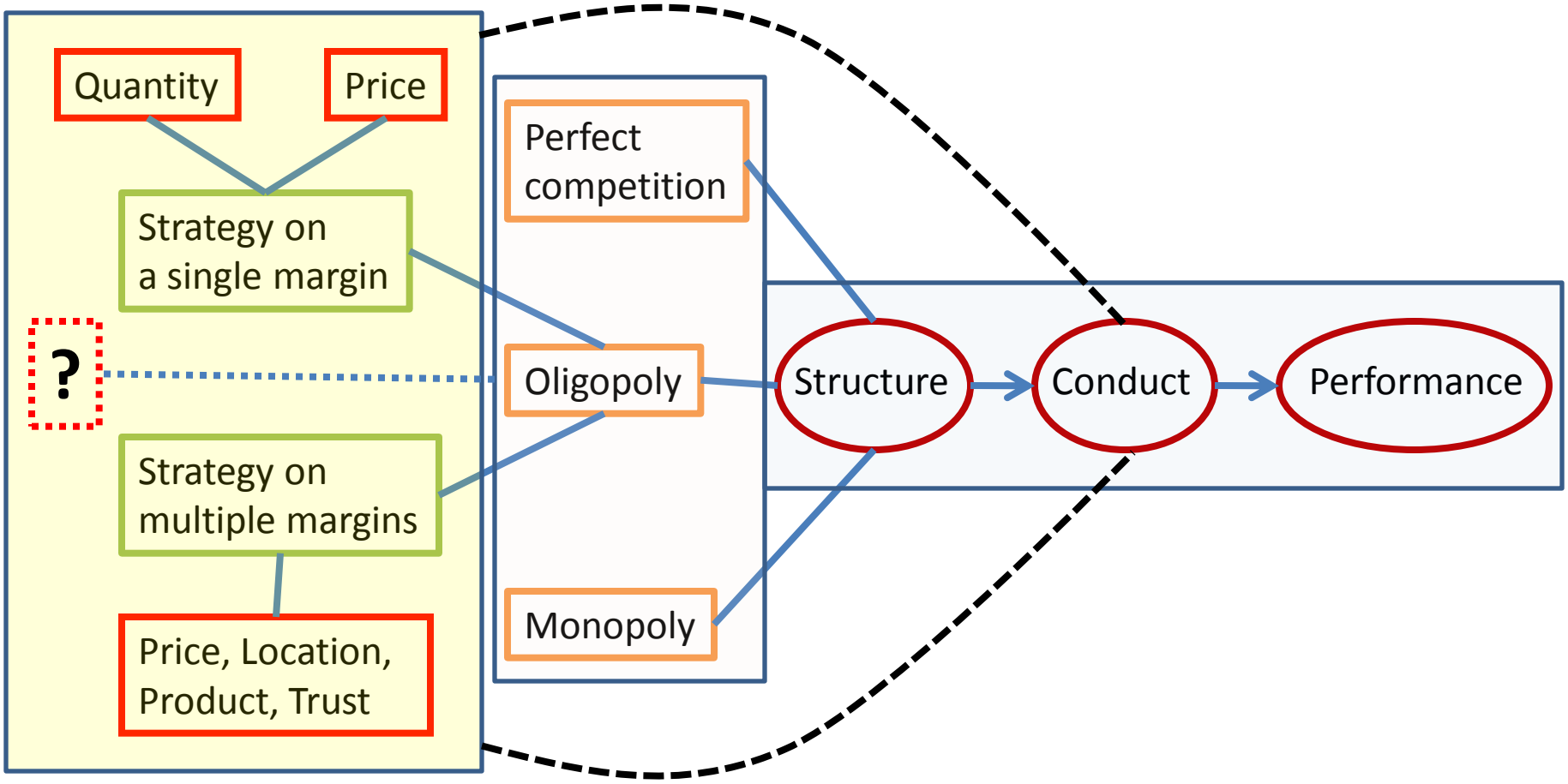
BS2243 – Lecture 7
Entry deterrence and limit pricing

Spring 2011

(Dr. Sumon Bhaumik)

