

# Nothing Grows Forever

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by Clive Thompson, from *Mother Jones*



Peter Victor is an economist who has been asking a heretical question: Can the earth support endless growth?

Traditionally, economists have argued that the answer is yes. In the 1960s, when Victor was earning his various degrees, a steady rise in gross domestic product (GDP)—the combined value of our paid work and the things we produce—was seen as crucial for raising living standards and keeping the masses out of poverty. We grow or we languish: This assumption has become so central to our economic identity that it underpins almost every financial move our leaders make. It is to economics what the second law of thermodynamics is to physics.

But Victor—now a professor at York University in Toronto—felt something tugging him in the opposite direction. Ecologists were beginning to learn that Earth does have limits. Pump enough pollution into a lake and you can ruin it forever; chop down enough forest and it might never grow back. By the early '00s, the frailties of the planet were becoming even more evident—and unsettling—as greenhouse gases accumulated and chunks of Greenland's glaciers began breaking off into the sea. "We've had 125,000 generations of humans, but only the last eight have had growth," Victor told me. "So what's considered normal? I think we live in very abnormal times. And the signs are showing up everywhere that the burden we're placing on the natural environment can't be borne."

In essence, endless growth puts us on the horns of a seemingly intractable dilemma. Without it, we spiral into poverty. With it, we deplete the planet. Either way, we lose.

Unless, of course, there's a third way. Could we have a healthy economy that doesn't grow? Could we stave off ecological collapse by reining in the world economy? Could we do it without starving?

Victor wanted to find out. First, he created a computer model replicating the modern Canadian economy. Then he tweaked it so that crucial elements—including consumption, productivity, and population—gradually stopped growing after 2007. To stave off unemployment, he shortened the workweek to roughly four days, creating more jobs. He also set up higher taxes on the rich and more public services for the poor, and imposed a carbon tax to fill government coffers and discourage the use of fossil fuels. The upshot? It took a couple of decades, but unemployment eventually fell to 4 percent, most people’s standards of living actually rose, and greenhouse gas emissions decreased to well below the levels outlined in the Kyoto Protocol climate agreement. The economy reached a “steady state.” And if the model is accurate, then something like it, say some ecologically minded economists, may be the only way for humanity to survive in the long term.

Victor’s economic theory is radical, but he is not alone. Over the past few decades, a handful of scholars have been laying the intellectual groundwork for “no growth” economics, and several recent books have proposed design principles for a healthy, nongrowing global economy. Even some of the world’s major governments, spooked by the twin specters of climate change and the recent financial crisis, have begun exploring this seemingly subversive idea: In 2008, President Nicolas Sarkozy of France asked Nobel economics laureate Joseph E. Stiglitz to draft new ways to measure prosperity without relying on GDP as the main indicator. But what would a no-growth society look like? Would we like it? And could we build one?

The idea is actually quite old. Even Adam Smith, the great-great-grandfather of capitalism, acknowledged that it might be possible for an economy to max out its natural resources and stop growing. In the 19th century, economist-philosopher John Stuart Mill argued that growth was necessary only up to the point where everyone enjoyed a reasonable standard of living. Beyond that, he said, you could achieve a “stationary state” that would move past the “trampling, crushing, elbowing, and treading on each other’s heels” that he saw in unfettered capitalist growth. In 1930, John Maynard Keynes likewise predicted a period in the future—possibly as soon as his grandchildren’s time—when the economy wouldn’t need to grow further to meet basic human needs. Our “economic problem” would be solved, and people would “prefer to devote our further energies to non-economic purposes.” Things like art, child rearing, and leisure.

Yet no-growth theory never took off. Politicians came to see growth as a hedge against deficit spending and high unemployment—that political third rail—and economists figured that extended periods of growth were needed to lift people out of poverty. So Western governments fine-tuned their policies—imposing lower taxes on capital gains than on labor, for example—to promote growth by rewarding investment. The obsession with growth was also a practical matter, since it seemed like the most reliable way to gauge the prosperity of a country. The methods used to measure things like happiness, for instance, aren’t objective enough to satisfy most economists. Instead, they looked to GDP as the primary benchmark for whether things are getting better or worse.

Classical economists didn’t spend much time worrying about whether the environment could support infinite growth. During the formative years of industrial-age economics, after all, resources did seem limitless. (Early California residents recalled salmon so bountiful that you

could practically cross streams on the backs of the fish.) Plus, there was the problem of pricing: Economics doesn't account for things it can't price, and nobody could easily put a number on the cost of, say, polluting the Great Lakes, or driving a species to extinction by clear-cutting its forest habitat.

