Introduction

Life is about choices, and economics is about how incentives affect those choices and shape our lives. Choices about our education, how we spend and invest, what we do in the workplace, and many other personal decisions will influence our well-being and quality of life. Moreover, the choices we make as voters and citizens affect the laws or "rules of the game," and these rules exert an enormous impact on our freedom and prosperity. To choose intelligently, both for ourselves and for society generally, we must understand some basic principles about how people choose, what motivates their actions, and how their actions influence their personal welfare and that of others. Thus, economics is about human decision-making, the analysis of the forces underlying choice, and the implications for how societies work.

The economic way of thinking involves the integration of key concepts into your thought process. The following section presents twelve concepts that are crucial for the understanding of economies, and why some countries grow and achieve high income levels while others stagnate and remain poor. You will learn such things as the true meaning of costs, why prices matter, how trade furthers prosperity, and why production of things people value underpins our standard of living. In the subsequent parts of the book, these concepts will be used to address other vitally important topics.

1. Incentives matter: Changes in benefits and costs will influence choices in a predictable manner.

All of economics rests on one simple principle: Changes in incentives influence human behavior in predictable ways. Both monetary and non-monetary factors influence incentives. If something becomes more costly, people will be less likely to choose it. Correspondingly, when the benefits derived from an option increase, people will be more likely to choose it. This simple idea, sometimes called the basic postulate of economics, is a powerful tool because it applies to almost everything that we do.

People will be less likely to choose an option as it becomes more costly. Think about the implications of this proposition. When late for an appointment, a person will be less likely to take time to stop and visit with a friend. Fewer people will go *picnicking* on a cold and rainy day. Higher prices will reduce the number of units sold. Attendance in college classes will be below normal the day before spring break. In each case, the explanation is the same: as the option becomes more costly, less is chosen.

Similarly, when the payoff derived from a choice increases, people will be more likely to choose it. A person will be more likely to bend over and pick up a quarter than a penny. Students will attend and pay more attention in class when they know the material will be on the exam. Customers will buy more from stores that offer low prices, high quality service, and a convenient location. Employees will work harder and more efficiently when they are rewarded for doing so. All of these outcomes are highly predictable and they merely reflect the "incentives matter" postulate of economics.

This basic postulate explains how changes in market prices alter incentives in a manner that works to coordinate the actions of buyers and sellers. If buyers want to purchase more of an item than producers are willing (or able) to sell, its price will soon rise. As the price increases, sellers will be more willing to provide the item while buyers purchase less, until the higher price brings the amount demanded and the amount supplied into balance. At that point the price stabilizes.

What happens if it starts out the other way: if sellers want to supply more than buyers are willing to purchase? If sellers cannot sell all of their produce at the current price, they will have to cut the price of the item. In turn, the lower price will encourage people to buy more—but will also discourage producers from producing as much, since it is less attractive to them to supply the product at the new, lower price. Again, the price change works to bring the amount demanded by consumers into balance with the amount produced by suppliers. At that point there is no further pressure for a price change.

Remember the record high gas prices in the summer of 2008? While a lot of people felt the pain of higher prices at the pump, there was no panic in the streets or long lines at the gas pumps. Why? When the higher prices made it more costly to purchase gasoline, most consumers eliminated some less important trips. Others arranged more carpooling. With time, consumers also shifted to smaller, more fuel-efficient cars in order to reduce their gasoline bills.

Furthermore, as buyers reacted to higher gas prices, so did sellers. The oil companies supplying gasoline increased their drilling, developed new techniques such as fracking to recover more oil from existing wells, and intensified their search for new oil fields. The higher price helped to keep the quantity supplied in line with the quantity demanded. Eventually, the prices of both crude oil and gasoline fell as supply expanded.

Incentives also influence political choices. There is little reason to believe that a person making choices in the voting booth will behave much differently than when making choices in the shopping mall. In most cases voters are likely to support political candidates and policies that they believe will provide them with the most personal benefits, net of their costs. They will tend to oppose political options when the personal costs are high compared to the benefits they expect to receive. For example, senior citizens have voted numerous times against candidates and proposals that would reduce their Medicare benefits. Similarly, polls indicate that students are strongly supportive of educational grants to college students.

There's no way to get around the importance of incentives. They are a part of human nature. Interestingly, incentives matter just as much under socialism as under capitalism. In the former Soviet Union, managers and employees of glass plants were at one time rewarded according to the tons of sheet glass they produced. Because their revenues depended on the weight of the glass, most factories produced sheet glass so thick that you could hardly see through it. As a result, the rules were changed so that the managers were compensated according to the number of square meters of glass produced. Under these rules, Soviet firms made glass so thin that it broke easily.

Some people think that incentives matter only when people are greedy and selfish. This is untrue. People act for a variety of reasons, some selfish and some charitable. The choices of both the self-centered and altruistic will be influenced by changes in personal costs and benefits. For example, both the selfish and the altruistic will be more likely to attempt to rescue a child in a shallow swimming pool than in the rapid currents approaching Niagara Falls. And both are more likely to give a needy person their hand-me-downs rather than their best clothes.

