ENTREPRENEURSHIP
for Computer Science and Engineering

Lecture 7:

Financial Intelligence

(Part II: Interpreting Financial Statements)

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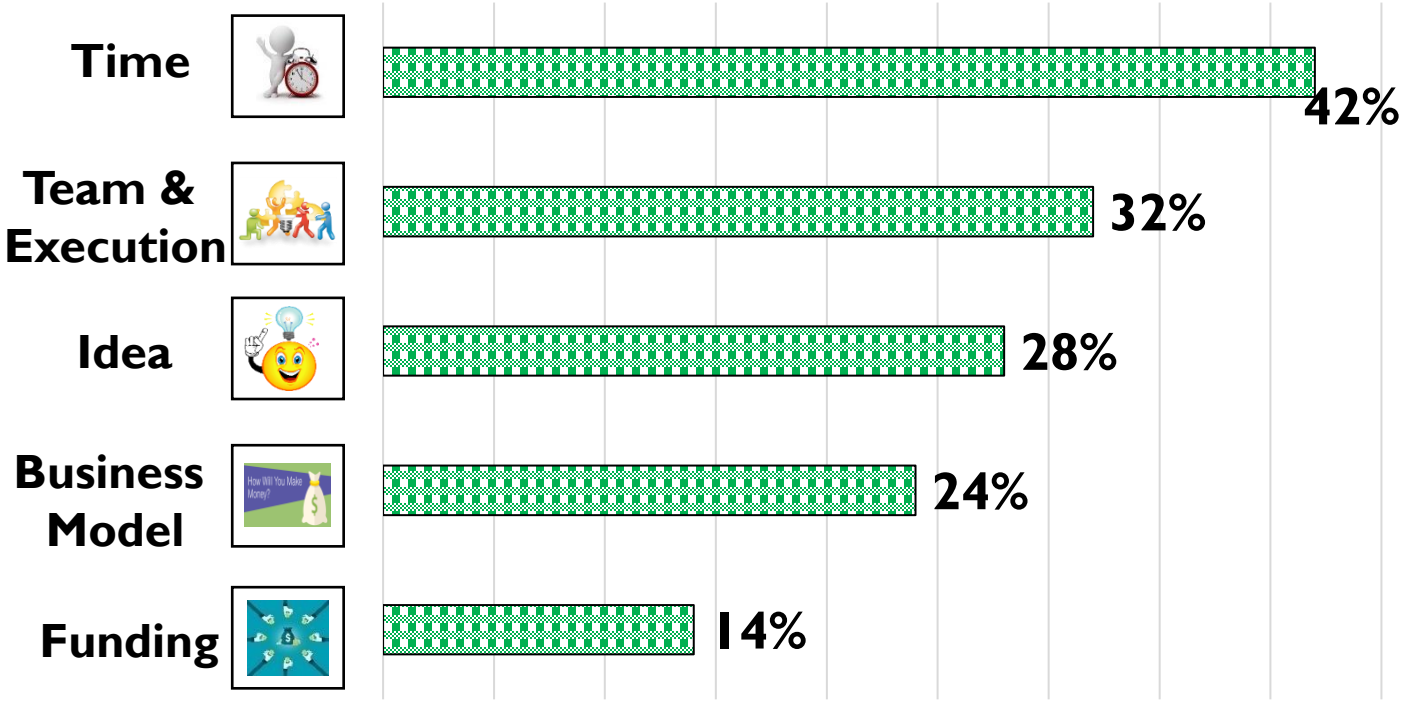
Outline

- Last Session:
  - Calculate the Cost of Customer Acquisition (CoCA)
- This lecture
  - Types of Accounting
  - Financial statements
    - Income statement, retained earnings, balance sheet, and cash flow statement
  - The Depreciation and Amortization Processes
  - Interpreting Financial Statements
  - Bookkeeping
- Announcements:
  - Course website: *https://www.m-zakeri.ir/Entrep/*
  - My lab: *https://www.m-zakeri.ir/lab*
  - Book template:
    - *https://github.com/m-zakeri/Entrep/tree/main/docs/assignments/book*

Recap: What makes startups succeed?

- Factors of success



Factors of success across more than 200 companies

[Based on a study by IdeaLab]

https://www.idealab.com/

Why Financial Intelligence?

- **Finance** and **accounting** together make the language of business.
- They allow you to answer basic questions, alongside *controlling*, *evaluating*, and *planning* operations
  - What does my company own?
  - How much does it owe others?
  - How well did (or will) its operations go?
  - How does it (or should) get the cash to fund itself?
- You need to be able to **interpret** at least *core financial statements*, which will enable you to control, evaluate, and plan operations accordingly
  - We will refer to this process as *financial intelligence (accounting)*
  - **Financial accounting** is a branch of accounting concerned with the summary, analysis, and reporting of financial transactions related to a business.

Recall: Financial Statements صورت‌های مالی

- Financial reports are crucial for entrepreneurs because they track how your business is performing.
- They can help you make **informed decisions** about the future of your company and show you how to become more efficient.
- Four components of financial statements:
  - **Income Statement**
  - **Balance Sheet**
  - **Cash Flow Statement**
  - **Retained earnings (changes in equity)**

Recall: Financial Statements صورت‌های مالی

- **Income Statement سود و زیان:** An income statement shows the *revenue*, *expenses*, and ultimately the amount of ***profit*** or loss generated by a business, for a *specific reporting period*.
- **Balance Sheet ترازنامه:** The balance sheet reports a business's assets, liabilities, and equity at a specific point in time.
  - A company owns and what it owes on a single day/month/year.
- **Cash Flow Statement جریان وجوه نقد:** Your **cash** flow statement offers a summary of the cash and **cash** equivalents coming into and going out of your business.
- **Retained earnings (changes in equity) سود انباشته :** It shows how the distribution of income and transfer of *dividends* سود سهام affects the wealth of shareholders in the company.
  - Profits of previous years that are accumulated till the current period.

