

ECON 5103 Unit 8 Video 1

Revenues, costs, and profits: Perfect Competition

Perfect competition:

Each firm is very small and produces a product identical in all ways to the products produced by its competitors.

There are many, many competitors.

So:

1. Each firm must charge the prevailing market price
2. Each firm is so small that it can sell as many units of output as it wants at the prevailing market price

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Example: A tomato farmer can sell as many bushels of tomatoes as she wants at the current market price for tomatoes--\$15 per bushel

Price per bushel	Quantity of bushels	Total revenue $p \times q$
\$15	0	\$0
\$15	1	\$15
\$15	2	\$30
\$15	3	\$45
\$15	4	\$60
\$15	5	\$75
\$15	6	\$90
\$15	7	\$105
\$15	8	\$120
\$15	9	\$135
\$15	10	\$150

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Example continued: The farmer has cost function $\$C = 10 + 2Q^2$

Quantity of bushels	Total cost
0	$10 + 2(0^2) = \$10$
1	$10 + 2(1^2) = \$12$
2	$10 + 2(2^2) = \$18$
3	$10 + 2(3^2) = \$28$
4	$10 + 2(4^2) = \$42$
5	$10 + 2(5^2) = \$60$
6	$10 + 2(6^2) = \$82$
7	$10 + 2(7^2) = \$108$
8	$10 + 2(8^2) = \$138$
9	$10 + 2(9^2) = \$172$
10	$10 + 2(10^2) = \$210$

Example continued:
Finding profit-maximizing quantity of bushels

Quantity	Total revenue	Total cost	Total Profit
0	\$0	\$10	-\$10
1	\$15	\$12	\$3
2	\$30	\$18	\$12
3	\$45	\$28	\$17
4	\$60	\$42	\$18
5	\$75	\$60	\$15
6	\$90	\$82	\$8
7	\$105	\$108	-\$3
8	\$120	\$138	-\$18
9	\$135	\$172	-\$37
10	\$150	\$210	-\$60