MSc in International Shipping, Finance and Management

Course: Financial and Management Accounting

Part A: Financial Accounting

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Accounting Fields

- **Accounting** is an information system concerned with collecting, analyzing and communicating financial information for decision making.
  - ✓ For example, suppose that you want to invest your money in a firm. How would you make the best choice?
- Accounting has many fields, with most important being:
  - ✓ **Financial Accounting**
  - ✓ **Management Accounting**
  - ✓ Auditing
  - ✓ International Accounting
  - ✓ Tax Accounting
  - ✓ Public Sector Accounting
- This course introduces the most important accounting fields, i.e., Financial Accounting and Management Accounting.

Financial Accounting

- Definition: Financial accounting is a science that deals with:
  - ✓ The recognition,
  - ✓ The valuation,
  - ✓ The bookkeeping, and
  - ✓ The presentation

  of an entity's accounting events aiming at informing interested parts that are **outside** of the entity.
- The focus of Financial Accounting on external users is a major difference to Management Accounting. In contrast to Financial Accounting, Management Accounting is concerned with decisions that are made by managers **inside** the entity.

Outside parts that are interested in the entity's events

- **Financial Accounting** is concerned with the following outside groups:
  - ✓ **Shareholders (or potential shareholders)**
  - ✓ **Lenders**
  - ✓ Tax authorities
  - ✓ Financial analysts
  - ✓ Employees
  - ✓ Competitors
  - ✓ Social groups
- **Management Accounting** is concerned with managers (i.e., a group that is inside the entity).

Examples of decisions

- Consider the following problems that need decision-making. Which type of accounting is used?
  - ✓ I am a shareholder and I want to invest my money in a firm.
  - ✓ I work in a bank and have to decide whether to grant a loan to firm A.
  - ✓ The tax authorities have to confirm the taxes payable that firm A owes.
  - ✓ A supplier wants to evaluate the profitability of a firm that is customer.
  - ✓ A manager wants to calculate the cost of a new product.
  - ✓ A manager wants to perform a budget for next year.

Financial accounting: A social science

- It should be noted that financial accounting is a **social** science. This is in sharp contrast, for example, to Mathematics which is a natural science. To clarify this, consider the following example:
  - ✓ The private entity A domiciles in Greece. In year 2021, it reported a profit of €100.000. Suppose that the same entity domiciles in France and made *exactly the same transactions*. Would the entity report the same profit?
- This social aspect renders financial accounting a difficult but extremely interesting and useful science field!

Accounting Standards

- In order to satisfy the information needs of the outside parts, financial accounting follows specific rules that are called “accounting standards”.
- However, for several decades, accounting standards were developed domestically; therefore, they varied across countries.
- To deal with this “accounting disharmony”, all European-Union countries have adopted a single set of accounting standards which is called “International Accounting Standards” (IAS) or “International Financial Reporting Standards” (IFRS).
- IFRS are adopted only for listed firms. Thus, Greek firms that are listed on the Athens Stock Exchange follow IFRS. So do French firms that are listed on the Euronext Paris. However, Greek private firms follow Greek Accounting Standards and French private firms follow French Accounting Standards.

Providing Financial Accounting Information

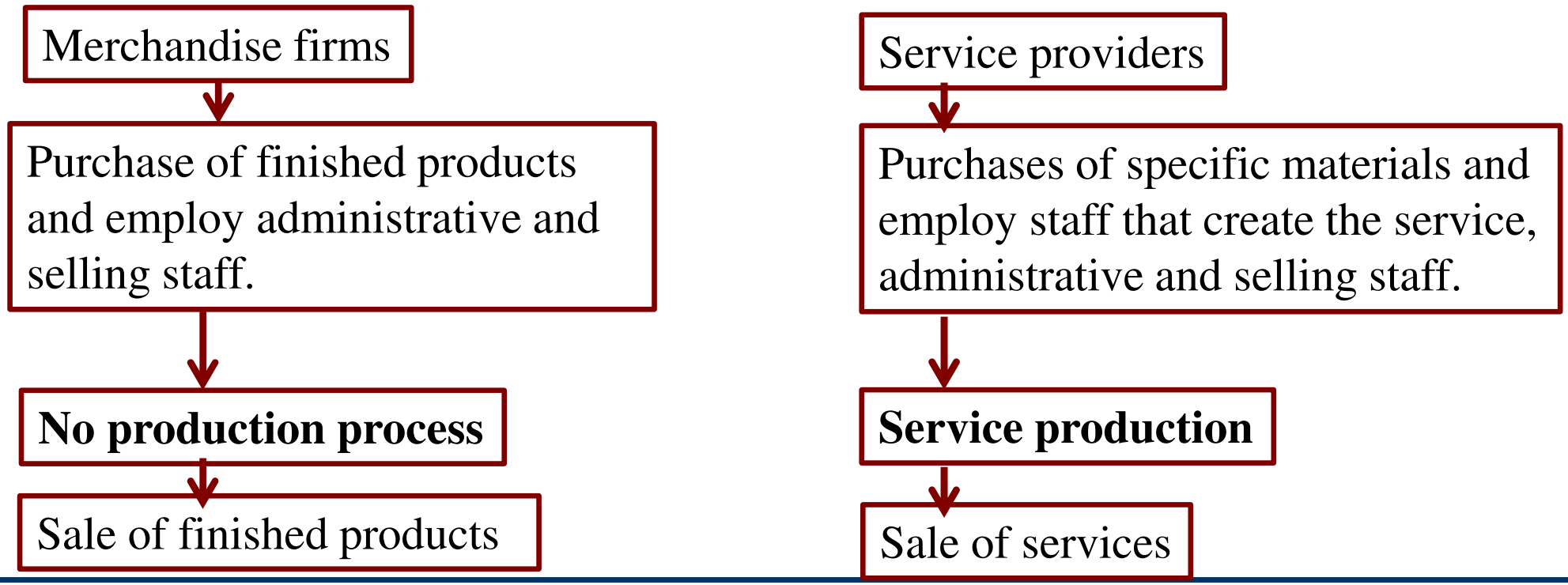
- Financial Accounting information is provided through financial statements. Most important financial statements are:
  - ✓ **Balance Sheet or Statement of Financial Position**
  - ✓ **Income Statement**
  - ✓ Statement of Comprehensive Income
  - ✓ Statement of Changes in Equity
  - ✓ Cash Flow Statement
  - ✓ Additional notes

