
# The firm

2.1. Concept of firm and firm goals

# At a glance

2.1. Concept of firm and firm goals
2.2. Types of firms: economic, organizational and legal criteria
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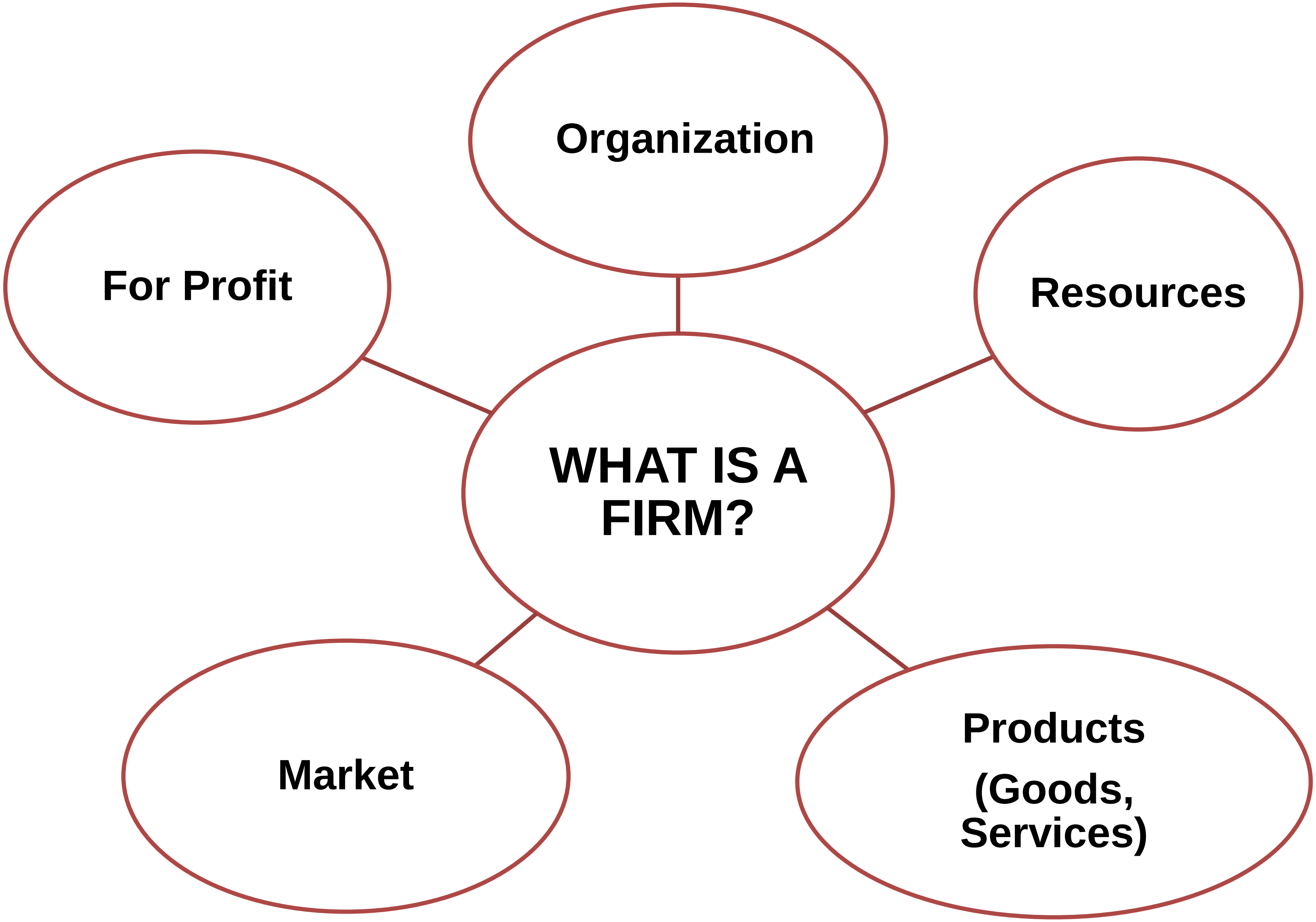
In the first part of the lesson we will discuss the role of the firm, several views of the firm such as the systemic and the accounting views and, finally, we will elucidate alternative firm goals. In addition, we will detail how to measure these goals.

The second part of the lesson describes several useful classification criteria of firms and, in particular, some common legal forms.