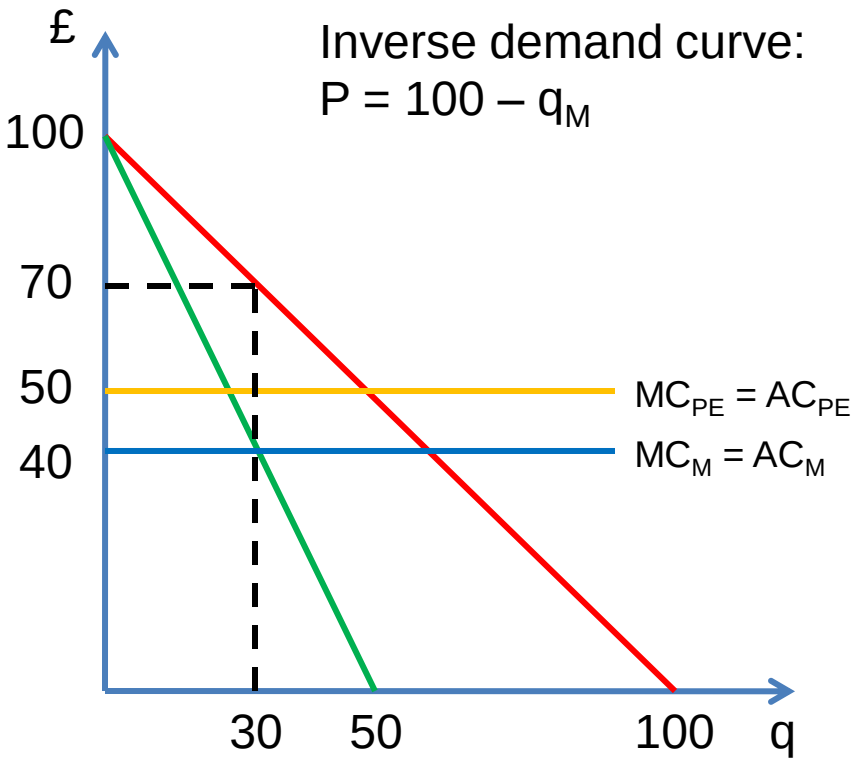
Looking back .... and ahead

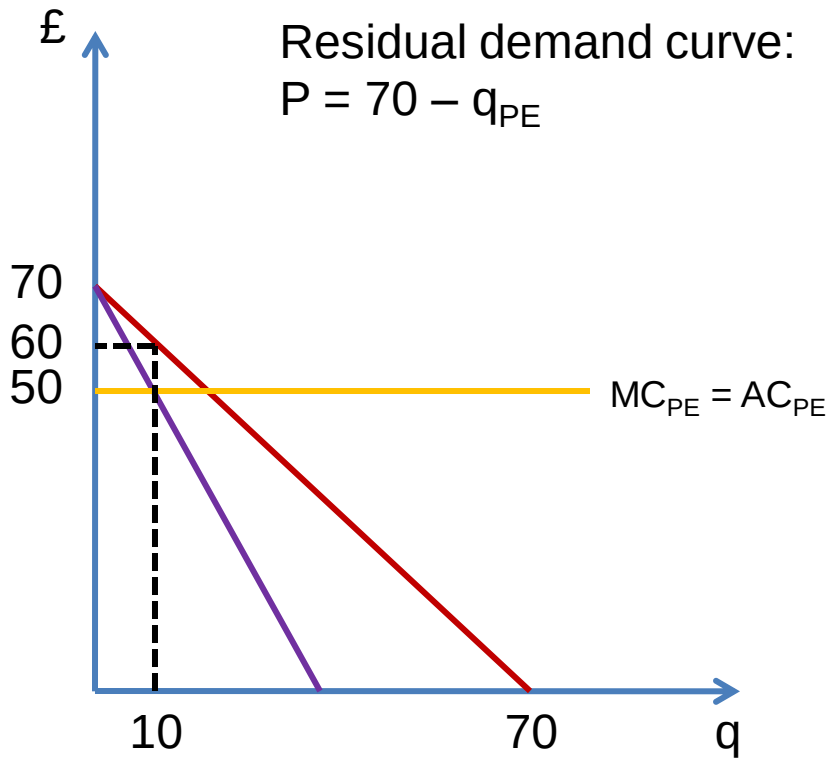


Strategies to limit competition

- Limit pricing
- Pre-commitment to quantity, cost etc.
- Predatory pricing
- Learning by doing
- Product proliferation

Limit pricing – incumbent has cost advantage – I





Limit pricing – incumbent has cost advantage – II

- Profit maximisation of incumbent monopolist:

  Demand: $P = 100 - q$

  MR = MC: $100 - 2q = 40$

  Equilibrium: $q_M = 30$, $P = 70$, $\pi_M = (70 - 40) \times 30 = 900$

- Profit maximisation for potential entrant:

