

The Science of Economics

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a. The quest for economic prosperity with justice

Many people study economics because they wish to understand why we have social problems such as unemployment and poverty, and how they can be remedied. **Most people have similar visions of prosperity and justice. We want to live in social harmony, where everyone who wants to can work and make a good living. We would like to eliminate poverty and live in a healthy environment.**

We can envision ideal worlds, but they must be founded on sound principles if our vision is to succeed. Too often, as was the case with socialist central planning, utopian dreams turn into horrific nightmares because they have been based on unsound premises. This book presents a "paradigm" or basic analysis of economics called "**foundational economics**," which will enable you to understand the major social issues of our time and, as importantly, to be able to analyze assertions made by people, including politicians and economic authorities, to determine whether they are sound or contain incomplete theories or outright fallacies. The primary aim of this book is to enable you to think for yourself and analyze economic issues in a fundamental, logical, scientific way. For the foundation and only authorities in economics, as in any science, are logic and evidence. The only prerequisite or prior knowledge needed is an open but critical mind.

The basic principle of foundational economics, the paradigm analyzed in this book, is that the market economy works, providing efficiency, prosperity, and equity, but the legal structure and government fiscal or tax policy must be in harmony with economic and ethical principles for it to work properly.

b. The concept of an economic model

A model boat is a small-scale replica of the larger real-world item. A fashion model demonstrates clothes which real-world people will then wear. A map is a model of some physical territory. Science also has models. Like the boat, it is similar to the object being analyzed, and smaller in the sense of being simpler and more abstract. Real-world people are not as beautiful or slender as models, but the model still shows how the clothes would be worn. A scientific model is a set of concepts and propositions which, like maps, demonstrate the main features of the phenomenon being analyzed. Often a model will have some very restrictive premises that simplify the phenomenon in order to emphasize one or a few of its aspects (for example, ignoring friction in a physics model to focus on gravity), and these premises are later relaxed (friction is then added) to bring in some realistic complications after some conclusions have been made about the main features.

For example, the story of Robinson Crusoe alone in an island is a favorite model that illustrates some economic concepts concerning only one individual; then, the second person, Friday, can be brought in to complicate things and make it closer to real-world experience. A large amount of theory is based on such models.

Economic models usually consist of premises from which conclusions are logically deduced. If the premises are general, they constitute pure theory, often conditional on certain non-universal secondary premises. If the premises include data from history or current economic figures, they become specific theories, whether descriptive or predictive. Many economic models are mathematical, with premises consisting of algebraic variables, functions and equations, the deduction being mainly mathematical manipulation. Many economic models can be "quantified" and tested by statistical or "econometric" calculations using computers. Recently, computer programs have also been used as models that simulate economies. However, such programming, statistical analysis and higher math (which will be avoided in this book) is not really needed to understand the basic concepts and theories of economics.

c. Positive and normative economics

"**Positive**" economics is the study of the actual phenomena of the world, including predictions about the future. "**Normative**" economics concerns what one thinks economic policy should be, or how an economy is best established. It judges economies or some economic process by some norm or moral standard, or by some standard of efficiency.

People, including economists and politicians, often make normative statements based on their personal values or the values of some group. But if values are all personal and arbitrary, then is it possible to have a scientific theory of normative economics? This would require a scientific, or non-arbitrary, moral standard. Such a universal ethic has been derived by the author in his book *The Soul of Liberty* (1980). What is not so evident is that a rational ethic is important not only for policy, but for an understanding of a market economy as well. This concept will be elaborated on in the following section.

d. The ethical foundation of a market economy

It is not enough to say that a market consists of voluntary acts, since we can then ask, what exactly are such acts? If your better product leaves me with fewer profits, that would not have my consent, yet it is not considered to be involuntary. So we need some ethical rules to tell which acts are voluntary; indeed, to **define the concept of "voluntary."**

In the discussion of normative economics above, the possibility of a universal ethic, a moral standard that does not depend on any particular culture or personal view, was raised. The full treatment of this ethic is beyond the scope of this book; interested readers are referred to The

Soul of Liberty, as mentioned above. A brief outline of the derivation is useful, however, so that the ethic is not simply presented as fiat.

The two premises of the universal ethic were recognized by the philosopher John Locke: independence and equality. Each human being thinks and acts as an internally independent living being, although he is socially dependent on others. As a common species, the qualities that make us reasoning beings with the capacity of deliberate choice is equal to all.

As an independent mind, each person perceives that the acts of others are either pleasing or displeasing to oneself, hence they are personally and subjectively good or bad. All values originate in these individual valuations. Therefore, no act can be universally deemed as good unless the recipient of the act deems it as good, and if he considers it good, one may not declare that it is universally not good, since the recipient is a moral equal. Hence, acts that benefit others must be considered good by the universal ethic.

