

May 2019

Actuarial Statement Of Recommended Practice 1 (ASORP 1)

Financial Analysis of Social Security Programmes

The FRC's mission is to promote transparency and integrity in business. We are committed to providing the public with accurate and timely information about the activities of the companies we regulate. We will work to ensure that the public has access to the information it needs to make informed decisions about the companies it invests in and the products and services they provide. We will also work to ensure that the companies we regulate are held accountable for their actions and that they are treated fairly and equitably. We will work to ensure that the public has a voice in the decisions that affect their lives and that the companies we regulate are held accountable for their actions and that they are treated fairly and equitably.

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1. General

The aim of the Financial Reporting Council (FRC) is to promote transparency and integrity in business. The FRC's technical actuarial standards, SORPs and guidance are developed in line with FRC Codes and Standards: Procedures¹. These procedures are intended to ensure transparency and consistency in the development and review of FRC codes, standards and guidance.

This standard should be read in conjunction with the *Framework for FRC technical actuarial standards* and in conjunction with *Technical Actuarial Standard 100: Principles for Technical Actuarial Work*. Terms in **bold** are defined in the *Glossary of defined terms used in FRC technical actuarial standards* with additional terms defined in the glossary in Appendix 2 of this standard.

Purpose

Actuarial Statement Of Recommended Practice 1 (ASORP 1) promotes high quality **technical actuarial work** where actuaries are performing a **financial analysis (or analyses)** of **Social Security Programmes (SSPs)**, or reviewing, advising on, or opining on such analyses.

It supports the Reliability Objective that “**users** for whom **actuarial information** is created should be able to place a high degree of reliance on that information’s relevance, transparency of assumptions, completeness and comprehensibility, including the communication of any uncertainty inherent in the information”.

This ASORP supports the application of the principles and provisions of TAS 100 in respect of **technical actuarial work** related to the **financial analysis** of **SSPs**.

Scope of Application

ASORP 1 is applicable to the following **technical actuarial work** in the geographic scope of FRC technical actuarial standards²:

Social Security Programmes

Technical actuarial work supporting the **financial analyses** of **Social Security Programmes**. This includes when actuaries are performing or reviewing, advising on, or opining on **financial analysis** of **SSPs**.

Compliance

Members of the Institute and Faculty of Actuaries are required to comply with ASORP 1 for work in its scope. Wider adoption is encouraged.

Judgements concerning the application of this ASORP shall be exercised in a reasoned and justifiable manner.

¹ <https://www.frc.org.uk/About-the-FRC/Procedures/Regulatory-policies.aspx>

² The geographic scope of the FRC's technical actuarial standards is limited to **technical actuarial work** done in relation to the UK operations of entities, as well as to any overseas operations which report into the UK, within the context of UK law or regulation (paragraph 5.5 of [the Framework for FRC technical actuarial standards](#)).

Nothing in ASORP 1 should be interpreted as requiring work to be performed that is not proportionate to the nature, scale and complexity of the decision or assignment to which the work relates and the benefit that users would be expected to obtain from the work.

Work in the scope of ASORP 1 is also in the scope of TAS 100. In case of conflicting requirements between ASORP 1 and TAS 100, TAS 100 provisions shall prevail.

Communications shall include a statement confirming that the work undertaken complies with TAS 100 and ASORP 1. Where **technical actuarial work** in the scope of this ASORP departs from the requirements in this ASORP, **communications** shall include a brief description of the departures and the rationale for the departures.

Commencement date

This standard applies to **technical actuarial work** in the scope of ASORP 1 which is completed on or after 1 September 2019.

Terminology

In this ASORP the following terms are to be understood as follows:

- | | |
|----------|--|
| “Should” | Under normal circumstances, the indicated action should be followed unless to do so would produce a result that would be inappropriate or would potentially mislead the user . While the presumption is that the provision in question will be complied with, there may be some circumstances in which non-compliance is justified. If the indicated action is not followed, that fact should be disclosed in communications to the user including the reason for not following the indicated action. |
| “May” | The indicated action is not required, nor even necessarily expected, but in certain circumstances is an appropriate activity, possibly among other alternatives. |

Each of these terms is shown in italics to emphasise the intended meaning and application.

2 Appropriate Practices

Consideration of all Relevant Features of the SSP and Law

2.1 All relevant SSP features, the policies and the stated intentions of the sponsoring entity, and current law *should* be considered, if that information exists and is reasonably available.

2.1.1 Established practice (if relevant) *should* be taken into account when no law exists with regard to certain benefit provisions or financial measures (for example, the basis for future indexation of retirement benefits).

2.1.2 For a newly established or substantially changed **SSP**, other relevant information *should* be taken into account, including relevant experience in comparable **SSPs**.

Data

2.2 Consideration *should* be given to all data that is required to perform, review, advise on or opine on the financial analysis of the SSP.

