

An Economics for Humanity

PART 3 THE HUMAN FRAMEWORK

PRELIMINARIES

I have received many useful comments from the discussion group on parts 1 and 2 of my Feasta website paper. My sincere thanks to all who have contributed.

The most important thing I have learned from the group is that my concept of "social perspective," as defined in part 1, is not well-founded and is therefore an inappropriate basis for an economic theory. I now believe that human economics should be based on a clear objective.

The objective of human economics is:

To formulate economic concepts and analytical tools that permit the maximization of human well-being, subject to ecological constraints.

This is a broad statement of social orientation. The precise meanings of "well-being" and "constraints" are developed within human economics itself.

As we proceed, it is important to remember the structure of human economics. There are three conceptual frameworks: the human, ecological, and functional. This structure was not chosen arbitrarily or for convenience. Rather, I believe it reflects the key intellectual tasks before us. These are:

- a. To specify the characteristics of a humane economy. This is the aim of the human framework.
- b. To specify the characteristics of a sustainable economy. This is the aim of the ecological framework.
- c. To analyze existing economies. This is the aim of the functional framework.

Note especially that the human framework, which is the subject of the present document, does not address an economy's operational details. It provides tools to define the economy we want, and to criticize the economy we have, but it leaves prices, markets, and similar topics to the functional framework.

This document is a summary of the human framework. My goal is to prepare the way for the ecological framework, which lies at the heart of Feasta's concerns. In order to focus our efforts I have omitted detailed discussion of topics that are not directly relevant to this goal. I briefly describe these additional topics at the end.

Finally, I should justify why a new economics is required. Several group members have questioned this, and I would like to provide a more complete answer than I have so far.

My most fundamental reason is that we - the world's non-capitalists, who prize human well-being and environmental integrity over profits - must break free from capitalism's enveloping ideological influence. We require an independent perspective, not just in our emotions and commitments, but in our intellectual processes. I believe the most critical of these processes are in the economic realm.

More specifically, we need a new economics to:

1. **GUIDE ACTIVISM:** Social activists are focused, and rightly so, on the glaring abuses of the current system. They fight insane energy consumption, suicidal greenhouse gas emissions, rampant habitat destruction, persistent poverty, etc. But most activists employ the available intellectual tools, which were not systematically developed. As a result, some causes may be misidentified and some solutions may be poorly conceived. Human economics can help correct these inaccuracies and provide broad conceptual guidance to social action movements.

2. **INFLUENCE PUBLIC POLICY:** Governments and public opinion will be swayed more readily if we can provide cogent arguments based on sound theory. Those who oppose us have an impressive economic theory to defend their views. We need an equally impressive theory to defend ours.

3. **MANAGE SOCIAL STRUCTURES:** If we succeed in creating the communities many of us want, or in increasing our control in current societies, we will need a sound economic theory to guide our actions. Lacking such a theory, we will be subject to haphazard decisions and unstable policy-making, and we will be prey to the persistent influence of capitalist concepts, ideologies, and institutions.

So much for the preliminaries - let's get to the economics itself. Herewith the human framework (abbreviated version), using the analytical tools outlined in part 2.

1. THE STANDARD OF VALUE AND COST

Recall from part 2 that value is what human beings need or desire in an output, while cost is the sacrifice we must make to obtain this value. Among the most fundamental questions for any economic theory are:

1. How do we judge needs and desires? That is, what is the standard of value?
2. How do we judge sacrifices? That is, what is the standard of cost?

We might, for example, decide that population is the appropriate standard of value. Consumption that results in a higher population would then be preferred to consumption that

results in a lower population. We might also decide that energy use is the appropriate standard of cost. Production that uses less energy would then be preferred to production that uses more.

Two other possibilities are:

- Self-reported happiness for value; hours of work for cost.
- Quantity of consumption for value; quantity of raw materials for cost.

These examples use separate standards for value and cost, but this is not necessary. We might decide to use self-reported happiness for both. Our aim would then be to consume so as to gain the most happiness, and to produce so as to lose the least happiness.

