Chapter 8

Competitive Firms
and Markets

Objective

- In the last chapter we studied how a firm decides the combination of inputs to choose to produce a given level of output q so that its costs are minimized. We denoted that the minimum cost to produce output level by C(q), the cost function.
- In this Chapter, we take this cost function of a firm to be given and assume that market structure in which the firm operate is “competitive” (which also means that the firm cannot influence the market price of the product by its actions, i.e., the firm is a small firm).
- For competitive firms the revenue from selling q units of its product with p the market price per unit of the product is given by the revenue function $R(q)=p.q$
- The firm’s main problem is to decide how many units of its product to produce given the market price p for its product and it’s cost function C(q) so that the firm’s profit is maximized.
- I.e., to decide q such that $\pi(q) = R(q)-C(q)$ is maximized.

What to read?

- Section 8.2
- Section 8.3 (Figure 8.4, and 8.5) understand the shut-down condition, p < AVC(q), and profit maximization condition MR(q)=MC(q)
- Understand also why marginal cost curve is in fact the inverse supply curve, i.e., p = MC(q).
- Using calculus solve the firm's problem the way it is developed in the class and then solve analytical problems of the type done in the class and homework problems.

Figure 8.2 Maximizing Profit

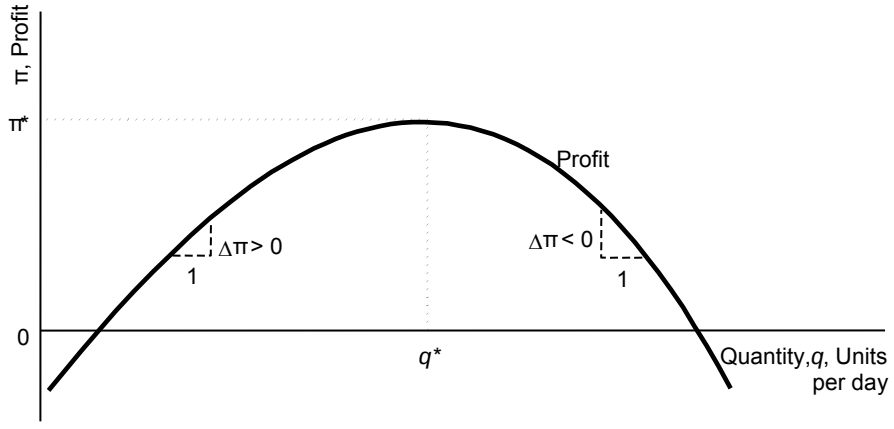


Figure 8.4 The Short-Run Shutdown Decision

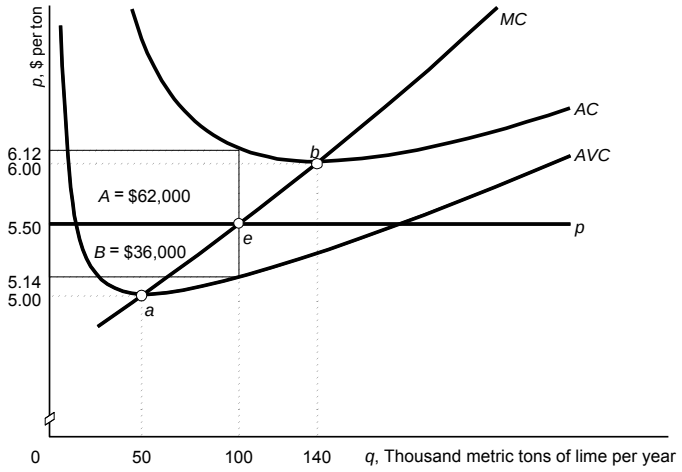
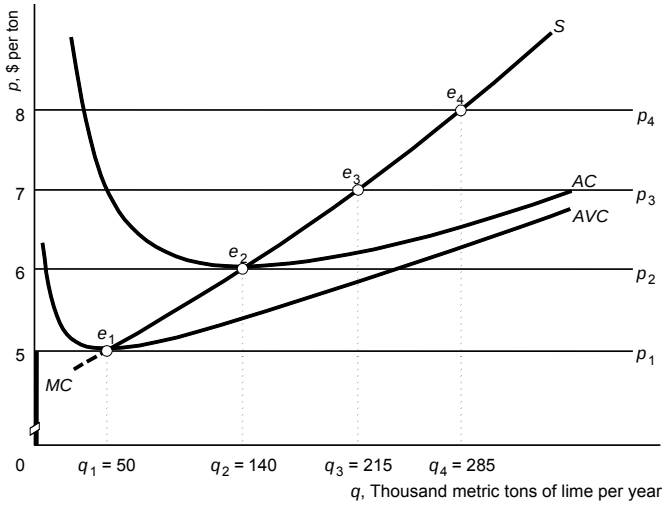


