

5. Marginal Analysis of Rational Behavior

Marginal analysis is a step-by-step way of determining how people engaging in rational behavior make choices. Marginal analysis of your decision to buy CDs would look at the benefits and costs associated with your purchase of each *extra* CD starting from zero. If the additional benefit you obtain from buying another CD exceeds its price, you'll be better off buying it than keeping your money to spend on something else. The dollar value you place on the satisfaction you obtain from another unit of an item is its **marginal benefit**. The marginal benefit of an item in dollars represents the maximum sum of money you're willing and able to give up to obtain one more unit of the item without becoming worse off or better off by doing so. The **marginal cost** of an item is the sacrifice you must make to obtain each extra unit. The marginal cost of buying another CD is what you forgo to obtain it. If you choose to buy one that costs \$11.99, you forgo the opportunity to use that sum to purchase another item.

This simple economic model makes us aware of important influences on decisions to buy an item. We can reach the following conclusions from the model.

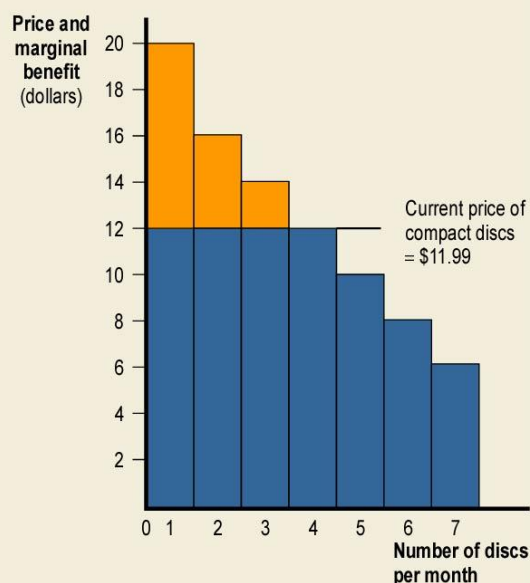
1. *The price of an item is an important influence on the amount of it that a buyer will choose to purchase.* This is because the price affects the net gain possible from buying a certain item. Each time you purchase it, you give up the opportunity to use the sum of dollars equal to the item's price to buy something else. If the price of music CDs falls, then, assuming nothing else changes, the net gains possible from buying more CDs increase. For example, suppose the price of CDs falls to \$7.99. Just substitute \$7.99 for \$11.99 in the third column of the table in Box 1, and you'll see the change in the numbers in the last column. When the price of CDs is \$7.99, you'll buy six CDs per month, because net gains from buying a fifth and a sixth CD each month are now possible. Given all the other influences on a person's decision to buy an item, the lower the price, the greater the net gain associated with any given amount. Lower prices allow additional net gains from additional amounts bought. Changes in the price of an item change the marginal cost of buying it and affect the amounts rational people purchase

Box 1 **Marginal Analysis**

A net gain is possible when the marginal benefit of an item exceeds its marginal cost. The consumer buys compact discs until the marginal benefit falls to equal the price of the compact discs.

Monthly Purchases, Marginal Benefit, Marginal Cost, and Net Gain

Number of compact discs purchased	Marginal benefit of discs	Price = Marginal cost of discs	Net gain from the additional disc (marginal benefit minus marginal cost)
1	\$20	\$11.99	\$8.01
2	16	11.99	4.01
3	14	11.99	2.01
4	12	11.99	0.01
5	10	11.99	-1.99
6	8	11.99	-3.99
7	6	11.99	-5.99



2. A person's buying decision depends on the marginal benefit from purchasing an item and on the way marginal benefit varies with the amount bought. Suppose you buy a new CD player that gives you much better sound than your old player. This may increase the marginal benefit you get from CDs. If the marginal benefit of each quantity purchased per month were to double, so would the height of each bar in the graph in Box 1. The increased marginal benefit will increase the net gain from each CD purchased and lead you to buy more CDs per month. To see this, double the marginal benefit for each quantity in the table in Box 1 and recalculate the net gain possible for each additional CD, assuming the price is still \$11.99. You'll see that net gains are now possible from buying up to seven CDs per month. Changes in the marginal benefit of buying an item, therefore, affect the quantities of the item that rational people choose to buy.

If you've mastered the logic of this simple model, you're well on your way to using the economic way of reasoning. You can see how changes that affect the marginal benefit and marginal cost of an activity (such as buying something) influence decisions to engage in that activity. You can also see how the assumption that rational people seek net gains helps us reach conclusions about the way they behave.

Rational behavior means that in deciding on any course of action, such as buying another unit of a good in a market, you compare the marginal benefit of that action with its marginal cost. As a rational person, you undertake actions as long as the marginal cost doesn't exceed the marginal benefit. By behaving in this way, you undertake all activities that provide you with additional net gains in well-being and you avoid all activities for which additional net gain would be negative.

The assumption that we're all rational decision makers, relentlessly pursuing goals intended to improve our well-being, has proved to be particularly fruitful in building economic models whose hypotheses are supported by facts. Not everyone agrees with this assumption. In fact, some of us don't consistently do what's in our best interest. However, the underlying assumptions of a model needn't be either realistic or without exception to be useful. Remember, the test of the usefulness of an economic model is the validity of the principles we can derive from it.