CLAIMS

What is claimed is:

1. A method for calculating a size of a trade, comprising, in combination, the steps of:

selecting a database of estimated returns of a traded asset;

selecting a utility function representative of utility of a given return to a trader of the traded asset;

using a computer to calculate a function of expected return which is based upon the database of estimated returns and the utility function; and

determining the size of the trade where the function of expected return is a maximum.

2. The method of claim 1 further comprising the step of updating the database and recalculating the function of expected return with the updated database.

3. The method of claim 1 further comprising the steps of

applying a feedback to the utility function, wherein the feedback represents a change in the value of the traded asset after the trade has been made, and thereby creating an updated utility function; and

recalculating the function of expected return with the updated utility function to determine the size of a further trade where the function of expected return is at a new maximum.

4. The method of claim 1 wherein the step of calculating the function of expected return is performed by integrating a product of the database and the utility function.

5. The method of claim 1 wherein the database of estimated returns of the traded asset comprise one of historic returns and a model of estimated returns.

6. The method of claim 5 wherein the model of estimated returns is a probability density function.

7. The method of claim 6 wherein the probability density function accounts for a probability of reaching one or more predetermined levels where the trade is reversed.

8. The method of claim 5 wherein the model comprises a filter on historic returns.

9. The method of claim 1 wherein the utility function generates a negative utility when the trade is for a loss and a positive utility when the trade is for a gain, and the negative utility for losses increases at a rate faster than the positive utility for gains increases.

10. The method of claim 1 wherein the function of expected return is $U(x) = 1 - e^{-(x/K)}$, where

x = profit or loss on a trade

U(x) = utility of the trade expressed as a function of the profit or loss of the trade x; and

K = capital at risk in the trade.

11. The method of claim 9 wherein K is positive.

12. The method of claim 1 further comprising using the computer to store the database of estimated returns of a traded asset and the utility function.

13. The method of claim 1 wherein the utility function is continuous.

14. A device for calculating a size of a trade, comprising, in combination:

a database of estimated returns of a traded asset stored on the device; and

a utility function representative of utility of a given return to a trader of the traded asset stored on the device;

wherein the device calculates a function of expected return based upon the database of estimated returns and the utility function, and determines the size of the trade where the function of expected return is a maximum.

CLAIMS

1. A method for calculating a size of a trade, comprising, in combination, the steps of:

selecting a database of estimated returns of a traded asset;

selecting a utility function representative of utility of a given return to a trader of the traded asset;

using a computer to calculate a function of expected return which is based upon the database of estimated returns and the utility function; and

determining the size of the trade where the function of expected return is a maximum wherein the function of expected return is

$U(x) = 1 - e^{-(x/K)}$, where

x = profit or loss on a trade

U(x) = utility of the trade expressed as a function of the profit or loss of the trade x; and

K = capital at risk in the trade.

2. The method of claim 1 further comprising the step of updating the database and recalculating the function of expected return with the updated database.

3. The method of claim 1 further comprising the steps of

applying a feedback to the utility function, wherein the feedback represents a change in the value of the traded asset after the trade has been made, and thereby creating an updated utility function ; and

recalculating the function of expected return with the updated utility function to determine the size of a further trade where the function of expected return is at a new maximum.

4. The method of claim 1 wherein the step of calculating the function of expected return is performed by integrating a product of the database and the utility function.

5. The method of claim 1 wherein the database of estimated returns of the traded asset comprise one of historic returns and a model of estimated returns.

6. The method of claim 5 wherein the model of estimated returns is a probability density function.

7. The method of claim 6 wherein the probability density function accounts for a

probability of reaching one or more predetermined levels where the trade is reversed.

8. The method of claim 5 wherein the model comprises a filter on historic returns.

9. The method of claim 1 wherein the utility function generates a negative utility when the trade is for a loss and a positive utility when the trade is for a gain, and

the negative utility for losses increases at a rate faster than the positive utility for gains increases.

10. The method of claim 1 wherein K is positive.

11. The method of claim 1 further comprising using the computer to store the database of estimated returns of a traded asset and the utility function.

12. The method of claim 1 wherein the utility function is continuous.

13. A device for calculating a size of a trade, comprising, in combination:

a database of estimated returns of a traded asset stored on the device; and

a utility function representative of utility of a given return to a trader of the traded asset stored on the device;

wherein the device calculates a function of expected return based upon the database of estimated returns and the utility function, and determines the size of the trade where the function of expected return is a maximum and wherein the function of expected return is

$U(x) = 1 - e^{-(x/K)}$, where

x = profit or loss on a trade

U(x) = utility of the trade expressed as a function of the profit or loss of the trade x; and

K = capital at risk in the trade.