

Brought to you by:

ASTRA

ACCOUNTING 2

2° YEAR BIEM / BIEF

Written by
Francesco Pezzuto

2022-2023 Edition

Find more at:

astrabocconi.it

This handout has no intention of substituting University material for what concerns exams preparation, as this is only additional material that does not grant in any way a preparation as exhaustive as the ones proposed by the University.

Questa dispensa non ha come scopo quello di sostituire il materiale di preparazione per gli esami fornito dall'Università, in quanto è pensato come materiale aggiuntivo che non garantisce una preparazione esaustiva tanto quanto il materiale consigliato dall'Università.

ACCOUNTING 2

CHAPTER 11 – REPORTING AND INTERPRETING STOCKHOLDERS' EQUITY

Ownership of a Corporation

- Corporations are created by application to a state government agency and are governed by a board of directors elected by stockholders
 - Corporations are the only business form the law recognizes as a separate entity
- A stockholder receives shares of stock that can subsequently sell on established exchanges
- Corporations exist for different reasons:
 - Limited liability of shareholders, therefore owners are liable only for the amount they invested, nothing more
 - Capital can be sold to outsiders
 - Eventually, a corporation may be listed on a regulated market
- Owners of common stock receive a number of benefits:
 - *Voice in Management*, since each share of stock entitles the holder to vote in stockholders' meetings on major issues concerning the management of the firm
 - *Dividends*, since they receive a proportional share of the distribution of profits
 - *Residual Claim*, since they receive a proportional share of the distribution of remaining assets upon the liquidation of the company
- ➔ Shareholders have the ultimate authority in a firm, and the Board of Directors and employees ultimately respond to them
- *Authorized number of shares*
 - Maximum number of shares of stock a corporation can issue as specified in the corporate charter
- *Issued Shares*
 - Total number of shares of stock that have been sold
 - $\text{Issued Shares} = \text{Outstanding Shares} + \text{Treasury Stock}$
 - Unissued Shares, on the other hand, are not reported on the balance sheet until they are sold
- *Treasury Stock*
 - Corporation's own stock that has been repurchased by the firm
 - Shares held as Treasury Stock are considered issued shares but NOT outstanding shares
 - They appear in journal entries as *contra-stockholders' equity account*



➤ *Outstanding Shares*

- Total number of shares of stock owned by stockholders on any particular date
- Dividends and Control refer only to **outstanding issued shares**

Common Stock Transactions

➤ *Common Stock* is held by investors who are the owners of a corporation

- Stockholders are the owners of a corporation who hold voting rights and share in the profitability of the business
- However, shareholders do not participate in managing the business, but elect a board of director, which in turn hires and monitors the executives

➤ The *Par Value* is the nominal value per share of stock as specified in the corporate charter

- The par value has no relationship with the market value of the stock
- The original purpose of assigning a par value to a share of stock was to protect creditors by specifying a permanent amount of capital that owners could not withdraw before a bankruptcy
- The permanent amount of capital is known as **legal capital**
- Currently, Legal capital provides little protection to creditors since firms have started to give extremely low par values
- Indeed, some States require the issuance of no-par value stock and laws specify the minimum legal capital

➤ The *Initial Public Offering* involves the very first sale of a company's stock to the public

- Once the company stock is traded on the capital markets, additional sales of new stock to the public are called **seasoned equity offerings**
- In rare cases, a corporate charter may specify a *stated value* rather than a *par value*
- If there is no par or stated value, the entire proceeds from the sale will be entered in the Common Stock account

<i>IPO journal entry</i>	Debit	Credit
Cash (+A)	15000	
Common Stock (+SE) → N° of issued shares * Par Value		200
Additional Paid-In Capital (+SE)		14800

➤ When shares are exchanged between investors after a stock issuance, they do not directly affect the corporation, so they do not require any journal entry

- However, management still cares about the stock prices as investors want to see their profit maximized



- Firms can develop compensation packages to reward managers for meeting goals and incentivize them:
 - Firms usually offer stock option to senior managers as part of their compensation scheme
 - Companies must estimate and report compensation expenses associated with stock options

- A corporation may want to repurchase its stock from the existing stockholders:
 - One common reason are compensation plans for workers that involve the company's stock as part of the compensation
 - Since the SEC regulation concerning stock issuances make the process costly, companies find it less costly to give employees repurchased shares
 - Furthermore, if a company wanted to pay bonuses with newly issued stock, the stock price would decline because of the increase in the number of shares

- ➔ Stock that has been repurchased by a corporation is called *treasury stock*:
 - Treasury stock have no voting, dividend, or other stockholders' right while they are held as treasury stock

- ➔ Since a company CANNOT own itself, the treasury stock must be a *contra-equity account*

Repurchase of Stock	Debit	Credit
Treasury Stock (+XSE; -SE)	14000	
Cash (-A)		14000

- When a company sells its treasury stock, it does not report an accounting profit or loss:
 - Indeed, GAAP does not permit a corporation to report income or losses form investments in its own stock because transactions with the owners are not considered profit-making activities

Sale of Treasury Stock with profit	Debit	Credit
Cash (+A)	15000	
Treasury Stock (-XSE; +SE) → N° Shares * Repurchase Price		14000
Additional Paid-In Capital (+SE)		1000

Sale of Treasury Stock with loss	Debit	Credit
Cash (+A)	14000	
Additional Paid-In Capital (-SE)	1000	
Treasury Stock (-XSE; +SE) → N° Shares * Repurchase Price		15000

- ➔ Any gain or loss made with the resale of Treasury Stock is accounted for in the Additional Paid-In capital Account



Dividends on Common Stock

- Declaration and Payment of a dividend involve 3 key dates:
 - ➔ *Declaration date*
 - It is the date on which the board of directors officially approves the dividend
 - As soon as the dividend is approved by the BoD, the Liability Account *Dividends Payable* is created
 - ➔ *Date of record*
 - It is the day in which the corporation prepares the list of current stockholders who will receive the dividend payment
 - No journal entry is required on the record date
 - ➔ *Date of payment*
 - Date on which cash is disbursed to pay the dividend liability
 - When the dividend is paid, the Cash Account is credited and the Dividend Payable Account is debited
- In order to pay a dividend, a corporation must satisfy 2 fundamental requirements:
 - It must have accumulated a sufficient amount of retained earnings, or must have earned a sufficient amount of net income during the period, in order to cover the amount of the dividend
 - It must have sufficient cash to pay the dividend and meet the operation needs of the business
- The dividend policy of a firm is determined by the BoD:
 - In some countries, dividend payments are required by law
 - In the US, companies do not have any legal obligation to pay dividends. However, once the dividend is declared, the firm is obliged to pay it and, in case of bankruptcy, dividends payable would be a legally enforceable claim against the company



Stock Dividends

- A **stock dividend** is a distribution of additional shares of a corporation's own stock on a pro-rata basis at no cost to existing shareholders
 - *Pro-rata basis* means that each stockholder receives additional shares equal to the percentage of shares held
 - For instance, a stockholder with 10% of outstanding shares will receive 10% of the additional shares issued as a stock dividend

- In reality, a stock dividend by itself has no economic value because, after the dividend is issued, each shareholder owns exactly the same proportion of the company as before
 - Indeed, after the announcement of a stock dividend, the market price usually declines
 - However, in some other case the stock dividend makes the stock more attractive to new investors

- When a company declares a stock dividend, the company transfers the amount from the Retained Earnings Account (or the Additional Paid-In Capital Account) to the Common Stock Account to reflect the additional shares issued

- A **large stock dividend** involves the distribution of additional shares that amount to more than 20-25% of the currently outstanding shares
 - Since a large Stock Dividend significantly decreases the company's stock price, GAAP requires the amount transferred to be based on the *par value* of the stock

Large Stock Dividend	Debit	Credit
Retained Earnings (-SE) → N° shares issued * par value	100000	
Common Stock (+SE) → N° shares issued * par value		100000

- A **small stock dividend** involves the distribution of additional shares that amount to less than 20-25% of the currently outstanding shares
 - In this case, GAAP requires the amount to be transferred to be based on the market price of the stock
 - The *par value* is transferred to the Common Stock Account while the remainder is transferred to the *Additional Paid-In Capital Account*

Small Stock Dividend	Debit	Credit
Retained Earnings (-SE) → N° shares issued * market value	750000	
Common Stock (+SE) → N° shares issued * par value		1000
Additional Paid-In Capital (+SE)		749000

- ➔ Hence, we can notice that Large and Small Stock dividends merely redistribute amounts within the stockholders' equity section of the balance sheet



Stock Splits

- In a **stock split**, a company commits to giving shareholders a specified number of additional shares for each share of stock they currently hold
 - When a company initiates a stock split, it reduces the par value of its stock so that the total dollar amount of the Common Stock Account remains unchanged
- Contrary to a stock dividend, a stock split does not change any account balances in the stockholders' equity section of the balance sheet
 - However, in both a stock split and a stock dividend the stockholder receives more shares of stock without having to invest additional resources to acquire the shares
- ➔ A stock split does NOT require a journal entry, but MUST be disclosed in the footnotes
- Usually, companies announce a stock split but account for the distribution of additional shares as a large stock dividend:
 - Companies do this to avoid changing the par value of their Common Stock
 - Such announcements are known as *stock split effected in the form of a stock dividend*

Statement of Stockholders' Equity

- The purpose of the Statement of Stockholders' Equity is show how accounts in the stockholders' equity section of the balance sheet have changed over the accounting period
 - Usually, this statement shows the Common Stock Account, Additional Paid-In Capital Account, Treasury Stock Account, and Retained Earnings Account

Preferred Stock Transactions

- Preferred Stock differs from Common Stock in a number of ways:
 - Preferred Stockholders typically do NOT have voting rights
 - Preferred Stock is less risky than Common Stock because holders receive priority in the payment of dividends and distribution of assets if the company goes bankrupt
 - Preferred Stocks typically have a fixed dividend rate, which make them attractive to investor who want a stable income for their investments
- Because Preferred Stockholders give up certain advantages that are available to Common Stock investors, preferred stock offers a dividend preference



1. **Current Dividend Preference** requires dividends to be paid to preferred stockholders before any dividends are paid to common stockholders
 - This preference is always a feature of preferred stock
 - After the Current Dividend Preference has been met, and if no other preference is operative, dividends can be paid to common stockholders