2.2.1 These data *may* include

- (a) National or regional demographic statistics on variables such as fertility, mortality (life expectancy), morbidity, and migration (if such data are not available on a national or regional basis, information from a wider geographical area that might apply *may* be considered, or it *may* be necessary to rely on relevant and reliable statistics of international organisations);
- (b) Demographic status and experience of the **SSP**, as applicable;
- (c) Economic experience, labour market conditions, and inflation;
- (d) Financial attributes of the **SSP**, such as contributions, investment earnings, and liquidity of assets;
- (e) Benefits of, or claims on, the **SSP**;
- (f) Number and experience of classes of contributors and beneficiaries of the **SSP**;
- (g) Covered salaries and past service credits; and
- (h) Censuses and population surveys covering, for example, family statistics.

Assumptions

2.3 The assumptions used in a financial analysis of a SSP *should* be best estimate assumptions. An experience analysis *should* be considered to the extent that the available data permit, to analyse past experience and to set future assumptions.

- 2.3.1 Assumptions *should* be considered that reflect the time horizon of the analysis (which might be 75 years or more). Different assumptions *may* be selected for different time intervals in the projection.
- 2.3.2 Any automatic balancing mechanisms that exist in a SSP *should* be considered when selecting the model variables and assumptions for a SSP financial analysis. The extent to which the SSP is “immunised” from the volatility of some variables (e.g., life expectancy) by the automatic balancing mechanisms *should* be considered.
- 2.3.3 When establishing assumptions for cases where credible experience data might not exist for a newly introduced SSP, or for new benefits to be provided by an existing SSP, the following *may* be considered:
- a. Investigating the risk characteristics of the potential covered population through surveys or enquiries until credible data are available;
 - b. Considering the relevant external experience, including:
 - Other **SSPs** (including the programme being replaced, if any), or
 - Other countries;
 - c. Using reasonable proxies or default values as may be appropriate.
- 2.3.4. **Communications** *should* state when the **financial analysis** has been based on incomplete data (and perhaps none relating to the **SSP** itself) and *should* consider recommending that **financial analyses** be performed again as new information becomes available.
- 2.3.5. If the assumptions used include margins, then the **communications** *should* state the basis and rationale for the margins and explain the relationship between the result using the assumptions that include margins and the result using best estimate assumptions.
- 2.3.6. **Communications** may include in the **financial analysis** projections based on other sets of assumptions such as those that would result in high projected costs and those that would result in low projected costs when such projections are helpful in analysing the uncertainty of the projections and communicating the financial status of a **SSP**.

Consistency with the Financing Method

2.4 The methodology used should be consistent with the financing method used for the SSP.

- 2.4.1. For pay-as-you-go or partially funded **SSPs**, the **financial analysis** *should* use an open group methodology, under which contributions and benefits of both current and future participants are considered.
- 2.4.2. For fully funded **SSPs** (that is, where accrued liabilities are intended to be funded over participants' working years), the **financial analysis** *should* use a closed group methodology, under which only current participants are considered, with or without their assumed future benefit accruals.
- 2.4.3. However, if an alternative approach is judged to be more appropriate, that approach *should* be used, and the justification *should* be described in the **communication**. In such circumstances, the communications *may* also include the results of the **financial analysis** under:
 - a. An open group methodology for pay-as-you-go or partially funded **SSPs**; and
 - b. A closed group methodology for fully funded **SSPs**.
- 2.4.4. **Communications** should state if the law specifies a methodology for measuring the assets and obligations that does not follow either section 2.4.1 or 2.4.2, as applicable.

3 Communication

Communications on Financial Analysis

3.1 Communications of the results of any financial analysis *should* include enough information to enable sound decisions to be made.

3.1.1. Communications *should*

- a. Disclose who the **user** is, the purpose of the **financial analysis**, and the instructions provided by the **user**;
- b. Indicate the nature and timing of future cash flows being quantified;
- c. State the nature and significance of material risks faced by the **SSP**;
- d. Explain the approach taken to the risk in the analysis;
- e. Indicate the nature and extent of any material uncertainty in the information it contains; and
- f. Indicate the sensitivity of the results to variations in key assumptions and methodology.

3.1.2. There are several measures that *may* be used to present the results, including:

- a. Projected cash flows and ending positions;
- b. Discounted cash flows; and
- c. Required contribution rates for sustainability.

3.1.3. **Communications** concerning the projected financial status of a **SSP**, *should* include at least the following information:

- a. Description of the relevant provisions of the **SSP**;
- b. Key dates:
 - Valuation date or, for projections, the effective date of the exercise;
 - Report date; and
 - Date up to which all relevant information had been taken into consideration, if it differs from the report date.
- c. Methodology, data, and assumptions;
- d. Results and findings;
- e. Analysis of results.

The appendix (which is educational and not part of this ASORP) shows lists of possible content for most sections of a report.

