



Business Is Booming in Empirical Economics

By Betsey Stevenson & Justin Wolfers - Aug 6, 2012

Many had pronounced the field of economics discredited after the global financial crisis. Instead, it's in the midst of a revolution.

The transformation isn't a mea culpa, or a knee-jerk reaction to the crisis. Rather, it's a long-running shift toward a more empirical field, to the study of what hard data can tell us about the way the world really works.

Consider the stream of data you will create today. Your metro card will record what time you caught the train. Your Web browser will note how you go about your job, and how much you procrastinate. A mid-afternoon purchase at Starbucks will reveal your penchant for lattes and the occasional cookie. Your flow of e-mail traffic will trace out your professional and personal networks.

At the same time, computing power has made it extremely easy and cheap to analyze all the data you produce. An economist with a laptop can, in a matter of seconds, do the kind of number crunching it used to take a roomful of Ph.D.'s weeks to achieve. Just a few decades ago, economists used punch cards to program data analysis for their empirical studies.

The result has been a boom in empirical research. For example, Raj Chetty, a professor of economics at [Harvard University](#), has been analyzing decades of tax returns -- a total of 6 billion observations -- to learn, among other things, [how your kindergarten teacher affects your long-term earnings](#).

Roberto Rigobon and Alberto Cavallo, both economists at [Massachusetts Institute of Technology's Sloan School of Management](#), have built the [Billion Prices Project](#), which provides a daily reading on inflation based on prices from online retailers. In our own [recent research](#), we have analyzed the results of surveys asking millions of people about their happiness.

Changing Theories

The shift toward an even more empirically grounded economics doesn't mean theory is less important. When facts were expensive and scarce, the role of theory was to "fill in" for missing data. Now, its purpose is to make sense of the vast, sprawling and unstructured terabytes on our hard drives.



The data revolution is, however, changing our theories -- specifically the way we choose to model how people behave. For decades, economists assumed that people made calculated, rational decisions. Without better data to help structure our understanding of people's preferences, it was a safe and convenient choice, even if it was often wrong.

With new data on everything from how we choose our retirement savings plans to how NBA referees call fouls, we have learned to look beyond "homo economicus." We have a much better grasp of the systematic flaws in reasoning that often get people into trouble. We know they have a hard time committing to do difficult things in the future -- to go to the gym, to lose weight, to save. So we know people can benefit from policies, such as making 401(k) contributions automatic unless they opt out, that help them commit to good behavior.

Although perhaps obvious in hindsight, these insights were put forward over the past several decades by a renegade band of "behavioral economists" such as [Daniel Kahneman](#), [Richard Thaler](#) and Matthew Rabin. Today, behavioral studies inform all fields of economic inquiry.

In the mathematical models they build to help them understand the world, economists have also long made another peculiar assumption: that the behavior of an entire group of individuals -- say, U.S. consumers -- can be modeled as if it were a single "representative agent." Today, we have much better data describing the decisions of individuals, and the power of our computers allows us to populate our models with millions of such people, rather than just one.

Economic Lens

Perhaps the broadest insight that has come with the explosion in data is the understanding of how economic reasoning suffuses almost every aspect of our lives. The economic lens can be very helpful in parsing strategic interactions, the causes of discrimination, patterns of marriage and divorce, and how our political machinery operates.

The incursions of economists into new areas have not always been welcomed by our sister social sciences. But it has been a two-way street: Sociology, political science and psychology have come to play an important role in economic analysis -- as the [awarding of the Nobel Prize](#) in Economics to Kahneman, a psychologist, demonstrates.

This narrative of progress may be unsatisfying to those who expected renewed humility after the financial crisis. Undoubtedly, it has been an embarrassing few years for the economics profession. Many economists have resorted to very public soul-searching. Others, such as [Paul Krugman](#), offer a narrative in which the field is actually regressing.

Ours is a different story. Technological change has brought opportunities to do economics in a way

that our predecessors could only have dreamed about. Those opportunities have, in turn, yielded a field that is more connected to reality. Our hope is that these insights will improve our understanding of the economy and give us a better shot at avoiding the next crisis.

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