More on Balance Sheets

Interpreting Balance Sheets

Interpreting Balance Sheets: An Example

ASSETS		LIABILITIES	
Current Assets		**Current Liabilities**	
Cash	$5,000	Accounts Payable	$80,000
Accounts Receivable	$10,000	Wages Payable	$5,000
Inventory	$100,000	Taxes Payable	$2,000
Total Current Assets	$115,000	Total Current Liabilities	$87,000
Long-Term (Noncurrent) Assets		**Long-Term (Noncurrent Debts)**	
Equipment	$30,000	Bank Debt	$10,000
Accumulated Depreciation	($3,000)		
Net Long-Term Assets	$27,000	Total Liabilities	$97,000
		OWNER'S EQUITY	
		Common Stock	$15,000
		Retained Earnings	$30,000
		Total Owner's Equity	$45,000
Total Assets	**$142,000**	**Total Liabilities & Owner's Equity**	**$142,000**

Interpreting Balance Sheets: An Example

ASSETS

Current Assets

Assets that are easily converted into cash within the next operating period (typically within 1 year)

Long-Term (Noncurrent) Assets

Assets that CANNOT be easily converted into cash within the next operating period (typically within 1 year)

LIABILITIES

Current Liabilities

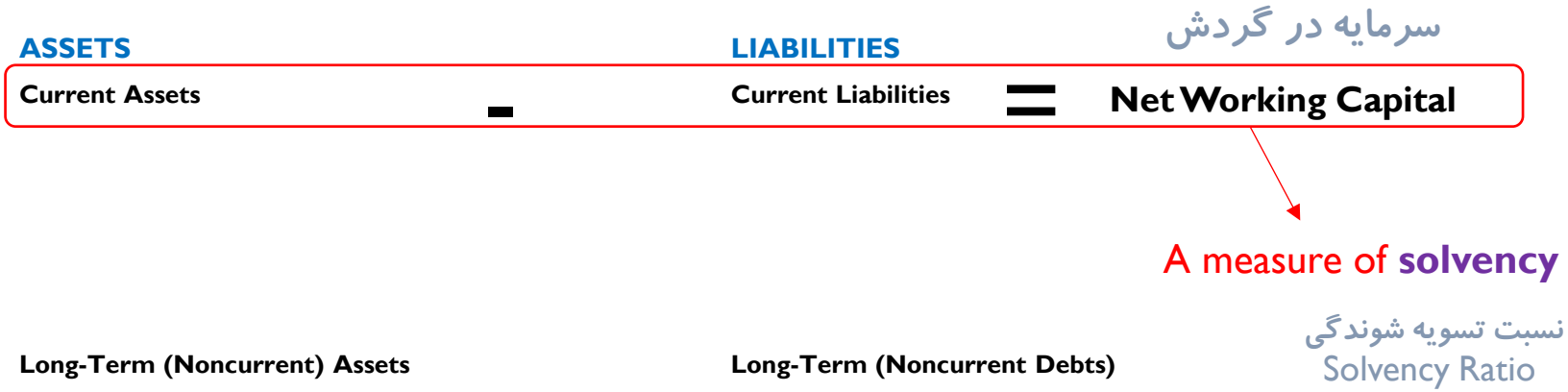
Short-term obligations that have to be paid within 1 year

Long-Term (Noncurrent Debts)

Long-term obligations that will be paid off over a period of years

OWNER'S EQUITY

Interpreting Balance Sheets: An Example



Interpreting Balance Sheets: An Example

ASSETS

Current Assets

Cash	$5,000
Accounts Receivable	$10,000
Inventory	$100,000

Long-Term (Noncurrent) Assets

LIABILITIES

Current Liabilities

Long-Term (Noncurrent Debts)

OWNER'S EQUITY

Listed in the order of *liquidity* (*i.e.*, the ability of an asset to be converted into cash)

Interpreting Balance Sheets: An Example

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Current Assets

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Inventory	$100,000
Total Current Assets	$115,000

Long-Term (Noncurrent) Assets

LIABILITIES

Current Liabilities

Long-Term (Noncurrent Debts)

OWNER'S EQUITY

Interpreting Balance Sheets: An Example

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Long-Term (Noncurrent) Assets

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LIABILITIES

Current Liabilities

Long-Term (Noncurrent Debts)

OWNER'S EQUITY

Interpreting Balance Sheets: An Example

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LIABILITIES

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OWNER'S EQUITY

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Total Assets **$142,000**

LIABILITIES

Current Liabilities

Accounts Payable	$80,000
Wages Payable	$5,000
Taxes Payable	$2,000

Long-Term (Noncurrent Debts)

Listed in the order that they are due

OWNER'S EQUITY

Interpreting Balance Sheets: An Example

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Total Liabilities	$97,000
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Retained Earnings	$30,000

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Let us elaborate a little bit on this section

More on Retained Earnings Statements

Interpreting Stocks and Retained Earnings

Stocks: Few Basics

- A **stock** is a piece of ownership in a company
- A holder of stocks (i.e., a *shareholder*) has a claim to a part of the company's assets and earnings
- The ownership of a shareholder is determined by the number of shares they own relative to the number of *outstanding shares* سهام در گردش
  - E.g., If a company has 1,000 outstanding shares and one person owns 100 shares, that person would own and have a claim to 10% of the company's assets and earnings.
- Outstanding shares include shares held by institutional investors as well as restricted shares held by insiders and company officers.

