

ORGANIZING PRODUCTION



Objectives

- Definition of a firm
- The economic problems that *all* firms face
- Technological efficiency vs. economic efficiency
- The principal-agent problem and methods for coping with the problem.
- Different types of markets in which firms operate
- Explain why markets coordinate some economic activities and firms coordinate others

The Firm and Its Economic Problem

A firm is an institution that hires factors of production and organizes them to produce and sell goods and services.

The Firm's Goal

A firm's goal is to maximize profit.

If the firm fails to maximize profits it is either eliminated or bought out by other firms seeking to maximize profit.

The Firm and Its Economic Problem

Measuring a Firm's Profit

Accountants measure a firm's profit using rules laid down by the Internal Revenue Service and the Financial Accounting Standards Board.

Their goal is to report profit so that the firm pays the correct amount of tax and is open and honest about its financial situation with its bank and other lenders.

Economists measure profit based on an *opportunity cost* measure of cost.

The Firm and Its Economic Problem

Opportunity Cost

A firm's decisions respond to opportunity cost and economic profit.

A firm's opportunity cost of producing a good is the best, forgone alternative use of its factors of production, usually measured in dollars.

Opportunity cost includes both:

- Explicit costs
- Implicit costs

The Firm and Its Economic Problem

Explicit costs

- costs paid directly in money.

Implicit costs

- costs incurred when a firm uses the owners' own capital or time for which it does not make a direct money payment.

The firm can rent capital and pay an explicit rental cost reflecting the opportunity cost of using the capital.

The firm can also buy capital and incur an implicit opportunity cost of using its own capital, called the **implicit rental rate** of capital.

The Firm and Its Economic Problem

The implicit rental rate of capital is made up of:

- Economic depreciation
- Interest forgone

Economic depreciation is the change in the *market value* of capital over a given period.

Interest forgone is the return on the funds used to acquire the capital.

The Firm and Its Economic Problem

The cost of the owner's resources is his or her entrepreneurial ability and labor expended in running the business.

The opportunity cost of the owner's entrepreneurial ability is the average return from this contribution that can be expected from running another firm. This return is called a **normal profit**.

The opportunity cost of the owner's labor spent running the business is the wage income forgone by not working in the next best alternative job.

The Firm and Its Economic Problem

Economic vs. Accounting Profit

Accounting Profit = Total Revenue – Explicit Costs

Economic Profit = Tot. Rev. – Opportunity Costs of production
= Tot Rev. – Explicit Costs – Implicit Costs
= Acc. Profits – Implicit Costs

If Economic Profit > 0 → Acc Profits > Implicit Costs → Firms enter

If Economic Profit < 0 → Acc Profits < Implicit Costs → Firms exit

The Firm and Its Economic Problem

Economic Accounting: A Summary

To maximize profit, a firm must make five basic decisions:

- What goods and services to produce and in what quantities
- How to produce—the production technology to use
- How to organize and compensate its managers and workers
- How to market and price its products
- What to produce itself and what to buy from other firms

The Firm and Its Economic Problem

The Firm's Constraints

The five basic decisions of a firm are limited by the constraints it faces. There are three constraints a firm faces:

- Technology
- Information
- Market

Technology and Economic Efficiency

Technological efficiency occurs when a firm produces a given level of output by using the least amount of inputs.

There may be different combinations of inputs to use for producing a given level of output.

Economic efficiency occurs when the firm produces a given level of output at the least cost.

The economically efficient method depends on the relative costs of capital and labor

Information and Organization

A firm organizes production by combining and coordinating productive resources using a mixture of two systems:

- Command systems
- Incentive systems

Information and Organization

A **command system** uses a managerial hierarchy. Commands pass downward through the hierarchy and information (feedback) passes upward.

An **incentive system**, uses market-like mechanisms to induce workers to perform in ways that maximize the firm's profit.

Information and Organization

Mixing the Systems

Most firms use a mix of command and incentive systems to maximize profit.

They use commands when it is easy to monitor performance or when a small deviation from the ideal performance is very costly.

They use incentives whenever monitoring performance is impossible or too costly to be worth doing.

Information and Organization

The principal-agent problem is the problem of devising compensation rules that induce an agent to act in the best interests of a principal.

For example, the stockholders of a firm are the principals and the managers of the firm are their agents.

Information and Organization

Coping with the Principal-Agent Problem

Three ways of coping with the principal-agent problem are:

- Ownership
- Incentive pay
- Long-term contracts

Information and Organization

Types of Business Organization

There are three types of business organization:

- Proprietorship
- Partnership
- Corporation

Information and Organization

Proprietorship

A *proprietorship* is a firm with a single owner who has *unlimited liability*, or legal responsibility for all debts incurred by the firm—up to an amount equal to the entire wealth of the owner.

The proprietor also makes management decisions and receives the firm's profit.

Profits are taxed the same as the owner's other income.

Information and Organization

Partnership

A *partnership* is a firm with two or more owners who have unlimited liability.

Partners must agree on a management structure and how to divide up the profits.

