

*A Starter Guide
Connecting
what you know with what
you must understand to
thrive in the 21st Century
Global Economy*

Keystone
ECONOMIC
PRINCIPLES

POWELL CENTER FOR ECONOMIC LITERACY

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Introduction

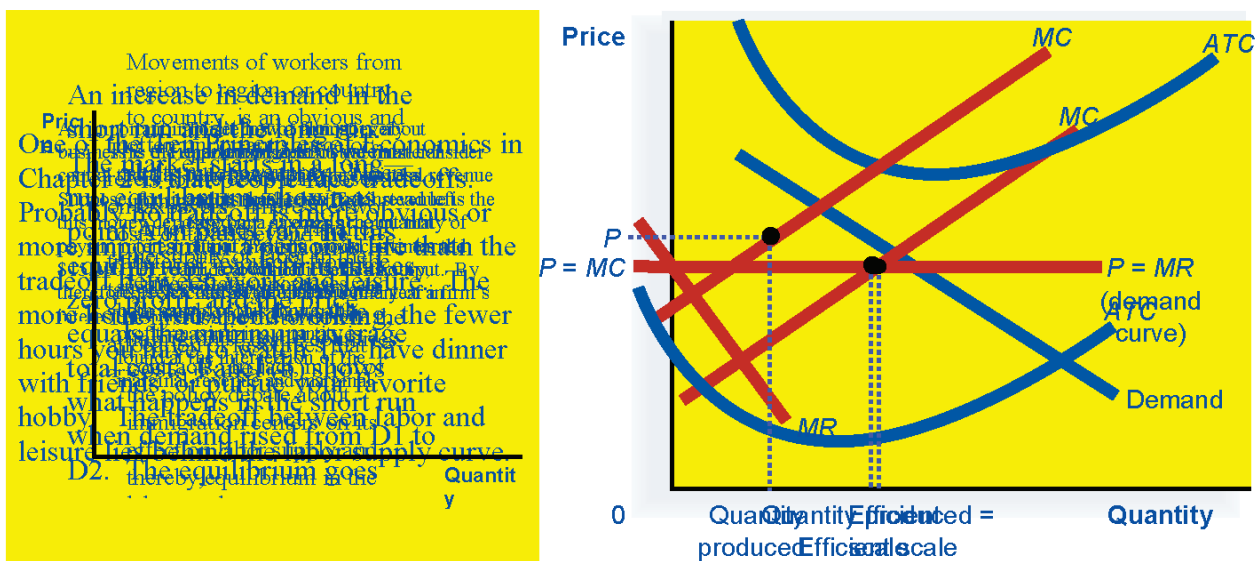
Significant opportunities lie ahead for 21st century students who understand basic economic principles and apply them to their lives. Just as an architectural keystone is the central wedge in the top of an arch, our *Keystone Economic Principles* can become the bridge that allows us to look to the past with understanding and to the future with confidence.

Designed as a primer for adults working with young people in grades k-12, our purpose is to clarify a thought process which we recommend be infused intentionally throughout your work. While specific situations and applications constantly change, the approach involved in these nine principles remains constant. By understanding and using the principles, you will teach economic decision-making to your students. As you delve into this logic, you will find the process has implications for all endeavors, not just economics. By understanding the significance of our choices we can better develop the ability to reach our potential.

Keystone Economic Principles can stand alone if necessary, but its best use is to prepare young people to maximize their benefit from an economics course. We invite your use of this starter guide however it best serves you.

Keystone Economic Principles

When some teachers and students think about economics they focus on money or they get a mental image that causes flashbacks to their college days when economics seemed a bundle of incomprehensible jargon, or worse, a mishmash of lines and graphs that look like this:



Or, they feel like a former Congressman, who once described economics as "the science of telling you things you've known all your life, but in a language you can't understand."

