

“Growth vs. Sustainability?” Conference Overview Paper

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The goal of this conference is to encourage thinking about the changes required in macroeconomic theory if it is to provide constructive assistance for understanding, describing, and managing the world of the 21st century. During this century we face the likelihood of trends and events that will profoundly shake the social and economic systems of humankind. The clearest, most widely recognized trends have to do with the relation between the human population and the natural world. From all the ecological warnings a single message stands out: The human race cannot, collectively, continue to extract and process the amount of material and energy, or to dump the amount of byproducts, that it extracts, processes, and dumps at present. If this “throughput” of materials and energy does not decline, in aggregate, the Earth’s ecosystems will alter in ways that will provide less of what human societies need and want, and worsen the living and working conditions for most people around the globe. Yet this lesson runs directly counter to what much of the human race has come to expect.

Over the last century people have become accustomed to “change as the norm,” but still further adjustments may now be needed. The following are some expectations for change that became (more or less) widely accepted over the course of the 20th century, but that may now need to be revisited:

1. The human population will continue to grow rapidly – perhaps finally reaching some equilibrium at which it would stabilize. Rural areas will continue to empty out, as populations overwhelmingly make the transition from agricultural to industrial livelihoods.
2. People, at least those in countries that have industrialized, can expect each successive generation to enjoy greater comfort and affluence. Many people have generalized this to assume that the problem of poverty will recede throughout the world and/or that inequalities be reduced as the wealth of nations “converge” at a relatively wealthy level.
3. The assumption that population, industrialization, and wealth will grow without end has an obvious corollary: endlessly increasing use of natural resources, especially energy.
4. Globalization, like it or not, is here to stay, with all of its meanings, including ever-increasing cross-border exchange of ideas, of economic transactions, and of flows of people. Some of the major humanistic (or Enlightenment) ideas will also continue to become ever more widely accepted and implemented in the world; these include human rights and participatory democracy.

A few examples will be given here, and in some of the companion papers, of reasons to question these assumptions, and to seek macroeconomic theories and understandings that are better suited to the new realities.

Regarding the first point, right now more than 40% of the people in the world live in countries where fertility rates are at or below replacement. This includes all of Europe, as well as Japan and China. Most of these countries' populations are continuing to grow because of the overhang of people still in childbearing age – but by 2025 China's population will stop growing, then start shrinking, while by that time India's fertility rate is projected to have fallen to the replacement level. It is quite possible that the second half of this century will see the global human population declining overall. And it is more than likely that, within 20 years, large regions will be losing population. Shrinking populations will remove an important driver of economic growth that has been taken for granted (though worried over by Malthus and his heirs) for more than 200 years. Aging populations will have different needs, while increasing the ratio of the dependant population to the economically productive work force.

These demographic issues are discussed at some length in the companion paper on this site. That paper only briefly mentions that technology assuredly has a number of surprises in store for us. Some of these will open new possibilities (while closing some old ones) about how and where people work, and how the nature of work will affect other economic variables (including fertility choices). The industrial revolutions that have taken place over the last 250 years have consistently moved people from the country to the city, and from primary production to industry. A strong but slightly less consistent trend, whose effects are still hard to predict, may be seen in data for the last 40 years. As shown in Figure 3 in the paper on demographics, *the share of services in GDP* has, on average, gone up sharply in high and low income countries, while following a less clear trajectory in middle income countries. While the data points for *industry's share* in middle and low income countries may be interpreted as following, in earlier stages, the trajectory of those high income countries now described as “post-industrial,” this is not yet certain. What is even less certain is the nature of a possible future world in which most people make their living in service sector jobs.

Regarding the second and fourth assumptions above, some have proposed globalization of trade as the means to achieve overall reduction of poverty and inequality. However, as suggested in the companion paper on poverty and inequality, current trends do not project a future in which in these results are certain, or even very likely, in any foreseeable time period. A different kind of globalization involves a widening of human rights and democratic systems. Some theorists, such as Amartya Sen, and policy-makers such as Mary Robinson,¹ believe that this is the approach that has the best chance of bringing about the desired outcomes. While the World Bank, other multilateral institutions, and the nations who have signed on to the Millennium Development Goals, claim to believe this, and to be acting accordingly, the results are still disappointing.

Assumption #3, of endlessly increasing use of natural resources, especially energy, is one that will be examined in the first session of the conference; see also the papers on this site by Socolow and by Ackerman and Finlayson. Nearly all scientists working on

¹ Sen's thinking strongly influences the excerpts from the *Human Development Report, 2000*, included among the selections in the accompanying material on Human Rights and Development; another excerpt in that material summarizes Robinson's thinking on this topic.

environmental issues, as well as environmentalists from various parts of civil society, recognize the severe dangers of climate change, species extinction, water supply, and other urgent environmental issues now confronting the Earth and the human species. However, there is a large gap between the advocacy of such individuals and groups and the policies that are being developed in response. Academic economists have yet to formulate a comprehensive theory that can advise decision-makers about the deliberate changes that must be made if, as we believe, economic growth is on a collision path with ecological calamity.

