How we live

A Simple Dissection of the Economic Body based on the *Ten Pillars of Economic Wisdom*
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Christian Liberty Press
502 W. Euclid Avenue
Arlington Heights, IL 60004

978-1-935796-86-2 (eBook PDF)
The Purpose of This Book

Because man has knowledge of the human body (that is, the relation of each part to the whole), he is able to avoid behavior which injures physical health.

Because man lacks knowledge of the economic body (that is, the relation of each part to the whole), he is unable to avoid behavior which injures economic health.

This book takes the economic body apart and describes the parts in relation to the whole.

Its purpose is to enable the average person to avoid behavior injurious to the nation’s economic health.

In taking anything apart, one should not pass judgment upon what one finds, but merely describe what is found.

For this reason, there is, in this book, not a single opinion, not a single word of praise or condemnation. It is just a simple explanation of the mechanical operation of the economic body exactly as one would explain an automobile by relating the operations of (1) the engine, (2) the transmission, (3) the drive shaft, (4) the differential, (5) the wheels and (6) the steering column.

To those readers who may feel that in this dissection some important parts have been left out, we beg their patient study. All the important parts are there.
Man's Material Welfare = Natural Resources + Human Energy × Tools

\[ MMW = NR + HE \times T \]
The Formula for Man’s Material Welfare

The illustration and formula on the facing page are the key to understanding the process of economic production.

Production of goods and services is the basis of man’s material welfare, and the quantity and quality of the production control how well, comfortably and conveniently man can live.

The formula when expressed in words reads: *Man’s material welfare (MMW) equals his natural resources (NR) plus his muscular and mental human energy (HE) multiplied by the efficiency of his tools (T).*

Throughout this book the reader will observe repeated applications of the various aspects of this basic truth.

It is presented to the reader at this point because of its wide application to economic thought and because an awareness of it helps the reader to grasp more quickly the significance of the material which follows.

Regarding this formula it is important to note and keep in mind that of the three factors of production (natural resources, human energy and tools) the only one which man has the power to rapidly and substantially increase is tools.

Both of the other two are created by nature and controlled by nature.

*In the United States, where man lives better than anywhere else on earth, the stock of tools has been increased to a point where they supply more than 95% of the energy used in production.*
Why Man Works

In most parts of the world man must work in order to live, because most things in their natural form, condition and place cannot satisfy human needs.

Only in a few parts of the world could man live without clothing and shelter and find the quantity and variety of ready-to-eat food necessary to keep him alive and healthy.

Everywhere else in the world, nature is a stern taskmaster.

Man must work to secure his food, the scarcity of which has always been the most common cause of early death.

He must counteract temperature, through shelter and clothing, heating and cooling, and must shield himself from wind, rain, sun and snow.

Man overcomes the dangers and discomforts of his natural state through changing the form, condition and place of natural things.

Land is of little use until cleared, cultivated, seeded and tended.

Timber must be cut down and split or sawed.

Wool must be reared, sheared, cleaned, carded, spun and woven.

Minerals must be mined, hauled, refined and made into useful forms.

Man satisfies his material wants through changing the form, condition and place of natural resources.

The things that man makes, through changing the form, condition and place of natural things, are called goods and services.

How does man get the things he needs to survive, such as bread, shoes and housing? Only by working — exerting effort and using his human energy. Man works because he has to, to obtain the three necessities of life — food, clothing, shelter.
This stonecarver's tools have remained unchanged for thousands of years.

This computer operator uses an electronic tool that is constantly evolving in response to our need for information.
How Man Works

Man works (that is, produces goods and services) by applying his energy (muscular and mental) to natural resources with the aid of tools.

The quantity and quality of the goods and services produced depend upon the quantity and quality of man’s energy and the effectiveness of his tools.

In the human hand man possessed the key to all tools.

He produced pounding tools such as clubs and hammers.

He produced cutting tools such as axes and knives.

He produced throwing tools such as slings and bows.

He produced lifting tools such as levers and hoists.

He produced carrying tools involving the wheel and the sail.

Thousands of years later, he discovered that the energy of vapor from boiling water could replace muscular energy in driving these tools.

