



# Questioning economic growth

Our global economy must operate within planetary limits to promote stability, resilience and wellbeing, not rising GDP, argues **Peter Victor**.

The idea that governments of developed countries should no longer pursue economic growth as a primary policy objective is widely regarded as heresy. Yet a growing number of scholars, policy-makers and citizens are coming round to the idea that the planet cannot sustain continued global economic growth. Even economist Robert Solow, who won the 1987 Nobel Prize in Economics for his work on economic growth, said in 2008 that the United States and Europe might soon find that “either continued growth will be too destructive to the environment and they are too dependent on scarce natural resources, or that they would rather use increasing productivity in the form of leisure”<sup>1</sup>. The idea of steady-state economies, or even economic ‘degrowth’, in developed countries is gaining traction.

The reasons for disenchantment with

economic growth as a paramount policy objective are not hard to find. Humanity has gone beyond the ‘safe operating space’ of the planet with respect to climate change, nitrogen loadings and biodiversity loss, and threatens to do so with six other major global environmental issues<sup>2</sup>. This excessive burden on Earth can be traced to the massive increase in the materials, fossil fuels and biomass used by the world’s economies. Mankind’s ‘throughput’ — the sheer weight of materials, including fuel, that feed the world’s economies — has increased 800% in the twentieth century<sup>3</sup>, with a correspondingly large increase in wastes returned to the environment. In the same time, the human population has risen from 1.6 billion to more than 6 billion, and our presence has been felt over an increasingly large part of Earth’s surface. All of this drove and was driven by

unprecedented economic growth, the benefits and costs of which have been spread remarkably unevenly around the planet.

A key question now is whether and how economies can develop in a way that respects Earth’s biophysical boundaries and feeds the 9 billion people expected by mid-century.

One option is for developed countries to continue striving for economic growth, while attempting to reduce impacts on the planet. This means betting that economic growth can be successfully and rapidly decoupled from material and energy inputs. Such ‘green growth’ is currently favoured by the Organisation for Economic Co-operation and Development (OECD). But it can be confounded by the rebound effect: efficiency improvements often induce changes that reduce, nullify or outweigh environmental and resource benefits. This was first recognized in 1865 by economist W. S. Jevons, who noted that improvements in steam engines were accompanied by an increase in total coal consumption.

By 1910, the best steam engines in the United Kingdom were about 36 times more efficient than those of 1760 (ref.4), but a 2,000-fold rise in steam-power use<sup>5</sup> had increased coal consumption dramatically. A rebound of 50% is not unusual for many technologies.

## WHAT PRICE HAPPINESS?

An alternative is to encourage growth in sectors of the economy that use fewer resources, such as the service sector. Such a strategy could buy some time, but not if it simply shifts the production of resource-intensive products and their related environmental burdens to other countries, as has been the pattern in recent years.

A third option is to limit growth itself. The battle against climate change illustrates the attractiveness of this strategy. To reduce greenhouse-gas emissions (GHG) by 80% over 50 years, an economy that increases its real gross domestic product (GDP) by 3% a year must reduce its emissions intensity — tonnes of GHG per unit of GDP — by an astonishing 6% a year. For an economy that does not grow, the annual cut would be a still very challenging 3.2%.

The view that we should curb planetary impacts by reducing growth in richer countries is reinforced by several considerations. First, there is mounting evidence that this growth is largely unrelated to measures of happiness. Second, in recent decades, increasing inequality has accompanied much of this growth, leading to problems ranging from poor public health to social unrest. Third, the prospects for real improvement in the developing world are likely to be diminished if developed countries continue to encroach on more ecological space.

Removing economic growth as a major

policy priority runs counter to the views of governments and many international agencies. Many nations responded to the recent financial crisis with desperate measures to resume economic growth. Yet when we recognize how briefly economic growth has held such prominence in policy circles, dethroning it seems less improbable. Regular estimates of GDP by governments date back only to the 1940s, and the measure was initially used in support of specific objectives, such as stimulating employment. Only in the 1950s did economic growth become a policy priority in its own right<sup>6</sup>.

Economists and other social scientists now need to map out functional economies in which growth is sidelined, and stability, resilience and wellbeing are the prime objectives, within environmental and resource constraints. Ecological economist Herman Daly, who has investigated and promoted a steady-state economic model for several decades, has formulated a useful set of principles for limiting material use, including: the harvest of renewable resources should not exceed their regeneration rate; the rate of extraction of non-renewable resources should not exceed the rate of creation of renewable substitutes; and waste emissions should not exceed the environment's capacity to assimilate them. To these we should add the protection of land and water to reduce competition among humans and other species. Among the many successful applications of these principles is the creation of protected areas and green belts.