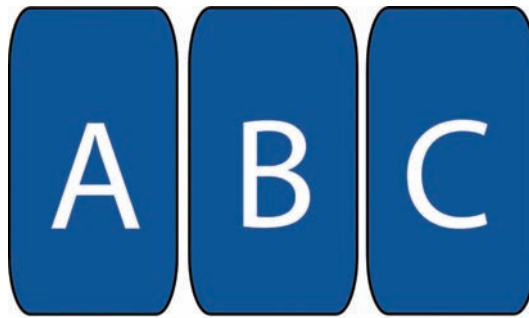
Seeing how economic thinking applies to everyday life helps us to juggle these conflicting images and preconceptions. At its most basic, economics studies the way societies and individuals organize themselves to use their limited resources to satisfy their unlimited wants. Economics answers the questions of what, how, and for whom. The nine basic principles explained in this guide should give you a solid foundation for understanding economic concepts and becoming economic thinkers.

Economic thinking answers questions by describing "what is" (a positive statement) rather than "what ought to be" (a normative statement). We can better answer "What ought to be" questions according to individual value systems and by first grasping "what is." The Keystone Economic principles ought not be a list of principles to memorize. Rather, we hope you apply and own these principles and re-work and re-word them to USE as you converse and teach.

PRINCIPLE #1

We all make choices

*We all have unlimited wants, but limited resources.
Scarcity forces us to make choices.*



PRINCIPLE #1
We all make choices

- ★ Scarcity forces us to choose.
- ★ We have unlimited wants, but limited resources.
- ★ Goods are considered scarce if people are willing to give up something to attain them.
- ★ We make rational choices from our own perspective, which depends on our personal value system.
- ★ We sometimes claim we cannot or need not make a choice. But in refusing to choose, we allow someone or something else to make the choice for us. We still reap the benefits or pay the consequences, but we have taken choice out of our own hands.
- ★ Making choices **empowers us**. It changes our focus from “things are happening to me” to “I am an ‘actor’ who makes things happen because of my actions.”
- ★ Material, behavioral, or moral factors, or some combination of all three drive our choices.
- ★ To carefully consider choices, we need to distinguish between needs and wants. You *need* clothing. You *want* a \$1000 suit.
- ★ Not all wants are equally desirable, and you should establish a hierarchy of wants according to the benefit you derive from them.
- ★ If you have a goal in mind, align your choices with your goals.
- ★ The freedom to choose does not guarantee any particular outcome. If we are free to succeed, we also are free to fail.

PRINCIPLE #2
TANSTAAFL™

There Ain't No Such Thing As A Free Lunch



PRINCIPLE #2
TANSTAAFL™

There Ain't No Such Thing As A Free Lunch

- ★ All costs should be recognized.
- ★ You often have many initial alternatives from which you can choose, but in the moment of choice, you choose between only two things. That next best choice you didn't pick is called your **opportunity cost**.
- ★ Most choices are not choices between desirable and undesirable options. We usually choose between two similar options or varying degrees of the same thing.
- ★ Sometimes we confuse *Cost* and *Price*. If you ask the average person, "How much did those new shoes cost?", they'll generally give the answer in monetary terms and say "\$100." The price of the shoes was \$100. If, however, we are thinking economically, we realize that the \$100 represents time or leisure given up in exchange for the \$100 in income. The real cost of your shoes might be 15 hours bagging groceries.
- ★ Economics measures tangible AND intangible costs such as time, labor, morality, safety, or forgone leisure.
- ★ Robert Frost's *The Road Not Taken* illustrates opportunity cost better than any work of fiction, non-fiction, or economics ever could.

"I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood and I-
I took the one less traveled by,
And that has made all the difference."