Types of business

- We distinguish three major types of business for accounting purposes. This distinction is important to understand the way we record and process accounting information.
  - ✓1st type: Merchandise firms. This type of business is relatively easy. Merchandise firms are just resellers: they purchase finished products and just resell them to other firms (wholesalers) or to consumers (retailers).
  - ✓2nd type: Service providers. This type of firms provide services. Typical examples include shipping firms and educational institutions. Sometimes they may also provide some goods along with services, but the main function is the service provision.
  - ✓3rd type: Producers/Manufacturers. This type of firms sells products but, in stark contrast to merchantisers, they have a substantial production process: they purchase raw material and convert them to goods.

Types of business

- In the first teaching block of this course, we will deal mostly with the first two types of firms, that is, merchandise firms and service providers. In the second teaching block, you will discuss also manufacturing firms.
- For expositional purposes, I will first refer to merchandise firms. Note again that merchandise firms and service providers have a clear distinction:



Accounting Assumptions and Accounting Principles

- In order to be functional, the accounting system makes 4 assumptions and follows 4 basic accounting rules (principles).
- The principles are sometimes cited as Generally Accepted Accounting Principles (GAAP).
- As aforementioned, accounting principles are not exactly the same worldwide. However, these 4 fundamental principles apply almost to every jurisdiction.

4 Accounting Assumptions

1. Economic entity assumption: the entity's transactions are not intermingled with those of its owners.
2. Going-concern assumption: the entity will continue to operate in the foreseeable feature.
3. Monetary unit assumption: the purchase power of the monetary unit remains stable and provides the best way of measure. It follows that an item can be presented on financial statements if and only if it has been measured in monetary units.
4. Time-period assumption: an entity's life can be divided in specific time periods with accounting information provided for those periods. The annual period is called fiscal year. It follows that the results of different periods (revenues, expenses, profits, and losses) are distinct each other.

4 Accounting Principles

1. Historical Cost Principle: Assets are initially recognized at their historical cost.*
2. Accrual Principle: Revenues are recognized when they are earned – not when they are received in cash.
3. Matching Principle: Expenses are recognized when they create revenues – not when they are paid. Since revenues are recognized when they are earned (accrual principle), expenses are also recognized when they occur.
4. Conservatism Principle: "Bad news" is recognized immediately. "Good news is not recognized until they are realized.*

*These two principles are not followed consistently worldwide. However, exceptions are beyond the scope of this course.

Exercise 1

Balance Sheet
or
Statement of Financial Position

Balance Sheet

- The balance sheet presents the financial position of a firm. It consist of two interrelated sections:
  - ✓ Assets: the economic resources that the firm controls to achieve its economic goals.
    e.g., land, buildings, machinery, furniture, vehicles, licenses, inventories, cash, accounts receivable
  - ✓ Equity and Liabilities: the sources of capital or otherwise the claims of outside parties against the firm. Capital may originate from two sources:
    - ➢ Equity: capital that the firms owns.
      e.g., share capital and retained earnings.
    - ➢ Liabilities: capital provided by third parts that has to be repaid.
      e.g., bank loans, accounts payable, checks payable.