 2. **Cumulative Dividend Preference** requires any unpaid dividends on preferred stock to accumulate. These cumulative preferred dividends must be paid before any common dividends can be paid
 - The cumulative unpaid amount is known as **dividends in arrears**
 - Of course, if the preferred stock is not cumulative, dividends can never be in arrears, and therefore any dividend that is not declared is permanently lost
 - Usually, preferred stock is cumulative, however if preferred stock is *noncumulative*, any dividends not declared in previous years are lost
- ➔ The existence of dividends in arrears on preferred stock can limit a company's ability to pay dividends to common stockholders and can affect the company future cash flows
- Since dividends are not a liability until the BoD declares them, dividends in arrears are not reported on the Balance Sheet, but are *disclosed in the footnotes*



APPENDIX A – REPORTING AND INTERPETING INVESTMENTS IN OTHER CORPORATIONS

Types of investments and accounting methods

- **Passive investments** are made to earn a return on funds that may be needed for short-term or long-term purposes:
 - This category includes both investments in debt and equity

- **Debt** securities are always considered passive investments because they do not entail ownership
 - If the company intends and demonstrates the ability to hold the debt securities until maturity, the investments are measured and reported at **amortized cost** and are classified as **noncurrent held-to-maturity investments**, unless they mature in less than one year

 - If the debt securities are actively traded, they are classified on the balance sheet as *current assets* called **trading securities** and are reported using the **fair value method** through **Net income**

 - If the debt securities are not intended to be held until maturity or actively traded, they are classified either as **current** or **noncurrent available-for-sale securities** and they are reported using the **fair value method** through **Other Comprehensive Income**

- **Equity** securities:
 - They are considered **passive investments** if the investing company owns less than 20% of the outstanding voting shares of the other company and has no significant influence over the investee
 - ➔ In this case, the investment is classified as current or noncurrent **investments in equity securities** and reported using the **fair value method**

 - **Significance influence** is the ability to have an important impact on the operating investing and financing activities of a company and presumes owning between 20% and 50% of the outstanding voting shares of the firm
 - ➔ The **equity method** is used to measure and report these investments

 - **Control** is the ability to determine the operating and financing policies of another company through the ownership of voting stock and is presumed when the investing company owns more than 50% of the outstanding voting stock of the other company
 - ➔ The **acquisition method** is applied to combine the companies



Passive Investment in Debt Securities

- On the date of purchase, a debt security may be acquired *at par*, at a *discount*, or at a *premium*

Purchase of a Debt Security	Debit	Credit
Investments (+A)	100	
Cash (-A)		100

- During the year, a debt security may be earning interests:

Earning Interest Revenue	Debit	Credit
Cash (+A)	10	
Interest Revenue (+R, +SE)		10

- However, at the end of each fiscal year measuring and reporting investments in debt securities depend on management's purpose:

1. **Held-to-maturity investments** are bond investments that are going to be held until they mature

- These investments are reported at cost adjusted for the amortization of any discount or premium (**amortized cost method**), NOT at their fair value
- Therefore, there is no need for a fair value adjusted entry at the end of the year

Maturity of the bond	Debit	Credit
Cash (+A)	100	
Investment (-A)		100

2. **Trading Securities** are all investments in debt instruments that are held primarily for the purpose of active trading in the near future

- Trading securities with readily determinable market values are recorded by applying the **fair value method** and are reported as *current assets* on the balance sheet
- In order to apply the fair value method, the trading securities portfolio is adjusted up or down to the portfolio's fair value, which is a security's current market value
- The adjusting entry will either increase or decrease total assets, and the offsetting effect is reported on the income statement as an **unrealized gain or loss**, because no actual exchange transaction has yet taken place
- Before disposing of the investment, it must be adjusted to its fair value by recording an **unrealized gain/loss**



Reporting the fair Value of a Trading Security	Debit	Credit
Investments (+A)	10	
Unrealized Gain (+R, +SE)		10
Reporting the fair Value of a Trading Security		
Unrealized Loss (+E, -SE)	10	
Investments (-A)		10

3. Available-for-Sale Securities are all debt investments other than trading securities and debt held to maturity

- Securities with readily determinable market values are reported at **fair value** and may be classified as either *current or noncurrent* assets depending on whether management intends to sell the securities in less than a year
- The Available-for-Sale Securities portfolio is adjusted up or down to the portfolio's fair value at the end of the year
- The offsetting effect, however, is **reported on Other Comprehensive Income**
- Any unrealized gain or loss is recorded as a component of **Other Comprehensive Income** on the **Statement of Comprehensive Income** for Available-for-Sale Securities
- When a sale takes place, the investment portfolio is first adjusted at its fair value on the sale date. Then, the accumulated *net unrealized gain or loss* for those investments that are sold is reclassified **out of Other Comprehensive Income** and reported on the current period's income statement as a **Realized Gain or Loss**

Reporting the fair Value of an Available-for-Sale Security	Debit	Credit
Investments (+A)	10	
Unrealized Gain (+OCI, +SE)		10
Reporting the fair Value of an Available-for-Sale Security		
Unrealized Loss (-OCI, -SE)	10	
Investments (-A)		10

- **NB:** Other Comprehensive Income is a component of the Statement of Comprehensive Income and NOT of the Income Statement



Passive Investment in Equity Securities

- When a company purchases and owns *less than 20%* of outstanding voting stock of another company, the investment in these equity securities is usually considered passive
 - Passive investments in equity securities are reported at their **fair value** with any year-end adjustments for **unrealized gains or losses included in net-income**, regardless of whether the investment is current or noncurrent

Purchase of an Equity Security	Debit	Credit
Investments (+A)	100	
Cash (-A)		100

Earning Dividend Revenue	Debit	Credit
Cash(+A)	10	
Dividend Revenue (+R, +SE)		10

Year-end Adjustment for Gain	Debit	Credit
Investments (+A)	40	
Unrealized Gain (+R, +SE)		40

Year-end Adjustment for Loss	Debit	Credit
Unrealized Loss (+E, -SE)	40	
Investments (-A)		40

Investments for significance influence: the equity method

- The equity method must be used when an investor can exert significance influence over an affiliate
 - On the balance sheet, these investments are classified as **noncurrent assets**
 - Investments reported under the Equity Method are never adjusted to fair value
- Under the equity method, the investor's 20% to 50% ownership of a company presumes significant influence over the affiliate's process of earning income
 - The investor reports its portion of the affiliate's net income as its income and increases the investment account by the same amount
 - The receipt of dividends by the investors is treated as a reduction in the investment account, NOT revenue
- **Net Income of Affiliates**
 - If affiliates report positive results from operations for the year, the investor records investment income called **Equity in Investee Earnings** equal to its percentage share of the affiliates' net income and increases its investments account
 - If the affiliates report net losses, the investor records the opposite effect as **Equity in Investee Losses**



➤ **Dividends Declared by Affiliates**

- If affiliates declare cash dividends during the year, the investor **reduces** its **investment account** and **increases Dividends Receivable** for its share of dividends

Purchase of an Equity Security using the Equity Method	Debit	Credit
Investments (+A)	100	
Cash (-A)		100

Earnings of Affiliates (Equity Method)	Debit	Credit
Investments (+A)	100	
Equity in investee earnings (+R, +SE)		100

Losses of Affiliates (Equity Method)	Debit	Credit
Equity in investee earnings (+E, -SE)	100	
Investment (-A)		100

Dividends Declared (Equity Method)	Debit	Credit
Dividends Receivable (+A)	100	
Investments (-A)		100

Amortized cost method

- When a bond is bought at a Discount, its coupon rate < market rate:

Purchase of Bond at a Discount	Debit	Credit
Investments (+A)	896	
Cash (-A)		896

Reporting interest revenue for Discount Bonds	Debit	Credit
Cash(+A)	120	
Investment (+A)	5	
Interest Revenue (+R,+SE)		125

- Interest revenue is given by the book value of the investment times the interest rate
- The cash inflow is given by the coupon rate times the face value
- The difference between the two is the amortization of the discount



➤ Bond issued at a discount:

- $FV=100,000$; $P=92,278$; Semi-Annual Coupon Rate= 4%, Semi-Annual Interest rate= 5%

Purchase of Bond at a discount	Debit	Credit
Investments (+A)	92,278	
Cash (-A)		92,278

Reporting interest revenue for Premium Bonds	Debit	Credit
Cash(+A)	4000	
Investment (+A)	614	
Interest Revenue (+R,+SE) = $92,278 \times 0.05$		4614



INCOME TAXES

- Income taxes are a sub-category of taxes of many different kinds:
 - Income tax, VAT, Sales Tax, Registry Tax, Stamps
- Income taxes are a **cost** to companies:
 - When recorded, the cost is debited, and a liability towards tax authority is credited
 - The cost and the debt arise due to the simple generation of a positive income
 - In Italy, the highest-ranking law governing taxes is Article 53 of the Constitution

Down Payment

- During the year, *down payments for taxes are required by law*:
 - The size of down payments and payment dates vary from country to country
- In Italy, down payments are usually due in 2 instalments:
 - On **June 30, 40%** of the gross tax liability of the precedent fiscal year
 - On **November 30, 60%** of gross tax liability of the precedent fiscal year

Down Payment for Taxes	Debit	Credit
Income Taxes Receivables (+A)	100	
Bank Account (-A)		100

- ➔ The *income tax receivable* is a current asset and, if no income tax payables are due at the end of the year, it may be:
- Carried forward
 - Claimed back for a refund
 - Used to offset other tax payables (e.g., VAT)

Tax Liability

- At the end of the fiscal year, after making all the necessary adjusting entry, it is possible to compute the tax expense for the period:
 - The journal entry is the last one before closing the books and preparing the financial statements
 - This is because the income tax is calculated after computing all the other positive and negative income statement items
 - If the *income before taxes* is inaccurate, also the *income taxes* will be wrong