Robert Frost, *The Road Not Taken*

PRINCIPLE #3

*All choices have **consequences***

*We can NOT influence the past - we can only influence the future by evaluating the costs and benefits of our actions - even if there are **unanticipated consequences**.*



PRINCIPLE #3

All choices have consequences

- ★ The consequences of our choices lie in the future.
- ★ Predictability of consequences improves decision-making, while unpredictability (lack of a clear, definable pattern) leads to inconsistent decision-making.
- ★ While we do our best to account for all consequences of our choices, there are often unintended consequences which were not anticipated. For example, if price is our only consideration in buying a used car, we may have a very expensive surprise when it is frequently in the shop.
- ★ Choices made in the past that led to undesirable outcomes cannot be undone but they are good learning experiences, and enable us to make more sound future choices.
- ★ Our character is the sum of thousands of choices made throughout our lives.
- ★ The world in which we live is the product of choices made in the past by our ancestors, historical figures, nature, and other influences known and unknown to us.
- ★ Understanding the past can help us start in the present to make choices that can change the future.
- ★ Children need a framework for making choices that considers costs and benefits. This is best begun at as early an age as possible, NOT saved for adulthood.

These first three principles provide a framework for making decisions. We suggest the following:

- Identify the problem
- Prioritize alternative solutions and select the two best
- Make a list of the foreseeable positive and the negative consequences of each choice
- Select the best choice

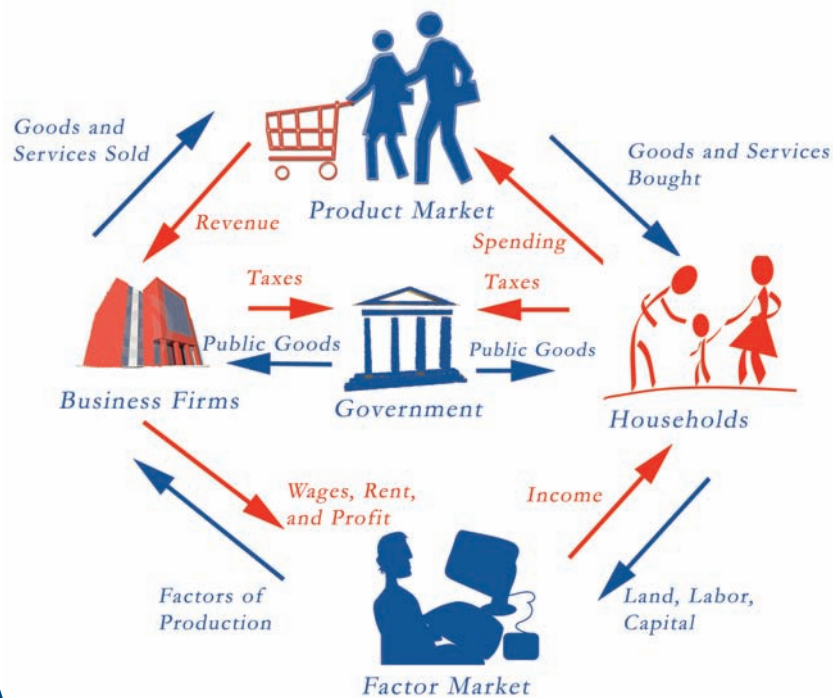
Within this framework, choices can be made using positive or normative criteria:

- Decisions based on quantifiable data are called positive decisions. They are considered economic decisions because they are measurable.
- Decisions based on what “should be” or “ought to be”, even if informed by economic data, are normative decisions based on individual or societal values. Normative decisions are not measurable and therefore not economic decisions.

PRINCIPLE #4

Economic Systems Influence Choices

All economic systems have a circular flow of economic activity like the one depicted below in which all people are consumers AND producers at some point.



PRINCIPLE #4

Economic Systems Influence Choices

An economic system INFLUENCES rather than controls your choices. It is one of several determinants, but not the only one.

An “economic system” simply answers the three basic questions of economics:

- ★ What to Produce?
- ★ How to Produce?
- ★ For Whom to Produce?

The main differences between economic systems lie in the answers to these questions:

- ★ Who owns the resources?
- ★ Who incurs the costs of resource utilization?
- ★ Who receives the benefits from resource utilization?

The three economic systems below are purely theoretical. While an economy may be identified primarily with one of these systems, most systems include some elements of all three and are more properly called *mixed economies*.

