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Supporting well-being over time: Six kinds of capital required in a healthy economy

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It is recognized by many that, for humanity to emerge from the current mess of crises with a possibility of good lives in the future, the existing global economic system will need to change substantially. Many people are working to lay out visions for what such change might look like. In addition to a vision of the whole – a "new narrative" – we need new words and concepts to help us understand what is wrong with the current system, and to guide us in seeking change for the better. The purpose of this paper is to explore some concepts that may help to frame a vision of a healthy economy.

I will start with a brief definition of what economics is, as a discipline, and what it is supposed to be doing. I will then go onto the more complex questions of what an economy is, as a system, and what it is supposed to be doing. This necessarily includes a focus on goals. Section 3 will describe six kinds of capital resources that must be mobilized to keep an economy moving toward the well-being goals I have defined. Finally, I will discuss how economists can use the concepts of systems capital and meta-externalities to argue for reforming the economy to address the critical issues of the 21st century.

1. What is economics? What is the economy?

Economics is the study of the economy. Its purpose is to help people to understand what the economy is and how it works, in order that human efforts to steer or alter the economy in which they live will produce the desired results. (Note that "desired results" doesn't say anything about desired by whom – the absence of such a clarification is one of the great flaws of neoclassical economics. Here that question will be addressed in the definition of the goal of the economy.)

An economy is a system of social organization. It may operate at a variety of scales, from local to global. An anthropologist looking at any grouping of people (whether a small forest–dwelling tribe, a family, a city, or a nation) can identify the economy – the system – within which that group carries out the four principal types of economic activity. These are the **production, distribution**, and **consumption** of goods and services, as well as systems for **maintaining resources** used for these activities.

[1] https://www.bu.edu/eci/

In the 20th century, in capitalist economies, the first three of these activities were described as what markets do, and therefore assumed to cover the whole economy[2]. Such analyses gave insufficient attention to the importance of resource maintenance and even less attention to non-market activity. In fact, much of what is essential to human life and flourishing inevitably occurs with little or no monetary exchange. Thus it is important to understand that the market, or **business sphere** is only one part of any economy. The other major parts are the **core sphere**, where people in households and communities care for one another, especially for children and the infirm; and the **public purpose sphere**, where governments and not-for-profit organizations pursue, or are supposed to pursue, the common good.

Although an economy may come into being without anyone having full understanding of what is being created, it is a human construct. Rarely can a single person within an economic system have full control over how that economy functions, but neither are there immutable, abstract laws embedded within an economy, regardless of the social and the ecological contexts in which it occurs. Human psychology, along with the customs and mores of the society provides some parameters that make some economic behaviors more or less likely, but this is only part of the outline of what is possible, as well as what is desirable. Other critically important parameters are provided by the natural world, which puts limits on economic possibilities: water cannot be made to flow naturally uphill; given too much accumulation of greenhouse gasses in the atmosphere, over time every human economy will need to adjust to an increasingly unstable climate. Within these parameters, of **ecology, human nature, and social history and culture**, the economy emerges out of decisions made by the people within it. This emergence may be purely unconscious. It may also respond to what the human participants believe the goals of the economy should be.

2. What is (or should be) the purpose of an economy?

If we were to observe any economic system from a distance – imagining, for example, that we are anthropologists from another planet – we could probably describe what appear to be its goals, or desired results. Such anthropologists, looking at the impacts of the US economy, might conclude that its goal has been to deplete the fertility of the country's soil, the availability of its groundwater, and the diversity of plant and animal species within its borders and in the rest of the world.

No one has proposed these as the goals of our economic system; nor have they proposed a goal of increasing economic inequality, or of feelings of antagonism among various factions within the nation. It may in fact be difficult to find generally accepted goal statements that are closely related to the actual results. Standard economics textbooks in the US may say that the goal of the economy is to maximize utility, but they quickly go on to say that since utility can't be measured, consumption will be used as the proxy for utility; therefor the goal of the economy is to maximize consumption. Implicitly, since the quality of consumption also is difficult to measure, what is being maximized is the quantity of consumption. Given one more translation, this means maximizing the quantity of goods and services produced – with quantity defined in terms of the money value of that output. Indeed, our extraterrestrial anthropologist might agree that the results suggest that another goal of the US economy is to maximize the money value of goods and services produced.

[2] This fourth activity was introduced to the series of "In Context" texts (E.g. *Principles of Economics in Context*. See https://www.bu.edu/eci/education-materials/textbooks/) by one of my co-authors, noted feminist economist, Julie Nelson.

Is this a desirable goal for an economy?

