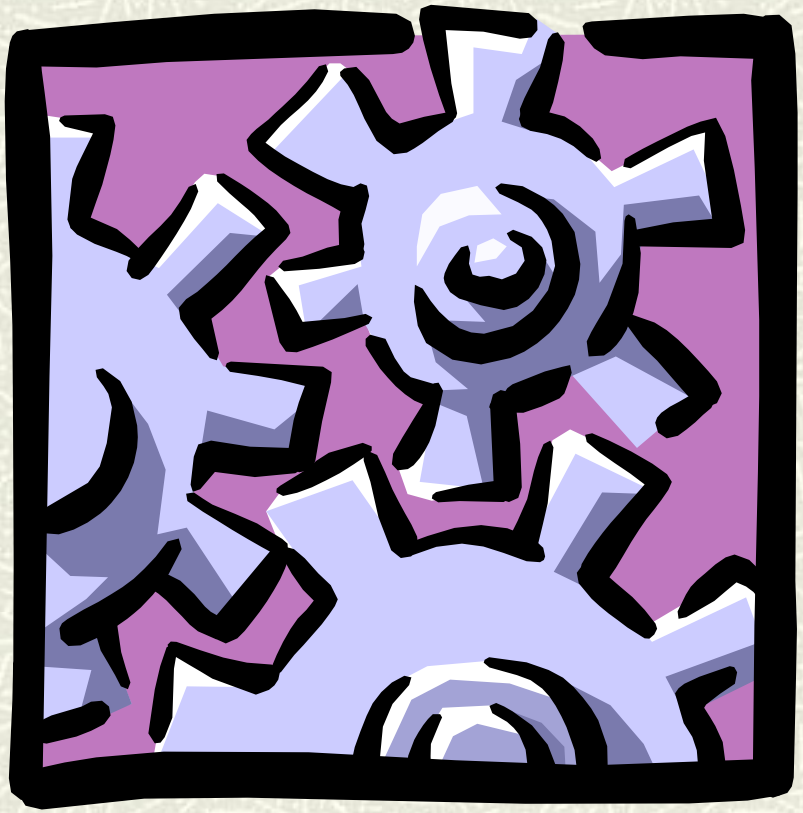
Industry Supply



- Industry Equilibrium in the Short Run
- Industry Equilibrium in the Long Run
- Example: Taxation in the Short and Long runs
- Economic Rents
- Example: Taxi Licenses.

Industry Equilibrium in the Short-Run

- Short-run: number of firms in an industry is **fixed**.
- No **entry** or **exit** occur.

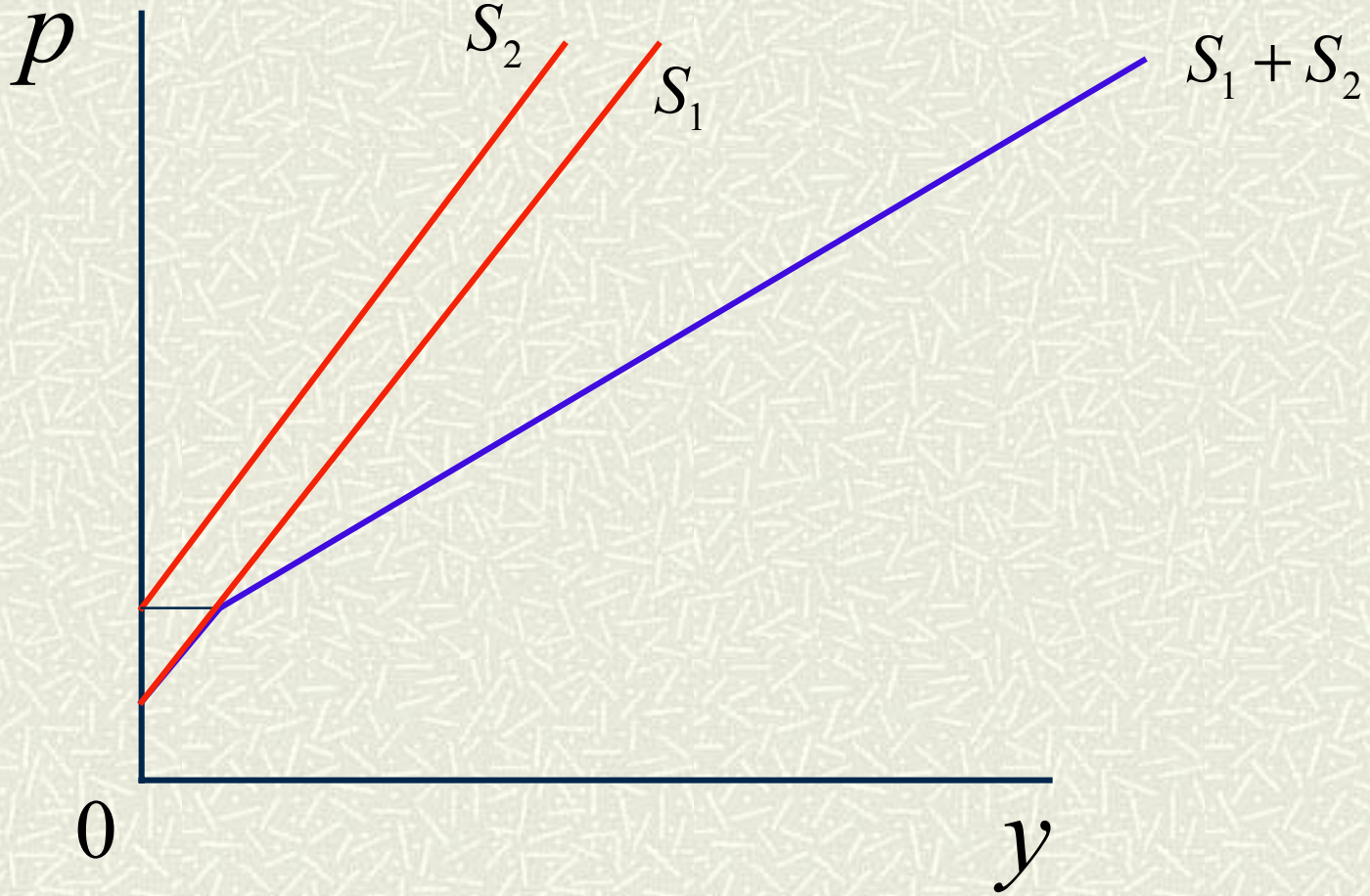
Industry Equilibrium in the Short-Run

To get **industry** (**market**) supply sum up the individual firm's supply curves:

