

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. 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. But 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 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 is instead a strongly 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 assistance, 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 assist in setting 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 feasible 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 theories can be used to determine what taxes, regulations, corporate initiatives, or other actions are required to achieve it. ENL

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does not reject functional theories, but seeks to work cooperatively with them while minimizing their ideological influence and restricting their role to the operational sphere.

In a nutshell, 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 theories, 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, 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 regard 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 discrete spheres individually, 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 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, the use-value of an output is measured by the subjective wants of consumers, insofar as they are willing and able to pay. ENL rejects subjective value because wants are easily manipulated, and because consumers can express their wants only if they have sufficient cash to do so. 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 correctly defined 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

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value noted above. Potential value is used in ENL to judge the quality of outputs resulting from production.

Effectual value is also 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 an output's distribution and consumption.

Besides value, the other fundamental concept in economics is cost. Here too ENL departs radically 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. Although ENL accepts opportunity cost as a valid measure of allocation sacrifice, it 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.

The portrayal of opportunity cost as the comprehensive representation of cost is a continuing ideological triumph for standard economics. This artifice 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 drawn 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 retained with respect to allocation choices, but input cost is added 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.

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The choice of health as the standard of value and cost means that any production that increases a society's aggregate health and that remains within ecological limits is objectively legitimate. However, the framework 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 clearly enhance our lives, either immediately or in the future. Examples are food and clothing beyond strict health requirements, additional living space, entertainment, education, and scientific research. In such cases, new outputs can be justified, or the quantities of existing outputs can be increased, by social decisions. Such production is socially legitimate so long as ecological limits are fully respected.

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

The above introduction to ENL should provide sufficient background for the reader to grasp the framework's core principles. These reiterate the fundamental concepts, and then apply them to the determination of key economic objectives.

Because trade, productivity, and efficiency are not easily summarized, they are omitted from the list. Also omitted are subsidiary principles such as those relating to intermediate outputs and economic scale. Please consult the book *Needs and Limits* for these topics, and for details on ENL as a whole. For readability, the terminology below is somewhat simplified.

ENL's Core Principles

- 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 health contribution.
- 6.** An output's ecological limit is reached when the output has exhausted its lowest budget share.
- 7.** An output's rational quantity, called its target quantity, is the lower of its optimum quantity and its ecological limit.
- 8.** Production of outputs that increase health is objectively legitimate. Production of outputs that do not significantly affect health is socially legitimate if it is sanctioned by a social decision. However, any production that violates an ecological limit is illegitimate.
- 9.** The target rate of use for a natural flow (renewable and nonrenewable resources, habitat destruction, and wastes) is the minimum rate required by target output quantities at maximum ecological efficiencies.
- 10.** A population's optimum level is reached when its average health can be maximized due to scale effects.
- 11.** A population's ecological limit is reached when the economy that supports it has reached its ecological limit.
- 12.** A population's rational level, called its target level, is the lowest of three limits: its optimum level, its ecological limit, and the area's carrying capacity.