Balance Sheet

Balance Sheet	
Assets	Equity
	Liabilities
Total Assets	Equity and Liabilities

- Balance sheet informs about the financial position of a firm on a specific date (usually at the end of the fiscal year).
- The equation that holds in every balance sheet is:

Assets = Equity + Liabilities

- Put it differently, each asset has to be financed by a form of capital.
- It should be noted that an asset has to satisfy certain criteria in order to be presented on the balance sheet. In particular: (1) the asset shall be controlled by the firm, (2) the asset shall have been valued in monetary units, and (3) the firm shall expect economic benefits of the asset in the future.

Balance Sheet Classification
Assets

- To facilitate communication of accounting information, a balance sheet classifies the items that it presents. Typically (albeit not always), the presentation follows a reverse ease-of-liquidation order.
- Assets are classified into **non-current (or fixed)** and **current** assets.
- **Non-current** assets are owned for long-term usage.
  - ✓ Typical examples include: land, buildings, machinery, furniture, licenses, long-term investments in other entities, etc.

  For example, maritime firms typically present "vessels" as non-current assets.
- **Current** assets are assets that are already cash, or they are expected to be liquidated in the short-term.
  - ✓ Typical examples include: cash (already liquidated), bank deposits, inventory (raw materials, merchandise, etc.), accounts receivable, notes receivable, prepaid expenses, etc.

Non-current assets – further classification

- Non-current assets are further classified into:
  - ✓Intangible assets, that is assets with meaningless physical substance (software, licenses, patents etc.)
  - ✓Tangible assets, that is assets with significant physical substance (land, buildings, machinery, etc.)
  - ✓Long-term financial assets (investments in subsidiaries, etc.)
- Current assets are further classified into:
  - ✓Inventory (raw materials, unfinished goods, merchandise)
  - ✓Receivables (accounts receivable, notes receivable, prepaid expenses, etc.)
  - ✓Short-term financial assets (marketable securities, derivatives, etc.)
  - ✓Cash and cash equivalents (cash, bank deposits)

Equity and Liabilities

- Equity is classified into:
  - ✓Share capital, that is capital offered directly by the firm's owners.
  - ✓Retained earnings, that is capital accumulated by the firm's profits.
- Liabilities are classified into:
  - ✓Long-term liabilities (e.g., long-term bank loans, pension obligations)
  - ✓Short-term liabilities (e.g., accounts payable, notes payable, short-term bank loans, salaries payable, wages payable).

Recap

Assets

Non-Current Assets

- Intangibles
- Tangibles
- Long-term financial assets

Current Assets

- Inventory
- Receivables
- Short-term financial assets
- Cash and cash equivalents

Recap

Equity and Liabilities

Equity

- Share capital
- Retained earnings

Liabilities

- Long-term liabilities
- Short-term liabilities

Exercise 2

Income Statement

Income Statement

- The income statement (IS, henceforth) informs about a firm's efficiency. The IS includes result items:
  - ✓Revenues
  - ✓Expenses
  - ✓Gains
  - ✓Losses
- Recall that the Balance Sheet refers to a specific date (usually at the end of the fiscal year). Contrary to the Balance Sheet, the IS refers to *a period of time*. Typically, the IS refers to a whole fiscal year.
- Next, we shall discuss a little further about IS items.

Revenues

- The revenues are *gross* inflows of *economic* benefits during a fiscal year from the firm's *primary* activities. Revenues are also recognized in case of providing services.
- Usual revenues:
  - ✓Revenues from selling merchandise
  - ✓Revenues from providing services
    - ➢Revenues from transportation services
    - ➢Charter revenues
    - ➢Interest revenue
    - ➢Rent revenue
- Keep in mind that there is a significant difference between revenues and gains. We will return to this point latter.

Expenses

- The expenses are economic outflows from a firm's main activities. Expenses are also recognized in case of receiving services.
- A significant characteristic of expenses is that they are necessary for creating revenues. This is in sharp contrast to losses.
- Usual expenses are:
  - ✓Cost of goods sold (i.e., the cost of merchandise sold to customers)
  - ✓Salaries expense
  - ✓Insurance expense
  - ✓Repair expenses
  - ✓Rent expense
  - ✓Depreciation (shall be discussed latter)

Gains/Profits and Losses

- Gains are *net* economic inflows, usually the positive result of *non-primary* activities.
  - ✓For example: ABC sold a land for €120,000. The cost of the land was €100,000.
    - ➢This transaction creates a gain of €20,000.
- Losses are *net* economic outflows, usually the negative result of non-primary activities. Contrary to expenses, losses do not create revenues. In many cases (but not always), losses are the outcome of non-expected events.
  - ✓For example: ABC ltd sold a land for €80,000. The cost of the land was €100,000.
    - ➢This transaction creates a loss of €20,000.
  - ✓For example, merchandise worth of €5,000 was destroyed by fire.