Every one of these developments had but one purpose — to change the form, condition or place of natural resources with less expenditure of time and human energy.

The usefulness of each tool is measured by the amount of time and energy it saves; by increasing the quantity and (or) quality of the goods and services that can be produced through its use.

Without tools, human life is possible, but without them, the improvement of man’s material welfare would have been impossible.

Thus, man’s material progress started with the development of his tools.

It increased only as the quantity and quality of his tools increased.
What Are Tools?

Tools are all the things used by man to produce other things, that is, goods and services.

_Tools are things made by man, and things made by natural processes._

Obviously, factory machines are tools.

So are the buildings that house them and the land under the buildings.

So are the various materials used in production.

So are the finished products while they are for sale.

On the farm, the cleared, cultivated and fertilized soil used to produce crops is just as much a tool as is the plow.

So is the tractor that pulls the plow.

So are milk sheds, silos and barns.

So are the stock of seed and the fertilizer.

So are the trucks, barges, trains and planes that haul the goods and carry the crops to market.

In the hands of storekeepers and their clerks, the inventories of goods for sale are part of the tools used to produce a service, just as are the store buildings and the store fixtures.

_Tools are all the things used by man to improve his material welfare (that is, used to produce goods and services) through changing the form, condition and place of natural resources._

_The tractor, plus human energy, changes raw land into a “tool” which produces crops._
Where Tools Come From

Man can exchange his labor either for food, shelter and comfort, or for tools.

Because exchanging labor for tools reduces food, shelter and comfort, many men prefer to exchange their labor for food, shelter and comfort rather than for tools.

Those who deny themselves in order to acquire tools eventually enjoy more comfort than those who consume all they produce, because the tools enable the owners to do more work in less time, or, if they wish, do work for them in the hands of other workers.

For example, a man who acquired a saw that greatly reduced the time and effort required to cut timber had no trouble finding men who would gladly cut his timber for him in exchange for the use of his saw.

Similarly, in modern times, a man who acquires a stock of better tools has no trouble finding workers willing to use them, because, with the aid of better tools, they can produce more and therefore receive more.

The goods and services produced with the aid of better tools can be sold to the customer at a lower price because their production uses up fewer hours of work.

Even though the price to the customer includes the payments for the use and wearing out of the tools, the price is still below that of goods and services produced with the aid of old-fashioned tools.

Knowledge that the customer will pay for the use and wearing out of better tools encourages men to acquire better tools.

An oil derrick allows man to draw a natural resource from the earth economically. Only by acquiring this "tool" can the owner of the land take advantage of the resources within it.
How Corporation Tools Come Into Being

“Corporation” is a legal name for a group of persons owning the tools of production used in a given business undertaking.

These tools are supplied by persons who want to add to the amount they receive in payment for their labor and to guard against the time when they cannot work.

In order to do this they are willing to “save,” that is, deny themselves food, shelter and comfort, in order to become owners of tools.

They join their “savings” together in a cooperative undertaking to bring together tools, natural resources and labor, and produce goods and services whose nature, price and quality will please the customer.

They do this by:
1. Buying corporation stocks and bonds, etc.
2. Paying premiums to life insurance companies (which in turn buy corporation stocks, bonds, etc.)
3. Putting payments into commercial banks and savings and loan associations (which use them to lend money to corporations and others) to buy tools, etc.

Thus, the combined self-denial of hundreds of thousands of small investors can take the form of one large corporation.

The amount of tools in the 2,999,000 corporations existing in the United States in 1983 totaled 10,201 billion dollars. Their ownership is in the hands of all persons owning corporation stocks and bonds, pension plans, life insurance policies and savings accounts.

The estimated number of people involved is 164.5 million.

Many corporations, such as those that produce steel, must make huge investments of stockholders’ money in power tools. The average for all U.S. manufacturers is almost $39,100 per worker. In some industries it is over $195,000. Tools accumulate slowly; of the $30,250,000,000,000 worth of goods and services produced in the U.S. between 1975 and 1985, 88.7% was in the form of food, shelter and comfort; only 11.3% was for additional tools of production.