WE MUST CHANGE THE NATURE OF GROWTH

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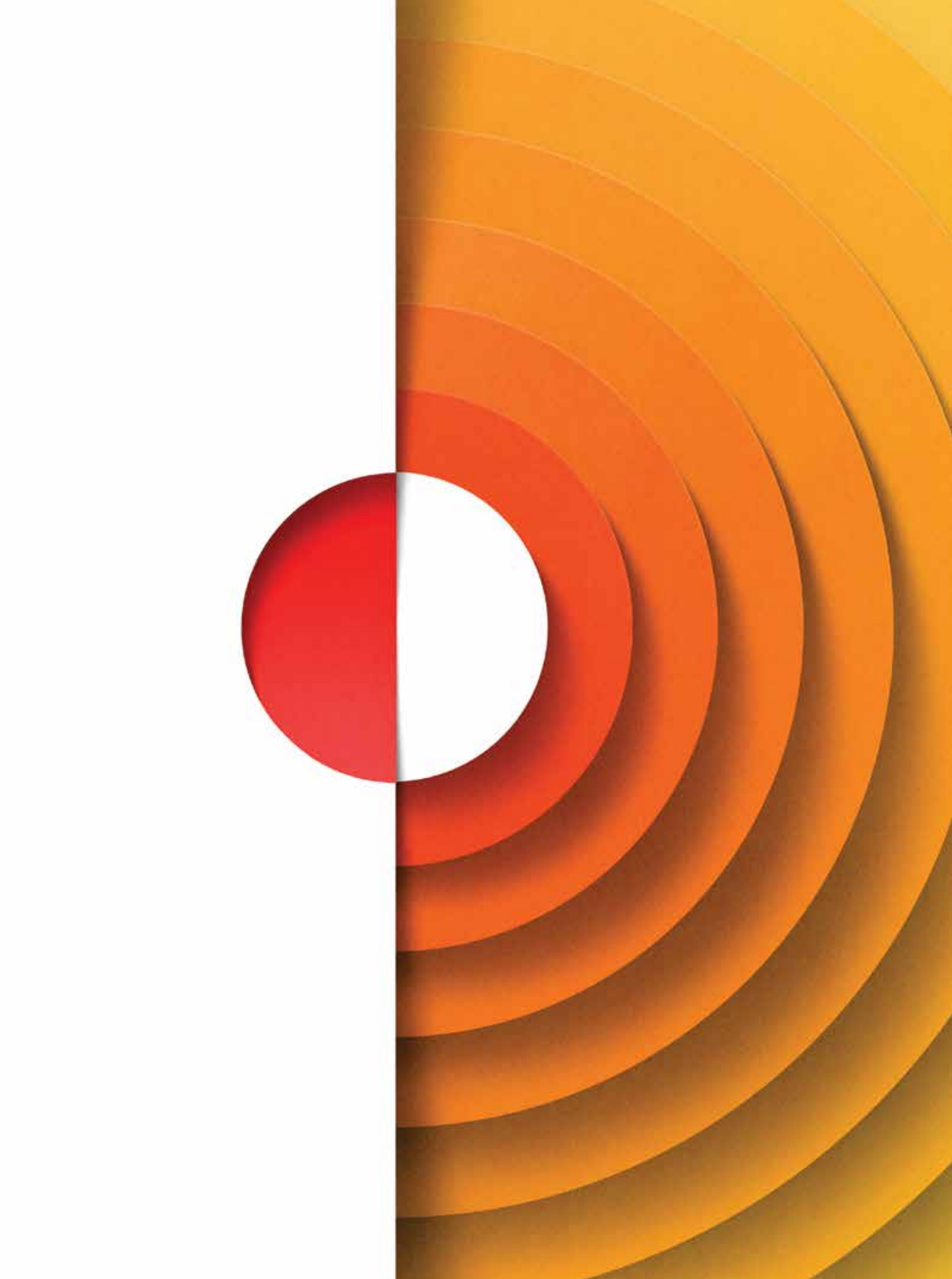
The pursuit of economic growth is one of our most treasured ideas, but it's also one of the most dangerous

One of the few things politicians agree on is that we need more economic growth. Almost every country sputtered into the 21st century: Japan and Germany in the mid-1990s, the United States and United Kingdom in the mid-2000s, China from the mid-2010s. After two decades of successive crises, most economies are sluggish shadows of former selves, and leaders have thrust growth to the top of their priorities.

We have been building up to this moment. Over the past few decades, the pursuit of growth has relentlessly emerged as one of the defining activities of our common life. Our collective success is determined by how much we can produce in a given period. The fortunes of our political leaders depend overwhelmingly on the rise or fall of one number: gross domestic product (GDP).

Illustration by Eiko Ojala



Yet we seldom stop to ask how this all-conquering ascent happened and, most important, whether it's a good thing. Because there's a big problem. When we look at the most serious challenges our planet faces today—from climate change and the destruction of the environment to the creation of powerful technologies like AI whose disruptive effects we cannot yet properly control—growth's fingerprints are everywhere. Yes, it may be one of our most treasured ideas. But it's turning into one of the most dangerous, too.

New obsession

Our obsession with growth gives the impression that it must have an illustrious history, that great thinkers once debated its worth and elevated it to the unrivaled position it now holds. But it does not. It's an extremely new preoccupation. For most of humanity's 300,000-year history, life was stagnant. Whether a Stone Age hunter-gatherer or an 18th century farm laborer, you would have lived a similar economic life, stuck in a relentless struggle for subsistence.

Most classical economists would have found it unimaginable to actively pursue growth as a policy priority. The field's founding fathers—Adam Smith, David Ricardo, John Stuart Mill—all took for granted the prospect of an impending "stationary state" when any period of material flourishing would come to an inevitable end. And even if the idea had occurred to those early thinkers, it would have been impossible in practice: reliable measures of the size of the economy emerged only in the 1940s.

Those classical figures were not alone in neglecting growth. Almost no politician, policymaker, economist—not anyone—talked about the pursuit of growth before the 1950s. So why did the idea of growth, ignored for so long, see a sudden surge in popularity in the mid-20th century? One of the most important reasons was war.

A basic question when waging war is how large a slice of the economic pie can be redirected toward conflict. Yet at the start of World War II, that information was not available. And so in Britain up stepped the great economist John Maynard Keynes to design the first reliable measure, alongside the efforts of an American economist, Simon Kuznets. But GDP is not the same thing as growth: the former is a snapshot of how much the economy produces in a given period; the latter involves increasing that output over time. So how did GDP growth come to matter so much? Again, the answer lies in war—albeit of a different type.

As World War II ended, the Cold War began. There was no grand theater where the main adversaries clashed head-on. None of the numbers of traditional conflict—territory gained, soldiers lost, weapons destroyed—were available to tell who was winning. In their absence, other measures took on significance. The most important was economic: how rapidly the US and Soviet economies were growing.

For the most part, the Cold War was defined by preparation for a grand potential conflict, by the conspicuous accumulation and demonstration of military might. To that end, growth was critical: if a country's economy were larger, it could spend more on the military. At the same time, outgrowing the enemy came to be seen as the definitive way to convince citizens that their side had the upper hand in the broader battle of ideas: the market system versus central planning. An era of "growthmanship" was underway.

Growth dilemma

As the 20th century unfolded, the demands of war faded. Yet the pursuit of growth stubbornly persisted. For growth, it turned out, was also associated with almost every measure of human flourishing. Growth freed billions from the struggle for subsistence, with extreme poverty dropping from 8 in 10 people in 1820 to just 1 in 10 today. It made the average human life longer and healthier—turning obesity, rather than famine, into the rich world's main problem. And it dragged humankind out of ignorance and superstition: 9 in 10 were illiterate in 1820, but 9 in 10 are literate today.