- ★ Traditional Economies – A system that answers the economic questions by following what has always been done in the past. These economies are usually characterized by subsistence living and limited trade. (Example: the economy of Ancient Egypt with its reluctance to allow any change)
- ★ Command Economies – The answers to the economic questions above are made by a central authority, usually “the state.” (Example: the economy of the Stalinist era in the USSR)
- ★ Market Economies – Economic questions are answered by buyers and sellers at mutually agreeable terms. Such economies are characterized by the decentralization of decision-making. (Example: the economy of Hong Kong)

The illustration on the opposite page is the Circular Flow of economic activity in which we all are producers or consumers at some point. In this model, there are flows of goods and services, taxes, and land, labor, capital, and entrepreneurship between all of the stakeholders in an economy. It depicts the mix of our choices and a balanced system that attempts to reflect the wants of the variety of stakeholders.

PRINCIPLE #5

Incentives produce “predictable” responses

If we desire a change in behavior we need to change the incentives.



PRINCIPLE #5

Incentives produce “predictable” responses

- ★ “The Carrot” – the positive reward usually referred to as an incentive.
- ★ “The Stick” – the negative reward usually referred to as a disincentive.
- ★ Both the incentive and the disincentive affect our choices.
- ★ Incentives can be both monetary and non-monetary.
- ★ An incentive can produce a more predictable response when both parties share a similar value system.
- ★ In general, that which we subsidize or reward will increase and that which we tax or penalize will decrease.
- ★ If we desire a change in behavior we need to start with a change in the incentives.
- ★ Sometimes it is only with hindsight that the “predictability” becomes obvious! Price controls on gasoline in the 1970s attempted to keep a lid on prices, but these controls also created severe shortages and long gas lines.

PRINCIPLE #6

*Do what you do best,
Trade for the rest*

Specialization and trading goods and services with others can help everyone. Trading can also provide the incentive to ease social and political tension among people and nations.



PRINCIPLE #6

Do what you do best, Trade for the rest

- ★ Attempting to produce everything you want to consume yourself limits both your production and consumption possibilities.
- ★ To specialize, you must figure out what you “do best.” Economists define “best” as that which you produce at the lowest opportunity cost. If we must give up only a relatively few things in order to produce a particular good or service, that is said to be a low opportunity cost. Conversely, a high opportunity cost means that we must give up a relatively large number of other goods in order to produce the particular good or service in question. By specializing, we can concentrate on producing the goods or services with a low opportunity cost and sell them for the things we would produce at a high opportunity cost. This is what economists mean by comparative advantage. In other words, we are “doing what we do best and trading for the rest”.
- ★ Specialization and trading goods and services with others can help everyone. Trading can also provide the incentive to ease social and political tension among people and nations.
 - Peaceful resolution (or at least, management) of conflict benefits all trading partners.
 - Stable international relations help producers find a market for their goods.
 - Stable international relations allow consumers to benefit from foreign goods.
- ★ As long as the trade is voluntary, both parties can expect to be made better off, but not necessarily in equal measure.
- ★ Whether person-to-person or nation-to-nation, trade expands the range of choices available to the trading partners.
- ★ Trade has greater benefits when transactions are **transparent, open, and honest** while providing reasonable access to perfect information.
- ★ The power relationship between the two trading partners affects perceptions of the value of gains from trade. Some examples of unequal trading relationships are parent/child, employer (or manager)/employee, or teacher/student.

PRINCIPLE #7

*Economic thinking is
Marginal thinking*

People often ask “Does doing one more thing really make me better off?” If you ask yourself this question, you are thinking at the margin.



