

Research Commentary—Too Big to Fail: Large Samples and the p -Value Problem

Mingfeng Lin, Henry C. Lucas Jr, Galit Shmueli

Published Online: 22 Oct 2013 | <https://doi.org/10.1287/isre.2013.0480>

Abstract

The Internet has provided IS researchers with the opportunity to conduct studies with extremely large samples, frequently well over 10,000 observations. There are many advantages to large samples, but researchers using statistical inference must be aware of the p -value problem associated with them. In very large samples, p -values go quickly to zero, and solely relying on p -values can lead the researcher to claim support for results of no practical significance. In a survey of large sample IS research, we found that a significant number of papers rely on a low p -value and the sign of a regression coefficient alone to support their hypotheses. This research commentary recommends a series of actions the researcher can take to mitigate the p -value problem in large samples and illustrates them with an example of over 300,000 camera sales on eBay. We believe that addressing the p -value problem will increase the credibility of large sample IS research as well as provide more insights for readers.

[< Previous](#)

[Back to Top](#)

[Next >](#)



Volume 24, Issue 4

December 2013

Pages iii-vi, 883-1167

Article Information

Metrics

Downloaded 127 times in the past 12 months

Cited 835 times

Information

Received: August 15, 2012

Published Online: October 22, 2013

Copyright © 2013, INFORMS

Cite as

Mingfeng Lin, Henry C. Lucas Jr, Galit Shmueli (2013) **Research Commentary**—Too Big to Fail: Large Samples and the p -Value Problem. *Information Systems Research* 24(4):906-917.

<https://doi.org/10.1287/isre.2013.0480>

Keywords

empirical modeling

practical significance

effect size

p-value

statistical significance

inference

PDF download

Sign Up for INFORMS Publications Updates and News

SIGN UP

Partners

Atypen

crossref

PORTICO



Institute for Operations Research and the Management Sciences

5521 Research Park Drive, Suite 200
Catonsville, MD 21228 USA

INFORMS (Institute for Operations Research and the Management Sciences) is a U.S. 501(c)(3) nonprofit organization; EIN: 52-1898636.

phone 1 443-757-3500

phone 2 800-4INFORMS (800-446-3676)

fax 443-757-3515

email informs@informs.org

Get the Latest Updates

[Discover INFORMS](#)

[Explore OR & Analytics](#)

[Get Involved](#)

[Impact](#)

[Join Us](#)

[Recognizing Excellence](#)

[Professional Development](#)

[Resource Center](#)

[Meetings & Conferences](#)

[Publications](#)

[About INFORMS](#)

[Communities](#)

[PubsOnLine](#)

[2024 INFORMS/ALIO/ASOCIO International Conference](#)

[Certified Analytics Professional](#)

[Career Center](#)

[INFORMS Connect](#)

Copyright 2026 INFORMS. All Rights Reserved

[INFORMS Code of Conduct](#) | [Terms of Use](#) | [Privacy](#) | [Contact INFORMS](#) | [Sitemap](#)

Follow INFORMS on:



X



Facebook



LinkedIn



Bluesky