  Residual demand: $P = 70 - q$

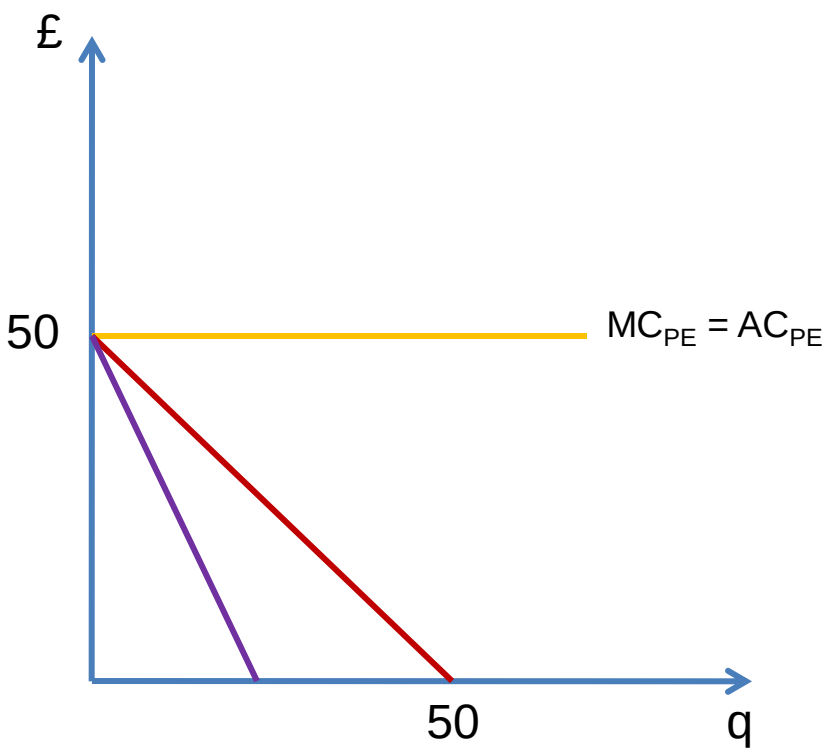
  MR = MC: $70 - 2q = 50$

  Equilibrium: $q_{PE} = 10$, $P = 60$, $\pi_{PE} = (60 - 50) \times 10 = 100$

- Monopolist matches the potential entrant's price:

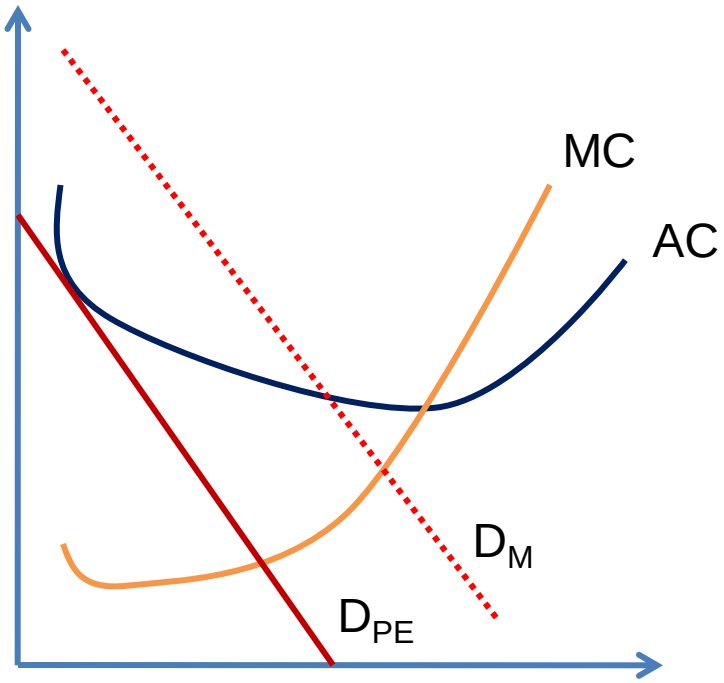
  New profit: $\pi_M = (60 - 40) \times 30 = 600 \Rightarrow$ 33% decline in profit

Limit pricing – incumbent has cost advantage – III



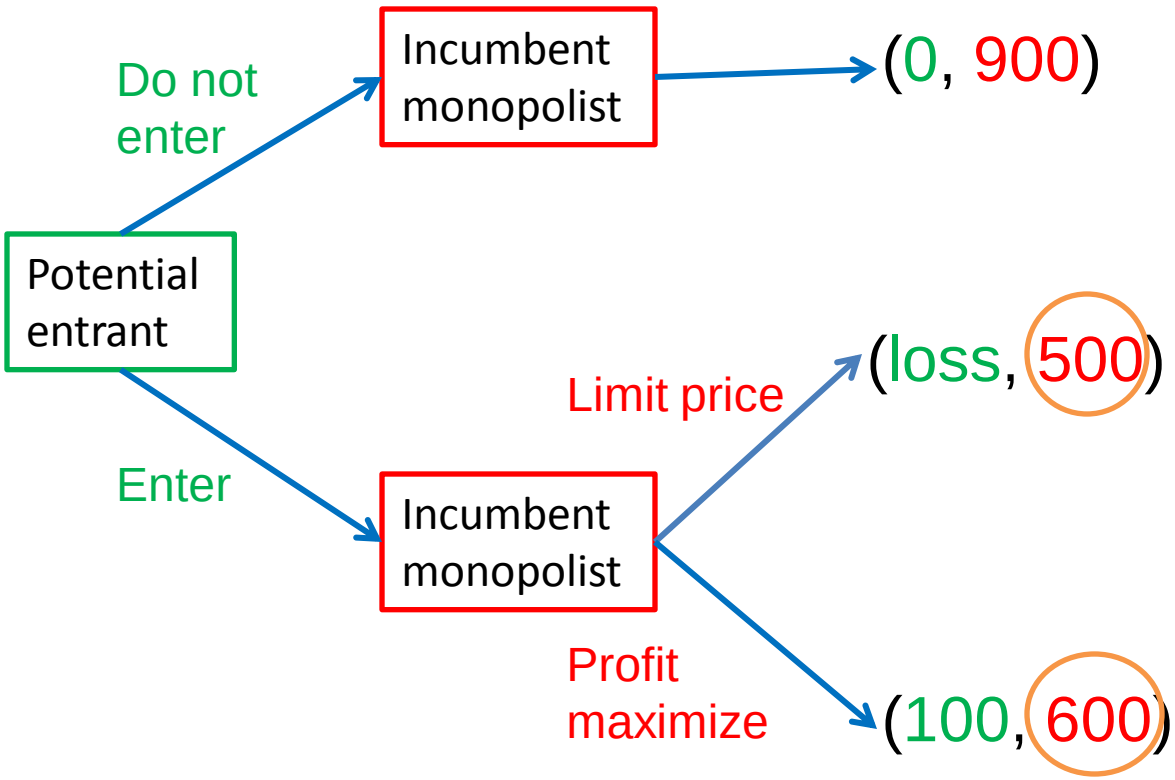
- Incumbent monopolist sets price just below 50
- $q_M = 50$,
  $\pi_M = (50 - 40) \times 50 = 500$
- At P = 50 (or just short of it) $q_{PE} = 0$, i.e., entry does not occur