Stocks: Few Basics

- There are two types of stocks:
  1. Common Stocks:
     - They entitle the owners to vote at meetings of the board of directors
     - The owners may or may not receive *dividends* (i.e., a distribution of a portion of a company's earnings), decided by the board of directors
  2. Preferred Stocks:
     - They do not entitle the owners to vote at meetings of the board of directors
     - The owners receive fixed periodic dividends
     - They are cumulative; that is, if a payment to an owner is skipped due to insufficient earnings, it should be paid when earnings allow
     - They have a higher claim on assets and earnings than common stocks
       - E.g., Owners of preferred stocks receive dividends *before* common shareholders and are given priority in the event of bankruptcy and liquidation.

Stocks: Few Basics

- On many balance sheets, common stock is divided into 2 components:
  1. Common Stock at *Par (face) Value* ارزش اسمی سهام
     - Par value is an arbitrary value that represents the cost of a share; it is set when the company originally issues shares before there is a market.
     - Most companies set a par value for their stocks to a minimal amount
       - E.g., The par value for shares of Apple is $0.00001, and the par value for Amazon stock is $0.01.
  2. Additional Paid-in Capital (or *Capital Surplus*) مازاد سرمایه
     - This represents the excess paid by an investor *over and above* the share's par value.

Example: X Inc.

- $10,000,000 of common stock at $0.50 per share entails 10,000,000/0.5 = 20,000,000 shares of stock outstanding
- The total amount of money raised by X Inc., from the sale of all of its stock through time, has been:
  - Common stock at par + Additional paid-in capital
    = $10,000,000 + $44,000,000
    = $54,000,000
  - This amount represents an average value of $2.70 per share

X Inc. **Equity Section of Balance Sheet** **For the Year Ending December 31, 2018**	
Common Stock ($0.50 par value)	$10,000,000
Additional paid-in capital	$44,000,000
Retained Earnings	$32,000,000
Total Shareholders' Equity	**$86,000,000**

Retained Earnings

- Retained earnings سود انباشته on a balance sheet are equal to the prior year's retained earnings *plus* this year's *addition* to retained earnings.
- Assume for X Inc.:
  - Net income = $12,000,000
  - Common stock dividends سود سهام paid = $3,000,000
  - Thus, the *addition* to retained earnings = $12,000,000 - $3,000,000 = $9,000,000
- What were the retained earnings on the balance sheet of X Inc. for the year ending December 31, 2017? 32,000,000 - $9,000,000 = $23,000,000

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Retained Earnings: A Common Error

- A common error concerning *retained earnings* is that the amount listed on a balance sheet for a given year can be used by the respective company to cover future losses or pay off debt.
- **Retained earnings are NOT cash!**
- Rather, retained earnings are money that has been used over the years to purchase assets
  - They cannot be "re-spent" unless the company wants to liquidate assets previously purchased.

Book Value *vs.* Market Value

- The *sum* of common stock at par value, additional paid-in capital, and retained earnings of a company signifies its *book value* ارزش دفتری
- What is the *book value* of X Inc.?
  - $86,000,000
- If X Inc. trades in the **stock market** at a current price per share of $6.00, then its equity would be:
  - 20,000,000 shares × $6.00 per share = $120,000,000
  - **This is referred to as the *market value* of X Inc.**

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Valuating Post-Revenue Companies

- There is nearly always a disparity between the **book value** and the **market value** of a company (or *of an asset in a company*)
  - The book value is a recorded historical cost (or *original acquisition cost*).
  - The market value is based on the perceived *supply and demand*, which can vary constantly.
- This disparity shall be recognized at the point of sale
  - Before sale, there is no reason to account for any differences!
- A *company's valuation* can be specified at its market value, but if the difference between book and market values is considerable, an *appraisal process* فرآیند ارزیابی must be used to reconcile them.

Valuating Pre-Revenue Companies

- How can you valuate your *pre-revenue* startup?
  - Use your business model to develop a corresponding mathematical model.
  - Select your beachhead market using the process we learned earlier in the term.
  - Use your mathematical model to do projections for your beachhead market over 5 or 7 years (*assume very conservative parameter values*).
  - Compute the ***net present value*** of your projections
    - The riskier and earlier your startup, the higher the **discount rate** should be (a **discount rate between 40% and 70% is not uncommon**)
    - What are the factors that can play roles in reducing the discount rate (and, accordingly, increasing the valuation of your startup)?

Valuating Pre-Revenue Companies

- Some factors that can play roles in reducing the discount rate:
  - "Who is the team?"
  - "How solid are your market research and business model?"
  - "Do you have a strong IP or patent"?
  - "At which development stage is your product currently"?
  - "Do you have any letters-of-intent and/or binding contracts"?
  - "Have you started experimenting, and have you collected any promising statistics that can verify your value and growth hypotheses"?
  - "Do you have a clear plan and a **solid strategy** to *cross the chasm*"?

More on Income Statements

Interpreting Income Statements

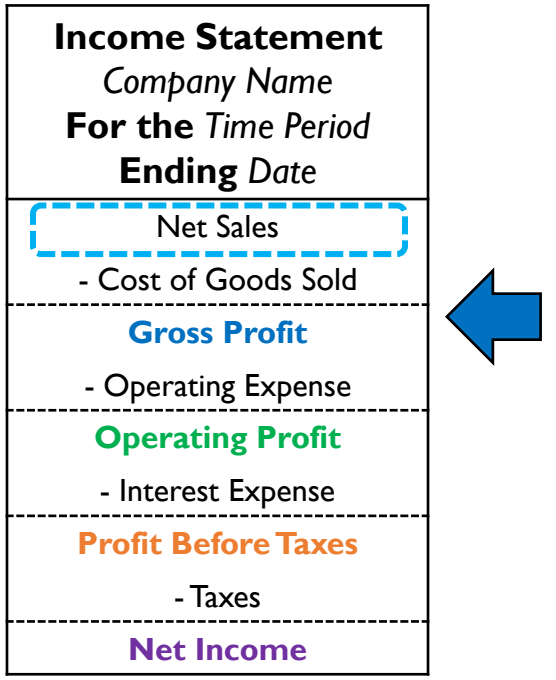
Basic Structure of Income Statements

- The basic structure of income statements involves **4 profit measures**:
  1. Gross profit سود ناخالص
  2. Operating profit سود عملیاتی
     - also referred to as "Earnings Before Interest and Taxes" or *EBIT*
  3. Profit before taxes
     1. is also referred to as "Earnings Before Taxes" or *EBT*
  4. Net income درآمد خالص

