

# **International Actuarial Association**

**International Standard of Actuarial Practice no.**

**Valuation of Social Security Programs**

**Developed by the  
Social Security Task Force of the  
Interim Actuarial Standards Subcommittee**

**Adopted by the IAA Council  
[Month Year]**

## Table of Contents

Preface .....	iv
Introduction .....	iv
Section 1. General .....	1
1.1 Purpose .....	1
1.2 Scope .....	1
1.3 Compliance.....	1
1.4 Applicability.....	1
1.5 Reasonable Judgment .....	2
1.6 Language .....	2
1.7 Cross References .....	2
1.8 Effective Date.....	3
Section 2. Definitions .....	4
Section 3. Appropriate Practices .....	6
3.1 Consideration of all Relevant Features of the SSP and Law .....	6
3.2 Data .....	6
3.3 Assumptions .....	6
3.4 Balance Sheet Methodology .....	7
3.5 Reliance on the Work of Experts from Other Professions .....	7
3.6 Independent Expert Review .....	7
3.7 Responsibility for Assumptions and Methodology .....	7
Section 4 Communication.....	8
4.1 Specific Information to be Included in SSP Valuation Reports .....	8
4.2 Actuarial Opinion .....	10

## **Preface**

*[Drafting Notes - When an actuarial standard setting organization adopts this standard it should:*

- 1. Replace “ISAP” throughout the document with the local standard name;*
- 2. Choose the appropriate phrase and date in paragraph 1.8;*
- 3. Choose the appropriate phrase in sub-paragraph 3.1.2.a;*
- 4. Review for, and resolve, any conflicts with the local [law](#) and code of professional conduct; and*
- 5. Delete this preface (including these drafting notes).]*

**This International Standard of Actuarial Practice (ISAP) is a model for actuarial standard-setting bodies to consider.** The International Actuarial Association ([IAA](#)) encourages relevant actuarial standard setting bodies to consider taking one of the following courses of action, if it has been determined that this ISAP is relevant for actuaries in their jurisdiction:

- Adopting this ISAP as a standard with appropriate modification, where items covered in this ISAP are not currently contained in existing actuarial standards;
- Endorsing this ISAP as a standard as an alternative to existing standards;
- Modifying existing standards to obtain substantial consistency with this ISAP; or
- Confirming that existing standards are already substantially consistent with this ISAP.

Such an adopted standard (rather than this ISAP) applies to those actuaries who are subject to such body’s standards, except as otherwise directed by such body (for example with respect to cross-border work).

When this ISAP is translated, the adopting body should select three verbs that embody the concepts of “must”, “should”, and “may”, as described in Language, even if such verbs are not the literal translation of “must”, “should”, and “may”.

**This ISAP is not binding upon an [actuary](#) unless the [actuary](#) states that some or all of the work has been performed in compliance with this ISAP**

This ISAP was adopted by the [IAA](#) Council in [month year].

## **Introduction**

This International Standard of Actuarial Practice (ISAP) applies to [actuarial services](#) performed in the context of [Social Security Programs](#) (SSPs). The intent of this ISAP is to narrow the range of practice considered acceptable under *ISAP 1 - General Actuarial Practice*. Where this ISAP defines as acceptable a practice which would not be acceptable under ISAP 1, it is clearly mentioned.

In this area of practice, the International Actuarial Association ([IAA](#)) previously adopted *IASP 1 - Guidelines of Actuarial Practice for Social Security Programs*, which became effective on January 1, 2003. This was a level 4 standard (which has the effect of a practice note) and will be superseded by the adopted version of this ISAP.

Because of their significant expertise in preparing long-term financial projections, actuaries often play an important role in carrying out financial analyses of [SSPs](#). Due to the reliance placed on actuarial projections in public policy decision-making, it is important that the demographic and

economic analyses of these [SSPs](#) provide objectively prepared (albeit by their very nature, uncertain) projections of their long-term future developments.

This ISAP is also intended to promote the development of consistent actuarial practice for [SSPs](#) throughout the world.

