# **CalibratedSimulationFunctions**

#### $calibrated Simulation Functions. \\R$

DesignTable: function (DataList, methods, MC\_replicates = 100, columnames = NULL, filename = NULL)

ExpectedRegret: function (NN, C, theta, methods, R)

PrintRegretHistogram: function (shareTreatmentsList, filename, MC replicates, waves, columnames)

PrintRegretTable: function (RegretTable, filename, MC replicates, waves)

SimulateTWaveDesign: function (NN, C, theta, method = "modifiedthompson")

#### ReadData.R

DataToTheta: function (filename, dataname, k, strataVars, outcomename, treatmentname, covariatesnames,

printFigures = FALSE)

PrintDataFigures: function (stratasizes, sumstats, theta, filename, dataname, outcomename, treatmentname,

ReadAllData: function (printFigures = F)

# IllustrationFunctions

## Illustration\_NonConvexity\_Functions.R

MSEcalc: function (theta, N) powerCalc: function (theta, N)

stylizedDesign: function (A, B, C, N)

# **OptimalAssignmentFunctions**

#### Simulated Welfare Functions. R

Seed: function (A, B, Nmax)

simplex: function (N, k, coverage = "full", RR = 500, thetahat = NULL)

simulatedSample: function (D, theta)

Uhat: function (A, B, C, n, Vfunction = SWF)

#### WelfareFunctions.R

betabinomial: function (n, s, a, b)

betaposterior: function (D, Y)

Dtchoice: function (A, B, C, Nt, method = "optimal")

EqualAssignment: function (N, k) GivenAssignment: function (n, k) PolicyChoice: function (A, B, C) Regret: function (D, Y, C, theta)

SWF: function (A, B, C)

U: function (A, B, C, n, Vfunction = SWF)

UoverSimplex: function (A, B, C, N, Ufunction = U, coverage = "full")

V: function (A, B, C, NN)

## welfareplotsGraphics.R

OptimalPilot: function (A, B, C, M, parallel = TRUE)

PlotSimplex: function (A, B, C, N)

PlotSimplexAlternative: function (A, B, C, N)

SimplexPanel: function (N, alternative plot = FALSE)

# ThompsonHierarchicalFunctions

# ThompsonCalibration.R

 $RunAllSimulations Thompson: function (DataList,\,T=4,\,nt=36,\,RR=1000)$ 

SimulateTWaveDesignThompson: function (Nt, C, theta, PX)

## ThompsonHierarchical.R

betabinomialMLE : function (NN, SS) DtchoiceThompson : function (Y, D, k, Nt)

DtchoiceThompsonAveraged: function (Y, D, k, Nt, RR) DtchoiceThompsonHierarchical: function (Y, D, X, k, nx, Xt)

DtchoiceThompsonHierarchicalAveraged: function (Y, D, X, k, nx, Xt, RR)

hierarchicalPosteriorDraw: function (NN, SS, LLH)

hierarchical Posterior<br/>Mean : function (Y, D, X, draws = 1000)

SimulateX: function (PX, N)
SimulateY: function (theta, D, X)
Street field Assignment to function (Y

 $Stratified Assignment: function \ (X, \ k, \ nx)$