Similarly, an act which affects no other person cannot be designated as evil if the person doing it does not consider it evil. Such acts can be generally designated as neutral, neither good nor evil.

This leaves us with acts which affect others negatively. Let's divide them into two categories, those which depend only on the state of the recipient's mind, which will be called "**offenses**," and those, called "**harms**," which do not. For example, if X objects to Y's religious views, this depends only on the personal views of X. On the other hand, if Y stabs X with a knife, this injury does not depend only on X's beliefs; it is an invasion, an unwelcomed entering from outside of X into the domain of X.

Harms are considered bad or evil by the recipient, and thus also designated as evil by the universal ethic, since the only source of values is the individual. But offenses cannot be designated as evil, since the universal ethic, as noted above, is by definition independent of personal views; if the injury is caused only by such a subjective view, then the universal ethic designates it as neutral. We then have five rules:

1. A benefit is an act the recipient deems to be pleasing.
2. A harm is a direct, actual, invasive injury.
3. Acts that benefit others are good.
4. Acts that coercively harm others are evil.
5. All other acts are neutral, neither good nor evil.

A "**voluntary**" act can now be defined as one which is not evil according to the universal ethic. The totality of such acts in a certain context constitutes a market.

With this universal ethic we can now derive natural or human rights, and the concept of "**liberty**." Liberty is defined as the absence of any legal restrictions on human action, other than

those prohibiting and penalizing coercive harm. Moral rights are just another way of stating what is morally wrong. **If you have a moral right to do or have something, it means that it is wrong for others to prevent you from doing or having it.**

Since economic resources boil down to land and labor, rights to either are fundamental. Since any arbitrary restriction on human action is invasive, a person has the right to labor without restrictions other than against force and fraud. Since one has a right to one's time and energy, hence labor, one has a right to the reward of the labor, or wages. One also then has a right to the product of labor, or wealth, including capital. **The taxation of labor or capital is therefore a violation of moral rights.**

Land is a product of nature, not human effort, so self-ownership does not apply to natural resources. Here, the equality premise applies: the right to the benefits of natural resources prior to their alteration by human effort belongs equally to all in the relevant community. As will be analyzed below, the efficient economic implementation of equal benefits is not a physical division of land, nor necessarily a community control over it, but by the collection of its rent to fund community services, leaving possession in individual hands.

This ethic is implemented by a body of agreed rules, or law. The most fundamental and supreme set of laws, from which all other laws derive their authority, is called a "constitution." The constitution of a community having a free society and free markets needs to determine the rules for property rights, the resolution of disputes, and the laws concerning contracts. These must be in accord with the universal ethic.

e. The meaning and methodology of economics

The first aspect of methodology is careful definition. The key words of the field need to be concisely and precisely defined, so that the meaning in that context is clear. The definitions used in this book are meant to apply in the context of the presentation in this book; other authors may use the terms with different meanings, so the meanings given here are by no means universal. It is unfortunate that in economics there are few universally agreed-on meanings, and that often in articles and books, the meanings of key words are not even defined.

"Economics" has been defined in several ways. The classical definition is that economics is the social science dealing with real wealth. Wealth, in the economic sense, is not money (which has value as generally exchangeable for real wealth), but the goods which people produce. **Thus, economics is a social science, dealing with the activities of people, and it specializes in the production, distribution, exchange, and consumption of wealth, or the material needs and desires of human beings.**

But wealth is not an end in itself. **People desire goods for the use, enjoyment, and value that they generate. These qualities as a whole are labelled "utility" in economics. Leisure time also has utility, and economics also takes into account the choice of not producing something but rather enjoying free time instead. Therefore, an even broader and deeper**

definition of the subject is: Economics is the science of utility. In contrast, related social sciences can be characterized thus:

- Political science is the study of governance;
- sociology is the study of relationships;
- psychology is the study of genetic behavior; and
- anthropology is the study of human evolution and culture.

These related fields impact on utility, and so are interdependent with economics.

In producing and consuming wealth, or pursuing utility, people do not behave randomly. As Ludwig von Mises (1949, p. 4) stated, "Human action is purposeful behavior." People tend to follow particular laws or regularities due to their human nature. "The ultimate goal of human action is always the satisfaction of the acting man's desire" (p. 14). These desires, and the values people place on things, are subjective. People choose among alternatives, which implies they are able to rank their desires into those of greater and lesser importance.