3.1.4. Unless paragraph 3.1.5 applies, **communications** *should* include a statement with respect to the extent to which the **SSP** is **financially sustainable** over the period covered by the projections used for the financial analysis.

3.1.5. There may be questions about an existing financial analysis of a **SSP**. For example, a request to estimate the effect of using a revised population projection while keeping all other assumptions the same. In such case the communication's scope (especially what is not included) *should* be clearly articulated and pertinent to the question.

Appendix 1 - Glossary of Terms

Terms in bold are as defined in the “*Glossary of defined terms used in FRC technical actuarial standards*” together with the following additional definitions used in this standard:

Financial Analysis	<p>Any formal actuarial analysis. What constitutes a formal actuarial analysis is a matter for the judgement but might include work required by law and work requested by the user to inform decisions. A financial analysis might include but is not limited to:</p> <ol style="list-style-type: none">1. Determination of discounted point in time values,2. Projection of cash flows and associated fund values, and3. Determination of future contribution rate(s).
Financial Sustainability	<p>Financial sustainability of a SSP relates to its continuous capacity to support the benefits offered by the SSP when considering the applicable financing rules and the future demographic and economic environment in which it will operate.</p>
Social Security Programme (SSP)	<p>A programme with all the following attributes regardless of how it is financed and administered:</p> <ol style="list-style-type: none">1. Coverage is of a defined segment, or all, of the population, often on a compulsory or automatic basis;2. Benefits are provided to, or on behalf of, individuals;3. The programme, including benefits and financing method, is prescribed by law;4. The programme is not financed through private insurance;5. Programme benefits are principally payable or delivered upon old age, retirement, death, disability, and survivorship, and the following benefits (if provided) are only ancillary to the principal benefit(s):<ol style="list-style-type: none">a. Unemployment benefits;b. Medical expenses;c. Benefits provided due to work-related injuries, work-related death or occupational diseases;d. Short term social assistance benefits (e.g. food stamps);e. Benefits provided for disaster relief (e.g. insurance, or recovery funding, for flood, drought, hurricane/typhoon, earthquake/tsunami); andf. Financial insurance or financial guarantees (e.g. for loans, bank deposits, pension payments, financial securities, insurance payments from insolvent insurers). For the avoidance of doubt the exclusion of financial guarantees is taken for the purposes of ASORP 1 to mean the exclusion of Pension Protection Fund and other compensation

schemes as well as any other financial guarantee schemes.

Appendix 2 - Possible Content for Communications

Note: The lists in this appendix were assembled by an IAA task force as part of their previous consideration of disclosures relating to the financial analysis of SSPs. This appendix is provided for informational purposes and is not part of the ASORP. As such defined terms have not been emboldened and there may be judgement required to interpret the practical application of the lists in any specific communication.

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., contingencies covered, formulae, amounts, restrictions, and eligibility conditions.
2. Methodology, data, and assumptions:
 - a. Description of the methodology used;
 - 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, 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. Labour force participation rates by age groups and gender; and
 - vi. Covered payroll and workforce;
 - d. Key economic data and assumptions such as rates of inflation, economic growth, and return on investments (if any);
 - e. The extent, if any, of interdependency among assumptions;
 - f. Summaries of the data used as a basis for the SSP financial analysis assumptions, and as a starting point for the projections; and
 - g. Sources, quality, and relevance of the data used.
3. Results and findings:
 - a. 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. Labour force participation rates by age groups and gender; and
 - vi. Covered payroll and workforce.

- b. Financial projections showing 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 financial or tangible assets;
 - xii. Fund value, if any; and
 - xiii. Value of notional assets (such as value of future contributions if that is recognised as an asset).

The results may be expressed in relation to one or more relevant volume measures, such as the size of the jurisdiction's economy.

- 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.
- d. A presentation designed to provide an indication of the financial sustainability of the SSP, if appropriate.

4. Analysis of results:

- a. Reconciliation with the prior report, along with explanations of significant changes in results.
- b. Discussion of the pattern of financial projections (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. Communications may include a comparison of how benefits are projected to grow or decline as a result of different levels of inflation or economic growth and during which part of the projection period, as an indicator of potential stability or instability of the system in the longer term.
- c. Sensitivity of results to variations in one or more assumptions.
- d. 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.
- e. Findings with respect to 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.
- f. Indications of possible sources of future financial instability (e.g., depreciation of future benefits either because of non-indexation or because indexation may lag

behind economic growth, or inadequacy of future contributions due to non-indexation of contribution limits).

- g. Potential recommendations on possible measures to ensure the long-term financial sustainability of the SSP.
- h. Impact of any options or guarantees embedded in the benefits of the SSP on the cash flows shown.
- i. The suitability of the approach for calculation of any capitalised value of liabilities used for a SSP in light of the particular funding method and the time horizon used.



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