

# EC2212 Industrial Growth and Competition

## Lecture 7

Other factors may contribute to  
concentration and shakeouts.

# Forces Causing Concentration

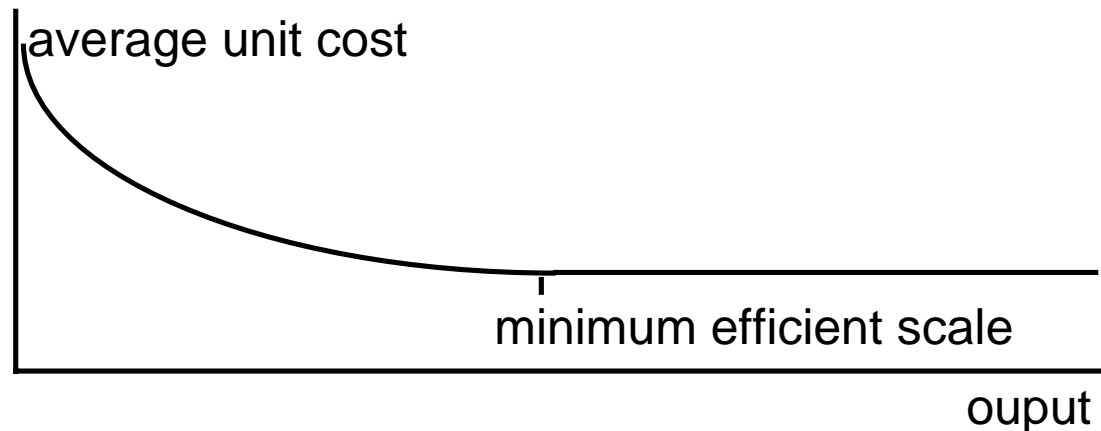
- Previous lecture explained main cause of shakeouts
- Other forces may be at work simultaneously in shakeouts, or otherwise affect concentration
- Why know about these other forces?
  - Common themes; people expect you to know
  - Affect competition in certain situations
  - Understand more of how technology works
- Six forces
- Static long-run: cost-spreading & concentration