Profits from partnerships are taxed as the personal income of the owners.

Information and Organization

Corporation

- owned by one or more stockholders with *limited liability*,
- The personal wealth of the stockholders is not at risk if the firm goes bankrupt.
- The profit of corporations is taxed twice
 - corporate tax on firm profits
 - income taxes paid by stockholders on dividends.

Information and Organization

•Pros and Cons of Different Types of Firms

- Proprietorships
 - are easy to set up
 - Managerial decision making is simple
 - Profits are taxed only once
 - But bad decisions made by the manager are not subject to review
 - The owner's entire wealth is at stake
 - The firm dies with the owner
 - The cost of capital and labor can be high

Information and Organization

- Partnerships
 - Easy to set up
 - Employ diversified decision-making processes
 - Can survive the death or withdrawal of a partner
 - Profits are taxed only once
 - But partnerships make attaining a consensus about managerial decisions difficult
 - Place the owners' entire wealth at risk
 - The cost of capital can be high, and the withdrawal of a partner might create a capital shortage

Information and Organization

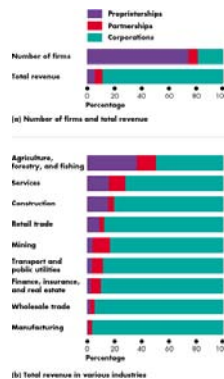
•A corporation

- Perpetual life
- Easy to dissolve
- Limited liability for its owners
- Large-scale and low-cost access to financial capital
- Lower costs from long-term labor contracts
- But a corporation's management structure may lead to slower and expensive decision-making
- Profit is taxed twice—as corporate profit and shareholder income.

Information and Organization

There are a greater number of proprietorships than other form of business, but corporations account for the majority of revenue received by businesses.

The dominant type of business organization differs across industries. Why?



Markets and the Competitive Environment

Economists identify four market types:

- Perfect competition
- Monopolistic competition
- Oligopoly
- Monopoly

Markets and the Competitive Environment

Perfect competition is a market structure with:

- Many firms
- Each sells an identical product
- Many buyers
- No restrictions on entry of new firms to the industry
- Both firms and buyers are all well informed of the prices and products of all firms in the industry.

Markets and the Competitive Environment

Monopolistic competition is a market structure with:

- Many firms
- Each firm produces similar but slightly different products—called **product differentiation**
- Each firm possesses an element of market power
- No restrictions on entry of new firms to the industry

Markets and the Competitive Environment

Oligopoly is a market structure in which:

- A small number of firms compete
- The firms might produce almost identical products or differentiated products
- Barriers to entry limit entry into the market.

Markets and the Competitive Environment

Monopoly is a market structure in which

- One firm produces the entire output of the industry
- There are no close substitutes for the product
- There are barriers to entry that protect the firm from competition by entering firms

Markets and the Competitive Environment

Measures of Concentration

Two measures of market concentration in common use are:

- The four-firm concentration ratio
- The Herfindahl–Hirschman index (HHI)

Markets and the Competitive Environment

Measures of Concentration

The **four-firm concentration ratio** is the percentage of the total industry sales accounted for by the four largest firms in the industry.

The **Herfindahl–Hirschman index** (HHI) is the sum of the squared market shares.

The larger the measure of market concentration, the less competition that exists in the industry.

Markets and the Competitive Environment

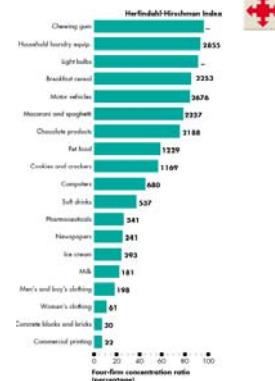
Concentration Measures for the U.S. Economy

The U.S. Justice Department uses the HHI to classify markets.

- A market with an HHI of less than 1,000 is regarded as highly competitive
- A market with an HHI between 1,000 and 1,800 is regarded as moderately competitive
- A market with an HHI greater than 1,800 is uncompetitive

Markets and the Competitive Environment

The four-firm concentration ratio for various industries in the United States.



The figure also shows the HHI for these industries.

Markets and the Competitive Environment

Limitations of Concentration Measures as Measures of Competition

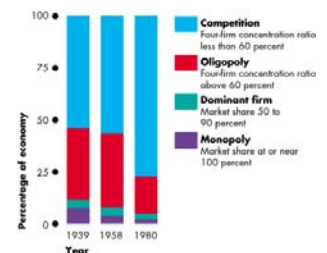
- Geographic boundaries
- Product boundaries.
- Barriers to Entry
- Ability to Collude

Markets and the Competitive Environment

Market Structures in the U.S. Economy

The distribution of market structures in the U.S. economy.

The economy is mainly competitive.



Markets and Firms

Why Firms?

Firms coordinate production when they can do so more efficiently than a market.

Four key reasons might make firms more efficient. Firms can achieve:

- Lower transactions costs
- Economies of scale
- Economies of scope
- Economies of team production