Even though no one would have accused the late Mother Teresa of greediness, her self-interest caused her to respond to incentives, too. When Mother Teresa's organization, the Missionaries of Charity, attempted to open a shelter for the homeless in New York City, the city required expensive (but unneeded) alterations to its building. The organization abandoned the project. This decision did not reflect any change in Mother Teresa's commitment to the poor. Instead, it reflected a change in incentives. When the cost of helping the poor in New York went up, Mother Teresa decided that her resources would do more good in other areas.[i] Changes in incentives influence everyone's choices, regardless of the mix of greedy materialistic goals on the one hand and compassionate, altruistic goals on the other, that drive a specific decision.

2. There is no such thing as a free lunch: Goods are scarce and therefore we have to make choices.

The reality of life on our planet is that **productive resources** are limited, while the human desire for goods and services is virtually unlimited. Would you like to have some new clothes, a luxury boat, or a vacation in the Swiss Alps? How about more time for leisure, recreation, and travel? Do you dream of driving your brand-new Porsche into the driveway of your oceanfront house? Most of us would like to have all of these things and many others! However, we are constrained by the **scarcity** of resources, including a limited availability of time.

Because we cannot have as much of everything as we would like, we are forced to choose among alternatives. There is "no free lunch." Doing one thing makes us sacrifice the opportunity to do something else we value. This is why economists refer to all costs as **opportunity costs**.

Many costs are measured in terms of money, but these too are opportunity costs. The money you spend on one purchase is money that is not available to spend on other things. The opportunity cost of your purchase is the value you place on the items that must now be given up because you spent the money on the initial purchase. But just because you don't have to spend money to do something does not mean the action is costless. You don't have to spend money to take a walk and enjoy a beautiful sunset, but there is an opportunity cost to taking the walk. The time you spend walking could have been used to do something else you value, like visiting a friend or reading a book.

It is often said that some things are so important that we should do them without considering the cost. Making such a statement may sound reasonable at first thought, and may be an effective way to encourage people to spend more money on things that we value and for which we would like them to help pay. But the unreasonableness of ignoring cost becomes obvious once we recognize that costs are the value of forgone alternatives (that is, alternatives given up). Saying that we should do something without considering the cost is really saying that we should do it without considering the value of the alternatives. When we choose between mutually exclusive alternatives, the least cost alternative is the most valuable one.

The choices of both consumers and producers involve costs. As consumers, the cost of a good, as reflected in its price, helps us compare our desire for a product against our desire for alternative products that we could purchase instead. If we do not consider the costs, we will probably end up using our income to purchase the "wrong" things— those goods and services not valued as much as the other items we might have bought.

Producers face costs, too—the costs of the resources used to make a product or provide a service. For example, the use of resources such as lumber, steel, and sheet rock to build a new house takes resources away from the production of other goods, such as hospitals and schools. High costs for resources signal that the resources have other highly valued uses, as judged by buyers and sellers in other markets. Profit-seeking firms will heed those signals and act accordingly, such as seeking out less costly substitutes. However, government policies can override these signals. They can introduce taxes or subsidies that help those inconvenienced by the prices that emerge in free and open markets. But such policies reduce the ability of market incentives to guide resources to where consumers ultimately, on balance, value them most highly.

Politicians, government officials, and the lobbyists, often speak of "free education," "free medical care," or "free housing." This terminology is deceptive. These things are not free. Scarce resources are required to produce each of them and alternative uses exist. For example, the buildings, labor, and other resources used to produce schooling could, instead, produce more food or recreation or environmental protection or medical care. The cost of the schooling is the value of those goods that must be sacrificed. Governments may be able to shift costs, but they cannot eliminate them.

Opportunity cost is an important concept. Everything in life is about opportunity cost. Everyone lives in a world of scarcity and, therefore, must make choices. By looking at opportunity costs, we can better understand the world in which we live. Consider the impact of opportunity cost on work force participation, the birth rate, and population growth, topics many would consider outside the realm of opportunity-cost application.

Have you ever thought about why women with more education are more likely to work outside the home than their less-educated counterparts? Opportunity cost provides the answer. The more highly educated women will have better earning opportunities in the workforce, and therefore it will be more costly for them to stay at home. The data are consistent with this view. In 2013, 79.5 percent of women aged 25 to 64 with a college education (or more) were in the labor force, compared to only 64.4 percent of their counterparts with only a high school education and 46 percent of the women with less than 12 years of schooling.[ii] Just as economic theory predicts, when it is more costly for a woman to be out of the labor force, fewer will choose this option.

What do you think happens to the birth rate as an economy grows and earnings rise? Time spent on household responsibilities reduces the time available for market work. As earnings rise, the opportunity cost of having children and raising a large family increases. Therefore, the predicted result is a reduction in the birth rate and slower population growth. The real world reflects this analysis. During the past two centuries, as the per capita income of a country increased, a reduction in the birth rate and a slowdown in population growth soon followed. Moreover, this pattern has occurred in every country. Even though there are widespread cultural, religious, ethnic, and political organizational differences among countries, nonetheless the higher opportunity cost of having children exerted the same impact on the birth rate in all cases.

