The Functions of An Economic System

These Functions Must Be Performed Regardless of the Type of Economic System Practiced
Determine WHAT to Produce, and HOW MUCH

- Only those commodities for which consumers are willing to pay a price per unit sufficiently high enough to cover at least the full cost of production will be supplied by producers in the long run.

(Cost Curves)
Determine WHAT to Produce, and HOW MUCH

- By offering a higher price, consumers can normally induce producers to increase the quantity of a commodity that they will supply per unit of time.

(*The SUPPLY Curve*)
Organize the Production Process

How are we going to produce?

- Refers to the choice of the combination of resources and the particular technique to use (technology) in producing a good or service. *(Production Function)*
Organize the Production Process

- A good or service can normally be produced with different input combinations, and different techniques (technology).

(Factor Substitution)
Organize the Production Process

**BASIC PROBLEMS:**

- Which inputs, and which technology do we use?
- What quantity of the different inputs do we use?
Organize the Production Process

Alternative Technologies Must be Evaluated

\[ T_1 \quad T_2 \quad T_3 \]

Where \( T_x \) are alternative production technologies
Each alternative technology must be evaluated to determine the profit maximizing technology. First we must determine the quantity and quality of output that will be produced by each technology. The quality of the output will affect the price we can sell the output for in the market place. Price of output multiplied by the quantity of output determines the total revenue that can be derived from the technology.

Next, we must determine the cost of producing the output. We must determine the cost of each input (land, labor, capital, mgmt.) and sum them together to determine production cost.

To determine profitability, we subtract total cost from total revenue.

We would do this for each technology, then choose the technology that results in the highest profit. What we have done here is a simple budgeting exercise.
Organize the Production Process

In other words, what combination of available resources and technology will produce a given commodity for the greatest profit?
Organize the Production Process

For Example:
You want to control downy mildew (blue mold) on your crop.

What combination of resources and technology will get you the control necessary to minimize crop losses for the least possible cost?
Organize the Production Process

1. Choose a resistant variety or cultivar.  
   Cost? Vigor?

2. Control environment to minimize incidence and spread.  
   Cost? Relative risk of disease?
Organize the Production Process

3. Utilize a fungicide spray program.

Preventative or reactive?
Which fungicide?
Application cost?
Timing of application?
N.C.S.U. Blue Mold Forecast

http://www.ces.ncsu.edu/depts/pp/bluemold/
Organize the Production Process

Since resources are limited in every economy, when more of them are used to produce certain goods and services,

*Less resources are left to produce other goods and services.*
Organize the Production Process

Therefore, there is a problem of choosing the technique (Technology) which results in the least possible cost

(in terms of resources used)

to produce each unit of the good or service society wants.
Organize the Production Process

This problem is solved by the price mechanism.

- The price of an input normally represents its relative scarcity.
- The best technique to use in the production process is the one that results in the least cost of production c.p.
Organize the Production Process

- If the price of an input *increases* in relation to the price of other inputs used in the production of a commodity,

- producers will switch to a technique which uses *less* of the more expensive input in order to minimize their costs of production.
Organize the Production Process

*For Example:*
- fuel prices increase------minimum tillage practices,
- corn prices increase------shift to wheat in feed
- landscape maintenance labor price increases
  ------wider mower decks  ------dwarf turf
- greenhouse labor price increases
  ------automated watering
Organize the Production Process

- The opposite will occur when the relative price of an input decreases.

*(Factor Substitution)*
Distribute Resources, Commodities and Proceeds from Production

1. The price mechanism solves this problem also.
   a. Resources are distributed to producers who have the money to pay for them.
   b. Commodities are distributed to consumers who have the money to pay for them.
Distribute Resources, Commodities and Proceeds from Production

c. Proceeds are paid to producers for commodities efficiently provided.

d. Proceeds are paid to consumers for resources provided.
Distribute Resources, Commodities and Proceeds from Production

2. This is where government usually pokes its nose in to provide for "equitable distribution."

a. Tax wealthy individuals and business enterprises, redistribute the funds to the poor (subsidies).
Distribute Resources, Commodities and Proceeds from Production

b. Tax in order to provide certain "public goods" & "quasi-public goods"

e.g. Public education, national defense, law and order, Ag. Extension service, Ag. commodity programs.

NOTE: A, B, and C involve Resource Allocation.
ARF stand for Asset Replacement Fund. An Asset Replacement Fund is used by business owners to save money for the replacement of worn out capital goods. Business owners should place a certain amount of money in their Asset Replacement Fund each year. Their goal is to accumulate enough money in their Asset Replacement Fund to be able to buy new capital goods when the old ones wear out. The money that is put in an Asset Replacement Fund comes from the profits of the business. How much money should be put into this fund each year? In the simplest case, the amount of money that you should put in an Asset Replacement Fund is equal to the annual, straight-line depreciation. Annual depreciation is the decrease in the value of machinery or equipment due to age, wear, obsolescence, and market conditions.