PRINCIPLE #7

Economic thinking is Marginal thinking

- ★ In thinking economically, “marginal” describes the additional cost (or the additional benefit) of a given behavior.
- ★ The question economic thinkers ask is, “Do my **marginal benefits exceed my marginal costs?**” Other folks might ask “Does doing **one more** thing really make me better off?” These are really the same question.
- ★ Inherent in these questions is the notion of MAXIMIZING BENEFIT and MINIMIZING COST. Economics assumes a rational person would seek to maximize benefits and minimize costs. The benefits and costs we consider are not only quantitative. Our personal value system is a large part of how we view our benefits and costs.
- ★ We tend to “hang on” to questionable decisions made in the past because we want to get value out of time, effort, or dollars dedicated to some prior activity. We say, “I can’t sell my house, sell a stock, quit working toward a degree in art history, stop studying for a test, fire Smith, or change occupations because of *all my time, dollars, or energy* that I’ve already put in.” Your time, dollars, and energy are sunk costs and are gone.
- ★ Sound economic thinking happens when we focus on **THE FUTURE**. You cannot undo past decisions, you can only make choices about the next decision that lies ahead.
- ★ **Putting additional time or resources into something only makes sense if the marginal benefit exceeds the marginal cost.** For example, studying for a test and sleeping are both good things for us to do. Unfortunately, you can’t sleep and study for a test simultaneously. You must make an economic choice about when studying is no longer productive and sleep would be more a beneficial choice to you.

PRINCIPLE #8

*Quantity and quality of resources
impact living standards*

Land, labor, capital, and entrepreneurship are factors of production that affect how well people live.



PRINCIPLE #8

Quantity and quality of resources impact living standards

I. Living standards can be defined as the level of material comfort as measured by the goods, services, and luxuries available to an individual, group, or nation.

II. Living standards are created by the resources we have and the way in which we use them.

There are four types of resources available to us. In economic terms, they are the *Factors of Production* which affect what individuals and nations can produce. They are:

- ★ Natural Resources (Land)
- ★ Human Resources (Labor)
- ★ Capital Resources (Equipment)
- ★ Entrepreneurship (risk, profit motive)

Concepts of choice, scarcity, trade-offs and opportunity cost are used to understand the relationship between our resources and our living standards. Imagine a company that is considering whether to produce televisions or microwaves. It can *choose* to use all its resources to build televisions or microwaves, or it can build some combination of the two. We can show this on a chart, called the *Production Possibilities Table* (fig. A): The table can also be shown as a graph called the *Production Possibilities Curve* (fig. B):

Televisions	Microwaves
0	100
10	88
18	64
25	32
30	0

fig. A

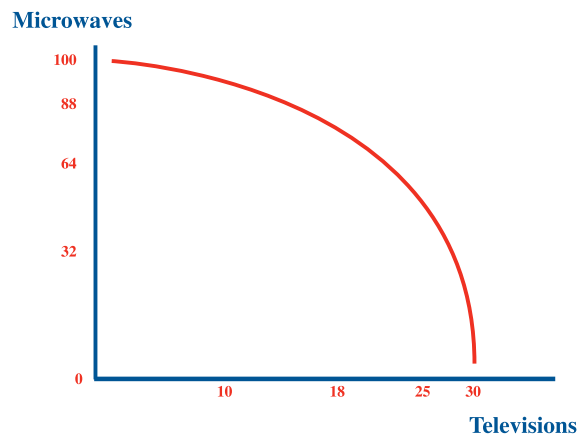


fig. B

The production possibilities data illustrates the economic concept of diminishing marginal returns. In the example, a relatively small decrease in the production of microwaves enabled the company to produce a relatively large number of televisions. This is because as the change is being made, the prudent firm is converting its resources in the most efficient way possible. As it converts more of its resources to the production of televisions, it must give up more microwaves to gain fewer televisions than before. This is because the last resources to be converted tend to be those associated with the most problems. Understanding diminishing marginal returns helps us realize that more is not always better!