IS presentation

- There are some basic rules underlying the IS presentation.
- IS presents all items in sequential stages. The result of the last stage is called as “net income”
- It should be noted that there is not a uniform presentation of the IS worldwide. However, the typical rationale is that the stages shall distinguish between:
  - ✓Operating results, that is results from regular activities,
  - ✓Financial results, that is results from financial assets and liabilities,
  - ✓Non-operating results, and
  - ✓Taxes
- This distinction is of substantial importance. For example, consider two firms that report the same net income but the first one is more profitable in operating results whereas the second one is more profitable in non-operating results. Which one would you choose to invest your money?

IS presentation

- Operating expenses include: Cost of Goods Sold and rest operating expenses, such as, Salaries, General Expenses, Depreciation, Insurance Expense, etc.
- Operating expenses can be presented in two forms:
  - ✓One-by-one, or
  - ✓They can be classified into the three main activities of the firm: *production*, *administration*, and *selling* activity.
    - ➢The production activity exists only in case of manufacturing and service providing firms.

IS presentation

Merchandise firms

Revenues (from sales)

Less: Cost of Goods Sold

Gross profit

Plus: Rest operating revenues

Less: Rest operating expenses: one by one

or

Administrative and Selling Expenses

Operating income

Plus/Less: Financial results

Plus/Less: Non-operating results

Net income before taxes

Less: Tax expense

Net income

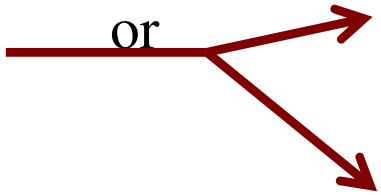
IS presentation

Service providers

Revenues (from sales)

Plus: Rest operating revenues

Less: Operating expenses: one by one



Cost of service provided (Gross Profit will be presented)

Administrative and Selling Expenses

Operating income

Plus/Less: Financial results

Plus/Less: Non-operating results

Net income before taxes

Less: Tax expense

Net income

Exercise 3

Exercise 4

The relationship between the balance sheet and the income statement

- The income statement presents the net income that a firm achieved during a fiscal year.
- Net income suggests that assets increased more that equity and liabilities due to the firm's activities. Provided that net income is not distributed as dividends, it shall be transferred to retained earnings.
- Therefore, *if net income is not distributed*, it holds that:

  $\text{Retained Earnings}_{31/12/2020} + \text{Net Income}_{2021} = \text{Retained Earnings}_{31/12/2021}$
- Unless net income is transferred to retained earnings the balance sheet will not be "balanced". Apparently, *if the firm declares dividends*, then it holds that:

  $\text{Ret. Earn.}_{31/12/2020} + \text{NI}_{2021} - \text{Dividends Declared}_{2021} = \text{Ret. Earn.}_{31/12/2021}$
- The above equation is referred to as clean surplus accounting. However, IFRS have several violations to the clean surplus, i.e., sometimes the income bypasses the income statement and is transferred to Ret. Earn. directly. We will return to this issue later.

Exercise 5

Accounting Events

Journal Entries

Recognize an accounting event

- An important aspect in financial accounting is the recording of transactions. However, should we record every transaction? The answer is no; we do record only economic events that are characterized as **accounting events**.
- An economic event is characterized as an accounting one if and only if:

1. Affects assets, equity, or liabilities, and
2. Can be proved objectively (usually with a voucher such as invoice, receipt, sales contract), and
3. The transaction can be presented in monetary units
   - For example, the purchase of land is an accounting event. The agreement with a vendor to purchase goods in the future is not an accounting event.

Accounting Entry

- We record accounting events using accounts.
- Each account can be presented in a “T form”. The left side is called debit, while the right side is called credit. Debit and credit indicate increase or decrease for an account. If debit is increase, then credit is decrease and vice versa. For some accounts debit means increase while for other it means decrease.
- The difference between debit and credit is called “balance”. An account may present debit, credit, or zero balance.

Accounts Receivable			
1/1	2,000	2/1	1,500
3/1	3,500	4/1	2,500
5/1	1,500		
Total	7,000	Total	4,000
Bal. 5/1	3,000		

Recording accounting events

- An accounting event is always recorded with the debit of an account and the equal credit of another. This is called as the **double entry system**.
- Accounting events are recorded in a file that is called "journal" and the entry is called "journal entry".

  e.g.,

3/1/2020		
Vessels	1,000,000	
Cash		1,000,000

Keep always in mind that the journal entry records the *change* in an account, not its *balance*!

Rules of debit and credit

- It was mentioned previously that for some accounts debit is increase (and credit is decrease) while for others holds the opposite. This is a major problem for students that deal with financial accounting for first time.
  - ✓For example: a firm purchased land for €10,000 in cash. Should land be debited or credited? What about cash?
- In the next slide, I present a figure that clearly illustrates the rules for debit and credit. This is the best way to learn according to my experience. Keep in mind that each account belongs either to the balance sheet or the income statement (in the above example both land and cash belong to the balance sheet).

