MODULE 17

CRITERIA FOR EVALUATION

Individuals must make choices about their objectives (or ends) and the alternatives (means) they choose to achieve those objectives. To make these choices, it is necessary to value or prioritize ends and means. The process of ranking and the ultimate selection of priorities require criteria to value the alternatives.

Both ends and means can be ranked on the basis of tradition. Communities often develop traditional solutions to economic problems. In some societies, the solution to the problem of food acquisition may be hunting. Hunting a given specie or species of animals provides a workable solution given technology, natural and built environments. Religion and other social institutions may develop to support these solutions. Use of tradition and institutions (and rules of thumb) to choose ends and means is a way of minimizing the use of analysis and reasoning to make choices: there are a set of ready-made choices. These traditional ends and means are created and evolve as workable solutions to problems. In many cases, traditional solutions may be very effective. However, traditions by their nature persist over time (tend to maintain the status quo) and may become less effective as circumstances change. When natural or built environments change society may still cling to the traditional solutions in the face of declining success. Religion, the vested interests, desire for the old ways and human resistance to change are examples of forces that inhibit the search for new solutions. The ranking of ends and means by tradition may lag behind the changes in knowledge, technology and environmental circumstance. If traditions and existing institutions result in increasingly less successful results, new solutions that are more consistent with individual values and expectations may emerge.

CRITERIA TO EVALUATE ENDS AND MEANS

The evaluation and ranking of both ends and means requires the application of ethical principles. At another level, the choices of means to achieve a given end may appear to be based on efficiency. Ethics is the study of the process by which an objective (and/or the means used) is judged "right or wrong." Efficiency is a measure of the extent to

which an objective is achieved. Efficiency can only be used to evaluate the means used to achieve a goal or end. Ultimately, efficiency rests on a foundation of ethics. An immoral objective can be achieved "efficiently." Nazi Germany sought "efficient" means to achieve the annihilation of an ethnic group.

Modern, neoclassical economics is often perceived as a study of efficiency with in the context of a very specific ethical system: "utilitarianism."

*__Utilitarianism__ is a theory of morality that advocates actions that foster happiness or pleasure and oppose actions that cause unhappiness or harm.

EFFICIENCY

Efficiency is a measure of the extent to which an objective has been achieved. If an objective is immoral or unethical, efficiency can still be used to evaluate the extent to which the objective is met. Consider the construction of ovens. If an oven is "too small", there is inefficiency in the loss of energy because the door is opened and closed more frequently. If an oven is "too large" it is inefficient in heating too much space. The choice of using a toaster oven or a full size oven is a judgment about their efficiency at different tasks.

If the task were to dispose of human bodies during genocide, efficiency would be important in determining the size of the ovens even though the objective is clearly immoral.

It is possible to have objectives that are unethical or wrong and still achieve those objectives with different degrees of efficiency. If an objective were good, moral or ethically correct, then greater efficiency would be desirable. If the objective is immoral or bad, then greater efficiency is not necessarily desirable.

If there are alternative means to achieve an ethical objective, the means may have different levels of efficiency. It is also possible that the different means will be more or less ethical than others. In this case, it may be necessary to judge between an efficient less ethical means and a less efficient more ethical one.

The idea of efficiency was borrowed from physics.

Energy efficiency is often measured as:

$$\% \text{ efficiency} = \frac{\text{useful energy produced}}{\text{total energy used}} \times 100$$

Mechanical efficiency is defined as:

$$\% \text{ efficiency} = \frac{\text{output power}}{\text{input power}} X\, 100$$

In economics, efficiency can be thought of as a ratio of outputs to inputs. The resources used in production are the inputs and the goods (and services) that are produced are the output. Efficiency is not in and of itself an objective.

It is possible to efficiently pursue immoral objectives. It is also possible to pursue ethical ends with unethical means.

Several variations of efficiency are relevant in economics: technical efficiency, allocative or economic efficiency. These concepts of efficiency are straightforward: the difficulty lies in measurement of output, value of outputs, inputs and the value of inputs. In neoclassical microeconomics, utilitarian ethics is the foundation of the concepts of efficiency.

ALLOCATIVE OR ECONOMIC EFFICIENCY

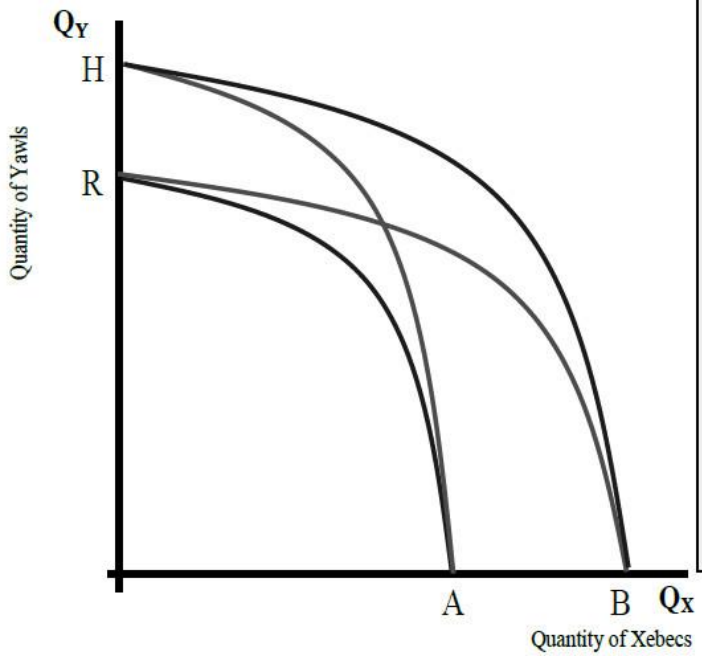
Since Xebecs (good Q_X) and Yawls (good Q_Y) are not the same things, it does not make sense to add them together. If the values of the two (or more) goods were known or there was an acceptable proxy for the value, it would be possible to add their values. Remember that one of the tasks of the economic process is to allocate resources to their highest valued use. Technical efficiency is a prerequisite for allocative efficiency.

Economic or allocative efficiency takes into account the value of both the inputs and outputs. Economic efficiency is measured by a ratio of the value of the output to the value of the inputs. Value is a complex notion and market prices are often used as an indicator of exchange value. (Remember the warning of Oscar Wilde: *"A cynic is someone who knows the price of everything and the value of nothing."*)

Lacking a better proxy for value, price is often used. If the price of good X (P_X) and good Y (P_Y) are proxies for their value and the wage or price of labor (W_L or P_L) and capital (P_K or %) were proxies for their values, then allocative or economic efficiency might be represented as:

$$\text{Allocative efficiency} = \frac{\text{value of output}}{\text{value of input}} = \frac{P_X Q_X + P_Y Q_Y}{P_L L + P_K K}$$

Production Possibilities Function



Given the original PPF as line RA. An improvement in technology that impacts only the production of xebecs can be seen as a shift from RA to RB. An improvement in technology that influences only the production of Yawls would be a shift from RA to HA. Technology that impacts the production of both goods would be a shift from RA to HB. These outward shifts are sometimes called "economic growth."

A change in inputs could also be shown as shifts in the PPF, a decrease in inputs would shift the PPF inward toward the origin. An increase in inputs would shift the PPF outward.