Top 10 actuarial and investment issues for social security institutions

The 39th ASSA Board Meeting, Luang Prabang, Lao PDR

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November 23rd 2022
1. Actuarial valuations are powerful tools
2. You need to properly resource the actuarial work
3. Garbage In Garbage Out
4. The actuarial model is only a tool
5. Strengthening the link from the actuarial valuation to policy and financing decisions
6. A Financing policy is essential
7. No ‘solving’ the demographic challenges with DC / individual accounts but…
8. ..Investment Governance is important
9. Social security investment in countries with limited capital markets is possible
10. RASU
1: The actuarial valuation is a powerful tool
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To assess
- Financial sustainability of a system
- Coverage
- Benefit adequacy
- Financing and funding situation
- Equity and distribution of outcomes

To understand
- Present and future financial development of a scheme
- Causes of present or possible future deficits
- Adequacy of benefit levels and system fairness
- Factors influencing the cost of a scheme and its sustainability
Demographic projections

- 0 - 14
- 15 - 59
- 60 and over

Date: Monday / 01 / October / 2019
2: You need to resource the actuarial function
The actuarial valuation requires qualified actuaries!

The valuation needs to follow minimum professional requirements (e.g., reconciliation and peer review) and an Actuarial Opinion signed by two qualified actuaries.

Qualified means an actuary having completed professional examinations, met experience requirements and be undertaking continuing professional development.

“The social security institution seeks to develop the internal actuarial expertise to perform actuarial work for a social security scheme” – ILO ISSA Actuarial Guidelines

All ILO actuarial projects provide a legacy of training resources and developing the actuarial function and the staff who work within it.
Steps of an Actuarial Valuation

1. Terms of reference and objectives
2. Define and mobilise required resources
3. Data collection and management (include Scheme design)
4. Past experience and data analysis
5. Setting assumptions
6. Valuation model and methodology
7. Actuarial (cash flow and demographic) projections
8. Reconciliation and review
9. Sensitivity tests and assessing reform options
10. Compliance with ILO Conventions
11. Valuation report including Actuarial Opinion plus presentation of results and recommendations
3: Simple but true...

GARBAGE IN, GARBAGE OUT.
Why is good data so important

• So the results are accurate and can be used for policy and financial decisions

• Appropriate assumptions are selected

• Actuarial Opinion can be signed off

• Analysing trends in the scheme to assess whether it is meeting objectives:
  • Coverage analysed by type of worker (eg by earnings, contributory service etc)
  • Adequacy of benefits by group / age / sex / earnings etc
  • Other indicators (eg claims rates, processing times, types of employment injury, medical inflation, compliance etc)
The Actuarial Valuation Model is a tool and not an output.
Structure of the Actuarial Model

Population Demographic Model
- To understand the population from which those covered come from

Labour Force Model
- Determination of those who are covered
- And those who pay contributions (if applicable)

Economic Model
- For determination of costs and financing base

Benefits Model
- To determine future costs by projecting probability of an event and related costs
5: Linking the actuarial valuation to policy and financing decisions

- Canada and United Kingdom – direct link to reforms
Increase in the pension amount: impact on reserves
Retirement Age changes and sustainability

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Retirement Age</th>
<th>Year Fund runs out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>Current Retirement Age</td>
<td>2042</td>
</tr>
<tr>
<td>A</td>
<td>Retirement age 12 years earlier</td>
<td>2020</td>
</tr>
<tr>
<td>B</td>
<td>Retirement age 7 years earlier</td>
<td>2027</td>
</tr>
<tr>
<td>C</td>
<td>Retirement age 5 years earlier</td>
<td>2031</td>
</tr>
<tr>
<td>D</td>
<td>Retirement age of 2 years earlier</td>
<td>2039</td>
</tr>
<tr>
<td>E</td>
<td>Retirement age of 3 years later</td>
<td>2047</td>
</tr>
<tr>
<td>F</td>
<td>Retirement age of 5 years later</td>
<td>2050</td>
</tr>
</tbody>
</table>
Case Study: Actuarial valuation

First valuation - Good Governance, regulatory, ILO/IAA/ISSA requirements and for policy and financial decision making

But Data – raised more questions than answers at the start

We highlighted that claims data looked strange and what that meant plus other recommendations (improving reporting)

This will lead to better management and possibly improved benefit payment procedures

We also checked whether benefits met ILO Conventions – they didn’t and we recommended improving and costed it

Other recommendations – eg experience rated contributions highlighted by international experience and costed

Advancing social justice, promoting decent work
A Financing Policy is needed because benefits will be paid out in the future & this needs to be planned

- For example, Retirement schemes are committing to payments for the next 80 years

Financing Policy – impacts sustainability, adequacy and equity

- Should be documented, reviewed and approved
- Considered together with provision and reform

From Financing Policy to Investment Policy:

1. Actuarial Valuation → cashflow projections of benefit and expenses
2. Pay as you go rates and contribution options
3. Who pays and when is the money paid?
4. If we pay in advance*, how do we ‘invest’ the money?
*We should pay (some of the cost) in advance – why?