# Lesson 2. The firm

2.1. Concept of firm and firm goals

# A. Concept of firm


Organization
For Profit
Resources
WHAT IS A FIRM?
Market
Products
(Goods, Services)

**Natural resources:** Inputs that offer value in their natural state

**Human resources:** Physical, intellectual, and creative contributions of everyone who works within an economy

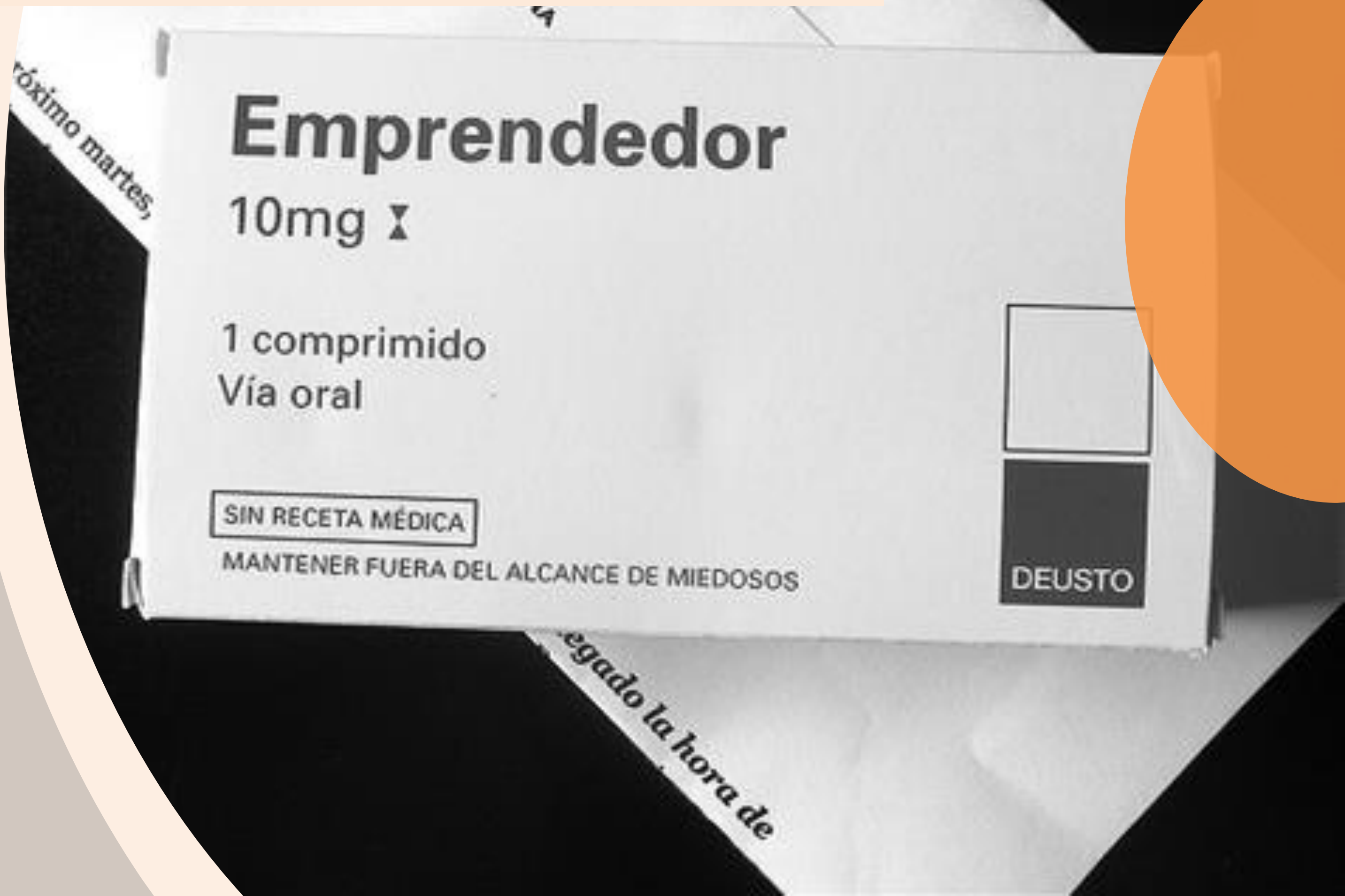
**Capital**

Synthetic resources that a business needs to produce goods or services

**Entrepreneurship**

Entrepreneurs take the risk of launching and operating their own business

Create opportunities by harnessing other factors of production



*A firm is an* ***organization*** *composed of human, technical and material* ***resources*** *which aims to make a* ***profit*** *through the transformation of inputs into finished* ***products*** *to meet the needs of the* ***market*** *(customers).*