# 1. First- & Early-Mover Advantage

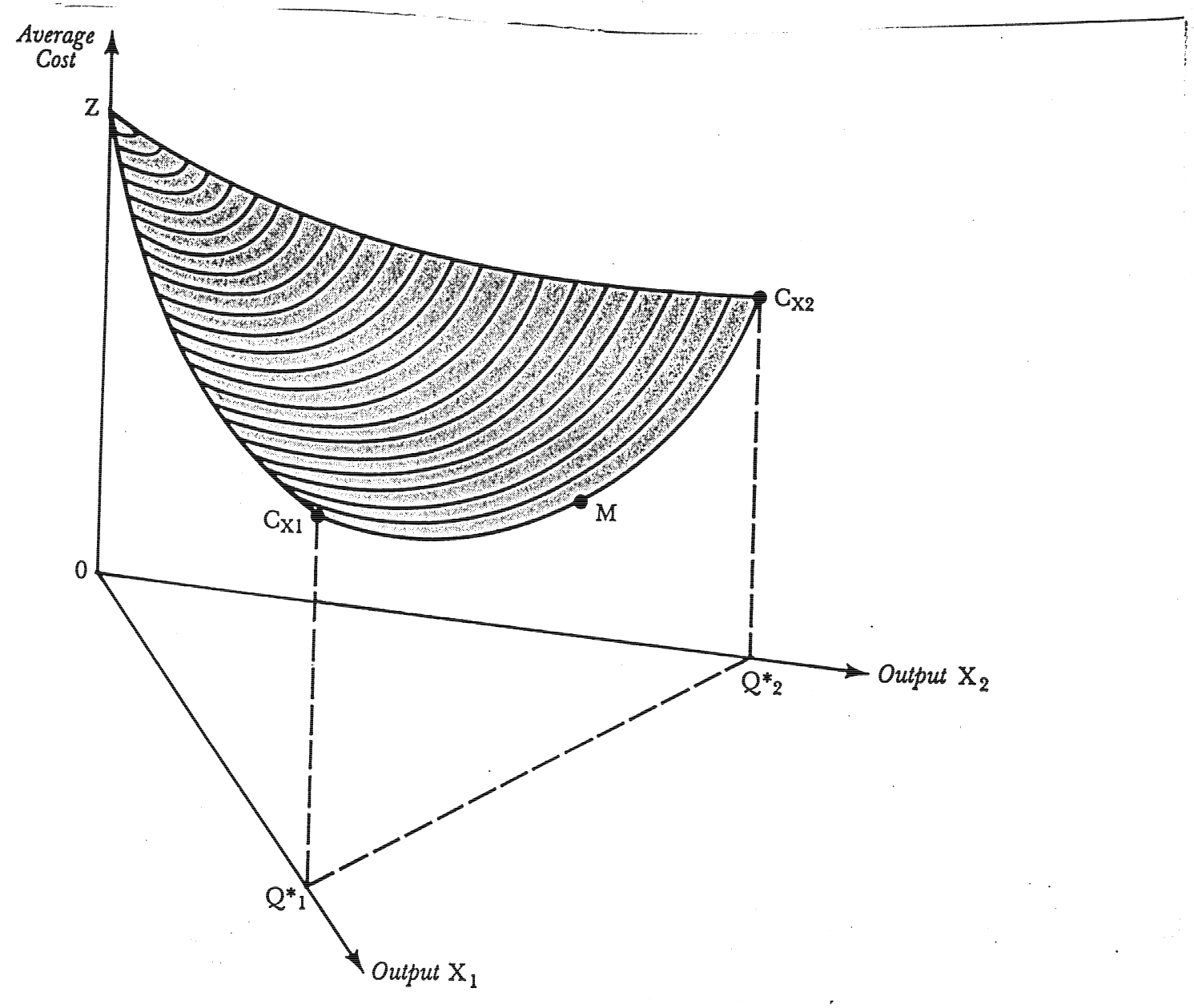
- Previous lecture: Early entrants grow larger, spread R&D cost over more units
- Other possible early-mover advantages:
  - Win race for patent(s) [But simple races are rare]
  - Reputation, customer loyalty, switching costs [But big quality/price differences undermine; limited output makes less relevant]
  - Will discuss cost-reduction, lock-in, networks shortly
  - ....

## 2. Efficient Production Scale

- Lowest unit cost at a *minimum efficient scale*: output of 1 most-efficient machine
- Same cost for more output: 2+ machines
- *Increasing returns to scale* below minimum
- *Constant returns to scale* above minimum



**Figure 4.2**  
Average Costs with Two  
Products  $X_1$  and  $X_2$  and  
Economies of Scope



# Other Scale/Scope Advantages

- R&D cost-spreading
- Advertising cost-spreading
- Distribution networks
- Managerial efficiency and inefficiency

# 3. Progressive Cost Reduction

- Often called *learning curves*
  - Or *experience curves*
  - Implies workers learn to be more efficient
  - But often workers become skilled quickly (2-4 weeks in TV set assembly), can move between jobs
- Studies of progressive cost reduction distinguish specific sources
- R&D a key source of progressive cost reduction

## 4. Technology Lock-In

- One technological standard instead of another
- Hard to change (user networks, development cost)
- May be an inferior technology
- Examples:
  - QWERTY typewriter keyboard (vs Dvorjak)
  - VHS videocassette recorders (vs Betamax)
- Arguments over whether inferior technology locked in
  - Liebowitz & Margolis contradict David re. QWERTY



## 5. Network Economies

- Networks of users benefit from each other
- Hard to switch standards once the network is established
- Causes one type of lock-in
- Examples
  - QWERTY, VHS
  - Microsoft Word
  - Railroad track widths

