



HANDOUT

# ACCOUNTING 2

2022-2023 EDITION

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# ACCOUNTING 2 GENERAL NOTES

## CHAPTER 11

### Advantages of a corporation

- Shares of stocks can be purchased in small amounts
- Ownership interests can be transferred easily through the sale of shares on established markets such as the NYSE
- Stock ownership provides investors with limited liability. In the event of bankruptcy, creditors have claims against only the corporations assets, not the assets of the individual owners.
- The corporation is the only business form the law recognizes as a separate entity. As a distinct entity, the corporation enjoys a continuous existence separate and apart from its owners. It may own assets, incur liabilities, expand and contract in size, sue others, be sued, and enter into contracts independently of its stockholder owners.

### Benefits of stock ownership

- A voice in management
- Dividends
- Residual claim

### Authorized, issued and outstanding shares

- The corporate charter specifies the maximum number of shares the corporation is authorized to sell to the public. The financial statements report this number, as well as the number of shares that have been sold to date. Shares that have been sold to the public are called issued shares
- Authorized shares are either issued or unissued. Unissued shares are shares of stock that have never been sold to the public. Issued shares are shares of stock that have been sold to the public
- A company may want to buy back shares that already have been sold to the public. Shares that have been bought back are called treasury stock, these are considered issued shares but not outstanding shares, thus when a company buys back its shares, it creates a difference between the number of issued and outstanding shares

### Earnings per share

- One of the most widely used financial ratios that is used to measure the company's ability to produce income for each common share outstanding.
- EPS equals income (minus preferred dividends if any) divided by the average number of common shares outstanding for the period.
- $$\text{EPS} = \frac{\text{Net income}}{\text{Weighted average number of common shares outstanding}}$$
- EPS does not necessarily indicate how a company will perform in the future. Stock price is a better indicator for expected future performance.

### Common stock transactions

- Common stock is held by investors who are the owners of a corporation, and it is a part of contributed capital. The stockholders however do not actively participate in managing the business, instead they elect a board of directors.
- A company's common stock may be required to have a par value which is a nominal value per share established in the corporate charter. The original purpose of assigning a par value to a share of common stock was to protect creditors by specifying a permanent amount of capital (legal capital) that owners could not withdraw before a bankruptcy.
- There are some states that require the issuance of no-par value stock.

### Initial sale of stock

	Debit	Credit
Cash (+A) (100,000 × \$150)	15,000,000	
Common stock (+SE) (100,000 × \$0.20)		20,000
Additional paid-in capital (+SE)		14,980,000

Assets	=	Liabilities	+	Stockholders' Equity
Cash +15,000,000				Common stock +20,000 Additional paid-in capital +14,980,000

### Sale of stock in secondary markets

- Stocks can be sold in secondary markets without affecting the company: in this case the transaction happens between two external investors

### Stock issued for employee compensation

- Stock option plans are a common form of compensation as it is a risk-free investment.

### Repurchase of stock

- One common reason for the repurchase of stock is the existence of an employee bonus plan that provides workers with shares of the company's stock as part of their compensation. This is better than issuing new stock as a bonus because it would otherwise dilute the stock.

	Debit	Credit
Treasury stock (+XSE, -SE) (100,000 × \$140)	14,000,000	
Cash (-A)		14,000,000

Treasury Stock is a contra-equity account, not an asset!

	Debit	Credit
Cash (+A) (10,000 × \$150)	1,500,000	
Treasury stock (-XSE, +SE) (10,000 × \$140)		1,400,000
Additional paid-in capital (+SE)		100,000

### Dividends on common stock

- Return from investing in a company's common stock can come from 2 sources; either dividends or stock price appreciation

### Key dividend dates

- Date of declaration is the date on which the BoD approves the dividend

	Debit	Credit
Retained earnings (–SE)	1,387,000,000	
Dividends payable (+L)		1,387,000,000

- Date of record is when stockholders receive the dividend
- Date of payment is the date at which the cash is dispersed to stockholders

	Debit	Credit
Dividends payable (–L)	1,387,000,000	
Cash (–A)		1,387,000,000

- The company must have sufficient retained earnings or net income to cover the dividend payout
- The company must have sufficient cash to pay the dividend and meet the operating needs of the business

### Dividend Yield

- The ratio is  $\frac{\text{annual dividend per share}}{\text{market price per share}}$
- In general investors gain from both dividends and stock price appreciation

### Impacts of dividends on stock price

- The ex-dividend date is the date 2 days before the date of record. This date is established by the stock exchanges to account for the fact that it takes time (typically 3 days) to officially transfer stock from a seller to a buyer
- If someone buys stock before the ex-dividend date, they will be listed as the owner and receive the dividend, however if it is purchased after, the previous owner will receive the dividend.
- Stock prices often fall on the ex-dividend date since the stock no longer includes the right to receive the next dividend.