Rules of debit and credit

Balance Sheet

Assets	
+	–

Equity and Liabilities	
–	+

Income Statement

Expenses and Losses	
+	–

Revenues and Gains	
–	+

Balances

- An important observation about balances is:
  - ✓Assets should normally present a debit balance.
  - ✓Equity or liability should normally present a credit balance.
  - ✓Expenses and Losses should normally present a debit balance.
  - ✓Revenues and Gains should normally present a credit balance.
- Contra-accounts are an exception to the above observation, but we will discuss them later.

To recap

- In order to make journal entries:

1. Decide whether the event is an accounting one.
2. Recognize the accounts that are affected by the event.
3. Decide whether each account is increased or decreased.
4. Decide where each affected account belongs to (assets, equity, liabilities, expenses, losses, revenues, gains).
5. Be sure how each group of accounts shows an increase or decrease (for example, assets are increased with debit and decreased with credit, etc.).

Exercise 6

General Ledger

Trial Balance

General Ledger

- As aforementioned, we record the accounting events on the Journal. However, the Journal records the **change** in the balance of an account, **not the balance** itself.
- Unfortunately, **the Balance Sheet and the Income Statement** present **balances**, **not changes**. Therefore, we need a separate file that keeps the balance of the accounts. This file is called as **General Ledger**.
- The General Ledger presents each account in a T form, its debits/credits and its corresponding balance. For example:

Cash			
Jan. 1	100,000	30,000	Feb. 2
Mar. 3	50,000	10,000	Apr. 8
May 6	20,000	40,000	Sept. 9
Nov. 5	35,000	5,000	Oct. 7
Bal. Dec. 31	120,000		

Trial Balance

- The Trial Balance is a list of the accounts that a firm uses. It includes the account number, its title, the total debit amount, the total credit amount, and the corresponding balance.
- The Trial Balance is very useful since it a quick glance at the status of the firms' accounts.

Trial Balance for March					
Number	**Account**	**Total Debit**	**Total Credit**	**Debit Balance**	**Credit Balance**
1	Cash	205.000	85.000	120.000	
2	Accounts Receivable	120.000	30.000	90.000	
3	Accounts Payable	40.000	90.000		50.000
4	Sales Revenue		300.000		300.000
5	Cost of Goods Sold	180.000		180.000	
6	Gain on machinery disposal		35.000		35.000
7	Loss of damaged furniture	12.000		12.000	

Trial Balance types

- There are three kinds of trial balances:
  - ✓Trial Balance (typical form)
  - ✓Adjusted Trial Balance
  - ✓Post-closing Trial Balance
- A typical trial balance is prepared usually at the end of each month (Trial Balance of January, Trial Balance of February, and so on).
- The Adjusted Trial Balance and the Post-Closing Trial Balance are prepared at the end of the fiscal year (I will discuss this issue more thoroughly latter).

Exercise 7

Accounting Cycle

Accounting Cycle

- The set of the procedures that Financial Accounting includes is called Accounting Cycle. These procedures can be separated in chronological order.
  - ✓Procedures at the beginning of the fiscal year.
  - ✓Procedures during the fiscal year.
  - ✓Procedures at the end of the fiscal year.

Procedures at the beginning of fiscal year

- At the beginning of the fiscal year, we make an opening entry for the balance sheet accounts (debit the assets and credit the equity & liabilities). The opening entry requires that, at the end of the previous fiscal year, the firm had made a closing entry for the balance sheet accounts. However, the closing entry for the balance sheet accounts is not mandatory and is ignored by most firms.
- However, the closing entries for the income statement accounts is of utmost importance. We will return to this issue later.

Procedures during the fiscal year

- We have already described the relevant procedures that are performed on a daily basis:
  - ✓Recognition of accounting events.
  - ✓Recording them (with journal entries)
  - ✓Posting to the General Ledger.
  - ✓Preparing a Trial Balance (usually at the end of each month).

Procedures at the end of fiscal year

- These procedures are performed after the last Trial Balance (Trial Balance for December).
- There are three (3) main procedures that take place at the end of the fiscal period:
  - ✓The adjusting process
  - ✓The closing process for the income statement accounts
  - ✓The preparation of annual financial statements (e.g., Balance Sheet and Income Statement)

The Adjusting Process

- As we have discussed previously, the accounting events are recorded with journal entries and are posted to the General Ledger.
- However, at the end of the fiscal year there is always the possibility that the balances of the General Ledger are not in line with real balances.
- There are two reasons that may cause differences:
  - ✓Accounting Errors
  - ✓Outdated balances due to a cost-benefit analysis

