Deferred annuities at retirement
An undervalued product concept

Karin Fröhling, General Manager
## Immediate annuity versus deferred annuity

### Standard approach

<table>
<thead>
<tr>
<th>Immediate annuity</th>
<th>Deferred annuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>► Customer pays single premium at age</td>
<td>► Customer pays premium at age</td>
</tr>
<tr>
<td>Age 60 - 70</td>
<td>Age 40 – 50</td>
</tr>
<tr>
<td>► Annuity starts immediately</td>
<td>► Annuity starts 10 – 25 years later</td>
</tr>
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</table>

### Challenging longevity and interest risk management
## Immediate annuity versus deferred immediate annuity
Existing but unpopular product

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**Comparable longevity risk / investment risk shared with customer**
Ever increasing life expectancy
2016 mortality comparison for 45 year old male

Proportion of cohort mortality to calendar year mortality in 2016

- 57% of 2016’s value
- 33% of 2016’s value

- mortality in 2016
- market assumptions
- +1% improvement trend
- +1.5% improvement trend
SPIA / DIA Annuities
Less exposure to improvement trend

Proportion of cohort mortality to calendar year mortality in 2016

61% of 2016’s value

- Mortality in 2016
- Market assumptions
- +1% improvement trend
- +1.5% improvement trend
Cash flow comparison
Deferred immediate annuity requires substantially lower investment

Immediate annuity

<table>
<thead>
<tr>
<th>Year</th>
<th>Premium</th>
<th>Annuity</th>
</tr>
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<tbody>
<tr>
<td>65</td>
<td>19,500</td>
<td>1,000</td>
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Deferred immediate annuity

<table>
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<th>Year</th>
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<td>65</td>
<td>4,100</td>
<td>1,000</td>
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Survivor rate weighted pension. All calculations before margins and expenses, flat interest rate of 1.5% p.a. for male life.
## Improvement stress in monetary terms

### When does the risk start?

<table>
<thead>
<tr>
<th>Age/Type</th>
<th>PV today mortality</th>
<th>PV market improvement assumptions</th>
<th>PV +1% improvement trend</th>
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</thead>
<tbody>
<tr>
<td>Age 45, deferred annuity with start age 65</td>
<td>12,500</td>
<td>14,900</td>
<td>16,500</td>
</tr>
<tr>
<td>Age 45, immediate annuity</td>
<td>29,500</td>
<td>32,000</td>
<td>33,600</td>
</tr>
<tr>
<td>Age 65, deferred immediate annuity with start age 85</td>
<td>3,000</td>
<td>4,100</td>
<td>5,000</td>
</tr>
<tr>
<td>Age 65, immediate annuity</td>
<td>18,000</td>
<td>19,500</td>
<td>20,500</td>
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1,000 annual pension, all calculations before margins and expenses, flat interest rate of 1.5% p.a. for male life

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**Risk driven by duration**
## Cost of capital
The insurer's view point

\[
\text{CoC} = \text{MRC} \times \text{PV} \left( \sum r f_r E_{r,i} \right)
\]

**MRC:** Minimal Return on Capital  
**\( f_r \):** Risk factor for risk \( r \)  
**\( E_{r,i} \):** Exposure of risk \( r \) for period \( i \) defined as \( \text{PVFP}(\text{Best Estimate}_i) - \text{PVFP}(\text{Stress}_{r,i}) \)

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<th><strong>PV market assumptions</strong></th>
<th><strong>Cost of capital</strong></th>
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*before margins and expenses, 1000 annual pension, flat interest rate of 1.5% p.a. for male life

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**Cost of capital driven by duration**
Why do people abstain from buying annuities?

- limited investment control
- limited flexibility
- low value for money
- underestimated life expectancy

Does a deferred immediate annuity help?
Retirement planning
Why an annuity is essential

Example 65-year old male:

- 71.1 years: 50% of people reach this age with cancer diagnosis
- 89.9 years: 50% of people reach this age in standard group
- 101.7 years: 10% of people reach this age in standard group
- 102.3 years: 50% of people reach this age in healthy group

Annuity provides financial security for lifetime
## Single premium comparison
### SPIA versus DIA

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1,000 annual pension, all calculations before margins and expenses, flat interest rate of 1.5% p.a. for male life

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**Deferred immediate annuity requires less investment**
Deferred immediate annuity at retirement
Customer perception?

Advantages
- increased investment freedom
- lifetime protection
- unbundling risk and savings component
- affordable
- zero value for money

Marketing of insurance concept is key
Underwritten annuity
An interesting concept for immediate and deferred annuities

Standard Annuity
- Subsidization of healthy people by annuitants with reduced life expectancy
- Not attractive for people with average or reduced life expectancy

Enhanced Annuity
- Individual survival curves depending on state of health and lifestyle
- Fair price for each and every annuitant

Fair price increases customer potential and marketability
Keep in mind

- Marketing of insurance concept important
- Financial security for old age
- Premiums materially lower for deferred immediate annuities
- Risk driven by duration
- Managing longevity and interest risk remains challenging

Our aging society requires lifestyle protection
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