

The University of Chicago Department of Statistics

Seminar Series

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Subsampling and the m Out of n Bootstrap in Non-regular Models

MONDAY, January 28, 2008 at 4:00 PM 133 Eckhart Hall, 5734 S. University Avenue

Refreshments following the seminar in Eckhart 110.

ABSTRACT

This paper considers inference based on a test statistic that has a limit distribution that is discontinuous in a parameter. The paper shows that subsampling and m out of n bootstrap tests based on such a test statistic often have asymptotic size—defined as the limit of exact size—that is greater than the nominal level of the tests. This is due to a lack of uniformity in the pointwise asymptotics. We determine precisely the asymptotic size of such tests under a general set of high-level conditions that are relatively easy to verify. The results asymptotically invalidate subsampling and the m out of n bootstrap in some examples and validate them in others. A second paper introduces general methods of constructing tests and CIs that have correct asymptotic size.

Please send email to Mathias Drton (drton@galton.uchicago.edu) for further information. Information about building access for persons with disabilities may be obtained in advance by calling Karen Gonzalez (Department Administrator and Assistant to Chair) at 773.702.8335 or by email (karen@galton.uchicago.edu).