If we recognize that the ecological and social crises overtaking humanity in the 21st century are closely related to economic systems that overtly focus on human beings in their role as consumers of goods and services produced through markets, how can we define the goals of a better economy? One reasonable proposal is that the goal of the economy should be to satisfy the basic needs of present and future generations of people, within the ecological planetary boundaries, and aligned with essential human ethics and values. It remains to be seen whether the global human productive capacity can do better than provide for basic human needs, when we are finally forced by nature – or, more optimistically, when good sense and a survival instinct prevail on modern societies – to restrict ourselves to ecological limits.

As a writer of economics textbooks I have gone out on an optimistic limb and used the term *well-being* to summarize reasonable economic goals that include but go beyond simple survival needs. I have stressed the dimension of time: we are not only interested in well-being for ourselves, at this instant in time, but also for our future selves, and for our descendants and other people in the future. Here is where it is necessary to emphasize the fourth critical economic activity, of maintaining the resources that are needed to carry out the other economic activities of production, distribution and consumption. In fact, Part 3 of this paper will delve more deeply into the question: what are the resources we need to maintain in order to preserve a healthy economy?

In addition to basic needs, people almost universally also seek things that they feel make life worth living. Within the ways to make human life possible and worth living there are some general goals that are widely accepted as desirable. Table 1.1, based on recent editions of the "In Context" texts (see footnote 1), offers one possible list of the final goals[3] of economic activity, summarizing the reflection of a number of thinkers, but not attempting to represent a full consensus. I believe it is worthwhile to spell out these components rather than simply falling back on a catchall term such as "well-being," so that discussions of the purpose of the economy, and of economics, can rise above abstractions.

How does this discussion of goals answer the question raised in the first paragraph of section 1, above: Who are the people whose desires should be reflected in the efforts of economics, as a science, to steer the economy? It is not hard to make a case that the present result, of maximizing the money value of goods and services produced, reflects quite well the desire (for profit) that motivates the holders of financial and produced capital. The money that is earned through such maximizing enables the holders of capital to achieve some of the goals listed in the table below, but many of the goals imply a harmonious, well-working society, and some (e.g., goals 6 and 10) are in direct opposition to the kind of society that results from economic pursuit of profit as an overriding goal. The answer to the question – whose desires should be reflected in the organization of an economy – is, evidently: everyone.

[3] Final goals are here distinguished from intermediate goals. For example, the possession of wealth is a common goal, but it is often understood to be a means toward almost any of the final goals listed in Table 1.

Table 1. A Potential List of Final Goals

1.	Satisfaction of basic physical needs, including nutrition and care adequate for survival, growth and health, as well as a comfortable living environment.
2.	Security: assurance that one's basic needs will continue to be met throughout all stages of life, as well as security against aggression or unjust persecution.
3.	Happiness: adequate opportunity to experience, reasonably often, feelings of contentment, pleasure, enjoyment and peace of mind.
4.	Opportunity to realize one's potential, including one's physical, intellectual, social, and spiritual potential.
5.	A sense of meaning: a purpose to one's life – a reason or purpose for one's activities.
6.	Fairness in the distribution of life possibilities, and fair and equal treatment by others and within social institutions.
7.	Freedom: the ability to make personal decisions while not infringing on the freedom of others.
8.	Participation: opportunity to participate in the processes in which decisions are made that affect oneself and the members of ones society.
9.	Good social relations: having satisfying, mutually respectful relations with friends, family, fellow citizens, and business associates, as well as peaceful relations among larger groups (such as nations).
10.	Ecological balance: protecting natural resources, and, where necessary, restoring them to a healthy state.

3. What does it take to move towards the goals of a healthy economy?

A healthy economy is one that operates so as to achieve its goals, with relatively little of the overall economic activity working against them. There are obviously a great many things that can be said about what it takes to achieve this; here I will only address one set of requirements. This refers to the fourth essential economic activity mentioned above: maintaining the resources required for the other activities of production, distribution, and consumption of goods and services.

This context brings into focus the capital stocks that produce productive flows. For something to be named, within the discipline of economics, a capital stock, it must have the potential to produce something that is economically desirable. Some people reasonably object to the use of terms that describe nature, human beings, or social groups in terms of their potential to produce something economically desirable. The fear is that when we speak of natural capital or human capital, we might

imply that nature, and human beings, are important *only* as productive resources. It is important to emphasize that these terms refer to much more limited subsets of the broader concepts with which they are linked.

With these cautions in mind, I will describe here the five kinds of capital that have become familiar, along with a sixth (systems capital) that is becoming increasingly essential in a world where the dominant economic system is destroying so much of its capital stocks.

- *Financial capital* is what people often think of first when we speak of "capital"; this is money, of various kinds. It facilitates economic production, but it is not itself productive until it is converted, via social systems of law and/or power, to the ownership or control of physical capital, both natural and produced.