The list of growth's benefits goes on. But politicians and policymakers found it particularly useful. To begin with, it helped pay for grand postwar ambitions: the New Deal, social insurance, five-year plans. Then it promised to make day-to-day politics far easier. Everyone, it seemed, could benefit from it. And growth also made it seemingly possible to escape the conflicts and disagreements that so often plague society. The process becomes, in the words of one economist, "both the pot of gold and the rainbow."

The promise of growth was—and still is—undeniable. But this led to complacency. Political leaders, economists, and many others, blinded by the ways growth appeared to make life better, started to believe that growth was not only good but came at little or no cost. "In the West, although growth has its price," declared one British economist to a gathering of eminent scientists in the early 1960s, "that price may not be so terribly high after all." How wrong that turned out to be.

The relentless pursuit of growth has come at a huge price, with destructive consequences we do not yet fully understand. That price is often put

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in environmental terms: that we are growing our way toward an ecological catastrophe, that the past eight years have been the hottest eight years in human history, and that climate change is now a climate emergency. But growth is also related to many of the other big concerns people have about the future.

The growth-promoting technologies we have relied on have also been inequality-creating: making humankind more prosperous, but more divided as well. They have been work-threatening and politics-undermining: AI and other technologies are disrupting labor markets and political life in ways it's not clear we can control. And they have been community-disrupting: bolstering some industries but destroying others and decimating traditional sources of shared meaning.

Growth now presents us with a dilemma. It is associated with many of our greatest triumphs, but also many of our greatest problems. The promise of growth pulls us toward pursuing ever more of it, but its price pushes us powerfully away from that chase. It's as if we cannot go on—and yet we must.

Degrowth's folly

The "degrowth" movement proposes a radical response: if growth is the problem, then less growth—or even no growth or negative growth—is the solution. This proposal, which started among a handful of ecologically minded academics a few decades ago, has spread and now draws support from leading environmentalists and activists.

Degrowthers get one thing right: we cannot continue on our current growth path. If anything, environmentalists underestimate the damage growth has done given all the additional problems it presents. That said, degrowthers also make several mistakes.

The movement builds on a misunderstanding of how economic growth really works. The mistake is reflected in the slogan "infinite growth is not possible on a finite planet." But this is wrong—it is possible. The problem is that this way of thinking is rooted in an old-fashioned view of economic activity: one that pictures the economy as a material world where what really matters are the things that can be seen and touched, such as farm equipment or factory machines.

This material focus is a distraction. Growth does not come from using more and more finite resources, but from discovering more and more *productive* ways of using those finite resources. In other words, it comes not from the tangible world of objects, but from the intangible world of ideas. And the universe of those intangible ideas is unimaginably vast: as good as infinite. In other words, our finite planet is not the constraint that matters when thinking about the future of economic growth.

Moreover, degrowth shows us how catastrophic it would be to abandon the pursuit of growth altogether. Freezing GDP per capita at current levels would, as others have noted, require either abandoning 800 million people to extreme poverty or slashing the income of the other 7.1 billion—to say nothing of forgoing all the other benefits of higher living standards.

Powerful ideas

The starting point must be that we need more growth. Without it, we don't stand a chance of meeting our most basic ambitions for society—from eradicating poverty to providing good health care for all—never mind the grander hopes we ought to have for the future. It's deeply unimaginative to believe that the present moment is some sort of economic peak, and that humankind ought to press pause on growth—not simply for the next 10 years, or even 10,000 years, but for all time. So how do we get more growth?

Politicians' confident assuredness when they talk about what's required belies the little we know. Nevertheless, we can draw one critical lesson: growth comes from technological progress, driven by discovering new ideas about the world. Asking, How do we generate more growth? is the same as asking, How do we generate more ideas? In my view, there are four things to be done.

