities!

Cash flows	CASH 2002	Income statement 2002
Sales	8000	8800
- Costs	- 7500	- 7700
- Depreciation		- 200
-/+ Accruals		- 100
= EBIT		800
- Interest paid	- 800	- 800
- Taxes		0
		net income 0
Cash flow	- 300	

Where are the missing 500 €?

Exercise

You own a small restaurant that made the following financial statement in year 01

The Balance Sheet for year 01 is:

Assets	**01**	**Liabilities and Equity**	**01**
Cash	10	Current liabilities	200
Marketable Securities	330	Long-term debt	400
Inventory	10	Paid-in Capital	100
Net fixed assets	470	Retained earnings	120
Total assets	820	Total liabilities and equity	820

1. Financial Statements

1.2.2. Exercise (2)

The Income Statement for year 01 is:

Income statement	01
Sales	+ 22.320
- Costs	- 4.800
- Wages	- 11.640
- Rent	- 5.240
- Advertising	- 60
- Depreciation Expenses	- 30
= EBIT	+ 550
+ Other Revenues	+ 20
- Interest paid	- 40
- Taxes (30%)	- 159
= Net income	+ 371
- Dividends	- 251
= Retained Earnings	+ 120

1. Financial Statements

1.2.2. Exercise (3)

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Assume the following transactions during the next period:

Current liabilities (accounts payable) are paid	200
You pay wages	12.170
You buy food, drinks for your restaurant	4.700
Part of the food is on credit	400
You buy new furniture for your restaurant	100
You give some old furniture away (book value 20)	0
You depreciate your fixed assets	40
You sell part of your market securities (shares: book value 200)	400
Revenues from your market securities	10
Your inventory remains unchanged	10
You pay for rent	5.240
For a new marketing strategy you pay	100
You sell food for	23.040
You decide to pay back long-term debt	100
Therefore, your interest payments are	30
You decide to add 40% of your net income to your retained earnings	

1. Financial Statements

1.2.2. Exercise (4)

The Income Statement for year 02 is:

Income statement	02
Sales - Costs - Wages - Rent - Advertising - Depreciation Expenses = EBIT + Other Revenues - Other Expenses (furniture) - Interest paid - Taxes (30%)	
= Net income - Dividends = Retained Earnings	

1. Financial Statements

1.2.2. Exercise (5)

The Balance Sheet for year 02 is:

Assets	**02**	**Liabilities and Equity**	**02**
Cash		Current liabilities	
Marketable Securities		Long-term debt	
Inventory		Paid-in Capital	
Net fixed assets		Retained earnings	
Total assets		Total liabilities and equity	

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- Accountants make journal entries to record each individual transaction.
- The accountants' books are called general ledger.

Rules for Entries into Accounts:

Asset Accounts

Debit	Credit
Increase	Decrease

Liability Accounts

Debit	Credit
Decrease	Increase

Equity Accounts

Debit	Credit
Decrease	Increase

Example:

A company issues own shares for 1.000.000 € in cash

Balance Sheet Journal Entry:

Account Title	Debit	Credit	Effect
Cash	1.000.000		Increase
Common Stock		1.000.000	Increase

A bank debt is repaid with cash 20.000 €

Account Title	Debit	Credit	Effect
Bank Debt	20.000		Decrease
Cash		20.000	Decrease

Example:

A company sells goods for 200.000 € in cash

Income Statement Journal Entry:

Account Title	Debit	Credit	Effect
Cash	200.000		Increase
Sales Revenue		200.000	Increase

The costs are recorded:

Account Title	Debit	Credit	Effect
Cost of Goods Sold	180.000		Decrease
Inventory		180.000	Decrease

Example:

Assume the two entries are the only income statement entries for the whole year.

Income Statement Year End Close Out Entry:

Account Title	Debit	Credit	Effect
Sales Revenue	200.000		Reversal
Income		200.000	Increase
Income	180.000		Decrease
Cost of Goods Sold		180.000	Reversal
Income	20.000		Reversal
Retained Earnings		20.000	Increase

Account Title	Debit	Credit	Effect
Retained Earnings	20.000		Reversal
Close Out Balance Sheet		20.000	Increase

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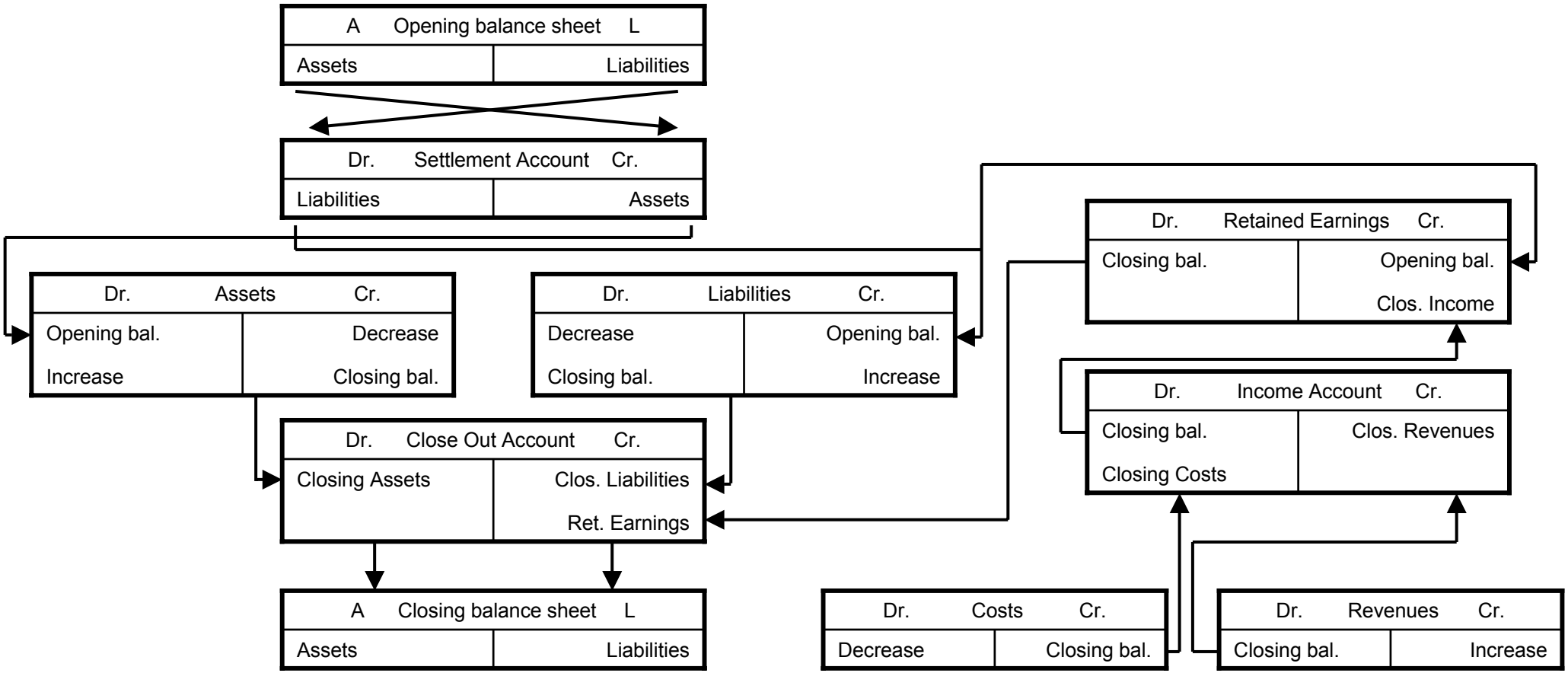
Put it all together:



Definition:

A **Cash Flow Statement** shows the net change in cash for the year.

- Was the company a seemingly profitable company, but must borrow heavily just to stay alive?
- Did the company's operations throw off cash, even though it may be just marginally profitable according to the income statement?
- What is relationship between cash flow and earnings?
- How are dividends financed?
- How are debts paid off?
- How is the cash generated by operations used
- Are management's stated financial policies reflected in the cash flow?

Types of business activities:

Operations Activities

- When the company is healthy, operating activities will generate cash

Investing Activities

- Does the company require a great investment in fixed assets?
- Is the company selling off its assets to fill an insatiable cash drain from operations?

Financing Activities

- Did the company borrow heavily?
- Has the company gone to investors to fund its operational or investing activities?

