

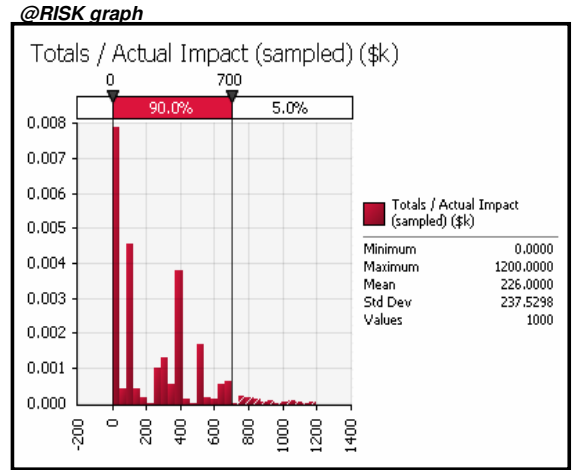
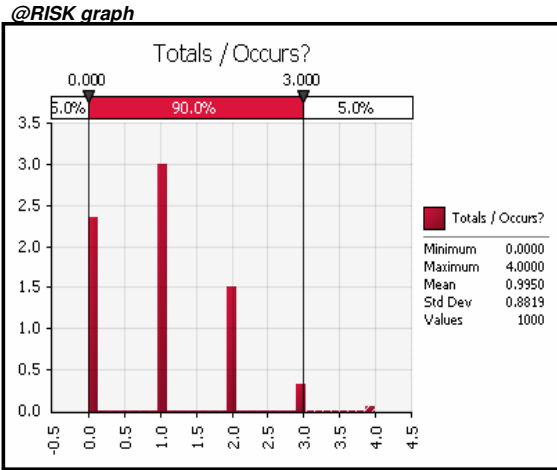
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1	<h3 style="margin: 0;">Event and Operational Risks</h3> <p style="margin: 0;">In many circumstances one wishes to calculate the aggregate impact of many possible yes/no type events. For example, it is often important to answer questions such as "What is the loss amount that will not be exceeded in 95% of cases?" Simulation is usually required to answer such questions. In this model, the "yes/no" events are modeled using Binomial distributions. The results profile shows a multi-peaked distribution, which is typical when there are discrete-type inputs. It can be seen that a provision level of around \$700,000 is necessary to cover 95% of the cases.</p> <p style="margin: 0;">Possible refinements to this model that could be made include:</p> <ul style="list-style-type: none"> a) Assessing the impact of <u>changing the loss resulting from each event into a distribution</u>, rather than assuming a fixed amount (see column E rows 24-34 below) b) Assessing the impact <u>if mitigating actions could be developed for certain events</u>, so that, e.g., the amount of loss were reduced if these events occur (or the probabilities of events are reduced or both) c) Creating <u>dependencies or correlations between the occurrence (and/or magnitude)</u> of some of the events d) Replacing the Binomial distribution with a Poisson distribution so that each event could occur more than once per 																																																																																					
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Prepared by

David Koegel Associates, Inc.

Event & Impact Results



Statistic	Value
Min	0
Max	4
Mean	1
StdDev	1
90th P	2
95th P	3
99th P	3
P(# Events>0)	68%

Statistic	Value
Min	\$0
Max	\$1,200
Mean	\$226
StdDev	\$238
90th P	\$500
95th P	\$700
99th P	\$900
P(Impact > Avg)	44%