### Nature of stock dividends

- Stock dividends do not change the stocks par value or total stockholder's equity
- The amount of stock dividend transferred depends on whether the stock dividend is classified as large (>20/25%) or small (<20/25%). Small stock dividends are recorded at the market value of the stock and the large stock dividends at the par value (since it significantly decreases a company's stock price)

**Large Stock Dividend:** Assume IBM issued 50 million shares of its \$0.20 par value stock. On the date of declaration the following journal entry is made:

	Debit	Credit
Retained earnings (–SE) (\$0.20 par value × 50,000,000)	10,000,000	
Common stock (+SE) (\$0.20 par value × 50,000,000)		10,000,000

**Small Stock Dividend:** Assume IBM issued 5 million shares of its \$0.20 par value stock when it was trading for \$150 per share. On the date of declaration the following journal entry is made:

	Debit	Credit
Retained earnings (–SE) (\$150 market price × 5,000,000)	750,000,000	
Common stock (+SE) (\$0.20 par value × 5,000,000)		1,000,000
Additional paid-in capital (+SE) (remainder)		749,000,000

### Stock splits

- Unlike stock dividends, companies do not make journal entries to record stock splits. Stock splits change the par value per share but the total par value is unchanged

### Preferred stock transactions

- In addition to common stock, some companies issue preferred stock (which has priority over common stock). Preferred stock differs from common stock in 3 main ways:
  - o Preferred stock typically does not have voting rights
  - o Preferred stock is less risky
  - o Preferred stock typically has a fixed dividend rate
- Preferred stock offers a dividend preference being either the current dividend preference or the cumulative dividend preference.
- The current dividend preference requires a company to pay current dividends to preferred stockholders before paying them to common stockholders
- The cumulative dividend preference requires any unpaid dividends on preferred stock to accumulate. This amount called dividends in arrears must be paid before common individuals are paid. If it is noncumulative then any non-declared dividends are permanently lost and will never be paid. These dividends in arrears are disclosed in the notes to the financial statements
- Some preferred stock has special voting rights

### Financing activities

- Issuing stock for cash and selling treasury stock for cash results in cash inflows. Purchasing treasury stock with cash and paying cash dividends results in cash outflows. These cash flows are reported in the financing activities section of the statement of cash flows.

## APPENDIX A

### A company may invest in securities of another company to

1. Earn a return on idle cash (a passive investment)
2. Influence the other company's policies and activities
3. Control the other company' future

### Accounting Methods:

- Investments in debt securities to be held to maturity using the amortized cost method
- Investments in debt securities using the fair value method for those not held to maturity
- Passive equity investments accounted for using the fair value method of accounting
- Equity investments involving significant influence over another company using the equity method

### Passive investments in debt and equity securities

- Passive investments are made to earn a return on funds that may be needed for future purposes
  - o Investments in debt securities are always considered passive investments
  - o Investments in equity securities are presumed passive if the investing company owns less than 20% of the outstanding voting shares

### Investments in stock for significant influence

- Investments are made with the intent of exerting significant influence over another corporation
  - o The ability of the investing company to have an important impact on the operating, investing and financial policies of another company
  - o Presumed if the investing company owns from 20-50% if the outstanding voting shares
  - o Other factors may indicate significant membership on board of directors etc.

### Investments are made with the intent to exert control over another corporation

- The investing company has the ability to determine the operation and financial policies of another corporation
- Presumed when the investing company owns more than 50% of the outstanding stock of the company

### Passive investment in debt securities

- Purchasing debt securities
  - o A debt security (typically a bond or note) may be acquired at par, discount or premium and the total cost including all incidental costs such as transfer costs and broker commissions is debited to the investments account.

	Debit	Credit
Investments (+A)	150,000	
Cash (-A)		150,000

	Debit	Credit
Cash (+A)	4,500	
Interest revenue (+R, +SE)		4,500

- Measuring and reporting investments

- o At the end of each fiscal year measuring and reporting investments in debt securities depend on the management's purpose
- o Will the debt instruments be held to maturity (non-current investments)?, traded actively (current assets)?, or neither (current or non-current investments)?

- Held to maturity

- o When management has the intent and ability to hold debt securities until their maturity, they are considered held to maturity investments. These investments are reported at cost adjusted for the amortization of any discount or premium (amortized cost method)
- o No fair value adjusting entry is necessary at the end of the fiscal period

	Debit	Credit
Cash (+A)	150,000	
Investments (-A)		150,000

- Actively traded

- o Investments in debt securities that are actively traded over short periods of time are accounted for as trading securities
  - 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
  - At the end of each fiscal year, the trading securities portfolio is adjusted up or down to the portfolios fair value
  - The offsetting effect is reported on the income statement as an unrealized gain or loss
  - The unrealised gain or loss is subsequently closed to retained earnings to keep the balance sheet in balance

- Not held to maturity or actively traded

- o If investments are not held to maturity or actively traded, then by default the investments are considered available-for-sale securities
  - Available for sale securities with readily determinable market values are reported at fair value and may be classified as current or non-current assets
  - The available for sale securities portfolio is adjusted up or down to the fair value
  - The adjusting journal entry for the unrealized holding gain or loss is not reported on the income statement, unlike the treatment for trading securities
    - Any unrealized gain or loss is recorded as a component of other comprehensive income on the statement of comprehensive income
    - When the sale is made, the net unrealized gain or loss is reclassified out of other comprehensive income and reported on the current period's income statement as a realized gain or loss

