Chapter 6 Firms and Production

The ownership and management of firms
Production
Short-run production: one variable and one fixed input
Long-run production: two variable inputs
Returns to scale
Productivity and technical change

1. The ownership and management of firms
   • A “Firm” is an organization that converts inputs such as labor, materials, and capital into outputs, the goods and services that it sells.
   • The ownership of firms: Proprietorships, Partnerships, and Corporations.
   • Management Vs. Owners
2. The ownership and management of firms

- Inputs: Capital (K), Labor (L), and Materials (M)
- Production function – the relationship between the quantities of inputs used and the maximum quantity of output that can be produced, given current knowledge about technology and the organization.

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q = f(L,K,M)
\]

\[
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\]

- Short run – a period of time that at least one factor of production cannot be varied practically.
- Long run - a period of time that all input can be varied.
- Fixed input – a factor that cannot be varied practically in the short run.
- Variable input – a factor whose quantity can be changed readily by the firm during the relevant time period.

3. Short-run production: One variable and one fixed input

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q = f(L,K)
\]

- Total Product
- Marginal Product of labor

- Average Product of labor
4. **Long-run production: two variable inputs**
   - Isoquant – shows the efficient combinations of labor and capital that can produce a single level of output
   - Isoquants have most of the same properties as IC.
     - The farther isoquant, the greater the level of output
     - Isoquants do not cross
     - Isoquants slope downward
   - The only difference is that Isoquant holds quantity constant while IC holds utility constant.
   - **Curvature of Isoquants** – shows how readily a firm can substitute one input for another.

   - **Marginal Rate of Technical Substitution (MRTS)** – slope of isoquant where it shows the ability of a firm to replace one input with another while holding output constant.
5. Returns to scale