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The following article in the *New York Times* on December 3, 2011 sketches the careers of Thomas Sargent and Christopher Sims, two macroeconomists who won the latest Nobel Prize in Economic Science (which was announced on October 10, 2011).

Good Morning. You're Nobel Laureates.

By JEFF SOMMER

CHRISTOPHER A. SIMS, a prodigious mathematician and a path-breaking economist, was fast asleep at his home near [Princeton University](#) when the telephone rang.

It was early on the morning of Oct. 10, the sun not yet up. A crank call, he figured, and rolled over.

Then the phone rang again. His wife, Cathie, fumbled for the receiver.

“If it’s a prank,” she whispered, “they’re doing a pretty good Swedish accent.”

At the same hour, near the campus of [New York University](#) in Manhattan, Thomas J. Sargent was already wide awake. He, too, had received an unexpected call.

Stockholm was on the line. The two men, intellectual sparring mates for more than 40 years, had won the Nobel in economic science. (They are to collect it on Saturday.)

And yet, in this time of economic angst, with the fate of [the euro](#) and the course of the global economy uncertain, these two Americans have reached the pinnacle of a profession that, to many, seems to have failed miserably. The financial crisis of 2008-09, the Great Recession, the debt mess in Europe — few economists saw all of it coming. For all its elegance, modern macroeconomics seemed to provide little help when the world needed it most.

Today, solutions to our economic troubles, from onerous government debt to high unemployment, remain elusive. And the field of economics, like Washington politics, seems as polarized as ever.

During [the Great Depression](#), [John Maynard Keynes](#) held out remedies. His ideas have shaped many policy makers’ thinking ever since. Keynes maintained that market economies are inherently unstable and, if left to their own devices, can self-destruct. Hence governments, he argued, must sometimes intervene.

Mr. Sims and Mr. Sargent neither prescribe cures nor forecast the future. Nor do they deal in the sound bites of talking heads on cable TV. They are reluctant celebrities, men whose work can baffle even Ph.D.’s.

So it comes as a surprise, not least to [Mr. Sims](#) and [Mr. Sargent](#), that these two now find themselves thrust into an uncomfortable spotlight. Conservative voices, like [the editorial](#)

[page](#) of The Wall Street Journal, have claimed them as their own. The men's work on economic cause and effect and the theory of rational expectations — which maintains that people use all the information available in making economic decisions — proves that Keynes had it wrong, these [commentators say](#).

It would be a provocative thesis — if it were true. But Mr. Sims and Mr. Sargent say their work is being misread. Both, in fact, are longtime Democrats who maintain that government can, and should, play a role in economic affairs. They stand behind many recent policies of the Obama administration and the Federal Reserve. They even have some ideas about how European governments might defuse the running crisis on the Continent.

They won their Nobel for “their empirical research on cause and effect in the macroeconomy,” in [the academy's words](#). What that means, in part, is that they have done some serious math. Today, ideas they largely formed in the 1970s and '80s help shape the thinking inside the Fed and on Wall Street.

Their work goes beyond old labels like Keynesianism and the monetarism of [Milton Friedman](#). They have shown that fiscal and monetary policy are inextricably linked, and their research reflects the broad shift in economics from words to numbers — toward a level of empirical analysis that few outside the profession can readily grasp. But it contains a kernel of skepticism appropriate for these troubled times. In a world of uncertainty and constraint, cause and effect may not be what they seem. As a result, we must test and retest our assumptions — and try to prepare for the unexpected.

“The most impressive thing about them as scholars,” says David Easley, an economist at Cornell University, “is that in recent years they have questioned the assumptions of the models they helped to create, and they have been at the vanguard of the efforts to go beyond them.”

Mr. Sargent says his most important work is spoken “in the beautiful language of math.” He knows it's not widely understood.

“The kind of work we do, that real economists do, will never catch on with the public,” he says.

THOMAS SARGENT, in a draft of his Nobel acceptance speech, refers to himself as an “American provincial.” On a recent afternoon, over a bowl of noodles at an Asian restaurant near N.Y.U. in Greenwich Village, he used football metaphors to discuss economics. He compared fiscal policymakers to coaches, with X's and O's. He often wears T-shirts, sweatshirts and baseball caps, gear as appropriate in Montana, where he keeps a cabin, as it is in Washington Square.