Income Statement *Company Name* **For the** *Time Period* **Ending** *Date*
Net Sales - Cost of Goods Sold
Gross Profit - Operating Expense
Operating Profit - Interest Expense
Profit Before Taxes - Taxes
Net Income

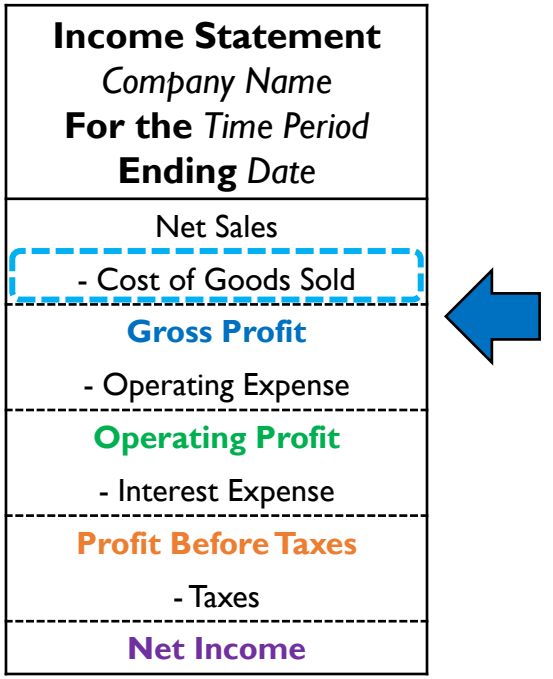
Basic Structure of Income Statements

- Net sales:
  - Net sales capture the revenue from sales
  - Some of this revenue may never be collected
    - **Sales return** may occur if a customer returns a defective, damaged, or otherwise undesirable product to the seller
    - **Sales allowance** may occur if a customer agrees to keep a defective product in return for a reduction in the selling price
  - Net sales = Gross sales – (returns + allowances)



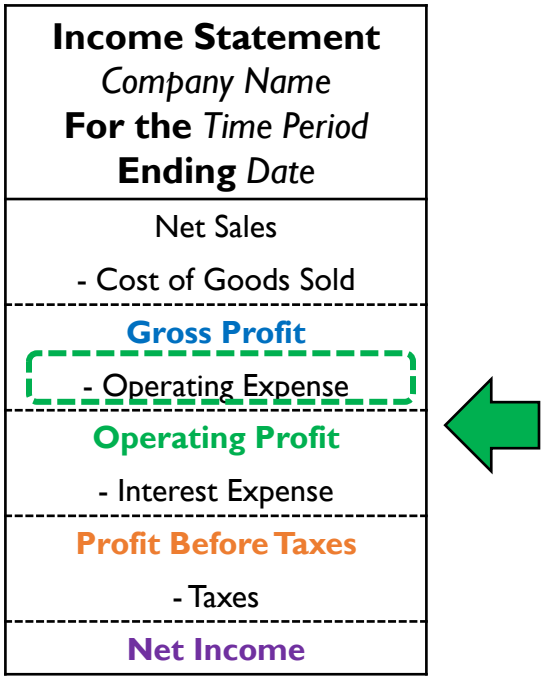
Basic Structure of Income Statements

- Cost of Goods Sold
  - Cost of Goods Sold (COGS) involves the *direct costs* attributable to the production of the **goods sold.**
    - For a retail company, direct costs are simply the costs of materials purchased for resale
    - For a manufacturing company, direct costs can include the costs of production, *depreciation*, materials, and labor.
    - For a service company, direct costs may be negligible; hence, its income statement may exclude COGS
  - COGS = Beginning Inventory + New Purchases - Ending Inventory



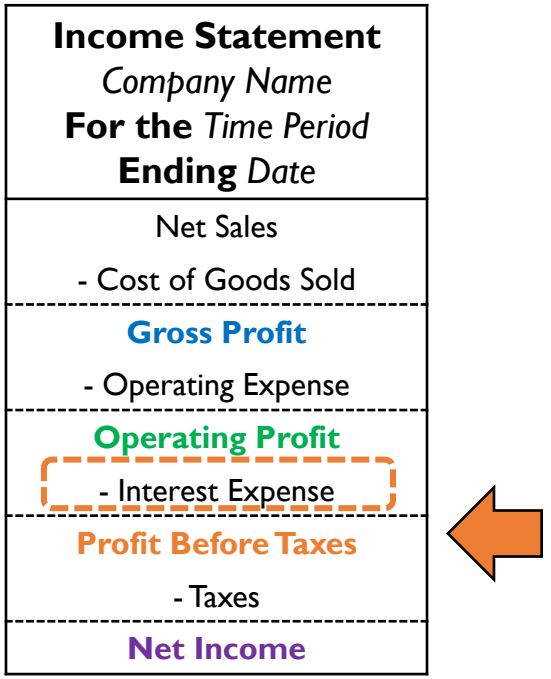
Basic Structure of Income Statements

- Operating expenses
  - Operating expenses include expenses other than COGS
  - Examples:
    - Management salaries
    - Advertising expenditures
    - Repairs and maintenance costs
    - Research and development expenditures
    - Lease payments
    - Depreciation (also referred to as "allocated cost of fixed assets")
    - General and administrative (G&S) expenses
      - Which includes everything from salaries of office staff to paper clips



