Monopolistic Competition

- Firms have market power, that is, the ability to set price above MC,
  - which means they face a downward sloping demand
  - consumers view its products as somewhat different from the other products in the market ---> differentiation
- Yet they make zero economic profits in the long-run
  - This is because there is free entry whenever there are positive profits

Monopolistic Competition - 2 models

- Representative consumer models (RCM)
  - all firms compete for all consumers who typically buy from each firm.
  - E.g. restaurants (differentiate in country or cuisine but all compete for the same consumers)
- Spatial or location models (SM or LM)
  - consumers prefer a good with certain characteristics or that are located near to them and are willing to pay a premium for those preferred ones
  - consumers are more sensitive to relative price changes of products that are closer substitutes than others, e.g. ready-to-eat-cereals

Monopolistic Competition - 2 models

- Representative consumer models
  - firm's demand varies continuously with the prices of all firms in market
- Spatial or location models
  - demand varies a lot or very little given a change of price of a close substitute or a not close substitute, respectively.
- Both models can be used to compare monopolistic competition outcome with social optimal combination of price level and product variety

Chamberlin's model of Monopolistic Competition - Representative Consumer Model

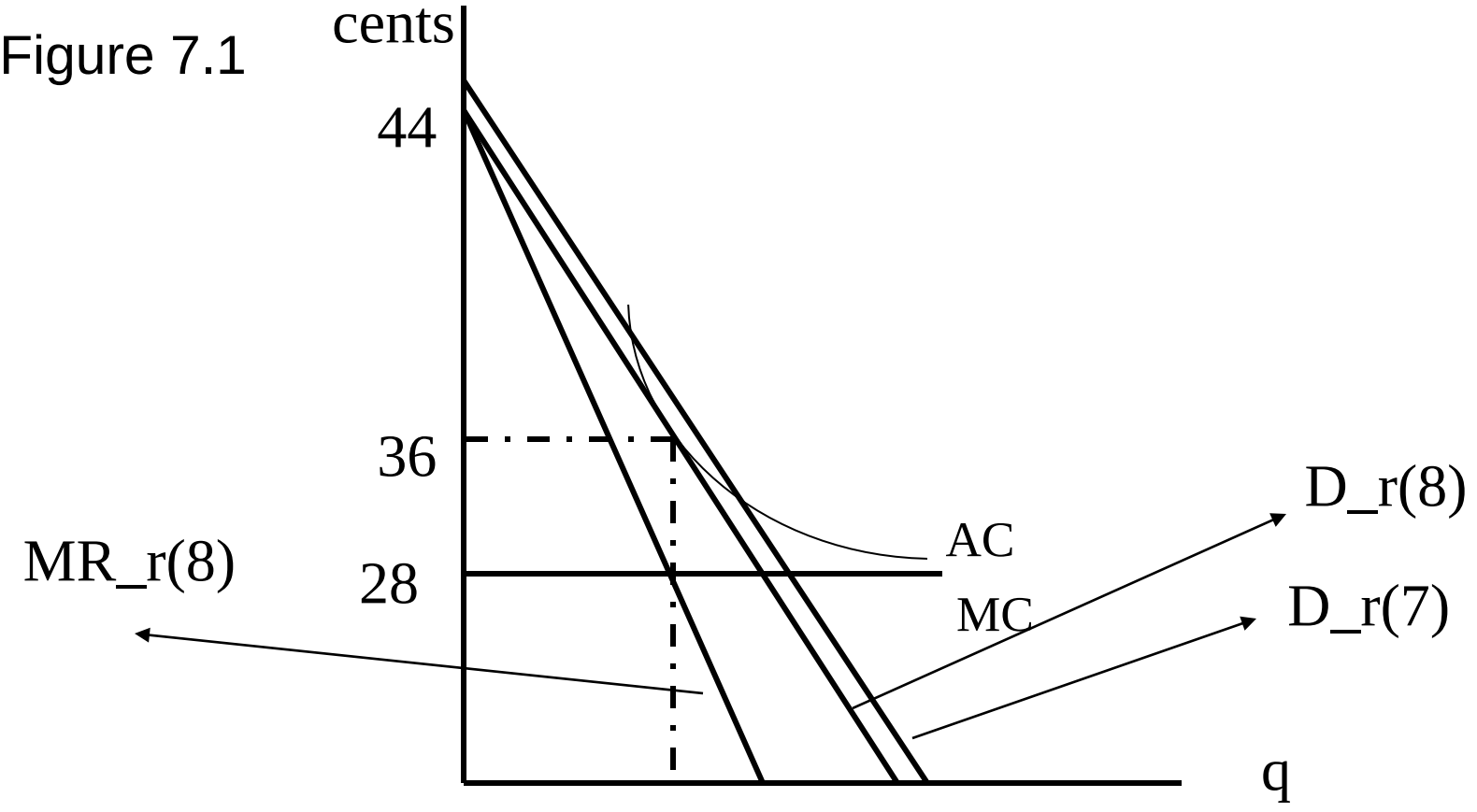
- 2 conditions:
  - A: Entry condition determines the number of firms in market
    - firms enter when profits are positive and exit when negative.
  - B: profit maximization by all firms :
- Cournot example:
  - Demand: Q=1000-1000p
  - Each firms costs: C(q)=0.28q+F (F=6.4)

