

41st India Fellowship Seminar

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Case Study :

Annuity Product Development

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Introduction of Guide –

Mr. Keyur Parekh FIA, FIAI, ACA

Consulting Actuary at Milliman



- **Keyur Parekh** is a consulting actuary in the Indian Life Insurance practice and is based in Mumbai. He supports on projects in India and the Asia-Pacific region. Keyur is also a qualified Chartered Accountant.
- Keyur is working on a number of live IFRS 17 implementation projects in India.
- Keyur has extensive experience in the areas of statutory valuation and solvency. He has been the head of statutory valuation, shareholder reporting and product pricing at various Indian insurers.
- Keyur is currently a member of the Life Insurance Advisory Group of the Institute of Actuaries of India.

Case Study - Details



- We are the Product Development and Pricing Actuary of an Indian life insurance company.
- Our Company is looking to develop its annuity business.
- However, we have realised that the market is currently dominated by one large insurer, offering very attractive annuity rates. This insurer offers single premium, non-participating annuities (both immediate and deferred) online as well as through its large tied agency channel. The annuities offered include the following features -
 - Standalone as well as pension backed annuities
 - Single life and joint life
 - Level and increasing
 - Annuities with and without return of purchase price (RoP)
 - Life annuity as well as annuity certain for a minimum period and life thereafter

Agenda

We will discuss the development of the Company's annuity proposition in the following areas

Differentiated Product Design

Distributors Compensation

Pricing and Risk Management

Customer Value Propositions

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Differentiated Product Design

To start the product, following steps were followed:

1. Conduct Market research on various types of products already available
2. Communicate with various customers on what they are looking for?
3. Have a thorough discussion internal discussions
4. Check system compatibility for all variants
5. Note down all available options
6. Finalize variants we want to go ahead with

Differentiated Product Design

Non- Participating deferred Annuity ,Individual, Saving Product

Variant 1

Limited pay/
Regular Pay
Deferred
annuity
with/without
ROP

Variant 2

Limited pay/
Regular Pay
Deferred annuity
with ROP on
survival till age
80 or on Death

Variant 3

Single Pay
Deferred Index
Linked Annuities
with ROP on
death

Regulations and circulars



While designing any product and various features to it, we will ensure it is compliant with the following regulations and circulars to these regulations are:

1. IRDAI (Insurance Product) Regulations 2024
2. IRDAI (Protection of Policyholders' Interests, Operations and Allied Matters of Insurers) Regulations, 2024
3. IRDAI (Expense of Management including Commission of Insurers) Regulations 2024

Additionally, all the APS are also to be considered like AP5 for Benefit Illustrations, APS7 for Margins for adverse deviation

Differentiated Product Design



Limited pay/ Regular Pay Deferred annuity without ROP

- LP/RP deferred annuity is more affordable than single premium annuity
- Annuitant shall pay premiums during deferment period at chosen PPT/PT combination
- After deferment period, annuity amount shall be payable to the annuitant till he is alive
- In case of death within deferment period, benefit will be 105% of premiums paid. No payment on death after deferment period

Limited pay/ Regular Pay Deferred annuity with ROP

Deferred annuity
without ROP



ROP on Death after
deferment period



Deferred annuity with
ROP

Differentiated Product Design

Limited Pay/ Regular Pay Deferred annuity with ROP on death or on survival till age 80* - Part 1

Variant 1

Limited pay/
Regular Pay
Deferred
annuity with
ROP on death



ROP on
Survival till age
80



Variant 2

Limited pay/
Regular Pay
Deferred
annuity with
ROP on
survival till
age 80 or
death

* *Whichever is earlier*

Differentiated Product Design

Limited Pay/ Regular Pay Deferred annuity with ROP on death or on survival till age 80* - Part 2

- In case of early ROP at age of 80 would allow to meet expenses or payoff any debt or use in any other way as per annuitant's choice otherwise which only would have received on death
- At age of 80, this total premiums paid will be provided to annuitant if he/she is alive at age 80, but annuity payments shall continue till death after age of 80
- On death after age of 80, no death or surrender benefits be payable

**Whichever is earlier*

Differentiated Product Design

Single Pay Deferred Index Linked Annuities with ROP on death



- Annuitant will pay one single Lumpsum to insurer
- In return, insurer will pay annuity linked to index for lifelong
- After deferment period, annuity amount shall be payable to annuitant till he is alive
- 60% of annuity payments are guaranteed and rest 40% is linked to Nifty50 indexes
- In case of death within deferment period, benefit will be 105% of Single premium and in case of death after deferment, death benefit is return of 100% of single premium
- Annuitant will receive surrender benefit which shall be linked to present value of annuities at Gsec+200 bps. If there is fall in the indexes, it would be reflected in surrender value.

