Economics of Needs and Limits (ENL): OVERVIEW

GENERAL DESCRIPTION

Human beings must make two types of decisions in conducting their economic affairs: *what* should be done, and *how* it should be done. For example, a society first has to decide that it will produce certain quantities of food, transportation, housing, and other outputs. It then has to determine what economic structures and actions are required to achieve these objectives.

It has long been acknowledged that an economic theory is required to determine the "how". This is what standard economics does for governments with respect to policies, and for firms with respect to strategies. However, until now it has been assumed that a society can establish the "what" through political or social processes, without the assistance of formal economic concepts. As a result, economists have given us an impressive array of tools for achieving objectives, but virtually none for establishing the objectives themselves.

Economists claim that, because their discipline is a science, it cannot participate in decisions about economic ends. This response is highly disingenuous, for two reasons. First, the standard discipline is structured so that it reflects business interests, which means that business-oriented objectives are built into its theory. Second, economists frequently venture far beyond their scientific role to support business-friendly objectives such as faster growth, higher labor productivity, and fewer environmental regulations. It is clear that standard economics is not an impartial analyst with respect to economic objectives, but a biased participant.

Humankind now faces a crisis of severe ecological degradation, rapid resource depletion, and continuing world poverty. Because this crisis is largely economic in nature, we urgently need independent theoretical help in guiding our economies. ENL is intended to provide this help, and it is therefore called a *guiding framework*. Standard economics, which is concerned with an economy's functional or operational features, is called a *functional theory*. ENL appears to be the only guiding framework at present, but several functional theories exist. These differ largely in their political postures and analytical approaches.

ENL can help a society set rational objectives in the following areas: output production and consumption, resource use, waste expulsion, habitat destruction, trade, and population. "Rational" in this context means the best achievable balance between human needs and natural limits. This balance, referred to as *sustainable well-being*, is ENL's goal for an economy.

Once an ENL objective has been socially accepted, functional concepts and tools can be used to determine what taxes, regulations, corporate initiatives, or other actions are required to achieve it.

In brief, ENL is designed to play a guiding rather than a functional role in economic thought. It strives to maximize present well-being while protecting the environmental basis for future well-being. It seeks to work jointly with functional concepts, establishing ends while leaving the latter to formulate the means. ENL is also an essential component of the strategy for social change proposed on this site.

DETAILED DESCRIPTION

Structurally, ENL comprises two sets of concepts and analytical tools: one to address human well-being and the other to address ecological limits. These components are respectively called the human logic and the environmental logic. Together they constitute the framework's core logic, which provides the conceptual basis for analyzing population, trade, labor productivity, and efficiency.

The human logic is intentionally restricted in its scope: it provides methods for maximizing well-being by optimizing output quantities, but without paying attention to ecological limits. The environmental logic then modifies these conclusions as required by taking ecological limits into account. This analytical separation is necessary because of the qualitative differences between humankind and nature. Humankind is the sphere of value and cost, which can be addressed using marginal analysis. Nature, on the other hand, is the sphere of physical flows and threshold effects, where marginal analysis does not apply. ENL is compelled to deal with these spheres discretely at first, and then to integrate their results.

Value is the central concept in economic thought, and it is at the heart of ENL's human logic. Two categories of value are generally recognized in economics: use-value (direct usefulness through consumption) and exchange-value (indirect usefulness through exchange). Because ENL is a guiding framework, and because exchange-value pertains primarily to the functional aspects of an economy, it recognizes use-value exclusively.

ENL differs sharply from standard economics in its interpretation of use-value. In standard thought, use-value is measured by subjective wants, insofar as this is expressed by the consumer's willingness and capacity to pay for an output. ENL rejects subjective value because wants are easily manipulated, and because consumers can express their wants only if they have enough money. On both counts, subjective value fails to accurately represent humankind's true needs and wants, and therefore cannot be the foundation for reliable economic guidance.

ENL's use-value concepts are derived from the work of John Ruskin, a 19th century art critic and social theorist. While Ruskin got many things wrong in his books on economics, he was correct in defining two types of use-value: intrinsic value and effectual value. Intrinsic value is the potential of an output to contribute to human well-being. Examples are the potential in vegetables to sustain the body, and in a coat to keep the body warm. Effectual value is the realization of this potential - the actual sustenance and warmth achieved through the eating and the wearing.

Intrinsic value (renamed "potential value" in ENL) is an important concept because it focuses on the objective effects of outputs on well-being. It therefore avoids the problems with subjective value noted above. Potential value is used in ENL to judge the quality of the outputs resulting from production.

