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Research paper:
Chung, Barick, "Two Level Price Discrimination and Vertical Relationship" (March 05, 2012). Available at SSRN: <http://ssrn.com/abstract=1997070>.

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ECO 2011 (Sections L07-10) Basic Microeconomics

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Opportunity cost

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Pindyck and Rubinfeld, p. 230:

Opportunity cost: Cost associated with opportunities forgone when a firm's resources are not put to their best alternative use.

Definitions

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Mankiw, Gregory, 2012, *Essentials of Economics*, pp.236-7:

Opportunity cost of an item refers to all those things that must be forgone to acquire that item. When economists speak of a firm's cost of production, they include all the opportunity costs of making its output of goods and services.

While some of a firm's opportunity costs of production are obvious, others are less so. When Caroline pays \$1,000 for flour, that \$1,000 is an opportunity cost because Caroline can no longer use that \$1,000 to buy something else. Similarly, when Caroline hires workers to make the cookies, the wages she pays are part of the firm's costs. Because these opportunity costs require the firm to pay out some money, they are called explicit costs. By contrast, ...

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Mankiw, Gregory, 2012, *Essentials of Economics*, pp.236-7:

...

By contrast, some of a firm's opportunity costs, called implicit costs, do not require a cash outlay. Imagine that Caroline is skilled with computers and could earn \$100 per hour working as a programmer. For every hour that Caroline works at her cookie factory, she gives up \$100 in income, and this forgone income is also part of her costs. The total cost of Caroline's business is the sum of the explicit costs and the implicit costs.

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Pindyck and Rubinfeld, p.230:

Accounting cost: Actual expenses plus depreciation charges for capital equipment.

Economic cost: Cost to a firm of utilizing economic resources in production.

Definitions

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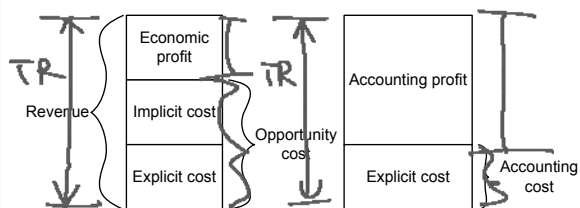
Economic cost (opportunity cost): The cost of something is what you give up to get it.

Accounting cost: The costs listed on accounting statements (income statement /balance sheet).

Definitions

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Pindyck and Rubinfeld, p.232:

Sunk cost: Expenditure that has been made and cannot be recovered.

Definitions

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Pindyck and Rubinfeld, p.232:

Example:

A company is considering to locate its office.

Last year, it paid \$0.5M for an option to buy an office in the city.

The option gives the firm the right to buy the office at a cost of \$5M.

Now the company finds a comparable office has become available in the same city at a price of \$5.25M.

Which office should it buy?

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Pindyck and Rubinfeld, p. 233:

Total cost (TC or C): Total economic cost of production, consisting of fixed and variable costs.

Fixed cost (FC): Cost that does not vary with the level of output and that can be eliminated only by shutting down.

Variable cost (VC): Cost that varies as output varies.

Definitions

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Pindyck and Rubinfeld, pp. 236 – 237:

Marginal cost (MC): Increase in cost resulting from the production of one extra unit of output.

Average total cost (ATC): Firm's total cost divided by its level of output.

Average fixed cost (AFC): Fixed cost divided by its level of output.

Average variable cost (AVC): Variable cost divided by its level of output.

Definitions

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TC: Total cost

$$TC = FC + VC$$

ATC: Average total cost

$$ATC = TC / Q$$

AFC: Average fixed cost

$$AFC = FC / Q$$

AVC: Average variable cost

$$AVC = VC / Q$$

MC: Marginal cost

$$MC = \Delta TC / \Delta Q$$

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Mankiw, Gregory, *Essentials of Economics*, 2012, p. 242
“various measures of cost”

Output	Total cost	Fixed cost	Variable cost	Average fixed cost	Average variable cost	Average total cost	Marginal cost
0	\$3	\$3	\$0	–	–	–	–
1	3.3	3	0.3	\$3	\$0.3	\$3.3	\$0.3
2	3.8	3	0.8	1.5	0.4	1.9	0.5
3	4.5	3	1.5	1	0.5	1.5	0.7
4	5.4	3	2.4	0.75	0.6	1.35	0.9
5	6.5	3	3.5	0.6	0.7	1.3	1.1
6	7.8	3	4.8	0.5	0.8	1.3	1.3
7	9.3	3	6.3	0.43	0.9	1.33	1.5
8	11	3	8.0	0.38	1	1.38	1.7
9	12	3	9.9	0.33	1.1	1.43	1.9
10	15	3	12.0	0.3	1.2	1.5	2.1

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Pindyck and Rubinfeld, p. 238:

MC = w / MP_L

$$MC = \frac{w}{MP_L}$$

X