Standard economics uses a single standard - subjective wants expressed in money - for value and cost, and I believe a single standard is required in the human framework as well. If we try to apply separate standards we encounter insurmountable analytical hurdles.

Look what happens, for instance, if we try to use happiness as the standard of value, and hours of work as the standard of cost. The general principle is that the quantity of an output should increase until the marginal cost of its production exceeds the marginal value from its consumption. If we apply this principle to our two standards, the question becomes: when do the marginal hours required for the production of the output exceed the marginal happiness from its consumption?

This question is inherently unanswerable because happiness and hours of work are different kinds of things, which cannot be quantitatively compared. They are, to use the economic term, incommensurable, which is the death knell for rigorous analysis. A single standard for value and cost is therefore essential.

The next question is: should this single standard be subjective or objective? I find a subjective standard to be unacceptable for the following reasons:

1. Subjective needs and wants can only be measured by something external, such as money. If money is used, then demand means "effective demand" - it must be backed by cash. A penniless person dying of thirst has, in this sense, no demand for water. If water is not free, and if a good Samaritan does not appear, this person will perish. Money - or whatever expresses subjective desires - masks our real needs and wants.
2. A subjective standard makes interpersonal comparisons difficult, and perhaps impossible. The internal state of one person cannot easily be compared with that of another. This leads to gross economic injustices. For example, it places a poor person's desperate need for a necessity on the same plane as a rich person's frivolous desire for a luxury. It fails to differentiate between widely divergent ethical situations.
3. Subjective demand can be powerfully shaped by social influences, such as advertising, media images, peer pressure, and the like. So-called subjective demand is frequently nothing but the implanted whims of corporate marketing departments. I do not claim that producers create or manipulate all our wants, but the opposite extreme - the standard assumption of "consumer sovereignty" - is certainly false.

The human framework thus requires a single, objective standard of value and cost. Following are the key considerations to determine what this standard should be:

- Human economics seeks to maximize human well-being. The standard should therefore be intimately tied to the survival and flourishing of human beings.
- To be useful as a set of analytical tools, the human framework should be as rigorous as its subject matter permits. The standard should therefore be quantifiable and allow for at least a rough unit of measurement.
- Human beings interact with an economy in three main ways: directly through labour and consumption, and indirectly through the economy's impact on the environment. The standard must be capable of measuring all three interactions.

A standard that meets all these criteria is the physical health of human beings. It is objective, is intimately associated with human well-being, permits quantification, and is capable of measuring all three economic interactions.

Physical health indirectly includes mental and emotional factors. Stress, worry, and loneliness all have physical symptoms. Joy and laughter are also expressed at the physical level. Physical health is probably the most accurate single indicator of overall human well-being available to us.

A compelling reason to use physical health as the value/cost standard is that it directs our attention to the needs of poorest. It is easy for affluent analysts, most of whom are healthy, to forget or downplay these needs. All economic issues should, in my view, be analyzed in relation to the least fortunate on the globe, and the physical health standard builds this concern into our economic theory.

Health has the added advantage of being strongly correlated with happiness. Richard Douthwaite cites a study that asked 2,000 people in eight European countries how satisfied they were with life in general: "... the best predictor of whether people would say they were content was whether or not they were happy with their health." (Growth Illusion, p. 13)

Finally, physical health serves to integrate the human and ecological frameworks. The standard is used in the ecological framework to establish the ethical basis for the levels of resource consumption and waste output by the present generation.

A standard that meets all the stated criteria, that accurately reflects human happiness, and that provides an indispensable ethical standard cannot, in my estimation, be far off the mark.

2. "LET 100 FLOWERS BLOOM ..."

Other value/cost standards besides physical health are possible. Health, which implies life itself, is at the very foundation of human well-being, but it does not directly capture fun, variety, exhilaration, or indulgence, to name a few. These can all be valid reasons for human beings to value outputs, and some can plausibly be used to measure cost.