Rearranging the fundamental accounting equation one gets:

Cash+Other Current Assets+Fixed Assets = Current Liabilities + LT Debt + Equity

Cash **= Current Liabilities – Current Assets – Fixed Assets + LT Debt + Equity**

Operating activities

- + Net income
- +/– Increase/decrease in accruals, provisions
- + Depreciation
- +/– Any decrease/increase in current assets (except cash)
- +/– Increase/decrease in accounts payable

Investment activities

- + Ending fixed assets
- – Beginning fixed assets
- + Depreciation

Financing activities

- +/– Increase/decrease in notes payable
- +/– Increase/decrease in long-term debt
- + Increase in common stock
- – Dividends paid

1. Financial Statements

1.4.1. Accounting Transaction (2)

Alternative ways to calculate cash flows from operating activities!

Cash flows	2002	2002
Sales	8000	8800
- Costs	- 7500	- 7700
- Depreciation		- 200
-/+ Accruals		- 100
= EBIT		800
- Interest paid	- 800	- 800
- Taxes		0
Net income		0
+/- Accruals		+ 100
+ Depreciation		+ 200
- increase current assets (except cash)		- 800
+ increase current liabilities		+ 200
Cash flow	- 300	- 300

1. Financial Statements

1.4.1. Accounting Transaction (3)

Example what is the cash flow statement?

Assets	2001	2002
Cash	1000	200
Accounts receivable	1000	1800
Inventory	1000	1000
Net fixed assets	9000	8800
Total assets	12000	11800

Liabilities / Equity	2001	2002
Current liabilities	4000	4200
Accruals	0	100
Long-term debt	4000	3500
Common stock	4000	4000
Retained earnings	0	0
Total	12000	11800

Income statement	2001	2002
= Net income	0	0

Operating activities	2002
+ Net income	0
+ Depreciation	+ 200
+ Accruals	+ 100
- Increase C/A	- 800
+ Increase accounts p.	+ 200
Cash flow	- 300

Financing activities	2002
+ Increase notes payable	0
+ Increase long-term debt	- 500
+ Increase common stock	0
- Dividends	0
Cash flow	- 500

Investment activities	2002
+ Ending fixed assets	8800
- Beginning fixed assets	- 9000
+ Depreciation	+ 200
Cash flow	0

total cash flow =

- 300 + 0 - 500 = - 800 √

Example: Trading Company: Cheap Computers Start-up Inc.

Assume the following accounting transactions for one year:

Owners buy shares for	50.000 €
Company gets a credit from a bank (time to maturity 10 years)	30.000 €
Company pays wages over the year	20.000 €
Company pays for renting office space	12.000 €
Company buy furniture, equipment etc.	8.000 €
Company buys 200 computers (800 € per computer)	160.000 €
Company sells 180 computers (1.100 € per computer)	198.000 €
Company pays interest on liabilities (10% interest rate)	3.000 €
Suppliers grant credit	20.000 €
Company grants credit to customers	40.000 €
Company depreciates equipment	1.000 €
Tax rate is 30%	

Example: Trading Company: Cheap Computers Start-up Inc.

Income statement	**01**
Sales	+ 198.000
- Cost of goods sold	- 144.000
- Depreciation	- 1.000
- Wages	- 20.000
- Rent	- 12.000
= EBIT	+ 21.000
- Interest paid	- 3.000
= Taxable Earnings	+ 18.000
- Taxes	- 5.400
= Net income	+ 12.600

1. Financial Statements

1.4.1. Accounting Transaction (6)

Example: Trading Company: Cheap Computers Start-up Inc.

Balance Sheet 01			
Cash	49.600	Accounts payable	20.000
Accounts receivable	40.000	Notes payable	0
Inventory	16.000	Long term debt	30.000
Net fixed assets	7.000	Common stock	50.000
		Retained Earnings	12.600
Total assets	112.600	Total equity and liabilities	112.600

1. Financial Statements

1.4.1. Accounting Transaction (7)

Example: Trading Company: Cheap Computers Start-up Inc.

Operating activities	01
+ Net income	12.600
+ Depreciation	+ 1.000
- Increase C/A	- 56.000
+ Increase accounts payable	+ 20.000
Cash flow	- 22.400

Investment activities	01
+ Ending fixed assets	7.000
- Beginning fixed assets	- 0
+ Depreciation	+ 1.000
Cash flow	+ 8.000

Financing activities	01
+ Increase long-term debt	+ 30.000
+ Increase common stock	+ 50.000
Cash flow	+ 80.000

1. Financial Statements

1.4.2. Exercise

Trading Company: Expensive Computers Start-up Inc.

Assume the following accounting transactions for one year:

Owners buy shares for	40.000 €
Company gets a credit from a bank (time to maturity 6 years)	60.000 €
Company pays wages during the year	30.000 €
Company pays for renting office space	12.000 €
Company buy furniture, equipment etc.	20.000 €
Company buys 1.000 computers (800 € per computer)	800.000 €
Company sells 400 computers (1.500 € per computer)	600.000 €
Company pays interest on liabilities (10% interest rate)	6.000 €
Suppliers grant credit	80.000 €
Company grants credit to customers	120.000 €
Company depreciates equipment	2.000 €
Company sets up accruals for pensions	10.000 €
Tax rate is 30%	
Company pays dividends	40.000 €

Trading Company: Expensive Computers Start-up Inc.

Income statement	**01**
Sales - Cost of goods sold - Depreciation - Wages - Rent - Accruals for pensions = EBIT -Interest paid = Taxable Earnings - Taxes	
= Net income - Dividends = Retained Earnings	

1. Financial Statements

1.4.2. Exercise (3)

Trading Company: Expensive Computers Start-up Inc.

Balance Sheet 01			
Cash Accounts receivable Inventory Net fixed assets		Accounts payable Notes payable Long term debt Accruals for pensions Common stock Retained Earnings	
Total assets		Total equity and liabilities	

1. Financial Statements

1.4.2. Exercise (4)

Trading Company: Expensive Computers Start-up Inc.

Operating activities	01
+ Net income + Accruals + Depreciation - Increase C/A + Increase accounts payable	
Cash flow	

Investment activities	01
+ Ending fixed assets - Beginning fixed assets + Depreciation	
Cash flow	

Financing activities	01
+ Increase LTD, Notes payable + Increase common stock - Dividends paid	
Cash flow	

Total Cash Flow = - 354.000 - 20.000 + 374.000 = 0

2. Specific Balance Sheet Items

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Contents

2. Specific Balance Sheet Items

2.1. Inventory

Definition:

Goods owned by a business and held either for

- Use in the manufacture of products
- Products awaiting sale

Inventories are classified as

1. Merchandise inventory: goods purchased for resale
2. Manufacturing inventory
   - Raw materials: goods obtained for direct use in the manufacture
   - Work in progress: goods requiring further processing
   - Finished goods: manufactured items held for sale
   - Manufacturing supplies, e.g. cleaning materials
3. Miscellaneous inventory, e.g. office supplies

2. Specific Balance Sheet Items

2.1. Inventory (2)

- Inventories are an important asset to most businesses.
- Inventories represent typically the largest current asset of manufacturing and retail companies

To consider:

- Adequate inventory levels are important to companies in assuring production schedules and meeting customer requirements
- Holding inventories at the same time is costly

➔ **just-in-time production**

2. Specific Balance Sheet Items

2.1. Inventory (3)

Components of inventory cost

Inventory cost is measured by the total cash equivalent outlay made to acquire the goods and prepare them for sale:

- Purchase cost
- Incidental costs incurred until goods are ready for use or sale

Not allocated but reported as separate expenses:

- Insurance costs on goods in transit
- Sales taxes paid
- Material-handling expenses

Not allocated but reported as period expenses:

- General and administrative expenses
- Selling and distribution costs

2. Specific Balance Sheet Items

2.1. Inventory (4)

Inventory recording methods

The physical quantities in inventory may be measured by use of either a **periodic inventory system** or a **perpetual inventory system**.

Periodic Inventory System	Perpetual Inventory System
■ Does not keep a running record of inventory ■ Used for inexpensive goods ■ Inventory counted at least once a year	■ Keeps a running record of inventory ■ Used for all types of goods ■ Inventory counted at least once a year

2. Specific Balance Sheet Items

2.1. Inventory (5)

Example of a perpetual inventory record

Item: Computers			
Date	**Quantity Received**	**Quantity Sold**	**Quantity on Hand**
Jan. 01			11
03		2	9
08		4	5
12	6		11
17		9	2
21	8		10
30		2	8
Totals	14	17	-3

2. Specific Balance Sheet Items

2.1.1. Inventory Costing Methods

General problem

- The unit cost of inventory often changes
- How can an accountant assign a cost to each item sold?