Figure 8.5 How the Profit-Maximizing Quantity Varies with Price



Chapter 9: Consumer surplus and producer surplus

- Objective: When a government regulation is introduced or when some international trade policies are introduced which influence the market price, we know that the consumers and producers are affected by such policies.
- In this part we measure when such policies are introduced who benefits, consumers or producers? By how much?
- Consumer and Producer surplus are such measures.
- I will explain first how to measure these and take an example from International trade to explain the use of this.

What to read?

- From the Text Book: Section 9.1(up to page 274 above the box)
- From the Text Book: Section 9.2(up to page 280 above the subsection, “Using Producer Surplus”)
- The example done in the class and do the online homework problem.
- Nothing else

Figure 9.1 Consumer Surplus

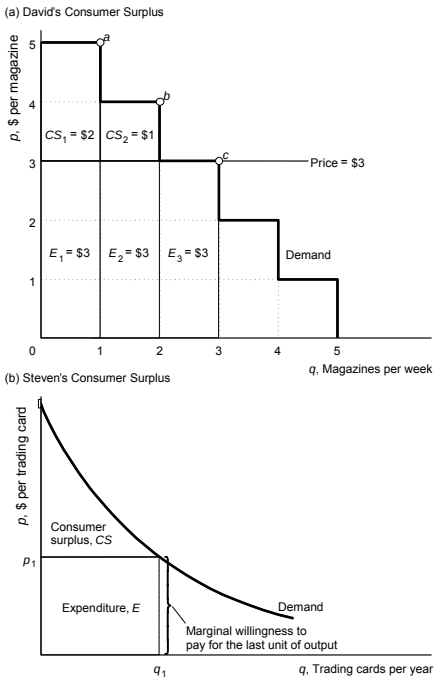
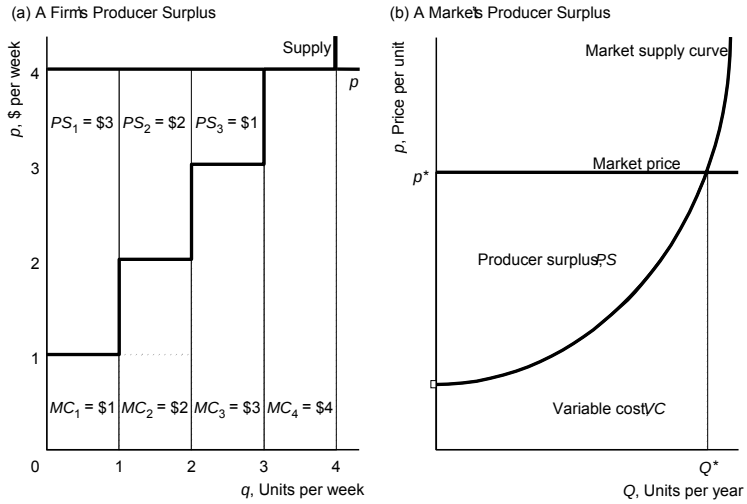
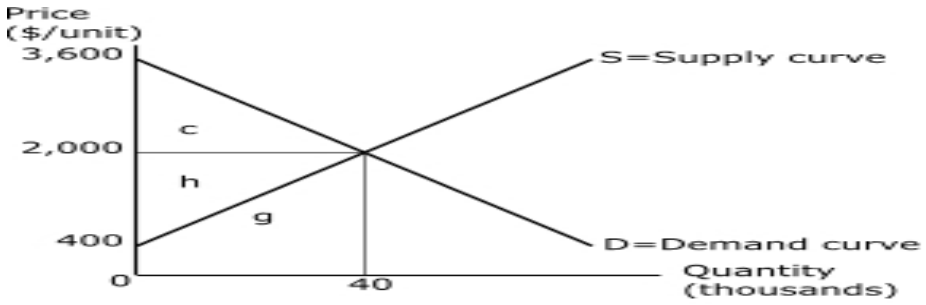