Similarly, a group or community might decide that rigour in an economic theory is not required. Rather than being concerned with commensurability and quantification, they might decide that a consensus estimate of well-being or spiritual fulfillment is sufficient for their needs.

Such differences in interpreting the economic universe extend to the other frameworks.

In the ecological framework I choose an abstraction of nature - a simplification that allows the application of economic logic to nature's complexity. Other analysts may feel that my abstraction does not represent nature adequately, and may choose a different one.

In the functional framework I address capitalism because this is currently the world's dominant economic system. Other economic organizations still exist, however, and new ones can be developed. Multiple functional frameworks are therefore possible.

The result of these various interpretations is that several versions of human economics could eventually arise. Richard Douthwaite has suggested that this may be desirable, and I agree. So long as each theory has a clear objective, is internally consistent, and adopts a humane, ecological perspective, this diversity can only benefit humankind.

Let me now proceed with my version of human economics, which I feel has general usefulness and holds substantial analytical promise.

3. THE HEALTH UNIT

One of my requirements for the value/cost standard was that it should be quantifiable and permit the definition of a rough unit of measurement. While it is pointless to attempt a precise definition at this early stage of theoretical development, let me briefly explore how such a unit could be established.

The zero point in the measurement of human health is the state where a representative person is minimally alive. From this point, any reduction in health will result in death. At the other extreme is the currently attainable peak of physical health. This means complete freedom from disease and injury, and the greatest possible vigour, strength, flexibility, sensory acuity, stamina, and so forth.

This continuum of health states, from minimal life to its currently achievable peak, can be divided into equal increments. The details of such a division must be left to health experts, but there is no obstacle to it in principle.

A rudimentary example of such a scale already exists for newborns - the APGAR score. When a baby is born, a doctor can assign 0-2 points for each of muscle tone, pulse, reflex, skin colour, and respiration. The total score (out of 10) tells the medical team if the baby is healthy, warrants some attention, or requires immediate resuscitation. Extending this scheme appears relatively straightforward.

The other essential aspect of health is time. An increment in health that lasts for 20 days is 10 times greater than the same increment lasting for two days. For example, an apple might increase health by ten increments for three days. A house might increase health by eight

increments for 50 years. Although the apple has the greater short-term health effect, the house has a much greater long-term impact.

In brief, the health unit can be defined in terms of a specified increment along the physical health continuum, for a specified period of time. Below I presume that such a unit has been adequately defined, and place either marginal or total health units on the vertical axis of each graph.

If the health unit appears to lack substance, remember that the demand for measurement must precede the development of the unit and scale to perform the measurement. Until someone insisted that the health of newborn babies be quantified, the APGAR score did not and could not exist. Until someone decided that heat and cold were more than subjective feelings and should be measured, the concept of temperature could not arise, much less the Celsius, Fahrenheit, and Kelvin scales.

4. EVALUATING FINAL OUTPUTS: INTRINSIC VALUE

My use of the term "intrinsic value" derives from John Ruskin, a 19th century social theorist and critic of art and architecture. Ruskin wrote several books on economics, of which Unto This Last (1860) is the best known. The terms intrinsic value and its companion, effectual value, were introduced in a later work, Munera Pulveris (1862).

Although Ruskin shared the ethnocentrism of his Victorian contemporaries and had a strong paternalistic streak, his views on economics were profoundly moral. Despite their limitations, his books remain well worth reading.

Ruskin defined intrinsic value as "... the absolute power of anything to support life." He insisted that this power is objective and thus independent of human desire and judgment. Among the items he specified as embodying intrinsic value were land, buildings, furniture, instruments, food, medicine, books, and works of art.

The idea of intrinsic value is not new with Ruskin. John Locke employed the term in 1690, using almost the same definition as Ruskin's. French economist Jean-Baptiste Say, a seminal figure in economic history, referred in 1803 to "positive wants", by which he meant wants that are satisfied by intrinsic value. Many other economists have made similar statements over the years. My adoption of intrinsic value, although well outside the current mainstream, is the continuation of a long tradition in economic thought.

