

# Planning Over a Time Horizon

Long-range  
planning

Add facilities  
Add long lead time equipment



Intermediate-  
range  
planning

Subcontract  
Add equipment  
Add shifts

Add personnel  
Build or use inventory

Short-range  
planning



Schedule jobs  
Schedule personnel  
Allocate machinery

Modify capacity

Use capacity

**\* Limited options exist**

- Economies of scale
  - If the output rate is less than the optimal level, increasing output rate results in decreasing average unit costs
- **Diseconomies of scale**
  - If the output rate is **more** than the optimal level, increasing the output rate results in increasing average unit costs