The four costing methods e.g. GAAP allows are:

1. Specific unit cost
2. Weighted-average cost
3. First-in, first-out (FIFO) cost
4. Last-in, first-out (LIFO) cost

Specific Unit Cost

Inventory cost method based on the specific cost of particular units of inventory.

Also called: *specific identification method*

Example:

A car dealer has two cars to sell; a model A that cost 10.000 € and a model B that cost 20.000 €.

Suppose the dealer sells model B for 22.000 €,

➔ so the cost of goods sold is 20.000 € and

➔ the remaining inventory, therefore, is 10.000 €.

2. Specific Balance Sheet Items

2.1.1. Inventory Costing Methods (3)

Weighted-Average Cost

Inventory cost method based on the weighted-average cost of inventory during the period.

To determine the weighted-average cost one divides the cost of goods available for sale (beginning inventory plus purchases) by the number of units available.

Also called: *average-cost method*

Example:

Suppose:	Beginning inventory (30 units @ 10 € per unit)	300 €
	Purchase 1 (20 units @ 20 € per unit)	400 €
	Purchase 2 (10 units @ 30 € per unit)	300 €

➔ Cost of goods available for sale: 1.000 €; Number of units available: 60

➔ Average cost per unit: 16.67 €

First-In, First-Out (FIFO) Cost

Inventory costing method by which the first costs into inventory are the first costs out to cost of goods sold. Ending inventory is based on the costs of the most recent purchases.

Example:

Suppose:	Beginning inventory (30 units @ 10 € per unit)	300 €
	Purchase 1 (20 units @ 20 € per unit)	400 €
	Purchase 2 (10 units @ 30 € per unit)	300 €
	Ending inventory (20 units)	

➔ Ending inventory: 500 € (10 @ 30 € + 10 @ 20 €)

➔ Cost of goods sold : 500 € (30 @ 10 € + 10 @ 20 €)

Last-In, First-Out (LIFO) Cost

Inventory costing method by which the last costs into inventory are the first costs out to cost of goods sold. This method leaves the oldest costs in ending inventory.

Example:

Suppose:	Beginning inventory (30 units @ 10 € per unit)	300 €
	Purchase 1 (20 units @ 20 € per unit)	400 €
	Purchase 2 (10 units @ 30 € per unit)	300 €
	Ending inventory (20 units)	

➔ Ending inventory: 200 € (20 @ 10 €)

➔ Cost of goods sold : 800 € (10 @ 10 € + 20 @ 20 € + 10 @ 30 €)

2. Specific Balance Sheet Items

2.1.1. Inventory Costing Methods (6)

Comparison (Example)

	Weighted-Average	FIFO	LIFO
Sales (assumed)	900.00 €	900.00 €	900.00 €
- Cost of goods sold	- 666.80 €	- 500.00 €	- 800.00 €
Gross profit	233.20 €	400.00 €	100.00 €

Summary

- When inventory unit costs are increasing ➔
  FIFO: highest ending inventory, lowest cost of goods sold, highest gross profit
  LIFO: lowest ending inventory, highest cost of goods sold, lowest gross profit
- When inventory unit costs are decreasing ➔ vice versa

2. Specific Balance Sheet Items

2.1.1. Inventory Costing Methods (7)

The Income Tax Advantage of LIFO

When prices are rising, the LIFO method results in the lowest taxable income.

Example:

	Weighted-Average	FIFO	LIFO
Sales (assumed)	900.00 €	900.00 €	900.00 €
- Cost of goods sold	- 666.80 €	- 500.00 €	- 800.00 €
Gross profit	233.20 €	400.00 €	100.00 €
- Operating expenses	- 80.00 €	- 80.00 €	- 80.00 €
Income before Tax	153.20 €	320.00 €	20.00 €
Tax Expense (40%)	61.28 €	128.00 €	8.00 €

2. Specific Balance Sheet Items

2.1.2. Example

Trading Company AAA

Assume the following accounting transactions:

1.	1.1., 1.2., etc.: pay wages	100
2.	1.2.: get payments (accounts receivable)	1.000
3.	1.2.: pay (accounts payable)	5.000
4.	1.3.: sell merchandise (50 units @ 90)	4.500
	1.6.: sell merchandise (200 units @ 100)	20.000
	1.9.: sell merchandise (200 units @ 70)	14.000
	1.12.: sell merchandise (50 units @ 50)	2.500
5.	1.3.: buy merchandise (200 units @ 70)	14.000
	1.6.: buy merchandise (200 units @ 60)	12.000
	1.9.: buy merchandise (200 units @ 50)	10.000
6.	1.8.: redemption notes payable	3.000
7.	1.9.: pay interest on liabilities	2.000
8.	1.10.: buy 10 shares of XXX Inc. for 100 per share	1.000
9.	1.10.: pay taxes (assume the don't depend on income!)	700

2. Specific Balance Sheet Items

2.1.2. Example (2)

Trading Company AAA

Furthermore, assume :

1. No interest is paid for holding cash
2. If necessary, take credit from bank account (assume interest payments are included in interest payments; s. previous slide)
3. Company pays merchandise with 6 months delay
4. Company receives payments for merchandise with 2 months delay
5. Current inventory consists of 300 units @ 60
6. Depreciation for buildings is 2.000; depreciation for equipment is 2.000

Use FIFO and LIFO method

Balance Sheet 01			
Cash	1.000	Accounts payable	5.000
Accounts receivable	1.000	Notes payable	5.000
Inventory	18.000	Long term debt	20.000
Net fixed assets	30.000	Common stock	20.000
Total assets	50.000	Total equity and liabilities	50.000

2. Specific Balance Sheet Items

2.1.2. Example (3)

Trading Company AAA: inventory record

Inventory Record for Merchandise			
Date	**Quantity Received**	**Quantity Sold**	**Quantity on Hand**
Jan. 01			300
Mar. 01	200	50	450
Jun. 01	200	200	450
Sep. 01	200	200	450
Dec. 01		50	400
Dec. 31			400
Totals	600	500	100

2. Specific Balance Sheet Items

2.1.2. Example (4)

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Trading Company AAA: cash flows

Date	Cash Inflow	Cash Outflow	Total Cash
Beginning Cash			+ 1.000
Jan. 01		100	+ 900
Feb. 01	1.000	100 + 5.000	- 3.200
Mar. 01		100	- 3.300
Apr. 01		100	- 3.400
May 01	4.500	100	+ 1.000
Jun. 01		100	+ 900
Jul. 01		100	+ 800
Aug. 01	20.000	100 + 3.000	+ 17.700
Sep. 01		100 + 14.000 + 2.000	+ 1.600
Oct. 01		100 + 1.000 +700	- 200
Nov.01	14.000	100	+ 13.700
Dec. 01		100 + 12.000	+ 1.600
Ending Cash			+ 1.600
Total	39.500	38.900	+ 600

2. Specific Balance Sheet Items

2.1.2. Example (5)

Trading Company AAA: Cost of goods sold, ending inventory?

FIFO method		LIFO method	
Beginning inventory (300 units @ 60)	18.000	Beginning inventory (300 units @ 60)	18.000
Purchase 1 (200 units @ 70)	14.000	Purchase 1 (200 units @ 70)	14.000
Purchase 2 (200 units @ 60)	12.000	Purchase 2 (200 units @ 60)	12.000
Purchase 3 (200 units @ 50)	10.000	Purchase 3 (200 units @ 50)	10.000
Ending inventory (400 units)		Ending inventory (400 units)	
Ending inventory (200 units @ 50 + 200 units @ 60)	**22.000**	**Ending inventory (300 units @ 60 + 100 units @ 70)**	**25.000**
Cost of goods sold (300 units @ 60 + 200 units @ 70)	**32.000**	**Cost of goods sold (200 units @ 50 + 200 units @ 60 + 100 units @ 70)**	**29.000**

2. Specific Balance Sheet Items

2.1.2. Example (6)

Trading Company AAA: Income Statement 02

Income statement	02
Sales	+ 41.000
- Cost of goods sold (FIFO method)	- 32.000
- Depreciation	- 4.000
- Wages	- 1.200
= EBIT	+ 3.800
- Interest paid	- 2.000
- Taxes	- 700
= Net income	+ 1.100

Income statement	02
Sales	+ 41.000
- Cost of goods sold (LIFO method)	- 29.000
- Depreciation	- 4.000
- Wages	- 1.200
= EBIT	+ 6.800
- Interest paid	- 2.000
- Taxes	- 700
= Net income	+ 4.100