Effectual value is a crucial idea because it forces us to recognize that outputs can be wasted (spoiled, lost, destroyed, etc.), thereby negating their contribution to well-being. As well, outputs can be distributed in ways that fail to realize their full potential. For example, two coats have the same potential value no matter how they are distributed between two people. However, their effectual value - their actual body-warming effect - will be roughly doubled if each person gets one coat instead of one person getting both. Effectual value is used in ENL to judge the quality of an output's distribution and consumption with respect to well-being.

Besides value, the other fundamental concept in economics is cost. Here too ENL makes a radical departure from conventional thought. In standard economics cost is synonymous with opportunity cost, which is defined as the value of the best forgone alternative in allocating inputs to production. ENL accepts opportunity cost as a valid measure of the sacrifice made in allocation, but points out that this excludes the damage to people and nature in production itself. ENL defines a second cost concept - input cost - to fill this immense and highly significant gap.

(It must be pointed out here that the portrayal of opportunity cost as a comprehensive cost concept is a resounding ideological triumph for standard economics. Through this artifice the discipline has convinced generations of economic thinkers that the sacrifice of prospective benefits in allocation should receive our utmost attention, while the lives being lost and the ecosystems being destroyed in production can be largely ignored. No sleight of hand on any stage has been so successful, or has been met with such boisterous and unwarranted applause.)

To summarize ENL's value and cost concepts: Potential value is the maximum capacity of a final output, over the duration of its useful existence, to increase well-being. Because outputs can also decrease well-being, potential value can be negative as well as positive. Effectual value is the actual well-being gained (or lost) from consuming an output. It incorporates the effects of distribution prior to consumption and satiation during consumption. On the cost side, the existing concept of opportunity cost is supported with respect to allocation choices, but input cost is introduced to capture the human and natural damage incurred during production.

ENL rejects money as the standard of value and cost, focusing instead on concrete well-being. This raises a difficult question: how can well-being be measured? The framework is intended to offer broad guidance at the social level, so the precision of money - which is necessary for quantifying competing interests at the individual level - is not required. Nevertheless, broad guidance requires at least rough quantification, which means that an alternative standard of value and cost must be defined.

The standard chosen by ENL is humankind's physical health, for the following reasons: Health has an objective basis in that it relates to our externally observable state, not to our internal feelings. It can be quantified through strength, flexibility, freedom from disease and injury, and many other readily accessible attributes. It puts rich and poor on the same plane and can be applied - possibly with some adjustments - to all societies and cultures. Numerous studies have shown that physical health is strongly impacted by our emotional states and stress conditions; it

therefore serves as an accurate proxy for general health. General health, in turn, is for most people the central aspect of happiness and well-being.

ENL recognizes that not all production decisions can be based on health results. A society may decide that this criterion fails to capture certain subjective benefits that enhance our lives, either immediately or in the future. Examples are food and clothing beyond strict health requirements, additional living space, entertainment, and scientific research. In such cases, new outputs can be justified, or the quantities of existing outputs can be increased, by social decisions. So long as ecological limits are fully respected, such production is accepted as socially-sanctioned wants.

The combination of objective health and socially-sanctioned wants appears to be the most enlightened approach to production and consumption decisions. The health criterion limits production, especially among the rich, thus reducing our ecological impact while increasing global equality. Social decisions provide the required flexibility by applying broad-based judgments to the enrichment of life. What is avoided here is the fatal error of basing production on individual decisions about their desires. As is now tragically apparent, this leads to gross inequalities and ecological disaster.

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The above should provide sufficient background for the reader to grasp ENL's core principles. These reiterate the fundamental concepts, and then apply them to the determination of key economic targets. Because trade, labor productivity, and efficiency are not easily summarized, they are omitted here. Please consult the book *Needs and Limits* for these topics, and for details on ENL as a whole.

ENL's Core Principles

The following are ENL's most fundamental principles, expressed in non-technical terms and simplified form.

1. Value is the objective effect of consumption on human beings, and is measured by physical health.

2. Cost is the objective effect of production on human beings. Because cost is the converse of value, it is also measured by physical health.

3. The optimum quantity for an output is reached when the marginal cost of its production equals the marginal value from its consumption.

4. An economy's environmental budgets are set by the maximum rates of habitat destruction, waste generation, and renewables utilization that do not result in environmental degradation.

5. An output's share of an environmental budget, called its budget share, is established by its relative contribution to health.

6. An output's ecological limit is reached when the output has exhausted its lowest budget share.

7. An output's target quantity is the lower of its optimum quantity and ecological limit.

8. An output may be produced beyond its target quantity in order to satisfy socially-sanctioned wants if its ecological limit is not violated.

9. The target rate for a natural flow is the minimum rate required by target output quantities at maximum ecological efficiencies.

10. A population's optimum level is reached when average health is maximized due to scale effects.

11. A population's target level is the lower of its optimum level and the area's carrying capacity.