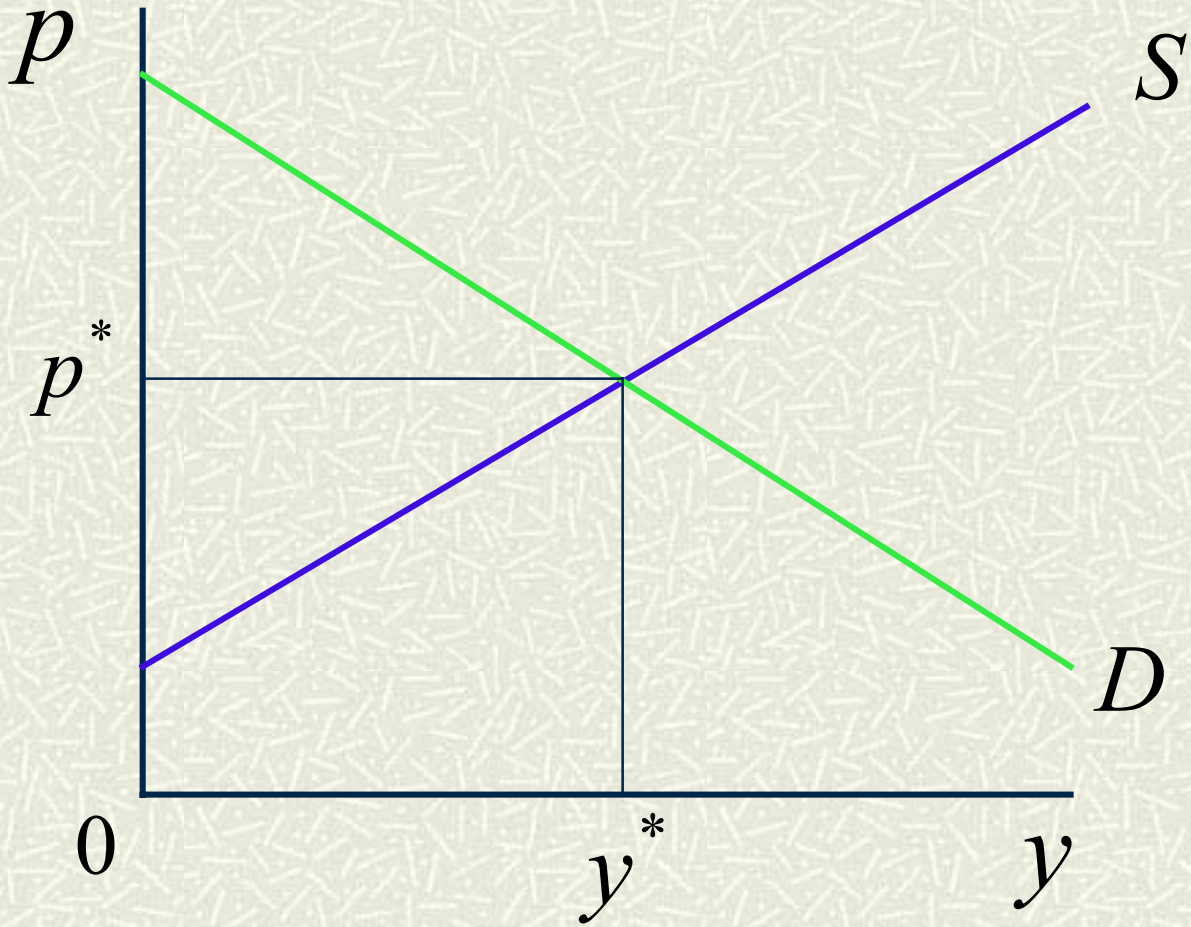
$$S(p) = \sum_{i=1}^{n} S_i(p)$$

where n is the number of firms in the market.