Based on the standard of value and cost developed above, I define intrinsic value as the capacity of a final economic output to increase or decrease the physical health of human beings.

The key word here is "capacity". Earlier I stated that an apple might increase health by ten health increments for three days. If we define the health unit as one health increment for one day, then an apple contains 30 health units of intrinsic value.

An apple, however, can be thrown away or allowed to spoil. The 30 health units constitute only a potential, which may or may not be realized. The apple has to be eaten, while fresh, by someone who can fully assimilate its nutrients. Only then will the 30 units of potential health be transformed into 30 units of actual health.

Final outputs are objects and services that are directly consumed, such as food, furniture, and haircuts. These outputs should be distinguished from intermediate outputs such as raw materials, buildings, tools, and machinery. While intermediate outputs are essential to production, they are not directly consumed and do not, themselves, contribute to the physical health of humankind. They therefore fall outside the definition of intrinsic value.

The intrinsic value of an output is a constant quantity (see the graph below). No matter how many apples are produced in an economy, it is presumably always possible for someone to consume the last one so as to extract its full health potential.

Intrinsic value refers to the potential health flowing from an output during its entire lifespan. If a house is expected to last 50 years, and if it will deliver an average of 1,000 health units per year, then the intrinsic value of the house is 50,000 health units. The same principle holds for effectual value and input cost, which are discussed below.

In brief, intrinsic value can be positive or negative, and is measured in health units. It is used in the human framework to judge the quality of an economy's outputs.

5. EVALUATING CONSUMPTION: EFFECTUAL VALUE

Whereas intrinsic value is the capacity of an output to increase or decrease human health, effectual value is the realization of this capacity through consumption. It expresses the degree to which the conversion of potential to actual health has been successful.

If the apple mentioned above is consumed in such a manner that all its intrinsic value is realized, the outcome is 30 health units of effectual value. If half the apple is eaten and the rest discarded, the outcome is 15 units. If the apple is left to rot, the result is zero units.

Like intrinsic value, effectual value can be positive or negative, and is measured in health units. Unlike intrinsic value, it tends to decrease at the margin as more of an output is consumed. The graph below depicts the general behaviour of these quantities.

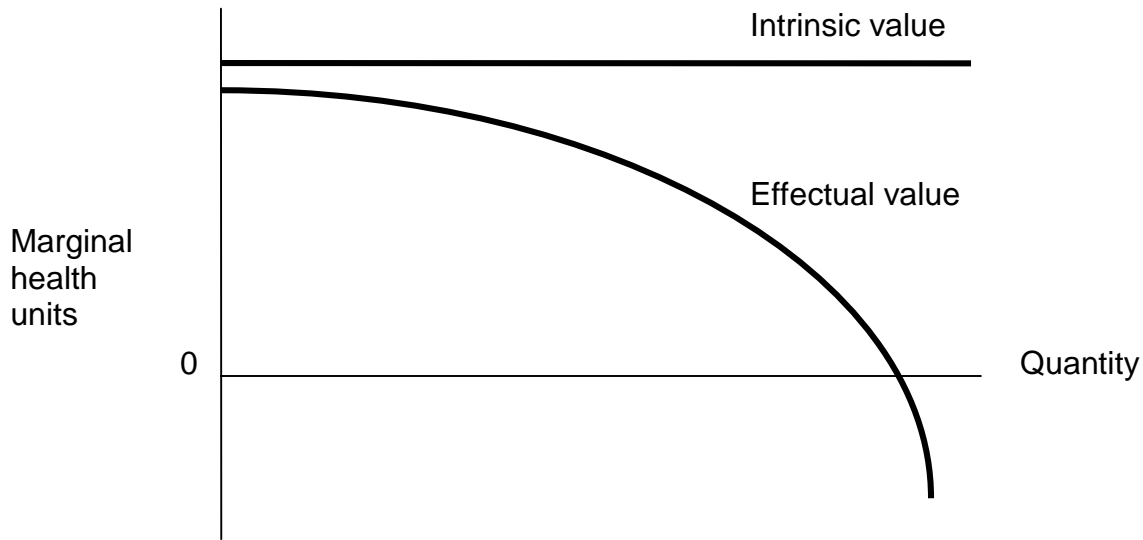


Figure 1: Intrinsic value and effectual value

The graph's vertical axis is measured in marginal health units, as discussed. The horizontal axis represents the quantity of an output's production in a specific period of time. The unit of measurement here depends on the output under consideration.

