Claims

1. A method implemented by a computer which communicates with an information source, for determining an index level of a future cost of retirement index, the method comprising:

determining a target return of a periodic income from at least one security, the periodic income comprising a plurality of payments starting from a future investment date and continuing until an end date, the end date being a redemption date regarding the at least one security, the determining further including:

acquiring, by the computer, a yield relevant to the at least one security from the information source, and determining a yield curve, the yield curve modeling fluctuations in the plurality of payments and being represented by a time function of the yield;

applying, by the computer, a discount function to the periodic income, the discount function translating each of the plurality of payments into a present value based on the yield curve;

determining, by the computer, a net present value of the periodic income as the target return, based on the present value calculated by applying the discount function; and

setting, by the computer, the index level corresponding to a required present value for obtaining another periodic income starting from the end date so that the index level is equal to or less than the net present value.

2. The method of claim 1, wherein the discount function comprises:

adding a U.S. Treasury Bond yield curve to a first value to produce a first sum, the first value equal to a half of the difference between a BBB-rated corporate bond yield curve and an AA-rated corporate bond yield curve; and

subtracting from the first sum a first fixed spread, the fixed spread a function of an error term.

3. The method of claim 2, wherein

the discount function includes a calculation factor for considering a risk charge determined based on a changing rate of the mortality rate.

4. The method of claim 1, wherein the discount function comprises:

adding a U.S. Treasury Bond yield curve to a first value to produce a first sum, the first value equal to a half of the difference between a BBB-rated corporate bond yield curve and an A-rated corporate bond yield curve; and

subtracting from the first sum a first fixed spread, the fixed spread a function of an error term.

5. The method of claim 4, wherein

the discount function includes a calculation factor for considering a risk charge determined based on a changing rate of the mortality rate.

6. The method of claim 1, wherein the end date corresponds to a retirement age of an investor.

7. The method of claim 1, wherein the end date corresponds to an advanced age of an investor, the advanced age greater than eighty years old.

8. The method of claim 1, further comprising:

adding, by the computer, a predetermined cost of living adjustment to each payment of the plurality of payments from after the investment date; and

resetting, by the computer, the index level based on the plurality of payments including the predetermined cost of living adjustment.

9. The method of claim 1, further comprising:

removing, by the computer, an annuity cash flow from each payment of the plurality of payments to reflect a conditional life expectancy; and

resetting the index level after the removal.

10. The method of claim 1, further comprising

determining, by the computer, the at least one security, wherein the determining includes:

acquiring information on a duration, a key rate duration and a yield corresponding to a periodic income of a modeled annuity purchased on the end date for obtaining said another periodic income, from the information source; and

determining a set of securities, as the at least one security, having a duration, a key rate duration, and a yield approximating that of the modeled annuity.

11. A method implemented by a computer which communicates with an information source, for providing an investment product based on a future cost of retirement index, the method comprising:

determining a target return of a periodic income from at least one security, the periodic income comprising a plurality of payments starting from a future investment date and continuing until an end date, the end date being a redemption date regarding the at least one security, the determining further including:

acquiring, by the computer, a yield relevant to the at least one security from the information source, and determining a yield curve, the yield curve modeling fluctuations in the plurality of payments and being represented by a time function of the yield;

applying, by the computer, a discount function to the periodic income, the discount function translating each of the plurality of payments into a present value based on the yield curve;

determining, by the computer, a net present value of the periodic income as the target return, based on the present value calculated by applying the discount function;

setting, by the computer, an index level corresponding to a required present value for obtaining another periodic income starting from the end date so that the index level is equal to or less than the net present value;

determining, by the computer, the at least one security as the investment product, wherein the determining includes:

modeling an annuity purchased on the end date having a periodic income approximately corresponding to the index level on the end date;

acquiring information on a duration, a key rate duration, and a yield of the modeled annuity from the information source; and

selecting a set of securities as the at least one security based at least in part on the duration, the key rate duration, and the yield of the modeled annuity.

12. The method of claim 11, wherein the discount function comprises:

adding a U.S. Treasury Bond yield curve to a first value to produce a first sum, the first value equal to a half of the difference between a BBB-rated corporate bond yield curve and an AA-rated corporate bond yield curve; and

subtracting from the first sum a first fixed spread, the fixed spread a function of an error term.

13. The method of claim 11, wherein the discount function comprises:

adding a U.S. Treasury Bond yield curve to a first value to produce a first sum, the first value equal to a half of the difference between a BBB-rated corporate bond yield curve and an A-rated corporate bond yield curve; and

subtracting from the first sum a first fixed spread, the fixed spread a function of an error term.

14. The method of claim 11, further comprising:

adding, by the computer, a predetermined cost of living adjustment to each payment of the plurality of payments from after the investment date; and

resetting, by the computer, the index level based on the plurality of payments including the predetermined cost of living adjustment.

15. The method of claim 11, further comprising:

removing, by the computer, an annuity cash flow from each payment of the plurality of payments to reflect a conditional life expectancy; and

resetting the index level after the removal.

16. A method implemented by a computer which communicates with an information source, for providing an investment product based on a future cost of retirement index, the method comprising:

determining a target return of a periodic income from at least one security, the periodic income comprising a plurality of payments starting from a future investment date and continuing

until an end date, the end date being a redemption date regarding the at least one security, the determining further including:

applying, by the computer, a discount function to the periodic income, the discount function translating each of the plurality of payments into a present value based on a yield curve obtained from the information source;

determining, by the computer, a net present value of the periodic income as the target return, based on the present value calculated by applying the discount function;

setting, by the computer, an index level corresponding to a required present value for obtaining another periodic income starting from the end date so that the index level is equal to or less than the net present value;

determining, by the computer, the at least one security as the investment product, wherein the determining includes:

modeling an annuity purchased on the end date and having a periodic income approximately corresponding to the index level;

acquiring information on a duration and a spread of the modeled annuity from the information source;

calculating the duration times the spread of the modeled annuity; and

selecting a set of securities as the at least one security based at least in part on the duration, and the duration times the spread of the modeled annuity.

17. The method of claim 16, wherein the discount function comprises:

adding a U.S. Treasury Bond yield curve to a first value to produce a first sum, the first value equal to a half of the difference between a BBB-rated corporate bond yield curve and an AA-rated corporate bond yield curve; and

subtracting from the first sum a first fixed spread, the fixed spread a function of an error term.

18. The method of claim 16, wherein the discount function comprises:

adding a U.S. Treasury Bond yield curve to a first value to produce a first sum, the first value equal to a half of the difference between a BBB-rated corporate bond yield curve and an A-rated corporate bond yield curve; and

subtracting from the first sum a first fixed spread, the fixed spread a function of an error term.

19. The method of claim 16, further comprising:

adding, by the computer, a predetermined cost of living adjustment to each payment of the plurality of payments from after the investment date; and

resetting, by the computer, the index level based on the plurality of payments including the predetermined cost of living adjustment.

20. The method of claim 16, further comprising:

removing, by the computer, an annuity cash flow from each payment of the plurality of payments to reflect a conditional life expectancy; and

resetting the index level after the removal.