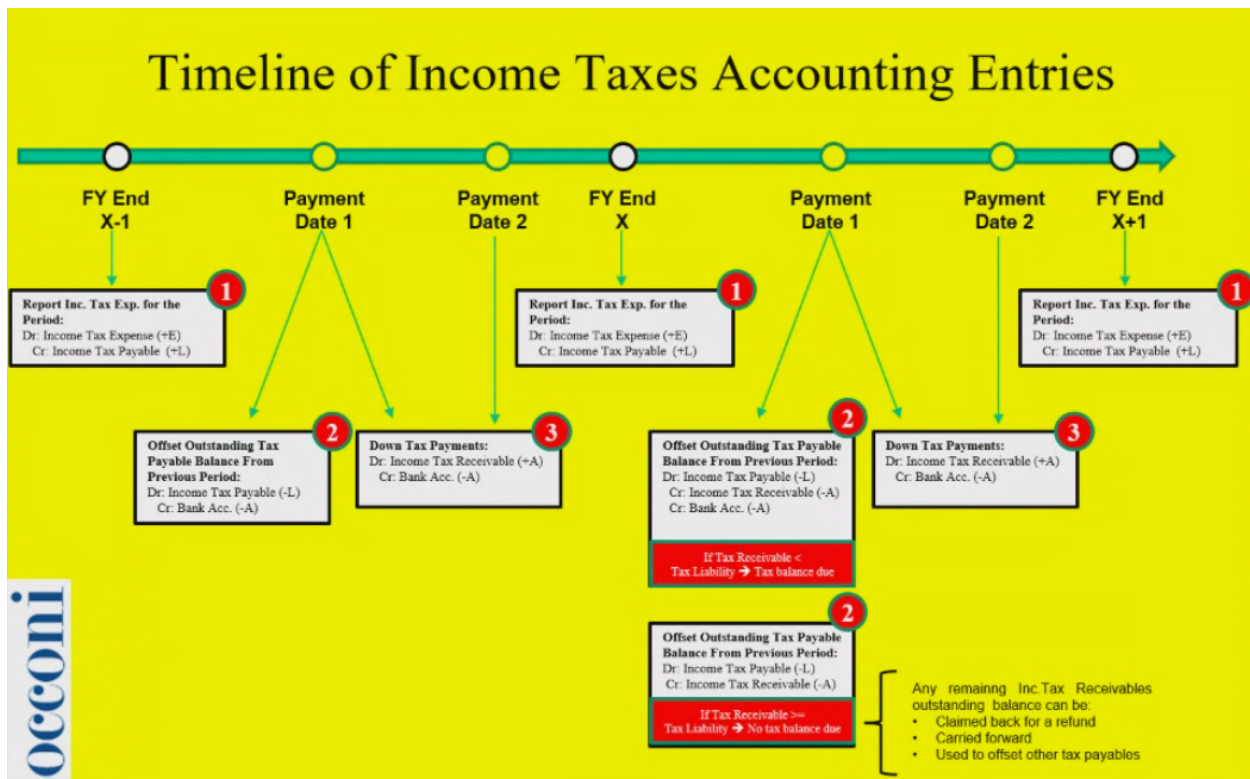
Recording the Tax Liability	Debit	Credit
Income Tax Expense (+E, -SE)	100	
Income Tax Payable (+L)		100



Offsetting the Outstanding Balance

- After closing the accounting period, in the following period the *tax liability* and the *tax receivable for down payments made* are offset:
 - If the *tax receivable* exceeds the liability, then the tax asset will be carried forward and used in the future, or asked for reimbursement
 - If instead the liability exceeds the down payment, then the outstanding balance due is paid on **June 30th** of the year, together with the first instalment of the down payment due for the year

Journal Entry to offset the outstanding balance due for the previous year	Debit	Credit
Income Taxes Payable (-L)	200	
Bank Account (-A)		100
Income Tax Receivables (-A)		100



Computation of Taxable Income

- The Accounting System, which collects and processes financial information, is based on a number of concepts, Accounting Standards, and **estimates and conjectures** which give rise to revenues and expenses that are uncertain and the result of subjective opinion
 - *Depreciation expense* is the outcome of an evaluation process
 - *Bad debt expense* requires the use of estimates

- Therefore, **Profit Before Taxes (EBT)** is the result of assumptions, subjective hypothesis, and assessments that could be manipulated, with the goal of decreasing EBT and pay less taxes
 - Furthermore, expenses may not pertain to the business but may be borne for private interest, using the company's money

- **Income Tax Laws** exist and are enforced in every country in the world in order to avoid manipulations:
 - In Italy, the main income tax is the Presidential Decree n° 917 of 1986
 - These laws state provisions aimed at excluding some revenues and expenses from the computation of income taxes

- ➔ Therefore, for Income Tax Law purposes, some revenues are exempt from taxation and some expenses are non-deductible expenses

- Hence, **Taxable Income** usually does NOT coincide with the **Income before Taxes**:
 - Taxable income is the amount to which the tax rate is applied, in order to compute the tax expense to be recorded in the financial statements
 - This means that, when calculating income taxes, one must first compute taxable income according to the rules established by the tax authority

- Even though EBT is computed according to the GAAP, and Taxable Income is computed according to the Income tax Laws, we do NOT need to use two different systems for GAAP and tax purposes:
 - The Accounting System is **unique**, and is not influenced by Income Tax Laws effects
 - In order to compute Taxable Income it is necessary, **outside and separately** from the accounting system, to *exclude non-taxable revenues and non-deductible expenses*

- ➔ A general principle of the Tax Law of each country is that a cost that is NOT inherent to the business activity *does not exist* for tax purposes and, therefore, it shall be discarded when computing Taxable Income



- Taxable income is computed as follows:
 - 1) Start from the Profit Before Taxes
 - 2) Add Back all non-deductible costs
 - 3) Subtract back all non-taxable revenues
 - 4) Once the Taxable Income is calculated, apply the tax rate to the Taxable Income to determine the Income Tax Expense and the Tax Liability

- ➔ This is done in order to achieve the same result that would have occurred if we had cancelled all the costs and revenues not recognized by tax law from the income statement

Permanent and Temporary Variations

- The variations to be made to the Profit Before Taxes in order to calculate the Taxable Income are of two types:
 - ➔ **Permanent Changes**
 - Cost or revenue that is recorded in the general journal, but the tax legislation does not recognize it neither in the financial year in which it is recorded, nor in any future year
 - In this case, for the tax authorities these revenues or expenses *do not exist*

 - ➔ **Temporary Changes**
 - Cost or Revenue that is recorded in the general journal, but the tax legislation does not recognize it in the same period in which it is registered, but *will recognize it in the future*
 - The misalignments between the accrual period for accounting purposes and the accrual period for tax purposes generate **Deferred Tax Assets** and **Deferred tax Liabilities**

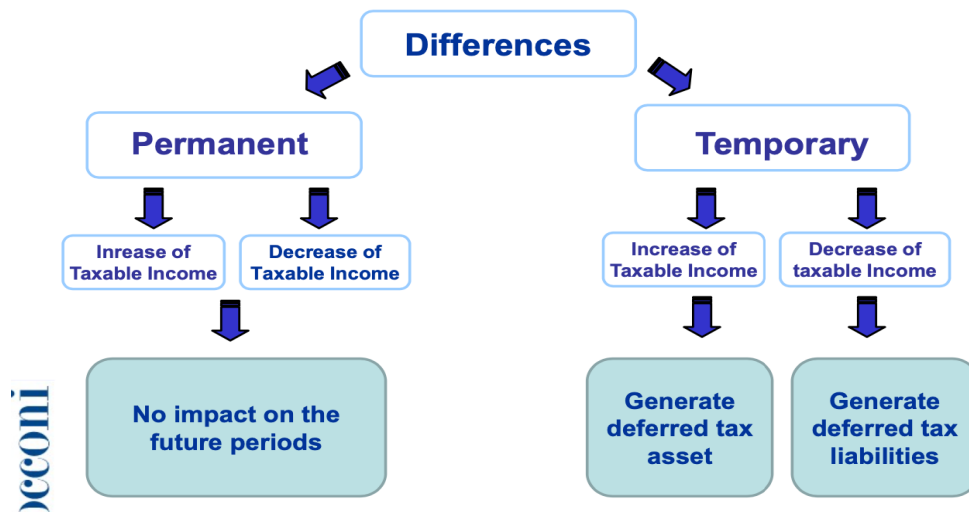
- **Deferred Tax Asset** is generated when there is a *temporary increase* in Taxable Income:
 - This is NOT a Tax Receivable
 - It is recorded as an asset in the balance sheet

- **Deferred Tax Liability** is generated when there is a *temporary decrease* of Taxable Income:
 - This is not a Tax Payable
 - It is recorded as a liability in the balance sheet, since it will require payment later in the future

- ➔ Therefore, consider that when a balance sheet is analyzed and these items are identified, they are generated by the misalignment between civil law and tax legislation



Fiscal Variations



Special Adjustments

Company vehicles used also for personal purposes	20% deductible	Permanent variation (non-deductible cost)	
Dividend received from a subsidiary	5% taxed	Permanent variation (Partially non-taxable revenue)	
Bad debt expense	0.5% of outstanding receivables can be deducted	Temporary Variation (Non-deductible Cost)	
Reversal of Bad Debt Expense (write-off)	100% of the write-off	Permanent Variation (Non-Taxable Revenues)	
Gain on disposal of asset	Only 20% is taxed	Temporary Variation (Non-Taxable Revenue)	It can be taxed either in 5 instalments or with a single payment right away
Dividends Paid to shareholders	No tax implications		
Telephone Expenses	80% deductible	Permanent Variation	
Startup Costs	100% deductible	Temporary Variation	Can be fully deducted when incurred, or deducted with 5 equal instalments