<i>Ignoring income taxes</i>		2018	2019
<b>Trading Securities</b>			
Balance Sheet	<i>Investments</i>	\$140,000	\$ 0 (Sold for \$165,000)
Income Statement	<i>Retained earnings (effect)</i>	(1,000)	34,000
	<i>Interest revenue*</i>	9,000	9,000
	<i>Unrealized gains (losses)</i>	(10,000)	25,000
<b>Available-for-Sale Securities</b>			
Balance Sheet	<i>Investments</i>	\$140,000	\$ 0 (Sold for \$165,000)
	<i>Retained earnings (effect)</i>	9,000	24,000
Income Statement	<i>Accumulated other comprehensive income</i>	(10,000)	0
	<i>Interest revenue*</i>	9,000	9,000
	<i>Gain on sale of investments</i>	—	15,000
Statement of Comprehensive Income	<i>Unrealized gains (losses)</i>	(10,000)	25,000
(includes net income and other effects)	<i>Reclassification adjustment</i>		(15,000)
	<i>Net income (interest revenue effect)</i>	9,000	9,000

### Passive investment in equity securities

- When a company purchases less than 20% of the outstanding voting stock of another company, the investment is considered passive. These are reported at fair value with any end of year adjustments for unrealized gains or losses included in net income
- Purchasing equity securities and earning dividend revenue

	Debit	Credit
Investments (+A)	150,000	
Cash (-A)		150,000

	Debit	Credit
Cash (+A)	5,000	
Dividend revenue (+R, +SE)		5,000

- Applying the fair value method
  - The equity investments portfolio is increased or decreased each period with the offsetting effect reported on the income statement as unrealized gain or loss

Fiscal Year Ending in	Fair Value	—	Book Value	=	Adjustment
2018	\$120,000	—	\$150,000	=	\$(30,000)
2019	165,000	—	120,000	=	45,000
2020	190,000	—	165,000	=	25,000

	Debit	Credit
Unrealized loss (+E, -SE)	30,000	
Investments (-A)		30,000

	Debit	Credit
Cash (+A)	190,000	
Investments (-A)		190,000

	Debit	Credit
Investments (+A)	45,000	
Unrealized gain (+R, +SE)		45,000

Equity Securities		2018	2019	2020
Balance Sheet	<i>Investments</i>	\$120,000	\$165,000	\$0 (Sold for \$190,000)
	<i>Retained earnings (effect)</i>	(25,000)	50,000	25,000
Income Statement	<i>Dividend revenue</i>	5,000	5,000	0
	<i>Unrealized gains (losses)</i>	(30,000)	45,000	25,000

### Investments for significant influence (equity method)

- An investor may wish to exert influence by owning 20-50% outstanding voting stock without becoming the controlling shareholder
- 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 investor is treated as a reduction of the investment account, not revenue (the investments account is reported on the balance sheet as a long-term asset)
- Example - Disney purchase of green light (40% stock acquisition - 40,000 stocks)

	Debit	Credit
Investments (+A)	400,000	
Cash (-A)		400,000

- o Green light makes 500,000 in income

	Debit	Credit
Investments (+A)	200,000	
Equity in investee earnings (+R, +SE)		200,000

- o Dividends of 0.5/share

	Debit	Credit
Dividends receivable (+A)	20,000	
Investments (-A)		20,000

- The investment is recorded on the balance sheet as a long term asset at cost, however subsequent to the investment purchase, the investment account does not reflect the cost or fair value
  - o The account is increased by the cost of shares that were purchased and the proportional share of the affiliates' net income
  - o The account is reduced by the proportional amount of dividends declared from affiliate companies, the proportional share of affiliates' net losses, and the cost of any shares that were sold
  - o Do not adjust the investment account to reflect changes in fair value. If sold any gain or loss is reported in the income statement

### Transaction structuring; selecting accounting methods for minority investments

- Most managers prefer to minimize variations in reported earnings. If a company were planning to buy stock in a firm that reported large earnings in some years and large losses in others, it might want to use the fair value method to avoid reporting its share of the affiliate's earnings and losses.
- Auditors will review the management's application of the fair value and equity methods for investments near the 20% ownership level to determine if the proper method was used because significant influence may still be present.

## INCOME TAXES

Income taxes are a cost to companies. The cost is debited, and a liability towards tax authority is credited.

### During the fiscal year: down payments

- During the year, down payments for taxes are required by law and the size of these vary from country to country (in Italy in 2 instalments - June 30 (40%) and November 30 (60% of gross tax liability of precedent fiscal year))
- The journal entry is Income tax receivables (+A) and Bank account (-A)
- Income tax receivable is a current asset and if no income tax payables are due at the end of the year, it may either be carried forward or claimed back for a refund or used to offset other tax payables

### End of fiscal year: tax liability

- At the end of the year, after adjusting entries are made, it is possible to compute income tax expense. This is the last journal entry before closing the books and preparing the financial statements
- Once income taxes are computed, the journal entry to record the accrual of income tax is as follows
  - o Income tax expense (+EXP), Income tax payable (+L)

### Subsequent year, offsetting the outstanding balance


- After closing a certain accounting period, in the following one 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
- If the liability exceeds the down payment, then the outstanding balance due is paid on June 30<sup>th</sup> of the year together with the first instalment of the down payment due for the year
  - o Income tax payable (-L), Income tax receivables (-A) and Bank account (-A)