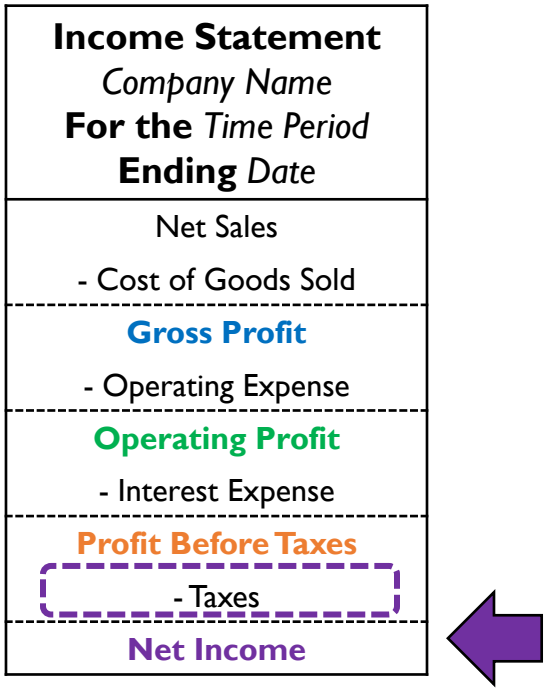
Basic Structure of Income Statements

- Interest expense:
  - Interest expense captures the cost of borrowing money (typically from banks).
  - **Note:** Dividends (or portions of the company's earnings) are NOT deducted in the income statement.
    - Rather, they are paid out of the net income.



Basic Structure of Income Statements

- Tax
  - Taxes are only paid after deducting interest expense.
  - Net income is the "bottom-line" profit
    - (***Net income*** / # of common shares outstanding) is referred to as **"Earnings Per Share"** or ***EPS*.**
    - (Current market price of the stock / EPS) is referred to as the ***P/E ratio*.**
    - Analysts often consider EPS and P/E ratios as important indicators of a company's current and potential future performance.



Interpreting Income Statements: An Example

Income Statement *X Inc.* **For the** *Year* **Ending** *December 31, 2017*	
Sales to Customers	$5,200,000
Cost of Goods Sold	-$3,900,000
Gross Profit	**$1,300,000**
Less Selling, General, and Administrative Expenses	
Payroll	$1,000,000
Rent	$150,000
Utilities	$75,000
Advertising	$18,000
Allocated Cost of Store Equipment (Depreciation)	$3,000
All Other	$10,000
Operating Profit (EBIT)	**$44,000**

A catchall category for items not large enough to justify a separate line on the income statement

Interpreting Income Statements: An Example

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All Other		$10,000
Operating Profit (EBIT)		**$44,000**
Less Interest Expenses		$1,000
Profit Before Taxes		**$43,000**
Less Federal and State Taxes		$13,000
Net Income		**$30,000**

What is EPS assuming the company has 1000 shares?

Interpreting Income Statements: An Example

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Allocated Cost of Store Equipment (Depreciation)	$3,000
All Other	$10,000
Operating Profit (EBIT)	**$44,000**
Less Interest Expenses	$1,000
Profit Before Taxes	**$43,000**
Less Federal and State Taxes	$13,000
Net Income	**$30,000**

What is EPS assuming the company has 1000 shares? **$30**

More on Cash Flow Statements

Interpreting Cash Flow Statements

Basic Structure of Cash Flow Statements

- The basic structure of cash flow statements involves 3 main components:
  1. Cash From *Operating Activities*
     1. Include any "sources" and "uses" of cash from business activities, which involve ONLY the *current assets* and *current liabilities*.
  2. Cash From *Investing Activities*
     1. Include any "sources" and "uses" of cash from the company's long-term investments, which involve ONLY *noncurrent assets*.
  3. Cash From *Financing Activities*
     - Include the "sources" of cash from investors and/or banks, as well as the "uses" of money paid to shareholders.

Interpreting Cash Flow Statements: An Example

Cash Flow Statement
X Inc.
For the Year Ending December 31, 2017

Operating Activities

- These include any "sources" and "uses" of cash from business activities, which involve ONLY the *current assets* and *current liabilities*
- For example, purchases or sales of long-term assets are NOT included in operating activities.

Interpreting Cash Flow Statements: An Example

Cash Flow Statement
X Inc.
For the Year Ending December 31, 2017

Operating Activities

Net Income $30,000

Read from the **income statement** of X Inc. for the year ending December 31, 2017

Interpreting Cash Flow Statements: An Example

Cash Flow Statement
X Inc.
For the Year Ending December 31, 2017

Operating Activities	
Net Income	$30,000
Adjust Net Income for Noncash Expenses	

Step 1

Interpreting Cash Flow Statements: An Example

Cash Flow Statement
X Inc.
For the Year Ending December 31, 2017

Operating Activities	
Net Income	$30,000
Adjust Net Income for Noncash Expenses	
Step 2 → **Adjust Net Income for Changes in Working Capital**	

Interpreting Cash Flow Statements: An Example

Cash Flow Statement
X Inc.
For the Year Ending December 31, 2017

Operating Activities

Net Income	$30,000
Adjust Net Income for Noncash Expenses	
Depreciation	+$3,000
Adjust Net Income for Changes in Working Capital	

Recall: ***Depreciation is added back to the profit*** because it has been counted for in the "capital expenditure" (or what is sometimes referred to as "property, plant, and equipment")

Interpreting Cash Flow Statements: An Example

Cash Flow Statement X Inc. For the Year Ending December 31, 2017		
Operating Activities		
Net Income		$30,000
Adjust Net Income for Noncash Expenses		
Depreciation	+$3,000	
		$33,000
Adjust Net Income for Changes in Working Capital		