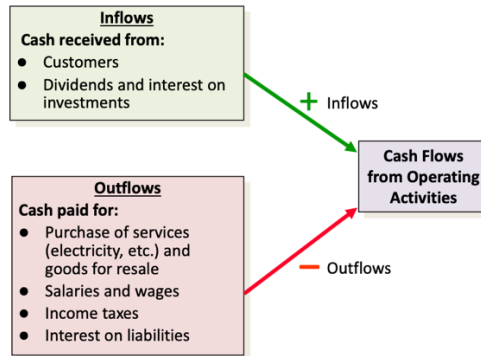
Donations	Deductible up to 1% of revenues for the year	Permanent Variation	
Losses due to impairment	Nondeductible	Temporary variation	Any loss is deductible when realized
Interest Expense	Deductible	Temporary Variation	Interest expense is deductible up to 30% of the EBITDA for the year. Any interest expense exceeding the threshold may be deducted in future years, only if the expense is not greater than 30% of EBITDA
Wages expense to the Board of Directors	100% deductible in the year in which it is actually paid	Temporary variation	
Depreciation Expense	Income tax law allows for a maximum depreciation rate of 20%	Temporary Variation	The exceeding amount will be deductible when the depreciation for accounting purposes will be lower or ended
Gains on Securities	Taxed only when realized	Temporary Variation	Changes in fair value of securities are not relevant for tax purposes
Advertising expenses	Deductible up to 1% of the revenues for the year	Permanent Variation	
Legal Proceedings (Contingent Liability)	Deductible only in the year in which the expense occurs	Temporary Variation	Expenses related to legal proceedings are deductible only in the fiscal year in which they become certain, and in the amount previously recorded
Subsidies received from the government	Exempt from taxation	Permanent variation	



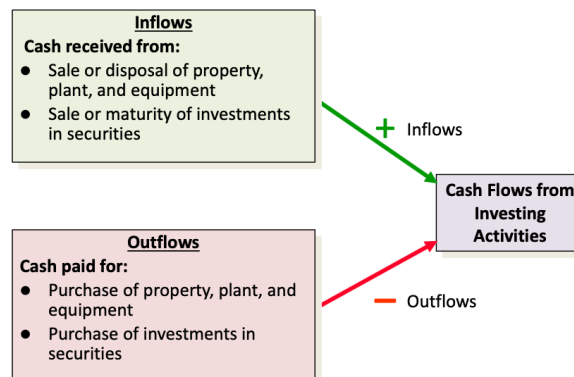
CHAPTER 12 – STATEMENT OF CASH FLOWS

- The statement of cash flows explains how the amount of cash on the balance sheet at the beginning of the period has become the amount of cash reported at the end of the period
 - The definition of cash includes *cash and cash equivalents*
- *Cash Equivalents* are short term, highly liquid investments that are both:
 - Readily convertible to known amount of cash
 - So near to maturity that there is little risk that their value will change if interest rates change
 - Generally, only investments with original maturities of three months or less qualify as a cash equivalent under this definition
- The Statement of Cash Flows reports cash inflows and outflows based on three main categories:
 - Cash Flows from Operating Activities
 - Cash Flows from Investing Activities
 - Cash Flows from Financing Activities
- ➔ These three cash flow categories explain the change in cash from the beginning balance to the ending balance on the balance sheet
- **Cash Flows from Operating Activities** are the cash inflows and outflows directly related to earnings from normal operations, and can be measured through 2 methods:
 - *Direct Method*
 - *Indirect Method*
- 1) The **direct method** is a method of presenting the operating activities section of the cash flows statement that reports components of cash flows from operating activities as gross receipts and gross payments
 - The difference between *inflows and outflows* is called the **net cash provided by (used by) operating activities**
 - FASB recommends the direct method, but only 1% of US firms use it since it is expensive to implement
- 2) The **indirect method** starts with net income statement and then eliminates noncash items to arrive at net cash flows from operating activities
- ➔ Keep in mind that the two methods are simply alternative ways to arrive at the same number
 - Indeed, the total amount of cash flows from operating activities is always the same, regardless of whether it is computed using the direct or indirect method

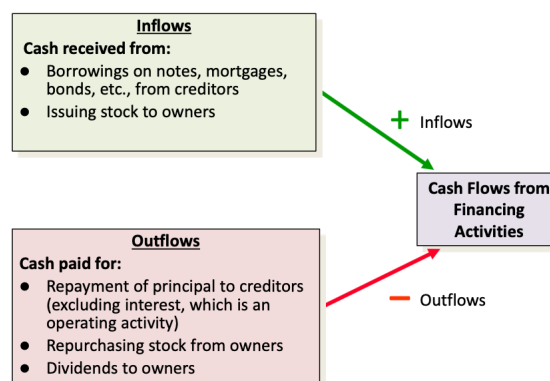




- **Cash Flows from Investing Activities** are cash inflows and outflows related to the purchase and disposal of long-lived productive assets and investments in the securities of other companies
 - The difference between these cash inflows and outflows is called **net cash provided by (used by) investing activities**



- **Cash Flows from Financing Activities** include exchanges of cash between creditors and owners



- ➔ The combination of the net cash flow from operating, investing, and financing activities must equal to the net increase (or decrease) in cash for the reporting period
- The cash flows statement is prepared by analyzing the sections of both Balance Sheet and Income Statement that relate to the three sections of the cash flows statement



- Companies must analyze the number recorded on the T-Accounts, which are recorded using the accrual method, and then adjust them to a cash basis
- ➔ In order to do so, they need the following data:
- **Comparative Balance Sheet**, used in calculating the cash flows from all activities
 - A **complete income statement**, used primarily to calculate the cash flows from operating activities
 - **Additional Details** concerning selected accounts where the total change in an account balance during the year does not reveal the underlying nature of the cash flow
- Recall that:

$$\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$$

Which can be rewritten as:

$$\text{Cash} + \text{Noncash Assets} = \text{Liabilities} + \text{Stockholders' Equity}$$

If we rearrange the equation:

$$\text{Cash} = \text{Liabilities} + \text{Stockholders' Equity} - \text{Noncash Assets}$$

Therefore, the changes in cash between the beginning and the end of the period must equal to the changes in the amounts on the right side of the equation between the beginning and the end of the period:

$$\Delta \text{Cash} = \Delta \text{Liabilities} + \Delta \text{Stockholders' Equity} - \Delta \text{Noncash Assets}$$

- ➔ Therefore, any transaction that changes cash must be accompanied by a change in liabilities, stockholders' equity, or noncash assets

Preparing the Statement of Cash Flows

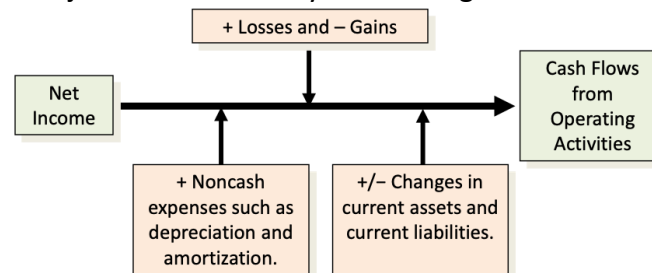
- The first step is to calculate the change in the balance of each account by subtracting from this year's ending balance the beginning balance
- Then, each change is classified as operating (O), financing (F), or investing (I) activity
- The balance sheet accounts related to **earning income** (operating items) should be marked with an O, they are often called operating assets and liabilities, and they include:
- Most current assets, other than short-term investments, which relate to short-term investing activities, and cash
 - Most current liabilities, other than amounts owed to investors and financial institutions, all of which relate to financing activities
 - Retained earnings, because they increase by the amount of net income, which is the starting point of the operating section



- However, notice that retained earnings also decrease by dividends declared and paid, which are however financing activities (F)
- The balance sheet accounts related to **investing activities** should be marked with an I, and these include all the remaining assets on the balance sheet, such as:
 - Short-Term Investments
 - Net Property, Plant, and Equipment
- The balance sheet accounts related to **financing activities** should be marked with an F, and these include all the remaining liability and stockholders' equity accounts on the balance sheet, such as:
 - Long-Term Debt
 - Common Stock and Additional Paid-In Capital
 - Retained Earnings decreases resulting from dividend payments

Reporting and Interpreting Cash Flows from Operating Activities

- The indirect method adjusts net income by eliminating all noncash items

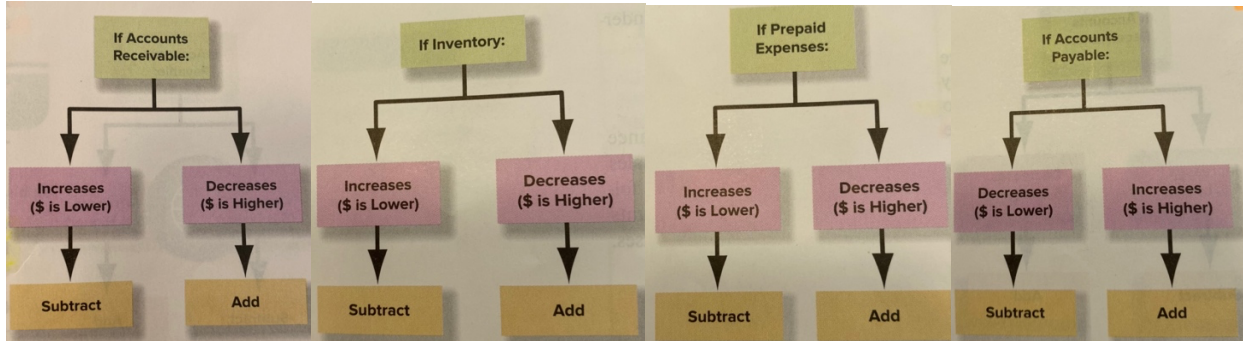


- The first step for the adjustment procedure is to adjust net income for depreciation and amortization expense and gains and losses on sale of investing assets such as property, plant, and equipment and investments
 - Since depreciation is not a cash outflow and it is subtracted when calculating net income, we always add it back to convert net income to cash flow from operating activities
 - The cash received from the sale of PPE and investments are classified as investing cash flows, therefore, to avoid double counting, we subtract gains and add back losses to convert net income to cash flow from operating activities
- The second step is to adjust net income for changes in assets and liabilities marked as operating (O)
 - Each change in operating assets and liabilities causes a difference between net income and cash flow from operating activities
 - **Add the change when an operating asset decreases, or an operating liability increases**
 - **Subtract the change when an operating asset increases, on an operating liability decrease**



Δ Operating Cash

$$= \text{Net Income} + \text{Depreciation} - \text{Gains on Sale of Assets} \\ + \text{Loss on Sale of Assets} - \Delta \text{ Current Operating Assets} \\ + \Delta \text{ Current Operating Liabilities}$$



- US GAAP and IFRS differ in the cash flow statement treatment of interest received and interest paid:

	Interest Received	Interest Paid
U.S. GAAP	Operating	Operating
IFRS	Operating or Investing	Operating or Financing

- US GAAP treats Interest Received and Paid as Operating Cash Flows
- IFRS allows to treat Interest Received and Paid as both Operating or Financing Cash flows