Opportunity cost is a powerful tool and it will be applied again and again throughout this book. If you integrate this tool into your thought process, it will greatly enhance your ability to understand the real-world behavior of consumers, producers, business owners, political figures, and other decision-makers. Even more important, the concept will also help you make better choices.

3. Decisions are made at the margin: If we want to get the most out of our resources, options should be chosen only when the marginal benefits exceed the marginal cost.

If we are going to get the most out of our resources, actions should be undertaken when they generate more benefits than costs and rejected when they are more costly than the benefits derived. This principle of sound decision-making applies to individuals, businesses, government officials, and society as a whole.

Nearly all choices are made at the margin. That means that they almost always involve additions to (or subtractions from) current conditions, rather than "all-or-nothing" decisions. The word "additional" is a substitute for "**marginal**." We might ask, "What is the marginal (or additional) cost of producing or purchasing one more unit?" Marginal decisions may involve large or small changes. The "one more unit" could be a new shirt, a new house, a new factory, or even an expenditure of time, as in the case of a high school or college student choosing among various activities. All these decisions are marginal because they involve consideration of additional costs and benefits.

People do not make "all-or-nothing" decisions, such as choosing between eating or wearing clothes. Instead they compare the marginal benefits (a little more food) with the marginal costs (a little less clothing or a little less of something else). In making decisions individuals don't compare the total value of food and the total value of clothing, but rather they compare their marginal values. Further, we choose options only when the marginal benefits exceed the marginal costs.

Similarly, a business executive planning to build a new factory will consider whether the **marginal benefits** of the new factory (for example, additional sales revenues) are greater than the

marginal costs (the expense of constructing the new building). If not, the executive and the company are better off without the new factory.

Effective political actions also require marginal decision-making. Consider the political decision of how much effort should go into cleaning up pollution. If asked how much pollution we should allow, many people would respond "none"—in other words, we should reduce pollution to zero. In the voting booth they might vote that way. But marginal thinking reveals that this would be extraordinarily wasteful.

When there is a lot of pollution—so much, say, that we are choking on the air we breathe—the marginal benefit of reducing pollution is quite likely to exceed the marginal cost of the reduction. But as the amount of pollution goes down, so does the marginal benefit—the value of the additional improvement in the air. There is still a benefit to an even cleaner atmosphere (for example, we would be able to see distant mountains) but this benefit is not nearly as valuable as protecting our lungs. At some point before all pollution disappeared, the marginal benefit of eliminating more pollution would decline to almost zero.

As pollution is being reduced, the marginal benefit is going down, the marginal cost is going up and becomes very high before all pollution is eliminated. The marginal cost is the value of other things that have to be sacrificed to reduce pollution a little bit more. Once the marginal cost of a cleaner atmosphere exceeds the marginal benefit, additional pollution reduction would be wasteful. It would simply not be worth the cost.

To continue with the pollution example, consider the following hypothetical situation. Assume that we know that pollution is doing $100 million worth of damage, and only $1 million is being spent to reduce pollution. Given this information, are we doing too little, or too much, to reduce pollution? Most people would say that we are spending too little. This may be correct, but it doesn't follow from the information given.

The $100 million in damage is total damage, and the $1 million in cost is the total cost of cleanup. To make an informed decision about what to do next, we need to know the marginal benefit of cleanup and the marginal cost of doing so. If spending another $10 on pollution reduction would reduce damage by more than $10, then we should spend more. The marginal benefit exceeds the marginal cost. But if an additional $10 spent on antipollution efforts would reduce damages by only a dollar, additional antipollution spending would be unwise.

People commonly ignore the implications of marginalism in their comments and votes but seldom in their personal actions. Consider food versus recreation. When viewed as a whole, food is far more valuable than recreation because it allows people to survive. When people are poor and living in impoverished countries, they devote most of their income to securing an adequate diet. They devote little time, if any, to playing golf, water skiing, or other recreational activities.

But as people become wealthier the opportunity cost of acquiring food declines. Although food remains vital to life, continuing to spend most of their money on food would be foolish. At higher levels of affluence, people find that at the margin—as they make decisions about how to spend each additional dollar—food is worth much less than recreation. So as Americans become wealthier, they spend a smaller portion of their income on food and a larger portion of their income on recreation.[iii]

The concept of marginalism reveals that it is the marginal costs and marginal benefits that are relevant to sound decision-making. If we want to get the most out of our resources, we must undertake only actions that provide marginal benefits that are equal to or greater than marginal costs. Both individuals and nations will be more prosperous when their choices reflect the implications of marginalism.

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[i] Philip K. Howard, *The Death of Common Sense* (New York: Random House, 1994): 3–5.

[ii] "Women in the Labor Force: A Databook." *BLS Reports* 1052 (2014): 27. U.S. Bureau of Labor Statistics, Dec. 2014. <http://www.bls.gov/opub/reports/cps/women-in-the-labor-force-a-databook-2014.pdf>.

[iii] See the chapter "Time for Symphonies and Softball" in W. Michael Cox and Richard Alm, *Myths of Rich and Poor* (New York: Basic Books, 1999).