Interpreting Cash Flow Statements: An Example

Cash Flow Statement X Inc. For the Year Ending December 31, 2017		
Operating Activities		
Net Income		$30,000
Adjust Net Income for Noncash Expenses		
Depreciation	+$3,000	
		$33,000
Adjust Net Income for Changes in Working Capital		
Current Assets		
Current Liabilities		

Interpreting Cash Flow Statements: An Example

Cash Flow Statement
X Inc.
For the Year Ending December 31, 2017

Operating Activities		
Net Income		$30,000
Adjust Net Income for Noncash Expenses		
Depreciation	+$3,000	
		$33,000
Adjust Net Income for Changes in Working Capital		
Current Assets		
Increase in Accounts Receivable	-$10,000	
Increase in Inventory	-$100,000	
Current Liabilities		

Increases in current assets *use* cash (*hence, they are subtracted*), while decreases in current assets *produce* cash (*hence, they- if any- should be added*)

Interpreting Cash Flow Statements: An Example

Cash Flow Statement X Inc. For the Year Ending December 31, 2017		
Operating Activities		
Net Income		$30,000
Adjust Net Income for Noncash Expenses		
Depreciation	+$3,000	
		$33,000
Adjust Net Income for Changes in Working Capital		
Current Assets		
Increase in Accounts Receivables	-$10,000	
Increase in Inventory	-$100,000	
Current Liabilities		
Increase in Vendor Payable	+$80,000	
Increase in Wages Payable	+$5,000	
Increase in Taxes Payable	+$2,000	

Increases in current liabilities increase cash (*hence, they should be added*) and vice versa

Interpreting Cash Flow Statements: An Example

Cash Flow Statement
X Inc.
For the Year Ending December 31, 2017

Operating Activities		
Net Income		$30,000
Adjust Net Income for Noncash Expenses		
Depreciation	+$3,000	
		$33,000
Adjust Net Income for Changes in Working Capital		
Current Assets		
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Increase in Inventory	-$100,000	
Current Liabilities		
Increase in Vendor Payable	+$80,000	
Increase in Wages Payable	+$5,000	
Increase in Taxes Payable	+$2,000	

Observation: Increases in current assets are "uses" of cash, while increases in current liabilities are "sources" of cash (*and vice versa*)

Interpreting Cash Flow Statements: An Example

Cash Flow Statement X Inc. For the Year Ending December 31, 2017		
Operating Activities		
Net Income		$30,000
Adjust Net Income for Noncash Expenses		
Depreciation	+$3,000	
		$33,000
Adjust Net Income for Changes in Working Capital		
Current Assets		
Increase in Accounts Receivables	-$10,000	
Increase in Inventory	-$100,000	
Current Liabilities		
Increase in Vendor Payable	+$80,000	
Increase in Wages Payable	+$5,000	
Increase in Taxes Payable	+$2,000	
		$-23,000
Cash Flow from **Operating Activities**		**$10,000**

Interpreting Cash Flow Statements: An Example

Cash Flow Statement
X Inc.
For the Year Ending December 31, 2017

Investing Activities

- These include any "sources" and "uses" of cash from the company's long-term investments, which involve ONLY **noncurrent assets**.
- For example, when the company buys or sells a building or equipment, the cash relating to this transaction is reflected as an *investing* activity.

Interpreting Cash Flow Statements: An Example

Cash Flow Statement X Inc. For the Year Ending December 31, 2017	
Investing Activities	
Purchase of Equipment	-$30,000

Interpreting Cash Flow Statements: An Example

Cash Flow Statement X Inc. For the Year Ending December 31, 2017		
Investing Activities		
Purchase of Equipment	-$30,000	
Cash Flow from Investing Activities		**-$30,000**

Interpreting Cash Flow Statements: An Example

Cash Flow Statement
X Inc.
For the Year Ending December 31, 2017

Investing Activities		
Purchase of Equipment	-$30,000	
Cash Flow from Investing Activities		**-$30,000**

Financing Activities

- These include the "sources" of cash from investors and/or banks, as well as the "uses" of cash paid to shareholders.
- For example, payments of dividends, payments for stock repurchases, and the repayment of debt principal (loans) are considered *financing* activities.

Interpreting Cash Flow Statements: An Example

Cash Flow Statement X Inc. For the Year Ending December 31, 2017		
Investing Activities		
Purchase of Equipment	-$30,000	
Cash Flow from Investing Activities		**-$30,000**
Financing Activities		
Proceeds from Bank Borrowing	+$10,000	
Sale of Stock to Owners	+$15,000	
Payment of Dividends to Owners	0	

Interpreting Cash Flow Statements: An Example

Cash Flow Statement X Inc. For the Year Ending December 31, 2017		
Investing Activities		
Purchase of Equipment	-$30,000	
Cash Flow from Investing Activities		**-$30,000**
Financing Activities		
Proceeds from Bank Borrowing	+$10,000	
Sale of Stock to Owners	+$15,000	
Payment of Dividends to Owners	0	
Cash Flow from Financing Activities		**$25,000**

Interpreting Cash Flow Statements: An Example

Cash Flow Statement X Inc. For the Year Ending December 31, 2017		
Investing Activities		
Purchase of Equipment	-$30,000	
Cash Flow from Investing Activities		**-$30,000**
Financing Activities		
Proceeds from Bank Borrowing	+$10,000	
Sale of Stock to Owners	+$15,000	
Payment of Dividends to Owners	0	
Cash Flow from Financing Activities		**$25,000**
Increase in Cash for the Year		**$5,000**

Interpreting Cash Flow Statements: An Example

Cash Flow Statement X Inc. For the Year Ending December 31, 2017		
Investing Activities		
Purchase of Equipment	-$30,000	
Cash Flow from Investing Activities		**-$30,000**
Financing Activities		
Proceeds from Bank Borrowing	+$10,000	
Sale of Stock to Owners	+$15,000	
Payment of Dividends to Owners	0	
Cash Flow from Financing Activities		**$25,000**
Increase in Cash for the Year		**$5,000**
Cash at Beginning of Year		$0

