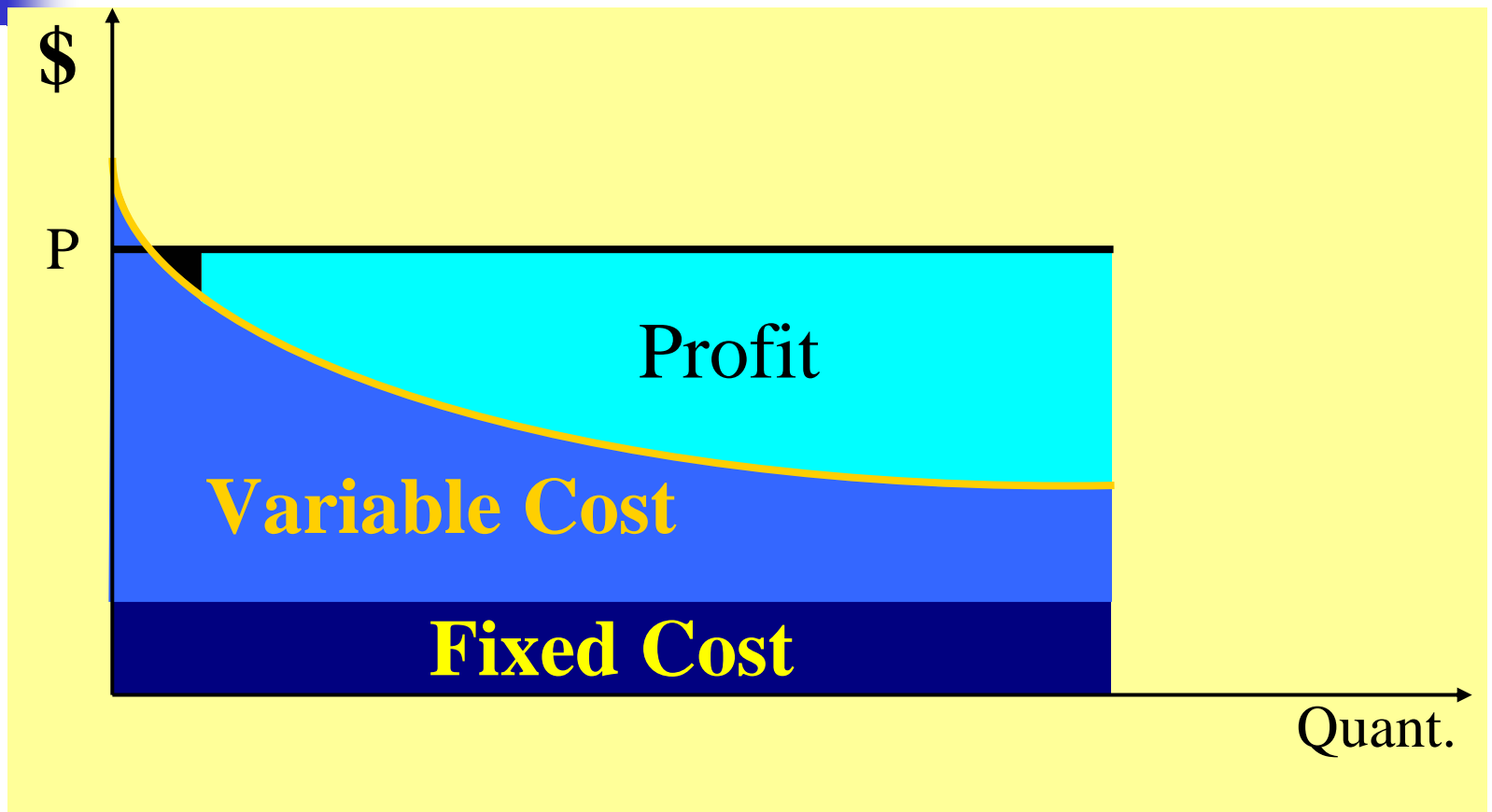