Few existing professional standards and guidelines specifically apply to [SSPs](#). Most countries have no standards in this area. In this regard, the [IAA](#) has decided to issue this ISAP with support within the International Social Security Association (ISSA) and the International Labour Organization (ILO).

This ISAP is intended to complement local requirements in the jurisdiction concerned, including provisions in applicable [SSP](#) legislation specifically referring to actuarial [reports](#) relating to the [SSP](#); it should not be used to override such requirements. Practice consistent with this ISAP should enhance confidence in the professionalism, objectivity and scientific rigour of actuaries providing [actuarial services](#) to [SSPs](#).

This ISAP applies to actuaries but may be helpful for other professionals who conduct analysis of [SSPs](#). This ISAP is not written with benefits provided in connection with unemployment and work-related incidents (e.g., work-place injury) as the primary focus. However, where appropriate, this ISAP may be used by actuaries providing professional services for these types of programs.

This ISAP only applies to [actuarial services](#) performed for an [SSP](#). When the [SSP](#) is administered or where guarantees are provided by a non-governmental entity, e.g., by an insurance company or a workers' compensation (work injury) board, this ISAP does not apply to [actuarial services](#) related to the financial reporting or calculation of liabilities of that entity, to the calculation of its premiums or rates, or to similar work.

#### [Preliminary comments](#)

[I know this ISAP has been in progress for a while so I do not propose to delay it by adding another objective but as the IAA seeks actively more recognition for actuaries in the field of public health programs it would require very little adjustment to make it more clearly applicable to such programs as well.](#)

[A practical alternative would be to go ahead with the current scope but promptly start a review to extend the scope explicitly and publish a revised version when ready. It can be argued it already covers health but there are some ambiguities. In fact the problem may be that it is arguable it applies to health but many actuary may not recognize it at first glance and remain exposed to challenges or criticism.](#)

## Section 1. General

**1.1. Purpose** – This ISAP provides guidance to [actuaries](#) performing actuarial [valuations](#) of [SSPs](#), or reviewing, advising on, or opining on such analyses, to give [intended users](#) confidence in particular that:

- [Actuarial services](#) are carried out professionally and with due care;
- The results are relevant to their needs, are presented clearly and understandably, are complete; and
- The assumptions and methodology (including, but not limited to, models and modelling techniques) used are disclosed appropriately.

**1.2. Scope** – This ISAP applies to [actuaries](#) who are performing, reviewing, advising on, or opining on actuarial [valuations](#) of [SSPs](#).

**1.3. Compliance** – There are situations where an [actuary](#) [may depart from the guidance in this ISAP while still complying with the ISAP if the actuary provides, in any report, an appropriate statement with respect to the nature, rationale, and effect of any such departure. These situations include but are not limited to cases where:](#)

~~may deviate from the guidance of this ISAP but still comply with the ISAP:~~

- 1.3.1. [Law](#) may impose obligations upon an [actuary](#). Compliance with requirements of [law](#) that conflict with this ISAP is not a deviation from the ISAP.
- 1.3.2. The actuarial code of professional conduct applicable to the work may conflict with this ISAP. Compliance with requirements of the code that conflict with this ISAP is not a deviation from the ISAP.

~~1.3.3. The [actuary](#) may depart from the guidance in this ISAP while still complying with the ISAP if the [actuary](#) provides, in any report, an appropriate statement with respect to the nature, rationale, and effect of any such departure.~~

**1.4. Applicability** – This ISAP applies to [actuaries](#) when performing [actuarial services](#). An [actuary](#) who is performing these [actuarial services](#) may be acting in one of several capacities such as an employee, management, director, external adviser, auditor, or supervisory authority, of the entity.