Chamberlin's model

- Condition:
  - A: price s.t. profits=0, p=AC
    - AC=0.28+F/q
  - B: MC=MR_residual_each_firm
- Solving for equilibrium:
  - 2 step procedure
    - determine Cournot quantity for each firm given N firms
    - use condition B together to determine N such that profits=0

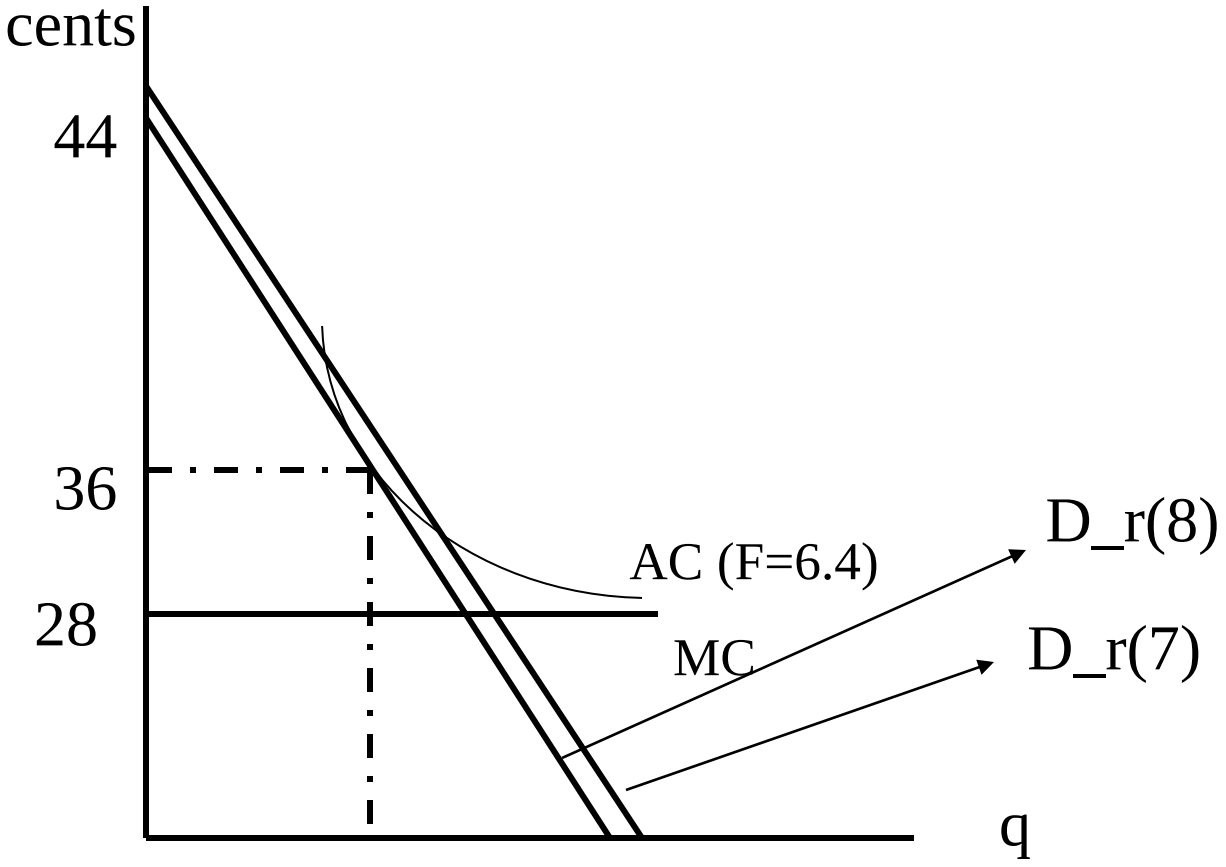
Chamberlin's model - F=6.4

– Figure 7.1



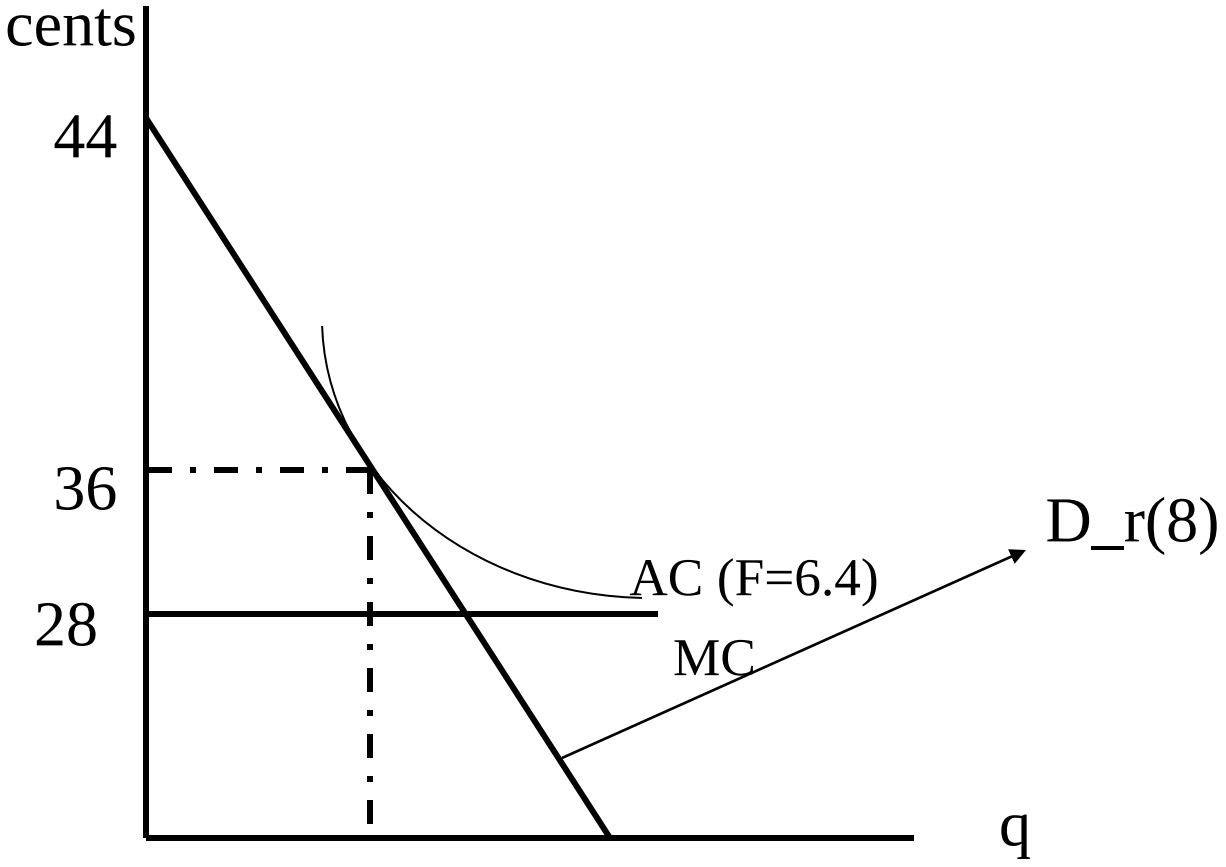
Chamberlin's model - higher fixed costs

– F>6.4



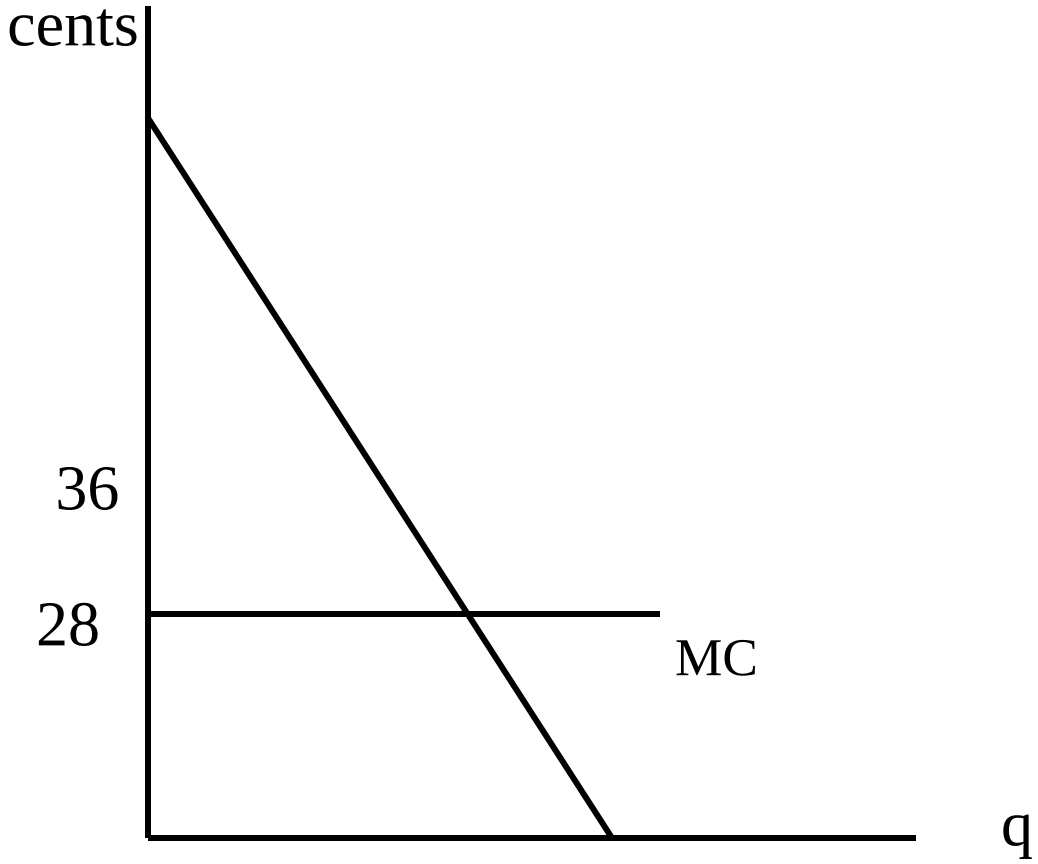
Chamberlin's model - lower fixed costs

– F=1.6, e.g.



Chamberlin's model - no fixed costs ?