For a start, we must reform our intellectual property regime, which all too often protects the status quo, coddling those who discovered ideas in the past at the expense of those who want to use and reuse them in the future. It is antiquated: the Berne

Convention, for instance, the main international agreement that coordinates copyright law, hasn't changed for over half a century. And it threatens to squander the opportunities of new technologies, like generative AI. It provides too much protection for the material these systems are trained on—and without which they cannot function—and too little for the extraordinary material they create.

Then we must invest far more in R&D, whose trends and levels are discouraging. In France, The Netherlands, and the UK, for example, R&D expenditure as a share of GDP has collapsed since the mid-20th century; in the US, the measure has stagnated at late-1960s levels for decades. Even the efforts of the global leader, Israel, which invests 5.4 percent of GDP in R&D each year, look modest compared with investments made by leading companies: Alphabet, Huawei, and Meta all spend more than 15 percent of their revenue on R&D. A country is not a company, but the contrast reveals something about their priorities. No country can expect a steady stream of new ideas unless it puts serious resources into their discovery.

But we must go further. Reducing inequality and helping people into idea-generating parts of the economy are critical. The US could, for instance, quadruple innovation if racial minorities, women, and children from low-income families invented at the same rate as white men from high-income families. There are many compelling moral arguments against inequality. But from an economic standpoint, it's also just extraordinarily inefficient: a world where some people aren't able to discover and share the ideas they otherwise might is diminished economically as well as culturally.

And finally and most radically, we must use new technologies themselves to help us discover ideas. DeepMind's AlphaFold is a good example. In 2020 it solved the "protein folding" problem and can now calculate the 3D shape of millions of proteins in minutes. (A human researcher would spend their entire PhD to do just one protein.) This will transform our understanding of diseases, and our capacity to treat them, in years to come. We need far more of this technology-based idea discovery.

Existential opportunity

These interventions are our best bet for discovering more ideas and generating more growth. But alone they won't solve the growth dilemma. In fact, simply plowing on in pursuit of more material prosperity at any price will make it worse. We must use every tool at our disposal to change the nature of growth and make it less destructive of the many other things we might value—from a fairer society to a healthier planet.

How might this be done? Consider what has happened with growth and the climate. In 2008 the British economist Nicholas Stern, author of the *Stern Review,* concluded that it would cost 2 percent of GDP to reduce carbon emissions by 80 percent. In short, there was a serious trade-off between growth and the climate: the price for protecting the latter was very high. But by 2020 the UK's Climate Change Committee found that the cost of *eliminating* emissions had fallen to just 0.5 percent of GDP. The trade-off had collapsed. Why? Because the accumulation of two decades of major interventions—taxes and subsidies, rules and regulations, social norms—created a strong incentive for people to develop clean rather than dirty technologies. It ushered in a technological revolution, with a 200-fold fall in the price of solar technology the most striking example.

The practical consequence is that growth is greener than ever. More countries can grow while reducing emissions at the same time. This would have been hard to imagine only 15 years ago. And there is a general insight: by radically reshaping the economic incentives people face, we can not only encourage the development of new technologies to drive growth but also shape the *types* of technologies we develop.

This, then, is the great task of the present: to redirect technological progress toward the other ends we care about—to grow the economy but also make the world fairer, greener, less dependent on disruptive technologies, and more respectful of place. We must do all we can to ensure that the incentives people face do not simply reflect their narrow concerns as consumers in a market but their deeper concerns as citizens in a society.

We live in an age when almost every day brings stories of new existential risks and deflating reminders of our supposed incapacity to deal with them. But I see it differently: we have an existential opportunity.

We have a chance for moral renewal, a way to pay more attention to other valuable ends that we have neglected until now, and a way to achieve that ambition by redirecting technological progress and changing the nature of growth. We have the power to make life better in ways we cannot now imagine. Nothing, in my view, could be more important. F&D

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