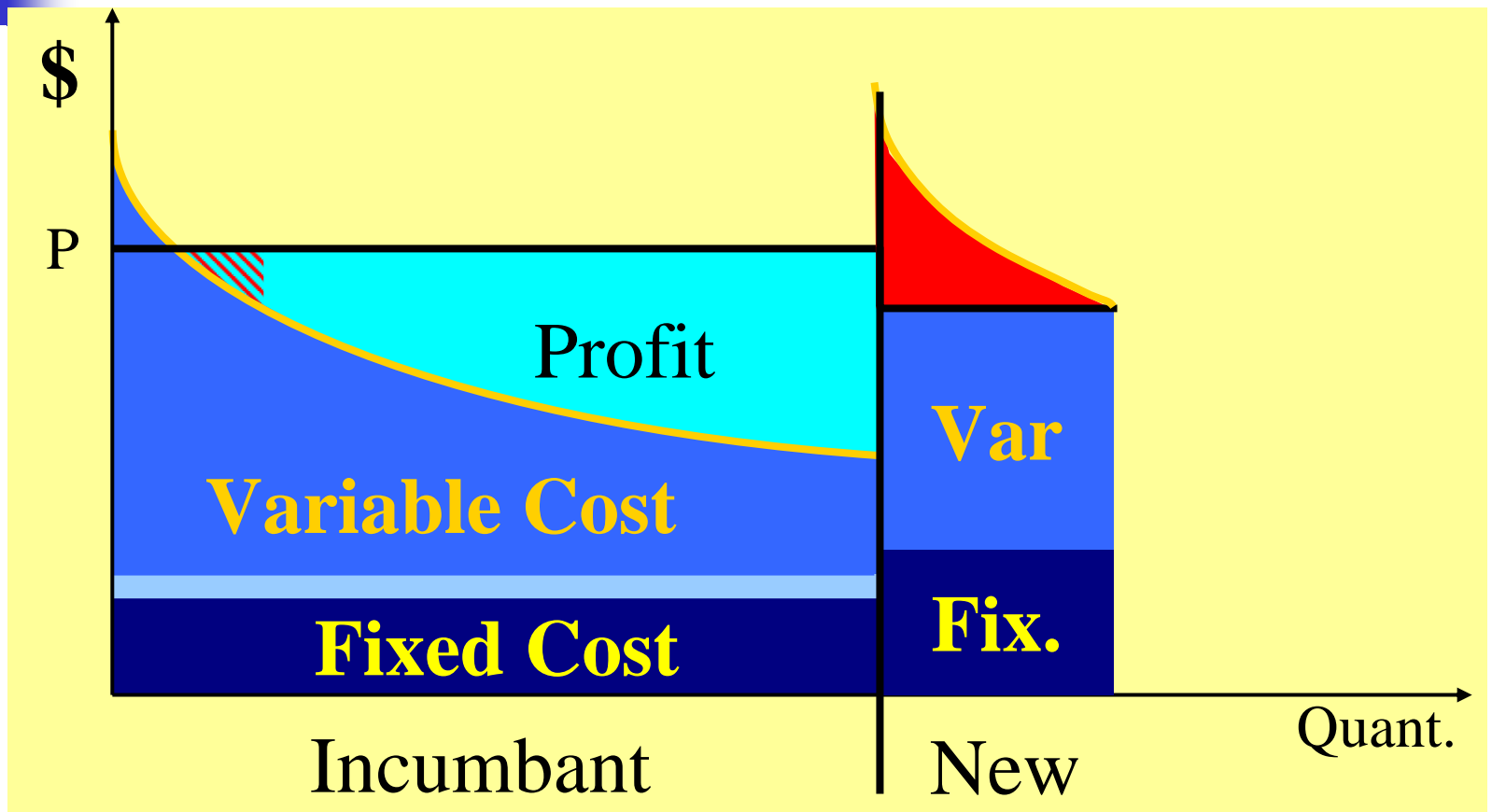# Barriers to Entry