The Adjusting Process
Accounting Errors

- First consider, the case of an accounting error:
  - ✓ABC firm purchased a vessel for €100,000 in cash. However, the following entry was made:

Machines	100,000	
Cash		100,000

- Note that erroneous entries are not deleted. In fact, to correct the error we make an appropriate entry (correcting entry).
- In the above example, we can rectify the error with the following entries:

Cash	100,000	
Machines		100,000
Vessels	100,000	
Cash		100,000

This entry is called full-reversing entry

This entry is called additional entry

The Adjusting Process
Accounting Errors

Erroneous entry:

Machines	100,000	
Cash		100,000

- Otherwise, we could have rectified the erroneous entry with the following partial-reversing entry:

Vessels	100,000	
Machines		100,000

The Adjusting Process
Outdated balances

- Another source of differences between the accounting balances and the real balances is that the former are outdated, not due to accounting errors but due to a cost-benefit analysis.
- For example, suppose that Firm A hires an employee with a monthly salary of €3,000. How frequently will the firm record the Salary Expense?
- Suppose that the recruitment date was on December 15th. Does it change your answer?
- This example illuminates two important issues:
  - ✓In several cases, a firm may postpone the recognition of revenues/expanses/gains/losses because the cost of a daily recognition is higher than the benefit of the incremental information.
  - ✓At the end of the fiscal year, all the revenues/expenses/gains/losses that have been realized must be recognized.

The Adjusting Process
Outdated balances

- The relevant entries that adjust the balances at the end of the fiscal year are called **adjusting entries**.
- It is frequently mentioned that adjusting entries may be classified into 4 categories. In fact, all adjusting entries intend to fulfill the same purpose; to recognize revenues/expenses/gains and losses that have been realized but not yet recognized.
- It is typical to focus on adjusting entries at the end of the fiscal year. However, an accountant shall make adjusting entries whenever it is necessary.
- In the next slides, I present some typical examples of adjusting entries. In any case, one should always remember that we follow **accrual basis accounting**!

The Adjusting Process
Outdated balances

Ex.1: ABC leases a building to XYZ. On 31/12/2021 the accrued rent is €300 but it has not been collected in cash yet (and not recognized).

ABC:

31/12/2021

Rent Receivable	**300**	
Rent Revenue		**300**

XYZ:

31/12/2021

Rent Expense	**300**	
Rent Payable		**300**

The Adjusting Process
Outdated balances

Ex.2. On 1/12/2021, ABC pays in advance €600 for insurance to KLM (insurance company). The insurance period covers 6 months, beginning from December 1st, 2021.

ABC:

1/12/2021 (this is not the adjusting entry)

Prepaid Insurance	**600**	
Cash		**600**

ABC:

31/12/2021 (this the adjusting entry)

Insurance Expense	**100**	
Prepaid Insurance		**100**

The Adjusting Process
Outdated balances

Ex.2. (*cont'd*) On 1/12/2021, ABC pays in advance €600 for insurance to KLM (insurance company). The insurance period covers 6 months, beginning from December 1st, 2021.

KLM:

1/12/2021 (this is not the adjusting entry)

Cash	**600**	
Insurance Received in Advance		**600**

KLM:

31/12/2021 (this the adjusting entry)

Insurance Received in Advance	**100**	
Insurance Revenue		**100**

Exercise 8 (Q1-Q8)

The Adjusting Process
Special Cases

- So far, we have mentioned that Cost of Goods Sold is recognized at the time of selling goods in tandem with the recognition of Sales Revenue.
- For example: ABC sells merchandise worth of €8,000 for €10,000 in cash.

Cash	10,000	
Sales Revenue		10,000
Cost of Goods Sold	8,000	
Merchandise		8,000

- The immediate recording of the second entry is based on an inventory system which is called "**perpetual inventory system**". This requires the immediate recognition of CGS which in turn requires a daily running record of inventory.
- However, several firms follow a **periodic inventory system**.

The Adjusting Process
Special Cases

- Under a periodic inventory system, the CGS is recorded only one time at the end of a specific period (usually at the end of the fiscal year). Of course, this approach requires the recognition of the cumulative CGS.
- Moreover, the CGS is determined in two steps:
  - ✓Take a physical inventory count at the end of the period to determine the value of goods left at hand (ending inventory).
  - ✓Calculate the CGS as:

Beginning Inventory
+ Purchases
–Ending Inventory
= CGS

The Adjusting Process
Special Cases

- For Example: ABC follows a periodic inventory system. The balance sheet at 31/12/2020 reports Merchandise Inventory €10,000. During 2021, the purchases of merchandise were equal to €30,000.
  The physical inventory count at the end of 2021 suggests that the ending inventory is equal to €5,000.
  CGS = 10,000 + 30,000 – 5,000 = 35,000. It will be recorded at the end of the fiscal year.
- A similar approach is followed for supplies of low value (e.g., stationery) or inventory that is difficult to count on a perpetual basis. However, in that case we recognize "Supplies Expense" or "Supplies Consumed" – not CGS since these goods were not sold but consumed for daily activities.

