NPG Negative Population Growth, Inc.

CAPITALISM: GROWTH, GREED AND COLLAPSE

An NPG Forum Paper

by Lindsey Grant

> ***"Anyone who believes exponential growth can go on forever in a finite world is either a madman or an economist."***
>
> – Economist Kenneth Boulding, 1977

If there were one message I could imprint on the American mind, it would be this: Perpetual physical growth is impossible on a finite planet.... the question inescapably becomes, not should human growth stop? but when? How should it stop? by conscious efforts to limit fertility, or by rising mortality?... The distinguishing characteristic of this century is that growth has reached the point at which this choice has become an immediate issue. ***(Juggernaut: Growth on a Finite Planet, 1996)***

I wrote that paragraph 18 years ago, and the only change I would now make is to change the tense. Deploying the techniques of Capitalism and new technologies in food production and public health, we have engineered an astounding growth in human populations and their demands on Earth's resources. We have entered the zone of overshoot, in which those resources are insufficient to maintain the populations dependent upon them, and human overload is damaging the biosphere and reducing the Earth's capacity to support us and other creatures.

In humans' brief time on Earth, various civilizations have experienced Darwinian growth, and crashed when they ran down or ran through their resources. None have grown so spectacularly as the world-wide system of Capitalism, none of them systematically structured themselves to pursue growth, as Capitalism has done, and none have faced a systemic collapse as total as the world economy now faces.

CAPITALISM AND GROWTH

Capitalism dates from the 1700s. Its unique institutions are private ownership of the means of production for private profit, and a labor market working for the capitalists for hourly wages. That structure freed the capitalists from any obligation to labor other than the payment of whatever wage the market required, and it generated a hostile class confrontation. However, it also organized the industrial revolution, led to the effective employment of new technologies: steam power, and then electricity and commercial agriculture. The capitalists sought free trade to create larger markets and open new sources of food and raw materials. Economies of scale brought improved managerial techniques. Together, the innovations led to a period of growth unlike anything in previous history, and those who prospered came to believe in growth as the natural order of society.

Population growth took off at the same time. The curve has been astonishing. From about 500 million in 1700, world population has now passed 7.1 billion, a thirteen-fold growth in twelve generations – and 85% of that growth has occurred since 1900.

As its money and political power grew, Capitalism created the legal system and the machinery to drive growth without the acceptance of its limits. The institutions of capitalism are designed to promote economic growth, and they succeeded.

- The limited liability corporation loads the odds in favor of the entrepreneur who takes risks in the pursuit of growth. If he fails, he loses only the money he put in the corporation, and usually not all of that.
- Starting in 1933, the major governments of the world abandoned the gold standard and

with it the principal restraint on the formation of capital. Money is now created by fiat at the whim of governments and central banks. ("QE" – quantitative easing – is the current euphemism for the machinery whereby the Fed has been creating money and pumping it into the business sector – $1 trillion per year, created out of thin air.) Capital is no longer the limiting factor in investment. The only proximate constraint is the question: does the proposal promise high profits to the money lenders?

- The modern banking system rests upon leverage – the ability to issue more money in loans than the banks possess. Even regulated banks are allowed leverage of 5:1 of more, and there are essentially no controls on private banks other than their ability to find borrowers.
- The U.S. tax system is rigged to impose lower taxes on capital gains than on regular income, thus creating the situation that Warren Buffet recently described: he is one of the richest people in the country, and his tax rate is lower than his secretary's.
- Even the fear of inflation does not deter the sturdy capitalist. The Fed and other central banks welcome inflation up to a point – usually 2 or 4% per annum -- because it enables risk takers (and Treasuries) to pay off their debts in depreciated money, even as it systematically devalues the wealth of the cautious investor.

Add to that various Supreme Court decisions, notably Citizens United in 2010 that have allowed companies to pump money into political campaigns and thereby influence legislation.

The profit motive leads to overbuilding, because there is more profit to be made in tearing down and building anew than in maintenance. The capitalist has an interest in population growth because it means larger markets, cheaper labor, and new construction. Growing populations need more schools, roads, bridges and other infrastructure.