It didn't help that the few early economic thinkers who did worry about exhausting the planet turned out to be a couple of centuries premature. Beginning around 1800, Thomas Robert Malthus famously predicted that population was growing faster than the earth could support. But his predictions of widespread global famine never came to pass, because technological improvements in agriculture made land far more productive than Malthus ever dreamed. He also failed to predict that rising prosperity would put the brakes on birth rates.

By the 20th century, growth had become not only an item of faith in economics, but also a deeply held political belief. When Franklin Roosevelt supported grappling with Great Depression unemployment by decreasing the workweek to 30 hours, the largest corporations fought back fiercely. America, they argued, would be saved only by the new "gospel of consumption." The administration would need to pursue flat-out growth, loosening labor laws and so forth, so that the industrialists could revive the nation. Roosevelt backed down.

The next major challenge to the pro-growth orthodoxy didn't emerge until the early 1960s and publication of Rachel Carson's *Silent Spring*. The first major book to examine the effects of pollution, it became a best-seller, awakening the mainstream to the idea that relentless economic activity might wreck the natural world. Alarmed by this notion, the Club of Rome—an international group of industrialists, scholars, diplomats, and professionals—asked a team of MIT scientists led by systems-management expert Dennis Meadows to determine what would happen if human society continued to grow at its current pace.

The scientists built a computer model that looked at the main components of world growth—including population increases and breakthroughs that make workers more productive. Crucially, they also calculated—as best they could—the effects of pollution and the extent of the planet's natural resources, and put those in the model, too. Then they hit "enter."

The results were bleak. If society didn't change tack, the scientists determined, global prosperity would rise until some time during this century as growth made the good life cheaper and more widely available. But then the cycle would start to shift disastrously into reverse. Resources would become so scarce that they would skyrocket in price, driving the cost of almost everything upward. Global living standards would collapse.

Meadows and his team published their conclusions in 1972 in a book titled *The Limits to Growth*, and it quickly became a global best-seller, selling 12 million copies. Soon governments and organizations were holding nervous conferences exploring whether growth would kill us all.

Traditional economists went berserk. In the months following the book's publication, they counterattacked: One labeled *Limits* "alarmist." Another called it "less than pseudoscience and little more than polemical fiction." An influential essay in *Foreign Affairs* derided it as "The Computer That Printed Out Wolf." A big problem, according to the critics, was that the model

didn't include a pricing mechanism that mimicked Adam Smith's invisible hand; if basic resources ever became seriously scarce, they insisted, companies would simply switch materials—or make themselves more efficient, using fewer materials to deliver the same prosperity payload.

As economies mature, the economists noted, technology “decouples” economic prosperity from physical stuff: Jobs become more about providing services, which use fewer raw materials. This, they argued, was precisely what kept America's GDP growing during the 1980s and 1990s, even as our industrial base eroded.

The *Limits* dispute wasn't merely scholarly squabbling; it was an ideological battle, too. Economists had based entire disciplines and careers on the primacy of growth—not to mention the fact that, in the Cold War era, suggestions that capitalism was seeding its own ecological collapse seemed sulfurously Marxist. Some critics distorted the book's message, saying the authors had predicted that oil would run out by 1992. (The book had made the more nuanced point that we only had enough known reserves to last that long, given how fast we were using it.) A more valid criticism lay in the fact that the team's model—like many economic models—was simplistic, and based on some pretty big assumptions. (In a 2008 blog post, columnist Paul Krugman derided the approach as “garbage-in-garbage-out.”) The counterattacks worked. No-growth economics returned to the fringes.

The idea didn't die, though. Herman Daly, who served for six years as a senior economist at the World Bank beginning in the late '80s, was among the researchers inspired by *Silent Spring*. He remembers the Carter administration having “some openness” to no-growth thinking. “But then come the Reagan years and, oh man, forget it,” he recalls. Only a few key thinkers—Daly being the most prominent—continued to beaver away at no-growth theory, coming to new and powerful conclusions.

Daly thought the idea of a “decoupled” economy—one that continued to grow while using relatively fewer raw materials—was a chimera. From his vantage point, it seemed obvious that when nations shifted to service economies, they didn't stop gobbling natural resources or even, really, curb their appetites. They merely outsourced the problem to Asia, Africa, and South America or found cheap new sources at home. As Daly points out, the Internet economy, supposedly a great leap into the dematerialization of consumption, depends on energy and computer components. And making those components requires exotic metals, some of which are now in such short supply that they're fueling blood diamond-style conflicts.