The following steps help determine the best production mix:

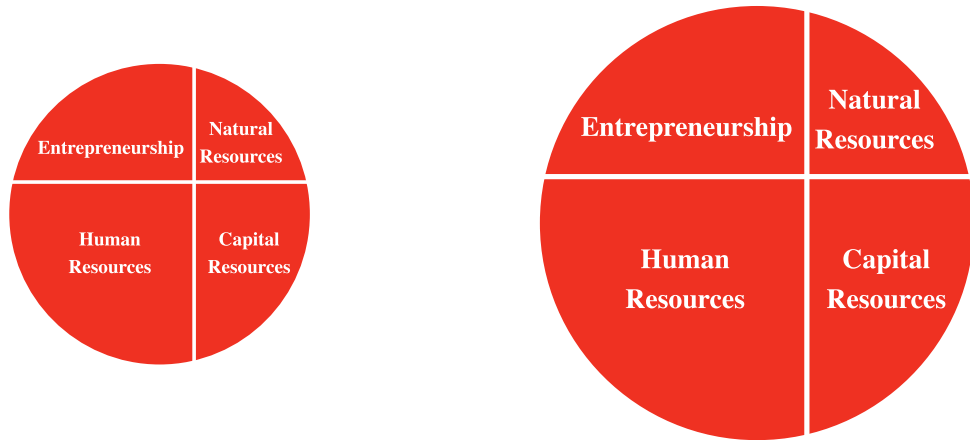
- ★ Identify the *opportunity cost* of each additional unit
- ★ Utilize *marginal thinking* – does the marginal benefit exceed the marginal cost?
- ★ The business model explains costs in terms of dollars, but cost can also be measured in non-monetary terms such as time, pleasure and effort expended.

III. Living standards change by “growing the pie”

All of us would like to think we will be better off in the future than we are now. If, however, the total available resources do not expand over time, individuals, businesses and governments all face difficult choices. For one factor to receive a greater share of the available resources, another factor must receive less. Society inevitably faces the need for trade-offs - who will receive more and who will receive less? Regardless of how we draw the lines, the total size of the pie remains the same. It illustrates a major problem facing stagnant economies - the various sectors must compete with each other if they try to enlarge their share. This becomes a destabilizing pressure on society.

As we improve the quality or increase the quantity of one or more of the four factors, those factors expand without requiring a corresponding reduction in the other factors. By expanding the “pie”, societies or individuals are able to increase their living standards without the tensions caused by growing one sector at the expense of another.

In contrast, all sectors can grow if we can have a bigger and more efficient economy (see illustration below).



The expanding pie gives societies an opportunity to make adjustments within the pie without the tensions caused by growing one sector at the expense of another.

Natural Resources grow with:

- ★ Improved agricultural procedures such as crop rotation, soil conservation, and irrigation to improve both quantity and quality.
- ★ The replanting of forests to increase quantity.
- ★ Removal of pollutants from our nation's waterways to improve quality.

Human Resources improve with:

- ★ Advances in educational quality.
- ★ Expansion of the population through higher birth rates or immigration to increase quantity.
- ★ The removal of race, gender and other barriers to employment which improve both quantity and quality.

Capital Resources progress with:

- ★ Technological advances, such as the internet which improves both quality and quantity.
- ★ Scientific research which improves both quantity and quality.

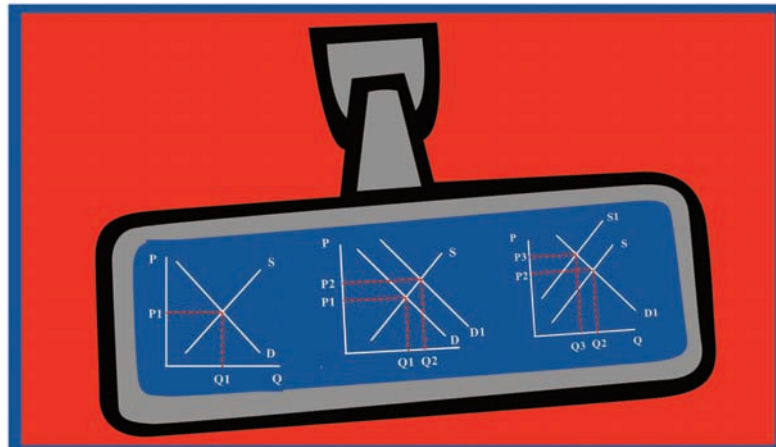
Entrepreneurship expands with:

- ★ Recognition of private property rights including patents and copyrights which improves both quantity and quality.
- ★ Access to financial markets (such as banks, and the stock and bond markets).
- ★ Targeted taxation and regulation which impacts the quantity and quality of entrepreneurship.