Interpreting Cash Flow Statements: An Example

Cash Flow Statement X Inc. For the Year Ending December 31, 2017		
Investing Activities		
Purchase of Equipment	-$30,000	
Cash Flow from Investing Activities		**-$30,000**
Financing Activities		
Proceeds from Bank Borrowing	+$10,000	
Sale of Stock to Owners	+$15,000	
Payment of Dividends to Owners	0	
Cash Flow from Financing Activities		**$25,000**
Increase in Cash for the Year		**$5,000**
Cash at Beginning of Year		$0
Cash at End of Year		**$5,000**

Interpreting Cash Flow Statements: An Example

Cash Flow Statement X Inc. For the Year Ending December 31, 2017		
Investing Activities		
Purchase of Equipment	-$30,000	
Cash Flow from Investing Activities		**-$30,000**
Financing Activities		
Proceeds from Bank Borrowing	+$10,000	
Sale of Stock to Owners	+$15,000	
Payment of Dividends to Owners	0	
Cash Flow from Financing Activities		**$25,000**
Increase in Cash for the Year		**$5,000**
Cash at Beginning of Year		$0
Cash at End of Year		**$5,000**
Increase in Cash for the Year		**$5,000**

Cash Flow Statements: An Example

- A toy example

YEAR	1	2	3	4	5	6	7	8	9	10
Revenue	70K	70K	70K	70K	70K	70K	70K	70K	70K	70K
Driver Expense	50K	50K	50K	50K	50K	50K	50K	50K	50K	50K
Car Depreciations	10K	10K	10K	10K	10K	10K	10K	10K	10K	10K
Operating Profit	10K	10K	10K	10K	10K	10K	10K	10K	10K	10K

Cash Flow (Y1):
Starting Cash: $30K
Profit: $10K
Depreciation: +$10K

Cash from Operations: $20K
Capital Expenditure: -$30K

Ending Cash: $20K

Cash Flow (Y2):
Starting Cash: $20K
Profit: $10K
Depreciation: +$10K

Cash from Operations: $20K
Capital Expenditure: $0

Ending Cash: $40K

Cash Flow (Y3):
Starting Cash: $40K
Profit: $10K
Depreciation: +$10K

Cash from Operations: $20K
Capital Expenditure: $0

Ending Cash: $60K

In what order are financial statements prepared?

WHY?

Interrelationships of Statements

- The results on some financial statements become inputs to other statements.

Interrelationships of Statements

- The results on some financial statements become inputs to other statements.
- The statements are interrelated:
  - The retained earnings statement uses the results of the income statement.
  - The balance sheet uses the results of the retained earnings statement are also interrelated.
  - The statement of cash flows uses the information on the balance sheet.

Interrelationships of Statements

- The results on some financial statements become inputs to other statements.
- The statements are interrelated:
  - The retained earnings statement uses the results of the income statement.
  - The balance sheet uses the results of the retained earnings statement are also interrelated.
  - The statement of cash flows uses the information on the balance sheet.
- **To prepare financial statements,** you must understand the sequence in which these amounts are determined:
  1. Income statement,
  2. Retained earnings statement,
  3. Balance sheet statement,
  4. Cash flow statement.

Quiz

- CSU Corporation began operations on *January 1, 2025*. The following information is available for CSU on *December 31, 2025*.
- Prepare the income statement, retained earnings statement, and the balance sheet statement.

Accounts receivable	$ 1,800	Retained earnings	$ 0	Supplies expense	$ 200
Accounts payable	2,000	Equipment	16,000	Cash	1,400
Rent expense	9,000	Insurance expense	1,000	Dividends	600
Notes payable	5,000	Service revenue	17,000		
Common stock	10,000	Supplies	4,000		

Quiz solution: income statement

- Amounts received from issuing stock are not revenues
- Amounts paid out as dividends are not expenses.

CSU Corporation
Income Statement
For the Year Ended December 31, 2025

Revenues		
Service revenue		$17,000
Expenses		
Rent expense	$9,000	
Insurance expense	1,000	
Supplies expense	200	
Total expenses		10,200
Net income		$ 6,800

Quiz solution: retained earnings

- Some investors seek companies, such as *Dow Chemical*, that have a history of paying high dividends.
- Other investors seek companies, such as *Amazon.com*, that reinvest earnings to increase the company's growth instead of paying dividends.

CSU Corporation
Retained Earnings Statement
For the Year Ended December 31, 2025

Retained earnings, January 1	$ 0
Add: Net income	6,800
	6,800
Less: Dividends	600
Retained earnings, December 31	$6,200

Quiz solution: balance sheet

CSU Corporation
Balance Sheet
December 31, 2025

Assets		
Cash		$ 1,400
Accounts receivable		1,800
Supplies		4,000
Equipment		16,000
Total assets		$23,200
Liabilities and Stockholders' Equity		
Liabilities		
Notes payable	$ 5,000	
Accounts payable	2,000	
Total liabilities		$ 7,000
Stockholders' equity		
Common stock	10,000	
Retained earnings	6,200	
Total stockholders' equity		16,200
Total liabilities and stockholders' equity		$23,200

CSU CORPORATION
Income Statement
For the Year Ended December 31, 2004

- …

Revenues		
Service revenue		$17,000
Expenses		
Rent expense	$9,000	
Insurance expense	1,000	
Supplies expense	200	
Total expenses		10,200
Net Income		$ 6,800

Net Income is needed for the Statement of Retained Earnings.

