



## Importance of actuarial work for policy and reform decision making

An institution requires the input of **actuaries** to ensure appropriate analysis can be undertaken and ensure that policy making, financing and reform decisions are evidence based. Some policies, new schemes or reforms may have small financial impacts in the short term but significant impacts in the medium and long term. Whatever the time horizon assessed, a comprehensive and thorough analysis of historical data and statistics is required in order to have a good understanding of what happened in the past. This is used to set reasonable and appropriate assumptions so as to provide trustworthy advice to decision makers.

Actuaries analyse the financial impacts of risk and uncertainty. They use mathematics, statistics, and financial theory to assess the risk that an event will occur and help decision makers develop policies to reduce, manage or transfer that risk. Actuaries' work is essential in different fields including insurance, pensions, health, investment and social insurance.

Actuarial projections that meet certain criteria on data, assumptions and methodology are called **actuarial valuations**. Actuarial valuations are subject to actuarial professional standards of practice at the national, regional or international level. All actuarial work should be properly managed and cleared by qualified actuaries to meet the highest standards of quality.

### Why are actuarial valuations needed?

Actuarial valuations should be undertaken regularly for existing schemes, when **new schemes** are discussed and developed and for **proposed reforms**. The results input into decisions regarding:

- *Financial sustainability*
  - Through analysing the present and future financial development of a scheme,
  - identifying the causes of present or possible future deficits, and
  - appropriate financing and investment decisions can be made.
- *Coverage and benefit adequacy*
  - Assessing the impact of extension on costs and benefits
  - Projecting benefit levels across different groups
- *Assessing system fairness*
- *System design and reforms*
- *Communication and disclosure*

### What is the difference between actuarial valuations and other estimations / calculations / projections that may be undertaken?

Whilst the model used to estimate future cash flow projections needs to be appropriate, the actuarial valuation is much more than having a model to 'crunch numbers'

Having good quality **data** and using appropriate and reasonable **assumptions** will significantly impact results. Therefore most of the work of an actuarial valuation will be focused on ensuring that data is



sufficient and reliable<sup>1</sup> and can be used for the valuation. The next most important part of the work is to understand the story behind the data; in short what the data is telling us about what has happened in the past and may happen in the future. This is where a qualified experienced actuary differentiates from a junior actuary and a non-actuary. This is how a qualified actuary is able to build appropriate and reasonable assumptions.

The actuarial valuation needs to follow minimum **professional requirements** and also include reconciliation with previous valuation results, sensitivity analysis and a thorough peer review process.

Actuarial valuation reports are highly technical documents and should include all the necessary activities and disclosures in order to comply with national, if any, or International Actuarial Association actuarial standards of practice (ISAP-2) as well as the [ILO-ISSA guidelines on actuarial work for social security](#). To ensure such compliance, actuarial valuation projects should be properly managed and cleared by a qualified actuary, as defined in national actuarial standards of practice or ISAP-2. The report should communicate the results, conclusions and recommendations that will allow non actuaries in general and in particular decision makers to understand them and make informed decision.

Other estimations / calculations / projections may use more approximate data and are not subject to the same requirements and checks. They will therefore not be as complete or as professional as the full actuarial valuation and therefore cannot be relied on to the same extent for policy, reform and financial decision making.

### What is an actuarial opinion?

When a report on an actuarial valuation indicates that the actuarial valuation has followed national, regional or international standards of actuarial practice, it means that the report must necessarily contain an **actuarial opinion** signed by a qualified actuary. When the qualified actuary signs the actuarial opinion, he certifies that, in his opinion:

- ✓ The data on which the report is based is sufficient and reliable;
- ✓ The assumptions used are, individually and on an aggregate basis, reasonable and appropriate; and
- ✓ The methodology employed is appropriate and consistent with accepted actuarial practice.

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<sup>1</sup> Data needs to be up Relevant, Complete, Up to date, Internally consistent, sufficiently long series, and consistent with data from other sources



Before signing such an actuarial opinion, the qualified actuary must have:

- ✓ Assessed the relevance of assumptions and methodologies used and its compliance with the national, if any, or IAA actuarial standards of practice (ISAP-2), the ILO-ISSA guidelines on actuarial work for social security as well as CFA Institute standard and ISSA guidelines on investments
- ✓ Reviewed the actuarial models and its compliance with the scheme provisions and the suggested reform options
- ✓ Reviewed the provisions of the scheme and reform options recommendations for their compliance with the applicable ILO Conventions and Recommendations
- ✓ Made policy recommendations

An Actuarial Opinion is very important because it guarantees the quality of the actuarial valuation and therefore the validity of using the results for policy, reform and financing decision making. This isn't the same as for results produced from other processes.

### What does international good practice tell us?

Many governments set down in law the requirements related to actuarial valuations including frequency of valuations, scope, who can conduct a valuation and reporting requirements<sup>2</sup>. These regulations typically specify the minimum experience and qualification requirements of the actuary signing off on the valuation.

The [ILO ISSA Actuarial Guidelines](#) set down in detail the steps required to carry out an actuarial valuation including data, assumptions, peer review, reconciliation, sensitivity analysis and reporting.

### Building up internal actuarial resources

The [ILO ISSA Actuarial Guidelines](#) state that “the social security institution should aim at creating an **internal actuarial department** responsible for part or all of the actuarial work to be undertaken”. It is essential that internal actuarial resources are built up in Thailand so that more of the actuarial work can be carried out ‘in house’ and closely reflect the economic, demographic and labour market situation in the country and therefore support evidence based decision making. The ILO works with social security institutions in building up these internal resources.

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<sup>2</sup> An ISSA survey showed that 75% of countries have regulatory requirements governing