PRINCIPLE #9

*Prices are determined by the market forces of **supply and demand** and are constantly changing...*

*The prices that buyers pay and sellers receive for goods and services **reflect** the values of those buyers and sellers at a moment in time.*



PRINCIPLE #9

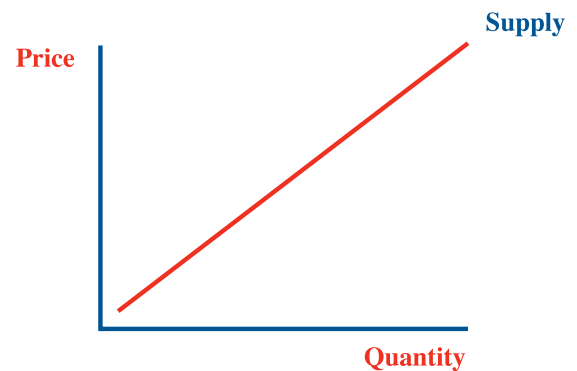
Prices are determined by the market forces of supply and demand and are constantly changing...

- ★ Supply and demand are the two words that economists use most often.
- ★ Supply and demand are the forces that make market economies work.
- ★ These concepts work most efficiently in COMPETITIVE markets.

A specific scenario might help make the relationship clearer. How do we answer this question: “Why does a gallon of gas cost \$3.00 this week, \$3.50 next week and then \$3.25 the following week?” All the following graphs describe the Market for Gasoline.

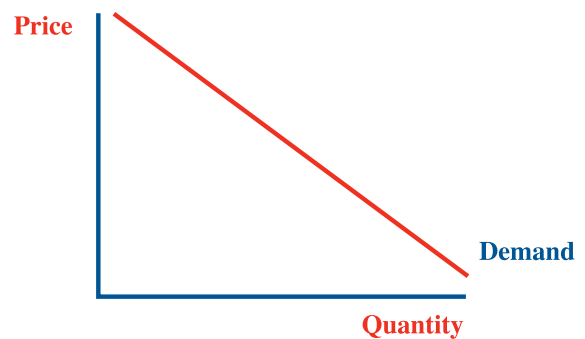
From a Producer’s perspective

- ★ Gasoline is a scarce resource.
- ★ Producers of gasoline would be willing and able to provide gasoline at certain prices. The higher the price, the more gasoline producers are willing and able to supply. A supply graph looks like this:



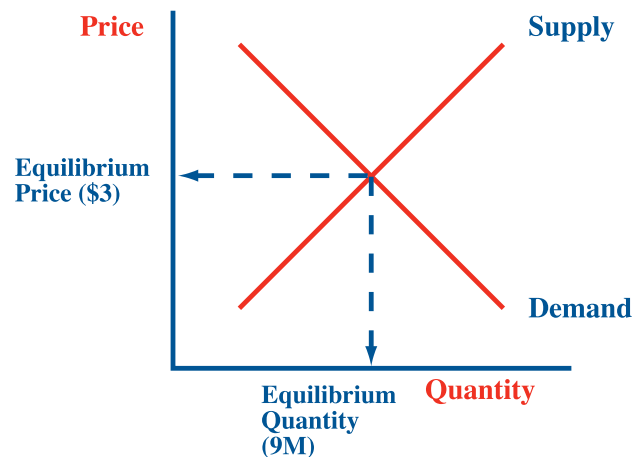
From a Consumer’s perspective

- ★ Consumers want gasoline, but have limited resources with which they can obtain gasoline. At lower prices, they want more gasoline, and at higher prices they want less. A demand curve is typically drawn like this:



Economic equilibrium refers to that situation in which there are no economic forces causing a change in either supply or demand; they are in perfect balance. In competitive markets, equilibrium is short-lived and more theoretical than real, but it is an important concept for understanding the interaction of supply and demand.