Exercise 8 (Q9-Q10)

The Adjusting Process
Special Cases

- As final case of adjusting entries, we consider depreciation expense. This case is a striking example of accrual accounting.
- Recall the journal entry that we make in case we purchase a fixed asset, e.g., a machine. For example, on 1/1/2020 ABC purchases a machine for €10,000 in cash. The amount of €10,000 is called "acquisition cost".

1/1/2020

Machines	10,000	
Cash		10,000

Consider the following: Did ABC incur a cost for the machine purchase? Has ABC recorded an expense so far? Why?

The Adjusting Process
Special Cases

- ABC did not record an expense because expenses are recognized when they create revenues. However, the machine has not started operations yet and therefore has not produced any revenues.
- Moreover, the machine is a fixed asset. This means that it will create revenues for more than just a year.
- For example, suppose that the machine will be productive for 3 years. This estimation is called “useful life”.
- However, even after 3 years, ABC may sell machine for scrap and receive some money, let’s say 1,000. This estimation is called “salvage or residual value”.

The Adjusting Process
Special Cases

- To recap:
  - ✓Acquisition Cost: 10,000
  - ✓Useful life: 3 years
  - ✓Salvage Value: 1,000
- Taking into account the acquisition cost and the salvage value, we conclude that the net cost of the machinery was 10,000-1,000 = 9,000. This is called "depreciable cost" and represents the total expense that the firm should recognize over the useful life horizon (i.e., over 3 years). The annual expense is called "Depreciation Expense".
- Note that a straight-forward computation of the annual expense is: 9,000/3 = 3,000 expense per year.

This is called straight-line method of depreciation.

Otherwise, it could be the following: 1st year: 4,000, 2nd year: 3,000, 3rd year: 2,000. This is called declining-method of depreciation.

The Adjusting Process
Special Cases

- Let's suppose that we follow the first method, i.e., the annual depreciation expense is 9,000/3 = 3,000 per year (straight-line depreciation method).
- Be careful with the journal entry for depreciation. Since depreciation is indeed an expense, it is recognized with debit. This expense decreases the accounting value of the asset in place because of usage. Therefore, we could make the following entry:

  31/12/2020

  Depreciation Expense 3,000

  Machines 3,000
- However, in practice, we never credit the asset! In fact, we credit a contra-asset account which is called "Accumulated Depreciation - Machines".

The Adjusting Process
Special Cases

- The right entry is the following:

  31/12/2020

  Depreciation Expense 3,000

  Accumulated Depreciation - Machines 3,000

  This entry shall be made again on 31/12/2021 and 31/12/2022.

- Note that Depreciation Expense is an expense account that is zeroed out at the end of each fiscal year. On the contrary, Accumulated Depreciation is a contra-asset account. This means that it is presented on the Balance Sheet and accumulates depreciation each year.

The Adjusting Process
Special Cases

- Excerpts from financial statements

Balance Sheet	31/12/20	31/12/21	31/12/22
Machines	10,000	10,000	10,000
Less: Accumulated Depreciation	(3,000)	(6,000)	(9,000)
Net Value	7,000	4,000	1,000
Income Statement	**1/1-31/12/20**	**1/1-31/12/21**	**1/1-31/12/22**
:			
:			
Less: Depreciation Expense	(3,000)	(3,000)	(3,000)

The Adjusting Process
Special Cases

- Final remarks on depreciation:
  - ✓Depreciation constitutes the expense that comes from an asset's usage over its useful life. This means that if an asset is not used, it is not depreciated even though its value may decline.
    - ➢For example, a machine is out of order for two years and its value has declined due to technological obsolescence. Is this decline a depreciation expense?
  - ✓Moreover, the above definition implies that if an asset has an infinite or undefined useful life it is not depreciated.
    - ➢For example, is land depreciated?

Exercise 8 (Q11-Q12)

The Closing Process

- Recall that the adjusting entries are part of a set of procedures at the end of fiscal year. The outcome of adjusting entries is the Adjusted Trial Balance.
- After the preparation of the Adjusted Trial Balance, we start the closing process. The closing process intends to:
  - ✓Zero out the accounts the represent results (revenues/expenses/gains/losses)
  - ✓To transfer the final result (net income) to retained earnings or dividends payable.
- In order to zero out revenues/expenses/gains/losses, we may use the following aggregate accounts:
  - ✓Gross Profit
  - ✓Operating Income
  - ✓Income before taxes
  - ✓Net income

The Closing Process

- Recall that revenues and gains have a normal credit balance. Thus, in order to close, we have to debit them. In contrast, expenses and losses have a normal debit balance. Thus, we have to credit them.
  - ✓Sales Revenue and CGS are aggregated to Gross Profit account.
  - ✓Gross Profit and rest operating results are aggregated to Operating Income account.
  - ✓Operating Income and financial results and non-operating results are aggregated to Income Before Taxes account.
  - ✓Finally, Income Before Taxes and Tax Expense are aggregated to Net Income account.
  - ✓Net Income shall be transferred to retained earnings or dividends payable.