CSU CORPORATION
Retained Earnings Statement
For the Year Ended December 31, 2004

- …

Retained earnings, January 1	$ 0
Add: Net Income	6,800
	6,800
Less: Dividends	600
Retained earnings, December 31	$ 6,200

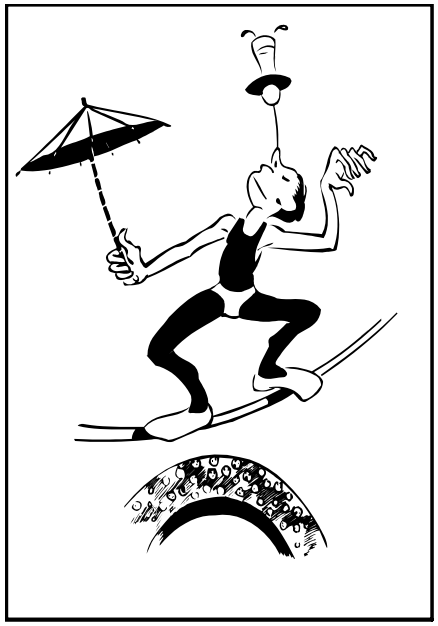
Ending Retained Earnings is needed for the balance sheet.

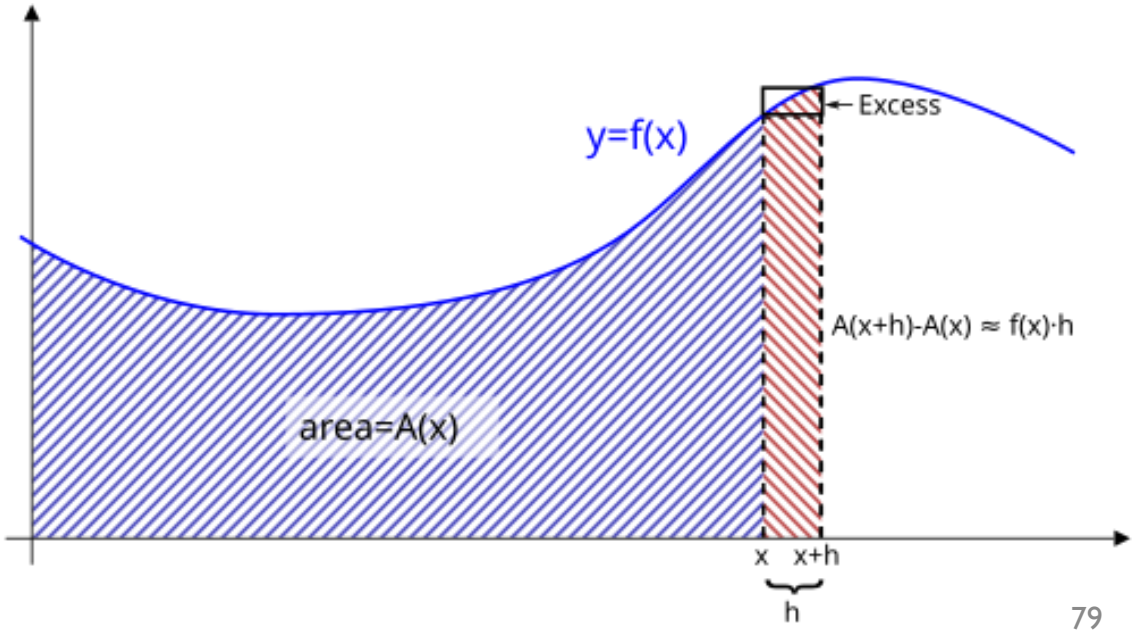
CSU CORPORATION
Balance Sheet
December 31, 2004

Assets		
Cash		$ 1,400
Accounts receivable		4,000
Supplies		1,800
Equipment		16,000
Total assets		$23,200
Liabilities and Stockholders' Equity		
Liabilities		
Accounts payable		$ 2,000
Notes payable		5,000
Total liabilities		7,000
Stockholders' equity		
Common stock	10,000	
Retained earnings	6,200	
Total Stockholders' equity		16,200
Total liabilities and stockholders' equity		$23,200

Summary: Accounting Equation

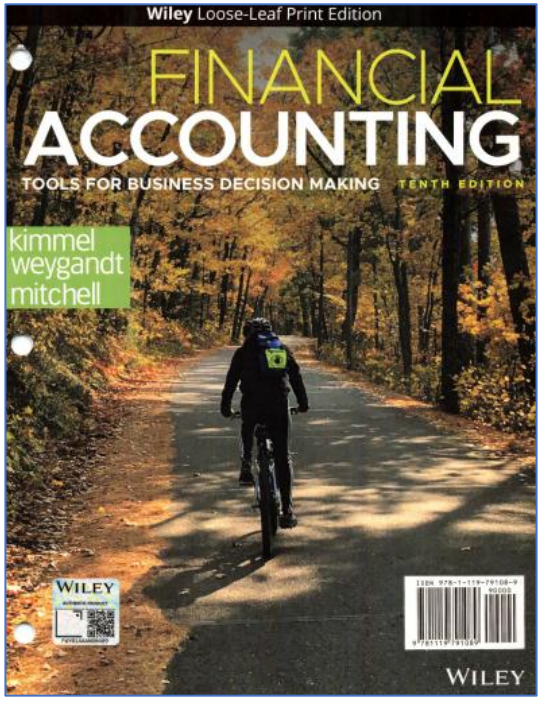
- The fundamental accounting equation, also called the balance sheet equation:
  - Assets = Liabilities + Stockholders' (Owner's) Equity
  - Must *always* balance!
  - is the foundation for the **double-entry bookkeeping** system and the cornerstone of accounting science.





Reading Exercise

- Read **Chapters 1, 2, and 4** of the "Financial Accounting: Tools for Business Decision-Making" book
  - 2022 by Paul D. Kimmel *et al.*
- Read *SepidarSystem* blogs and tutorials:
  - https://www.sepidarsystem.com/blog/financial-statements-and-notes/



Next Class

- Financial accounting (Part III)
  - **Bookkeeping**