The growth of greenhouse gas emissions likewise demonstrates that the free market alone cannot deal with planet-threatening pollution. Indeed, the low price of coal-fired electricity encourages companies to keep spewing excessive amounts of carbon dioxide rather than pursue cleaner energy sources. “This whole idea that we could have a constantly growing economy that doesn't use natural resources is just crazy, and the last couple of decades have basically proven it,” Daly says.

Daly's major contribution to the field is the concept of “uneconomic” growth—growth that actually drives living standards downward. He believes that America has already reached the

point Mill and Keynes foresaw, where average living standards have grown as high as necessary to vouchsafe a generally prosperous population. He points out that the happiness of Americans, as reported by social scientists, rose steadily after World War II as GDP grew. But by the late '50s, that connection broke down: Although our median family incomes have nearly doubled since 1957, the proportion of people who say they are “very happy” has barely budged. Daly thinks we simply hit the point of diminishing returns. Our growth turned uneconomic: GDP now keeps growing mainly because we are producing gewgaws and services that don't significantly add to our happiness. Or worse: It grows because we are spending money to solve problems that growth itself created.

One of the big problems with using GDP as a yardstick for national well-being is that GDP rises when really bad things happen, too. If a company leaks PCBs into a reservoir and local cancer rates spike, the result is a flurry of economic stimuli: Doctors treat the cancers, crews clean the reservoir, lawyers busy themselves suing and defending the polluter. It's still growth—uneconomic growth. By the aughts, Daly had written four books exploring these ideas and trying to figure out how a nongrowing economy might function.

He is no longer so isolated. As concern over climate change has migrated from the science community to the mainstream, the number of economists willing to question growth has slowly but surely increased. Recent books on the subject include Peter Victor's 2008 *Managing Without Growth* and last December's *Prosperity Without Growth* by Tim Jackson, economics commissioner for the UK's Sustainable Development Commission. (In 2004, the MIT team published a new edition of *The Limits to Growth*, complete with updated versions of their model.) Though the camps differ in the details, they agree broadly on a set of economic principles—a road map, as it were, to a world that doesn't grow but doesn't collapse, either.

Some of their conclusions are surprisingly pleasant. For example, to move away from growth, we'll all have to work a lot less. That's because no-growth economists agree with mainstream economists on one big point: Technological advances make workers more productive every year. In the mainstream view, these labor efficiencies make goods cheaper, which leaves consumers with more disposable income—which they invest or spend on more stuff, leading to more hiring to fulfill demand.

By contrast, the no-growthers would use those efficiencies to shorten the workweek, so that most people would stay employed and bring home a reasonable salary. If new technology continued to drive productivity gains, citizens in a nongrowing economy would actually work less and less over time as they divvied up the shrinking workload.

Handled correctly, this could bring about an explosion of free time that could utterly transform the way we live, no-growth economists say. It could lead to a renaissance in the arts and sciences as well as reconnection with the natural world. Parents with lighter workloads could home-school their children if they liked, or look after sick relatives—dramatically reshaping the landscape of education and elder care. (Some steady-state thinkers argue that these typically unpaid forms of domestic labor ought to be included in GDP calculations and even subsidized by the government, since they contribute so heavily to national well-being.)

Viewed this way, a nongrowing economy could have broad political appeal, ushering in the sort of togetherness and family values that social conservatives celebrate. Liberals might appreciate the concept of work sharing, which could help narrow the income gap between rich and poor. Indeed, some countries have already edged toward this vision. Labor unions in the Netherlands agreed in 1982 to limit demands for higher pay in exchange for policies encouraging people to work less. Within a decade, the proportion of Dutch citizens working part time soared from 19 percent to 27 percent, the average workweek fell from 30 to 27 hours, and unemployment had plummeted from 10 percent to 5 percent. (They called it “the Dutch miracle.”) Work sharing also has a pedigree in times of crisis: In Austria and Germany, laws let employers avoid layoffs by scaling back people’s hours and pay—10 percent less money, say, for 10 percent less work. The government then steps in and covers the salary difference.

The types of work available (and take-home pay) would change significantly in a no-growth scenario. To prevent climate change and resource depletion, no-growthers favor a heavy tax on carbon and other pollutants. At the same time, they want the government to invest in clean energy as part of a “Green New Deal” that also encourages private-sector investment to move people into labor-intensive jobs—entertainer, preventive health worker, artisan manufacturer, organic farmer, nurse—that consume relatively few raw materials.

So working less is the fun (or at least the more doable) part. The hard part is that we would be consuming less—probably far less.

