NPG Negative Population Growth, Inc.

A No-Growth, Steady-State Economy Must Be Our Goal

An NPG Position Paper

by Donald Mann, President NPG

We originally published this NPG Position Paper in 2002. We have published it again because we believe that the problems it addresses are still very much with us, and that our recommended solutions are as pertinent now as they were then.

Executive Summary

1. *Economic growth in a finite world, which is the only world we have, is not sustainable. Sustainable economic growth is an oxymoron, a contradiction in terms.*
2. *In order to create a sustainable economy we must first discard the goal of macro economic growth and replace it with the goal of a no-growth, steady-state economy.*
3. *Even a steady-state economy, however, would need to be of a size relative to our ecosystem that would allow it to be in balance with our resources and environment, and thus be sustainable indefinitely.*
4. *Even if growth were halted now, the size of our present economy is too large to be sustainable. The scale of our economy needs first, therefore, to be reduced to a sustainable size and then maintained at that level.*
5. *The only way to reduce the size of our macro (aggregate, overall) economy while maintaining or even increasing per capita income is by a reduction in our numbers to an optimum, sustainable level. An optimum population size might be defined as that level which would permit the creation of a sustainable steady-state economy with an adequate standard of living for all.*
6. *Macro economic growth requires a growing labor force so that GNP can increase constantly. A growing labor force is only possible if population grows, and population growth in the U.S. depends largely on massive immigration. It is highly unlikely, therefore, that we will ever reduce immigration drastically (which we urgently need to do in order to achieve a smaller population) until we renounce the goal of economic growth and replace it with the goal of a steady-state economy.*

In this paper I will argue that in order to create a sustainable economy, and thus prevent the destruction of our environment and resources, and a drastic reduction in per capita income and our standard of living, we must renounce and discard the goal of macro economic growth (as distinct from per capita income). Even a steady-state economy, however, in order to be sustainable indefinitely, would need to be of a size relative to our ecosystem that would allow it to be in balance with our resources and environment.

We at NPG are convinced that such a steady-state U.S. economy, in order to be sustainable, would need to be far smaller than today's, which is clearly far too large to be sustainable for the long run. In order to reduce the size of our economy to a sustainable level (while at the same time maintaining or even increasing per capita income) we would need to reduce our U.S. population to a size far smaller than today's, and then stabilize it at that smaller level. A reduction in population would have the effect of reducing the size of our economy proportionately.

The size of our population and the size of our economy go hand in hand, since the latter is a function of numbers of people times per capita consumption. For example, with a U.S. population of 144 million (half our present size of 288 million) our economy, with the same per capita income, would be only half as large as today's. Our impact on our resources and environment would, of course, be only half as large as well, and so would our nation's emissions of the heat trapping gases that cause global warming.

Furthermore, urban sprawl and traffic congestion would be much alleviated, and would not be the steadily worsening major problems that they are today.

With a present population of 288 million (following an unprecedented increase of 33 million in the decade of the 90's) our nation is already vastly overpopulated in terms of the long range carrying capacity of its resources and environment. Our continued population growth, which shows no signs of abating, is driving us rapidly down the road to both environmental and economic disaster.

The Census Bureau "middle series" projects a 40% increase in U.S. population by 2050, and a doubling by 2100. **Most of that enormous and disastrous increase will be because of post-2000 immigration.** The Census Bureau "high projection" which is more likely if the present level of immigration is allowed to continue, is 1.2 billion in 2100, **more than four times the size of our present population.**

While massive immigration is the driving force behind our U.S. population growth, the fact that economic growth is our top-priority goal is the fundamental, underlying cause. That is because, according to the conventional wisdom, unending population growth is necessary in order to fuel perpetual material economic growth. Population growth, and with it the growth of our labor force, are looked on as indispensable to macro economic growth, as expressed by the Gross National Product (GNP). In the United States massive immigration is looked on as necessary for population growth.

