2.11: Marginal Analysis

Learning Objectives

- Explain the importance of marginal analysis in economics
- Give examples of marginal cost and marginal benefit

A Little More or a Little Less

The budget constraint framework helps to illustrate that most choices in the real world are not about getting all of one thing or all of another—we rarely decide "all burgers" or "all bus tickets." Options usually fall somewhere on a continuum, and the choice usually involves marginal decision-making and marginal analysis.

Marginal decision-making means considering a little more or a little less than what we already have. We decide by using **marginal analysis**, which means comparing the costs and benefits of a little more or a little less.

It's natural for people to compare costs and benefits, but often we look at total costs and total benefits, when the best choice requires comparing how costs and benefits change from one option to another. In short, you might think of marginal analysis as "change analysis." Marginal analysis is used throughout economics. This subtle concept is easier to grasp with examples.

Marginal Cost

Figure 1. Charm Bracelet. What is the marginal cost of getting more silver heart charms? Should you buy just one charm for $4, or all of them for $12?

Generally speaking, **marginal cost** is the difference (or change) in cost of a different choice. From a consumer's point of view, marginal cost is the additional cost of one more item purchased. From a business's point of view, marginal cost is the additional cost of one more item produced.

Suppose you typically spend a week at the beach for vacation, but this year you earned an annual bonus from your job. Should you rent a beach house for one week or two? A one-week rental costs $2,000. A two-week rental costs $3,600. Holding everything else constant, which option is better? If you stay for two weeks, the cost is significantly higher: $3,600 versus $2,000. But consider the cost by week. The first week costs $2,000. The difference in cost between one week and two is $3,600 – $2,000, or $1,600. Thus, while the marginal cost of the first week's rental is $2,000, the marginal cost of the second week's rental is $1,600. This illustrates the key rule of marginal analysis: Marginal cost = the change in total cost from one option to another.

Consider another example. Imagine that you're out getting ice cream with your friends or family. You can choose whether to buy one, two, or three scoops of ice cream. One scoop costs $3.00, two scoops cost $5.00, and three scoops cost $7.00. This information is shown in the following table.

Scoops of Ice Cream	1	2	3
Total Cost	$3	$5	$7

What is the marginal cost of each scoop of ice cream? The marginal cost of the first scoop of ice cream is $3.00 because you have to pay $3.00 more to get one scoop of ice cream than you do to get zero scoops of ice cream. The marginal cost of the second scoop of ice cream is $2.00 because you only need to pay two more dollars to get two scoops than you need to pay to get one scoop. The marginal cost of the third scoop is also $2.00 because you would need to pay an additional two dollars to get that third scoop.

Scoops of Ice Cream	1	2	3

Scoops of Ice Cream	1	2	3
Marginal Cost	$3	$2	$2

Marginal costs sometimes go up and sometimes go down, but to get the clearest view of your options, you should always try to make decisions based on marginal costs, rather than total costs.

Try It

This next question allow you to get as much practice as you need, as you can click the link at the top of the question ("Try another version of this question") to get a new question. Practice until you feel comfortable doing the question and then move on.

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Marginal Benefit

Generally speaking, **marginal benefit** is the difference (or change) in what you receive from a different choice. From a consumer's point of view, marginal benefit is the additional satisfaction of one more item purchased. From a business' point of view, marginal benefit is the additional revenues received from selling one more item.

Suppose you're considering membership at the local recreation center. The basic membership gives access to the swimming pool, while the full membership gives access to the swimming pool and the weight room. What is the difference between the two memberships? Since both give access to the pool, the marginal benefit of full membership is access to the weight room.

The amount of benefit a person receives from a particular good or service is subjective; one person may get more satisfaction or happiness from a particular good or service than another. For example, you might enjoy ice cream more than your friend who is allergic to dairy. The amount of benefit you get can also change. For example, you might enjoy the ice cream more on a hot day than on a cold day. This doesn't make it any less real, however.

Economic Rationality Revisited

How, then, do you decide on a choice? The answer is that you compare, to the best of your ability, the marginal benefits with the marginal costs. An economically rational decision is one in which the marginal benefits of a choice are greater than the marginal costs of the choice.

If we return to the recreation center example above, suppose that the basic membership is $30 per month, while the full membership is $40 per month. An economically rational decision-maker would ask, Is the marginal benefit (access to the weight room) worth the marginal cost (an extra $10 per month)? For some people, the answer will be yes. For others, it will be no. Either way, marginal analysis is an important part of economic rationality and good decision-making.

Try It

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Try It

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Learning Objectives

[glossary-page][glossary-term]marginal analysis: [/glossary-term]
[glossary-definition]examination of decisions on the margin, meaning comparing costs of a little more or a little less[/glossary-definition][glossary-term]marginal benefit: [/glossary-term][glossary-definition]the difference (or change) in what you receive

> from a different choice[/glossary-definition][glossary-term]marginal cost: [/glossary-term]
> [glossary-definition]the difference (or change) in cost of a different choice[/glossary-definition][/glossary-page]

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