2. Specific Balance Sheet Items

2.1.2. Example (7)

Trading Company AAA: Balance Sheet 02

Balance Sheet 02			
Cash	1.600	Accounts payable	10.000
Financial assets	1.000	Notes payable	2.000
Accounts receivable	2.500	Long term debt	20.000
Inventory (FIFO)	22.000	Common stock	20.000
Net fixed assets	26.000	Retained Earnings	1.100
Total assets	53.100	Total equity and liabilities	53.100

Balance Sheet 02			
Cash	1.600	Accounts payable	10.000
Financial assets	1.000	Notes payable	2.000
Accounts receivable	2.500	Long term debt	20.000
Inventory (LIFO)	25.000	Common stock	20.000
Net fixed assets	26.000	Retained Earnings	4.100
Total assets	56.100	Total equity and liabilities	56.100

2. Specific Balance Sheet Items

2.1.2. Example (8)

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Trading Company AAA: Cash Flow Statement 02

Operating activities (FIFO)	02
+ Net income	1.100
+ Depreciation	+ 4.000
- Increase C/A	- 6.500
+ Increase accounts payable	+ 5.000
Cash flow	+ 3.600

Operating activities (LIFO)	02
+ Net income	4.100
+ Depreciation	+ 4.000
- Increase C/A	- 9.500
+ Increase accounts payable	+ 5.000
Cash flow	+ 3.600

Investment activities	02
+ Ending fixed assets	26.000
- Beginning fixed assets	-30.000
+ Depreciation	+ 4.000
Cash flow	+ 0

Investment activities	02
+ Ending fixed assets	26.000
- Beginning fixed assets	-30.000
+ Depreciation	+ 4.000
Cash flow	+ 0

Financing activities	02
- Decrease notes payable	- 3.000
Cash flow	- 3.000

Financing activities	02
- Decrease notes payable	- 3.000
Cash flow	- 3.000

2. Specific Balance Sheet Items

2.1.3. Exercise

Retailer Company Taxsaver Inc.

Assume the following accounting transactions:

1.	1.3.: sell merchandise (10 units @ 12)		120
	1.5.: sell merchandise (20 units @ 12)		240
	1.6.: sell merchandise (10 units @ 12)		120
	1.9.: sell merchandise (20 units @ 16)		320
	1.11.: sell merchandise (30 units @ 16)		480
	1.12.: sell merchandise (10 units @ 16)		160
2.	1.1.: buy merchandise (10 units @ 10)		100
	1.3.: buy merchandise (20 units @ 10)		200
	1.4.: buy merchandise (50 units @ 12)		600
	1.6.: buy merchandise (20 units @ 12)		240
	1.9.: buy merchandise (20 units @ 11)		220
	1.11.: buy merchandise (10 units @ 10)		100
3.	1.8.: redemption long-term debt		500
4.	1.9.: pay interest on liabilities		200
5.	taxes (40% of expected taxable income)	??	

2. Specific Balance Sheet Items

2.1.3. Exercise (2)

Retailer Company Taxsaver Inc.

Furthermore, assume :

1. No interest is paid for holding cash
2. If necessary, take credit from bank account (assume interest payments are included in interest payments; s. previous slide)
3. Payments are made immediately
4. Current inventory consists of 10 units @ 10
5. Depreciation for fixed assets is 100

Which inventory costing method leads to the highest tax savings?

How much can the company save?

Balance Sheet 01			
Cash	200	Accounts payable	100
Accounts receivable	600	Notes payable	0
Inventory	100	Long term debt	800
Net fixed assets	1.000	Common stock	1.000
Total assets	1.900	Total equity and liabilities	1.900

2. Specific Balance Sheet Items

2.1.3. Exercise (3)

Retailer Company Taxsaver Inc.: inventory record

Date	Quantity Received	Quantity Sold	Quantity on Hand
Beginning inventory			
Jan. 01			
Feb. 01			
Mar. 01			
Apr. 01			
May 01			
Jun. 01			
Jul. 01			
Aug. 01			
Sep. 01			
Oct. 01			
Nov. 01			
Dec. 01			
Totals			

2. Specific Balance Sheet Items

2.1.3. Exercise (4)

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Retailer Company Taxsaver Inc.: cash flows

Date	Cash Inflow	Cash Outflow	Total Cash
Beginning Cash			
Jan. 01			
Feb. 01			
Mar. 01			
Apr. 01			
May 01			
Jun. 01			
Jul. 01			
Aug. 01			
Sep. 01			
Oct. 01			
Nov.01			
Dec. 01			
Ending Cash			
Total			

2. Specific Balance Sheet Items

2.1.3. Exercise (5)

Retailer Company Taxsaver Inc.: Cost of goods sold, ending inventory?

FIFO method		LIFO method	
Beginning inventory (10 units @ 10)	100	Beginning inventory (10 units @ 10)	100
Purchase 1 (10 units @ 10)	100	Purchase 1 (10 units @ 10)	100
Purchase 2 (20 units @ 10)	200	Purchase 2 (20 units @ 10)	200
Purchase 3 (50 units @ 12)	600	Purchase 3 (50 units @ 12)	600
Purchase 4 (20 units @ 12)	240	Purchase 4 (20 units @ 12)	240
Purchase 5 (20 units @ 11)	220	Purchase 5 (20 units @ 11)	220
Purchase 6 (10 units @ 10)	100	Purchase 6 (10 units @ 10)	100
Ending inventory (40 units)		Ending inventory (40 units)	
Ending inventory		**Ending inventory**	
Cost of goods sold		**Cost of goods sold**	

2. Specific Balance Sheet Items

2.1.3. Exercise (6)

Retailer Company Taxsaver Inc.: Income Statement 02

Income statement	02
Sales	
- Cost of goods sold (FIFO method)	
- Depreciation	
= EBIT	
- Interest paid	
= Taxable Income	
- Taxes	
= Net income	

Income statement	02
Sales	
- Cost of goods sold (LIFO method)	
- Depreciation	
= EBIT	
- Interest paid	
= Taxable Income	
- Taxes	
= Net income	

2. Specific Balance Sheet Items

2.1.3. Exercise (7)

Retailer Company Taxsaver Inc.: Balance Sheet 02

Balance Sheet 02			
Cash Accounts receivable Inventory (FIFO) Net fixed assets		Banking account Accounts payable Income tax payable Long term debt Common stock Retained Earnings	
Total assets		Total equity and liabilities	

Balance Sheet 02			
Cash Accounts receivable Inventory (LIFO) Net fixed assets		Banking account Accounts payable Long term debt Common stock Net loss	
Total assets		Total equity and liabilities	

2. Specific Balance Sheet Items

2.1.3. Exercise (8)

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Retailer Company Taxsaver Inc.: Cash Flow Statement 02

Operating activities (FIFO)	**02**
+ Net income + Depreciation - Increase C/A + Increase accounts payable	
Cash flow	

Operating activities (LIFO)	**02**
+ Net income + Depreciation - Increase C/A + Increase accounts payable	
Cash flow	

Investment activities	**02**
+ Ending fixed assets - Beginning fixed assets + Depreciation	
Cash flow	

Investment activities	**02**
+ Ending fixed assets - Beginning fixed assets + Depreciation	
Cash flow	

Financing activities	**02**
+ Increase banking account - Decrease long-term debt	
Cash flow	

Financing activities	**02**
+ Increase banking account - Decrease long-term debt	
Cash flow	

2. Specific Balance Sheet Items

2.2. Fixed Assets

Definition:

Plant assets are long-lived tangible assets used to operate a business. Plant assets are not held for sale.

Intangible assets are assets with no physical form. They are useful because of the special rights they carry.

Types of fixed assets are

- Plant assets:
  - Land
  - Buildings
  - Machinery and Equipment
- Intangible assets:
  - Patents, Copyrights, Trademarks
  - Goodwill

2. Specific Balance Sheet Items

2.2. Fixed Assets (2)

The cost principle directs a business to carry an asset on the balance sheet at its cost ➔ Cost of a plant asset = purchase price plus taxes, commission, ecc.

Terminology used in accounting for plant assets and intangibles:

Asset account on the Balance Sheet	**Related Expense Account on the Income Statement**
Plant Assets	
■ Land	None
■ Buildings, Equipment	Depreciation
■ Natural Resources	Depletion
Intangibles	Amortization

2. Specific Balance Sheet Items

2.2.1. Depreciation

Definition

The allocation of a plant asset's cost to expense over the asset's useful life is called **depreciation**.