It follows that we will never make a serious and sustained effort to halt our population growth — much less to halt and then reverse it — until we have renounced the goal of economic growth and replaced it with the goal of a steady-state economy.

The same holds true for immigration. We will never reduce legal immigration drastically, and halt illegal immigration completely, until we have discarded the goal of economic growth.

The growth of our economy, which is driven primarily by our population growth, is rapidly destroying our ecosystem and will, if left unchecked, eventually destroy the economy itself, since our economy is a subset of the ecosystem and dependent on it for its very existence. Without the ecosystem and the materials, energy and services it provides, our economy could no longer exist.

The conventional wisdom with respect to our U.S. economic growth can be described as follows: We need economic growth in order to improve our standard of living and the quality of our lives. A growing population is needed to fuel economic growth, and mass immigration is necessary in order to fuel population growth. It follows, therefore, that immigration is good because it is necessary for economic growth, the supreme good toward which we all must strive.

The following two excerpts from recent newspaper articles reflect that view:

In an article in *The New York Times* (February 16, 2001) commenting on the Bush-Fox meeting in Mexico the following statement was made without attribution: "An estimated 150,000 undocumented Mexican immigrants enter the United States each year. Their labor — in Florida orange groves, Georgia onion fields, Las Vegas hotels and Oregon nurseries — has fueled growth in many parts of the American economy."

In an article in *The New York Times* (April 11, 2001) the following statement was made without attribution: "The new illegal workers have helped sustain the state's buoyant economy, and economists and demographers acknowledge that without them, that economy and those of many other states could not have grown so fast." (The sub-title of the article, about Arizona, is "Illegal Immigration, Unrelenting, Has Put a Strain on Services.")

The largely unchallenged assumption, therefore, is that economic growth is good and that faster economic growth, forever and ever, is even better. We in the United States (along with the rest of the world) worship macro economic growth, the world's great secular religion. We worship it because we strongly, and wrongly, believe that such growth is necessary in order to improve our standard of living and the quality of our lives.

If a sustainable steady-state economy with a U.S. population of not over 150 million (as opposed to our present 288 million heading rapidly toward 400 million and more) were our top priority goal, we as a nation would be adamantly opposed to any increase in our population and there would be overwhelming support for a reduction in immigration to some small fraction of the present over one million each year. Immigration would be clearly seen for what it is — an impediment and an obstacle to achieving a smaller population and a sustainable steady-state economy, and with it an adequate and sustainable per capita income for all.

The balance of this paper will be divided into two sections. In the first section, on economic growth, I will try to examine what I believe to be the principal defects of the concept of economic growth. In the second section, on a steady-state economy, I will try to describe the benefits of a steady-state economy, and how we could achieve it.

Economic Growth

Terms defined: When speaking of economic growth I refer to **macro** economic growth; that is, the growth of the total overall economy usually defined as Gross National Product (GNP) as opposed to **per capita** economic growth, or per capita income. We believe the two opposing goals — growth of GNP and per capita economic growth — are inherently incompatible and inimical.

One of our basic themes is that macro economic growth, if left unchecked, will eventually diminish and then destroy the only thing that counts for each individual — per capita income. That is because macro economic growth will eventually destroy the very life support systems of our planet, upon which all economic activity is totally dependent.

A - The Unacceptably High Cost of Economic Growth

All human economic activity is destructive of the environment because of its inevitable and unavoidable by-products: resource depletion and production of waste and pollution. Those by-products can be mitigated, but not eliminated, by science and technology. The evidence is overwhelming that our economy is already far too large to be sustainable for the long run, and that further economic growth will only serve to lead us to disaster sooner rather than later.

For example, according to a World Wildlife Fund study published in October 2000 the natural wealth of the world's ecosystems has declined by a third over the past 30 years.

With our economy at its present size, we are in the process of destroying our ecosystem. The obvious and only solution is to reduce the over-all economy to a size that will be sustainable indefinitely and then stabilize it at that point so that it would become transformed into a non-growing, steady-state economy. Such an economy would require an optimum population size much smaller than today's, and would allow **per capita** income to be maintained, or continue to grow.