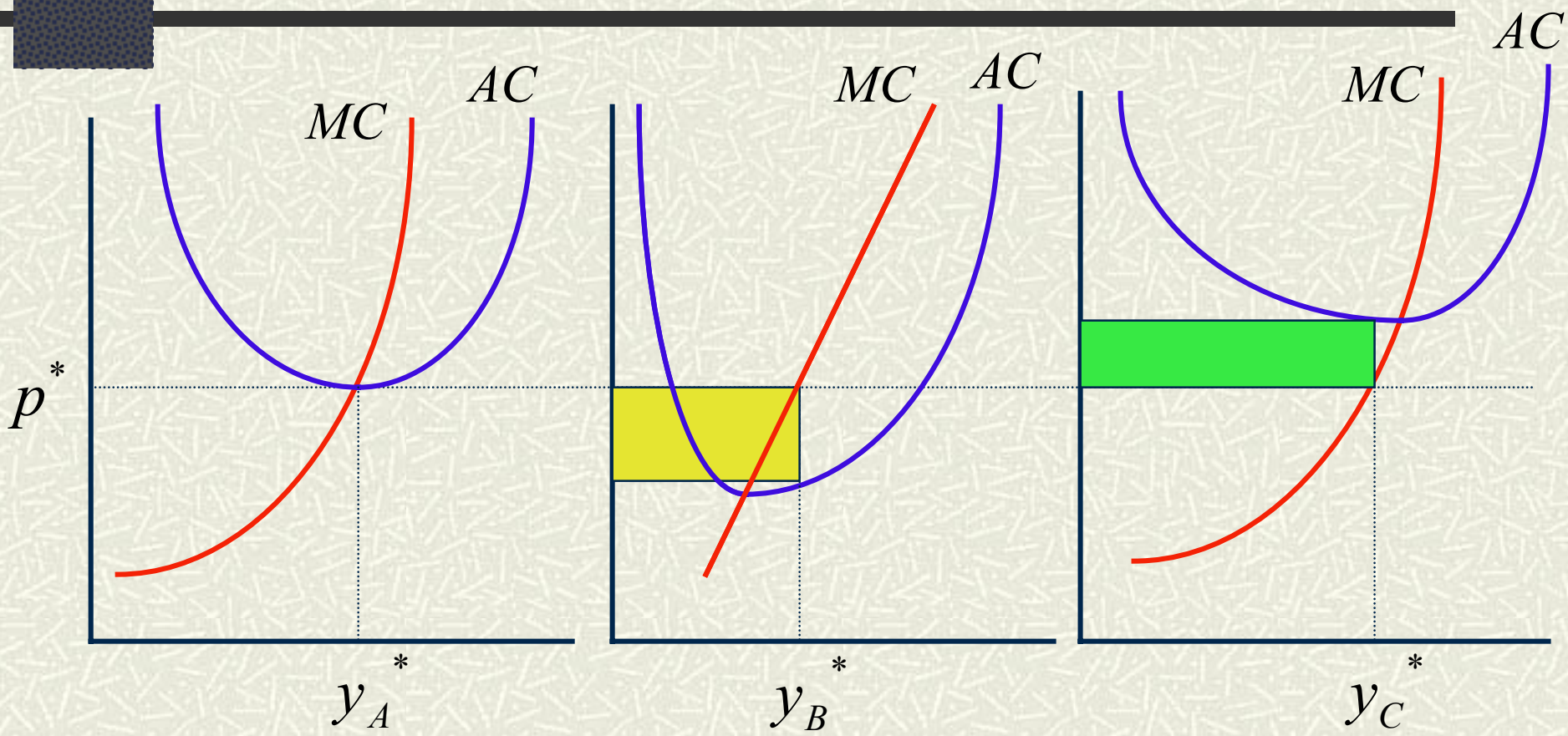
Industry Equilibrium in the Short-Run



Industry Equilibrium in the Short-Run



Industry Equilibrium in the Short-Run

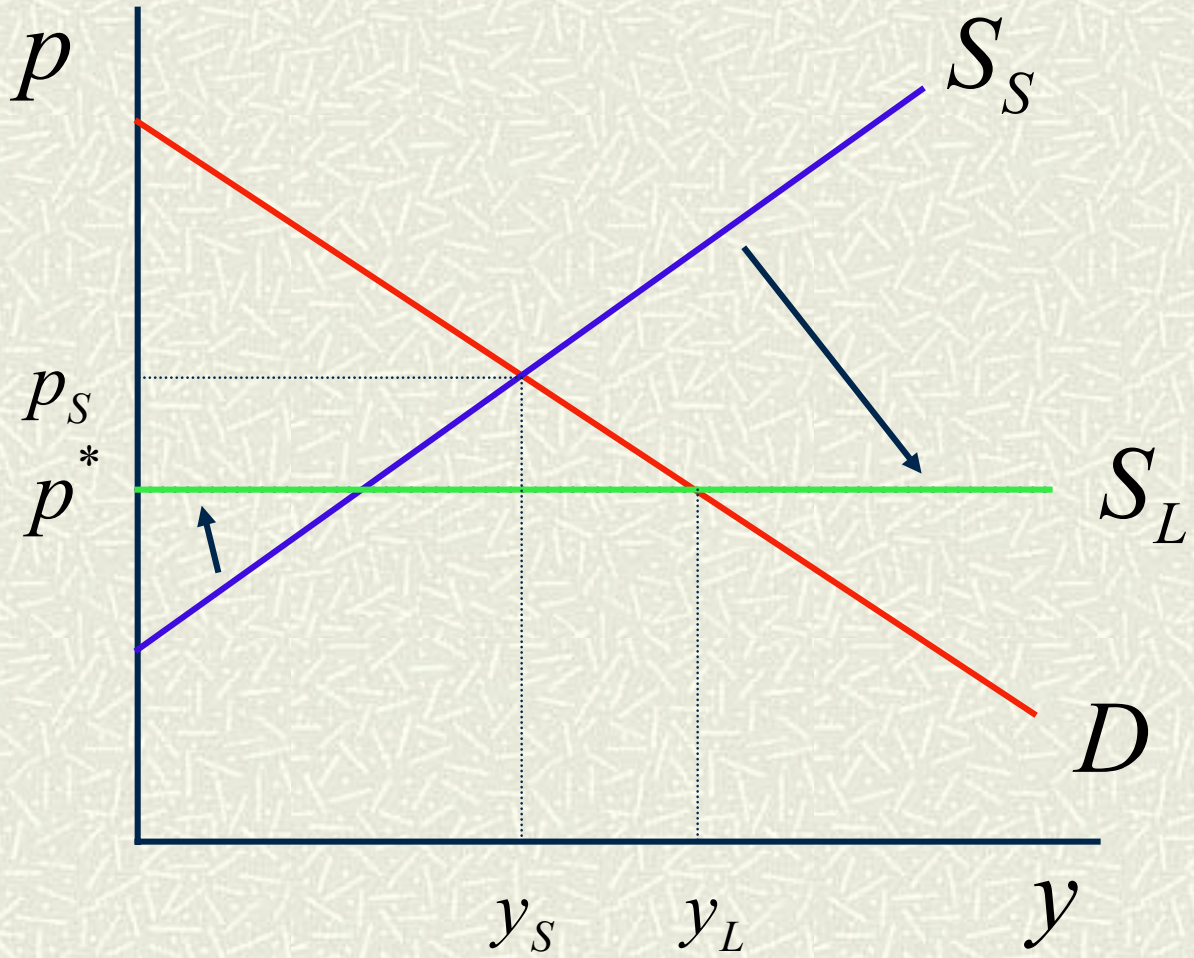


Long-Run Industry Equilibrium

From the short to the long-run, there are two types of effect:

- Firms can freely adjust all inputs: characterize a firm's supply using its **long-run** marginal cost curve.
- **Exit** of firms that would make negative profits in the long-run. **Entry** of new firms if incumbents are making positive profits.

