

Cultural lag and limits to growth



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Joel Magnuson considers some of the solutions that have been put forward in the face of economic and environmental crisis, and argues that solutions framed from within the old paradigm will not work. So-called 'win/win' situations from the green economics school do not take into account the finite resources of the planet.

IT seems that the current ecological and social crises that are looming all around are compelling us to find new meaning and definition in our discourse. As many of us are looking for ways to redefine the meaning of 'entrepreneurship' or 'capital' or 'sustainability' or 'economic growth' it might be helpful to reflect deeply on our intentions. As we search for new meaning, does this reflect a genuine desire to develop new habits of thought and new institutions? Or are we merely seeking ways to adapt our old habits and institutions to new conditions? Our deeply entrenched practice of spinning endlessly on the production-consumption treadmill is eventually going to end. The immutable natural and physical limits to growth, particularly the diminishing resource base of our planet, will make certain of this. Given this certainty we are going to have little choice but to break out of our old habits of production and consumption as well, and adapt to this inherited condition of greater scarcity. Yet our very cultures compel us to resist. Lip service and pretence substitute for serious discourse and this only serves to keep us lagging behind the rapidly changing conditions around us.

True sustainability has to be defined in terms of making our production and consumption habits permanently situated within the carrying capacity of our planet. It is no surprise that people resist this because the expectation of an eternal accumulation of wealth has become so familiar to us in the West that most of us have never tried imagining it being any other way. The drive for economic growth is not only a part of how our economic system works, it is a firmly established cultural norm.

Cultural norms, however, are not always healthy nor are they always grounded in reality. Is it truly valid to expect that just because the market value of stocks and bonds have always grown in the past, that they will continue to do so in the future? Is it valid for a person to say that since he grew from 0 to 6 feet tall in the first 20 years of his life, he can expect to grow to 12 feet tall in another 20 years? And grow to 24 feet after that? Human bodies have natural limits to growth and so do economies, though in our culture we tend to believe otherwise.

We believe in this because the endless accumulation of money is a very alluring idea. People pour trillions into pension funds, hedge funds, mutual funds, etc., because of the promise that these investments are going to continuously appreciate in value and will provide for us in our retirement, or pay for our children's education. If the grandparents of a newborn child created a £12,000 trust fund on the day the child was born on the condition that the money was to remain invested in the stock market until the child grows up and retires at the age of 65, all the while earning that annual 7 percent real return, the trust fund would be worth nearly a million pounds at retirement. The child could look forward to becoming a successful millionaire at retirement without ever lifting a finger. In our culture, we say that money does not grow on trees; rather it grows in the bank toward an infinite horizon of financial wealth.

By the same logic and cultural norms, businesses expect their earnings to grow and working people expect their pay cheques to grow. For all this growth in money and financial wealth to be appreciable or meaningful to people, the amount of stuff you can buy with the money must also grow—real economic growth. These expectations normalise the growth in real production and consumption because the things you can buy with accumulated money are ultimately the true measure of economic value. Yet ongoing economic growth is not possible. To get a perspective on this, consider economic growth in the United States.

According to the number-crunchers at the Social Security Administration, the US economy is forecast to grow by about 2.2 percent annually, adjusted for inflation, over the next several decades. Though 2.2 percent seems modest, and perhaps even conservative, it is an exponential growth rate. Exponential growth means that the things we produce will accumulate like a rolling snowball and at a 2.2 percent annual growth rate that

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snowball doubles in size approximately every 33 years. So that newborn child with the trust fund should see the US economy grow from today's \$14 trillion to \$28 trillion in the first 33 years of its life, and then to \$56 trillion by retirement. \$56 trillion is larger than the economy of the entire world today. And then it will double again to \$112 trillion in the next 33 years.

Of course the finite resources of our planet, particularly oil, will render this impossible. While every economy in the world is plunging deeply into debt in a mad scramble for economic expansion, the resource base of the planet is moving in the other direction. Long before the US economy doubles or triples in size, the resources that have up to now been supporting growth will collapse under the sheer weight of it. We will reach a turning point at which the same mathematics of growth will turn into the mathematics of decay. In fact, with peak oil we are entering into that turning point right now.

So this leaves us at an impasse: our cultures and expectations about money drive continuous economic growth, yet the finite resources of the planet are making its continuation impossible. This discord between our culturally embedded habits of mind and the physical condition of our planet represents a lag in consciousness. This lag in consciousness has merged with contemporary economic discourse to spawn the fantasy of ‘green economics.’

Rethinking green economics

On both sides of the Atlantic it has become quite fashionable to talk about ‘sustainable growth,’ ‘natural capitalism,’ ‘green collar capitalism,’ or ‘triple bottom line accounting’. Economists as well as business and political leaders are extremely reluctant to let go of conventional business models and institutions. Rather than face the reality of limits to growth, they have created a fantasy world that promises both ecological sustainability and business as usual. The allure stems from the promise that going green can be fun, easy, and most important of all, profitable. This classic win-win proposition is comforting for people to hear as it suggests that we do not have to change our habits or our cultural expectations about what our economy is supposed to do. It is a strange contradiction to assert that the very same growth-driven institutions that have brought us to the brink of ecological ruin are somehow going to bring long-term ecological sustainability. Green economics is dangerously myopic and potentially gives people a false sense of what is possible.

