

“Statistical Significance” and the US Supreme Court:  
Ziliak-McCloskey

On March 22nd, 2011 the Supreme Court of the United States decided the case of *Matrixx v. Siracusano*, arguing unanimously that a bright-line standard of statistical significance is neither necessary nor sufficient for proving adverse effects in medical, drug, and other industries reporting to the Securities and Exchange Commission.

The McCloskey-Ziliak brief was not quoted in the opinion but their book and some of their articles did affect the case. According to Professor Ziliak,

“Our work affected several of the other briefs, including one filed on behalf of the United States of America.” During the January 10, 2011 oral argument Justice Sotomayor (who wrote the opinion) thanked "amici" for doing a "wonderful job" explaining the difference between statistical significance and practical importance. As she said in oral argument, "it depends on the nature of the study at issue" (p. 26 of 72).

When two University of Michigan Press authors, Deirdre N. McCloskey and Stephen T. Ziliak, first began saying so, back in the 1980s, most of their colleagues dismissed their logic and findings. Ziliak himself, a Trustee and Professor of Economics at Roosevelt University, was advised by some of his professors to stop talking about statistical significance. But he and McCloskey, co-authors of the critically acclaimed book, *The Cult of Statistical Significance: How the Standard Error Costs Us Jobs, Justice, and Lives* (University of Michigan Press, 2008), kept talking and talking. <http://press.umich.edu/titleDetailPraise.do?id=186351>

These distinguished economists had a more immediate role in the case. On November 12, 2010, they were invited to file an amicus brief with the Supreme Court of the United States. During the January 11th, 2011 oral argument, Justice Sotomayor, who wrote the unanimous opinion, thanked "amici" (that is McCloskey and Ziliak and others) for doing a "wonderful job" explaining the difference between statistical significance and practical importance. And several of the other briefs - including one filed by the United States of America - are influenced by their work.

Now their view is the rule of law: "Statistical significance is neither necessary nor sufficient for proving a commercial or scientific result."