# Why Everyone Read Samuelson

*The late Nobel laureate's mathematical approach to economics has been a mixed blessing.*

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Three years after World War II drew to a close, a young professor at MIT published "Foundations of Economic Analysis." Its mathematical approach to economics would revolutionize the profession. And its author, Paul Samuelson, would go on to earn many awards and honors, culminating in 1970, when he won the Nobel Prize in economics—the second year it was awarded. Samuelson died on Sunday at the age of 94.

His influence has been profound, but the mathematization of economics has been a mixed blessing. The downside is that the math hurdle in leading U.S. economics programs is now so high that people who grasp the power of economic concepts to explain human behavior are losing out in the competition to mathematicians.

The upside is that Samuelson sometimes used math to resolve issues that had not been resolved at a theoretical level for decades. As fellow Nobel laureate Robert Lucas of the University of Chicago said in a 1982 interview, "He'll take these incomprehensible verbal debates that go on and on and just end them; formulate the issue in such a way that the question is answerable, and then get the answer." For instance, Swedish economist Bertil Ohlin had argued that international trade would tend to equalize the prices of factors of production. Trade between, say, India and the United States would narrow wage-rate differentials between the two countries. Samuelson, using mathematical tools, showed the conditions under which the differentials would be driven to zero: It's called the Factor Price Equalization Theorem.

He contributed fundamental insights in consumer theory and welfare economics, international trade, finance theory, capital theory, general equilibrium and macroeconomics. In finance theory, which he took up at age 50, Samuelson did some of the initial work that showed that properly anticipated futures prices should fluctuate randomly.

Economists had long believed that there were goods that would be hard for the private sector to provide because of the difficulty of charging those who benefit from them. National defense is one of the best examples of such a good. In the 1954 Review of Economics and Statistics, Samuelson gave a rigorous definition of a public good that is still standard in the literature.

"Let those who will write the nation's laws if I can write its textbooks," Samuelson said during a speech at Trinity University in San Antonio, Texas. He revised his own widely read textbook, "Economics," about every three years since 1948. One of the best and punchiest statements in the 1970 edition was his comment about a proposal to raise the minimum wage from its existing level of $1.45 an hour to $2.00 an hour: "What good does it do a black youth to know that an employer must pay him $2.00 an hour if the fact that he must be paid that amount is what keeps him from getting a job?"

This is the kind of comment that causes many on the left to grit their teeth; and yet Samuelson was a liberal Keynesian and the best-known rival of the late libertarian monetarist, Milton Friedman. The two men respected each other highly, but the intellectual influence was mainly one way. Over time, Samuelson came more to Friedman's views, especially on monetary policy.

In the 1948 edition of his textbook, Samuelson wrote dismissively, "few economists regard Federal Reserve monetary policy as a panacea for controlling the business cycle." But in the 1967 edition, he wrote that monetary policy had "an important influence" on total spending. In the 1985 edition, Samuelson and co-author William Nordaus (of Yale) would write, "Money is the most powerful and useful tool that macroeconomic policymakers have," and the Fed "is the most important factor" in making policy.

Paul Samuelson began teaching at the Massachusetts Institute of Technology in 1940 at the age of 26 and remained there, publishing on average almost one technical paper a month for over 50 years. In addition to the Nobel Prize, he also earned the John Bates Clark Award in 1947, awarded for the most outstanding work by an economist under age 40. He was president of the American Economic Association in 1961.

Samuelson, like Milton Friedman, had a regular column in Newsweek (from 1966 to 1981). Unlike Friedman, he did not have a passionate belief in free markets—or, for that matter, in government intervention in markets. His pleasure seemed to come from providing new proofs, demonstrating technical finesse, turning a clever phrase, and understanding the world better.

But not always. Samuelson had an amazingly tin ear about communism. As early as the 1960s, economist G. Warren Nutter at the University of Virginia had done empirical work showing that the much-vaunted economic growth in the Soviet Union was a myth. Samuelson did not pay attention. In the 1989 edition of his textbook, Samuelson and William Nordhaus wrote, "the Soviet economy is proof that, contrary to what many skeptics had earlier believed, a socialist command economy can function and even thrive."

Although I was never a fan of Samuelson's textbook, an appendix on futures markets in a late 1960s edition laid out beautifully how the profit motive in futures markets causes reallocation from times of relative plenty to future times of relative scarcity. In 1990 I asked him to do an article on futures markets for "The Fortune (now "Concise") Encyclopedia of Economics." He replied quickly that he did not have time and ended graciously, "My loss."

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