- Know How
- Reputation
- Patents
- Capital Investments
- Product Differentiation
- Raw Materials
- …

Barriers to Entry

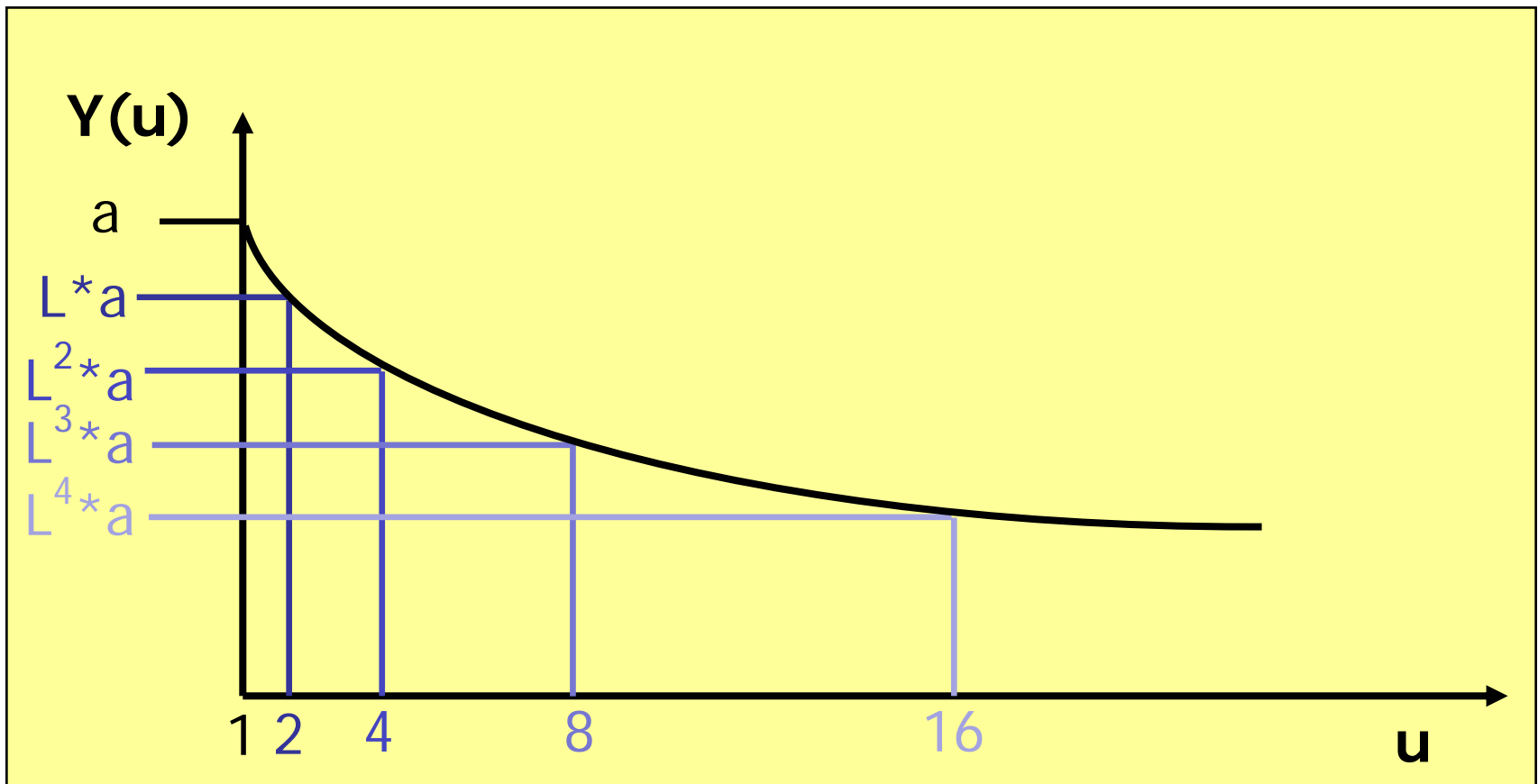# Barriers to Entry

Learning Curves

- *$Y(u) = a\,u^{-b}$*
- *$Y(u)$ = labor hours for u-th unit*
- *a = labor hours for first unit*
- *b = rate at which marginal hours decrease*

$$\frac{y(2u)}{Y(u)} = \frac{a(2u)^{-b}}{au^{-b}} = 2^{-b} = L \qquad\qquad b = -\frac{\ln(L)}{\ln(2)}$$

- *L= Learning Factor in %*

  It expresses by how much Labor Hours are typically reduced when the production quantity doubles.

MIT*Sloan*

"L%" Learning Curve

Wrap Up

- Hi Cost Low Volume Environments
  - Project Management
  - Risk Management
- Barriers to Entry
- Learning Curves
  - Dynamic vs. Static Learning
- Parameter Estimating Techniques