- *Produced capital* consists of physical assets generated by applying human productive activities to natural capital. Produced capital may be understood as including embedded technologies; it is convenient to divide these into two types, ii or mm – *information-intensive* or *mostly material* technologies.[4] Given the deterioration in the global stock of natural capital (atmosphere, water, soil, species of plants and animals, etc.), information intensive technologies offer the hope of carrying on economic and other activities with less damaging effects on natural capital. Such technologies can be embodied in physical capital, as with a computer driven electrical system that uses only the amount of energy needed; or they can be disembodied, consisting of shared understandings and procedures for how to accomplish a task with minimum resource use.

- *Natural capital* is made up of the resources and ecosystem services of the natural world. Along with the expanding disasters of climate chaos, humanity faces critical challenges in the loss or severe damage of much natural capital.

The remaining three items on this list all have to do with how people, as individuals and in groups, accomplish valuable work. "Valuable work" may have obvious economic significance, such as building a business, or educating children, or organizing a system of voting; or it may be actions that people value, regardless of their economic significance, such as learning how to paint with watercolors, or organizing an amateur basketball competition, or winning a war.

- *Human capital* refers to the productive capacities of individuals, both inherited and acquired through education and training. They might include particular knowledge, learned skills, or in-born qualities, such as empathy, or the ability to do mathematics in your head. How could you become better at doing what you want to do – would this require taking lessons, or watching someone who is especially adept, or undertaking a course of therapy that would free you from some inhibition that was due to early life trauma? Any of these things might build your human capital. This is not intended to imply that human beings, and their capabilities, are of value only when they are used for economically valuable production. Rather the intention is to emphasize that things we value for other reasons may also be essential for the economic goals of surviving and thriving.

- *Social capital* consists of the stock of trust, mutual understanding, shared values and socially (as distinct from individually) held knowledge in a society or a social group. Our ability to

[4] I first introduced these terms in Goodwin, Neva R., "Lessons for the World from US Agriculture: Unbundling Technology" in *World Development*, January, 1991 Vol. 19 no. 1.

purchase something in a deli depends on mutually held trust that both the money and the sandwich will change hands, regardless of which is handed over first. An especially nice piece of social capital is seen when two lanes of traffic converge and the drivers take turns joining the merged line. (I have never known why this pattern endures in some places, and not in others.) Recognition of the idea and the importance of social capital by economists is fairly recent, becoming prominent through Robert Putnam's work,[5] and has been strengthened by the observation that variations in social capital across societies, such as tolerance for corruption, can help to explain some of the differences in their economic development.

- *Systems capital* refers to the qualities and relationships of economic actors within structured groups that allow these groups to work together for shared goals. It builds on the same stocks as social capital – trust, mutual understanding, shared values and socially held knowledge; however these stocks must not only be shared among individuals but also must be embedded and nurtured in organizations or political systems. If social capital supplies the notion that cooperation is worthwhile, systems capital is the ability of groups to cooperate and coordinate with other groups for the common good. The example I gave in a paper in which I introduced the concept of systems capital[6] was industrial ecology, which attempts to put producers (and to some extent consumers) into relationships (e.g., through physical proximity) that will allow economic systems to imitate ecological systems. Another example of systems capital would be the willingness of all, or most, sectors to work together to stave off the worst of climate change – and the ability of governments to ensure such cooperation.

Individual human capital, social capital, and systems capital – these three together refer to bundles of characteristics of people, individually, in communities, and in social or economic systems, that make it possible to provide for essential human needs and foster human well-being. Systems capital emphasizes goals not only for individuals, but for the common good. It is noteworthy that the core economy, of homes and communities, and the public purpose economy, of governments and not-for-profit organizations, are heavily involved in the creation and maintenance of these three types of capital. The business economy is much less involved in their creation – indeed, the only kinds of capital that it normally creates are financial and produced capital. But all three economies suffer when these capital stocks are degraded.

The relationship between systems capital, the newest member of this group, and social and human capital, deserves a little more teasing out. As one example, the ballooning of the financial sector, increasingly divorced from actual production of actual goods and services, is closely related to the increase of inequality that has been so well described by Thomas Piketty[7]. When inequality creates circumstances of extreme deprivation for some members of a society it degrades human capital; to the extent that it is viewed as unfair, it makes it harder to mobilize or defend systems capital, which requires a belief in a common purpose for all together in an economy.

I will elaborate more on another example, from agriculture. Some farming communities possess traditions that tell all farmers, in general terms, what to do to prevent soil exhaustion. One such tradition, found in both ancient and modern farming communities, is the idea of crop rotation. If a farmer continually plants the same kind of crop in the same field, over time the fertility of that soil is likely to

[5] Starting in 1993 with Putnam, Robert D., et al. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton, N.J.: Princeton University Press.