The system is essentially a series of inverted pyramids, and as unstable as that metaphor suggests. It was designed for growth, not for stability. We learn that from time to time, most recently in 2008. There is a self-evident reason for its existence: it serves the powerful. Economic Establishments everywhere have a stake in it. Every major national and international meeting on economic policy calls for more growth, as do the economists who serve them. It has been enormously profitable for Establishments, and greed urges them to keep the faith. The enthusiasm crosses party lines.

Even John Maynard Keynes called "The Problem of Population... the greatest of all social issues...", and castigated the "avarice and usury and precaution" that drive Capitalism.[1]

What worked at the beginning failed with the growth of the system itself.

CRACKS IN THE EDIFICE

The benefits of Capitalism turned sour as its scale and power grew. The fatal flaw was that the system depended upon the ever-increasing use of natural resources – which are finite – and upon the intentional or inadvertent destruction of life systems – which may be essential to humans -- to support its own growth.

As to the use of resources: petroleum fueled the dramatic growth of the 20th Century, and it is the most conspicuous example of resource depletion. From 1950 to 1970, U.S. consumption of petroleum rose more than 4% per year. At that rate it would be 92 million barrels/day by now – five times our actual present consumption. It would have reached the absurdity of 1.3 billion barrels/day in another 63 years. We were warned. In 1953, petroleum geologist M. King Hubbert predicted that U.S. crude oil production would peak in 1970, at the latest. It did peak, right on schedule. Alaskan oil did not save us, nor will fracking. We have changed the definition of "petroleum" by adding natural gas liquids and biofuels to crude oil, but even by that definition per capita petroleum consumption has fallen to 70% of its 1978 peak. The U..S. has gone from the illusion of plenty to the reality of Peak Oil, and other countries are following similar trajectories.

Petroleum is hardly unique. Christopher Clugston in his new book Scarcity studied 89 of the non-renewable, non-energy minerals tracked by the USGS and concluded that 63 of them are already scarce, worldwide. His calculations were conservative. At some time, the use of any non-renewable resource will taper off as the cost of extracting it rises. We had better learn a lot, very quickly, about recycling.

Banks and governments can create fiat money, but

they cannot reverse that downward curve of mineral accessibility. Growth apologists take refuge in the myth of "infinite substitutability". In this case, resources being short and capital infinitely expansible, they argue that capital can be substituted for resources, or for labor in the form of automation. (And then they fire the workers.) However, Herman Daly, a more prudent economist, points out that you cannot maintain lumber production by building more lumber mills after you have cut the forest down. Resources and capital are complementary inputs, not substitutes.

Indeed, capital can be used to buy mines and land, and to grow trees. The problem is that, with increasing scarcities, the capital buys less and less. There is a name for that phenomenon: inflation.

Fresh water resources are on the borderline between renewable and non-renewable. Try to name a substitute. Don't name "salt water", because desalination requires a lot of energy, and energy is getting scarcer and more expensive. There is no meaningful substitute for fresh water.

As to our disturbance of natural systems: we dispose of wastes without regard to the harm they do – until they pollute the air, water and the land. Rising human activity changes natural systems. Watch the climate change, with deeper droughts and wilder storms, acidification of the oceans, and intense heat in lower latitudes as we capture more solar energy. Think of the loss of natural forests, or the degrading of soils under modern commercial agriculture, or urban growth supplanting farmland and natural grasslands.

We must reverse human degradation of the biosphere. Humans are causing one of the major extinction events in the history of life on the planet.

Those realities have begun to show up in the U.S. economy since the 1970s. We are running on momentum.