It is also a fundamental fact that the resources from which wealth is produced are scarce. Some economists have therefore defined economics as "the allocation of scarce resources among alternative uses in order to satisfy human desires." This is descriptive of what goes on, but it seems overly detailed for a foundational definition of the scientific field, like saying that physics is "the examination of space, particles, energy, and time in the determination of laws and measurements of the fundamental phenomena of the universe" instead of the simpler but comprehensive meaning, "the science of fundamental universal phenomena." Hence, a more parsimonious yet comprehensive definition of economics is "the science of utility."

The "methodology" of a science is the methods, techniques, and scientific philosophy used in obtaining knowledge. Methodology continues to be controversial, which is one reason why economists, like scientists in all fields, disagree in certain areas. The methodology presented in this book is called "foundational." It overcomes the problem of differing approaches by being comprehensive yet systematic. Foundational economics is grounded on reason, which uses logic and evidence. Its basic principles include definitions of key terms, the "taxonomy" or division of a field into meaningful categories, the formulation of premises universal to the field, the deduction of pure theory by the use of rigorous logic (which may or may not include mathematics), the discovery of empirical knowledge by observation and the realization that our perceptions are tinged by our interpretations, and the discovery of specific theories regarding events and particular people, areas, and histories with conjectures and hypotheses tested by data.

In economics as in any science, the only authorities are logic and evidence, not the views and sayings of any person as such. As Henry George (1883, p. 242) stated it,

"I ask no one who may read this book to accept my views. I ask him to think for himself."

After defining key terms, a field of science requires **fundamental premises or first principles**. These are propositions or statements that apply to the whole universe of the field; in social

science, this means they are valid for all people, in all times, places, and cultures. **The following universal propositions are foundational for economics:**

- **Propositions about physical resources and technology**

1. Some natural resources are scarce relative to human desires.
2. Resources vary in quality.
3. After some level of use, the use of an amount of a resource will produce ever smaller amounts of output (the law of diminishing returns or "variable proportions").
4. Different amounts and methods of production may produce different amounts of output for the same proportion of inputs, i.e. returns to scale and to techniques can vary.

- **Propositions about human biology**

5. All human beings belong to the same species.
6. The human lifetime is finite.
7. Human beings have children who need care, and in old age, may no longer be able to work.

- **Propositions about human behavior and thought**

8. Human beings have ends, i.e. goals, desires, and needs.
9. Human beings are able to rank their ends, i.e. into those of greater and lesser importance.
10. Human desires tend to be unlimited.
11. Human values, both moral and material, are subjective.
12. Human beings economize: they desire to obtain things with the least possible unpleasant effort, or equivalently, with some level of effort, to obtain as much as possible.

13. The desires of human beings include self-interest, ends connected with their own survival, happiness, and power, and of those they love.

14. People tend to have a time preference, preferring goods at present to those in the future.

- **Proposition about the future**

15. The future is uncertain.

The tenth proposition was noted by Henry George, who stated (1879, p. 507) that desires "short of infinity can never be satisfied," and (1883, p. 33) that "Man is not like the ox. He has no fixed standard of satisfaction." George (1879, p. 204) also stated the twelfth premise as a "fundamental principle of human action" that "men seek to gratify their desires with the least exertion." Carl Menger (1871, pp. 95-6) defined the principle of "economizing" thus: "men endeavor ... to obtain the greatest possible result with a given quantity of a good or a given result with the smallest possible quantity."

These universal propositions are warranted by empirical observation and logic; most of them are obvious. We can observe that these phenomenon occur and that they are not limited to any particular time, place, or culture. This inductive analysis involves a subjective investigation of one's own behavior and sentiments as well as the observation of the acts of others (which we interpret also from a knowledge of our own interior motives).

From these universal propositions or premises, the next element of economic methodology is to logically deduce propositions which make up "pure theory," pure because this theory too applies universally. "Theory" is a systematically organized collection or set of propositions, a "theorem" being a proposition or statement that is warranted by logic and evidence. Some of these conclusions or statements may be conditional, depending on secondary premises which may or may not be applicable in reality to a particular time or place.

As stated above, the 15 foundational propositions are based on empirical observations which any person may verify for him- or herself from experience. Empirical or factual observations are then also used to verify deduced theories, to test whether the logic is sound. (It should be noted, however, that induction itself is also a type of deduction, since it involves two sets of premises: 1) a collection of observed facts; 2) rules by which one generalizes from facts. Deductions are then made using the data and rules.)