Differentiated Product Design

Boundary conditions

- Premium Payment term - Regular Pay and Limited Pay for variant 1 and 2 and Single Pay for variant 3
- Various PPT/PT options (5-10,7-10,5-5, 10-10,10-15 etc)
- Age at entry
 - Minimum - 45 years (ALB)
 - Maximum - 70 years (ALB)
- Premium modes - monthly, half yearly, quarterly and annually for LP/RP variants and single pay for index linked
- Annuity frequency - monthly, half yearly, quarterly and annually
- Gender - All
- Only for individual lives

Differentiated Product Design

Surrender benefit for all the variants

Surrender value acquired after payment of 1st full year premium in case of RP/LP and immediately in case of SP

➤ During deferment

Higher of Guaranteed Surrender Value (GSV) and Special Surrender Value (SSV) (these factors expressed as % of total premiums paid)

➤ Post deferment

Only SSV (these factors expressed as % of total premiums paid)

➤ SSV shall reflect present value of future benefits discounted at 30-year Gsec + 200 bps. These rates are subject to change in case of material impact due to interest rate change as will be mentioned in the policy document

➤ For Deferred annuity without ROP, no surrender benefit payable post deferment. For ROP on attainment of age 80 variant :- surrender applicable only upto age 80

Differentiated Product Design

Reduced paid-up benefit for all variants

- The policy can be made paid-up after payment of 1st year premium (i.e. once surrender value is acquired). Not applicable for single premium index linked annuities.
- Survival Benefit - Annuity amount * PUP factor (paid/payable)
- Death Benefit - Total premiums Paid
- Surrender Benefit - SSV/GSV Factors* Total Premiums Paid

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Differentiated Product Design

Distributors Compensation

Pricing and Risk Management

Customer Value Propositions

Distributor Compensation

Distribution channels available :

- Tied Agency
- Web Aggregators
- Bima Sugam
- Direct Sales Force
- Corporate Agency
- Brokers
- Bank Assurance
- Online

Distributor Compensation

How to go ahead with Distributor Compensation?

- All distribution compensation is in compliance with IRDAI (Expenses of Management, including Commission of Insurers) Regulations, 2024 notified on 22.01.2024 applicable from 1.4.2024.
- While determining commission, company will consider other Management costs along with commissions and make sure that total expenses are not crossing mentioned Regulation
- Commission rates can be varied for different Distribution channels, instead of same rates to all Distributors

Distributor Compensation

How to go ahead with Distributor Compensation?

- Compensation can be paid in form initial commission, renewal commission and can offer other rewards and recognition
- Under Regular/LLP products, servicing increases with term
- Compensation can be varied by policy term/premium payment term
- Other Competitor Distribution rates also needs to be considered while determining our Distribution rates
- Distribution rates can be set depending upon Strategic goals of Company promoting any specific product

Distributor Compensation

Suggestions for our Product

- For the own Sales Force, tied Agents, we propose to set a level commission throughout term instead of high Upfront
- Additional renewal commission can be offered as extra say 10% which will be divided equally for next 10 years/ 5years to increase the persistency
- Claw back of commission to reduce mis-selling
- Offering higher level of remuneration for Complex products, viz Index Linked Annuity
- Distinguished remuneration for Tied Agents and other Intermediaries

Distributor Compensation

Types of Distribution Compensation :

- Remuneration based on Target Market (Age, Product, Gender etc).
- Fixed Salary along with Commission
- Commission rates depending upon Club Membership
- Bonuses can be attached to specific metrics, such as sales targets, long-term employment or maintaining certain commission levels. (Bonuses serve as both a retention effort and to incentivise sales efforts)
- Contingent commissions on specific metrics of company such as profitability or premium growth, etc.

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Pricing and Risk Management



Pricing : Top down or bottom-up approach

Model

- Consider existing model for annuity (if available) or modify any other product's model
- Identify model limitations for all variants

Assumptions

Below are assumptions to be set

- Interest rate - use current market yields to set rates
- Expenses - to be in aligned with company's cost
- Mortality along with mortality improvement
- Persistency/Surrender Rate
- Expected business mix and volume
- Future index performance for non-guaranteed part

Pricing and Risk Management



- Best estimates can be set based on company's own experience or available information in the market
- Along with best estimates, margins for adverse deviation should be set for reserving requirements
- High maintenance expense assumption to be used for index link annuity variant
- Other demographic assumptions for index link annuity variant can be set same as other annuity variant with higher MAD
- Set target profit margin for all variants
- Perform sensitivity analysis of profit margin on adverse assumptions set
- Final rate to be compared with competition rates and try to match them wherever feasible

Pricing and Risk Management

Risks

- This products is exposed to various risks
 - Investment/ Interest rate Risk
 - Persistency Risk
 - Longevity Risk / Mortality Risk
 - Reputation risk/Market conduct Risk
 - Operational Risk
 - Expense Risk

- We have covered few major one's in next slides

Pricing and Risk Management



Investment Risks

- Annuities are guaranteed and fixed for life at set rate
- Different duration of assets and liabilities
- Future reinvestment risk due to limited and regular pay