The Long-Run Supply Curve



Long-Run Equilibrium

- Equilibrium price equals **minimum** long-run average cost ⟶ each firm in the market is making **zero profits**.

- At zero profits the industry stops growing because there is no incentive to enter: mature industry.

Zero Economic Profits

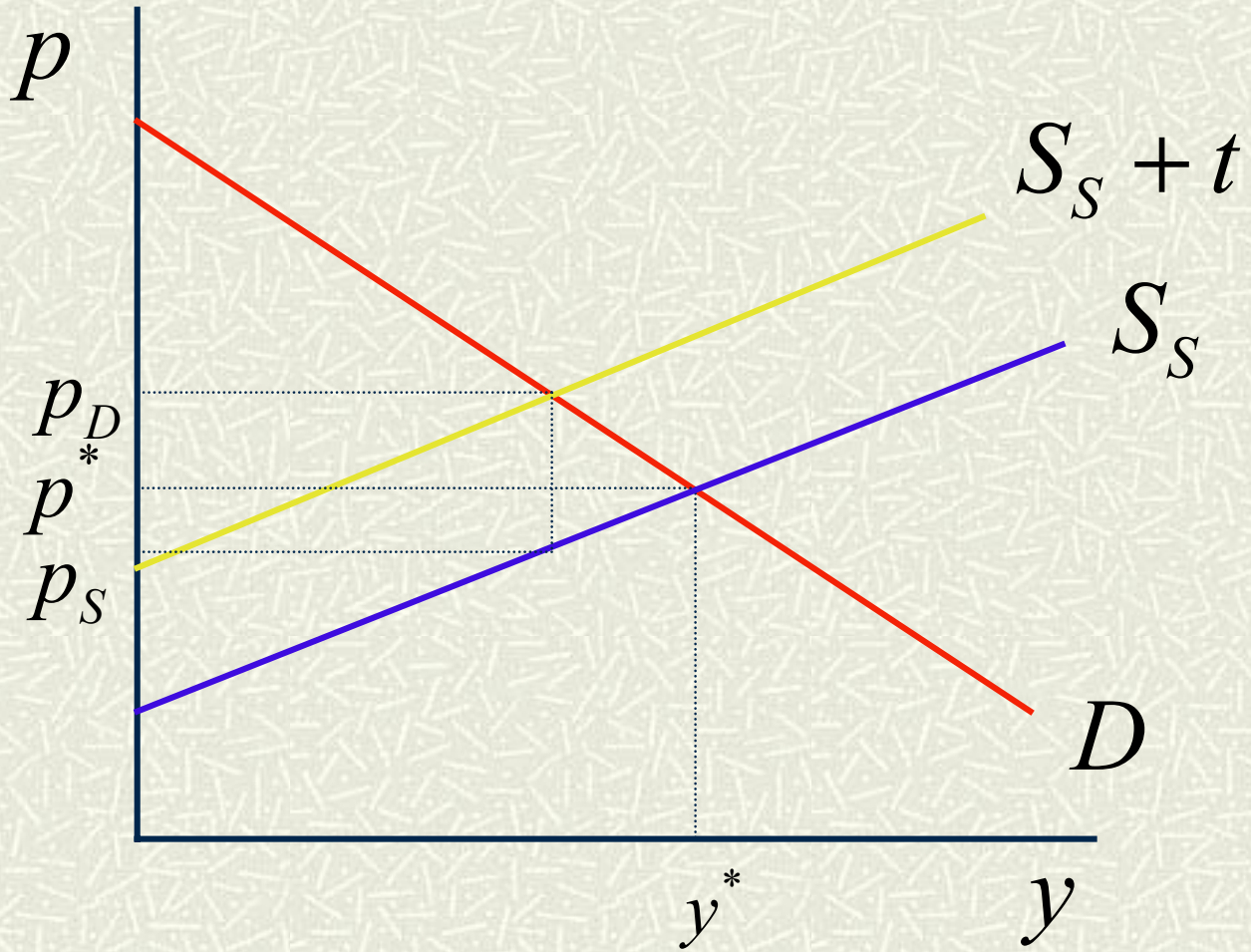
- All factors of production are being paid their **opportunity cost** or **market price**: what they could earn elsewhere.

- Owner of the firm gets payment for **labor** and **capital** inputs that he/she supplies.