Because the vertical axis uses marginal units, movement along the horizontal axis indicates an incremental addition to value. Total intrinsic value therefore increases linearly as we move to the right - it is the area under the straight line at any quantity. Total effectual value also increases as quantity increases, but more and more slowly, until it becomes negative at the margin and total quantity decreases. (If this is confusing, see part 2 for a refresher on marginal and total quantities.)

There are several reasons why effectual value tends to decrease with quantity consumed. An output is generally first applied to highly valued uses, and then progressively to less valued uses. Clean water, for instance, is first used to slake thirst, then to cook food, and finally to water lawns and to wash people and cars. As the available quantity of clean water increases, the health benefits of the last increment will tend to decline.

Another reason is satiation: one apple a day produces excellent health benefits, but the body can absorb only a finite quantity of an apple's nutrients. As more apples are eaten, the health gains of the last one will steadily diminish. Eating too many apples will eventually decrease health, which is why marginal effectual value becomes negative in the graph above.

In brief, effectual value is used in the human framework to judge consumption. It answers the question: given a certain amount of intrinsic value created in production, how effectively is this converted into real health benefits?

It is important to note that my use of a single apple and house above is intended only to illustrate the concepts of intrinsic and effectual value. In real analysis we would normally not deal with individual outputs, but with the economy's aggregate production of fresh produce, housing, etc. The purpose of human economics is to permit broad analysis of economic issues, and these two concepts should be viewed in this light.

6. THE ECONOMY AND NATURE

Before moving from value to cost, I should discuss the relationship between the economy and nature. This relationship poses difficult problems.

The key issue was summarized by Juan Martinez-Alier, the unofficial historian of the ecological economics movement: "... the economy, from the ecological point of view, does not have a common standard of measurement. Economists are left without a theory of value. This is the main point of this book." (Ecological Economics, 1987)

The accuracy of the above is readily apparent. My standard of value and cost is the physical health of human beings, which is clearly inapplicable to the natural world outside our bodies. We can measure physical changes in nature due to production and consumption, and we can measure the effects of such changes on human beings, but we cannot directly "feel" the value and cost it experiences. This problem afflicts any human-based standard.

Although some will argue the point, this means that in economics, humanity is the exclusive realm of value and cost, while nature is the realm of physical stocks and flows. The question is how to integrate these in a coherent manner.

The approach I have settled on is the following. I ask the group to carefully scrutinize this approach and to offer its views.

First, I make two distinctions:

1. Between marginal effects and threshold effects. When a lake is initially polluted, the pollutants affect human health incrementally by contaminating fish and poisoning drinking and swimming water. These are marginal effects. Beyond a critical point, the lake's ecosystem will collapse. This is a threshold effect.
2. Between marginal effects that impact physical health and those that do not. The latter include environmental changes that some people may find esthetically or spiritually destructive, but that do not have physical health consequences.

Second, based on these distinctions, I divide the natural effects of production into three categories:

1. Marginal effects that impact physical health
2. Marginal effects that do not impact physical health
3. Threshold effects

The first category can be addressed with the concept of natural cost, defined below. The second category falls outside the scope of my value/cost standard, which means such effects cannot be analyzed in the human framework. This is a limitation of my approach. The third category cannot be addressed with marginal analysis at all because a threshold entails discontinuity. An analytical approach to threshold effects is offered in the ecological framework.

