Agenda

• Context for actuaries in microinsurance
  – What is an actuary?
  – Ways to address supply of actuaries
  – When do you not need an actuary?
  – When might you need an actuary?

• International developments
  – International guidance for supervisors
  – International actuarial developments
  – Proposed microinsurance actuarial course outline

What is an “actuary”?  

• UK
  – Analyst, associate, fellow
  – Education, experience, professional development, code of conduct

• International Actuarial Association
  – 67 full members & 29 associate members

• Developing markets
  – no uniform definition of actuary
  – may be linked to qualifications of IFoA or IAA member or postgraduate university qualification in actuarial studies
Types of markets for MI purposes

• Developed market (eg UK)
  – MI targets low-income customers

• Developing market with developed market insurance (eg SA)
  – MI targets low-income customers

• Developing market with developing insurance market
  – Need to consider insurance needs of entire market including MI

The supply of actuaries is limited

<table>
<thead>
<tr>
<th>Region</th>
<th>Country</th>
<th>IAA Status</th>
<th>Number of Actuaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>Ghana</td>
<td>Associate</td>
<td>100 members, 1 fellow, 4 associates, 1200 graduates from local universities</td>
</tr>
<tr>
<td></td>
<td>Côte d’Ivoire</td>
<td>Full</td>
<td>15 members, 9 fellows</td>
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<tr>
<td></td>
<td>Kenya</td>
<td>Full</td>
<td>17 fellows</td>
</tr>
<tr>
<td></td>
<td>Uganda</td>
<td>Associate</td>
<td>300 members, 0 fellows</td>
</tr>
<tr>
<td>Asia</td>
<td>India</td>
<td>Full</td>
<td>8500 members, 260 fellows, 150 associates</td>
</tr>
<tr>
<td></td>
<td>Mongolia</td>
<td>Associate</td>
<td>21 members, 0 fellows</td>
</tr>
<tr>
<td></td>
<td>Philippines</td>
<td>Full</td>
<td>310 members, 69 fellows, 67 associates</td>
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<tr>
<td></td>
<td>Vietnam</td>
<td>No act association</td>
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</tr>
<tr>
<td>Latin America</td>
<td>Brazil</td>
<td>Full</td>
<td>367 fellows</td>
</tr>
<tr>
<td></td>
<td>Colombia</td>
<td>Full</td>
<td>5 fellows</td>
</tr>
<tr>
<td></td>
<td>Peru</td>
<td>Not IAA member</td>
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Ways to address the supply of actuaries

• National level:
  – training programs in line with international standards

• International level:
  – Actuarial analyst or technician (UK, South Africa)
  – Actuaries Without Borders
  – Training of non-actuaries in actuarial issues
  – Training in microinsurance such as microinsurance course by Frankfurt School of Finance and Management
When do you **not** need an actuary?

- If actuaries are not present, markets adapt
- Non-actuaries can do pricing, eg credit life products
- Some providers simply follow the leader
- The sum insured may not be material, even for aggregate risks, so simplified approach is possible
- Loss ratio may be small compared to distribution and admin costs so a simple loading can be used
- Reinsurers can provide pricing and underwriting expertise
- Regulator can define products that do not need actuarial certification

When might you need an actuary?

<table>
<thead>
<tr>
<th>Product complexity</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business complexity</td>
<td>Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
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</tbody>
</table>

- Don’t need an actuary
- Might need an actuary
- Need an actuary

When do you **need** an actuary?

- Regulation requires it
- Sum insured is high
- Product complexity is high eg health, index insurance
- High long term reserving is needed eg annuities, disability, catastrophe
- Risks are not predictable
- Operational risk is high, eg fraud, lack of experience, high insolvency risk
- Lack of data doesn’t necessarily mean you need an actuary
International guidance for supervisors

- Key element in a supervisory system for financially sound insurance sector and adequate customer protection
- Introduction to MI and present analysis of the then ICPs as they relate to MI
- Application of ICPs has a positive or negative impact on MI
- Mutually should be regulated like other insurance providers
- An assets differs from commercial insurance eg flood posting
- Bankers — affordability, geography, culture, education
- Innovation — product design, coverage and service delivery
- Proportionality — nature, scale and complexity of risks
- Ill consider supervisory requirements for MI like solvency and actuarial

International actuarial developments

- Generic document that can be adapted by member associations
- Role of professional actuarial association and role of IAA
- Issues regarding actuarial functions in MI markets
- Challenges in actuarial measures in MI and recommendations
- Credit the leader — Health insurance toolkit by Milliman

CAA MI proposed course outline

- Microinsurance products, features and stakeholders
- Product development process
- Application of actuarial control cycle
- Product design, coverage and service delivery
- Application of actuarial control cycle
-Steps for pricing a MI product
- Pricing issues—data, exclusions, moral hazard, adverse selection and fraud
- Pricing applications and toolkits
- Introducing a MI product to market
- Monitoring experience, product and process changes
- Intro to financial management — planning, reserving, profitability, solvency