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Reinhart-Rogoff's Lesson for Economists

By Betsey Stevenson & Justin Wolfers - May 6, 2013

What lesson can economists draw from the ruckus over a flaw found in an influential study by two Harvard University scholars? Our suggestion: Do a better job of checking one another's work.

Empirical research has enjoyed an unaccustomed level of public attention since April 16, when a group of researchers published a [critique](#) of work by the economists [Carmen Reinhart](#) and [Kenneth Rogoff](#). The critique [pointed out](#) a spreadsheet error -- now famous thanks to the blogosphere and "[The Colbert Report](#)" -- in a 2010 study on the relationship between government debt and economic growth.

Many observers have concluded that the error went undetected for so long because the research never underwent peer review, a traditional stop on the way to the coveted goal of publication in a prestigious journal. But peer review isn't a line-by-line error check. It involves a few academics making a holistic judgment as to whether new research increases our understanding of the world.

There's only one reliable way to verify empirical findings: Try to replicate them. In the narrowest terms, this can mean taking the author's data and checking their spreadsheets, as economists Thomas Herndon, Michael Ash and Robert Pollin did in their critique of Reinhart and Rogoff. At a broader level, replication can mean collecting new data, assessing their reliability and using them to subject a finding to fresh scrutiny.

Perverse Incentives

Sadly, perverse incentives have made both the narrow and the broad forms of replication exceedingly rare in economics. As a result, we don't actually know how reliable most economic studies are.

Replication rarely leads to career success. "Ideas" people -- those exciting scholars generating new insights into how society functions -- are the stars of the profession. Those who do the grindingly difficult work of checking whether the stars' insights are actually true rarely get recognized. Who can name an economist who achieved fame through replication?

Editors of academic journals prefer to give what scarce space they have to exciting new ideas, rather than rehashing old debates. They commonly ignore even clear evidence of errors. In one case,

[according](#) to the economist Mark Thoma, the flagship American Economic Review declined to correct a mistake in a paper written by [Ben S. Bernanke](#) and [Alan Blinder](#), even though the authors acknowledged the error.

For a scholar, replication offers an unappealing bet. Heads, you discover that the findings of an original study are largely correct, and no journal will publish your paper because there's no interest in learning that something is still true. Tails, you find a serious flaw, but your results still probably won't be published and you've earned enemies who may try to land some reputational punches against you.

Even getting authors to share the data needed to replicate a study can be a challenge. In one [study](#), a team of determined replicators tried to examine 54 articles published in a leading macroeconomics journal in the 1980s. Many authors never responded to repeated requests for programs and data. Others refused or sent raw and often unintelligible computer files. When replication was possible, it frequently uncovered errors. All told, the team was able to replicate the findings exactly in only two articles.

Things have improved somewhat since the 1980s. Some leading economics journals, such as the American Economic Review, [require](#) that authors make their data available. Enforcement, though, remains [lax](#). A recent [report](#) found that only 20 of 39 papers published in the AER could be readily replicated.

Reproducibility Project

The economics profession can do better. Journal editors should refuse to publish papers until they have been replicated by a research assistant -- something the [Brookings Papers on Economic Activity](#) (of which Wolfers is a co-editor) already does. Poor replication policies undermine the value of all published research, because readers can't differentiate the work of careful scholars from the sloppier approaches of others.

Other academic disciplines are showing the way. After a wave of research into psychology studies found some to be irreproducible and others to be outright [fraudulent](#), dozens of psychologists signed on to the [Reproducibility Project](#), which is working to systematically replicate important findings. Other fields are pursuing an "open science" approach, with greater transparency throughout the research process.

Governments and universities, as major funders of research, have the power to improve replication standards. Unfortunately, Congress is moving in the other direction. A new bill drafted by Representative [Lamar Smith](#), Republican of [Texas](#), demands that the National Science Foundation fund only research that "is not duplicative of other research projects being funded by the Foundation or other Federal science agencies."

It's important to recognize that the way the Reinhart-Rogoff case unfolded is something of an anomaly in the world of academic economics. The authors made their raw data available on the Web, and shared their spreadsheets with their potential critics. Their statistical methods were simple and largely transparent. As a result, their error was easy to find and explain. The broad public interest in their research brought the debate into the open, where the status hierarchies that afflict most social science debates are less important.

Most economic research isn't as conducive to being easily corrected. Increasingly complex methods, employing gigabytes of data and reams of computer code, are making errors all the more likely. The power of incumbents to protect themselves, and the lack of incentives to unseat them, is weakening the marketplace of ideas. The gap between evidence and policy is widening as policy makers and the public learn to distrust statistical findings.

Perhaps a stronger culture of replication can help close the gap.

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