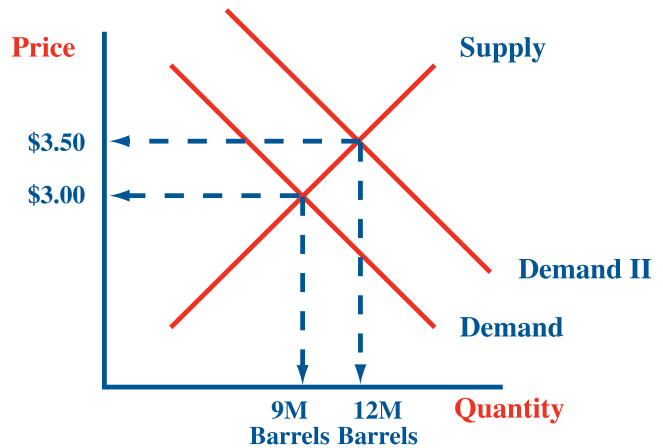
By combining those two graphs, we find the **equilibrium price and quantity** (\$3 and 9M Barrels) of gasoline:



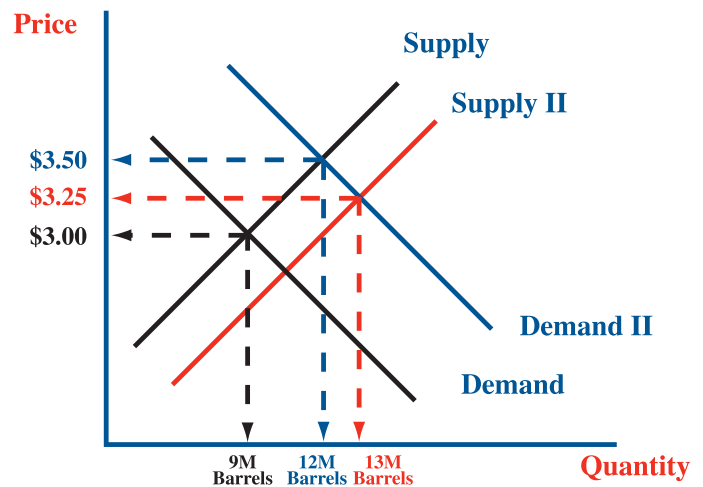
Equilibrium tends to be short lived. In general, economists find that prices and output rise or fall because of factors not related to price - the forces of supply and demand.

- Supply changes are driven by changes in cost of production, taxes and subsidies, and the number of people or firms producing a good or service.
- Demand changes are driven by changes in people's tastes, the number of buyers in the market, changes in income, and changes in the cost of related goods (referred to as substitutes [hot dogs and hamburgers] or complements [hot dogs and mustard]).

To continue our scenario, assume a new nation enters the market for fuel and energy. This pushes the demand curve for gasoline rightward or outward, (Demand II) raising the price of gasoline (\$3.50), and increasing quantity supplied by gasoline producers. (12M Barrels)



Imagine that engineers develop new technology generating more gasoline from each barrel of crude. This causes the supply curve for gasoline to shift rightward or outward (Supply II). If the price of oil were to remain stable at \$3.50, we can see from the graph that suppliers would be willing and able to supply considerably more than 13M barrels. At the same time, we see that without a corresponding shift in the demand curve, there are not enough consumers willing to pay \$3.50 per gallon. This exerts downward pressure on the price until a new equilibrium price of \$3.25 for 13 million barrels is reached.



This example illustrates the fluidity of the market and some of the forces which can drive change. Depending on the good, service, or factor, numerous forces may operate simultaneously in conflicting directions, all of which impact the price at any given moment.

