RAND MG679-E.1

Conventional attacks **NBCR** attacks 100.0000 100.00000 ■Original RMS distribution ☐ 1/10 weight in tail 10.00000 10.0000 ■ 10x weight in tail 1.00000 Probability density (%) Probability density (%) 1.0000 0.10000 0.1000 0.01000 0.0100 0.00100 0.0010 0.00010 0.0001 0.00001 10 15 20 25 30 35 40 45 50 67 40 100 200 541 1,503 1,871 5 Losses (\$ billions) Losses (\$ billions)

Figure E.1
Probability Distributions for Conventional and NBCR Attacks

of the distribution for losses less than \$40 billion so that the total integrates to unity. However, for both the conventional and NBCR distributions, the probability of an attack with more than \$40 billion in losses is sufficiently small so that reweighting below this value is difficult to detect in the figure.

We now calculate the expected value of various performance measures using the set of distributions such as those shown in Figure E.1. Table E.1 shows the expected value of the change in taxpayer cost if TRIA expires—that is, the expected taxpayer cost if TRIA expires less the expected taxpayer cost with TRIA, as a function of the fraction of uninsured and unpaid insured loss that the government compensates after an attack and of the odds of a large attack relative to those in the RMS model. These odds are measured by the ratio of the weight in the tail of the distribution used to calculate the expected value of taxpayer losses and the weight in the tail of the RMS distribution. An odds ratio of 1 indicates that we calculate the expected values using the RMS distribution, an odds ratio of 10 indicates that we calculate expected values using a distribution whose tails for losses greater than \$40 billion have 10 times the weight of that in the RMS distribution (the gray bars in Figure E.1), and odds of 0.1 indicate that we use a distribution whose tails for losses greater than \$40 billion have one-tenth the weight of that in the RMS distribution (the white bars in Figure E.1).