Limit pricing – incumbent has no advantage



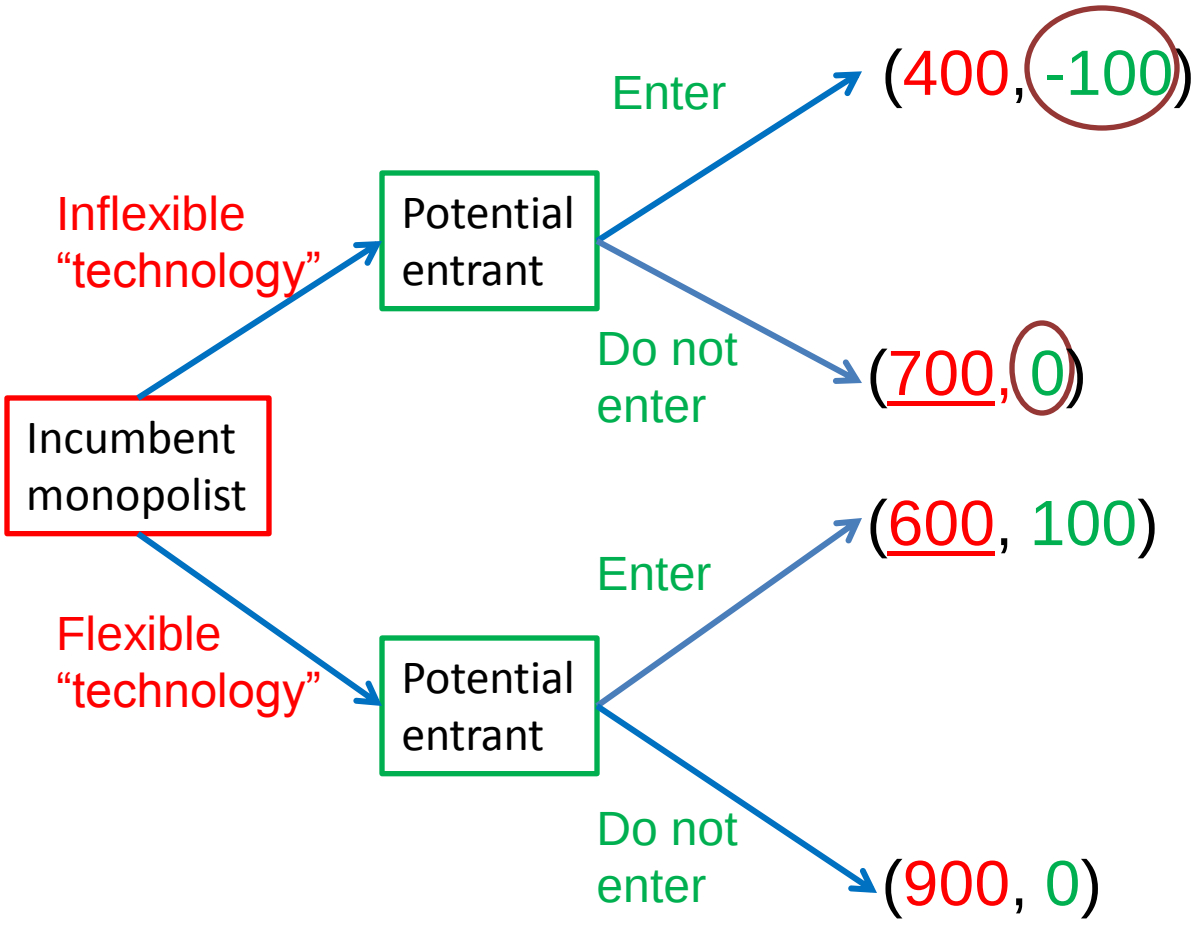
- If MC (= AC) does not change with output, incumbent will not make any profit with limit pricing
- If there are economies of scale, i.e., average cost decreases with output, limit pricing might still be feasible

Limit pricing – is it credible?