The Closing Process

- The outcome of the closing entries is the Post-Closing Trial Balance. In the Post-Closing Trial Balance only the balance-sheet accounts are presented since income statement accounts have been zeroed out.
- The final step is to prepare financial statements.

Exercise 9

Special Remarks

Fixed Assets

- We have already discussed that fixed assets are depreciated during their useful life. We make 2 important remarks here:
  - ✓Depreciation expense shall be adjusted to fiscal years. For example, the depreciation for an asset is €1,000 per year. However, it started to operate on 30/6/2020.
  - ✓At an asset's disposal (e.g., sale or damage) the accounting result (gain or loss) is based on the asset's accounting value not on its historical cost.
  - ✓For example, ABC acquired a machine on 1/1/2020 for €9,000 (useful life of 3 years, zero salvage value), After 2.5 years, ABC sells the machine for €4,000.
    - ➢Did the sale yield a profit or a loss for ABC?

Fixed assets

- Journal entries:

1/1/2020		
Machine	9,000	
Cash		9,000
31/12/2020		
Depreciation Expense	3,000	
Depreciated Machine		3,000
31/12/2021		
Depreciation Expense	3,000	
Depreciated Machine		3,000

Fixed assets

30/6/2022

Depreciation Expense	1,500		
Depreciated Machine		1,500	
Depreciated Machine	7,500		
Machine		7,500	
Cash	4,000		
Machine			1,500
Gain on machine disposal			2,500

Exercise 10

Inventory

- We have already discussed that Cost of Goods Sold is the expense that reflects the cost of goods that the entity has sold to customers.
- For example, ABC purchases merchandise for €10,000. The half of them is sold for €8,000. This gives Revenues €8,000 and CGS €5,000
- However, it is very common for a firm to purchase merchandise at varying prices.
- For example, ABC has an initial inventory of goods equal to 1,000 units at a price of €10/unit. On February 1st, ABC purchases 1,000 units at a price of €15/unit. On March 15th, ABC sells 1,000 units. What is the CGS?

Inventory

- There are two approaches to deal with the previous situation:
  - ✓Using a specific identification method, i.e., using specific codes for each batch of purchases.
  - ✓Making an assumption for the cost flow. The assumptions that can be made are the following three:
    - ➢FIFO, First-In-First-Out: thus, CGS = €10,000 (1,000*10)
    - ➢LIFO, Last-In-First-Out: thus, CGS = €15,000 (1,000*15)
    - ➢Weighted Average Cost: thus, WAC = (10,000+15,000)/(1,000+1,000) = €12.5/unit CGS= 1,000*12.5 =12,500.
- Note that LIFO is not permitted any more, due to LIFO layers.

Exercise 11

Comprehensive Income Statement

- So far, I have illustrated that each revenue/expense/profit/loss is presented in the Income Statement. Afterwards, the net income is transferred to retained earnings. However, there is an exceptional category of results that is directly transferred to equity (i.e., they bypass the income statement).
- The most typical example of these results is the increase in the market value of a fixed asset.
- As we discussed in our first lecture, the conservatism principle prohibits the recognition of good news until they are realized. However, several accounting standards (IFRS included) give the option to revalue specific kinds of assets.
- For instance, under IFRS, fixed assets can be revalued to fair values.
  - ✓ABC owns land with a historical cost of €100,000. The fair value of the land is €150,000.

Comprehensive Income Statement

- However, in theses cases, the increase in the value of the asset is recorded to equity directly (i.e., surpasses the income statement). In fact, we use revaluation reserve accounts:

Land	50,000	
Revaluation Reserves		50,000

- Revaluation reserves are part of equity (i.e., a form of retained earnings). However, revaluation reserves cannot be distributed as dividends.
- The statement that presents such items is called Comprehensive Income Statement. The CIS has the following format:

Comprehensive Income Statement (1/1-31/12)

Net Income	XXX
Plus/Less: Other comprehensive income	XXX
Total Comprehensive Income	XXX

Statement of Changes in Equity

- The Statement of Changes in Equity present the changes in equity accounts during a fiscal year.
- Recall that equity accounts are the following:
  - ✓Share Capital
  - ✓Retained Earnings
  - ✓Revaluation Reserves
- Therefore, the SCE includes transactions such as:
  - ✓Increases/decreases in share capital
  - ✓Total comprehensive income
  - ✓Dividend declaration
  - ✓Capitalization of retained earnings