- 1.4.1. The application of this ISAP is clear when a single consulting [actuary](#) is performing [actuarial services](#) for a client who is not affiliated with the [actuary](#).
- 1.4.2. There are at least two general cases which do not meet the criterion stated in 1.4.1:
  - a. A team of [actuaries](#) is performing [actuarial services](#); or
  - b. An [actuary](#) is performing [actuarial services](#) for an affiliated party (such as the [actuary](#)'s employer or affiliated entities within a group under common control.)
- 1.4.3. When a team is performing [actuarial services](#), most paragraphs of this ISAP apply to every [actuary](#) on the team. However, requirements in some paragraphs need not be met by every [actuary](#) on the team personally (e.g., 3.4, 4.2). In the case of such paragraphs, each [actuary](#) on the team should identify, if relevant to that [actuary](#)'s [work](#), which member of the team is responsible for complying with such requirements and be satisfied that the other team member accepts that responsibility.

**Comment [YG1]:** The purpose of the change is to ensure full disclosure of any departure. This is necessary for transparency and to enable readers to rely on the report

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- 1.4.4. If an [actuary](#) is performing [actuarial services](#) for an affiliated party the [actuary](#) should interpret this ISAP in the context of normal corporate or partnership practices, but following the general principles of this ISAP.

- a. The [actuary](#) should consider the expectations of the principal. These expectations might suggest that it may be appropriate to omit some of the otherwise required content in the [actuary's report](#). However, limiting the content of a [report](#) may not be appropriate if that [report](#) or the findings in that [report](#) may receive broad distribution.
- b. If the [actuary](#) believes circumstances are such that including certain content in the [report](#) is not necessary or appropriate, the [actuary](#) should be prepared (if challenged by a professional actuarial body with jurisdiction over the [actuarial services](#)) to describe these circumstances and provide the rationale for limiting the content of the [report](#).

**1.5. Reasonable Judgment** – The [actuary](#) should exercise reasonable judgment in applying this ISAP.

1.5.1. A judgment is reasonable if it takes into account:

- a. The spirit and intent of the ISAPs;
- b. The type of assignment; and
- c. Appropriate constraints on time and resources.

1.5.2. In particular the [actuary](#) should be cautious exercising reasonable judgment in statutory, supervisory, and financial reporting assignments which usually require considerable rigour.

Any judgment required by the ISAP (including implicit judgment) is intended to be the [actuary's](#) professional judgment unless otherwise stated.

**1.6. Language**

1.6.1. Some of the language used in all ISAPs is intended to be interpreted in a very specific way in the context of a decision of the [actuary](#). In particular, the following verbs are to be understood to convey the actions or reactions indicated:

- a. “Must” means that the indicated action is mandatory and failure to follow the indicated action will constitute a departure from this ISAP.
- b. “Should” (or “shall”) means that, under normal circumstances, the [actuary](#) is expected to follow the indicated action, unless to do so would produce a result that would be inappropriate or would potentially mislead the [intended users](#) of the [actuarial services](#). If the indicated action is not followed, the [actuary](#) should disclose that fact and provide the reason for not following the indicated action.
- c. “May” means that the indicated action is not required, nor even necessarily expected, but in certain circumstances is an appropriate activity, possibly among other alternatives. Note that “might” is not used as a synonym for may, but rather with its normal meaning.

1.6.2. This document uses various expressions whose precise meaning is defined in section 2. These expressions are highlighted in the text with a dashed underscore and in blue, which is also a hyperlink to the definition (e.g. [actuary](#)).

**1.7. Cross References** – When this ISAP refers to the content of another document, the reference relates to the referenced document as it is effective on the [adoption date](#) as shown on the cover page of this ISAP. The referenced document may be amended, restated, revoked, or

replaced after the [adoption date](#). In such a case, the [actuary](#) should consider the extent the modification is applicable and appropriate to the guidance in this ISAP.

**1.8. Effective Date** – This ISAP is effective for {[actuarial services](#) performed/[actuarial services](#) commenced/[actuarial services](#) performed relevant to an event}<sup>1</sup> on or after [Date].

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<sup>1</sup> *Phrase to be selected and date to be inserted by standard setter adopting or endorsing this ISAP.*

## Section 2. Definitions

The terms below are defined for use in this ISAP.