The fallacy of ‘green energy’

As an example consider ‘green energy.’ Renewable energy is the crown jewel of green economics. It is completely reasonable to contend that a sustainable future depends on harnessing clean and renewable energy sources. But if environmental economists proclaim that solar, wind, and biofuels are going propel America’s \$14 trillion-dollar growth machine into the future, they are truly living in the make-believe world. Each day Americans burn about 21 million barrels of oil, 2.7 million tons of coal, and 63 billion cubic feet of natural gas. Currently over 84 percent of US total energy use comes from these fossil fuels, another 8.5 percent is from nuclear, and only 7.3 percent comes from renewable sources. The main issue here is scale. It is possible to harness clean energy, but severe physical and financial bottlenecks will prevent us from using it at the scale we currently use fossil fuels. If we tried, the ecological and economic damage that would follow would be devastating: topsoil ruination, deforestation, water shortages, further depletion of just about all resources, and perhaps worst of all, food shortages.

One key difference between fossil and renewable energy is that fossil fuels are dense and ready-to-go sources and renewables are not. Renewable energy has to be produced from something else and that requires building massive and expensive infrastructure such as solar arrays, wind farms, new transmission systems, and biofuel conversion plants. In the case of biofuels, it takes much land, water and energy to get a relatively small amount of energy back.

A recent report by economists at the International Panel on Climate Change (IPCC) projected a number of different scenarios for our energy future. The most optimistic of which is an estimate that renewable energy could potentially make up about 80 percent of the world’s energy consumption by 2050. Their forecast is based on two basic trajectories: the steady decline of fossils and the steady decline in the cost of renewables. The assumption is that as technology and innovation in renewable energy develop, costs will fall and renewable energy will become more cost effective. What is unclear in the report, however, is exactly how much energy overall will be consumed by mid-century. It might be possible to have renewables make up 80 of our energy consumption if we cut back that consumption to a quarter of what we use today. They also seem to be forgetting that renewable

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energy has a low energy rate of return and the infrastructure is itself is built out of scarce resources. For these reasons it is unrealistic to assume that the costs will steadily decline for decades to come. But even with their most glowing optimism, the IPCC economists contend that merely to jump start something like a renewable energy revolution would cost somewhere between \$3 and \$12 trillion. It would cost trillions more to build this infrastructure up to the scale with which we currently use fossil fuels. The question, therefore, remains: how much damage would we do trying to grow our economies fast enough?

Let’s be optimistic and say that over the next few decades it would require about \$20 trillion in various biofuel, wind, and solar infrastructure development to get to the scale we now burn in fossil fuels. The most important question is how to raise that much capital. It is unlikely that we could borrow that much from other creditor nations because there is not that much capital available for us to borrow as countries around the world are struggling with their own debt problems. Coming up with \$20 trillion in new capital would have to be siphoned off as national savings from income generated through the regular business of producing and consuming things. National savings is a combination of retained business profits, the savings of individual people, and public savings in the form of government taxation.

One problem currently is that the national savings rate in the US is negative. This means that not only are we not generating new capital, we are actually losing capital with each passing year. If this were to change and we returned to the robust 5 percent rate that it was in the 1990s, how fast would the economy have to grow and for how long before we accumulated \$20 trillion in new capital? If we held to the Social Security Administration’s estimate of 2.2 percent annual growth and put all of the 5 percent national savings into a trust fund, it would take about 23 years of continuous growth and nearly all that growth would be powered by fossil fuels. This is, of course, precisely what we cannot do. The reason we cannot is because we have already passed the threshold of peak oil and the resource foundation that would support growth will be declining steadily throughout those 23 years. This is the central contradiction that represents the absurdity of the win-win promises of green economics.

Seeking real solutions

The long-term solution is the one that people in Western cultures generally do not want to hear. To achieve true ecological permanence in a way that is also socially just, humans will have to get by with much less production and consumption. There is no question that we can continue building solar arrays, wind farms, biofuel conversion plants, carbon scrubbers, hybrid or electric vehicles, and all the other accoutrements of a green economy. This work can generate good paying jobs as promised and can make returns to investments that will provide capital for further growth. But this can only be done on a very small scale and for only those who already have a surplus of capital to draw from. Otherwise, with a shrinking resource base, any new economic growth would be zero sum growth, which means it will create more prosperity for some and worsen the conditions of poverty for others.

Making a real transition to justice and sustainability must be predicated on breaking loose from our conventional habits of mind and expectations. Rather than pushing for more expansion, communities everywhere must adjust to energy descent and this is a direct challenge to the growth driven system of the last 200 years. Every community will have to begin forming an 'energy descent action plan' and prepare to become more self-reliant and we will have to do it in a way that is fair and stable. Community-based planning and action means making a fundamental transition in the locus of economic activity from a global scale to local. Investment banker and oil industry analyst, Jeff Rubin, argued that this is why all of our worlds are going to get smaller. But simply emphasizing economic localisation by itself is not a solution. The local institutions have to be made anew and cut from very different cloth and that means with a different consciousness and wholly different expectations of what is meant by 'the good life.'

Section 2

Views from the field

Edwin Bentham at the Atlantic Whale Foundation shows how action workshops for youth over the world can help inspire new **ethical entrepreneurs**. The new **charitable bond** developed by Tim Jones of **Allia** can create **shared value** for investors, community members and charities.