## Roles of firms

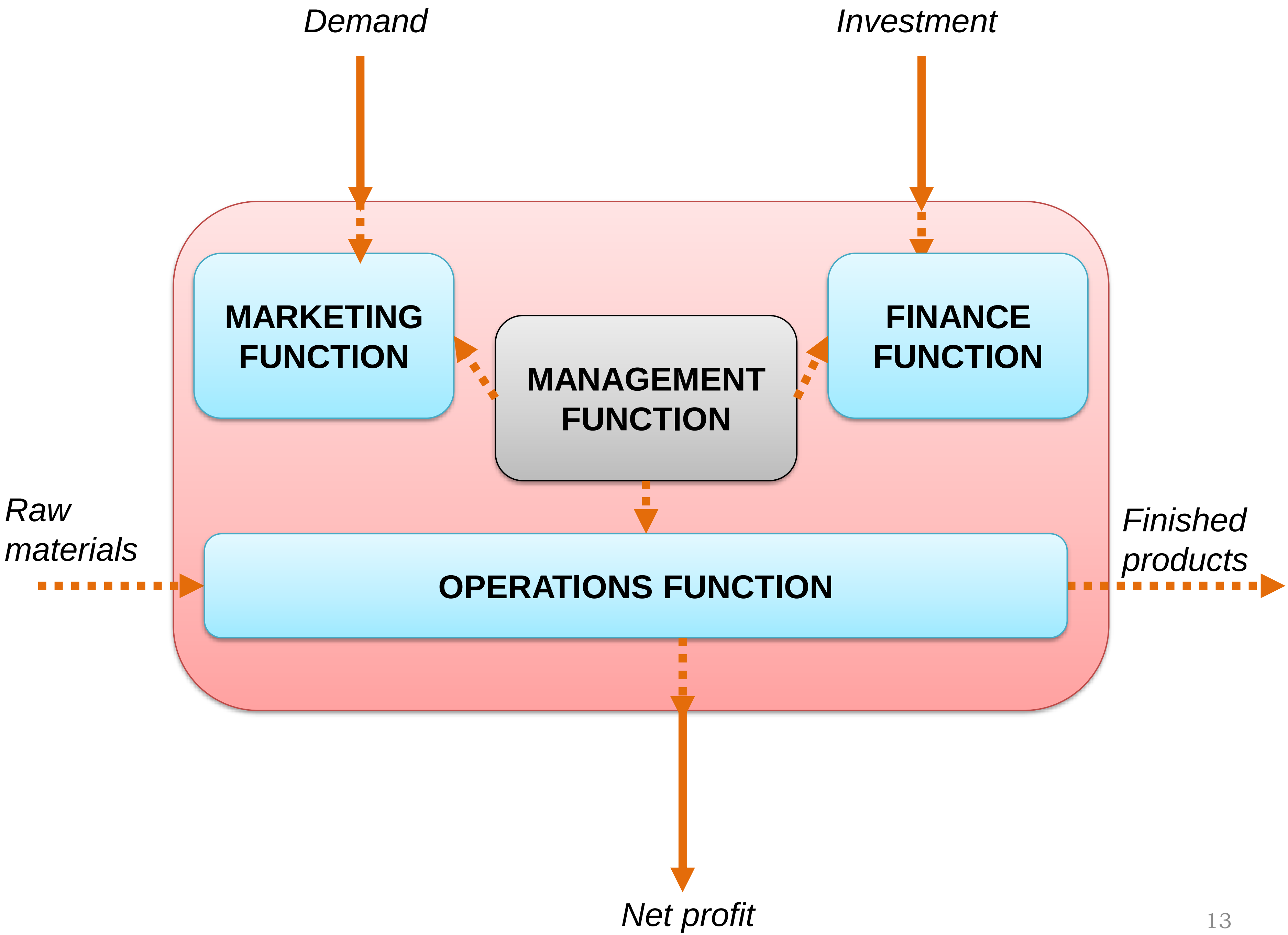
FIRMS MUST CREATE VALUE

- COMBINE RESOURCES
- ADD VALUE TO THOSE RESOURCES
- OBTAIN PROFITS

FIRMS ARE KEY ECONOMIC ACTORS

- PROVIDE PRODUCTS, JOBS, INVESTMENT OPORTUNITIES
- INNOVATION DEVICES
- PIVOTAL FOR ECONOMIC GROWTH

# B. The firm as a system


Demand
Investment
MARKETING FUNCTION
MANAGEMENT FUNCTION
FINANCE FUNCTION
Raw materials
OPERATIONS FUNCTION
Finished products
Net profit

## C. The accounting view of the firm

**Accounting** records, classifies, and summarizes in money terms all transactions and events which are important for a firm.

Accounting produces the “financial statements” of the firm. They are published on a regular basis:

- **Balance sheet**
- **Profit and loss statement**

**Balance Sheet for Wal-Mart**

*As of Jan 31, 2006*

| | | | |
|---|---|---|---|
| **Assets** | | **Liabilities and Shareholders' Equity** | |
| *Current Assets:* | | *Current Liabilities:* | |
| Cash and Cash Equivalents | 6,414 | Commercial Paper | 3,754 |
| Receivables | 2,662 | Accounts Payable | 25,373 |
| Inventories | 32,191 | Accrued Liabilities | 13,465 |
| Prepaid Expenses and Other | 2,557 | Accrued Income Taxes | 1,340 |
| **Total Current Assets** | 43,824 | Long-term Debt, due within one year | 4,595 |
| | | Obligations Under Capital Leases, due within one year | 299 |
| *Property and Equipment, at cost:* | | **Total Current Liabilities** | 48,826 |
| Land | 16,643 | | |
| Buildings and Improvements | 56,163 | Long-term Debt | 26,429 |
| Fixtures and Equipment | 22,750 | Long-term Obligations Under Capital Leases | 3,742 |
| Transportation Equipment | 1,746 | Deferred Income Taxes and Other | 4,552 |
| **Total Property and Equipment, at cost:** | 97,302 | Minority Interest | 1,467 |
| | | | |
| Less Accumulated Depreciation | 21,427 | | |
| Property and Equipment, net | 75,875 | *Shareholders' Equity:* | |
| | | Preferred Stock | 0 |
| Property Under Capital Lease: | 5,578 | Common Stock | 417 |
| Less Accumulated Amortization | 2,163 | Capital in Excess of Par Value | 2,596 |
| | | Accumulated Other Comprehensive Income | 1,053 |
| Property Under Capital Lease, net | 3,415 | Retained Earnings | 49,105 |
| Goodwill | 12,188 | | |
| Other Assets and Deferred Charges | 2,885 | **Total Shareholders' Equity** | 53,171 |
| | | | |
| **Total Assets** | 138,187 | **Total Liabilities and Shareholders' Equity** | 138,187 |

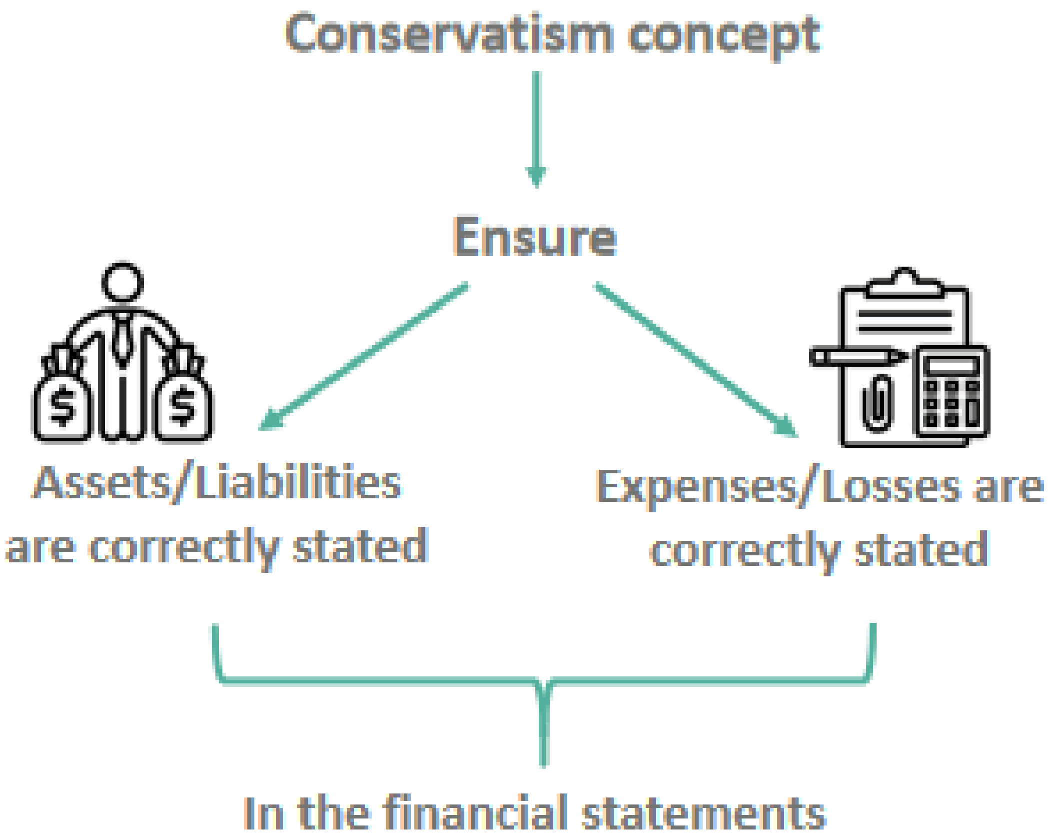
| Report Period | Jan 01 - Nov 23, 09 |
|---|---|
| **Revenue** | **$66,292.16** |
| Revenue | $66,292.16 |
| Shipping | $10.00 |
| Sales | $66,689.11 |
| Discounts | $-406.95 |
| **Cost of Sales** | **$36,257.05** |
| Cost of Sales | $26,977.47 |
| Shipping | $100.00 |
| Purchases | $0.00 |
| Materials and Supplies | $3,887.19 |
| Labor | $22,990.28 |
| Cost of Goods Sold | $9,279.58 |
| **Gross Profit** | **$30,035.11** |
| **Expenses** | **$18,781.85** |
| **Other Income** | **$0.00** |
| **Other Expenses** | **$0.00** |
| **Net Profit or Loss** | **$11,253.26** |