- 2.1. **Actuarial Services** – Services based upon actuarial considerations provided to [intended users](#) that may include the rendering of advice, recommendations, findings, or [opinions](#).
- 2.2. **Actuary** – An individual [actuary](#) member of one of the member associations of the [IAA](#).
- 2.3. **Adoption Date** – The date on which this ISAP was adopted as a final document by the [IAA](#) Council.
- 2.4. **Communication** – Any statement (including oral statements) issued or made by an [actuary](#) with respect to [actuarial services](#).
- 2.5. **IAA** – The International Actuarial Association.
- 2.6. **Independent Expert Review** – An [opinion](#) on (i) whether the assumptions used in the actuarial [valuation](#) are within a reasonable range both separately and in the aggregate, and (ii) whether or not the results of the [valuation](#) are within a reasonable range. In this context “independent” means an [actuary](#) experienced in [valuation](#) of [SSPs](#) who:
  - a. Has not been involved in preparing this [report](#); and
  - b. Is not employed by the [SSP](#) or its sponsoring agencies.

In this context an [actuary](#) or organization contracted by the [SSP](#) to perform the [Independent Expert Review](#) is not considered to be employed.
- 2.7. **Intended User** – Any legal or natural person whom the [actuary](#) intends at the time the [actuary](#) performs [actuarial services](#) to use the [report and persons that can reasonably be expected to have legally access to the report and rely on its contents](#).
- 2.8. **Law** – Applicable acts, statutes, regulations or any other binding authority (such as accounting standards, and any regulatory guidance that is effectively binding).
- 2.9. **Opinion** – An opinion expressed by an [actuary](#) and intended by that [actuary](#) to be relied upon by the [intended users](#).
- 2.10. **Report** – The [actuary](#)'s [communication\(s\)](#) presenting some or all results of [actuarial services](#) to an [intended user](#) in any recorded form, including but not limited to paper, word processing or spreadsheet files, e-mail, website, slide presentations, or audio or video recordings.
- 2.11. **Report Date** – The date on which the [actuary](#) substantially completes a [report](#). It usually follows the [valuation date](#).
- 2.12. **Social Security Programs (SSPs)** – programs with all the following attributes regardless of how they are financed and administered:
  - 2.12.1. Coverage is of a broad segment, if not all, of the population, often on a compulsory or automatic basis;
  - 2.12.2. The program, including benefits and financing method, is prescribed by [statute](#);
  - 2.12.3. The program is ultimately responsible to the government, or a unit of government; and
  - 2.12.4. Program benefits are:

**Comment [YG2]:** Some associations include as member students or technicians economists, academics, honorary members correspondents or other types of members. Being an actuary should be by having met some qualification requirements not just belonging to an association

**Comment [YG3]:** The actuary should take into account the fact that a report may be or become a public document but can restrict the scope of potential users by limiting explicitly the categories of readers that could rely on the document. Limiting the scope to an immediate intended user narrowly defined is imprudent

**Comment [YG4]:** This is restrictive. Instruments other than a Law can be used to create a program for example creating a State Owned Enterprise that will implement a program where benefits and conditions are not in the Law that may be limited to make participation mandatory.

- a. Generally payable or delivered upon one or more contingent events or circumstances, including old age, retirement, death, disability, and survivorship; sickness and accidents or "health care added in c below
- b. Poverty-related conditional cash transfers; or
- c. Universal social benefits.

**Comment [YG5]:** Health care is considered by many as part of Social Security or generally Social protection which include income protection as well as income replacement. If for some reason Health coverage is to be excluded it should be stated explicitly to remove the ambiguity. See reference to morbidity in 3.2 a

**2.13. Subsequent Event** – an event of which the actuary becomes aware after the valuation date but before the actuary's communication on the results of these actuarial services is delivered.

**2.14. Valuation** – Any formal analysis of an SSP including presentations of discounted point in time values, projections of cash flows and associated fund values, and contribution rates.