7. EVALUATING PRODUCTION: OPPORTUNITY COST AND INPUT COST

When inputs are used up in production, two discrete things are sacrificed:

1. The possibility of employing the same inputs elsewhere;
2. The positive and negative impacts on the input factors - the human beings who provide the labour and the natural facilities that furnish the resources and receive the wastes.

Among the most blatant ideological distortions in standard economics is the reduction of both types of sacrifices to the first. The second type is ignored, thus sweeping the potential destruction of people and nature under the rug. This ethically bankrupt combination is called opportunity cost.

Despite its misuse by standard economics, opportunity cost is not a false concept, but rather a limited one. The human framework accepts the concept within its proper scope. Natural resources and human labour must be allocated to the outputs we value most, and the concept helps us achieve this.

In the human framework, the opportunity cost of using an input in production is defined as the intrinsic value of the best alternative output to which that input could have been applied. Because opportunity cost is a familiar concept in economics, I will not discuss it further in this summary.

The second type of sacrifice is fully recognized by the human framework, and is called input cost. It is defined as the direct and indirect effects of production on humankind's physical health. When these effects are direct - through labour - they are called labour cost. When they are indirect - through environmental changes associated with production - they are called natural cost. The sum of labour cost and natural cost is the input cost of production.

Labour can cause both positive and negative health effects. Labour cost is positive when labour causes excessive fatigue, debilitating stress, injuries, disease, or death. It is negative when labour increases strength, stamina, vigour, etc.

Note the potential confusion here. Cost - meaning positive cost - refers to the sacrifice human beings make in obtaining value. A positive cost is therefore a bad thing - it implies a decrease in health. Conversely, a negative cost is a good thing - it implies an increase in health. Please take this inversion into account when examining the graphs below.

Natural cost can also be positive or negative, and the same inversion applies as for labour cost. Natural cost is positive when production fouls the environment and destroys habitat in such a way that human health is adversely affected. It is negative when production creates a cleaner or more habitable environment, resulting in increased human health.

Below is a generalized depiction of input cost and its two components:

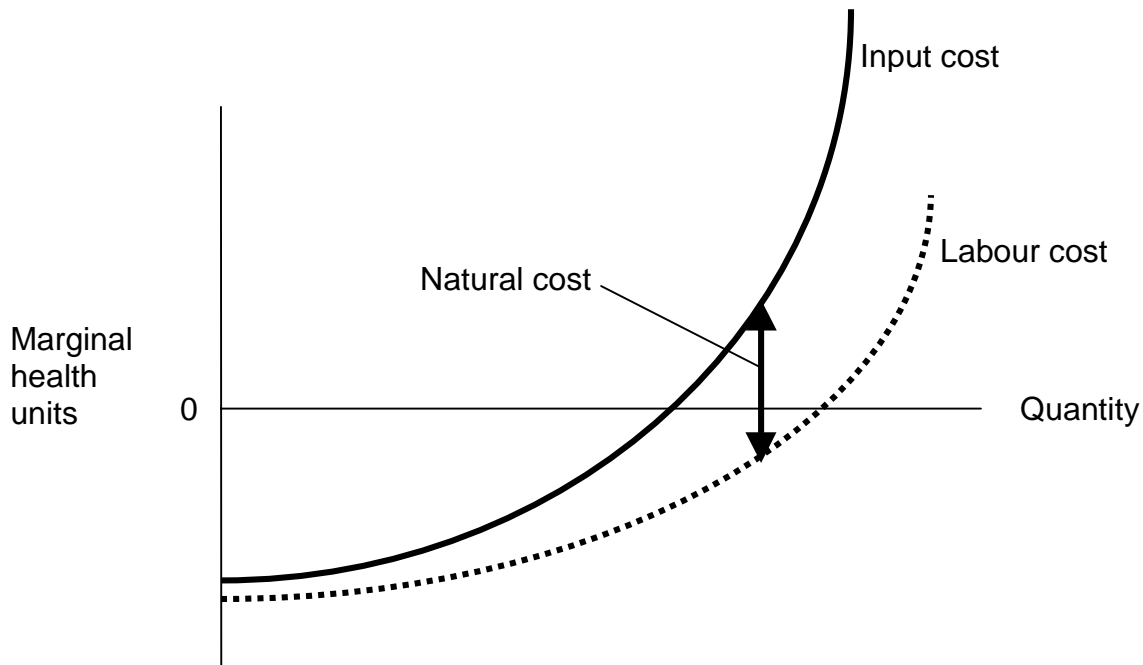


Figure 2: Labour cost, natural cost, and input cost

As with the previous graph, the vertical axis is measured in marginal health units, and the horizontal axis represents the quantity of an output produced in a specific period of time.