- Real hourly wages are now slightly below those of the 1970s, and households have maintained their living style only with rising debt. U.S. GDP, adjusted for inflation, has managed to stay just ahead of population growth, but the progress is illusory, because all the income growth has gone to the wealthiest 1% of families.
- We have moved from the production of real goods to low-wage "services", and to the financial sector, much of which is of little benefit except to the gamblers involved. Manufacturing employment has declined 39% since 1978.
- Food, raw materials, minerals and energy prices have surged in the past decade, despite a major crash and a sluggish economy. They are pulling the consumer price index upward.
- As a nation, we have moved from the world's largest creditor to its largest debtor.
- A growing economy requires a growing infrastructure, and we are not maintaining what we have.
- Unemployment is the worst immediate problem, because it destroys people's sense of a meaningful role in society. Forget the conventional unemployment statistics. The real issue is how many people have jobs. We are in the midst of a crisis. Employment peaked at 146 million in 2007, dropped in 2008 and is now back up to142 million. Our pundits applaud any increase in the number, but they forget that we must keep running to stay in the same place. The civilian population over 16 years old has risen 12 million since 2007. The percentage employed has dropped from 63% to 58.6%, which suggests that we need 10 million new jobs to match the employment level of 2007.
- That, and the growing income gap, have led to rising resentment of the rich. In 1928, the top 1% of income earners received 23.9% of all income. That declined steadily for decades, until in 1975 the figure was down to 8.9%. In other words, wage earners were getting more of a growing pie. It was a quiet, massive social revolution, started by the New Deal. That turned around in the Reagan years, and by 2007 the top 1% were back up to 23.5% of total income.2 After a brief dip in 2008, it is back to that level, and still rising. And the distribution of wealth is much more skewed than income.

How have our "leaders" dealt with it? By promoting "immigration reform" that seeks to bring in more labor to compete for scarce jobs and thus push wages down and unemployment up. Precisely the wrong "solution" for a huge problem. We need to bring the supply of labor back down in line with the demand.

A QUESTION OF FOOD

The present problems are just the beginning. Worldwide, the most pressing single issue is food. A world population of 7.1 billion is now supported by the same acreage of arable land that supported 2.5 billion in 1950. How? Primarily because we had learned to use fossil fuel to extract nitrogen from the air for fertilizer. We found massive deposits of phosphates in Morocco and Florida, and potash in Canada. We used pumps to exploit groundwater aquifers, and irrigation multiplied. We launched the "green revolution" with new crop strains.

We are running out of those solutions. They are drying up (literally, in the case of water.) Without those inputs, the "green revolution" withers away. Climate change threatens food production. Without fossil fuels, we will need to use more arable land for draft animals and fertilizer.

Unless human populations can be brought down as food supplies decline, we face starvation. Something may turn up, as Mr. Micawber used to say, but don't bet on it. Scientists have been seeking new ways to maintain food output, such as nitrogen-fixing microbes on grains, but after 60 years they have not succeeded.

As a rule of thumb, one might look at the population the Earth supported before the spread of those technical innovations. The answer: less than 2.5 billion. That might be a good target, assuming that the damage we have done since then cancels out the gains we have made in plant breeding. It may still be too high, if soil productivity cannot be maintained at that level, or if we encounter some incalculable threats – think of the Irish Famine.

Food is only one issue. For another one: the shift from fossil to renewable energy will require investments unprecedented in human history, and in a time of rising raw material and energy prices.

We are facing a world in turmoil as the competition grows for diminishing resources and jobs. The interminable wars in East Africa and the Middle East are regarded as ethnic or religious conflicts, but they are generated at least in part by economic desperation. They may be the models for the next century. The Syrian civil war was triggered by a drought.

THE FINITE EARTH PARADIGM

We badly need a completely new view of humankind on Earth. We must diminish our disturbance of Earth systems, not multiply it. Fewer people. Leaner economies. Action on anthropogenic climate change. Only by accepting and adopting the vision of a finite Earth can we save the human tribe from an increasingly desperate future.

Such changes are unimaginable without a dramatic shift from the unbridled pursuit of individual gain, with its intensifying class and group antagonisms, to an ethical belief system that puts the sense of community above greed, and well-being above growth. And the community is the living Earth.