**2.15. Valuation Date** – The date at which an SSP is analyzed by the actuary. It usually precedes the report date.

### Section 3. Appropriate Practices

**3.1. Consideration of all Relevant Features of the SSP and Law** – The [actuary](#) should consider all relevant [SSP](#) features, and current [law](#). The [actuary](#) should also take into account established practice (where practical) when no [law](#) exists with regard to certain benefit provisions or financial measures (for example, the basis for future indexation of pensions in payment). For a newly established or substantially changed [SSP](#), the [actuary](#) should take into account the stated intentions of the [SSP](#) sponsor, and relevant experience in other comparable [SSPs](#).

**3.2. Data** – The [actuary](#) should consider using the following data:

- a. National statistics on variables such as fertility, mortality (life expectancy), morbidity, and migration (if such data are not available on a national basis, the [actuary](#) may consider information from a wider geographical area that might apply or it may be necessary to rely on relevant and reliable statistics of international organizations);
- b. Demographic status and experience of the [SSP](#) and the region, as applicable;
- c. Economic experience, labour market developments and inflation;
- d. Financial attributes of the [SSP](#), such as contributions, investment earnings and assets;
- e. Benefits of, or claims on, the [SSP](#), as applicable;
- f. Number and classes of contributors and beneficiaries of the [SSP](#);
- g. Covered salaries and past service credits;
- h. Family statistics (including household surveys).

**3.3. Assumptions** – The [actuary](#) should use realistic best estimate assumptions in a financial [valuation](#) of an [SSP](#). Best estimate assumptions are such that the [actuary](#) expects that the resulting projection of the [SSP](#) experience is not a material underestimate or overestimate of the obligation. If an [actuary](#) uses assumptions that include a margin for any particular reason, the [actuary](#) should disclose that clearly and properly in the [report](#). The [actuary](#) may perform and include in the analysis projections based on other sets of assumptions such as those that would result in high projected costs or those that would result in low projected costs when such projections are helpful in analyzing and communicating the financial status of an [SSP](#).

The [actuary](#) should perform an experience analysis to determine, to the extent that the available data permit, if experience trends are relevant to the setting of certain assumptions.

The [actuary](#) should select assumptions that reflect the time line of the analysis (which might be 75 years or more [for pensions but much less for other programs like health](#)). The [actuary](#) may select different assumptions for different time intervals in the projection (e.g., a common technique for this is to use recent experience as the basis for the model assumptions for the first “n” years of projection and longer-term trends for the ultimate variable assumptions (select and ultimate)).

In selecting the model variables and assumptions for [SSP](#) financial projections, the [actuary](#) should take into consideration the existence of automatic balancing mechanisms in an [SSP](#) ~~since the [SSP](#) may be “immunized” from the variance of some variables (e.g., life expectancy).~~

For newly introduced [SSP](#) benefit schemes where no experience data exist, the [actuary](#) may

**Comment [YG6]:** The fact that the ABM may immunize or not should not be a consideration and in some cases the effect is debated. The actuary should take into account his/her own interpretation of the ABM which may include a partial rather than perfect immunization rather than relying on the intent of the provision

investigate the risk characteristics of the potential covered group through surveys or enquiries until credible data are available. The [actuary](#) may also reference the relevant experience of other [SSPs](#) or other countries to establish assumptions [or use reasonable proxies or default values as maybe necessary for the timely production of the report provided these are clearly identifies as such](#).

In this case the [actuary](#) should bring to the attention of the [intended users](#) that the [valuation](#) has been based on very limited data (and perhaps none relating to actual [SSP](#) membership). Accordingly [valuations](#) should be performed more frequently (possibly annually) than would be suitable for a longer established program which provided more data for analysis.

The [actuary](#) should comment on the assumptions as shown in paragraph 4.2.b.

**Comment [YG7]:** If there is doubt as to the relevance or indicative value of external reference it would be more transparent to state that the parameters are proxies or default values reflecting the professional judgment of the actuary.