30.11.2018: down payment € 50.000

31.12.2018: income taxes are computed: € 65.000

30.06.2019: offsetting, payment of the outstanding balance, first 2019 down payment

<b>30/11/18</b>				
Income tax receivables (+ A)	Bank account (-A)	50.000	50.000	
<b>31/12/18</b>				
Income tax expense (+ EXP)	Income tax payable (+L)	65.000	65.000	
-----				
<b>30/06/19</b>				
Income tax payable (-L)	Income tax receivables (- A)	65.000	50.000	
	Bank account (-A)		15.000	
<b>30/06/19</b>				
Income tax receivables (+ A)	Bank account (-A)	26.000	26.000	



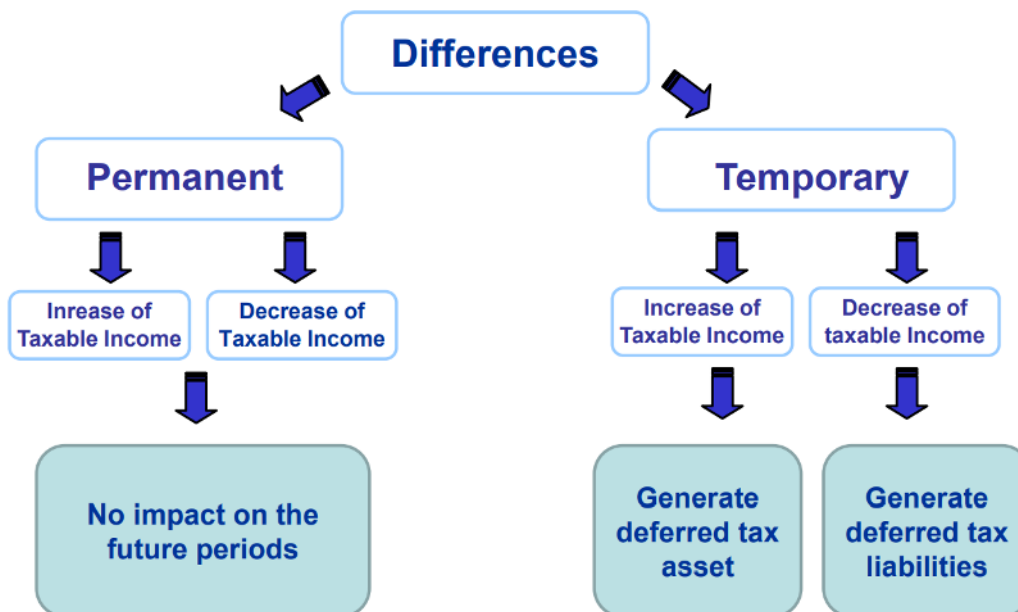
65.000 \* 40%

### The computation of taxable income

- The method is not intuitive because the accounting system is based on several concepts and accounting standards and above all, on a number of estimates and conjectures (mainly for the adjusting entries) which give rise to revenues and expenses that are uncertain and the result of subjective opinion.
- Therefore, profit before taxes is the algebraic difference between revenues and expenses in the income statement and it is a result of assumptions, subject hypothesis and assignments that could be manipulated, with the goal of decreasing "income before tax" and pay less taxes. Moreover, some expenses may not pertain to the business but may be borne for private interest, using the company's money
- For this reason, to avoid manipulations, in every country around the world, income tax laws exist and are in force. Income tax law states provisions aimed at excluding some revenues and expenses from the computation of income taxes. Some revenues shall not be taxed (non-taxable revenues) and some expenses are not recognized (non-deductible expenses)
- Therefore, taxable income usually does not coincide with IBT (income before taxes)
- Taxable income is the amount to which the tax rate is applied in order to compute the income tax expense to be recorded in the financial statements.
- Consequently, when calculating income taxes, one must first calculate taxable income, according to the rules established by the tax authority
- To compute taxable income it is necessary, outside and separately from the accounting system, to exclude non-taxable revenues and non-deductible expenses
- The 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 shall be discarded when computing taxable income.
  - o Therefore, you add back all non-deductible costs and you subtract all non-taxable revenues
- The income tax expense is recorded as stated previously
  - o Income tax expense (+E) Income tax payable (+L)

## Permanent or temporary variations

- Permanent changes
  - o This is when a cost or revenue is recorded in the general journal, but the tax legislation does not recognize it nor in the financial year in which it is recorded, nor in any future year. In other words, for the tax authorities, these kind of revenues or costs do not exist
- Temporary changes
  - o This is when a cost or revenue is recorded in the general journal but the tax legislation does not recognize it in the same period but will recognize it in the future. These misalignments between the accrual period for accounting purposes and the accrual period for tax purposes generate alternatively
    - Deferred tax assets and liabilities
- When there is an increasing temporary variation, a deferred tax asset is generated and is recorded in the assets part of the balance sheet
- When there is a temporary decrease, a deferred tax liability is generated, not to be confused with tax payable.