What does that mean, exactly? Daly has suggested that Americans would need to scale back our energy consumption to 1960s levels (assuming we stick to a predominantly fossil-fueled economy). Victor, for his part, points out that 1983 was the last year that “the world economy was just at the level of the capacity of the planet to support it.” Since then, of course, world population has exploded and global resources have dwindled.

Beyond these big-picture parameters, none of the experts has really crunched the numbers to envision what daily life might be like in a no-growth world—though they agree that it’s something people had better start thinking about.

For starters, they say, Western consumption rates would need to shrink disproportionately so that citizens of other countries could enjoy a lifestyle upgrade. Why? The no-growthers argue that a world with fewer yawning inequities between the rich and poor would be more stable; but quite apart from that, their models require stabilizing world population, and raising the economic lot of the poor is a proven way to do that.

Given the shift in wealth needed to accomplish this, Americans would need to turn back the clock to well before 1983; in fact, we’d be pretty lucky even to find ourselves where we were in 1960—when the median family made \$35,755 in today’s dollars (versus \$61,521 in 2008).

Hardly the plenitude we’re accustomed to. Still, technological advances mean that a dollar buys a lot more than it did back then. For a couple of bucks, you can score a pocket calculator that does things it once took a million-dollar university machine to accomplish. “We’re better at making

things now,” Victor says, so our living standards would be considerably higher than this figure suggests.

In a no-growth economy, as Daly points out, we would still consume new stuff—just at a much slower pace. People might need to develop a renewed appreciation for durable goods that require lots of labor to make but ultimately use fewer resources than their throwaway counterparts. We would also have to evolve away from “positional” consumption—feeling good because you possess something the Joneses don’t have.

So maybe hipsters won’t be buying the latest iPhone every 12 months. Or perhaps we’ll seek fulfillment through activities with a lighter footprint—sports, music, hiking. The vexing reality is that the no-growth thinkers simply don’t know how things would shake out. We don’t have any realistic examples to learn from, after all. In the past, the only no-growth societies were agrarian or consisted of hunter-gatherers.

But when you take the thought experiment a few steps further, no-growth theory raises a host of questions about psychology and motivation. How do you prevent people from producing and buying needless stuff? Would innovation cease if entrepreneurs didn’t think they would sell a million widgets? Could individual companies still grow—and if not, who would want to invest in them?

In any case, the pathway to America’s voluntarily reducing its consumption levels seems obscure at best. Right-wing radio hosts fulminate against the government merely for placing restrictions on incandescent lightbulbs; one can imagine their reaction to scaling back consumption to the Kennedy era. Not to mention that governments would have to pass new tax laws, seriously tackle income inequality, and return banking to its traditional role of raising and lending capital (as opposed to gambling on imponderable derivatives and credit default swaps).

There are other aspects of no-growth theory—like the population-stabilizing business—that could chill partisans of any stripe. To halt population growth, you need to reduce global fertility rates to an average of about two children per couple. But if boosting poor people’s means doesn’t defuse the population bomb, what then? Population control by mandate is essentially totalitarianism.

So, not exactly a walk in the park. But for all the troubling questions it raises, there’s one thing you can say about steady-state thinking: It is almost cosmically ambitious. Given how numb and static the world’s economic arguments have become, no-growth theory is a rare beast: It is a vision of social change that is genuinely radical, almost jaw-droppingly so. Even talking about such ideas, Victor admits in his book, “could make a politician unelectable.” The no-growthers regard their job not as promoting specific policies, but as widening the field of debate. “I want to make it possible just to start to think about growth and its role in economic thought,” Victor told me.

Is the world ready for, or even interested in, such unorthodox ideas? The new crop of books hasn’t provoked the sort of backlash that *Limits* once did. Jackson suspects that climate change may have made us more receptive. As he’s traveled around giving talks on his book, some

politicians and businesspeople have grudgingly admitted that hyping growth has created real problems—even if they can't quite endorse the solutions. "The response often is that my logic is faultless," Jackson told me, "but the policy recommendations are bonkers." He also suspects that no-growth theory is still so marginal that it hasn't attracted much attention—no best-sellers this time—but should it gain political momentum, the attacks will come.

Daly, who's been arguing his case for four decades, has begun to think that only the earth itself will compel people to act. In a few decades, if basic resources become scarce, prices spike, and climate change is causing global conflict, no-growth thinking could arrive whether we like it or not. "It will be forced on us," he says. In the end, when it comes to determining the shape of our economy, the planet may possess the most powerful invisible hand of all.

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In part 2 of this article series for Bloomberg, Gary Shilling identifies warning signs he sees in the stock market, despite major indexes being near all-time highs. He argues that currency losses are one of the signs deflation is on the horizon