**3.4. Balance Sheet Methodology** – When applicable the [actuary](#) should choose which methodology to use to produce an [SSP](#)'s balance sheet based mainly on the financing approach used.

3.4.1. For fully funded [SSPs](#) (that is, where accrued liabilities are intended to be funded over participants' working years) balance sheets should be produced using a closed membership group approach, under which only current participants are considered with or without their assumed future benefit [accruals](#).

3.4.2. For pay-as-you-go or partially funded [SSPs](#), if balance sheets are produced, this should be done using an open group approach, under which contributions and benefits of both current and future participants are considered.

3.4.3. Where [law](#) require adoption of an approach for production of a balance sheet that is not in line with either section 3.4.1 or 3.4.2 as applicable, the [actuary](#) should communicate the effects of the approach required for the program in question to the [intended users w-ithin the report](#).

**Comment [YG8]:** NOT CLERAR ?TERMINAL FUNDING' TARGET FUNDING?

**3.5. Reliance on the Work of Experts from Other Professions** – The [actuary](#) should follow the guidance in *ISAP 1 - General Actuarial Practice* with respect to reliance on experts from other professions.

**Comment [YG9]:** Needed for transparency and under a precautionary principle

**3.6. Independent Expert Review** – When an [Independent Expert Review](#) is performed:

3.6.1. The [actuary](#) who prepared the [valuation](#) should cooperate with the reviewing [actuary](#) to provide the reviewing [actuary](#) with any requested material, and to be available to discuss data, methodology, assumptions, and other factors as necessary, with the reviewing [actuary](#).

3.6.2. The reviewing [actuary](#) should comply with the guidance of this standard in performing the review.

**Comment [YG10]:** When this represents more than a reasonable extension of the original mandate the original actuary should be entitled to reasonable compensation. What is important is that the original actuary accepts to supply the information but should not be forced into non compliance by abusive request. It may reduce litigation to explicitly state that condition so that the reviewing actuary includes that provision in his cost estimate of the task to be financed by the user.

**3.7. Responsibility for Assumptions and Methodology** – The [actuary](#) should follow the guidance in *ISAP 1 - General Actuarial Practice* with respect to disclosing the responsibility for assumptions and methodology, and the [actuary](#)'s [opinion](#) thereon.

## Section 4. Communication

**4.1. Specific Information to be Included in SSP Valuation Reports** – This section applies specifically to [reports](#) concerning the projected financial status of an [SSP](#). *ISAP 1 - General Actuarial Practice* covers information useful to a wider variety of [reports](#). This section is meant to be read and applied in addition to *ISAP 1 - General Actuarial Practice*. The [actuary](#) should include the following information in an [SSP valuation report](#) (and may include additional information).

4.1.1. Description of the provisions of the [SSP](#) related to:

- a. Coverage;
- b. Nature of the [SSP](#), e.g., defined benefit or defined contribution;
- c. Financing approach, e.g., pay-as-you-go, partially funded or fully funded;
- d. Source of funding, e.g. worker or employer contributions, transfers from government revenues, including legislated or contractual contribution rates; and
- e. Benefit provisions, e.g. formulae, amounts, restrictions and eligibility conditions.

4.1.2. Key dates:

- a. [Valuation date](#);
- b. [Report date](#);
- c. Date up to which all relevant information had been taken into consideration, if it differs from the [report date](#).

4.1.3. Section on methodology, data and assumptions;

- a. Description of the methodology;
- b. Key demographic assumptions such as mortality (longevity), morbidity, fertility, migration, and unemployment;
- c. Key historical demographic data such as:
  - i. Eligible and beneficiary population by relevant demographic characteristic groupings;
  - ii. Dependency ratios;
  - iii. Employment earnings by age groups and gender, and averages;
  - iv. Contributory earnings by age groups and gender, and averages; and
  - v. Covered payroll and workforce;
- d. Key economic data and assumptions such as inflation, economic growth, and return on investments (if any);
- e. The extent, if any, of interdependency among assumptions;
- f. Statistics and summaries of the data used as a basis for the [SSP valuation](#) assumptions; and
- g. Sources, quality, and relevance of the data used.