	Interests	Dividends
Received	Operating	Operating
Paid	Operating	Financing

- The operating activity section focuses on the firm's ability to generate cash internally through operations and its management of operating assets and liabilities (**operating working capital**)
 - This is the most important section of the statement because, in the long run, operations are the only source of cash
 - A common rule of thumb followed by financial and credit analysts is to avoid firms with rising net income but falling cash flows from operations
 - Indeed, rapidly rising inventories or receivables often predict a slump in profits and the need for external financing



Reporting and Interpreting Cash Flows from Investing Activities

- This section of the cash flow requires an analysis to the account related to:
 - Property, Plant, and Equipment
 - Intangible Assets
 - Investments in the securities of other companies

- Usually, the relevant balance sheet accounts include Short-Term Investments and long-term asset accounts such as Long-Term Investments and PPE

Related Balance Sheet Account(s)	Investing Activity	Cash Flow Effect
Property, plant, and equipment and intangible assets (patents, etc.)	Purchase of property, plant, and equipment or intangible assets for cash	Outflow
	Sale of property, plant, and equipment or intangible assets for cash	Inflow
Short- or long-term investments (stocks and bonds of other companies)	Purchase of investment securities for cash	Outflow
	Sale (maturity) of investment securities for cash	Inflow

- Keep in mind that:
 - Only purchases paid for with cash or cash equivalents are included
 - The amount of cash that is received from the sale of assets is included, regardless of whether the assets are sold at a gain or a loss

Δ Investing Cash

$$= \text{Asset sold} + \text{Gain on sale of asset} - \text{Asset bought} - \text{Loss on sale of asset} - \text{Purchases}$$

- Purchases are cash outflows for the purchase of Investments
- (Asset Sold + Gains on Investment Sale) refers to the cash inflow if an asset is sold at more than the book value
- (Asset Sold – Loss on sale of Asset) refers to the cash inflow if an asset is sold at less than the book value

Reporting and Interpreting Cash Flows from Financing Activities

- Financing activities are associated with generating capital from creditors and owners, therefore this section of the Cash Flow Statement reports:
 - Changes in the Notes Payable to Financial Institution account
 - Changes in Current Maturities of Long-Term Debt
 - Changes in Long-Term liabilities and stockholders' equity accounts



➔ These balance sheet accounts relate to the issuance and retirement of debt and stock, and to the payment of dividends

➤ **NB**

- Cash payments of principal are cash flows from financing activities
- Interest Payments are cash flows from operating activities
- Dividend Payments are cash flows from financing activities, but dividends received are Cash Flows from Operating Activities
- If debt or stock is issued for other than cash, it is not included in the Statement of Cash Flows

Δ Financing Cash

$$= \Delta \text{ Financial Liabilities} + \Delta \text{ Common Stock} \\ + \Delta \text{ Additional Paid in Capital} - \text{Dividends}$$

- An increase in Financial Liabilities is associated to a cash inflow, while a decrease to a cash outflow
- When Common Stock and Additional Paid-In Capital Increase, the firm is issuing new stocks and therefore the cash flow must be positive
 - If however, the firm is purchasing Treasury Stock, the cash flow effect will be negative
- The Cash Flows from Financing Activities are fundamental because it indicates the financing sources that management uses to fund growth:
 - The financing choice of a firm will have an important effect on the firm's risk and return characteristics

Completing the Statement and Additional Disclosures

- When the net increase or decrease in cash and cash equivalents is added to the cash and cash equivalents taken from the beginning-of-period amount on the balance sheet, it equals the end-of-period cash
- However, firms must also provide 2 other disclosures related to the cash flow statement:
 - **Noncash Investing and Financing Activities**, such as the purchase of a mortgage given by the former owner
 - **Cash paid for interest and income taxes**, for companies that use the indirect method
 - ➔ This is because interest and income taxes are not explicitly accounted for in the statement of cash flows, because the indirect method starts from net income



CHAPTER 13 – FINANCIAL STATEMENT ANALYSIS

The Investment Decision

- Investors are the largest group of people who use financial statements
 - Indeed, published financial statements are designed primarily to meet the needs of external decision
 - External Decisions Makers include Investment Analysts, current and potential Owners, and Creditors

- In considering an investment in stock, investors should evaluate the company's future income and growth potential based on three factors:
 - 1) *Economy-wide Factors*
 - The overall health of the economy has a direct impact on the performance of an individual company
 - Investors should consider data such as the unemployment rate, general inflation rate, and changes in interest rates

 - 2) *Industry Factors*
 - Certain events can have a major impact on each company within an industry, but only a minor impact on other companies outside the industry

 - 3) *Individual Company Factors*
 - To properly analyze a company, good analysts do not only rely on information reported in the company's financial statements
 - Sometimes, they visit the company, buy its products, and read about it in the business press

- ➔ Besides considering these factors, investors should understand the company's business strategy when evaluating its financial statements, since it directly affects its financial accounts

Understanding a company's strategy

- While financial statements reflect transactions, each of those transactions is the result of a company's operating decisions, as it implements its business strategy:



- Businesses can earn a high rate of return by following mainly two different business strategies:
 - 1) **Product Differentiation Strategy**



- Under this strategy, companies offer products with unique benefits, such as high quality or unusual features
- These unique benefits allow companies to charge higher prices
- Such companies are usually characterized by higher profit margins but lower inventory turnover

2) **Cost Differentiation Strategy**

- Under this strategy, companies try to operate more efficiently than their competitors
- This permits to offer lower prices to attract their customers
- Such companies are usually characterized by lower profit margins but higher inventory turnover

➔ To evaluate how well a company is performing, investors must know what managers are trying to do

- They can do so by reading the company's annual report, or articles in the business press
- By understanding what managers are trying to accomplish, investors can better evaluate their progress in meeting goals

Financial Statement Formats

➤ When we talk about different formats of financial statements, we mean different ways to arrange the items inside the balance sheet and income statement:

- Preparing the financial statements according to different formats helps the user to determine meaningful ratios to understand the performance and soundness of the business entity
- Preparing financial statement formats is sometimes called *reformulation of financial statements*

➔ Note that there is **no rule** regulating how to prepare financial statement formats:

- If you look at different handbooks on financial statements, you can find different formats, labels, or even the same label with different meaning
- What matters is **consistency** in the definitions used and a clear understanding of what is behind each of them

Balance Sheet Format

➤ In this format:

- Assets are classified according to their liquidity
- Liabilities are classified according to their maturity



<u>Assets</u>	<u>Liabilities</u>
<p>SHORT-TERM (or CURRENT) ASSETS: expected to be converted to cash, sold or consumed during the next 12 months</p> <ul style="list-style-type: none"> •Cash and cash equivalents •Short-term investments •Accounts receivable <i>(net of bad debts allowance)</i> •Inventories •Other short-t assets <p>LONG-TERM (or NON-CURRENT) ASSETS: assets that are not short-term</p> <ul style="list-style-type: none"> • Tangible assets <i>(net of accumulated depreciation)</i> •Intangible assets <i>(net of amortization)</i> • Long-term Investments • Other long-t assets 	<p>SHORT-TERM (or CURRENT) LIABILITIES: debts due within one year</p> <ul style="list-style-type: none"> •Accounts payable •Short term portion of loans; •Bank overdraft; •Tax payable; •Other short-term liabilities <p>LONG-TERM (or NON-CURRENT) LIABILITIES: debts which are not classified as short-term</p> <ul style="list-style-type: none"> •Loans payable •Bonds payable •Long term notes payable •Other long term liabilities <p>SHAREHOLDERS' EQUITY</p> <ul style="list-style-type: none"> • Common Stock • Additional paid-in capital • Reserves • Earnings

Income Statement Format

- The income statement format for Financial Statement Analysis purposes can assume different formats:
 - Formats will depend on specific needs of the analysis and the stakeholders carrying out the analysis
 - For the Income Statement, most of the formats required by the standards are a good starting point for making the Financial Statement Analysis, with no need of changing them
 - US GAAP and IFRS report most of the necessary information used for carrying out the analysis

Net sales
(Cost of goods sold, except for depreciation and amortization)

Gross profit
Other operating revenues
(SG&A expenses, except for depreciation and amortization)

EBITDA (Earnings before interests, taxes, depreciation and amortization)
Depreciation and amortization expense

EBIT (Earnings before interests and taxes)
Interest & financial revenues
(Interest expense and financial charges)

Income before Taxes
(Tax expense)

Net Income

- **Net Sales** is always the first item in a multiple step income statement, and it consists of total sales net of returns and allowances
- **Cost of Goods Sold** is always reported in a more detailed way, such as:
 - For *merchandising companies*
Purchases \mp Δ inventory
 - For *manufacturing companies*



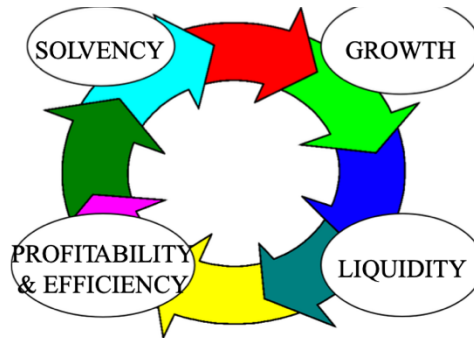
Production Costs \mp Δ inventory

- **Gross Profit (or Gross Margin)** gives an idea of how profitable the core of the business activity is
 - The profitability at this level must be able to cover all the other expenses the company has to bear
- **Other Operating Revenues** include other revenues arising from the operating activity, such as rentals or license fees
- **General and Administrative Expenses** typically include:
 - Administrative staff salaries and bonuses, and related costs, such as social security and pension costs
 - Directors' executive salaries and related costs
 - Costs related to fixed assets used in the ordinary activity, such as depreciation and maintenance of buildings
 - Research costs
 - Professional fees
- **Selling Expenses** typically include:
 - Sales salaries, commissions and bonuses, and related costs
 - Advertising and promotion costs
 - Warehousing costs
 - Transportation costs
 - Costs related to fixed assets used in the selling activity, including depreciation and maintenance costs
- **EBITDA** is the operating income without considering depreciation and amortization expense
- **Operating income (EBIT)** is equal to EBITDA minus depreciation and amortization expenses for long-lived assets:
 - It is a fundamental piece of information because it shows how profitable is the core activity of the company, apart from the way such activity is financed
 - EBIT tends to be stable over time if no change in the strategy of the company takes place
 - If EBIT is negative or too low, a restructuring process is probably needed

