

A portrait of an elderly man with white hair, wearing a dark green cable-knit sweater over a light-colored collared shirt. He is sitting at a wooden desk with his hands resting on it. The background is a bookshelf filled with books of various colors.

Prophet of
PESSIMISM

*Chris Wellisz profiles **Robert J. Gordon**, who predicts a slowdown in innovation will take a toll on economic progress*

Robert J. Gordon has a gloomy message for US millennials: unlike previous generations going back to the late 19th century, you won't see your standard of living double that of your parents.

"I'm here as the prophet of pessimism," says Gordon, 76, seated in his book-lined office at Northwestern University in Evanston, Illinois. Gordon is the author of a best-selling book, *The Rise and Fall of American Growth*. Its controversial thesis is that the United States is likely to languish in the economic doldrums, largely because the inventions of the future are unlikely to be as revolutionary as those of the "special century" from 1870 to 1970.

Electricity, the internal combustion engine, and indoor plumbing dramatically improved the standard of living in a way that's unlikely to be repeated, he argues. Most advances since then have been incremental rather than transformational.

"We moved from the speed of the horse and the sail to the Boeing 707, and we have not gone any faster since," Gordon says in an interview on the campus just north of Chicago by the shore of Lake Michigan. "The telegraph in 1844 created instantaneous communication, and we are now elaborating on instantaneous communication."

Beyond the ivory tower

The publication of *Rise and Fall* last year propelled Gordon into the ranks of economists whose renown extends far beyond the ivory tower. Gordon estimates that he's been interviewed at least 80 times by reporters and received more than 200 emails from readers. He has given the obligatory TED Talk and appeared on television. Among the many reviewers of his book was Microsoft founder Bill Gates.

Gordon's pessimistic message resonates at a time of economic malaise, as scholars struggle to explain the phenomenon for which Harvard University's Lawrence Summers has resurrected the term "secular stagnation." In the period from 1970 to 2014, labor productivity (output per hour worked) grew at an average annual pace of 1.62 percent, compared with 2.82 percent in the previous half-century.

At 762 pages, *The Rise and Fall of American Growth* offers a detailed and colorful account of the transformation of every aspect of daily life in America, from shopping and entertainment to medicine and

banking. Even those who dispute his conclusions admire the breadth and depth of his scholarship.

"Bob is absolutely unimpeachable about the past," says Andrew McAfee, coauthor, with Erik Brynjolfsson, of *The Second Machine Age*, which argues that computers and other digital technologies will do for mental power what the steam engine did for muscle power. "He makes the argument very well that this past century was an absolutely extraordinary one. Where Bob and I part company is about the innovations that we see unfolding around us now, and how big a deal they're going to be."

Lower impact

Gordon doesn't dispute the significance of advances such as the personal computer and the Internet, which generated a burst of growth from 1996 until 2004. But most of those haven't measured up to what he calls the "great inventions" of the past, which remade the economy in a way that smartphones and tablet computers have not. In public appearances, Gordon displays two images side by side: a smartphone and a toilet. "Which would you rather give up?" he asks.

He relishes his role as the scourge of the techno-optimists. One of his intellectual sparring partners is Joel Mokyr, a fellow Northwestern economist who jokingly refers to Gordon as "my esteemed and much misguided colleague."

"We actually agree on most things," Mokyr said in a recent appearance at the IMF's headquarters in Washington, DC, where he discussed his recently published book, *A Culture of Growth: The Origins of the Modern Economy*.

In it, Mokyr argues that values and beliefs that arose in Western Europe in the years 1500–1700 produced a spirit of scientific inquiry that laid the groundwork for the great inventions that came later. A precondition for the steam engine was the discovery that it's possible to produce a vacuum.

"If you look at what's happening to science and scientific progress in the past decade, I think it's been as exciting as ever," Mokyr says.

Gordon sticks to his guns, saying he sees little evidence that the latest technology has had a significant impact.

"Lots of things are being proposed—replaceable body parts, enormous revolutions in medicine—but they are going to happen very slowly," Gordon says.

Rise and Fall is the culmination of decades of research into the sources of economic growth. In his PhD thesis at the Massachusetts Institute of Technology (MIT), Gordon developed a new method of estimating the costs of construction. That eventually led to his groundbreaking 1990 book, *The Measurement of Durable Goods Prices*, which demonstrated that standard measures of capital failed to account for improvements in quality. “It was a very, very important contribution and changed the way people think about growth,” said Lawrence Christiano, chairman of Northwestern’s economics department.

Inflation has been another major area of research for Gordon. The “stagflation” of the 1970s—a simultaneous increase in both inflation and unemployment—challenged the conventional view, embodied in a relationship known as the Phillips curve, that higher inflation was generally accompanied by lower unemployment.

Gordon pioneered the development of a modified version of the Phillips curve that accounted for the impact of supply shocks such as the oil crisis of

The US Bureau of Labor Statistics adopted some of its recommendations for changes to the way it calculated the price index.

Gordon’s work on the “triangle” model of inflation demonstrated the importance of “core” inflation, which strips out the impact of volatile food and energy prices. That allows Federal Reserve policymakers to focus on the longer-term inflation trend while looking past short-term fluctuations caused by such developments as a sudden spike in gasoline prices.

Nobel Prize-winning economist Paul Krugman calls that a “highly important” contribution.

