



IBM SPSS Bootstrapping

Ensure the stability of your models

Highlights

- Bootstrap a number of IBM SPSS Statistics analytical procedures.
 - Reliably estimate standard errors and confidence intervals.
 - Determine the variability of a statistic using resampling with replacement.
 - Eliminate outliers and anomalies.
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IBM® SPSS® Bootstrapping helps you create more reliable models that generate the most accurate results for your important projects. The models your organization creates drive important decisions. They may be used to shape public policy, to prevent the spread of disease, or to determine a multi-million dollar investment. It's important that your models are stable, so that they will produce accurate, reliable results. Bootstrapping is a useful technique for testing model stability, and SPSS Bootstrapping makes it simple and easy to do.

This module of IBM SPSS Statistics provides an efficient way to ensure that your models are stable and reliable. It estimates the sampling distribution of an estimator by re-sampling with replacement from the original sample. With SPSS Bootstrapping, you can reliably estimate the standard errors and confidence intervals of a population parameter like a mean, median, proportion, odds ratio, correlation coefficient, regression coefficient, and numerous others.

Reliable models for critical projects

When you require the most reliable model be created to predict an outcome or map a sample to a population, simply running the model once on the sample data may not be the best approach because results are dependent on your sample data. Resampling with replacement will provide you with more accurate estimates of the reliability of your data.



A more complete view of your data

Computing a statistic on a large number of alternate datasets helps you determine the variability of that statistic. Through re-sampling, SPSS Bootstrapping can create thousands of alternate versions of your dataset, providing a more accurate view of what is likely to exist in the population. (Its default setting is 1,000 samples but this setting can be modified upward or downward.) IBM SPSS Bootstrapping also helps you eliminate the outliers and anomalies that can degrade the accuracy or applicability of your analysis. As a result, you have a clearer view of your data for creating the model you are working with.

SPSS Bootstrapping provides the ability to bootstrap a number of analytical procedures found throughout the SPSS Statistics product family, including:

Descriptive Procedures	Product
Descriptives	IBM SPSS Statistics Base
Frequencies	IBM SPSS Statistics Base
Examine	IBM SPSS Statistics Base
Means	IBM SPSS Statistics Base
Crosstabs	IBM SPSS Statistics Base
T-tests	IBM SPSS Statistics Base
Correlations/Nonparametric Correlations	IBM SPSS Statistics Base
Partial Correlations	IBM SPSS Statistics Base

Table 1: Descriptive Procedures

Modeling Procedures	Product
One-way	IBM SPSS Statistics Base
UniAnova	IBM SPSS Statistics Base
GLM	IBM SPSS Advanced Statistics
Regression	IBM SPSS Regression
Nominal Regression	IBM SPSS Regression
Discriminant	IBM SPSS Statistics Base
Logistic Regression	IBM SPSS Regression
Binary Multi-nomial Logistic Ordinal Regression	IBM SPSS Statistics Base
GENLIN	IBM SPSS Advanced Statistics
Linear Mixed Models	IBM SPSS Advanced Statistics
Cox Regression	IBM SPSS Advanced Statistics

Table 2: Modeling Procedures

IBM SPSS Bootstrapping is available for installation as client-only software but, for greater performance and scalability, a server-based version is also available.

Gain greater value with collaboration

To share and efficiently distribute assets, protect them in ways that meet internal and external compliance requirements and publish results so that a greater number of business users can view and interact with them, consider augmenting IBM SPSS Bootstrapping with IBM SPSS Collaboration and Deployment services. More information about its valuable capabilities can be found at ibm.com/spss/cds.

System requirements

Requirements vary according to platform. For details, see ibm.com/spss/requirements.

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With IBM software, companies can spot trends, patterns and anomalies, compare “what if” scenarios, predict potential threats and opportunities, identify and manage key business risks and plan, budget and forecast resources. With these deep analytic capabilities our customers around the world can better understand, anticipate and shape business outcomes.

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Software Group
Route 100
Somers, NY 10589

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