Title: Credit Risk Simulation Study

Sarah L. M. Christiansen, PhD, FSA, SMC Actuarial Consultants, Inc.

Abstract: The credit crisis of the past two years, along with historically incredibly high spreads over treasuries, require that valuation actuaries revisit the question of where to set the default assumptions for cashflow testing. This study took data from the 2009 reports of Moody’s and S&P average cumulative default rates and created a blended expected average default for each of 6 ratings. 10,000 simulations were run on a theoretical portfolio of 100 bonds for each of the top six credit ratings using the blended rates as the expected cumulative defaults. Descriptive statistics and histograms were created from the simulation of the average cumulative default of the 100 bonds per simulation per rating. The lower the credit quality the more normal the distribution of results, but all of the distributions are skewed.