4.1.4. Section on results and findings

- a. Key projected demographic values at selected future points in time such as:
  - i. Eligible and beneficiary population by relevant demographic characteristic groupings, and how these populations compare to the total population;
  - ii. Dependency ratios;
  - iii. Employment earnings by age groups and gender, and averages;
  - iv. Contributory earnings and averages by age groups and gender;
  - v. Labor force participation rates by age groups and gender; and
  - vi. Covered payroll and workforce.
- b. Financial projections showing detailed cash flows and balance sheet values for the recent past and for the future such as:
  - i. Contributions;
  - ii. Investment earnings;
  - iii. Other income;
  - iv. Total income;
  - v. Benefits or claims;
  - vi. Administrative expenses;
  - vii. Total expenditures;
  - viii. Annual balance (income minus expenditure);
  - ix. Actuarial deficit and funded ratio as of [valuation date](#) and other representative dates (for fully-funded pension schemes);
  - x. Nature of assets and / or individual accounts;
  - xi. Market value of tangible assets / funded assets;
  - xii. Reserve; and
  - xiii. Value of notional, non-financial or virtual assets.

The results may be expressed in relation to one or more relevant volume measures, such as the size of the economy or premiums/taxes.
- c. Cost rates as appropriate:
  - i. Pay-as-you-go cost rate;
  - ii. General average premium or partially funded cost rate; or
  - iii. Fully funded cost rate; and
- d. A presentation designed to provide an indication of the financial sustainability of the [SSP](#), if appropriate.

4.1.5. Section on analysis of [valuation](#) results which may include the following components:

- a. Reconciliation with the previous [report](#), along with explanations of significant changes in results.
- b. Discussion of the pattern of financial projections over the years (e.g., as a result of the ageing of the population, maturity of the [SSP](#), and recent changes in [SSP](#) design or financing) and the implications thereof. The [actuary](#) may include a comparison of how benefits are projected to grow or decline with respect to inflation, economic growth or both and during which part of the projection period, as an indicator of potential stability or instability of the system in the longer term.
- c. Effect, if material, of any [subsequent event](#).
- d. Sensitivity of results to variations in one or more assumptions.
- e. Effect of automatic balancing mechanisms (if any) under each scenario used for the projections in the [report](#), where “effect” covers both how the automatic balancing mechanism alters the key parameters of the [SSP](#) (such as the pension age, or determination of benefits) and how the alteration of the key parameters changes the amounts paid to beneficiaries.
- f. Conclusions on the short-, medium-, and long-term financial sustainability of the [SSP](#) with due regard to the funding rules under the [law](#) if such funding rules exist.
- g. Indications of possible sources of future financial instability (e.g., depreciation of future benefits either because of non-indexation or because of indexation lagging behind economic growth, or inadequacy of future contributions due to non indexation of contribution limits).
- h. Potential recommendations on possible measures to ensure the long-term financial sustainability of the [SSP](#).
- i. Impact of any options or guarantees embedded in the benefits of the [SSP](#) on the cashflows shown in 4.1.4.b.
- j. The suitability of any approach for calculation of capitalised value of liabilities used for an [SSP](#) in light of the particular funding method and the time horizon used.

**4.2. Actuarial Opinion** – The [actuary](#) should provide an [opinion](#) with respect to the extent to which the following hold, or do not hold:

- a. The data upon which the [report](#) is based are sufficient and reliable;
- b. The assumptions used for the [report](#) are, in the aggregate [adequate](#) and ~~for~~ individually; [reasonable](#) and appropriate;
- c. The methodology employed is appropriate and consistent with sound actuarial principles; and
- d. The [SSP](#) is financially sustainable over the period covered by the projections used for the [valuation](#).

The [actuary](#) should conclude with a formal statement that the [report](#) has been prepared, and the [actuary](#)'s [opinion](#) given, in accordance with the applicable local standards of practice or this model ISAP.

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