## STATEMENT OF CASH FLOWS (CFS)

### Positive cash flows permit a company to

- Pay dividends to owners
- Expand its operations
- Take advantage of investment opportunities
- Replace worn assets

### Cash includes cash and cash equivalents such as short-term highly liquid investments that are both:

- Readily convertible into known amounts 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 3 months or less qualify as cash equivalents

### Operating activities

- Cash inflows and outflows directly related to earnings from normal operations

## Investing activities

- Cash inflows and outflows related to the acquisition or sale of productive facilities and investments in the securities of other companies

## Financing activities

- Cash inflows and outflows related to external sources of financing (owners and creditors) for the enterprise

The ending cash balance should agree with the balance sheet

## There are two formats for reporting cash flow from operating activities

- The direct method
  - o Reports the cash effects of each operating activity

<b>Sales revenue</b> + Decrease in accounts receivable - Increase in accounts receivable = <b>Cash collected from customers</b>	<b>Other expenses</b> + Increase in prepaid expenses - Decrease in prepaid expenses - Increase in accrued expenses + Decrease in accrued expenses = <b>Cash paid for expenses</b>
<b>Interest/Dividend revenue</b> + Decrease in interest/dividends receivable - Increase in interest/dividends receivable = <b>Collections of interest/dividends on investments</b>	<b>Income tax expense</b> + Increase in prepaid income taxes - Decrease in prepaid income taxes - Increase in income taxes payable + Decrease in income taxes payable = <b>Payments of income taxes</b>
<b>Cost of goods sold</b> + Increase in inventory - Decrease in inventory - Increase in accounts payable + Decrease in accounts payable = <b>Cash payments to suppliers</b>	

- The indirect method
  - o Starts with accrual net income and converts to cash flow from operating activities
- The cash flows from operating activities are always the same, regardless of whether the direct or indirect methods are used

## Cash flows from operating activities

- Inflows
  - o Customers- cash
  - o Cash received from dividends and interest on investments
- Outflows
  - o Purchase of services and goods for resale
  - o Salaries and wages
  - o Income taxes
  - o Interest on liabilities

## Cash flows from investing activities

- Inflows
  - o Sale or disposal of property, plant or equipment
  - o Sale or maturity of investments in securities
- Outflows
  - o Purchase of property, plant and equipment

- Purchase of investments in securities

### Cash flows from financing activities

- Inflows
  - Borrowings on notes, mortgages, bonds etc. from creditors
  - Issuing stock to owners
- Outflows
  - Repayment of principal to creditors excluding interest (operating activity)
  - Repurchasing stock
  - Dividends to owners

### To prepare a statement of cash flows you need:

- A comparative balance sheet
- A complete income statement
- Additional details concerning selected accounts
- $\Delta\text{Cash} = \Delta\text{Liabilities} + \Delta\text{SE} - \Delta\text{Noncash assets}$

### The indirect method adjusts net income by eliminating noncash items

- Net income
  - + noncash expenses such as Depreciation and Amortization
  - + losses, - gains
  - +/- changes in current assets/liabilities
  - =cash flow from operating activities

### Adjustment for gains and losses

- Cash received from the sale or disposal of long-term assets is classified as investing cash inflow. Gains/losses on the income statement, if any are subtracted from or added to net income in order to compute cash flow from operating activities.
  - Gains must be subtracted from net income to avoid double counting the gain
  - Losses must be added to net income to avoid double counting the loss

### Change in accounts receivable

Accounts Receivable (A)			
Change \$10,273	Beginning balance	61,046	
	Sales revenue (on account)	826,918	Collections from customers 816,645
	Ending balance	71,319	

- Since Accounts receivable increased, the increase must be subtracted from NI

### Change in inventory

Inventories (A)		Inventories (A)	
Beg. balance		Beg.	47,922
Purchases	Costs of goods sold	Increase	5,433
End. bal.		End.	53,355

- Since inventory increased, it must be subtracted from NI

### Change in prepaid expenses

Prepaid Expenses (A)		Prepaid Expenses (A)	
Beg. bal.		Beg.	4,672
Cash prepayments	Services used (expense)	Increase	2,603
End. bal.		End.	7,275

- Since prepaid expenses is increase, it must be subtracted from NI

### Change in accounts payable

Accounts Payable (L)		Accounts Payable (L)	
	Beg. bal.	Beg.	49,391
Cash payments	Purchases on account	Increase	8,709
	End. bal.	End.	58,100

- Since accounts payable increased, then NI must also increase

### Change in accrued expenses

Accrued Expenses (L)		Accrued Expenses (L)	
	Beg. bal.	Beg.	26,223
Pay off accruals	Accrued expenses	Increase	2,883
	End. bal.	End.	29,106

- o Since accrued expenses increased and hence less cash is paid, there must be an increase in NI

In conclusion add the change when an operating asset decreases or an operating liability increases. Subtract the change in the case of the opposite.

### Classification of interest on the cash flow statement

- o In GAAP, interest paid and received are recorded under operating expenses
- o Under IFRS, interest received is logged under operating or investing expenses and interest paid is logged under operating or financing expenses

### Interpreting cash flows from operating activities

- o A common rule of thumb is avoiding companies that have a rising net income but a falling cash flow from operations. This is because investors will not invest in a company if they do not believe that cash generating from operations will be available to pay them dividends/expand the company. Furthermore, creditors will not lend money if they do not believe that cash generated from operations will be available to pay back the loan

### Quality of income ratio

- $Quality\ of\ Income\ Ratio = \frac{Cash\ flow\ from\ operating\ activities}{Net\ Income}$
- This ratio measures the portion of income that was generated in cash - higher quality means a greater ability to finance operating and other cash needs.