Financial Statement Analysis

- The main purpose of Financial Statement Analysis is the assessment of the performance and the soundness of the firm, according to four main dimensions:





- Financial results, however, are useless in isolation:
 - In order to properly analyze the information reported in financial statements, investors must develop appropriate comparisons
- ➔ There are two general methods for making financial comparisons using ratios:
 - 1) **Comparing across time (horizontal or line-by-line analysis)**
 - This type of analysis is referred to as *time-series analysis*
 - The accounts of a single company are compared with those of previous periods
 - This approach provides, over a number of years, a trend of changes, decline or growth
 - 2) **Comparing across companies (vertical analysis)**
 - This type of analysis is referred to as *cross-sectional analysis*
 - The information for multiple companies is compared at a point in time, typically of key-competitors or the industry average
 - Since financial results are often affected by economy-wide factors, comparing a company with other companies in the same line of business is useful to gain insights on a company's performance
 - The main issue with this approach is that finding good comparables is often difficult
- ➔ Using this approach, we rely on **Component Percentages**:
 - Each item in the income statement or balance sheet is expressed as a percentage of a single base amount
 - **Net Sales** on the income statement
 - **Total Assets** on the balance sheet
 - The approach provides evidence of structural changes in the accounts
 - An example can be increased profitability due to more efficient production, or borrowing to finance a new investment

Financial Ratios

- Ratio analysis has some issues and limits:



- 1) *Lack of uniformity in accounts preparation*
 - Use of different accounting policies
 - Differences in estimates
 - Use of historical cost in periods of rapidly changing prices makes the ratio comparison of doubtful value
- 2) *Diversified companies and multinationals*
 - They operate in different industries with different degrees of risks and expected profitability
 - Calculation on aggregated figures is of limited use
 - The best scenario is performing calculations on segment information
 - The issue of allocating costs common to all segment is still retained
- 3) *Lack of conceptual foundation*
 - Ratio analysis is used in practice
 - A lot of time is spent in calculation and comparison

Groups of Financial ratios

- 1) *Profitability and Performance*
 - Management's ability to control expenses and to earn a return on the resources committed to the business
 - Focus on the overall ability of a company in generating profits and cash from a given investment base
- 2) *Efficiency and effectiveness*
 - Ratios that concentrate on the performance of the management of a company in terms of specific resources, such as inventories, debtors, or employees
- 3) *Liquidity and Stability*
 - Liquidity ratios describe the ability of a firm to meet its current obligations
 - A second meaning includes the concept of converting the asset into cash with little or no loss in value
- 4) *Capital Structure*
 - Debt allows for the generation of profits with the use of other people's money, but creates claims on earnings with higher priority
 - *Financial Leverage* is the magnification of risk and return resulting from the use of fixed-cost financing such as debt and preferred stock



Profitability ratios

$ROE = \frac{\text{Net Income}}{\text{Average Total Stockholders' Equity}}$	<p>Measures the income earned on the shareholder's investment in the business</p> <p>It is a measure of the efficiency of the company in earning profits on behalf of its ordinary shareholders</p>
$ROA = \frac{\text{Net Income}}{\text{Average Total Assets}}$	<p>Measures how much the firm earned for each dollar of investment in assets</p> <p>It is the broadcast measure of profitability and management effectiveness, independent of financing strategy</p> <p><i>Ceteris Paribus</i>, firms with higher levels of ROA are doing better</p>
$\text{Gross Profit Percentage} = \frac{\text{Gross Profit}}{\text{Net Sales}}$	<p>Measures a company's ability to charge premium prices and produce goods and services at low cost</p> <p><i>Ceteris Paribus</i>, a higher gross profit margin results in higher net income</p>
$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Net Sales Revenue}}$	<p>Measures how much of every sales dollar generated during the period becomes profit</p> <p>The higher the Net Profit Margin, the more efficient the management of sales and expenses is</p>
$EPS = \frac{\text{Net Income}}{\text{Weighted Average Number of Common Shares outstanding}}$	<p>The ratio emphasized the amount of earnings attributable to a single share of outstanding common stock</p> <p>It can be calculated as a base EPS or diluted EPS (*)</p> <p>It can be misleading when comparing firms because of different number of shares issued</p> <p>It is the only ratio required by US GAAP</p>
$\text{Quality of Income} = \frac{\text{Cash Flow from Operating Activities}}{\text{Net Income}}$	<p>Focuses on the ability of a firm to generate cash</p> <p>Shows the proportion of net income that was generated in cash</p>



	A ratio greater than 1 indicates high quality income because each dollar of income is supported by one or more dollars of cash flow
--	---

NB (*)

Diluted EPS puts as denominator the number of shares that could be outstanding if managers exercised their stock options, or debtholders converted their debt into stocks

The DuPont Model

- The DuPont model is used by financial analysts to better assess how a company is implementing its business strategy:
 - ROA can be broken down as:

$$ROA = \text{Net Profit Margin} \times \text{Total Asset Turnover} =$$

$$ROA = \frac{\text{Net Income}}{\text{Average Total Assets}} = \frac{\text{Net Income}}{\text{Net Sales Revenue}} \times \frac{\text{Net Sales Revenue}}{\text{Average Total Assets}}$$

- ➔ Breaking down ROA into its two components allows to more fully understand what underlies the company performance, and better assess whether a company is effectively implementing its business strategy
 - When financial leverage is added to the model, the breakdown of ROE is commonly referred to as the DuPont model:

$$ROE = \text{Net Profit Margin} \times \text{Total Asset Turnover} \times \text{Financial Leverage}$$

$$\rightarrow \frac{\text{Net Income}}{\text{Average Total Stockholders' Equity}}$$

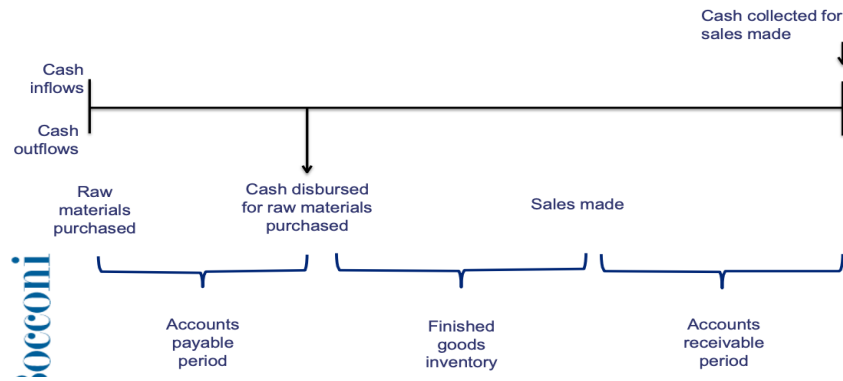
$$= \frac{\text{Net Income}}{\text{Net Sales Revenue}} \times \frac{\text{Net Sales Revenue}}{\text{Average Total Assets}} \times \frac{\text{Average Total Assets}}{\text{Average Total Stockholders' Equity}}$$

- ➔ Financial leverage reflects the extent to which a company uses its liabilities to leverage up its return to stockholders

Asset Turnover Ratios

- Asset Turnover Ratios focus on capturing how efficiently a company uses its assets:
 - Indeed, it is critical for a firm to manage its payables, inventories, and receivables





Asset Turnover Ratios

$\text{Inventory Turnover Ratio} = \frac{\text{COGS}}{\text{Average Inventory}}$	<p>Reflects how many times average inventory was produced and sold during the period</p> <p>A higher ratio means that inventory moves quickly through the production process to the ultimate customer, reducing storage and obsolescence costs</p>
$\text{Average Inventory Days} = \frac{365}{\text{Inventory Turnover Ratio}}$	<p>Indicates the average time it takes the company to produce and deliver inventory to customers</p> <p>The higher the index, the less efficient is the production process</p>
$\text{Total Asset Turnover} = \frac{\text{Net Sales Revenue}}{\text{Average Total Assets}}$	<p>Captures how well the company uses its assets to generate revenue</p> <p>The higher it is, the more efficient the total asset usage</p>
$\text{Fixed Asset Turnover} = \frac{\text{Net Sales Revenue}}{\text{Average Net Fixed Assets}}$	<p>Captures how well the company uses its fixed assets to generate revenues</p> <p>The higher the ratio, the more efficient the assets usage is</p>
$\text{Receivables Turnover} = \frac{\text{Net Credit Sales}}{\text{Average Net Receivables}}$	<p>Shows how many times in a year the company collects its accounts receivables</p> <p>The higher the ratio, the faster the collection of receivables</p>



	<p>A higher ratio benefits the company because it can invest the money collected to earn interest income or reduce borrowings to reduce interest expenses</p> <p>Sometimes, when Net Credit Sales are not specified, Net Sales is used as an approximation</p>
$\text{Average Receivables Days} = \frac{365}{\text{Receivables Turnover}}$	<p>Indicates the average time it takes receivables to convert in cash</p> <p>The higher it is, the greater the time needed to collect cash</p>
$\text{Accounts Payable Turnover} = \frac{\text{COGS}}{\text{Average Accounts Payable}}$	<p>Shows how many times in a year the company pays its suppliers</p> <p>A higher ratio normally suggests that the company is paying its suppliers in timely manner</p>
$\text{Avg Payables Days} = \frac{365}{\text{Accounts Payable Turnover}}$	<p>Indicates the average time it takes payables to be paid in cash</p> <p>The higher it is, the greater the time the company takes to pay back its accounts payable</p>

➤ *Inventory Account*

- A firm's efficiency increases when the account is low
- The higher the inventory turnover, the higher the efficiency of the firm
- However, a too high inventory turnover may cause a potential sale loss due to lack of readily available products

➤ *Receivables Account*

- A firm's efficiency increases if the account is low
- The higher the receivables turnover ratio, the higher the efficiency of the firm
- However, a too high receivables turnover may cause the loss of customers due to stringent credit policies