FROM TURMOIL, A DISTANT HOPE

It is probably too late to avoid a time of chaos Unemployment will probably get worse, and there is little prospect of avoiding a food calamity until – one way or another – populations decline along with food production.

But things have been tough before, and people have lived through it. Humans make a lot of mistakes, but we do learn – slowly. Worldwide, the average total fertility rate has declined from 5.0 children to 2.4 in 60 years. That is remarkable evidence that – even without governmental "leadership" – people can learn to adjust to an urbanizing world in which children are a financial burden rather than an asset. That decline must continue.

The problem here is that we have still learned only half the solution. Many of the poorest countries, mostly in Africa, still have fertility rates of five or more children. The U.N. Population Division in 2011 projected that the 58 "high fertility" countries' population will rise from 1.2 billion now to 4.2 billion by 2100, and from 18% of world population to 42% – and even that calculation requires an heroic decline in fertility from 4.9 children to 2.1 by 2100. I don't think the numbers will get there, or anywhere near it, because starvation will drive mortality up. Those people will be desperate to migrate to less impoverished lands.

What can we do to avoid being inundated by immigration? The issue is particularly poignant if we develop a sense of community, and the Earth is the community. Do we allow a portion of the world's people to starve? Can we prevent it? Or do we starve with them? Can they learn to manage their own fertility, very quickly? We can try (as we have tried) to help them to pursue lower fertility. But it is hugely

difficult to undertake such social engineering in societies that are close to anarchy. And the prosperous countries are going to be in deep trouble, themselves, in the coming century.

Migration will not solve the problems; it will cause them to metastasize. The more prosperous nations may well decide to protect ourselves by defending our borders, but it would be a heartrending and partial solution.

As I said: tumultuous times.

What I have to offer may seem thoroughly unsatisfactory to many readers, but it may be the best we can do. Think very long term, and don't be mired in despair. We may be in for troubled times, but it may teach us to move on to a new balance with the Earth. Given the damage we are doing to our support systems, that balance may require a world population of one billion or less, not 2.5 billion. We were there before, three centuries ago, and in retrospect it looks like a livable number. It might be rather pleasant, after our present overcrowded condition. I would add that that level could be truly sustainable. The human extraction of minerals and fossil energy was, by modern standards, negligible in 1700.

I don't imagine that human nature is going to change, but there is some evidence that we can learn. We need to learn to think as a community and recognize our shared interest in reversing the growth that threatens all of us.

Ω

NOTES

1. See the Preface to Harold Wright, **Population** (Harcourt, Brace, 1923) and **Juggernaut**, p. 231. The conflict between immediate individual interest and altruism is not new. See Chapter 15 of **Juggernaut**. The Buddha, some 25 centuries ago, identified greed (tanhu) as the principal source of human misery.
2. Former Labor Secretary Robert B. Reich, "The Limping Middle Class", New York Times 9-13-2011, from Bureau of Labor Statistics data.

About the author: Lindsey Grant is a writer and former Deputy Assistant Secretary of State for Environment and Population.

His books include: *VALEDICTORY: The Age Of Overshoot, The Collapsing Bubble: Growth and Fossil Energy, The Case for Fewer People: The NPG Forum Papers* (editor), *Too Many People: The Case for Reversing Growth, Juggernaut: Growth on a Finite Planet, How Many Americans?, Elephants in the Volkswagen,* and *Foresight and National Decisions: the Horseman and the Bureaucrat.*

The views expressed by the author do not necessarily reflect those of NPG.

This Forum, as well as other NPG publications, can be found on our website at **www.NPG.org**.

NPG is a national membership organization founded in 1972. Annual dues are $30 and are tax-deductible to the extent the law allows. Please write or call for a list of available publications.

Negative Population Growth

Negative Population Growth, Inc.
2861 Duke Street, Suite 36
Alexandria, VA 22314

Voice: (703) 370-9510
Fax: (703) 370-9514
email: **npg@npg.org**
www.NPG.org

SIGN UP TODAY AT WWW.NPG.ORG
FOR OUR NEW INTERNET *NPG JOURNAL*!