- Profit maximisation is always the best choice for the incumbent
- Limit pricing is not a credible threat

Pre-commitment and credibility

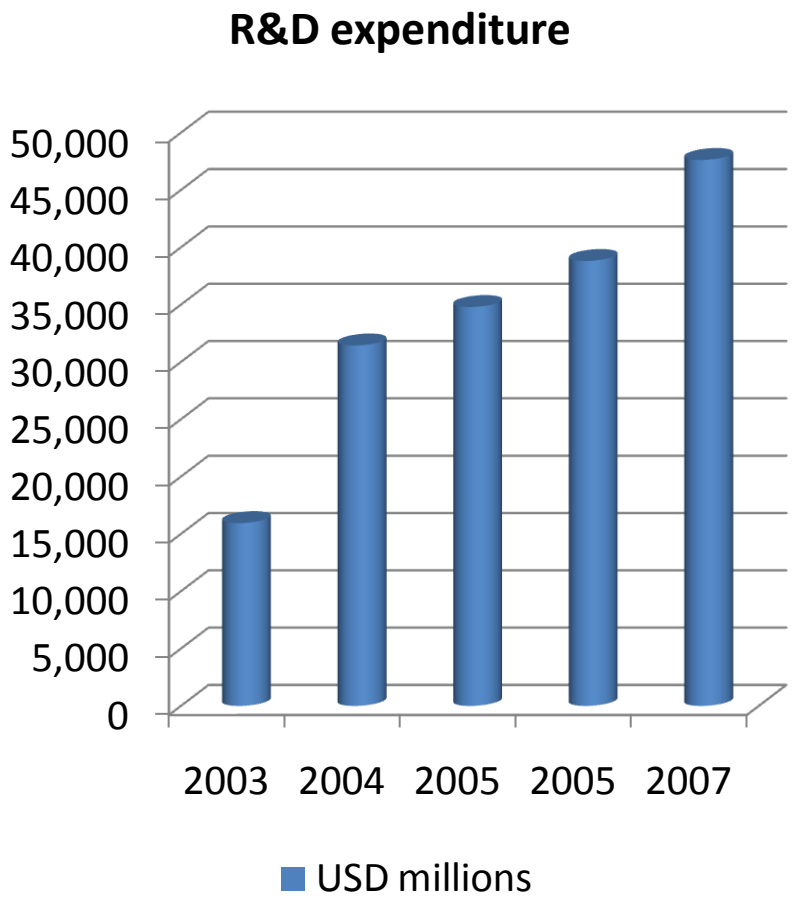


- The incumbent monopolist pre-commits to £200 expenses that the potential entrant has to match
- Limit pricing is now a credible threat

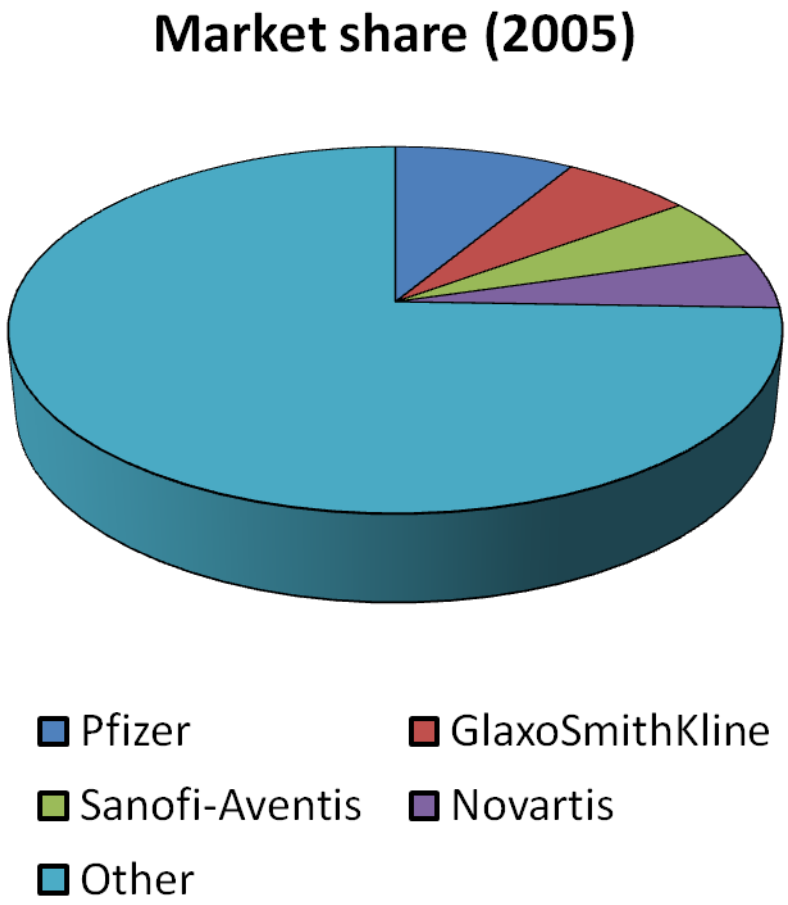
Inflexible “technology” and raising costs

- Production capacity
- Research and development
- Advertising expenses
- Government regulations (“grandfathering”)
- Wages and salaries
- Tie-ins with other products
- Raise switching costs

