

Reliability factor is a mathematically calculated approximation of the probability of finding at least one exception in a sample of selected items at a given reliability level and error rate. Reliability factors are used to determine sample sizes and precision adjustment factors. They are common references for audit sampling purposes. See appendixes C and D.

Sample, sample items or sample population is the group of items selected, using a sampling method, from a larger general population.

Sample interval is the constant measured interval between items selected for a sample. This interval can be every nth item, e.g., every 10th item. Intervals can also be a set distance or position between items or the terminal digits of population items.

Sample plan is the process of setting objectives for the sample, selecting the population to be sampled, designing and selecting the sample, and evaluating and interpreting sample results.

Sampling risk is the risk that the sample is not representative of the entire population. Sampling risk is determined by a formula — 1 minus the reliability level as a decimal. For example, with 90 percent reliability, the sampling risk is 10 percent ($1 - .90 = .10$). This means that 10 percent of the time, or one time in ten, the results of the sample may not be indicative of the entire portfolio.

Statistical assurance, a product of precision and reliability, is the measure of reliance an examiner places on inferences drawn using the sample. It is commonly expressed in a probability statement.

Statistical or sample projection uses probability theory to apply sample results to the entire population sampled and depends on a random selection process. To understand probability theory, examiners must understand reliability and precision, as well as their interrelationship.