Born in 1943, the son of an insurance salesman and a social worker, Mr. Sargent grew up in Monrovia, Calif., east of Pasadena. He says he didn't cut an impressive figure in high

school. “I wasn’t the brightest kid, not by a long shot,” he says. “I was interested in football, in girls, in getting my work done with the least amount of effort.”

Economics? Please. “I think you’ve got to watch out for anybody in high school who says he wants to become an economist,” he says.

And yet, from an early age, Tom Sargent was acquainted with real-world economics. Both of his grandfathers were pretty much wiped out in the Depression, he says.

His classmates at Monrovia High School say he was exceptionally bright — an academic whiz who also ran track and was president of his junior class. He graduated in three years and headed to the University of California, Berkeley.

There, he took introductory courses in economics and political science, a subject that still fascinates him. He went door to door to campaign for John F. Kennedy and, although his work has been embraced by political conservatives, says he is a lifelong Democrat who fondly remembers “the days when all the Democrats believed in balanced budgets.”

Economics, rather than politics, became his life’s work partly because of an inspiring teaching assistant named Jerry Kenley. Fifty years later, sitting in his office at N.Y.U., Mr. Sargent remembers his old T.A.

“Jerry liked to say, ‘Economics is organized common sense.’ I still think that’s about right,” Mr. Sargent says. Those early classes touched on everything from farm subsidies to taxation. “Wow, it really got me going,” he says.

He hasn’t been in touch with Mr. Kenley in 50 years. Now retired in California, after a career as a professor in the state university system, Mr. Kenley says: “Tom Sargent was sharp as a tack on every point.”

At Berkeley, Mr. Sargent also crossed paths with Hyman Minsky, the business-cycle theorist whose work has returned to vogue since the start of the global financial crisis. Mr. Minsky, who died in 1996, argued that during exuberant periods, financial markets create credit bubbles that eventually lead to credit tightening, downturns and crises — events now sometimes known as “Minsky moments.”

Mr. Minsky was Mr. Sargent’s adviser and encouraged him to pursue graduate work at Harvard. “He told me I was capable of succeeding in a place like that,” Mr. Sargent said. “I didn’t think I could handle it. I didn’t have the math.”

In retrospect, Mr. Sargent believes that Mr. Minsky’s math skills, too, were less developed than they might have been. But at Mr. Minsky’s urging, the young man from Monrovia set out for Cambridge, Mass.

WHEN Tom Sargent arrived at Harvard in 1964, Christopher Sims was already turning heads there. Mr. Sims had studied mathematics at Harvard College, then dazzled the economics department as a grad student.

Mr. Sargent says the two weren't close friends then. "He was so brilliant I was afraid to talk to him," Mr. Sargent says.

Mr. Sims wrote his undergraduate thesis on information theory, a subject to which he has returned over the years. In his senior year, he says, he wanted "something more practical" and switched to economics.

It was a natural move. His grandfather William Morris Leiserson was a labor economist and member of the National Labor Relations Board during the administration of Franklin D. Roosevelt. His uncle, Mark Leiserson, a Yale economist, urged him from age 10 to enter the profession.

"It backfired at first," Mr. Sims says, surrounded by books in his Princeton office. "But I guess something stuck."

Great things were expected of him. His math teacher at Greenwich High School in Connecticut, Stephen Willoughby, now a retiree in Tucson, Ariz., says he was a math prodigy. "I always expected Chris would win a Nobel. I just wasn't sure what field it would be."

Mr. Sims's classmates voted him most likely to succeed. "In a class of intelligent people, he was exceptional," says Joyce Tracksler, a high school friend who is now a mystery writer in Kittery Point, Me.

His parents were exceptional, too. His father, Albert, was a diplomat, and young Chris lived in Germany a few years as a child. The family later moved to the Washington suburbs before settling in Greenwich. His father became an executive at the Institute of International Education and at the College Entrance Examination Board in New York. During the Kennedy administration, he helped start the Peace Corps.