Pharmaceutical industry – I



Data source:
http://www.nsf.gov/statistics/seind10/c4/c4s3.htm



Data source:
http://www.duke.edu/web/soc142/team2/firms.html

Pharmaceutical industry – II

Merger history of the top ten pharmaceutical companies in 2004 by global sales

Firm	Large entities that have merged since 1989 to create firm
Pfizer	Pfizer, Warner-Lambert, Pharmacia, Upjohn, Monsanto
GlaxoSmithKline	Glaxo, Wellcome, SmithKline Beckman, Beecham
Sanofi-Aventis	Rhone-Poulnec, Rorer, Hoechst, Marion Merrell Dow, Sanofi
Johnson & Johnson	
Merck	
Novartis	Ciba-Geigy, Sandoz
Astrazenca	Astra, Zenca
Roche	Roche, Syntex, Genetech
Bristol-Myers Squibb	Bristol-Myers, Squibb, DuPont Pharmaceuticals
Wyeth	American Cyanamid, American Home Products, Genetics Inst.

Source: *Research and development in the pharmaceutical industry*, published in 2005 by the Congressional Budget Office of the United States government, downloadable from http://www.cbo.gov/ftpdocs/76xx/doc7615/10-02-DrugR-D.pdf

Predatory pricing

- Key issue
  - Credibility of the threat of sustained predatory pricing
- Entrant's strategy
  - Merger or takeover
  - Price contract with buyers
  - Reduce output to minimise impact of predatory pricing
- Legal view
  - There is predatory pricing if the price is below the short run marginal cost or (to ease computation) average cost

Predatory pricing – allegations

- Wal-Mart, 1987, Faulkner County, Arizona
  - Advertised that its prices for certain merchandise were at least as low as those of its rivals
  - Ordered to pay $396,469 in damages, ruling overturned in appeal

- Microsoft, 2002, antitrust suit filed by Netscape Corporation
  - Tied its Internet Explorer browser for free with Windows
  - Long legal battle in the United States, AOL Time Warner settled for $750 million
  - In 2010 Microsoft has started to offer other browser options

