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: 

(i) \( F-1[f(X) + f(-Y)Z] = F-1[f(XZ) = f(-YZ)] \) \( F: [-k,k'] \cup [-K,K'] \); \( k,k',K,K' > 0 \)
(ii) \( f(X-R)[1-f(Y)] + f(Y) = f[f-1(f(X)[1-f(Y)] = f(Y) - S] \) \( F: [0,1][[0,1]) \)
(iii) \( F^{-1}[f(X) + f(Y) - f(X)f(Y)Z = F^{-1}[f(XZ) = fYP(X,Z)] - f(XZ)fYP(X,Z)] \) \( F: [0,1][[0,1], P: [0,1][x[0,1][[0,1)) \)

We determine all strictly increasing, subjective (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, \( f'(0 on]0,1[)\).