Daly, with theologian John Cobb, also proposed an alternative measure of macro-economic success: the Index of Sustainable Economic Welfare (ISEW), incorporating environmental degradation, resource depletion and other factors. Estimates of this index show a major divergence from GDP per person for many countries. In a study by environmental charity Friends of the Earth<sup>7</sup>, the gap between US GDP and the 'Genuine Progress Indicator' (GPI), calculated similarly to the ISEW, was particularly marked: whereas GDP per person rose from the 1970s, GPI actually declined (see 'Genuine progress?').

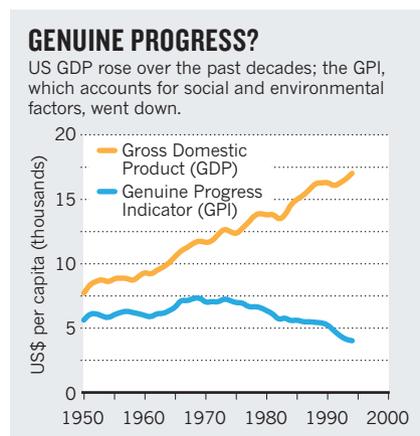
### SHORTER WORK YEAR

These results bear out an observation made in 1934 by Simon Kuznets, a Russian-American economist and one architect of the system of national accounts from which GDP is derived<sup>8</sup>: "The welfare of a nation can scarcely be inferred from a measure of national income." Work on more broad-based indicators to complement or replace GDP has been given a substantial boost by a 2009 report by Nobel laureates Joseph Stiglitz and Amartya Sen<sup>9</sup> that caught the attention of many politicians.

Models have been built to explore what

might realistically be accomplished in developed countries that forgo economic growth, and what the consequences might be. I constructed<sup>10</sup> a fairly conventional model of the Canadian economy and found circumstances under which employment can be increased, poverty and greenhouse-gas emissions reduced, and government debt effectively managed without economic growth. A key ingredient is a shorter work year, which would help to spread employment among more of the labour force. The benefits of greater productivity would thus be directed towards more leisure time, rather than increasing GDP. Scoping this out for Canada, assuming that labour productivity continues to rise modestly, a reduction in the average work year of around 15% by 2035, to 1,500 hours a year, would secure full employment. This work year would still be longer than in some European countries. In Germany, for example, the average paid employee worked 1,430 hours in 2008.

Other ingredients for an attractive low/no-growth scenario include more focused and



better-funded anti-poverty programmes, a stable population (already achieved in many developed countries and within the grasp of others), and stricter policies on environment and resources, based on Daly's principles. My study has helped to stimulate similar investigations, under way or proposed, in countries including New Zealand, Austria, the United Kingdom, Finland and the United States, with results expected over the next year or so.

Zero economic growth, however, may not be enough. Some researchers are looking seriously at 'degrowth': shrinking developed economies to bring them into balance with resource and environmental limits, while improving quality of life. The scope of changes in all aspects of the economy would be much more far-reaching, and the repercussions for society greater. Nevertheless, degrowth in materials use, fossil energy, land and water is clearly required, so degrowth of national economies may be unavoidable.

There is debate about whether capitalism

is compatible with steady-state or degrowth economies. A shrinking economy brings a real risk that profit-seeking companies and their shareholders will be disappointed, credit ratings will suffer, the financial system will be in jeopardy, trade will shrink and the whole capitalist system could spiral to collapse. Whether this would happen remains an open question. Solow, for one, sees no reason why capitalism could not survive with slow or even no growth. Others are more sceptical — especially about the survival of capitalism in degrowth societies. It is worth noting that even in a shrinking economy, some sectors — such as renewable-energy development — will flourish.

As long as economic growth remains so important to global policymakers, humanity is hopelessly constrained: the environmental policies we need face the unreasonable political hurdle that they must also be shown to promote economic growth. This must change. At grass-roots level, many people in the developed world are already directing their energies towards enhanced wellbeing, in part by turning to local producers for their food, clothing and other needs. Institutions of all kinds — financial, political, legal, educational, religious and social — that have evolved to thrive in a fast-growing economy will have to adapt. This could be the greatest challenge of all; there are no good answers yet as to how they should change.

With the prospect of environmental calamity facing humanity, developed economies must chart a course towards living within a fair share, and no more, of the planet's safe operating space. Developing countries, in their turn and time, will also have to adjust. Done thoughtfully, this could lead to more satisfactory and fulfilling lives for all. ■

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