[6] See "Consumerism and the denial of values in economics". 2021, World Economics Association.

[7] Thomas Piketty, 2014, *Capital in the Twenty-First Century*, Harvard University Press

diminish. Rotating complementary crops – for example, alternating legumes with nitrogen-depleting crops – can significantly increase output. This can be achieved with no additional input except the immaterial input of knowledge. Why, then, was the practice widely ignored during the early period of modern industrial agriculture, and why is it being rediscovered today? An understanding of the ecology behind the efficacy of crop rotation could be thought of as a part of the *human capital* of the farmers who employ such practices. When the practice rests less on individual knowledge, and more on a set of community beliefs, these might be thought of as *social capital*. But in the United States the belief system in question went beyond mental constructs – it emerged as a part of a political/economic system, entwined with the *systems capital* of how business operates.

In 1914 Congress created the agricultural extension system which "helped make possible the American agricultural revolution."[8] As the businesses that produce and distribute food, seeds, and agricultural machinery and chemicals, morphed into huge monopolistic corporations, the prevailing understanding of "good farming practices" was distorted toward the benefit of major commercial interests, through networks of relationships and flows of money (e.g., research and other grants to the colleges responsible for training the extension agents). The education provided to farmers increasingly ignored older traditions of preserving healthy soil and water, as it worked to maximize sales and profits for these corporations, regardless of the impacts on farm workers or consumers.[9]

The *systems capital* in the original US agricultural extension system included such *human capital* elements as educated intelligence and knowledge. It built on the *social capital* of trust and shared understanding that allows people to accept educational leadership. It also began with a vision of a *social goal* – all the immediate and future benefits of "good farming practices" – that is larger than individual or firm success. That social vision is what was degraded and corrupted as the profit motive of the business sphere of the economy overtook the common good goals of the public purpose sphere, both in Congress and in the land grant colleges where "good farming practices" were codified and taught.

4. What do we learn from thinking about systems capital?

A focus on systems capital helps to crystalize a slowly growing public awareness: that *maximizing the money value of goods and services produced is not an appropriate goal for a society.* This radical idea is supported by looking, once more, at the relationship between goals and productive resources, pulling in the now familiar idea of externalities, but amplifying this to cover whole systems.

It is not generally the goal of economic activity to degrade the varieties of natural capital on which it depends, but this has been an outstanding side effect of the dominant economic systems of the world. Some of the side-effects with which humans are now contending may best be called **meta-externalities**: they are the unwanted side effects of a significant portion of the economic system as a whole on its physical and social contexts.

- The largest, most obvious meta-externality from the global human economy is climate change: no single country, business, or system of transportation is responsible for this disaster, but it is an unintended side-effect of, in this case, the whole system.

[8] https://www.nifa.usda.gov/about-nifa/how-we-work/extension/cooperative-extension-history

[9] For the 20th-century twist on this distortion see Fairbairn, M., 2020, *Fields of gold: Financing the global land rush*. Cornell University Press

- Another meta-externality is the decrease in respect for the idea of truth that apparently results when the algorithms of social media are designed to increase profits by arousing hatred and mistrust between groups and individuals.

- The emphasis given by the business sector at large, through advertising and media, to a lifestyle consumed by consumerism – to "having it all", or "I deserve the best" – has destructive impacts not only on the natural environment but also on the health and happiness of society[10].

Another way of understanding these meta-externalities is to see them as results of the loss of systems capital, where the system in question is capitalism, and its "capital" – the potential to produce well-being by increasing productivity to respond to human needs and wants – has been degraded by insufficiently restrained or regulated pursuit of profit. We can see the results in violent social disruptions, including armed conflict and mass migrations, along with spreading diseases, and disruptions in systems of education and governance – all this in the context of a severely degraded ecosystem – making it ever harder to mobilize and preserve resources to make a good life for the majority of the planet's eight million people.

In the core sector of an economy, and in much of the public purpose sector, resources are mobilized without needing to maximize the money value of what is produced. That reality should give some hints for how to implement this radical idea in the business sector – while perhaps also shrinking that sector to give more opportunities, and more support to the other two. What I hope to have done, in emphasizing the goals of an economy and the concepts of systems capital and meta-externalities, is to bring to economic studies some useful tools for perceiving and analyzing the largest view of the crises we are in, and for seeking constructive change.

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[10] See, e.g., Tim Kasser and Allen D. Kramer, eds. 2004, *Psychology and Consumer Culture; the struggle for a good life in a materialistic world*. The American Psychological Association, Washington, D.C.. Also Robert H. Frank, 2000, *Luxury Fever: Money and Happiness in an Era of Excess*. Princeton University Press