“Twice recently—in 2008 and 2011—we’ve seen surges in headline inflation, with many people warning that central banks were behind the curve and demanding that rates be hiked and/or quantitative easing be reversed,” Krugman writes in an email.

“But these were all about commodity prices—which meant that core inflation was quiescent. The Fed, which focused on core, therefore concluded rightly that it should stay the course.”

Rise and Fall was inspired by a trip to a bed-and-breakfast in Michigan, where Gordon chanced upon

Gordon relishes his role as the scourge of the techno-optimists.

1973, when the price of a barrel of crude shot up to \$12 from \$3.

That research formed the basis for what Gordon calls the “triangle” model of inflation, which accounts for changes in supply and demand as well as inertia, or the time it takes for those changes to affect the overall level of prices.

The model proved relevant in explaining another surprising phenomenon: the “Goldilocks” economy of the 1990s, when unemployment remained low at a time of tame inflation. Gordon now plans to update his model to explain why prices continued to rise during the global financial crisis of 2008–09, despite the seismic shocks to output and employment.

During the Goldilocks years Gordon served on a five-member panel of economists formed by the Senate Finance Committee in 1995 to study the accuracy of the consumer price index. The Boskin Commission, named for its chairman, Stanford University economist Michael Boskin, concluded that the index overstated inflation by 1.1 percentage points.

a book of photographs by Otto Bettmann titled *The Good Old Days: They Were Terrible!* The book, by the founder of the Bettmann photographic archive, depicts the miseries of slum life in the late 19th century. “So it was natural to see how enormously things have improved since then,” Gordon recalled.

He spent four years on the book, aided by teams of research assistants. His office and home were crammed with piles of books bristling with Post-it notes. The result was a startling level of detail describing the drudgery of daily life in the pre-Civil War United States and the dramatic improvements that came later with inventions such as indoor plumbing, electric lights, and kitchen appliances.

One of Gordon’s research assistants was Andrew Sabene, who spent long hours in Northwestern’s transportation library, poring over 19th century railroad timetables.

Sabene described Gordon as a demanding boss who had his researchers keep close track of their time. But the two eventually bonded over their mutual interest

in music, even meeting over coffee with Gordon's wife, Julie, a portrait artist and professor of English and film at Northwestern, to talk about their favorite classical composers and Broadway musicals.

Gordon's neat, if jam-packed, office is a testament to the variety of his interests—which include photography, aviation, and history. While his shelves are lined with books on economics—including several editions of his own popular textbook, *Macroeconomics*—the walls are covered with photos of his travels to countries such as India and Thailand.

In an intermediate macroeconomics class packed with more than 200 students, Gordon delivers a brisk and well-organized lecture with the help of an overhead projector, which allows him to sketch out graphs as he speaks.

Gordon says he enjoys teaching, particularly his freshman seminar titled “Did Economics Win Two World Wars?” “That title is a subterfuge because it is about the wars themselves, not just about economics,” he says.

That subterfuge reflects his early interest in history. As an undergraduate at Harvard University, he initially planned to major in the subject but changed his mind after getting a B in one course. “History was too subjective; there were too many different possible answers,” he says. “Maybe I just was too nervous about a subject that I could get a B in.”

All in the family

So he followed in the footsteps of his parents, Robert Aaron and Margaret Gordon, both prominent economists at the University of California, Berkeley. His younger brother, David Gordon, also an economist, taught at the New School for Social Research in New York. He died in 1996, at 51.

After graduating from Harvard in 1962, Gordon went on to earn a doctorate at MIT, where his thesis adviser was Robert Solow, the Nobel Prize winner who in 1987 famously observed that the computer age could be seen everywhere except in the productivity statistics. (It was almost another decade before the impact of the new technologies on productivity became apparent.)

The slowdown in innovation isn't the only thing that's holding back growth, Gordon argues. The US economy also faces “headwinds” such as rising inequality, a plateau in educational attainment, an aging society, and the burden of government debt.

What does Gordon's pessimistic prognosis portend for US President Donald Trump's plan to boost growth



PHOTO: JUSTIN RUNQUIST

to between 3 percent and 4 percent a year with the help of cuts to personal and corporate income taxes and a \$1 trillion infrastructure program?

Trump's stimulus could boost productivity and growth in the short term as existing workers labor more intensively and new ones are drawn into the labor force, Gordon says. But the improvement is unlikely to last more than a year or two.

He ticks off a list of obstacles. Trump's policies would probably drive up the dollar and interest rates, which would tend to restrain growth. Cuts to non-defense spending would also be counterproductive. And tax cuts aimed primarily at the affluent might do little to boost demand, because the rich are less likely than the poor to spend the extra income.

Instead, policymakers should focus on raising productivity in the long term, largely through improvements to education and training, Gordon says. He suggests eliminating disparities between rich and poor public school districts, investing in early childhood education, and creating a German-style system of vocational training.

Gordon's former research assistant, Sabene, says he's heartened by the prospect that even if the United States has fully realized the benefits of the great inventions of the past, that is not true for much of the world.

“Think of countries like India where running water and urbanization and all of that is still in process,” he says. “I take some comfort in knowing that there's a lot of runway left to go.” **FD**

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Economist Robert Gordon predicts US productivity growth will slow dramatically.