Concept explanation:

- Depreciation is not a process of valuation. Businesses do not record depreciation based on market (sales) value of their plant assets at the end of each year. Instead, businesses allocate an asset's cost to expense during the period of its use.
- Depreciation does not mean that the business sets aside cash to replace an assets when it is used up. Establishing a cash fund is entirely separate from depreciation, and depreciation does not represent cash

Causes of depreciation:

- Physical wear and tear
- Obsolescence

2. Specific Balance Sheet Items

2.2.1. Depreciation (2)

Measuring Depreciation

- Cost: a known amount
- Estimated useful life
  - Length of the service period expected from an asset. May be expressed in years, units of output, miles, or another measure
- Estimated residual value (scrap value or salvage value)
  - Expected cash value of an asset at the end of its useful life.
- Depreciable cost
  - The cost of a plant asset minus its estimated residual value.

Depreciation methods:

- Different methods allocate different amounts of depreciation to each period.
- However, they all result in the same total amount of depreciation over the life of the asset.

2. Specific Balance Sheet Items

2.2.1. Depreciation (3)

Depreciation Methods:

Straight line (SL)

An equal amount of depreciation is assigned to each year of asset use.

$$\text{SL depr. per year} = \frac{\text{Cost} - \text{Residual value}}{\text{Useful life, in years}}$$

Example

A truck is expected to be driven during its useful life of 4 years.

Therefore, the depreciation rate per year is ¼ or 0.25 per year.

The asset cost is 110.000 €, residual value is expected to be 10.000 €.

Year	Depreciation Rate	Depreciable Cost	Depreciation Expense	Accumulated Depreciation	Asset Book Value
1	0.25	100.000 €	25.000 €	25.000 €	85.000 €
2	0.25	100.000 €	25.000 €	50.000 €	60.000 €
3	0.25	100.000 €	25.000 €	75.000 €	35.000 €
4	0.25	100.000 €	25.000 €	100.000 €	10.000 €

2. Specific Balance Sheet Items

2.2.1. Depreciation (4)

Depreciation Methods:

Double-declining balance (DDB)

An accelerated depreciation method that multiplies the asset's decreasing book value by a constant percentage that is 2 times the SL depreciation rate.

$$\text{DDB depr. for the first year} = \text{Asset book value at the beginning of the year} \cdot \text{DDB rate}$$

Example

A truck is expected to be driven during its useful life of 4 years.

SL depreciation rate per year is ¼ or 0.25 per year ➔ DDB rate = 0.5

The asset cost is 110.000 €, residual value is expected to be 10.000 €.

Year	DDB Rate	Asset Book Value	Depreciation Expense	Accumulated Depreciation	Asset Book Value
1	0.5	110.000 €	55.000 €	55.000 €	55.000 €
2	0.5	55.000 €	27.500 €	82.500 €	27.500 €
3	0.5	27.500 €	13.750 €	96.250 €	13.750 €
4		13.750 €	3.750 €	100.000 €	10.000 €

2. Specific Balance Sheet Items

2.2.2. Example

Company X

1. Sales is 1,000 and Cost of Goods Sold is 800; constant over time
2. No interest is paid for holding cash
3. Tax rate is 50%, negative taxable income leads to tax refund
4. Use SL depreciation method and DDB depreciation method
5. Useful life of fixed assets is 5 years
6. Residual value of fixed assets is 0

Company X: Balance Sheet 00			
Cash	0	Common stock	1,000
Net fixed assets	1,000		
Total assets	1,000	Total equity and liabilities	1,000

2. Specific Balance Sheet Items

2.2.2. Example (2)

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Straight Line Depreciation:

Balance Sheet	**Year 01**	**Year 02**	**Year 03**	**Year 04**	**Year 05**
Assets					
Current Assets	200	400	600	800	1.000
Net Fixed Assets	800	600	400	200	0
Liabilities/Equity					
Common Stock	1,000	1,000	1,000	1,000	1,000
Retained Earnings	0	0	0	0	0

Income Statement	**Year 01**	**Year 02**	**Year 03**	**Year 04**	**Year 05**
Sales	1,000	1,000	1,000	1,000	1,000
Cost of Goods Sold	- 800	- 800	- 800	- 800	- 800
Depreciation	- 200	- 200	- 200	- 200	- 200
EBIT	0	0	0	0	0
Taxes (50%)	0	0	0	0	0
Net income	**0**	**0**	**0**	**0**	**0**

2. Specific Balance Sheet Items

2.2.2. Example (3)

Double-declining Balance Depreciation:

Balance Sheet	**Year 01**	**Year 02**	**Year 03**	**Year 04**	**Year 05**
Assets					
Current Assets	300	520	692	835.2	1,000
Net Fixed Assets	600	360	216	129.6	0
Liabilities/Equity					
Common Stock	1,000	1,000	1,000	1,000	1,000
Retained Earnings	- 100	- 120	- 92	- 35.2	0

Income Statement	**Year 01**	**Year 02**	**Year 03**	**Year 04**	**Year 05**
Sales	1,000	1,000	1,000	1,000	1,000
Cost of Goods Sold	- 800	- 800	- 800	- 800	- 800
Depreciation	- 400	- 240	- 144	- 86.4	- 129.6
EBIT	- 200	- 40	56	113.6	70.4
Taxes (50%)	+ 100	+ 20	- 28	- 56.8	- 35.2
Net income	**- 100**	**- 20**	**28**	**56.8**	**35.2**

2. Specific Balance Sheet Items

2.2.2. Example (4)

What is the tax effect?

Sum	Year 01	Year 02	Year 03	Year 04	Year 05
0 Straight Line Depreciation	0	0	0	0	0
0 Double-declining Depreciation	+ 100 (refund)	+ 20 (refund)	- 28	- 56.8	-35.2

So what's the advantage?

Suppose you earn 5% interest on current assets.

2. Specific Balance Sheet Items

2.2.2. Example (5)

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Straight Line Depreciation:

Balance Sheet	**Year 01**	**Year 02**	**Year 03**	**Year 04**	**Year 05**
Assets					
Current Assets	200	405	615.13	830.51	1.051.28
Net Fixed Assets	800	600	400	200	0
Liabilities/Equity					
Common Stock	1,000	1,000	1,000	1,000	1,000
Retained Earnings	0	5	15.13	30.51	51.28

Income Statement	**Year 01**	**Year 02**	**Year 03**	**Year 04**	**Year 05**
Sales + Interest	1,000	1,010	1,020.25	1,030.76	1,041.53
Cost of Goods Sold	- 800	- 800	- 800	- 800	- 800
Depreciation	- 200	- 200	- 200	- 200	- 200
EBIT	0	10	20.25	30.76	41.53
Taxes (50%)	0	- 5	- 10.12	- 15.38	20.76
Net income	**0**	**5**	**10.13**	**15.38**	**20.77**

2. Specific Balance Sheet Items

2.2.2. Example (6)

Double-declining Balance Depreciation:

Balance Sheet	**Year 01**	**Year 02**	**Year 03**	**Year 04**	**Year 05**
Assets					
Current Assets	300	527.5	712.69	873.71	1,060.36
Net Fixed Assets	600	360	216	129.6	0
Liabilities/Equity					
Common Stock	1,000	1,000	1,000	1,000	1,000
Retained Earnings	- 100	- 112.5	- 71.31	3.31	60.36

Income Statement	**Year 01**	**Year 02**	**Year 03**	**Year 04**	**Year 05**
Sales + Interest	1,000	1,015	1,026.38	1,035.63	1,043.69
Cost of Goods Sold	- 800	- 800	- 800	- 800	- 800
Depreciation	- 400	- 240	- 144	- 86.4	- 129.6
EBIT	- 200	- 25	82.38	149.23	114.09
Taxes (50%)	+ 100	+ 12.5	- 41.19	- 74.61	- 57.04
Net income	**- 100**	**- 12.5**	**41.19**	**74.62**	**57.05**

2. Specific Balance Sheet Items

2.2.3. Exercise

Company Y

1. Sales is 16,000 and Cost of Goods Sold is 12,000; constant over time.
2. Interest rate for cash is 0%.
3. Interest rate for long-term debt is 8%.
4. Tax rate is 50%, negative taxable income leads to tax refund.
5. Cash is used to buy machinery; useful life of machinery (fixed assets) is 5 years.
6. Residual value of fixed assets is 2,000.
7. After 3 years the machinery is sold for 7,000 and new machinery is bought for 12,000 (same depreciation conditions are applicable).

