

Utility of gains (losses) can be measured in four distinct ways: riskiness vs. risky choices and gains (losses) alone vs. the gain-loss trade-off. Conditions forcing these measures all to be the same lead to functional equations, three of which are:  $F^{-1}[F(X) + F(-Y)Z] = F^{-1}[F(XZ) + F(-YZ)]$   $F: ]-k, k'[ [(-K, K'[; k, k', K, K' > 0)$   
 (i)  $F(X-R) [1-F(Y)] + F(Y) = F[F^{-1}(F(X)[1-F(Y)]) + F(Y) - S]$   $(F: [0, 1]([0, 1])$  (ii)  $F^{-1}[F(X) + F(Y) - F(X)F(Y)]Z = F^{-1}[F(XZ) + F(YF(X,Z))] - F(XZ)F[YF(X,Z)]$   $F: [0, 1]([0, 1], P: [0, 1] \times [0, 1]([0, 1])$  (iii) We determine all strictly increasing, subjective  $\alpha$  (and thus continuous) solutions of (i) and (ii) and all strictly increasing, subjective solutions of (iii) that are differentiable on  $(0, 1[$  as are their inverses (thus,  $f'(0$  on  $]0, 1[$ ).