B - Macro Economic Growth Is Not Sustainable

The most obvious, and telling, criticism of the concept of perpetual economic growth is that it is simply an impossibility. Economic growth, in fact all economic activity, even in the age of information technology, requires inputs of materials and energy, and results in outputs of waste and pollution.

A simple concept — that of exponential growth and doubling times – proves that any material growth in a closed system (which is the finite planet we live on) cannot long continue. **The concept shows clearly that no resource, regardless of how vast, can withstand more than a very few doublings (Bartlett, 1978).**

Exponential growth can be described as the result of a constant annual growth rate applied to a constantly increasing base. Interest on a savings account is a good example. One of the characteristics of exponential growth is that, at a given rate of growth, the time it would take anything (e.g. money, energy use, the economy) to double in size can be fairly accurately calculated by dividing the constant annual growth rate into 70.

If our economy, and the input of materials and energy, and the output of waste and pollution required to support it, is growing at the rate of three percent annually, it would double in roughly 23 years (70 divided by 3). It would take, therefore, only 115 years to have doubled five times and be (if the world's resources and environment could possible allow such growth) a staggering 32 times larger than it is today!

Another five doublings would result in the absurdity of an economy over 1,000 times larger than today's. The assertion that no resource can possibly withstand more than a very few doublings cannot be successfully refuted, it can only be ignored and swept under the rug. The belief that economic growth can long continue flies in the face of logic, reason and common sense.

C - How Can Per Capita Income Be Maximized and Made Sustainable?

Only the creation of a steady-state economy will allow per capita income to be maximized and made sustainable indefinitely. In the world we live in, which is a world of limits, macro economic growth cannot possibly maximize per capita income in such a way that it will be sustainable indefinitely. That goal can only be achieved by a negative rate of population growth so that our economy can shrink to, and then be stabilized at, a size that will be sustainable indefinitely, and allow the creation of a steady-state economy.

Lindsey Grant (2000) has given us the formula for maximizing per capita income in a world of limits:

"The only way to reconcile the economic objective with the environmental constraint is to keep total economic activity within tolerable environmental limits. That is, decide first how large a pie the environment can tolerate. Then decide how big the individual slices (the standard of living) should be. Then divide the pie by the size of each slice. The result is the number of slices (the population) the system can support."

To Sum Up The Charges Against Economic Growth

I have argued that the cost of economic growth is unacceptably high because it is destroying our ecosystem, and it is not sustainable. Economic growth cannot possibly achieve what should be its central objective and raison d'etre — the maximization of per capita income in a way that would make it sustainable indefinitely. We turn now to the alternative to macro economic growth, the non-growing Steady-State economy.

The Steady-State Economy

Introduction - *Since the publication of his book titled* Toward A Steady-State Economy *in 1973 economist Herman Daly, has been the leading theorist of the steady-state economy. In this section I will quote extensively from his works. He is now Professor at the University of Maryland in College Park, MD.*

In contrast to classical economics, the concept of the steady-state economy recognizes that the economy is a sub-set of our ecosystem, and that our ecosystem is finite and non-growing. Again in contrast to classical economic theory it recognizes that there is an optimal scale for human economic activity, which must not exceed a size that will be sustainable indefinitely. It recognizes that there is an optimum size population, which cannot be exceeded in order for a sustainable steady-state economy to be created.

These concepts — our economy as a totally dependent sub-set of our finite ecosystem, an optimum scale of human economic activity, an optimum population size, and sustainability — which are some of the most important intellectual underpinnings of the concept of the steady-state economy, are totally foreign to classical economics with its curious belief in perpetual and unlimited economic growth.