➤ *Accounts Payable*

- A firm's efficiency increases when the account is high, since the firm is able to delay cash outflows
- The lower the accounts payable turnover, the higher the efficiency of the firm
- However, issues may come up if the implicit interest rates on payables may be higher than interest rates on financial liabilities

Liquidity ratios

$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$	<p>A ratio smaller than one generally gives concerns because liquid resources are insufficient to pay short term liabilities</p> <p>The ratio should be between 1 and 2</p>
$\text{Quick ratio} = \frac{\text{Cash} + \text{Net Acc. Receivable} + \text{Marketable Sec.}}{\text{Current Liabilities}}$	<p>Since the current ratio is often criticized because inventory is not always readily convertible in cash, the quick ratio provides a stricter test of liquidity</p> <p>It should not fall below 1, otherwise the firm might be insolvent</p> <p>It is important to know the extent to which unused loans and overdrafts are available</p>
$\text{Cash ratio} = \frac{\text{Cash and Cash Equivalents}}{\text{Current Liabilities}}$	<p>It is a more restrictive test of liquidity</p> <p>Measures how well a company can pay off its current liabilities using only cash and cash equivalents</p>

Solvency Ratios

$\text{Cash Coverage Ratio} = \frac{\text{Cash Flow from Operating Activities}}{\text{Interest Paid}}$	<p>It states the number of times the cash flows from operations cover the interest payments to lenders</p>
$\text{Time interest earned ratio} = \frac{\text{Net income} + \text{Int. Expense} + \text{Income Tax. Exp}}{\text{Interest Expense}}$	<p>It gives the relation between interest obligation and profit available to pay for it</p> <p>It is a margin of protection for creditors</p>
	<p>It expresses the company's debt as a proportion of its stockholder's equity</p>



$\text{Debt to Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Total Equity}}$	<p>A high ratio indicates that a company relies heavily on debt financing relative to equity financing</p> <p>Heavy reliance on debt financing increases the risk that a company may not be able to meet contractual financial obligations</p>
--	--

Market ratios

$\text{PE ratio} = \frac{\text{Market Price per share}}{\text{EPS}}$	<p>Measures the relationship between current market price and Earnings per Share</p> <p>Market price reflects the expectations of the market for future earnings</p> <p>It is based on future subjective expectations, not on actual past figures</p>
$\text{Dividend yield ratio} = \frac{\text{Dividends per Share}}{\text{Market Price per share}}$	<p>Measures how much a company pays out in dividends relative to the share price</p> <p>Reflects the return on investment absent any capital appreciation</p> <p>→ This means that the return is solely attributed to the dividends a company pays</p>
$\text{Price to Book ratio} = \frac{\text{Market Capitalization}}{\text{Total Assets} - \text{Total Liab}}$	<p>The ratio is used to compare a stock's market value to its book value</p> <p>It is computed by dividing the current closing price of the stock by the latest quarter's book value per share</p> <p>A lower P/B ratio could mean that the stock is undervalued, however, it could also mean that something is fundamentally wrong with the company</p> <p>The P/B ratio varies widely among industries</p>

- On average, the Price-to-Book ratio for big tech companies is higher than for building companies:
 - The reason is that tech companies have higher intangibles and patents that are not counted in the book value



- Therefore, given similar book values, the market value will be higher

CONSOLIDATION

- When firms grow, they may start to expand either horizontally or vertically
 - In doing so, they can either grow internally or externally
 - When firms grow externally, they do so by *acquiring other firms*
 - When a firm acquires another firm, we call it a *business combination*
- **Business Combination** happens when a company achieves control of another company through shareholders rights:
 - This process is also known as *mergers and acquisitions*, and consists in buying shares of another firm
- A **merger** happens when a company **buys** another target company by acquiring its shares:
 - In this case, the Target operations are incorporated into the acquirer
 - The Target will not exist as itself anymore
- An **acquisition** happens when a company **buys** another Target company by acquiring its shares:
 - However, in this case, the Target company continues to exist as a separate entity and keeps its own assets and own liabilities
- In terms of accounting process, anytime a firm **acquires another one**, accounting for mergers and acquisitions is identical, with only one difference:
 - If there is a *Merger*, the accounting process will take place only once
 - If there is an *Acquisition*, the accounting process will happen at the end of each accounting period as the Target continues to exist
- Nowadays, almost all Publicly listed companies are organized as Business Groups:
 - The structure of the group is mostly a function of its size
 - Therefore, most of the firms report *Consolidated Statements*

Consolidation and Control

- Consolidation issues arise when one company **controls** another company by acquiring its shares, but the latter continues to exist as a separate entity and to keep its own assets and liabilities:
 - Hence, we start to talk about **consolidation** after a company acquires more than 50% of the outstanding shares of a Target firm
 - From an accounting point of view, this is the case in which we have a group of companies, and we have to prepare *consolidated financial statements*



- **IFRS 10** assume that control exists and consolidation it required when the investors:
 - Possesses power over the investee
 - Has exposure to variable returns from its involvement with the investee
 - Has the ability to use its power over the investee to affect its returns
- ➔ If all of these three conditions are satisfied, we face a situation of **control**
 - This means that the acquirer has the power to govern the operating and financial policies of an entity, so as to obtain benefits from its activities
- Consolidated statements combine the balance sheet, income statement, and other financial statements of the holding with those of the subsidiaries into an overall set of statements as if the **parents and its subsidiaries were a single entity**
 - This means that assets, liabilities, revenues, and expenses of each subsidiary are added to the parent's accounts, as if the parents had directly acquired the assets and liabilities of the subsidiary instead of investing in its shares
- ➔ Therefore, the consolidated process consists in:
 - Combining the companies' financial statements
 - Making the statements consistent with each other, and in eliminating all those items that would not be there if the activities were actually performed by the parent company only, thus *avoiding double counting*

Useful terminology

- **Parent** is an entity with one or more subsidiaries
- **Subsidiary** is an entity, including an unincorporated entity such as a partnership, that is controlled by an entity (parent)
- **Group** is a parent with all of its subsidiaries
- **Non-controlling (minority) interest** is the equity in a subsidiary not attributable, directly or indirectly, to a parent
- **Separate financial statements (Stand Alone)** are those statements presented by companies as single legal entities
- **Consolidated financial statements** are the financial statements representing the group as a unique economic entity

Consolidation Methods

- The consolidation method must be applied when there is a combination of entities or businesses obtaining control of the acquiree
 - The consolidation method takes into account the **fair value** of the acquired assets and liabilities, even those not recorded yet
 - The acquiring company will account in its financial statements all the target's assets and liabilities, identified at **100% of their fair value**, regardless of the shares held by the parent, and considering the *deferred tax effect*



- From an accounting standpoint, the acquiring company must also recognize in its statements the consolidation difference:
 - If the difference between the purchase price and the fair market value of the target's net assets is positive, it must report a corresponding **goodwill**, otherwise it will report a **badwill**

- Accounting for consolidation is addressed by IFRS 3 (*Accounting for Business Combinations*):
 - **Consolidation** can be carried out using different approaches
 - These methods differ with reference to the value given to **non-controlling shareholders** in the Consolidated Statements

- ➔ Under **IFRS**, 2 methods are applied:
 - **Acquisition Method**
 - **Full Goodwill Approach**
 } These two methods differ in the non-controlling shareholders that is generated by the identified Goodwill

- **Fair Value** is defined as the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties, in an arm's length transaction:
 - If the paid price exceeds the total fair value, the transaction generates a **goodwill asset** to be impaired each year
 - If the paid price is lower than total fair value, the transaction generates a **badwill asset** to be allocated to the Income Statement each year

- **Goodwill** will be recorded:
 - In **full**, according to the *Full Goodwill Approach*
 - Only for the **part** acquired by the **parent** company, according to the *Acquisition Method*

- ➔ Keep in mind that **no tax effect is recorded** on goodwill

Consolidation Process

1. *Pre-Consolidation Process*

- During this phase, the individual companies' financial statements are collected, and they must be made uniform according to:
 - Accounting Period
 - Accounting Policies
 - Reporting Currency
 - Layout

- ➔ The process of making the financial statements uniform is called the **pre-consolidation adjustments** phase, and is fundamental in order to guarantee the uniformity of all statements to be aggregated with regard to:



- Schemes and contents of the financial statements
 - ➔ All formats must be aligned before starting the consolidation process
 - Reporting Currency
 - ➔ Since financial statements must be accounted for in the same currency, the income statement will be reported using the **average exchange rate** of the fiscal year, while the balance sheet will be reported using the **exchange rate at the closing date**
 - ➔ Differences in the exchange rates will generate a *currency exchange difference* to be reported in the Equity
 - Closing Dates of the statements
 - ➔ In the case of differences in closing dates, firms may use a financial statement with a different closing date as long as the difference does not exceed 3-months
 - ➔ If the closing dates differ by more than 3-months, they must prepare *ad-hoc* financial statements
 - *Accounting principles and policies adopted*
- As a last step in the **pre-consolidation process**, similar items are combined in order to create an **aggregate situation**

2. **Investment write-off, Goodwill Calculation, and Non-Controlling Interests**

Investment Write-Off

- The **carrying value** of the investment is the *net fair value* of all assets and liabilities of the subsidiary acquired by the parent company at the acquisition date:
- After aggregating line by line the balances of the target with the one of the acquirer, the investment in the subsidiary must be eliminated
 - Indeed, the value of the investment in the investee reported by the acquirer represents the summary of the values of individual assets and liabilities of the target
- Steps to be followed:
- Reversal of the value of the investment
 - Write-off of subsidiary book value equity at acquisition date
 - Recognition of Surplus/Minus values at acquisition date
 - Recognition of goodwill or badwill



➤ *Example:*

An easy *Example* to clarify intuitively...

- Let's assume we are Firm A and we acquire 100% of shares of Firm B.
- B has PPE that we need and to make it simple, we assume that the value in the Balance sheet of such assets is equal to the book value.