While some nations have taken steps to reduce the rate of growth in greenhouse emissions, the measures taken so far have their primary effects at the micro-economic (firm or household level). Policies such as increasing energy efficiency or fuel economy standards, promoting non-carbon energy sources, etc., provide some emissions reduction, but do not alter the fundamental processes and effects of economic growth. What are less well understood are the macroeconomic ramifications of a shift from our present system to an as-yet-uncharted new one, whether planned or inadvertent.

While it may not be necessary that a sustainable economy be a no-growth economy, it is likely that any sort of growth that could be compatible with sustainability would be so different from the past as to make it necessary to make substantial changes in the concepts and vocabulary of macroeconomics. There is insufficient understanding of the larger macroeconomic issues of how aggregate production, consumption, growth, and job creation can accord with sustainability. Nor is there consensus on how to approach the very different situations in the global North, where it is evident (to many) that the economy's throughput of energy and materials must be dramatically reduced, versus that of the global South where economic growth – of some kind, and in some regions – is still necessary to lift much of the world out of poverty.

We need to consider whether, or under what circumstances, the same macroeconomic theories are equally valid for rich and poor countries. There are plenty of places on earth where the most basic final goals, such as getting enough to eat, seem to require economic growth – though questions remain open as to what kind of growth that should be. It is much easier to raise broad questions about the value of economic growth in the societies that have become rich enough to easily satisfy the basic needs of all their members. Julie Schor and Robert Frank² have written about the ways in which, in rich countries, *more* no longer necessarily equates with *better*. That could be defined as a micro observation – it is about individual well-being, and how it relates to material possessions. It places an important conceptual wedge between preference satisfaction – getting what one wants – and well-being outcomes. This is the King Midas story; when the king got his wish, to be able to turn anything into gold, he discovered that, in the course of attaining an intermediate goal, he had lost what he really wanted.

² Frank, Robert (1999), *Luxury Fever: Money and Happiness in an Era of Excess*. Princeton, NJ: Princeton University Press; Julie Schor and Betsy Taylor, *Sustainable Planet: Solutions for the 21st Century*. Boston, MA: Beacon Press.

Where basic needs cannot be satisfied, there is an evident need for economic growth, but even in the poorest regions there can be legitimate concerns about the Midas touch. It is right to question the value of wealth that is acquired, for example, by building shrimp ponds, when they kill mangroves that are essential to an ecosystem on which coastal people depend. Such cases immediately raise the question of who, in fact, is reaping the new wealth. Too often, the people who put up the capital for the shrimp ponds pocket the profits, and then leave when the ponds cease to be productive, while the indigenous people are worse off than before. That is obviously not an example of the kind of economic growth, or sustainable development, that most of us would want.

While thinking about this sort of issue, we need to query economic theory to understand why economic growth is so widely assumed to be essential for a “healthy” economy. What answers can be given to those who think that the conversation ends with the assumption that disaster would accompany any diversion from what we now know as economic growth?

We believe that the threat of global climate change and other irreversible forms of ecological damage carry a stark economic meaning: there must be dramatic changes in the economic systems that are now assumed and promoted in the industrialized world. These changes may come about

- because existing economic systems collapse under the effects of climate change and other ecological dangers (such as severe shortages of fresh water, or mutation and spread of harmful biota under various kinds of human pressure or assistance)
- or because the dangers are sufficiently well understood, and the means to avert them are sufficiently clear, that human societies choose to move to a new path before we are forced, by calamity, to do so.

A question whose answer will have enormous consequences for the human experience in coming decades (and, perhaps, centuries) is: which of these reasons will dominate, in altering the course of existing economic systems?

Many of the questions raised here are normative. Since individuals and societies behave as if they do have goals, it would seem reasonable to require of *economic theory* that it at least assist its users to recognize whether the *economic system* on which they depend is moving toward, or away from the goals of its members. This approach suggests that the major challenges to macroeconomics are to develop better knowledge and understanding about

- What kinds of growth can be environmentally and socially sustainable – avoiding the Midas touch
- What path(s) can be charted, to attain these desirable kinds of growth

The over-riding purpose of this conference is to suggest ways in which macroeconomic theory can be modified and adapted in response to these challenges. The paper, “*Growth vs. Sustainability? Critical Questions for Macroeconomics*,” continues this discussion.