Learning by doing

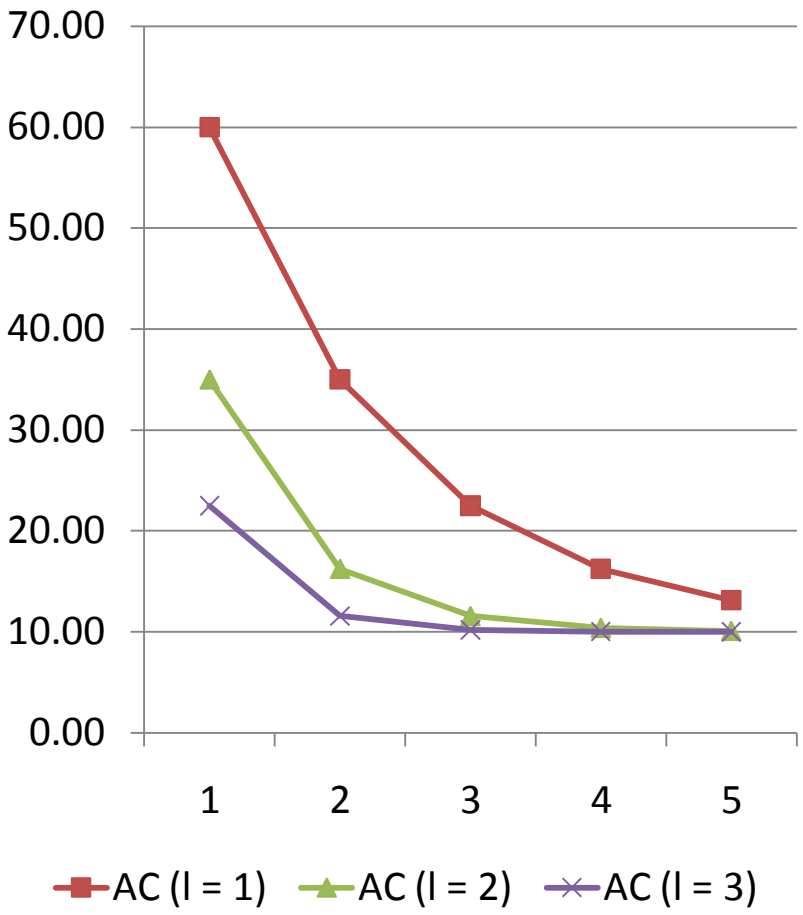
$AC = 10 + \{100/2^{\lambda Q}\}$

where

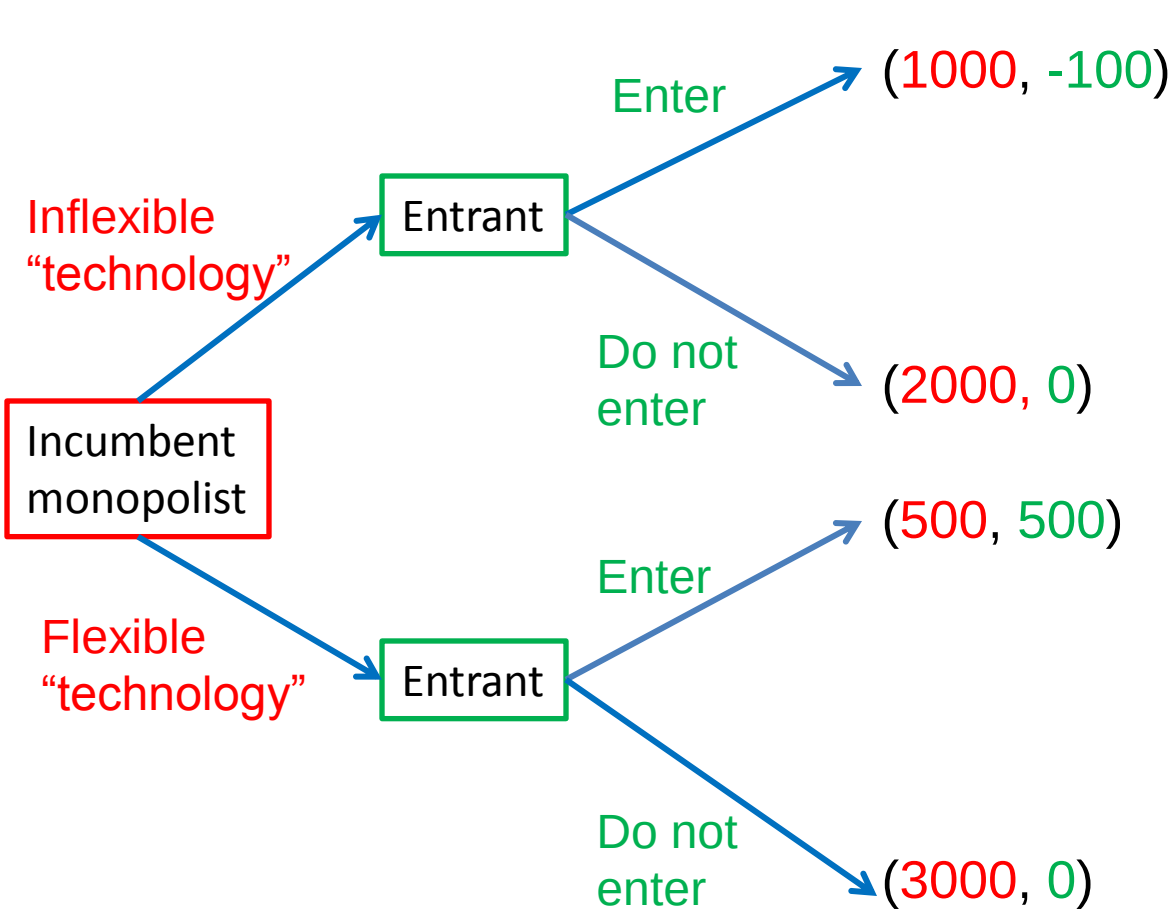
λ = rate of learning

Q = quantity

Q	AC ($\lambda = 1$)	AC ($\lambda = 2$)	AC ($\lambda = 3$)
1	60.00	35.00	22.50
2	35.00	16.25	11.56
3	22.50	11.56	10.20
4	16.25	10.39	10.02
5	13.13	10.10	10.00