## Fraud and cash flows from operations

- The cash flow statement often gives outsiders the first hint that financial statements may have errors or irregularities
- Unethical managers sometimes attempt to reach earnings targets by manipulating accruals and deferrals of revenues and expenses to inflate income. Because these adjusting entries do not affect the cash account, they have no effect on the cash flow statement
- A growing difference between NI and cash flow from operations can be a sign of such manipulations

## Reporting and interpreting cash flows from investing activities

- A purchase of property, plant, equipment or intangible assets for cash is a cash outflow
- A sale on the other hand is an inflow
- For long term or short term investments such as stocks or bonds, a purchase is an outflow and a sale is an inflow.
- Remember that only purchases paid for with cash or cash equivalents count. The amount of cash that is then received is included regardless of whether it is sold at a gain or loss

## Capital acquisitions ratio

- o  $capital\ acquisitions\ ratio = \frac{Cash\ flow\ from\ operating\ activities}{Cash\ paid\ for\ PPE}$
- o In general, this ratio reflects the portion of purchases of property, plant and equipment financed from operating activities. A high ratio indicates less need for outside financing for current and future expansions
- o A higher ratio is beneficial because it provides the company opportunities for strategic acquisitions:
  - It avoids the cost of additional debt
  - It reduces the risk of bankruptcy that comes with additional leverage

## Free cash flow

- Managers and analysts calculate free cash flow as a measure of a firm's ability to pursue long-term investment opportunities
- Free cash flow = cash flow from operating activities – dividends – Capex
- Any positive free cash flow is available for additional capital expenditures, investments and M&A without the need for external financing or reductions in dividend payouts.

## Reporting cash flows from financing activities

Related Balance Sheet Account(s)	Financing Activity	Cash Flow Effect
Short-term debt (notes payable)	Borrowing cash from banks or other financial institutions	Inflow
	Repayment of loan principal	Outflow
Long-term debt	Issuance of bonds for cash	Inflow
	Repayment of bond principal	Outflow
Common stock and additional paid-in capital	Issuance of stock for cash	Inflow
	Repurchase (retirement) of stock with cash	Outflow
Retained earnings	Payment of cash dividends	Outflow

- Remembering that cash repayments of principal are cash flows from Financing activities, interest payments are cash flows from operating activities, dividend payments are cash flows from financing activities and if debt or stock is issued for other than cash it is not included here.

### Interpreting cash flows from financing activities

- The long term growth of a company is normally financed from 3 sources
  - o Internally generated funds (operating activities)
  - o The issuance of stock
  - o Money borrowed on a long term basis
- The statement of cash flows shows how management has elected to fund its growth (shows capital structure and growth potential)

### Supplemental cash flow information

- Two additional required cash flow disclosures are normally listed at the bottom of the statement or in the notes
  - o Noncash investing and financing activities such as the purchase of a building with a mortgage given by the former owner
  - o Cash paid for interest and cash paid for income taxes

## FINANCIAL STATEMENT ANALYSIS:

Financial statements that are published are designed primarily to meet the needs of external decision makers such as

- Present and potential owners
- Investment analysts
- Creditors

**In order to make an investment decision** there are 3 main factors that need to be considered

- Industry factors (logical revolutions)
- Economy-wide factors (inflation, unemployment etc.)
- Individual company factors such as managerial guidance

Each of the transactions in the financial statements of a company reflect the operating decisions and thus its business strategy

- Business strategy → Operating decisions → Transactions → Financial statements
- Businesses can earn a high rate of return by following different strategies such as
  - o Cost differentiation
  - o Product differentiation

### Main goals of financial statement analysis

- Assessment of the performance and the soundness of the firm according to the following main dimensions
  - o Solvency
  - o Growth
  - o Profitability and efficiency
  - o Liquidity

### The relevance of comparability

- Financial analysis follows best practices and some approaches are well established such as time series analysis and cross sectional analysis

- However, there are no rules on specific ratios to apply and how to build them as well as what the financial statements are to be used for
- Accounting standards across firms should be the same
- Financial statement formats should be homogeneous
- There is no rule on how to prepare financial statement formats. What is important is consistency in the definitions used and a clear understanding of what is behind each of them

### FSA: General Approach

- Time series analysis
  - o Information for a single company is compared over time
  - o Horizontal analysis: line by line comparison of the accounts with those of the previous year
  - o Provides, over several years a trend of changes, decline or growth
  - o Vertical analysis: each item in the statement of financial position or profit or loss is expressed as a percentage of the total. It provides evidence of structural changes in the accounts i.e. increased profitability through more efficient production
- Cross sectional analysis
  - o Information for multiple companies is compared at a point in time

### Limits in ratios analysis

- Lack of uniformity in accounts preparation
  - o Use of different accounting policies, differences in estimates and use of historical cost in periods of rapidly changing prices makes the ratio comparison vaguely accurate
- Diversified companies and multinationals
  - o They operate in different industries with different degrees of risks and expected profitability
- Lack of conceptual foundation
  - o It is used in practice and a lot of time is spent in calculation and comparison