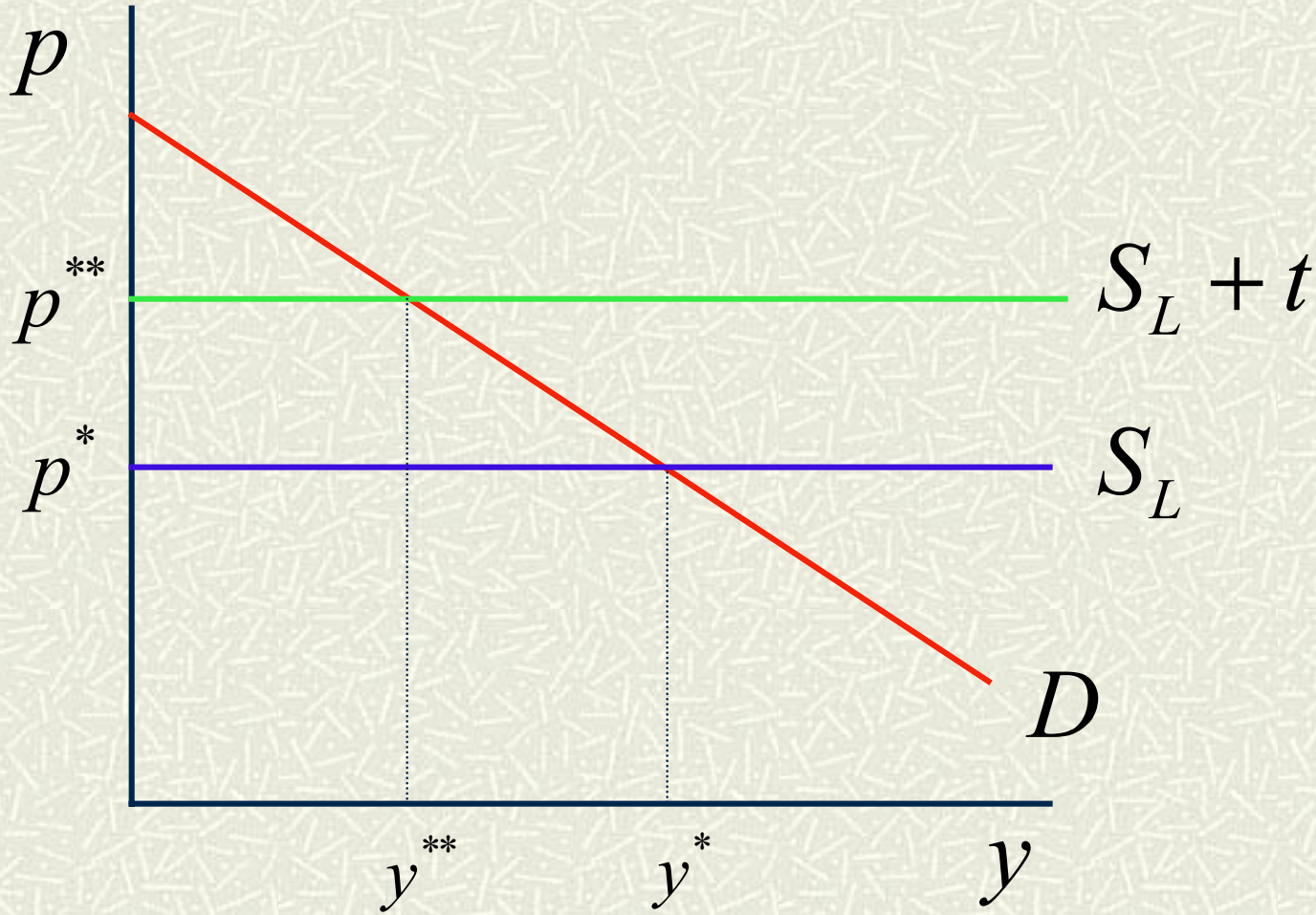
Zero Economic Profits

- Example: owner buys capital stock.
- In the long-run firm makes zero economic profits once the **user cost** of capital is taken into account.
- User cost includes: 1) economic depreciation; 2) forgone interest.
- Part 2) represents capital's remuneration.

Taxation in the Short-Run



Taxation in the Long-Run



Economic Rents

In some industries the number of firms is fixed even in the long-run because some factors of production are available in **fixed supply**:

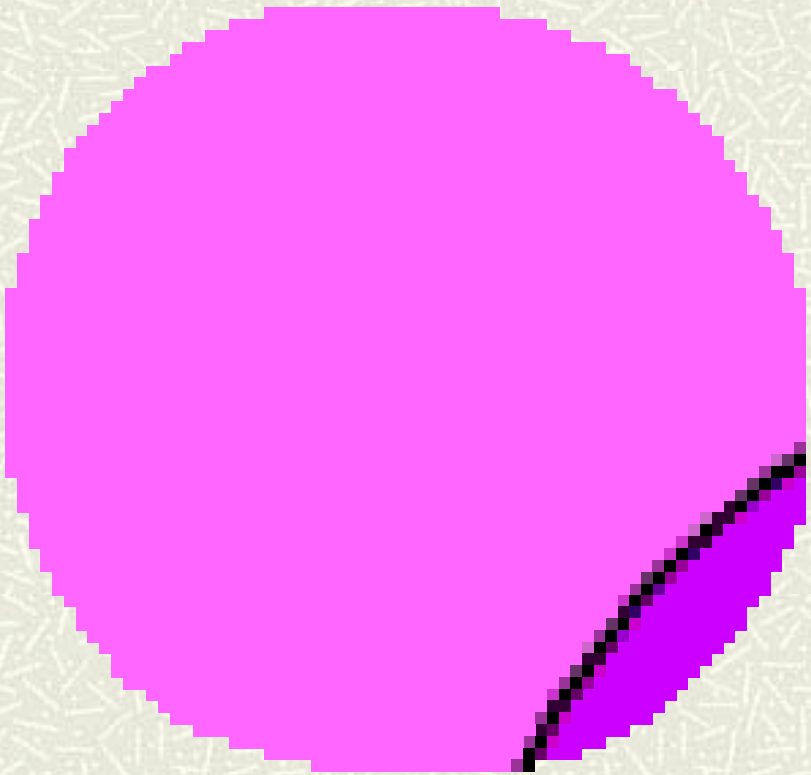
1. Land, natural resources;
2. Licenses for cabs, liquor;

Economic Rents

Factors of production available in fixed supply earn an **economic rent**:

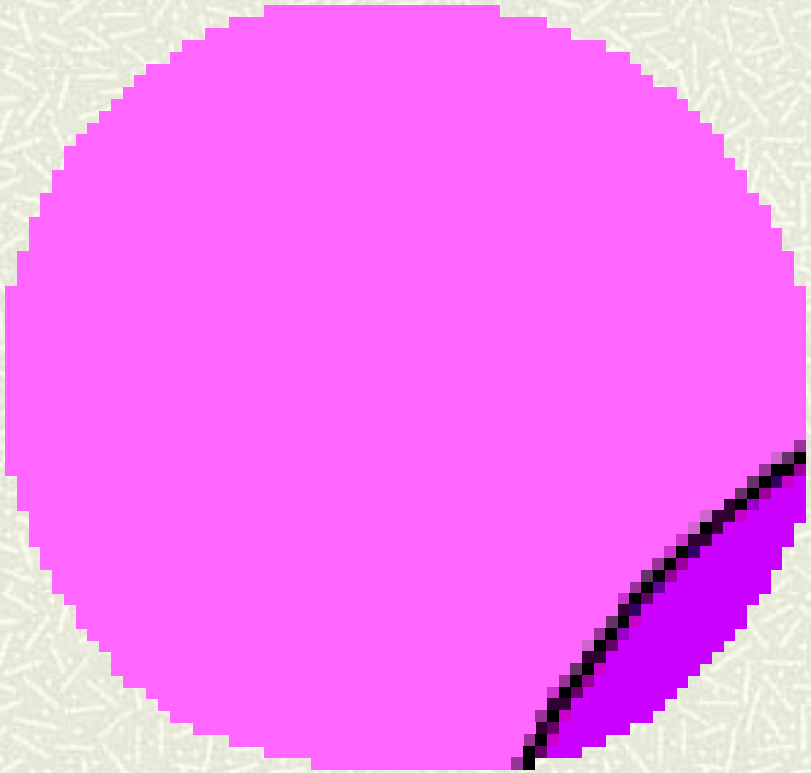
Payment to a factor of production **in excess** of minimum payment necessary to have that factor supplied.

Economic Rent: Taxi Licenses in NYC



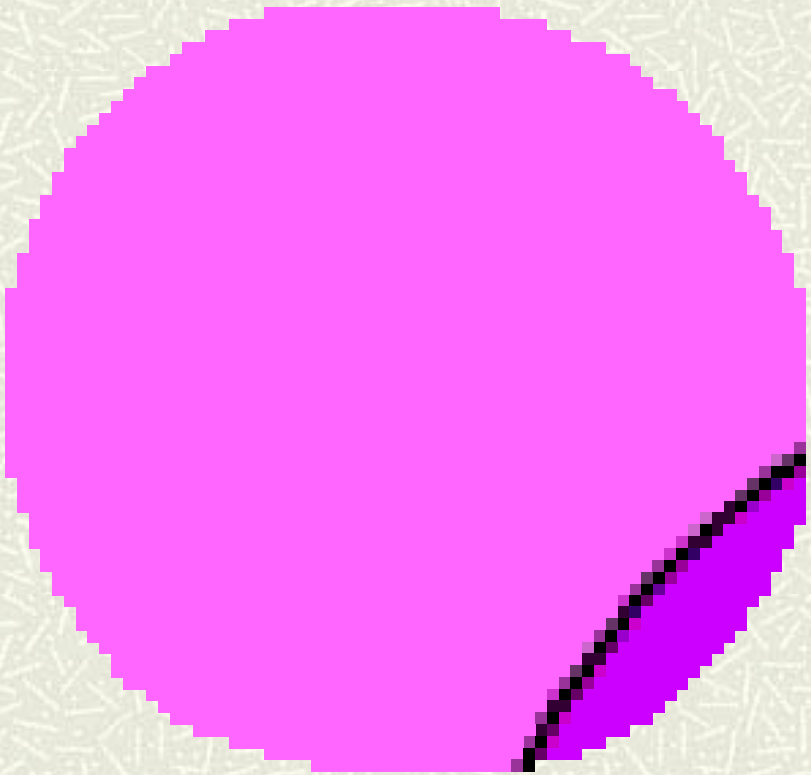
- License is barrier to entry.
- Yearly **accounting profit** from license: $17K.
- $17K represents an **economic rent**.
- Cost of supplying licenses: zero!

Economic Rent: Taxi Licenses in NYC



How much would you pay to buy a license to operate a taxicab in NYC?

Economic Rent: Taxi Licenses in NYC



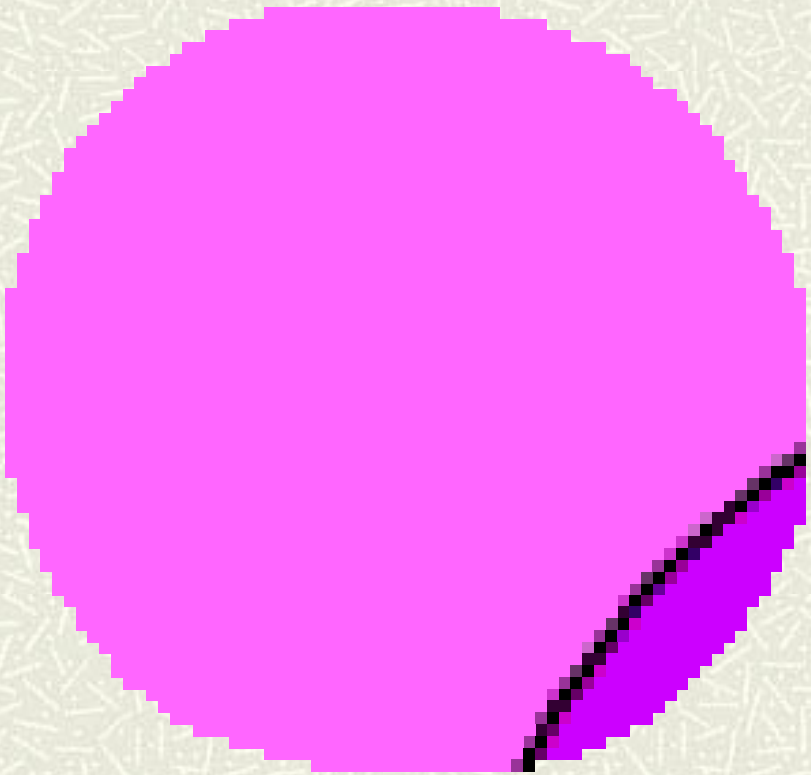
- If interest rate is 10%:

$$0.10P = \$17K$$

- Thus:

$$P = \frac{\$17K}{0.10} = \$170K$$

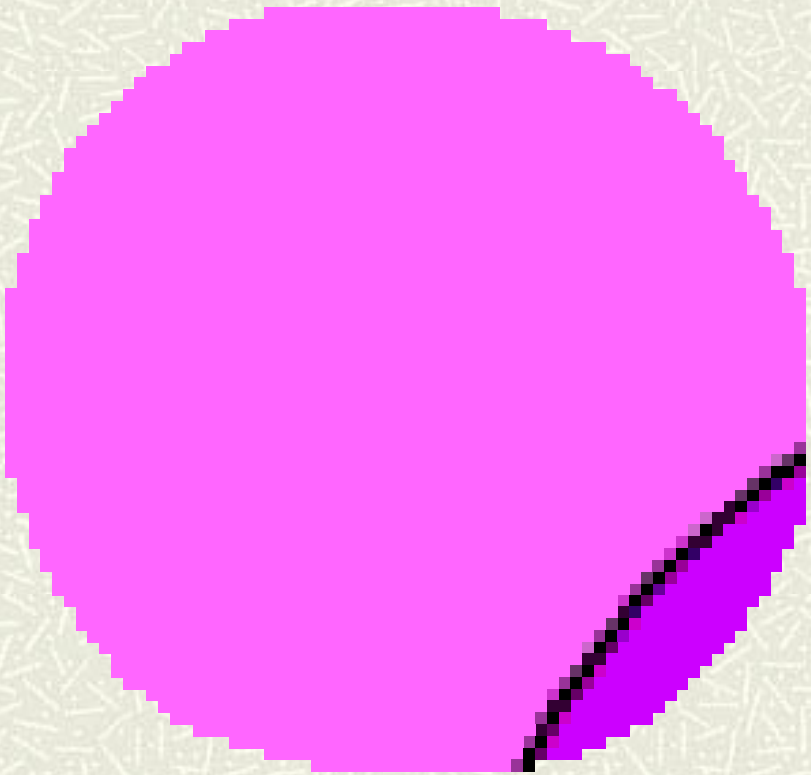
Economic Rent: Taxi Licenses in NYC



- In reality cab licenses in NYC sell for $100K.
- Why less than $170K?

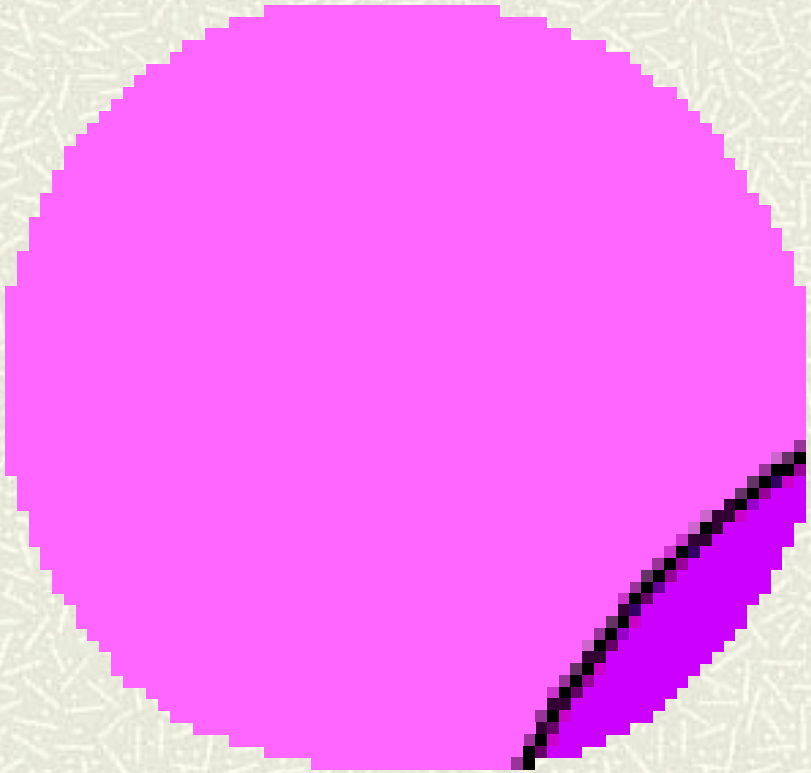
1. Risk factors;
2. Hidden costs.