Assume we have purchased a used front-end loader with back hoe for $22,000. We expect this machine to have a remaining useful life of ten years, and at the end of that ten year life it will have a salvage value of $2,000. We calculate depreciation as follows:

\[
\frac{\text{Cost} - \text{Salvage Value}}{\text{Useful Life}} = \frac{($22,000 - $2,000)}{10 \text{ years}} = $2,000 \text{ per year}
\]

This is the amount you should pull out of the profits from the business each year and place in your ARF so that you will be better able to replace this machine when it is wore out. Depreciation is a deductible, non-cash expense for income tax purposes. If you are in the 28% federal income tax bracket and the 7% state income tax bracket (35% total), you would save $2,000 x .35 = $700 in income taxes due to this deduction. Therefore, pulling $1,300 from profits and applying the $700 tax savings will generate the $2,000 required for the ARF.
Provide for Maintenance and Growth of the System

3. Economic growth refers to increases in real per capita income or GDP.

The economy's rate of economic growth depends on the rate of growth of its resources, and on the rate of improvement in its techniques of production or technology.
Provide for Maintenance and Growth of the System

a. In a free enterprise economy, the price mechanism to a large extent determines the rate of economic growth.

i.e. Prospect of higher wages motivates labor to acquire more skills. This is why you are probably here.
Provide for Maintenance and Growth of the System

b. Expectations of profit stimulates technological improvements.

This is the driving force behind computer research, biological engineering, and DNA recombination, the search for a cure for AIDS, cancer, etc.
Provide for Maintenance and Growth of the System

4. Governments often use tax incentives and subsidies, and sponsor basic research to stimulate economic growth.

5. Government allows legal monopolies through the Patent System.
Provide for Maintenance and Growth of the System

Will the U.S. get any more LAND resources?

Can the U.S. get more CAPITAL?
- Yes, we can build more capital
- We can improve efficiency (productivity) of capital
  » P.E. = units of output / units of input
Provide for Maintenance and Growth of the System

More efficient CAPITAL means developing NEW TECHNOLOGY

- New Tech. = f(Research)
- Research = f(Education Level of Society)
- Ability of Labor to use NEW TECH. = f(education of Labor)
Provide for Maintenance and Growth of the System

Can we get more LABOR?

– U.S. population is growing less than 1% per year through natural increases and immigration

Can we get more PRODUCTIVE LABOR?

– Yes, it is developed through education and development of skills. (increasing ~ 1.5% per year)
Provide for Maintenance and Growth of the System

Can we get more ENTREPRENEURIAL TALENT?

– Yes, it is developed through education and experience !!!
Rationing

Restrict consumption to the supply of resources and commodities available over time
Rationing

1. System must first restrict the total level of consumption to the total available output.

2. Second, the system must restrict the CURRENT level of consumption so that the commodity will last for the entire time period over which its supply is fixed.
Rationing

e.g. Corn, wheat, soybeans, redtips, poinsettias, etc.

3. Rationing is made possible by the ability of prices to respond to changes in consumption and production levels.
Above you see the five functions of any economic system illustrated above. What are all those arrows up there relating to?
In a capitalist economy, consumers determine “what is produced” through consumer sovereignty. Therefore the arrow from consumers to the “What to produce” function illustrates the payments that consumers make for goods and services. Remember that only those goods and services that can be sold for a price greater than or equal to their cost of production will survive in the market place over the long run.
This arrow represents the receipts producers receive from goods and services sold to consumers. A consumers expenditure becomes a producers receipt.
These are the information flows between consumers and producers. The market in capitalism is the rationing process. The market is where consumers and producers “talk” to each other and “negotiate” the prices for goods and services.
Before a producer can start to produce a good or service, we know that the producer must acquire resources. In capitalism, the producer obtains those resources from consumers who privately own the resources (land, capital, labor, and management). These resources flow through a physical distribution system. When you own a piece of land and desire to sell it, where would you typically look for help? Yes, a real estate agency. The real estate agency will help facilitate matching buyers and sellers and assist in the transfer of land from one party to the next. What is an employment agency? What are the “want ads” in a newspaper? What is the CALS Career Planning and Placement Center? These are all labor distribution mechanisms. What is a John Deere machinery and equipment dealer? A capital distribution center.
When owners of resources sell those resources, we know they receive a payment. Most payments go through the financial distribution system. When producers buy resources from consumers, a payment is made. Often that payment is made with a check. Where does the consumer go to transform that check into MONEY? Right, the bank, a financial distribution system. When you are paid for an honest weeks work, you receive a check that you usually take to the bank and deposit or cash. When you are a little short of funds, the bank can often provide you a loan to tide you over. How do corporations raise money to conduct their business? They can sell company stock in the stock market. Again, a financial distribution system.
Once the producer has acquired and paid for the resources necessary for production, production begins. Well, how do all those goods and services get from the producer to the consumer? Well, they usually go through a physical distribution system. What are all the interstates, state highways, county roads, and paths on a road map? Part of the physical distribution system. What are all those tractor-trailers doing riding up and down all those interstates, state highways, county roads and paths? They are physically moving goods from one geographical location to another. What is a WalMart, Kmart, Sears, or CVS pharmacy? They are physical distribution centers! They are where you and I go to get our goods and services.
In a capitalistic society, producers are responsible for organizing the production process, and for maintaining the economy as well as for helping the economy grow by developing new technology that will enhance productivity.