The dashed (lower) curve represents labour cost. The curve starts below zero on the vertical axis and is therefore a negative quantity. As discussed, a negative cost implies a positive health effect, so my arbitrary assumption here is that labour is initially beneficial to health.

As labour time increases with quantity produced, this initial effect is offset by fatigue, stress, and injuries. The curve therefore swings upward, and eventually becomes positive as the detrimental health effects start to dominate.

While the exact shape of the labour cost curve will vary with conditions, I assume that the curve rises as the quantity produced, and therefore labour time, increases. This is consistent with the standard assumption about costs in economics, as discussed in part 2.

The solid (upper) curve represents input cost - the sum of labour cost and natural cost. Natural cost is the vertical distance between the labour cost curve and the input cost curve. As with labour cost, I assume that natural cost increases with quantity produced.

8. OPTIMUM QUANTITY FOR A FINAL OUTPUT

The value and cost graphs can be combined to determine the optimum quantity for a final output. Ignoring thresholds for now, this is depicted in the graph below:

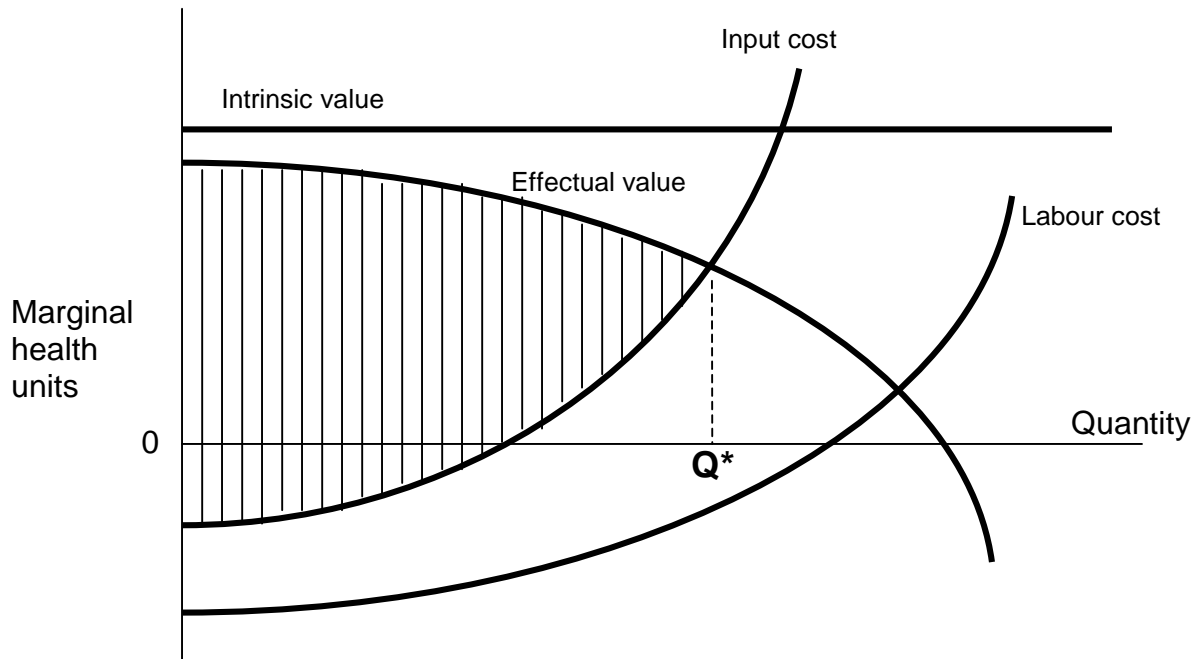


Figure 3: Optimum quantity for a final output

The optimization rule has already been stated: increase quantity until the rising cost of production exceeds the falling value from consumption. Q^* is the point where this occurs, and this therefore marks the optimum quantity for the final output.