# Recording information in accounting

**Double Entry Bookkeeping** is a standardized accounting system wherein each and every transaction results in adjustments to at least two offsetting accounts.

Each financial transaction must have an equal and opposing entry in order for the fundamental accounting equation — i.e. assets = liabilities + shareholders’ equity — to remain true.

# Accounting principles



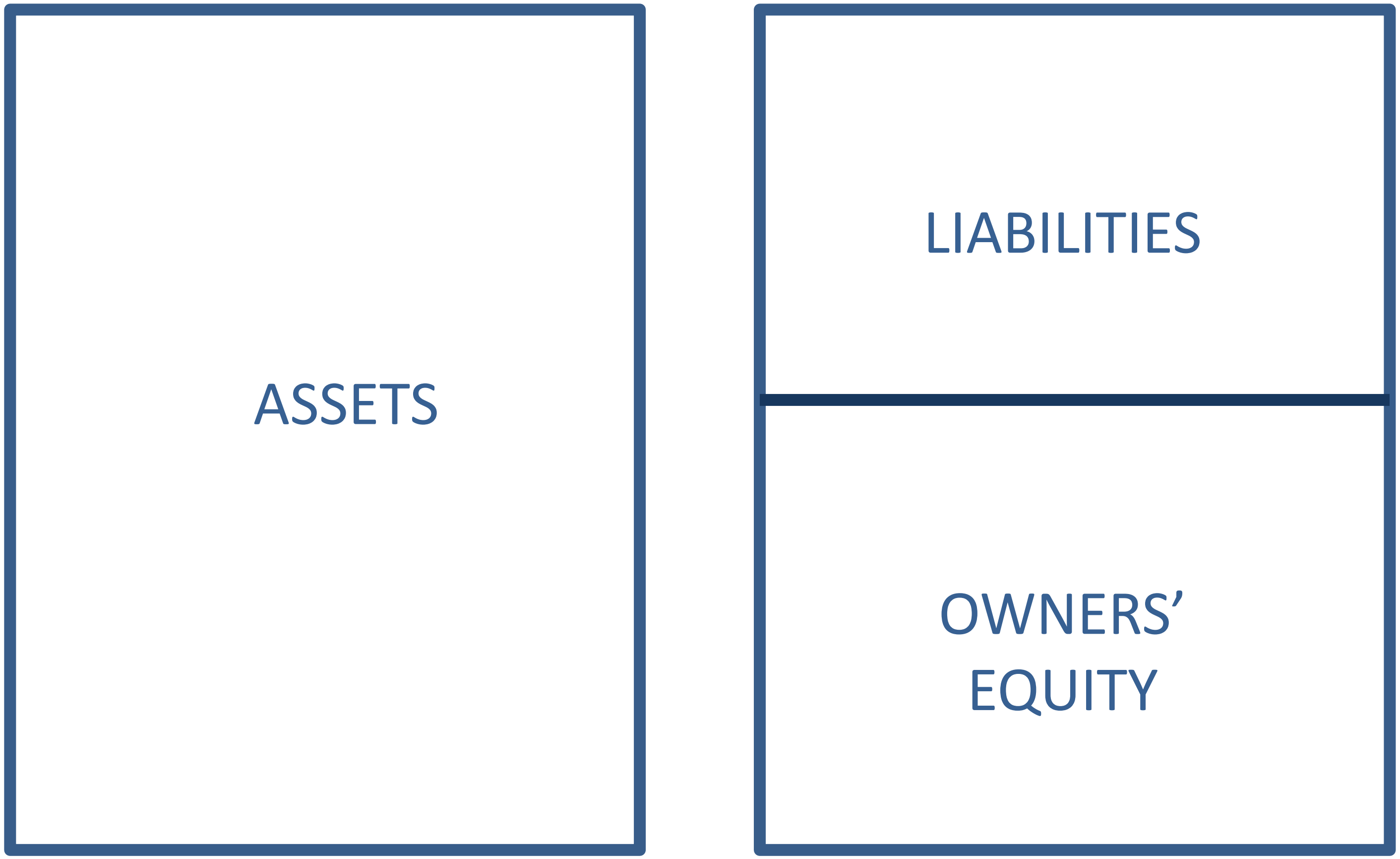

**"Do not anticipate profits, but provide for all possible losses."**

[Generally Accepted Accounting Principles (GAAP) Guide Sheet (ojp.gov)]
[Prudence Concept In Accounting - What Is It, Example (wallstreetmojo.com)]
[Conservatism Principle | Definition + Examples (wallstreetprep.com)]