Use SL depreciation method for fixed assets.

Project balance sheet and income for the next 5 years!

Company Y: Balance Sheet 00			
Cash	12,000	Long-term Debt	2,000
Net fixed assets	0	Common stock	10,000
Total assets	12,000	Total equity and liabilities	12,000

2. Specific Balance Sheet Items

2.2.3. Exercise (2)

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Balance Sheet	**Year 01**	**Year 02**	**Year 03**	**Year 04**	**Year 05**
Assets Current Assets Net Fixed Assets					
Liabilities/Equity Long-term Debt Common Stock Retained Earnings					

Income Statement	**Year 01**	**Year 02**	**Year 03**	**Year 04**	**Year 05**
Sales Cost of Goods Sold Depreciation (SL)					
EBIT Other Gains / Losses Interest paid Taxes (50%)					
Net income					

3. Financial Analysis

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Contents

Questions and Objectives:

- Is a company able to achieve its business objectives?
  - Create value for its shareholders / owners
  - Employee satisfaction, social responsibility etc.
- Information to assess a company's financial strength
- Information to assess a company's liquidity status
- Information to assess a company's profitability
- Information to assess a company's overall development
- Information to make comparison possible (often industry-specific)
- Etc.

Bases for Comparison:

Experience

- Subjective standards

Budgets

- Compare performance with prepared budgets
- BUT: budgeted amounts might not have been developed carefully
- BUT: budgets are based on assumptions that turned out to be incorrect

Historical Standards

- Continuous improvement hypothesis
- BUT: It only shows that a company did better or worse

External Benchmarks

- Compare company with others
- BUT: environmental and accounting differences
- BUT: different tax treatment

Balance Sheet Preparation:

Objective:

Aggregation of specific items of a balance sheet

Determination of percentage measures of total assets

Consideration of figures of the preceding year and annual absolute changes

Problems:

Maturity of liabilities → explanatory notes

Maturity of accruals → esp. for pensions generally not assessable

Use of net income

Differences in definition of items

3. Financial Analysis

3.0. Introduction and Preparation (4)

	Item of Balance Sheet	Summarize to:
Fixed Assets	Intangible Assets	Fixed Assets
	Long-term tangible Assets	Fixed Assets
	Long-term Investments and Participations	Investments
Current Assets	Inventory	Inventory
	Accounts receivable	Accounts receivable
	Prepaid expenses	Accounts receivable
	Securities and Cash	Cash
Equity	Equity (all forms)	Equity
	Net income (depending on use)	Equity (retained earnings) or Current liabilities (dividend payment)
Long-term debt	Accruals for pensions	Long-term debt
	Bonds, Debt with time to maturity > 5 years	Long-term debt
Current Liabilities	Accruals (all except pensions)	Current Liabilities
	Debt (notes payable) with time to maturity <= 5 years	Current Liabilities
	Current maturities of long-term debt	Current Liabilities
	Accounts payable	Current Liabilities

3. Financial Analysis

3.0. Introduction and Preparation (5)

Item	Year 01	Percentage	Year 02	Percentage	Absolute change
Fixed assets Investments Inventory Accounts receivable Cash					
Total assets		100%		100%	
Equity Long-term debt Current liabilities					
Total Liabilities and Equity		100%		100%	

3. Financial Analysis

3.1. Balance Sheet Analysis

General Information from a Balance Sheet:

- Assets: How did the company invest its capital?
- Liabilities and Equity: Where did the capital come from?

Forms of Balance Sheet Analysis:

- Capitalization Structure
- Asset Structure
- Fixed Asset Coverage
- Liquidity Analysis

3. Financial Analysis

3.1.1. Capitalization Structure

Composition of Capital

- Shareholders bear company's financial risk
- Creditors expect interest payments and reimbursement

Objective:

- Solidity of Financing
- Creditworthiness

Assets	Liabilities
Current Assets	Current Liabilities
Fixed Assets	Long-term Debt
	Equity
Total Assets	Total Liabilities and Equity

3. Financial Analysis

3.1.1. Capitalization Structure (2)

Total equity ratio =

$$\frac{\text{Equity}}{\text{Total liabilitie s and equity}} \cdot 100\%$$

- Financial independence
- Bosch Group World 1998: 33%

Total debt ratio (Leverage) =

$$\frac{\text{Total liabilitie s}}{\text{Total liabilitie s and equity}} \cdot 100\%$$

- Dependence on creditors and leverage
- Bosch Group World 1998: 67%

Long-term debt ratio =

$$\frac{\text{Long - term debt}}{\text{Total liabilitie s and equity}} \cdot 100\%$$

- Bosch Group World 1998: 2%

Current liabilities ratio =

$$\frac{\text{Current liabilitie s}}{\text{Total liabilitie s and equity}} \cdot 100\%$$

- Bosch Group World 1998: 45%

Composition of Assets

- Companies / Industries with high fixed asset ratio
  ➔ fixed costs (heavy industry, chemical industry, engine building industry)
- Companies / Industries with high current asset ratio
  ➔ variable costs (electrical industry, financial service provider)

Objective:

- Use of capital
- Flexibility of investments

Assets	Liabilities
Current Assets	Current Liabilities
Fixed Assets	Long-term Debt
	Equity
Total Assets	Total Liabilities and Equity

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(Fixed) asset intensity =

$$\frac{\text{Fixed Assets}}{\text{Total Assets}} \cdot 100\%$$

- Indicator for fixed costs
- Bosch Group World 1998: 35%

Current assets to total assets =

$$\frac{\text{Current Assets}}{\text{Total Assets}} \cdot 100\%$$

- Indicator for variable costs
- Bosch Group World 1998: 65%

Inventory intensity =

$$\frac{\text{Inventory}}{\text{Total Assets}} \cdot 100\%$$

Accounts receivable intensity =

$$\frac{\text{Accounts Receivable}}{\text{Total Assets}} \cdot 100\%$$

Cash intensity =

$$\frac{\text{Cash}}{\text{Total Assets}} \cdot 100\%$$

Coverage of fixed assets

- Coverage of fixed assets by equity
  → Fixed assets can't be claimed from creditors
- Solidity of liquidity

Objective:

- Financial stability of the company
- Maturity of fixed asset financing

Assets	Liabilities
	Current Liabilities
Current Assets	Long-term Debt
Fixed Assets	Equity
Total Assets	Total Liabilities and Equity

3. Financial Analysis

3.1.3. Fixed Asset Coverage (2)

Equity to assets ratio I =

$$\frac{\text{Equity}}{\text{Fixed Assets}} \cdot 100\%$$

- Coverage with equity
- Bosch Group World 1998: 33%

Equity to assets ratio II =

$$\frac{\text{Equity + Long - term Debt}}{\text{Fixed Assets}} \cdot 100\%$$

- Coverage with long-term financing
- Bosch Group World 1998: 156%

Working Capital Management

- Short-term solvency
- Optimal allocation of short-term liabilities

Objective:

- Avoiding financial illiquidity
- Avoiding unnecessary long-term financing

Assets	Liabilities
	Current Liabilities
Current Assets	Long-term Debt
Fixed Assets	Equity
Total Assets	Total Liabilities and Equity

3. Financial Analysis

3.1.4. Liquidity Analysis (2)

Cash ratio =

$$\frac{\text{Cash}}{\text{Current Li abilities}} \cdot 100\,\%$$

- Cash liquidity
- Bosch Group World 1998: 43%

Quick ratio (Acid test ratio) =

$$\frac{\text{Current Assets - Inventory}}{\text{Current Li abilities}} \cdot 100\,\%$$

- Bosch Group World 1998: 104%

Current ratio =

$$\frac{\text{Current Assets}}{\text{Current Li abilities}} \cdot 100\,\%$$

- Sales Liquidity
- Bosch Group World 1998: 143%

General Information from an Income Statement:

- How did the company use its assets?
- How profitable did the capital work?

Forms of Income Statement Analysis:

- Asset Utilization or Turnover Ratios
- Profitability Ratios

Working Capital Management (Assets)

- capital turnover → capital lockup
  which capital investment is necessary to realize sales?
- Receivables turnover → Time for payment
  for how long does the company grant credit?
- Inventory turnover → Time of storage
  how long does the company hold inventory?