### Groups of financial ratios

#### Profitability and performance

RETURN ON EQUITY	$\frac{\text{Net income}}{\text{Average Total Stockholder's Equity}}$
RETURN ON ASSETS	$\frac{\text{Net Income}}{\text{Average Total Assets}}$
GROSS PROFIT PERCENTAGE	$\frac{\text{Gross Profit}}{\text{Net Sales}}$
QUALITY OF INCOME / NET PROFIT MARGIN	$\frac{\text{Net Income}}{\text{Net Sales Revenue}}$
EARNINGS PER SHARE	$\frac{\text{Net Income}}{\text{Weighted Average Number of Common Shares Outstanding}}$
QUALITY OF INCOME	$\frac{\text{Cash Flow from Operating Activities}}{\text{Net Income}}$
DUPONT MODEL	$ROE = (\text{Net Profit Margin}) \times (\text{Total Asset Turnover}) \times (\text{Financial Leverage})$

### Efficiency and Effectiveness

INVENTORY TURNOVER RATIO	$\frac{COGS}{Average\ Inventory}$
TOTAL ASSET TURNOVER	$\frac{Net\ sales\ revenue}{Average\ Total\ Assets}$
AVERAGE DAYS TO SELL INVENTORY	$\frac{365}{Inventory\ Turnover}$
FIXED ASSET TURNOVER	$\frac{Net\ Sales\ Revenue}{Average\ Net\ Fixed\ Assets}$
RECEIVABLES TURNOVER	$\frac{Net\ Credit\ Sales}{Average\ Net\ Receivables}$
ACCOUNTS PAYABLE TURNOVER	$\frac{COGS}{Average\ Accounts\ Payable}$
AVERAGE DAYS TO COLLECT RECEIVABLES	$\frac{365}{Receivables\ Turnover}$
AVERAGE NUMBER OF DAYS PAYABLES ARE OUTSTANDING	$\frac{365}{Accounts\ Payable\ Turnover}$

### Liquidity and Stability

CURRENT RATIO	$\frac{Current\ assets}{Current\ liabilities}$
QUICK RATIO	$\frac{cash\ and\ cash\ equivalents\ +\ net\ accounts\ receivables\ +\ marketable\ securities}{Current\ liabilities}$
CASH RATIO	$\frac{Cash\ and\ cash\ equivalents}{current\ liabilities}$

### Solvency ratios

CASH COVERAGE RATIO	$\frac{Cash\ flows\ from\ Operating\ activities}{Interest\ paid}$
TIME INTEREST EARNED RATIO	$\frac{Net\ income\ +\ Interest\ Expense\ +\ Income\ tax\ expenses}{Interest\ expense}$

### Capital Structure

DEBT TO EQUITY RATIO	$\frac{Total\ liabilities}{Total\ stockholders'equity}$
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## Market ratios

PRICE TO EARNINGS RATIO (PE)	$\frac{\text{Market Price per Share}}{\text{EPS}}$
DIVIDEND YIELD RATIO	$\frac{\text{Dividends per share}}{\text{Market price per share}}$
PRICE-TO-BOOK RATIO (PB)	$\frac{\text{Market price of share total}}{\text{Total Assets} - \text{Total Liabilities}}$

### How do we decide where to invest

- We frame the industry
- Use and elaborate on firms financials
- Incorporate industry and macroeconomic factors to
- Forecast firms future value to
- Make more informed investment decisions

### Forecasting the firms future value

- 3 main types of analyst report
  - o Initial coverage (first time an analyst issues a report)
  - o Analyst coverage (regular reports)
  - o Updates (needed when firms' related event might influence value of the firm)

## CONSOLIDATED FINANCIAL STATEMENTS

### Pre-consolidation adjustments must have uniformity in:

- The form and content of financial statements
- The closing date of the financial statements
- The reporting currency
- The accounting principles and policies adopted

### Consolidation adjustments

- This can only be done once the aggregate statements have been completed. 3 main steps:
  - o Elimination of the parent's investment and equity share and recognition of value increases in subsidiaries' assets and liabilities
  - o Non-controlling interests
  - o Elimination of intra-group transactions

### Elimination of the parent's investment and equity share and recognition of value increases in subsidiaries' assets and liabilities

- We must now take into consideration the fact that the purchase price is often not the same as the book value and often the fair value is higher than the book value. The components of the purchase price include:
  - o The book value of the subsidiary's equity
  - o The change in assets' and liabilities' value
  - o Tax effects of those changes
  - o Goodwill
- For unrecognized surpluses in assets' and liabilities' values or new unrecognized assets and liabilities of the subsidy:

- We add the surpluses to the assets' or liabilities' value, so that they are all recognized at their fair values at the time the subsidiary is acquired
- We recognize all new assets' values which were not recognized in the subsidiary's individual financial statements in accordance with its accounting principles. (IFRS 3 must be met)
- For the tax effects on such surpluses, the differences between the book and fair values of the recognized items may create temporary differences that will give rise to taxes in the future and we will recognize this future obligation through the separate recognition of deferred tax liabilities.
- For the expectations of future earnings of the subsidiary, the difference between the cost of acquisition and the parent's interests in the fair value of the subsidiary's net assets/liabilities at the acquisition date must be treated in the following way:
  - If positive (paid price > fair value of equity attributable to the parent), it must be included as an asset, the so called "goodwill" in the consolidated financial statements
  - If negative (paid price < fair value of equity attributable to the parent), estimates of the fair values of assets/liabilities of the subsidiary should be reviewed; the negative difference, if still existing, must be allocated to the income statement as a gain
  - In case we recognize goodwill, we do not account for any related deferred tax liabilities
- Values should be reported at the acquisition date which is the time at which revenues and expenses of the subsidiaries start being included in the consolidated financial statements
  - If surpluses are related to depreciable assets, the surpluses are amortized over the useful life of the asset
  - If surpluses are related to non-depreciable assets, the surpluses may, together with the assets to which they relate to, be subject to impairment testing.
- In order to consolidate, we need to perform the consolidation adjustments in the following way:
  - Write-off of the investment's carrying amount
  - Write-off of the aggregate equity for an amount equal to the equity of the subsidiary at the acquisition date
  - Recognition of surpluses on the assets and liabilities of the subsidiary at the acquisition date
  - Recognition of deferred tax on those surpluses at the acquisition date
  - Recognition of goodwill among consolidated assets, if positive, or in the consolidated income statement, as a gain, if negative.

### Non-controlling interests

- When a subsidiary is less than wholly owned, the general approach to recognising and measuring all assets and liabilities of the acquiree is the same as the one discussed above.
- These non-controlling interests are reported as part of the equity of the consolidated group, recorded separately from the other equity components and clearly identified and labelled.
- Since the non-controlling interests are classified separately in the consolidated financial statement position, the net income resulting from the income statement must also distinguish the profit or loss that is attributable to the parent from the share attributable to the non-controlling interests.
- The acquirer may choose to measure a non-controlling interest in the acquiree either at fair value ("full goodwill accounting") or at the non-controlling interest's proportionate share of the acquiree's identifiable net assets
  - We first calculate the surpluses on assets and liabilities and then identify the portion that belongs to the controlling entity. And proceed to calculate the goodwill
- NB: In some cases goodwill = paid price - Equity - net surplus on patents


## Elimination of intra-group transactions

- The elimination of intra-group receivables and payables, costs and revenues
  - o Eliminate intra-group payables and receivables not yet settled at the end of the year
  - o Eliminate intra-group revenues and expenses recognized during the financial year
  - o We must follow the following steps to do so
    - Identify which values of credit/debit and costs/revenues arising from intra-group transactions are recorded in the financial statements of the companies included in consolidated financial statements
    - Make sure there is mutual equivalence between the accounts. If this is not evident, reconcile intra-group values
    - Delete mutual accounts
- The elimination of intercompany profits and losses
  - o The elimination of intercompany profits and losses included in the value of inventories
    - In the case that all inventories are 100% still on hand at the buying company at the end of the year we must
      - Decrease aggregate revenues by the intercompany selling price
      - Decrease aggregate COGS by the original purchase cost from third parties
      - Reduce the value of inventory by the intercompany profit
      - Account for the related fiscal effects
    - If all inventories have been sold, there is no unrealised profit from the group view so we must make the following:
      - Decrease aggregate revenues by intercompany selling price
      - Decrease aggregate COGS by the intercompany acquisition cost
    - If part of the inventories have been sold by the buying company at the end of the year we must split the transaction into 2 parts
  - o The elimination of intercompany profits and losses included in the value of fixed assets
    - The values of these assets must be "brought back" to the original value as if they had never been sold
    - This is achieved by reporting the assets transferred at the carrying amount at which they would have been recognised absent any intercompany transaction
    - Reverse any gains/losses realised as a result of disposal
    - Adjust depreciation expenses and accumulated depreciation to restore their values as if no transaction had occurred
  - o Note that intercompany losses expressing an actual decrease in the value of any asset shall not be eliminated. We must also calculate the associated deferred tax assets or liabilities w.r.t. to profits and losses
- The elimination of intra-group dividends
  - o Recognition of financial income by the company of the group that receives the dividends
  - o Reduction in reserves of the company that distributes the dividends
  - o Recognition of the portion of the dividends attributable to non-controlling shareholders
  - o Eliminate these effects by
    - The elimination of financial income recognized by the company that receives the dividends
    - The reintegration of the reserves of the company that distributes the dividends
    - The decrease in the SE attributable to non-controlling interests by the amount of dividends received by them


## Allocation of results

- Computation of a separate account for the net income attributable to the non-controlling interests
- We begin with the net income of the subsidiary since the non-controlling interests are shareholders of the subsidiary.
- We must also consider each of the adjusting entries we want through in the consolidation process that have an impact on the portion of net income that is related to non-controlling interests.
- We must finally understand whether the transactions were applied upstream or downstream, in which cases the non-controlling interests are computed differently
- We can write it as a formula:  $NCI\ NI = (PrSub \pm Adjustments) \times \%NCI$ 
  - o Adjustments may come from:
    - NI generated by the amortization of surpluses
    - NI generated by upstream transactions

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