# Balance sheet

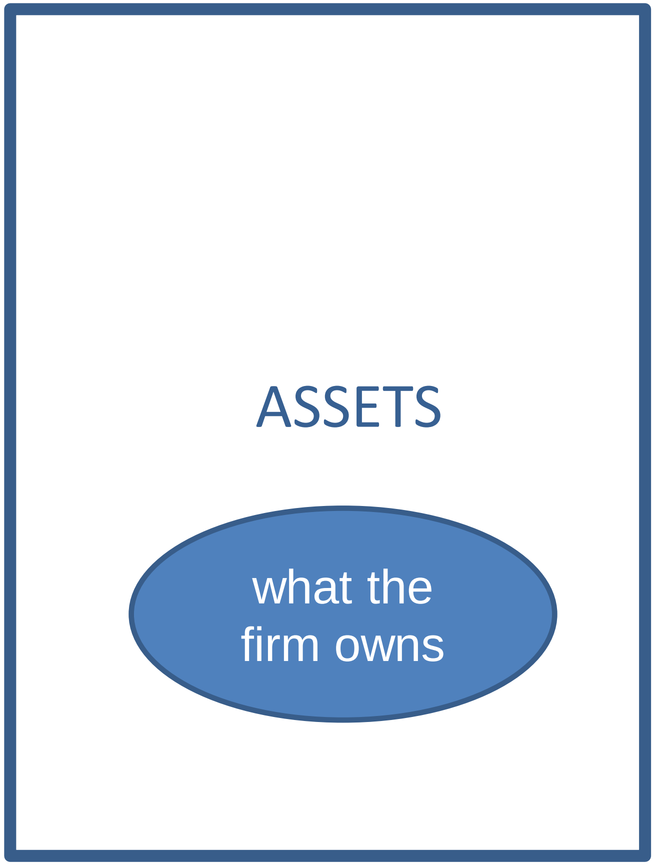

A balance sheet is often described as a "snapshot” of a firm's financial condition. It represents the assets, liabilities and ownership equity of the firm in a given point in time.

# Balance sheet




Assets = Liabilities + Ownership equity

# Balance sheet




**An asset is anything owned by a company that can be converted into cash or used to generate income.**

*E.g.:*

- *Cash*
- *Inventories (stocks): raw materials, consumer products...*
- *Investments: machines, tools, computers…*

# Balance sheet

**A liability is a financial debt held by a company.**

*E.g.:*

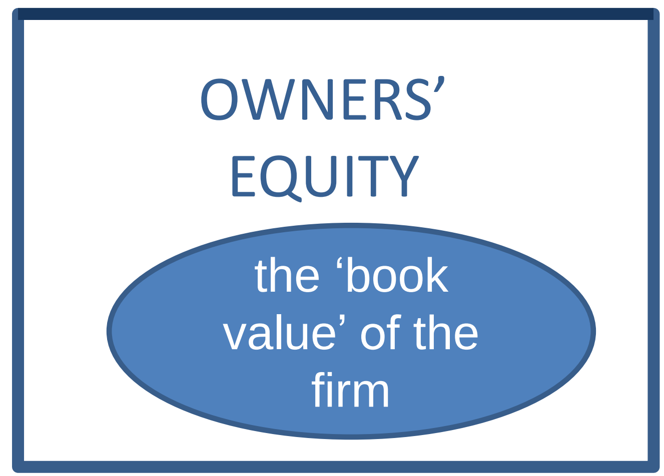
- *Accounts payable (debts to suppliers)*
- *Taxes*
- *Loans*