Economic Rent: Taxi Licenses in NYC



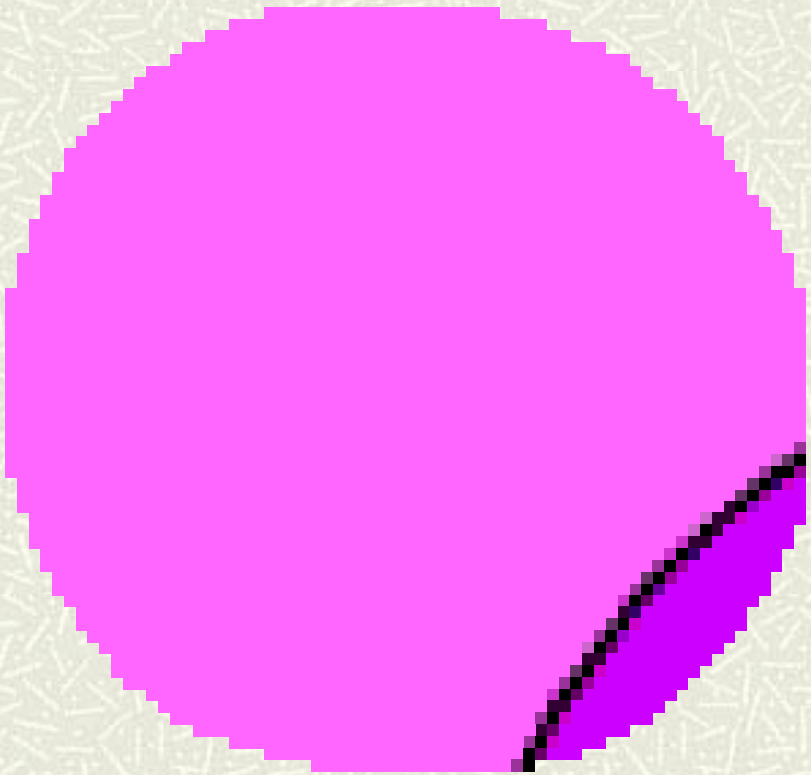
Q: How much **economic profit** do owners of cabs make in NYC?

Economic Rent: Taxi Licenses in NYC



A: Zero. Why? Because the **opportunity cost** of not selling the cab license represents a cost of production for the owner.

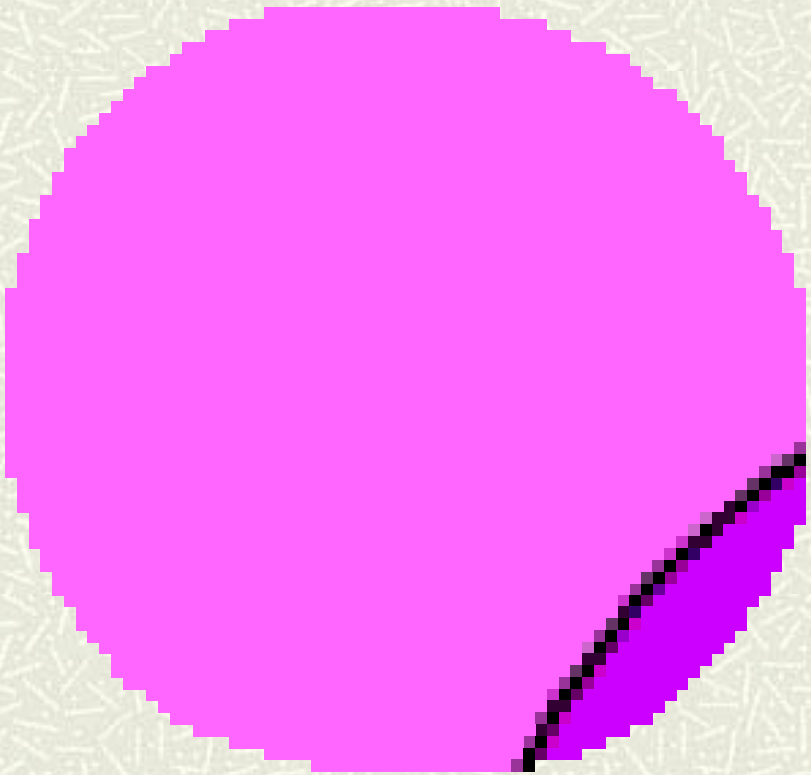
Economic Rent: Taxi Licenses in NYC



- If you own a cab license in NYC, your revenue minus variable costs are $17K a year.
- The **opportunity cost** of owning a license is:

$$r \times P$$

Economic Rent: Taxi Licenses in NYC



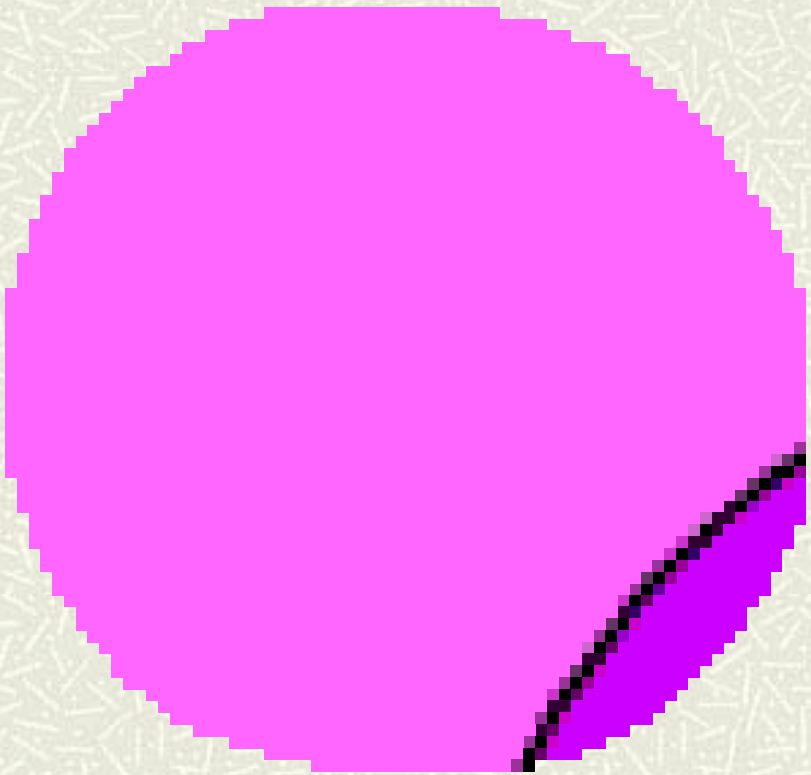
As long as

$$\$17K > r \times P$$

the demand for the license would increase driving P up, until:

$$\$17K = r \times P$$

Economic Rent: Taxi Licenses in NYC



Thus **economic profits** are zero:

$$\Pi = \$17K - r \times P = 0$$