- Build up reserves because uncertainty and variability in respect of future commitments
- Intergenerational fairness
- Support other objectives such as risk diversification, developing capital markets, and ESG
- The social security institution is more efficient in investing than individuals
- Source of capital (eg for infrastructure)
- But investment return not a game changer for sustainability
If a higher contribution rate is paid than PAYG cost, reserves will be accumulated.

These assets will need to be invested in line with good practice.
7: Individual accounts, defined contribution, better investment returns do not solve financial sustainability challenges for retirement schemes.
Ageing particularly rapid in this region

20 YEARS:
Time needed for Viet Nam to make the transition from aging to aged

Japan: 26 YEARS
Thailand: 22 YEARS

Potential support ratio of the working-age population to the retired population in the PRC by 2040

The current ratio stands at 6.
Range of parametric reforms required: case study

Key measures:

– Significantly reduce the **Qualifying period** for an old age pension.
– Increase the pension **accrual** rate
– Increase the **minimum pension** (as % of minimum wage)
– **Indexation** of schemes parameters (earnings’ ceiling and minimum pension)
– Introduction of minimum **survivors’ benefits**.
– Adopting a **financing policy** to establish a legal obligation to increase contribution rates in the future based on specific cost indicators set out in actuarial valuations.
### The General Average Premium ('GAP')

The General Average Premium ('GAP') is the constant contribution rate that is required to meet the expenses of a scheme over the projection period.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>PAYG rate</th>
<th>GAP (100 years)</th>
<th>Year of reserve exhaustion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2050</td>
<td>2100</td>
<td></td>
</tr>
<tr>
<td><strong>Base scenario</strong></td>
<td>2.3%</td>
<td>28.2%</td>
<td>10.8%</td>
</tr>
<tr>
<td><strong>Parametric reforms</strong></td>
<td>4.6%</td>
<td>18.9%</td>
<td>14.1%</td>
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### The Pay-as-you-go cost rate (‘PAYG’)

The Pay-as-you-go cost rate (‘PAYG’) is the ratio of total expenditure of a scheme to total insurable earnings for a given year.
8: But investment governance is still important

- Demonstrates that the social security institution is professional and transparent
- Everyone is an expert in investment - are you responsibly investing member funds?
- Strengthen sustainability
- Important driver of good practice in a country with undeveloped institutional investors
What are the investment objectives for your social security scheme?

- Are they documented? Consistent with the Funding Policy?
- Are they reasonable, realistic, and implementable?
- Are returns measurable and comparable?
- What are the Measures of risk?
- Does Investment Policy take into account liabilities?
- How many objectives should a scheme have and at what level of detail are they most useful?
Process of setting the SAA within a SSI

Mission, beliefs and (risk/return/other) objectives of the SSI defined and signed off

Summary of constraints – liability profiles from the actuarial valuation and other restrictions

Data collection on asset classes (risk and return plus other characteristics)

Setting assumptions with approval from the SSI

Collection and analysis of relevant international experience

Analysis of different SAA options based on a standard risk & return methodology

Recommendations based on the above steps

Implementation procedures including transition (depends on governance capacity)

Ongoing measurement, review and re-assessment
9: Investment in limited capital markets – what is the approach?
Environmental

Climate change, pollution and biodiversity

For example - avoiding coal miners; investing in renewable energy

Social

Supporting well being of workforce, communities and society

For example - avoiding use of child labour; investing in companies who support charities

Governance

Ethical and transparent management

For example - responsible pay, ownership etc
Social security reserve funds act as the driver of good governance in such projects. What is the return on investment? What are the risks?

Effective risk management function and good investment governance needed.
Investment management needs to be based on effective investment governance structures and processes.
The ILO Regional Actuarial Services Unit (RASU) was set up on 1 July 2019 in Bangkok, Thailand.

The Unit provides actuarial and investment technical support for social security institutions in the region. This work includes actuarial valuations, policy analysis, training, capacity building of actuarial and investment governance resources and investment technical support. The work feeds into analysis and decisions on costing and design of new schemes, shock resistant measures for social security, and better management of existing schemes.
The RASU partners with institutions to deliver actuarial services, provide technical advice and build up local capacities and resources

Why?

• Increasing demand for actuarial and investment work -> ILO uniquely positioned to do this
• Supports evidenced based policy and financing decision making -> strengthening social security
• An effective way for social security institutions to influence policy, reform and financial debate -> evidence based policy
• Strengthens actuarial capacity, expertise and resources within institutions -> leaving a legacy within social security institutions