# Balance sheet

**The owner's equity is the owner's share of the assets of a business.**

*E.g.:*

- *Capital contributed by owners*
- *Reserves (retained earnings)*



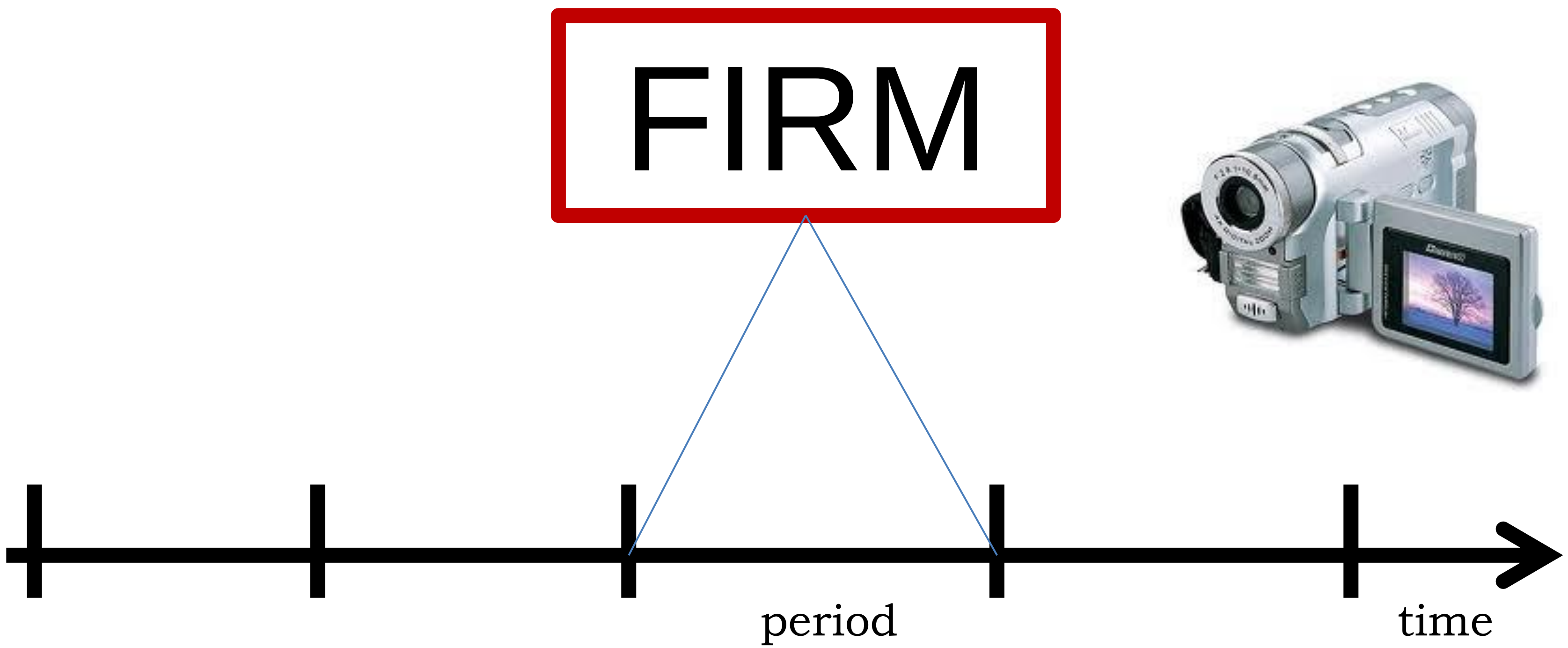
## Balance sheet


# Basic accounting equation:

**Assets = Liabilities + Owner's Equity**

**Owned = Owed + Owner's Claims**

## Profit and loss statement / Income statement




A profit and loss statement displays the “bottom line” (profit or loss) after calculating the revenues recognized for a specific period and the costs charged against these revenues. It always represents a period of time.