Professor Daly writes (1996): "Sustainability has had a hard time breaking into economic theory because the economics of the past fifty years has been overwhelmingly devoted to economic growth. The term 'economic growth' has in practice meant growth in gross national product. All problems are to be solved, or at least ameliorated, by an ever-growing GNP. It is the only magnitude in all of economics that is expected to grow forever — never to reach an economic limit at which the marginal costs of further growth become greater than the marginal benefits. In microeconomics every enterprise has an optimal scale beyond which it should not grow. But when we aggregate all microeconomic units into the macroeconomy, the notion of an optimal scale, beyond which further growth becomes antieconomic, disappears completely!"

In this paper I will try to address only what I consider to be two of the central questions with regard to a steady-state economy:

How big should our macro economy (GNP) be relative to our ecosystem in order to be sustainable indefinitely, or for the very long term, while affording an adequate per capita income for all?

How could we go about creating such an economy?

How Big Should Our Economy Be?

How big should a U.S. steady-state economy be in order to be sustainable indefinitely, or for the very long term? It should not exceed a size that allows it to meet the following criteria, as set forth by Professor Daly (1990):

Output rule: Waste outputs should be within the natural absorptive capacities of the environment.

Input rules: (a) For renewable inputs, harvest rates should not exceed regeneration rates (nondepletion of the source services of natural capital). (b) For non-renewable inputs the rate of depletion should not exceed the rate at which renewable substitutes can be developed.

Those are indeed rigorous criteria, but sustainability could not be achieved with anything less demanding. It is clear that the present level of economic activity cannot long be sustained without causing permanent and irreparable damage to our environment and resources.

The preponderance of evidence clearly indicates that the size of our economy, in order to be sustainable, would need to be substantially smaller than its present size. The direction we need to move in, therefore, is clear, even if a specific numerical target cannot be defined with scientific precision.

In fact a scientifically precise calculation that would pinpoint with absolute certainly a sustainable size for either the economy or for population may well be unattainable. Fortunately, we do not need scientific precision before taking action. In most social and political areas we must make decisions based on imperfect knowledge, while applying the rule of prudence. The same holds true for economics and population.

How Could We Create A Sustainable Steady-State Economy?

I have argued that a sustainable U.S. economy would need to be far smaller than our present one, in order to be sustainable indefinitely. In theory, such a smaller economy could be achieved in only one of two ways, since only two variables are involved: numbers of people (population size) and per capita consumption. One or the other, or some combination of the two, would have to be reduced.

Let us suppose that there is a national consensus that our GNP would need to be reduced by half in order to achieve sustainability. How could that reduction be achieved?

We could maintain the size of our population, and reduce per capita income by 50%.

We could reduce the size of our population so that per capita income could be maintained, or even increased.

Assuming that we chose to maintain per capita income at the present level and reduce our population size by roughly half in a gradual, orderly way, would that be feasible? Yes, it would be. We would only need to reduce immigration to not over 100,000 a year, together with a moderate reduction in our fertility, for our population to soon stop growing and begin a slow decline. It would probably take a century or so for our U.S. population to be reduced to not over 150 million, a size that we at NPG judge might well be sustainable indefinitely.

Summing Up

The central arguments I have tried to present in this paper are as follows:

In a world of limits, macro economic growth, if left unchecked, will continue to do irreparable damage to our environment, and diminish or destroy its capacity to provide the sinks, materials, energy and services necessary to support an industrial society. Economic growth is not sustainable.

Since we live in a world of limits, macro economic growth cannot possibly maximize per capita income in a way that would be sustainable. On the contrary, in the long run it would surely greatly diminish or even utterly destroy per capita income, the very thing that, to maximize, is its very raison d'etre.

The only way to maximize per capita income and make it sustainable is to create a steady-state economy by reducing population to a sustainable level. Population size is, without any question, the key variable.

Mainstream economic theory is directly responsible for our disastrous population growth. That is because of its core beliefs that economic growth is necessary for the growth of per capita income, that population growth and the growth of the labor force are necessary for macro economic growth, and that massive immigration is necessary for the continued growth of our population and labor force.

NOTES

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