Accident data set was used to look at sampling size and how the size effects the measure of precision. The bigger the sample size, the more precise the estimate are; however, there is a trade off between financial realities and the desired precision. An Accident Index was generated as a product of number of accident and number of fatalities.

Figure 1 visualizes logarithm of standard error - measure of precision - as a function of logarithm of sample size. For each sample in a 1000 samples, a size of 100, 200, 400, 1000, 2000, 4000 were generated out of the original dataset for which standard error was calculated. To be more precise, the standard error decreases as a function of $n^{-0.5}$ which means that in order to decrease standard error by half, the sample size has to be increased by factor of 4.

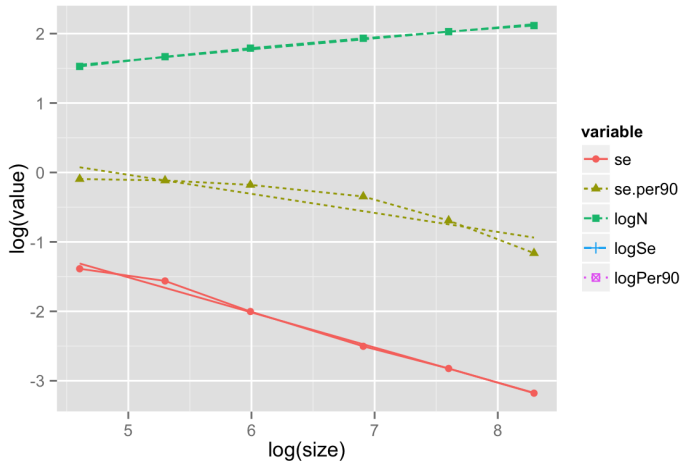

Figure 1. Precision as a function of sample size