Objective:

- Reduction of capital lockup
- Reduction of time for payment
- Reduction of time of storage

  ➔ Increase flexibility of the company

3. Financial Analysis

3.2.1. Asset Utilization (2)

Capital (Equity) turnover =

$$\frac{\text{Sales}}{\text{Equity}}$$

- Capital lockup = 360/capital turnover
- Bosch Group World 1998: 86 days

Receivables turnover =

$$\frac{\text{Sales}}{\text{Accounts Receivables}}$$

- Days sales outstanding = 360/receivables turnover
- Bosch Group World 1998: 57 days

Inventory turnover =

$$\frac{\text{Cost of goods sold}}{\text{Inventory}}$$

- Time of storage = 360/inventory turnover
- Bosch Group World 1998: 90 days

Net Income corrected

- Eliminate extraordinary Income
- Capital Ratios
- Sales Ratios

Objective:

- Maximize return on equity
- Causes of profitability

Return on equity (ROE) =

$$\frac{\text{Net Income}}{\text{Total Equity}} \cdot 100\%$$

- The higher, the better
- Bosch Group World 1998: 7.2%

Risk premium = Return on equity – market interest rate

Return on assets (ROA) =

$$\frac{\text{Net Income} + \text{Interest paid}}{\text{Total Assets}} \cdot 100\%$$

- Bosch Group World 1998: 3.1%

Profit margin (Return on sales) =

$$\frac{\text{Net Income}}{\text{Sales}} \cdot 100\%$$

- The higher, the better
- Bosch Group World 1998: 1.7%
- Average of German industrial companies: 2% (after tax)

General Information from an Cash Flow Statement:

- What are the financial means of a company to self-finance it?
- What is financial potential of the company for investments, debt redemption and paying dividends?

Forms of Cash Flow Statement Analysis:

- Cash flow
- Cash flow margin
- Dynamic gearing

3. Financial Analysis

3.3. Cash Flow Statement Analysis (2)

Cash flow

- The higher, the better
- Bosch Group World 1998: 4,904 million DM

Cash flow margin =

$$\frac{\text{Cash Flow from operating activities}}{\text{Sales}} \cdot 100\,\%$$

- Percentage of Sales available for self-financing
- Bosch Group World 1998: 9,7%

Dynamic gearing =

$$\frac{\text{Total Debt}}{\text{Cash Flow}}$$

- How long would it take to pay back debt?
- Suggested value: 3 - 3,5

4. Consolidated Financial Statement

Contents

Accounting for Investments

If a company owns securities of another company, then it is called the investor company, the other company is called the investee company.

➔ Securities are reported on the balance sheet as investments

These investments are accounted for (Example: U.S.GAAP)

1. At the fair value
   - ownership less than 20% and fair value readily determinable
2. At cost
   - ownership less than 20% and fair value not readily determinable
3. On an equity basis
   - ownership between 20% and 50%
   - net income of subsidiary increases investment
   - dividends reduce investments and increase cash; not a revenue
4. On a consolidated basis

Example Equity method

Suppose the following transactions and their impact for company A

1. Company A acquires 25% of company B for 250.000 € cash.
   ➔ Investments increases by 250.000
2. Company B's net income is 100.000 €
   ➔ Investments increase by 25.000 €
   ➔ Investment revenues: 25.000 €
3. Dividends are paid from company B: 10.000 €
   ➔ Cash increases by 10.000 €
   ➔ Investments decrease by 10.000 €

Note: dividend entry does not affect the income statement!

Business Combinations

A business combination occurs when two (or more) companies are brought together in a single entity.

- Acquiring company dissolves acquired company
  - Assets and liabilities are incorporated with own assets and liabilities
- Acquired company continues to exist as a separate corporation
- Acquired company: subsidiary of acquiring company
- Acquiring company: parent company

Accounting Methods:

1. Pooling Method
2. Purchase Method

Example: Preacquisition Balance Sheets (purchase price 6.000)

	Corporation A	Corporation B
Assets		
Cash and marketable securities	6.000	1.000
Accounts receivable	5.000	1.400
Inventories	6.400	1.800
Plant and equipment	10.600	2.800
Total Assets	28.000	7.000
Liabilities and Shareholder‘s Equity		
Accounts payable	6.000	1.700
Other current liabilities	1.500	300
Long-term debt	8.200	1.600
Common stock	2.500	700
Retained earnings	9.800	2.700
Total Liabilities and Equity	28.000	7.000

Example: If independent corporations Income Statements

	Corporation A	Corporation B
Income before taxes	3.780	945
Income tax expense (40%)	1.512	378
Net income	2.268	567
Number of outstanding shares	1.000.000	100.000
Earnings per share	2.27	5.67

Marriage of the two entities

- Merging of the two firms' resources, talents, risks, and earnings streams.
- Consolidated balance sheet: Balance sheets of the two companies are simply added together.
- Any incorporate obligations involved are eliminated.

Note: Under U.S. GAAP and IAS not allowed anymore

4. Consolidated Financial Statement

4.1.1. Accounting as a Pooling (2)

Example: Corporation A Consolidated Balance Sheets

	Corporation A	Corporation B	Pooling Acc.
Assets			
Cash and marketable securities	6.000	1.000	7.000
Accounts receivable	5.000	1.400	6.400
Inventories	6.400	1.800	8.200
Plant and equipment	10.600	2.800	13.400
Total Assets	28.000	7.000	35.000
Liabilities and Shareholder‘s Equity			
Accounts payable	6.000	1.700	7.700
Other current liabilities	1.500	300	1.800
Long-term debt	8.200	1.600	9.800
Common stock	2.500	700	3.200
Retained earnings	9.800	2.700	12.500
Total Liabilities and Equity	28.000	7.000	35.000

4. Consolidated Financial Statement

4.1.1. Accounting as a Pooling (3)

Example: Corporation A Consolidated Income Results

	Corporation A	Corporation B	Pooling Acc.
Combined A-B, pooling treatment			
Income before taxes	3.780	945	4.725
Income tax expense (40%)	1.512	378	1.890
Net income	2.268	567	2.835
Number of outstanding shares	1.000.000	100.000	1.200.000
Earnings per share	2.27	5.67	2.36

4. Consolidated Financial Statement

4.1.2. Accounting as a Purchase

One company buys net assets of another

- Assets of subsidiary are revalued at their fair value
  In example: plant and equipment: 3.900 (2.800 book value)
- Liabilities of subsidiary are revalued at their fair value
  In example: liabilities are reported at fair value
- Excess of purchase price is reported as **goodwill**

Note in example:

Purchase price	6.000
Less: book value of net assets acquired	- 3.400
Less: write-up of acquired assets to fair value	- 1.100
Goodwill:	**1.500**

4. Consolidated Financial Statement

4.1.2. Accounting as a Purchase (2)

Example: Corporation A Consolidated Balance Sheets

	Corporation A	Corporation B	Purchase Acc.
Assets			
Cash and marketable securities	6.000	1.000	7.000
Accounts receivable	5.000	1.400	6.400
Inventories	6.400	1.800	8.200
Goodwill			1.500
Plant and equipment	10.600	2.800	14.500
Total Assets	28.000	7.000	37.600
Liabilities and Shareholder‘s Equity			
Accounts payable	6.000	1.700	7.700
Other current liabilities	1.500	300	1.800
Long-term debt	8.200	1.600	9.800
Common stock	2.500	700	8.500
Retained earnings	9.800	2.700	9.800
Total Liabilities and Equity	28.000	7.000	37.600

4. Consolidated Financial Statement

4.1.2. Accounting as a Purchase (3)

Example: Corporation A Consolidated Income Results

	Corporation A	Corporation B	Purchase Acc.
Combined A-B, purchase treatment			
Unadjusted income before taxes			4.725
Less: additional depreciation expense			110
Income before taxes	3.780	945	4.615
Income tax expense (40%)	1.512	378	1.846
Net income	2.268	567	2.769
Number of outstanding shares	1.000.000	100.000	1.200.000
Earnings per share	2.27	5.67	2.31

Difference: additional depreciation on write-up of 1.100: **110**
(assumed SL-depreciation over 10 years)

Consolidated Financial Statements

A company that consists of various different corporations. Each corporation has its own financial statements but the company is required to prepare a set of financial statements for the whole entity even if it is not a separate legal entity.

Difficulties:

- Basis for Consolidation
  in the U.S.A.: parent company owns more than 50% of subsidiary
  often: no exact quantitative statement
- Different Businesses
- Currency exchange
- Etc.

