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**Tail probabilities of St. Petersburg sums, trimmed sums,  
and their limit**

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We determine the limit distribution of the St. Petersburg sum conditioning on its maximum, and we analyze how the limit depends on the value of the maximum. As an application we obtain an infinite sum representation of the distribution function of the possible semistable limits. In the representation each term corresponds to a given maximum, which explains that the semistable behavior is caused by the typical values of the maximum. Moreover, we provide exact asymptotics for the tail probabilities  $\{S_{n,r} > x\}$  as  $x \rightarrow \infty$ , for fix  $n$ , where  $S_{n,r}$  is the  $r$ -trimmed partial sum of i.i.d. St. Petersburg random variables. In particular, we prove that although the St. Petersburg distribution is only O-subexponential, the subexponential property almost holds. We also determine the exact tail behavior of the  $r$ -trimmed limits.