Cash	200	Liabilities	300
Assets	300	Equity	200

Before the Acquisition

PPE	100	Liabilities	0
		Equity	100

Cash	100	Liabilities	300
Assets	300	Equity	200
Investments in B	100		

PPE	100	Liabilities	0
		Equity	100

After the Acquisition

Cash	100	Liabilities	300
Assets	300		
PPE	100		
Investments in B	100	Equity	200

Consolidated Statements

Goodwill Calculation

➤ The **purchase price allocation** is the process through which we determine:

- The fair values of the assets and liabilities of the acquiree
- The Goodwill

➔ Furthermore, it functions as starting point to determine the non-controlling interests

Goodwill or Badwill =

+ Purchase price paid

– Book value of the subsidiary's equity (on a pro rata basis)

∓ Change in assets' and liabilities' values of subsidiary (on a pro rata basis)

∓ Tax effects on those changes

- Notice that the **subsidiary's equity value** to use the one at the **acquisition date**

Computation of Non-controlling interests



- Both with the **Acquisition Method** and the **Full Goodwill approach**, subsidiaries are consolidated at 100% and Assets and Liabilities are accounted for at Fair value:
 - However, if the parent firm does NOT own 100% of the shares of the subsidiary consolidated financial statements, it will need to account for **third parties' ownerships' values**
 - Such values are to be identified *separately* as **non-controlling interests**

- The amount of **non-controlling interests** will be different under the Acquisition Method and the Full Goodwill approach:
 - Under the **Acquisition Method**, the amount of non-controlling interests reported will be the fair value of the non-controlling interest percentage.
 - ➔ Hence, **no Goodwill** will be given to the non-controlling shareholders

 - Under the **Full Goodwill Approach**, the amount of non-controlling interests will be the percentage of the Enterprise Value that belongs to non-controlling interests, including the Goodwill

3. **Depreciation and Amortization of any plus/minus value**

- Positive and negative surpluses on assets and liabilities follow the same treatment of the assets and liabilities they refer to, therefore:
 - If they relate to depreciable assets, the surpluses are amortized over the residual life of the assets to which they relate
 - If they relate to non-depreciable assets, the surpluses may, together with the assets to which they relate to, be subjected to impairment testing according to IAS 36
 - Goodwill should be tested for impairment every year

Pre-consolidation adjustments for different accounting policies

- In order to prepare a consolidated financial statement, it is necessary to add together the balance sheets and income statements of the parent company and all of its subsidiaries:
 - In order to do so, financial statements must be prepared using **uniform accounting policies** (➔ *Harmonization of pre-consolidation phase*)

- The uniformity of accounting policies may be obtained in different ways, but 3 main scenarios are likely to occur:
 - 1) Subsidiaries adopt *ex-ante* in their financial statements the same accounting policies used by the parent company:
 - This means that the subsidiaries start to adopt the parent accounting policy during the consolidation process



- They can do so only if the parent company accounting standards are compliant with local regulation
- 2) Subsidiaries provide financial statements with the necessary adjustments for the consolidation process:
- At a local level, subsidiaries prepare **stand-alone** financial statements as required by local rules
 - Then, subsidiaries also prepare an **additional *ad-hoc* reporting** to send to the parent company for consolidation purposes only
- 3) Harmonization is managed at a parent level only:
- This implies that adjustments-changes are prepared at a corporate level only, during the consolidation process
- The logic to adjust and **harmonize accounting principles and valuation criteria** is:
- Identify the accounting that the subsidiary has actually made (**Effective Accounting**)
 - Identify the accounting that the company would have made to adopt principles and policies consistent with those followed by the **group (Proper Accounting)**
- ➔ According to the differences between the *correct* and *effective* accounting, identify the **Adjustments to Consolidated Financial Statements**
- 4. Consolidation Adjustments**
- Consolidation Adjustments consist in the elimination of any intra-company transaction:
- Intercompany receivables and payables, and revenues and expenses are canceled
 - Intercompany profits and losses included in the value of inventories and long-lived assets are eliminated
 - Intercompany dividends are eliminated
- The consolidated financial statement provides the representation of the economic and financial situation of the group as a single entity:
- Transactions that occur between group companies are equivalent to transactions between divisions within a company, according to consolidated financial statements
 - Such transactions should not be recognized in the general accounting system, since they are not transactions with third parties
- ➔ The consolidated financial statement should only present the operations that the group companies has made with third parties outside the group
- Adjustments of elimination of intra-group receivables, payables, revenues, and expenses must be fully operated at 100%



- **Elimination of intercompany revenues and expenses**
 - a) Intragroup transactions which gave rise to purchase expenses and selling revenues for the acquiring and selling companies must be written off
 - b) Intragroup financial loans that give rise to financial revenues or expenses for the financed and financing company must be written off
- ➔ These operations do NOT give rise to deferred tax assets or liabilities
- **Elimination of intercompany receivables and payables**
 - a) Trade Receivables and Payables from intragroup transactions still to be settled must be written off
 - b) Financial Receivables and Liabilities resulting from intragroup loans must be written off
- ➔ These operations do NOT give rise to deferred tax assets or liabilities
- Intra-group transactions can only be eliminated if there is equivalence in the accounts of the companies of a group:
 - If there is no equivalence, we firstly need to reconcile these accounts and then we are able to write off the intra-group transactions
- **Elimination of intercompany profits and losses**
 - Intra-group profit and losses which relate to intra-group operations must be eliminated
 - However, intercompany losses that express that express an actual decrease in value of the company's property should not be written off
- ➔ From the elimination of intra-group profit and losses, temporary differences emerge which give rise to deferred tax assets or liabilities
 - Adjustments to eliminate intercompany profits and losses should be fully operating, at 100%
- The elimination of intercompany profits and losses is achieved by:
 - Adjusting the ***carrying value of assets subject of the intra-group transaction*** that are still in the balance sheet of the acquiring company
 - ➔ Their value must be brought back to what they would have been if not transferred from one to another company of the group



- Adjusting the **income items** related to those goods generated from the intra-group transactions
 - ➔ The economic result of companies involved in the transaction has changed due to the intra-group transaction, which therefore must be eliminated

a) Elimination of intercompany profit and losses included in the value of inventories

- In the case of profit and losses included in the value of inventories, these must be eliminated for the assets that are still in the acquirer warehouse at year-end
 - Calculate the total intercompany profit or loss result
 - Calculate the intercompany profit that is *not made with third parties* by multiplying the total intercompany profit by the percentage of goods still in the warehouse of the acquiring company at year end
 - Reduce or increase the closing balance of inventory by the amount of the intercompany profit or loss not made with third parties
- If inventories are transferred between two companies belonging to the same group, the relative unrealized profit must be eliminated

- Case 1: All inventories are still on hand of the acquiring company at year-end

CASE A

- During year X Alfa (parent company) sells Beta (subsidiary fully owned) inventories, for a price of €120.
- In the same exercise, such inventories had been acquired by Alfa from external parties at a cost of € 100.
- At the end of the year, ALL inventories are still on hand.

	Consolidation entries
	(I)
Income Statement	
Operating revenues	-120
Operating expenses	-100
Operating Income	-20
Financial expenses	
Income before taxes	-20
Taxes	-10
Net Income	-10
Balance Sheet	
<i>Assets</i>	
Property, plant and equipment	
Inventories	-20
Deferred tax assets	10
Total assets	-10
<i>Equity and liabilities</i>	
<i>Owners' equity</i>	
Common stock	
Net Income	-10
<i>Liabilities</i>	
Total liabilities and equity	-10

- Case 2: Part of the inventories have been sold by the acquiring company at the end of the year

CASE B

- During year X Alfa (parent company) sells Beta (subsidiary) inventories, for a price of €600.
- In the same exercise, such inventories had been acquired by Alfa from external parties at a cost of € 350.
- At the end of the year, 60% inventories are still on hand.



- Company Alfa sold 40% of these inventories to external parties. The profit pertaining to this sale, therefore, must be considered as REALIZED.
- In this case, the impact in the individual financial statements, are:

Alfa:

Cost of goods Sold	140 (350*40%)
Revenues	240 (600* 40%)

Beta:
Inventories 0 (240 – 240)

- The consolidation entries are exactly the same as the previous case, referred to 60% of the transaction.
- In this case, the impact in the individual financial statements, are:

Alfa:

Cost of goods Sold	210 (350*60%)
Revenues	360 (600*60%)

Beta:
Beta will register inventories for € 360 (600*60%).

	Consolidation entries (1)		
Income Statement		(2)	
Operating revenues	-360	-240	-600
Operating expenses	-210	-240	-450
Operating Income	-150	0	-150
Financial expenses		0	
Income before taxes	-150	0	-150
Taxes	-75		-75
Net Income	-75		-75
Balance Sheet			
Assets			
Property, plant and equipment			
Inventories	-150		-150
Deferred tax assets	75		75
Total assets	-75		-75
Equity and liabilities			
Owners' equity			
Common stock			
Net Income	-75		-75
Liabilities			
Total liabilities and equity	-75		-75

- ➔ In order to properly adjust the effects of this internal transactions, we must split it in two parts, the one referring to inventories still on hand and the other one referring to inventories sold at year end
- To calculate the inventory adjustment, subtract the selling price minus the initial inventory value, and multiply the number by the stock of inventory still at hand $(600-350) * 0.6$

b) Elimination of intercompany profits and losses from inventory write-downs

- The Lower-of-Cost rule requires an asset to be reported in the financial statement at the lower value between its historical cost or its market value
 - If the market value falls beyond its historical cost, the business unit writes down the value of its goods to market value



- If the transaction between two companies belonging to the same group generates a loss, the intragroup loss must be fully eliminated:
 - However, according to the IAS, if the loss is due to a **long-term reduction in the asset's value**, the intragroup loss must NOT be eliminated, as it reflects the loss on the value of the asset

c) Elimination of intercompany profits and losses included in the value of long-lived assets

- In the case of profits or losses included in the value of long-lived assets, it is necessary to:
 - Report the transferred asset at the carrying amount that would have been in absence of the intercompany transaction
 - Reverse any gain or loss realized from the disposal of the asset
 - Adjust depreciation to report the asset
- From a consolidation perspective, **depreciation** must be based on the cost of the asset to the **consolidated entity**
 - This is the asset cost to the related company that originally purchases it (historical acquisition cost)
- In summary, the logical process to follow for the adjustment is as follows:
 - Identify the accounting effect that the intercompany transaction has led, with particular reference to gains or losses, sold assets, and accumulated depreciation
 - Identify the values that the items affected by the transaction would have had in the absence of operation
 - As a result of the difference between the last two points, identify corrections to be made to the aggregate balance sheet for obtaining the consolidated financial statement