At Q^* human beings gain the health effects represented by the shaded area. If less is produced, this area will shrink. If more is produced, losses will be incurred, and net gains will decrease.

It is important to note that Q^* is an optimum quantity, not just a maximum quantity. That is, we should increase output to Q^* if it is currently less, and decrease output to Q^* if it is currently more. I underscore this because many outputs are underproduced, not overproduced. This is particularly true for outputs that address the needs of the poor and therefore tend to have insufficient effective demand in a market economy.

The importance of the graph is that it provides a rational basis for a group, community, or society to choose appropriate output levels. When this logic is extended to all potential outputs, it can be used to define a humane economy. When consideration of thresholds is added, the logic helps define a sustainable economy.

An apparent limitation of the above method is that it applies exclusively to final outputs. This leaves open a critically important question: what is the optimum quantity for an intermediate output such as a raw material, lorry, or office desk?

To address this, we have to understand the relationship between a final output and the intermediate outputs involved in its production. As stated, intermediate outputs have no intrinsic value. We can consume the food transported by the lorry, but not the lorry itself.

The "value" of an intermediate output is therefore a derived quantity - it depends on the intrinsic value of the final outputs it helps produce. If a community needs 10 lorries to transport its food from farm to shop, then the optimum quantity of food-transporting lorries is at most 10.

Why "at most"? Because the food may not be produced at their optimum quantities. If we are using two lorries to transport cucumbers, and the optimum quantity of cucumbers for this community fills only one lorry, then the second one is economically unjustified.

Let me restate the important general conclusion:

The optimum quantity of an intermediate output is the quantity required to produce the optimum quantities of all the final outputs with which it is associated.

One more point in this connection. The intrinsic and effectual value curves above pertain to the final output alone. The labour and natural cost curves, on the other hand, pertain to the entire production chain. This includes the production of all required intermediate outputs, plus the final output itself. This should make intuitive sense: we derive benefits from consuming only the end product, but incur costs at every stage of the production process.

In the ecological framework (part 4) this method for determining an optimum quantity is modified to take account of threshold effects.

9. SUMMARY OF OTHER TOOLS

For completeness, I briefly describe the remaining tools in the human framework below.

a. **ANALYSIS OF TOTAL OUTPUT:** The ideas presented above can be extended to graphically represent an economy's total output. This provides a snapshot of the economy's overall gains and losses, and allows us to represent changes to an economy over time.

b. **LIMITS TO GROWTH:** I define three limits to growth: the economic, absolute and ecological. Herman Daly has independently done the same. In *Feasta Review #1* (p. 23), he refers to these as the economic limit, the futility limit, and the ecological catastrophe limit respectively.

c. **ECONOMIC WELL-BEING:** A well-known problem with aggregate quantities is that they ignore distribution. Aggregate gains could increase, but certain individuals or groups could nevertheless suffer. To address this, I define economic well-being as the difference between the effectual value achieved by an individual or group over a period of time, minus the input cost

they incur over this same period. This concept allows us to ethically balance aggregate effects and individual or group effects.

d. EFFICIENCY: Standard economics uses this term to refer to Pareto optimality, a loose concept devoid of ethical content. I define three types of efficiency: consumption, production, and economic. These concepts use intrinsic value, effectual value, and input cost, and give us another way to summarize the results of economic activities. Again, there is an overlap with Daly's work. In Steady-State Economics (1991) he uses the concepts of service, stock, and throughput to define similar efficiencies.

While I owe much to Daly, I will offer a critique of his work, and of ecological economics generally, at the end of part 4 - the ecological framework.