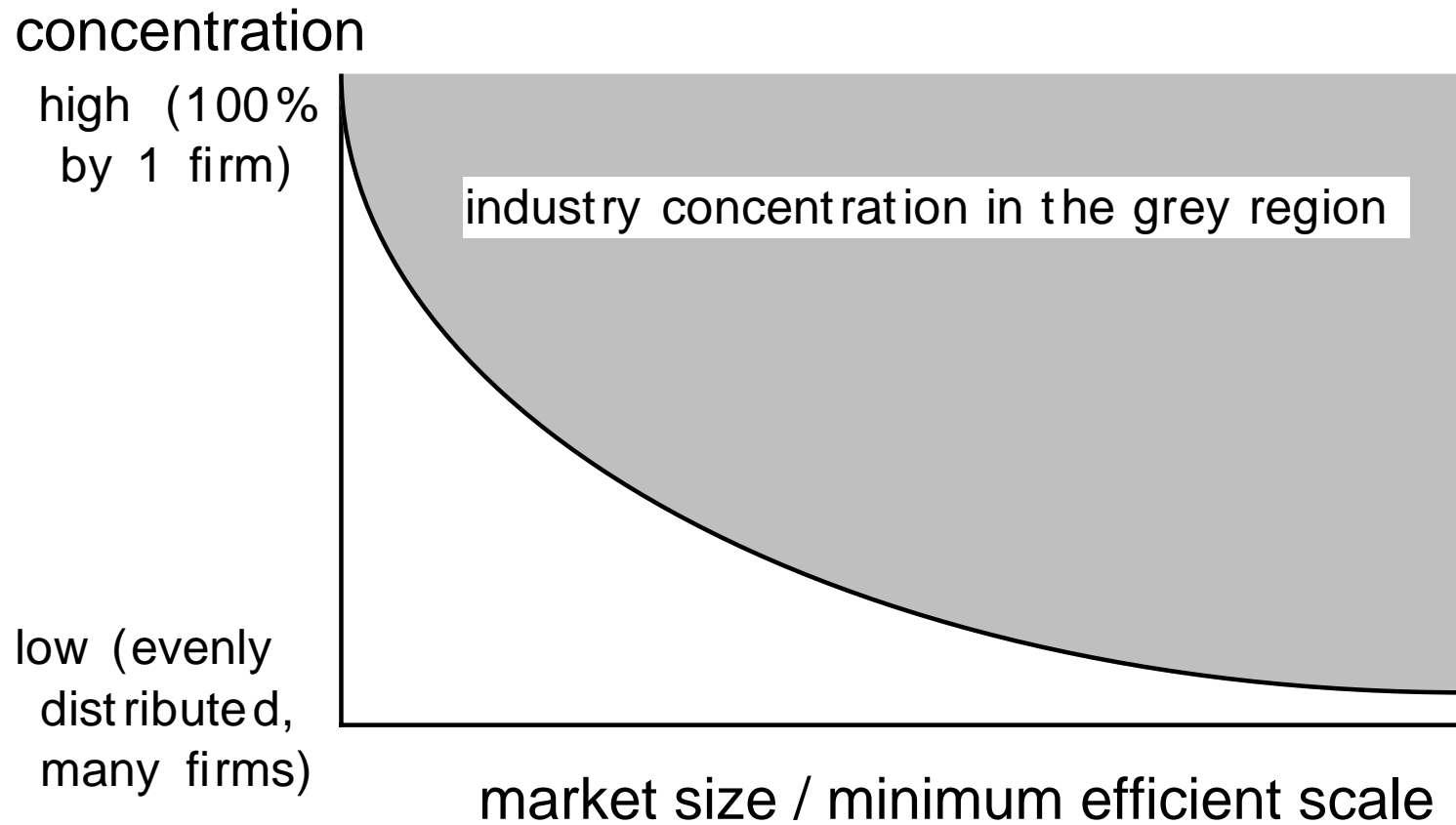
## 6. Sunk Costs

- Entering an industry has a cost
- May be for technology development, purchase of machines, etc.
- Few firms enter if the sunk cost is very large
- Because the cost must be spread over the number of units produced

# A Static Long-Run View

- Sutton (1991, 1998)
- Argues we must look across different competitive models:
  - Bertrand vs Cournot vs monopoly
  - Product differentiation
- Puts *bounds* on competitive outcomes, instead of predicting the outcomes

# Without Cost-Spreading



# With Cost-Spreading

