

Accepted Manuscript

Confidence sets and confidence bands for a beta distribution with applications to credit risk management

Seksan Kiatsupaibul, Anthony J. Hayter, Sarunya Somsong

PII: S0167-6687(16)30464-4

DOI: <http://dx.doi.org/10.1016/j.insmatheco.2017.05.006>

Reference: INSUMA 2353

To appear in: *Insurance: Mathematics and Economics*

Received date: November 2016

Revised date: April 2017

Accepted date: 17 May 2017

Please cite this article as: Kiatsupaibul, S., et al., Confidence sets and confidence bands for a beta distribution with applications to credit risk management. *Insurance: Mathematics and Economics* (2017), <http://dx.doi.org/10.1016/j.insmatheco.2017.05.006>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Confidence Sets and Confidence Bands for a Beta Distribution with Applications to Credit Risk Management

Seksan Kiatsupaibul^{a,*}, Anthony J. Hayter^b, Sarunya Somsong^a

^a*Department of Statistics, Chulalongkorn University,
Bangkok, Thailand*

^b*Department of Business Information and Analytics, University of Denver,
Denver, USA*

Abstract

Incorporating statistical multiple comparisons techniques with credit risk measurement, a new methodology is proposed to construct exact confidence sets and exact confidence bands for a beta distribution. This involves simultaneous inference on the two parameters of the beta distribution, based upon the inversion of Kolmogorov tests. Some monotonicity properties of the distribution function of the beta distribution are established which enable the derivation of an efficient algorithm for the implementation of the procedure. The methodology has important applications to financial risk management. Specifically, the analysis of loss given default (LGD) data are often modeled with a beta distribution. This new approach properly addresses model risk caused by inadequate sample sizes of LGD data, and can be used in conjunction with the standard recommendations provided by regulators to provide enhanced and more informative analyses.

Keywords: Credit risk, loss given default, beta distribution, multiple comparison, confidence band.

*Corresponding author, seksan@cbs.chula.ac.th

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات