CHAPTER 14

Significance of Resource Pricing

1. **Money** - income determination, resource prices (rent, wage, interest) - incomes to households - are these decisions profitably made?
2. **Resource allocation** - prices of goods
3. **Cost minimization** - resource prices are costs
4. **Ethical questions and policy issues** - income inequality, minimum wage, pay of corporate executives

- **Resource demand is a derived demand** - demand is determined by
  - productivity of the resource
  - the market value of the good it helps produce

Marginal Productivity Theory of Resource Demand

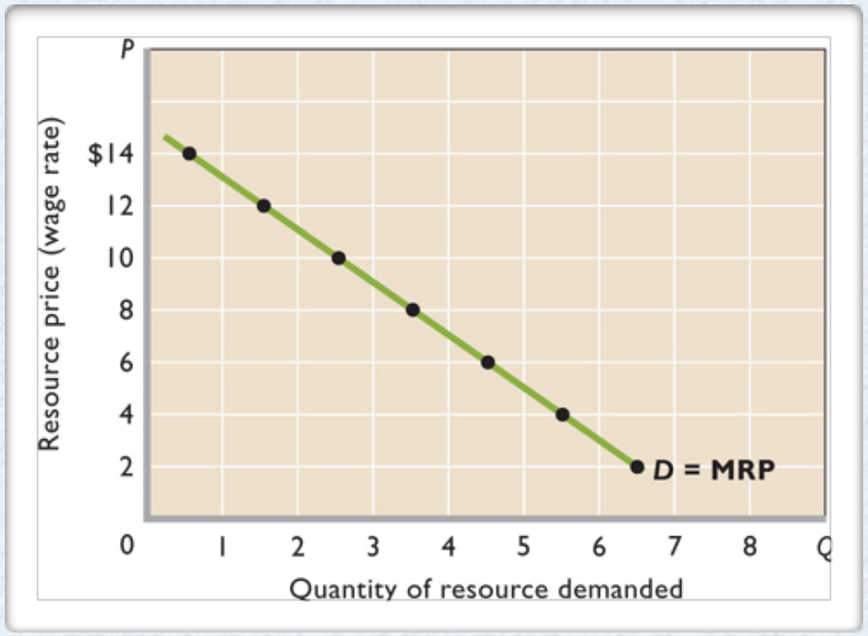
- Rule for employing resources - **MRP = MRC** (marginal revenue product = marginal resource cost)
- **MRP = Change TR/unit change in $Q_{resource}$**
- **MRC = Change $TC_{resources}$/unit change $Q_{resource}$**

Wage = $13.95 - Hire 1 worker

(1) Units of Resource	(2) Total Product (Output)	(3) Marginal Product (MP)	(4) Product Price	(5) Total Revenue, (2) × (4)	(6) Marginal Revenue Product (MRP)
0	0		$2	$ 0	
1	7	7	2	14	$14
2	13	6	2	26	12
3	18	5	2	36	10
4	22	4	2	44	8
5	25	3	2	50	6
6	27	2	2	54	4
7	28	1	2	56	2

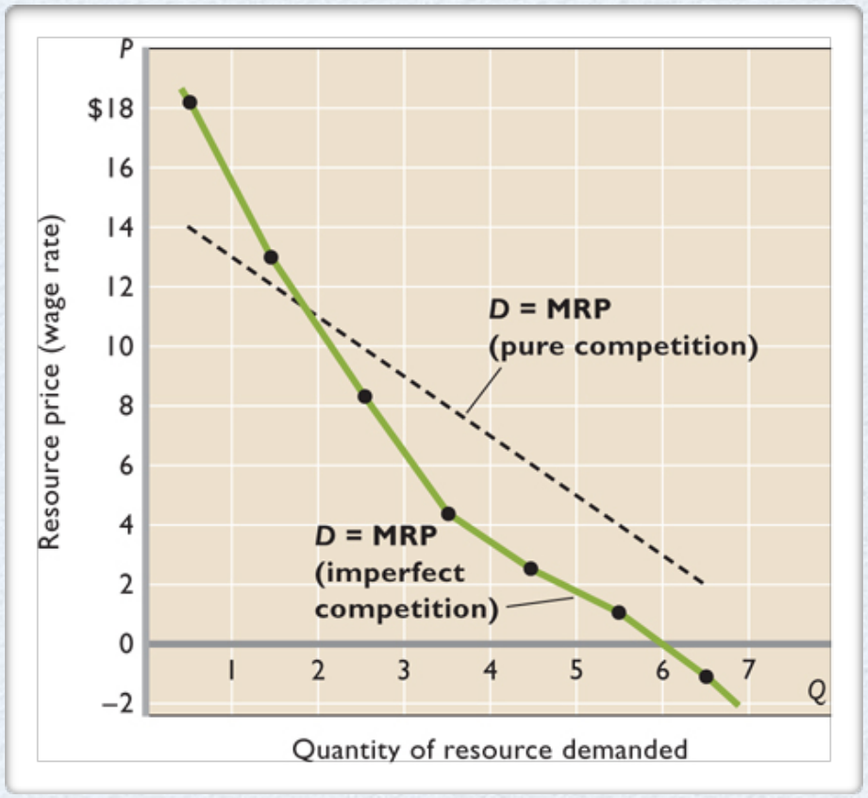
Marginal Productivity Theory of Resource Demand

- Each point shows the number of workers the firm would hire at each possible wage rate - **competitive market**



- **Imperfect markets**

- **The market demand curve for resources** are the sum of the individual resource demands



Determinants of Resource Demand

1. **Changes in product demand**
2. **Changes in productivity**
   - Quantities of other resources
   - Technological progress
   - Quantity of the variable resource

Elasticity of Resource Demand

- The sensitivity of producers to changes in resource prices is measured by the elasticity of resource demand
- $E_{rd} = \frac{\%\ \text{change}\ Q_{resource}}{\%\ \text{change}\ P_{resource}}$
- If $E_{rd} > 1$ - elastic
- If $E_{rd} < 1$ - inelastic
- If $E_{rd} = 1$ - unitary elasticity

Elasticity of Resource Demand

- **Elasticity is determined by**
  - **Ease of resource substitutability** - the large the substitutes, the greater the elasticity of demand
  - **Elasticity of product demand** - the greater the elasticity of the product demand, the greater the elasticity of the resource demand
  - **Ratio of resource cost to total cost** - the larger the portion of total production cost by the resource, the greater the elasticity of demand for that resource

Optimal Combination of Resources

- **The least cost rule**
- $\frac{MP_{labor}}{P_{labor}} = \frac{MP_{capital}}{P_{capital}}$
- **A firm is producing with the least cost combination of resources when the last dollar spent on each resource yields the same marginal product**
- **The profit maximizing rule in a competitive market is MRC = P**
- Therefore, **Profit maximization = MRP = P** = each resource is employed to the point at which its MRP = P
- $P_{labor} = MRP_{labor}$ and $P_{capital} = MRP_{capital}$ therefore
- $\frac{MRP_{labor}}{P_{labor}} = \frac{MRP_{capital}}{P_{capital}} = 1$