Using pure theory, economists then obtain knowledge about specific phenomena, events and regularities that do pertain to some culture, time, or place. In physical and life science, scientists can perform experiments, while in social science, we rely mainly on the evidence from history. The method is called "hypothetical deductive." An economist uses principles of pure theory to

make an educated guess about some specific phenomenon; this is called a "hypothesis." The hypothesis is then tested with evidence, usually from current practices, from present and past data, or historical documents. If the evidence contradicts the hypothesis, the hypothesis is rejected. If the evidence is consistent with the hypothesis, then perhaps other tests will be conducted, and other economists will then study the results. If the tests seem sound, then the hypothesis becomes a theory. But it is a "specific theory" about a specific phenomenon rather than a statement that is universally true, and such theory is subject to change and challenge. Pure theory is also subject to challenge, but this would be a much more fundamental and less common challenge.

Specific theory too may be conditional on secondary propositions. An example of a specific theory is the explanation of the Great Depression, and an example of conditional specific theory is the amount of goods consumed by Americans (at the present time) if their income goes up by a certain amount.

An important principle of all theory is that of "interpretive understanding." When we observe a phenomenon, like a wild duck or a person sawing a board, the facts do not simply speak for themselves. We do not see just the facts, but interpret them according to our previous ideas, beliefs, and values. Some people will see a wild duck and think of how good it would taste or what fun it would be to hunt; others might see a beautiful living being, part of our natural heritage that should be preserved.

When it comes to observing human action, we interpret the internal as well as external acts. The internal state of the actor includes how it thinks and feels; since we are human, we presume that other human beings act similarly to how we act. So we can imagine ourselves sawing the board, and interpret why the person would do it; perhaps he is building something. We can imagine people acting out of hunger, the desire for wealth or power, erotic stimulation, or from love and devotion. We understand these things, or think we do, because we interpret the acts from our own experience, emotions, and reasoning. But interpretations, whether of acts, art, or some text, also requires logic to make sure we are on the right track. It helps to have dialogue with others about the phenomenon, to make sure we are not overly reflecting our own personal biases. That is why an important part of any science is letting others see and criticize our work.

f. The production of wealth

Like in the Bible, let us start our economics with the creation of the universe. In the beginning, there was the universe, and the earth. Then came human beings. As indicated above, economics is a social science, which means a science about persons. Since human beings are the subjects of the science, they form a significant category of analysis. So we separate the universe into human beings and "nature," defined here as everything prior to being affected by human beings. Since humans use nature to satisfy their needs and desires, nature becomes natural resources.

Things of general value that people create from nature are termed "economic wealth." This consists of things that others would value enough to be willing to offer something else in

exchange. In other words, economic wealth has a market value, and this value is related to the actual objects being exchanged rather than other things that they can be exchanged for. For example, money is not economic wealth, because people do not want it for itself alone, but for the things it will buy. The term "financial wealth" is used for things with market value in general, including money, bonds, and other items that do not have intrinsic value (value due to their being wanted for their actual use). The term "wealth" can refer to either financial or economic wealth. Here, the term "wealth" will be used as a shorter synonym for economic wealth.

Since economic wealth is neither natural resources nor people, it forms a third category of economic elements. This leaves things that people have produced, but which do not have social or market value, such as garbage. This we will call "valueless products."

"Land" is usually thought of as the solid surface of the earth. But in economics, land has a wider meaning, namely, all natural resources, including the waters, air, and underground resources. But garbage dumped in land becomes part of the land, so we will widen the term even further. "Economic land" consists of valueless products and natural resources. Here, "land" will be used as a short synonym for economic land. **So, the universe is divided into land, human beings, and wealth.**

Human beings exert effort in order to produce wealth, and this time and energy is termed "labor." **Labor includes all such human effort, including that done by managers and entrepreneurs.**

People also use tools to produce wealth. These tools usually have social value, so they are a type of wealth. **An item of wealth that is not used up personally but is used to produce more wealth is called a "capital good."** Money or other financial instruments that are owned by a business and eventually get exchanged for wealth are called "financial capital." So capital includes financial capital and capital goods. Here, "capital" will be used as a short synonym for capital goods.

We have thus determined the three "factors" or resources of production.

- Wealth is produced using land, labor, and capital.
- This wealth is distributed or assigned to the owners of these factors.
- Owners of land receive land rent,
- owners of labor (i.e. the laborers themselves as self-owners) get wages, and
- the owners of capital get a capital yield.

Note that "wages" include any earning from wages, whether it be in the form of a salary, commission, fee, or in-kind yield, such as the fish people catch or fruit they pick. Also, much income is due to two or three factors. A farmer who owns his land earns wages from his own labor, rent from the portion of produce due to the benefit of land, and a yield on his capital goods investments, such as machines, buildings, and irrigation canals. These are income even if you pay them to yourself.

Having examined the foundations of economic theory, we will now analyze these factors in more detail and then see how they and their products and the organization of production operate in a market economy.