## Profit and loss statement / Income statement

Revenue

\- Cost of sales and operating expenses

**Operating profit (loss)**

**=Earnings Before Interest and Taxes (EBIT)**

\- Interests

**Profit/earnings (loss) before tax**

\- Tax

**Profit/earnings (loss) for the period**

# D. The goals of the firm

# Profit

Corporate Social Responsibility, stakeholders

**Absolute terms**

EBIT
EBT

**Relative terms – value creation**

ROA
ROE

The goal of the company is to maximize its value, that is, "to maximize the joint wealth of all those who have a claim on the assets and cash flows generated by the running of the company".
This objective is made effective through the maximization of the company's value in the market. (Book value vs. market value)

# Value creation indicators

Profitability ratios relate profit to some relevant variable

- Return on Assets (ROA)
- Return on Equity (ROE)

# RETURN ON ASSETS

- It indicates how investment (assets) generates profit. What is the profit each €1 invested in the company is generating?

$$ROA = \frac{EBIT}{A} \quad ; \qquad A = \text{Assets}$$

# DECOMPOSING RETURN ON ASSETS

ROA measures how profitable a company is relative to its assets or the resources that it owns or controls. Therefore, it is an indicator of how profitable a company is before financial leverage (interests are not considered).

ROA = Operating profit/ Total assets
ROA = Return on sales*Asset turnover

$$EBIT = Earnings\ Before\ Interests\ and\ Taxes\ (Operating\ \mathrm{Pr}ofit)$$

$$ROA = \frac{EBIT}{A} = \frac{EBIT}{S} \cdot \frac{S}{A} = ROS \cdot AT$$

**Return on Sales (ROS)** Indicates how sales contribute to profit. It is a measure of the gross profit margin per €1 in sales.
**Assets Turnover (AT)** is a measure of how well assets are being used to produce revenue.

# RETURN ON EQUITY

- ROE measures the rate of return on the ownership equity. The amount of net income returned as a percentage of shareholders equity. It measures a firm's efficiency at generating profits from every unit of ownership equity.
- Indicates how investment made by firm owners (equity) converts into profit. What is the profit each €1 invested in the company is generating?

$$ROE = \frac{EBT}{E}$$

$$E = \text{Equity} \quad ; \; EBT = \text{Earnings Before Tax}$$

# DECOMPOSING RETURN ON EQUITY

$$ROE = \frac{EBT}{E} = \frac{EBIT - I}{E} = \frac{ROA \cdot A - k_i \cdot D}{E} =$$

$$= \frac{ROA \cdot (D + E) - k_i \cdot D}{E} = ROA \cdot \frac{D}{E} + ROA - k_i \frac{D}{E} =$$

$$= ROA + \underbrace{(ROA - k_i)\frac{D}{E}}_{\text{Financial leverage}} = ROA + FL$$

$D$ = Debt ; $K_i$ = Average cost of debt; $FL$ = Financial Leverage

$A = D + E$

**$K_i$=i in our exercises to simplify**

## Example

A firm makes €1 EBIT for each €10 in sales, generating €2 in sales for each €1 in assets. The firm's financial structure is evenly split, 50% debt and 50% equity. The average cost of debt is 16%. Compute ROA and ROE and explain the difference between them

€1 EBIT per €10 in sales

$$ROS=EBIT/S=1/10=0{,}1 \quad (10\%)$$

€2 in sales per each €1 in assets

$$\text{Assets Turnover: } AT=S/A=2/1=2$$

# Example

ROA

$$ROA = ROS \cdot AT = 0{,}1 \cdot 2 = 0{,}2 \quad (20\%)$$

ROE

$$ROE = ROA + (ROA - K_i)D/E$$

$$ROE = 0{,}2 + (0{,}2 - 0{,}16)1 = 0{,}24 \quad (24\%)$$

Explain the difference

Financial Leverage = 0,04 (4%)

# ROE, ROA and financial leverage

ROE = ROA + ((ROA – i) * (Liabilities / Ownership equity))

*i ≡ average cost of debts (liabilities)*

| | |
|---|---|
| Assets | 100 |
| Liabilities | 80 |
| Ownership equity | 20 |
| | |
| Operating profit | 14 |
| Interests | 8 |
| Profit before tax | 6 |
| Tax | 0 |
| Profit after tax | 6 |

ROA = 14/100 = 0.14

Ki = 8 / 80 = 0.1

ROE = 6 / 20 = 0.3

ROE = 0.14 + (0.14-0.1)*(80/20) =
= 0.14 + 0.004 * 4 = 0.3

## Key concepts

Firm (business)
Organization
Resources (inputs) and products (outputs)
Real, finance and management subsystems
Profit maximization and value creation
Stakeholder
Accounting
Balance sheet
Assets: current and non-current assets
Liabilities
Equity ownership (owned funds)
Capital (Accounting)
Profit and loss statement
Operating profit (loss)
Profit (loss) before and after tax
Return on equity
Return on assets
Financial leverage