Because of his father's College Board connections, Mr. Sims got hold of an old SAT exam, which he and Mr. Willoughby used to conduct a statistical analysis. They found that on multiple-choice questions in English and social studies, the "longer answers tended to be correct." In math, they determined that the number that was "closest to all of the other numerical choices" was probably the right one. Mr. Willoughby says Mr. Sims got perfect scores on SATs, and his teacher assumed that the young man would later "do something involving math, statistics and probability."

[Mr. Sims's mother, Ruth](#), made her own mark in Greenwich. Now ailing, she was president of the League of Women Voters of Connecticut in Mr. Sims's youth and in 1977 became the first Democrat since 1905 and the first woman ever to hold the highest office in town, the position of first selectman.

She won the first of two terms in a runoff after several recounts and reports of possible skulduggery, though never proven, by members of the Republican opposition.

“There isn’t much political coloration in my economic writing,” Mr. Sims said one afternoon in his Princeton office, looking very much like an older version of the Greenwich boy he was, in a blue oxford button-down shirt, black slacks and moccasins. “It’s not surprising that few people know my political views. They really aren’t very important.”

AS Mr. Sargent tells it, Mr. Sims changed his life. In 1972, Mr. Sims published an article titled [“Money, Income, and Causality.”](#) Mr. Sargent says he recognized its importance but couldn’t follow all of it.

“I spent the next two years learning enough math so that I could make sense of it,” he says. “From there, having learned that language, I was able to start asking some questions of my own and to go in my own direction. That paper really got me started.”

Around the same time, Mr. Sargent says, he was denied tenure at the University of Pennsylvania and needed a job. Mr. Sims had just taken a position at the University of Minnesota.

“I got a call from Chris,” Mr. Sargent says, “and the next week I had an interview and a job offer and my life really went in a great direction.” (Mr. Sims says he doesn’t remember the details.)

In his office, Mr. Sims translates the paper that sent Mr. Sargent on a math quest. It provided a technique to assess the direction of causality in central bank monetary policy.

Just as monetarists like Mr. Friedman had said, shifts in the money supply affect inflation, the paper showed.

“The monetarists loved it,” he recalls. It appeared to confirm their theory that changes in the growth of the money supply determined inflation.

But the paper also helps explain why Mr. Sims has been called an iconoclast. His technique was later used to show that the causality went both ways. “Variables like interest rates and inflation also led to changes in the money supply,” he says.

Monetarism has not entirely recovered.

Mr. Sims developed a statistical approach called vector autoregression, or V.A.R. It enables the testing of cause and effect — whether, for example, the money supply is affecting interest rates, or vice versa. That is a crucial determination if economic models are to have any accuracy, as the Nobel committee has noted.

V.A.R. has become a tool, albeit a highly specialized one, in financial analysis. It's used in some models run by central banks, and, as Aaron Gurwitz, the chief investment officer at Barclays Wealth, says, it has been useful in "helping us understand the patterns in market volatility over time."

Mr. Sims now spends much of his time using information theory — he compares limits on our ability to process information to the limits on water flow imposed by a pipe — to expand the horizons of economic modeling. He calls his new approach "rational inattention," and is the first to say that V.A.R. techniques aren't a panacea.

"People have criticized them, saying they didn't give us enough understanding to prevent the financial crisis, and that's true," he says. "But that's like saying, after a teenager gets into an accident, that driver's education failed because the teenager took it and still got into an accident. You'd still want a teenager to take driver's ed."

GOOGLE "Thomas Sargent" and "rational expectations" and you'll get hundreds of hits. Along with Robert E. Lucas Jr. of the University of Chicago, who won the Nobel in 1995, Mr. Sargent is widely considered one of the founders of the theory, though he says it had many earlier proponents, including Keynes.

(Mr. Sargent, formerly of the University of Minnesota, and Mr. Lucas were also often labeled members of the "freshwater" school of economics, partly because of the inland location of their universities. That label makes little sense now, if it ever did, says Mr. Sargent, a Californian transplanted to Manhattan, a "saltwater" enclave.)

Put simply, the idea of rational expectations is that in many economic situations, the outcome depends on what people expect to happen. That might sound obvious today, but in the '70s and '80s, many economic models, based on aspects of Keynesian theory, didn't take expectations into account. Policies informed by those old models may have helped cause the stagflation of the '70s. In 1977, Mr. Sargent wrote a paper, ["Is Keynesian Economics a Dead End?"](#), which highlighted such models' flaws.