Investment Risk Management

- Invest annuity premiums in a diversified portfolio to **reconcile with annuity benefits timings and amount** like G-secs, corporate bonds, equities, FDs, Cash
- Hedging strategies (interest rate derivatives -FRA) can be used to reduce reinvestment risk
- Modifications in annuity rates with significant change in interest rate
- Invest premium in index NIFTY50 via ETF or some proportion in equity of same companies of NIFTY 50 to match index annuity payments

Pricing and Risk Management



Persistency Risk

- Arises due to RP/LP pay terms
- Arises due to 40% annuity amount is linked with volatile index

Persistency Risk Management

- Some portion invested in cash to meet liquidity requirements
- Surrender benefit should be less than death benefit at all point of time
- Surrender benefit are linked to interest rate, which changes in case of adverse movements in then prevailing interest rates
- Stress testing could be performed on surrender rate based on index performance and interest rates
- Adequate reserves to be kept based on stress analysis
- Mass surrender analysis to be performed

Pricing and Risk Management



Longevity/Mortality Risk

- Longevity risk of living longer than expected
- Less significant longevity risk with ROP on death
- Minor mortality risk with ROP on death variant

Risk Management

- Assumptions to be set in line with experience and future expectations
- Regular monitor, review and update assumptions based of medical advances and emerging experience
- Regular monitoring of business mix and volume

Pricing and Risk Management



Reputation Risk and Operational Risk

- Lower payment of annuity due to poor/volatile index performance
- Mis-selling by sales team
- operational issues in calculating annuity payments in case of index linked

Reputation Risk and Operational Risk Management

- Clear communication of risk of index link annuity to annuitant
- Bls -> clearly demonstrated benefits; signed by policyholder
- Clear definitions of benefit events along with T&Cs to be mentioned in the policy documents
- Sales/marketing team should be regularly trained with annuity features
- System compatibility to be ensured for varying annuity specifically

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Customer Value Propositions



Annuity related general points

- Limited Pay (LP) and Regular Pay (RP) makes product affordable to segments which cannot buy Single pay
- Wide range of options to choose from varying PPT & Deferment period
- Option to receive annuity in any frequency- Monthly, Quarterly, Half-yearly or Yearly basis
- Tax Benefits under section 80C of Income Tax Act for premiums paid to buy these annuity products
- Helps to convert capital into lifetime income
- Removes uncertainty of how quickly capital should be spent over remaining time frame
- Ensures peace of mind in your golden years by taking care of one of most important requirement of life after retirement

Customer Value Propositions

LP/RP Deferred Annuity without Return of Premium

- Locks in current market rate and fixes interest rates for annuity
- Level of downside protection i.e. reduces fear of reduction in future interest rate
- Guaranteed annuity for your entire lifetime
- This regular installment amount ensures stable source of income post retirement
- Better transparency as benefits are guaranteed
- Simple product, easy to understand
- Reduction of mis-selling

Customer Value Propositions



LP/RP Deferred Annuity with Return of Premium

Additionally, to previous slides, this variant is:

- Legacy product as survival benefits enjoyed by annuitant and nominee receives Return of Premiums
- Capital Protection with Return of Premiums
- Company can offer to provide financial guidance to nominee incase they wish to invest lumpsum received
- Alternatively, lumpsum provides monies to meet funeral expense, inheritance tax and others

Customer Value Propositions



LP/RP Deferred Annuity with Return of Premium

- Surrender benefits helps to enhances liquidity
 - Guaranteed surrender value - within deferment period
 - Flexibility to surrender after 1st premium payment
 - Loan facility up to 75% of Surrender value during deferment period

Customer Value Propositions



LP/RP Deferred Annuity with ROP on survival till age 80 or Death (whichever is earlier)

- Preponement of Return of Premiums
- Dual benefit of getting annuity till survival plus ROP on survival/death till age 80
- Annuity continues post payment of Lumpsum as well which removes risk of surviving till higher ages
- Uses of Lumpsum - Lumpsum in form of Return of Premium can be passed to grandchildren for wedding/ higher education/ illness/ other expense

Customer Value Propositions

Single Pay(SP) Deferred Index Linked Annuities with ROP on death

- SP is easy to understand and explain to customers
- Since once premium is paid, it ensures peace of mind since no more premiums to be paid
- Protection against inflation
- Market growth opportunities - i.e the annuitant can enjoy high benefits if index outperforms
- Since 60% of annuity is guaranteed, removes uncertainty of receiving no benefit at all
- With ROP on death and some form of surrender benefit, capital is protected

Customer Value Propositions



Additionally,

Company can offer following to improve customer value proposition :

- Better annuity rates than competition in case of similar variants if any
- Provide high quality customer service
- Discounts/ Additions for HPPB, online policies

Question & Answers

THANK YOU !