– F=0



Chamberlin's model - First best

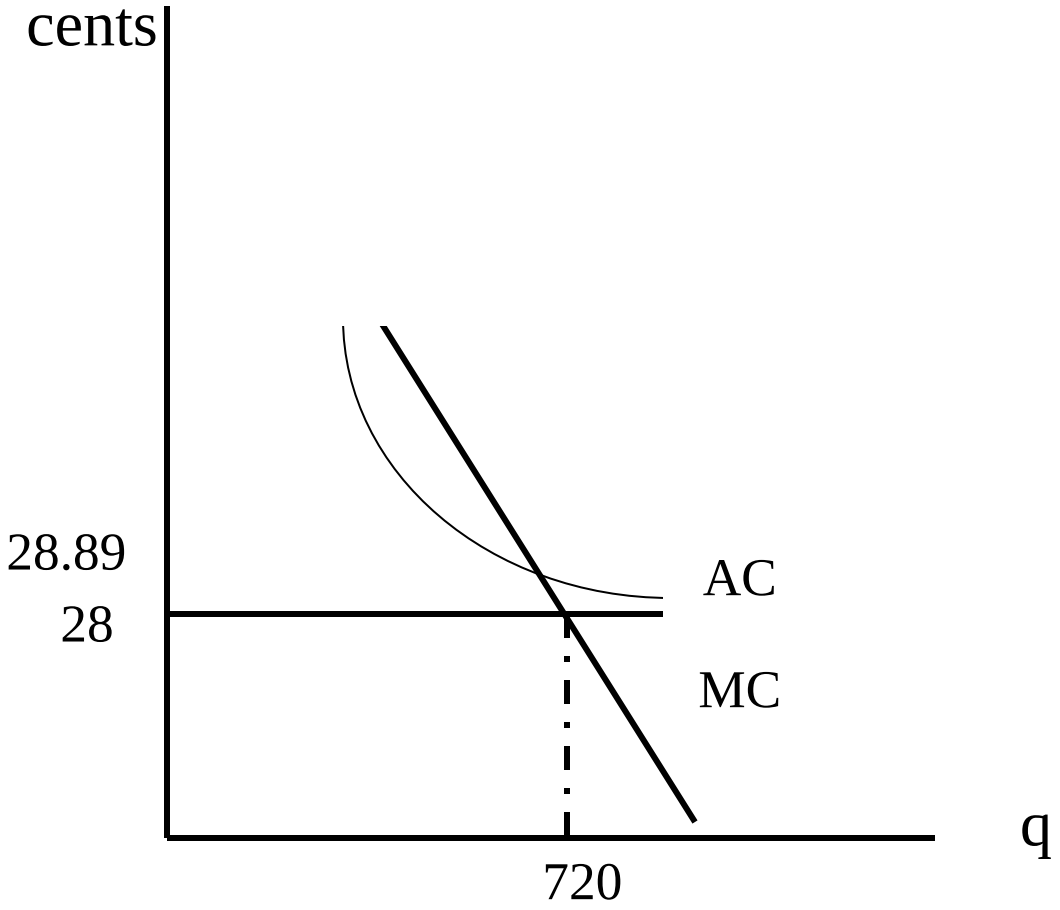
F=6.4=(28.89-28)720

TS=CS+PS=259.2-6.4

TS=Total Surplus

CS=Consumer Surplus

PS= Producer Surplus



Monop. Compet. (MC) Vs First Best Solution (FB)

- Total Surplus_FB=252.8 and Total Surplus_MC=204.8
- Note that TS_MC=CS since PS=0
- Why Welfare decrease from FB to MC?
  - Price > mc
  - there are eight firms, thus Fixed costs have been spent eight times instead of just once
  - Each firm in MC operates at a smaller scale than what minimizes their AC, that is they have excess capacity.
  - Government Trade-off : allows entry drives price down but additional firms imply a multiplication of fixed costs
  - Second best : Maximize TS by choosing number of firms: 3 in example

Monopolistic Competition with differentiated products

- Same equilibrium conditions as before, profit maximization of all firms and entry while there are positive profits
- Primary impact from adding differentiation is that a firm's demand is more sensitive to its own price than to rival's product prices
- In equilibrium neither the price nor the number of products (product variety) will be optimal . There are two opposite forces:
  - A: high fixed costs may keep the number of brands below the optimal level. Consumers would want more variety but firms would lose money.
  - B: If brands are substitutes, when a firm introduces a new brand does not take into account the effect of that on profits of their rivals - there may be too many brands than desired.

Monopolistic Competition with differentiated products

- Note that now variety is desirable, so regulating the entry of new firms and brands to avoid duplication of fixed costs is not optimal any more
- More on why fixed costs may lead to less variety than optimal:
  - firms operate on increasing returns to scale portion of AC curve
  - Figure 7.3 a) produced Figure 7.3 b) not produced

Olive Oil experiment next class

- Please bring a laptop or iphone to answer online to this experiment
- I will send you a link before class
- I will bring bread and olive oil for a blind tasting

Product Differentiation Experiment:

In the classroom offer two olive oil bottles where the brand and labels are hidden , Bottle A and Bottle B, to be tasted by dipping bread in two separate bowls

Both brands claimed to be extra virgin and both are US brands, and only one was certified

Will ask you to Fill out a simple questionnaire online

- Do you usually consume olive oil? Y/N
- Which brand do you prefer A / B
- Which brand is Extra Virgin A / B
- How much extra would you pay for preferred brand? ___

Additional Product Differentiation Experiment (we will not do this one):

- Please write the following on a sheet of paper

1. Do you regularly drink colas?
2. What is your favorite brand?
3. Is it a diet or a non-diet drink?
4. Would you be willing to pay 10 cents more for a can of your favorite brand?

- Now after drinking from the cups
    1. Rank the drinks ordinally
    2. Identify the diet drink
    3. If possible identify your favorite drink

Product Differentiation Experiment:

- Discussion:

  - many people cannot reliably identify the diet colas

  - Many confuse generic brands with diet colas

  - Colas with and without caffeine fools them also

  - Most people will not rank their favorite brand first

  - Regular cola drinkers may do a better job identifying what they drink

- Spurious differentiation: it does not matter whether products are physically differentiated. It matters whether consumers think/believe that products differ

  - due to past experience, advertising, or whatever