He attributed many of these failings to economists who adapted Keynes's theories, and not to Keynes himself, whom he considers a great economist. But like Minsky, Keynes "didn't have enough math to really develop his concepts on his own," Mr. Sargent says.

After learning enough to crack Mr. Sims's equations, Mr. Sargent says he realized he needed to know more. A tenured professor at Minnesota at the age of 30, he sat in on higher-level math courses and continued for years. And as the Nobel committee has noted, he has helped to make rational expectations part of mainstream thought and to take econometric modeling to a new level. His book, ["The Conquest of American Inflation,"](#) is still useful in analyzing prospects for inflation in the current climate, Mr. Gurwitz says.

"Tom Sargent developed a model that shows how policy makers and markets had a meeting of the minds in the '80s, and got inflation under control," he says.

Mr. Sargent not only analyzed changes in central bankers' understanding of the relationship between inflation and unemployment, but he also factored in the financial markets' reaction to changes in policy, and, further, the reaction of the policy makers to the reaction of the markets.

"It's a beautiful model," Mr. Gurwitz says, "and it helps us understand what's going on today."

Still, Mr. Sargent has his critics. In a [blog post](#) at the market nadir in March 2009, for example, Willem Buiter, now chief economist of Citigroup, said Mr. Sargent was among the scholars whose theories had left the profession "unprepared when the crisis struck." Mr. Buiter would not comment for this article.

Mr. Sargent is tough on himself, saying the "rational expectations approach" and the techniques he has helped to pioneer don't yet capture economic reality. How do people really think, as individuals and in a market? How should we account for changes in expectations as people learn? How should we incorporate human thinking more realistically into economic models? He's grappling with such questions, seeking more sophisticated techniques that incorporate what he calls the theory of "adaptive learning."

His own assumptions need to be continually re-examined "to capture a fundamentally uncertain, constrained, complicated world," he says.

[Simon Potter, director of economic research at the New York Federal Reserve](#), says he has taken Mr. Sargent's message to heart: "Our profession hasn't reached the stage where it can reliably forecast the economy," Mr. Potter says. "Our collective failure to do so in the financial crisis shows this."

And so, he says, "we at the Fed have been using the teachings of Thomas Sargent to 'tweak our models' and build in alternative assumptions." The point is to "ratchet down our forecasts," he says, and try to prepare for "less obvious, less easily expected outcomes."

WHILE neither Mr. Sims nor Mr. Sargent gives much prescriptive advice about the current economic malaise, both have already given guidance about the global crisis — providing advance warning of serious consequences if policy makers fail to understand the links between monetary and fiscal policy.

[In a prescient paper](#) more than a decade ago, Mr. Sims warned of disaster to come in the euro zone if a new central bank wasn't accompanied by a unified fiscal authority. To avoid disaster now, he says, the European Central Bank must show a willingness "to act as a lender of last resort" in Europe. If that happens, he says, markets may be able to stabilize long enough for Europeans to study a long "menu" of accompanying fiscal and political arrangements.

Mr. Sargent has also written extensively about “budget constraints” and monetary policy. [One influential study](#), “Some Unpleasant Monetarist Arithmetic,” written with Neil Wallace of Penn State, says a central bank will eventually run out of ammunition if the government fails to manage its debt. That analysis applies to the United States today, Mr. Sargent says.

“There are many choices open to us here,” he says. “But at some point the market will have to be convinced that the government can handle its debt.”

As for the euro, he says he will provide a few possible answers in his Nobel speech on Saturday. His draft is a scholarly, 40-page, footnoted, annotated paper. “There isn’t much about Europe in it,” he acknowledges. “They don’t want advice from an American, really.”

The paper contains an explication of rational expectations econometric theory, written in English and math, and an astute fiscal and monetary history of the United States in its early days.

Mr. Sargent notes that the United States moved from loose confederation to federal union — the arrangement embodied in the Constitution — in large part because of a crippling debt crisis. The parallels with Europe seem clear. Is he calling for a federal Europe?

“Maybe,” he says. “I’m pointing out the constraints and the possibilities.”

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