4. Consolidated Financial Statement

4.2. Consolidated Statements (2)

Summary

	U.S. GAAP	IAS	HGB
Accounting for Investments	Cost Method or Fair Value Method 0-20% Investment	IAS 25 Cost Method or Fair Value Method	Cost Method
Accounting for Investments in Associates	Equity Method 20-50% investment	IAS 28 Equity Method	HGB §311 Equity Method
Accounting for Jointly Controlled Entities	Equity Method	IAS 31 Proportionate Consolidation (Benchmark Treatment BT) or Equity Method (Allowed Alternative Treatment AAT)	Proportionate Consolidation or Equity Method
Subsidiary	Consolidation: ~~1) Pooling Method~~ 2) Purchase Method: Parent Company Theory Entity Theory	IAS 22 Consolidation: ~~1) Pooling Method~~ 2) Purchase Method: Book Value Method (BT) Revaluation Method (AAT)	HGB §290 Vollkonsolidierung: Buchwertmethode Neubewertungsmethode

4. Consolidated Financial Statement

4.2.1. Consolidation Procedure

1. Intercompany Financial Transactions

- Accounts receivable and accounts payable only to parties outside the consolidated business.

2. Elimination of the Investment

- Parent company's investment in subsidiary must be eliminated.

3. Intercompany Sales

- Revenues are earned only if sales are made to the outside world
- Example: S sells to P and P to the outside world; only sales (from Parent) are considered and only Costs (from Subsidiary) are to be considered
- Note: this is necessary because, otherwise, the volume of business done would be overstated

4. Intercompany Profit

- If goods have not been sold to the outside world corrections have to be made.
- Example: S sells to P but P keeps inventory; inventory is considered as from Subsidiary, profit is reduced by intercompany profit thereof.

4. Consolidated Financial Statement

4.2.1. Consolidation Procedure (2)

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	Separate Statements		Intercompany Eliminations		Consolidated Balance Sheet*
	Parent	Subsidiary	Debits	Credits	
Assets					
Cash	45.000	12.000			57.000
Accounts receivable	40.000	11.000		(1) 5.000	46.000
Inventory	30.000	15.000		(4) 2.000	43.000
Fixed assets	245.000	45.000			290.000
Investment	55.000	—		(2) 55.000	
Liabilities & Equity					
Accounts payable	20.000	13.000	(1) 5.000		28.000
Other C/L	25.000	9.000			34.000
Long-term debt	100.000	—			100.000
Capital stock	100.000	40.000	(2) 40.000		100.000
Retained earnings	170.000	21.000	(2) 15.000 (4) 2.000		174.000
TOTAL	415.000	83.000			436.000

*Note: Purchase at book values is assumed

Minority Interest

If a parent company purchases less than 100% of a Subsidiary, then there exist a minority interest.

There are two accounting methods:

1. Parent Company Concept: Book Value Method
   - Minority Interest: between Liabilities and Equity
   - Minority Interest: hidden reserves not considered
2. Entity (Economic Unit) Concept: Revaluation Method
   - Minority Interest: part of Equity
   - Minority Interest: hidden reserves considered

4. Consolidated Financial Statement

4.2.3. Example

Book Value Method (Parent Company Concept) (First Consolidation)

Item	Parent		Subsidiary Balance Sheet		Consolidation Book Values	
	A	L	A	L	Dr.	Cr.
Investments	600					600
Other Assets	400		600			
Equity		300		200	200	
Retained Earnings / Profit		200		100	100	
Goodwill / Difference					300	
Other Liabilities		500		300		
Total	**1000**	**1000**	**600**	**600**	**600**	**600**

Item	Allocation based on Fair Market Value		Group Balance Sheet	
	Dr.	Cr.	A	L
Investments				
Other Assets	200		1200	
Equity				300
Retained Earnings / Profit				200
Goodwill / Difference			100	
Other Liabilities		200		800
Total	**200**	**200**	**1300**	**1300**

4. Consolidated Financial Statement

4.2.3. Example (2)

Revaluation of Balance Sheet

A	Balance Sheet Subsidiary	L	
Assets	600	Equity	200
	600	Retained Earnings / Profit	100
		Other Liabilities	300
			600

A	Revaluated Balance Sheet Subsidiary	L	
Assets	800	Equity	200
	800	Retained Earnings / Profit	100
		Difference from Revaluation	200
		Other Liabilities	300
			800

4. Consolidated Financial Statement

4.2.3. Example (3)

Revaluation Method (Economic Unit Concept) (First Consolidation)

Item	Parent		Subsidiary Revaluated Balance Sheet		Consolidation	
	A	L	A	L	Dr.	Cr.
Investments	600					600
Other Assets	400		800			
Equity		300		200	200	
Retained Earnings / Profit		200		100	100	
Difference from Revaluation				200	200	
Goodwill					100	
Other Liabilities		500		300		
Total	**1000**	**1000**	**800**	**800**	**600**	**600**

Item	Group Balance Sheet	
	A	L
Investments		
Other Assets	1200	
Equity		300
Retained Earnings / Profit		200
Goodwill	100	
Other Liabilities		800
Total	**1300**	**1300**

4. Consolidated Financial Statement

4.2.3. Example (4)

Book Value Method (First Consolidation): 80% interest

Item	Parent		Subsidiary Balance Sheet		Consolidation Book Values	
	A	L	A	L	Dr.	Cr.
Investments	480					480
Other Assets	520		600			
Equity		300		200	160	
Retained Earnings / Profit		200		100	80	
Goodwill / Difference					240	
Other Liabilities		500		300		
Total	**1000**	**1000**	**600**	**600**	**480**	**480**

Item	Consolidation Minority Interest		Allocation based on Fair Market Value		Group Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	A	P
Investments						
Other Assets			160		1280	
Equity	40					300
Retained Earnings / Profit	20					200
Minority Interest		60				60
Goodwill / Difference				160	80	
Other Liabilities						800
Total	**60**	**60**	**160**	**160**	**1360**	**1360**

4. Consolidated Financial Statement

4.2.3. Example (5)

Revaluation Method (First Consolidation): 80% interest

Item	Parent		Subsidiary Revaluated Balance Sheet		Consolidation	
	A	L	A	L	Dr.	Cr.
Investments	480					480
Other Assets	520		800			
Equity		300		200	160	
Retained Earnings / Profit		200		100	80	
Difference from Revaluation				200	160	
Goodwill					80	
Other Liabilities		500		300		
Total	**1000**	**1000**	**800**	**800**	**480**	**480**

Item	Consolidation Minority Interest		Group Balance Sheet	
	Dr.	Cr.	A	L
Other Assets			1320	
Equity	40			300
Retained Earnings / Profit	20			200
Minority Interest		100		100
Difference from Revaluation	40			
Goodwill			80	
Other Liabilities				800
Total	**100**	**100**	**1400**	**1400**

5. Conclusion

Conclusion

Expectation	More realistic
The financial statements are prepared by the auditors; the auditors agree with everything in them and are responsible for them	The directors are responsible for preparing the financial statements. Auditors agree only that they represent one of perhaps several possible 'true and fair' views
The financial statements are correct and accurate; a different auditor would produce the same financial statements from the same basic information	The auditors do not prepare the financial statements, and as there are many areas requiring judgement, different accountants would probably come to different conclusions (e.g. on rates of depreciation; or appropriate provision for bad debts). The decisions belong to the directors
The financial statements show what a company is worth; assets have been properly valued	Most assets are shown at some variation of historic cost. Even if they were shown at some sort of current value, the value of the business as a whole would almost certainly be very different from the value of the separable assets less liabilities
The auditors have checked and ascertained that no significant fraud or irregularities have taken place	The auditors are on the look-out for fraud, but they are not responsible for finding it all. And even if they find some, provided it is not too enormous, they will still say that the financial statements show a true and fair view

5. Conclusion

Conclusion (2)

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Expectation	More realistic
The business is going concern and is not likely to collapse or fail in the foreseeable future	The auditors check to see if there are any doubts about the business being a going concern, and report accordingly. But there can be no guarantee.
The management of the company are reputable, competent, efficient and effective	Auditors are usually happy to take fees from even the most hopeless managers and are not likely to disclose any incompetence!
The audit report draws attention to any doubts about the company's finances	If there are doubts about the company's immediate financial survival, the auditors should comment
Auditors are independent and cannot be got rid of by directors	In theory auditors have great security and independence. But directors can easily put an audit out to tender, and replace existing auditors.
Auditors are controlled and disciplined by a professional body which clearly specifies what is required of them	This is a reasonable expectation
Auditors are more concerned with their duty to the public and their reputation than with maximizing their own remuneration	This is more a matter of opinion!

5. Conclusion

Conclusion (3)