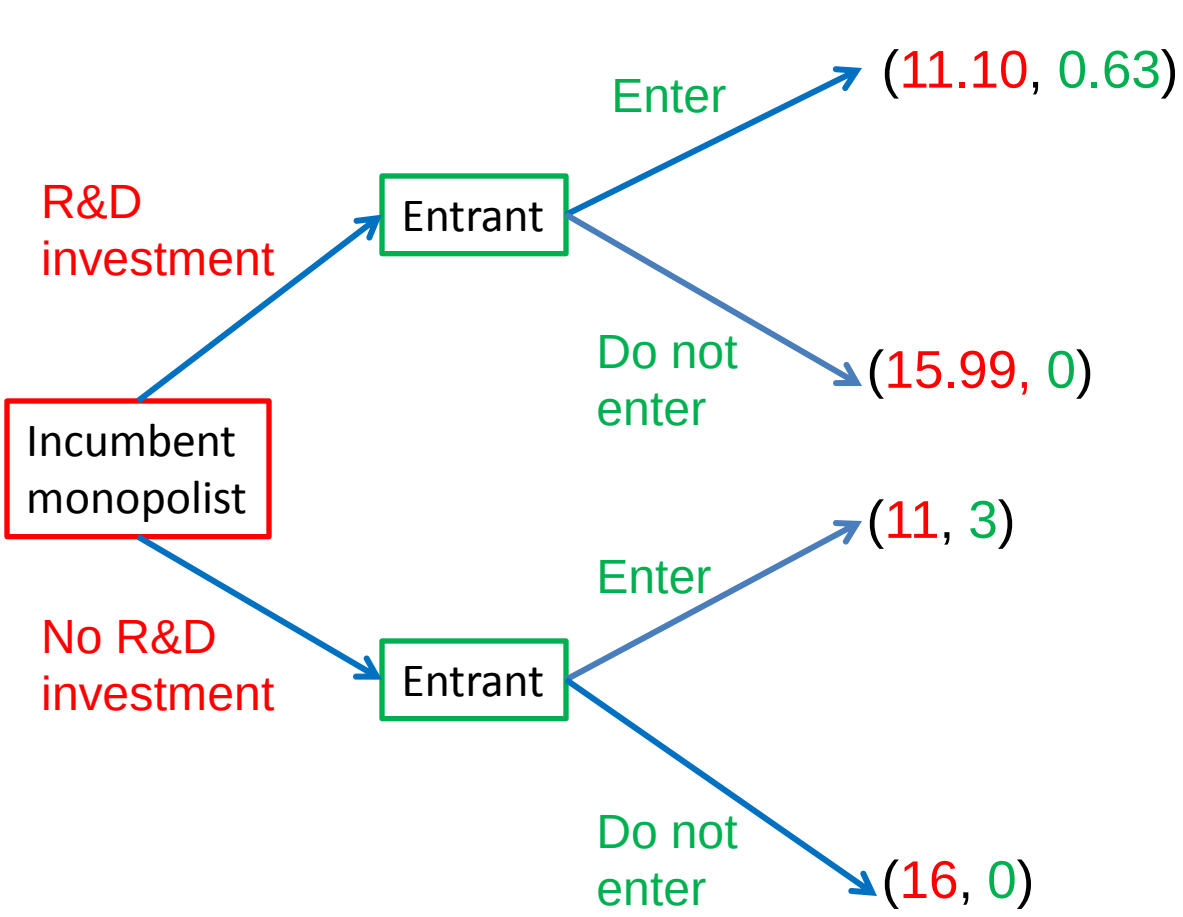


Exercise 1 (Fig. 11.3)



- Who is making the strategic decision?
- What options does he have?
- Which outcomes will he compare?
- What is the equilibrium?

Exercise 2 (Fig. 11.4)



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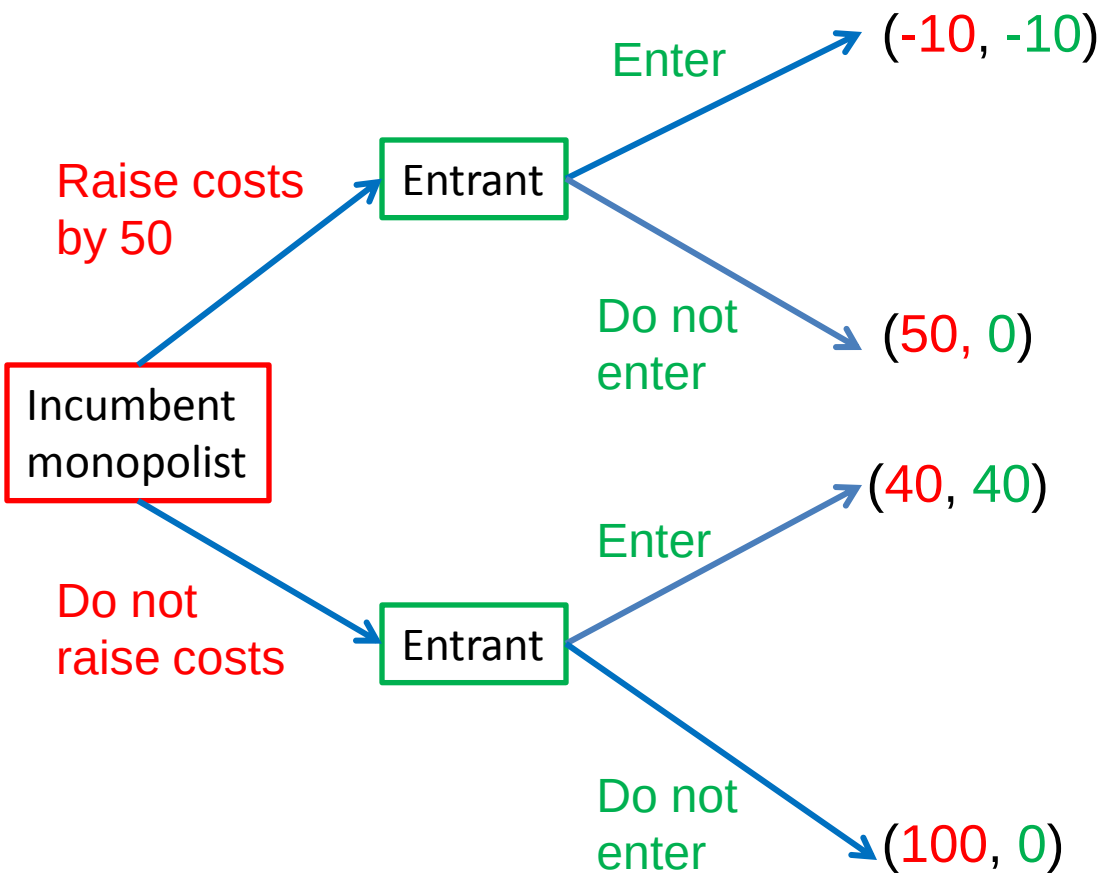
Exercise 3 (Fig. 11.6)



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