Figure 9.3 Producer Surplus

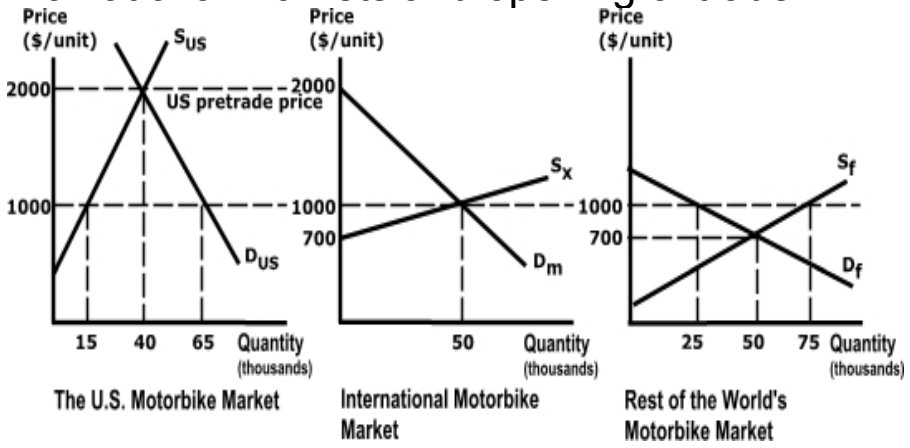


Here is another example (not from the Text Book

- Price elasticity of demand (a measure of price responsiveness, unit free)
- Consumer surplus
- Producer Surplus
- Consider a national market of a product with no trade



Two national markets and opening of trade



- Differences in prices in the domestic markets in closed economy
- International price is between these two prices.
- who gains and who loses: changes in consumer surplus, producer surplus after trade.
- which country export and which country import by how much.
- Do numerically as well.

Table 9.1 Effect of a 10% Increase in Price on Consumer Surplus (Revenue and Consumer Surplus in Billions of 1999 Dollars)

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	Revenue	Elasticity of Demand, ε	Change in Consumer Surplus, ΔCS
Food	648	–0.245	–64
Housing	542	–0.633	–53
Medical	355	–0.604	–34
Transportation	305	–0.461	–30
Clothing	295	–0.405	–29
Utilities	156	–0.448	–15
Alcohol and tobacco	135	–0.162	–13

Source: Revenues and elasticities based on Blanciforti (1982). Appendix 9A shows how the change figures were calculated.

Table 9.2 Welfare Cost of Trade Barriers (millions of 1999 Dollars)

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Industry	*DWL*	ΔPS	Government Revenues	ΔCS
Meat products	−29	2,400	69	−2,499
Dairy products[a]	−15,660	28,595	1,073	−41,937
Sugar confectionery[a]	−978	4,485	285	−5,745
Grain mill products	−10	1,167	10	−1,090
Fats and oils	−136	2,421	5	−2,562
Beverages	−9	1,119	150	−1,277
Tobacco	−209	3,908	97	−4,213
All food and tobacco	**−13,797**	**49,921**	**2,025**	**−65,740**

[a] Import quotas are the primary instrument of protection.

Notes: As estimated, $\Delta CS = DWL - \Delta PS$ – government revenue. Dollar amounts were adjusted using the Consumer Price Index.

Source: Lopez and Pagoulatos (1994).