ACTUARIAL STANDARDS BOARD

● **EXPOSURE DRAFT** ●

Proposed Revision of
Actuarial Standard
of Practice
No. 7

Analysis of Life, Health, or Property/Casualty Insurance Cash Flow Risk

Comment Deadline:
June 1, 2024

Developed by the
ASOP No. 7 Task Force of the
Actuarial Standards Board

Approved for Exposure by the
Actuarial Standards Board
September 2023

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APPENDIX

September 2023

TO: Members of the Actuarial Organizations Governed by the Standards of Practice of the Actuarial Standards Board and Other Persons Interested in the Life, Health, or Property/Casualty Insurance Cash Flow Risk

FROM: Actuarial Standards Board (ASB)

SUBJ: Proposed Revision of Actuarial Standard of Practice (ASOP) No. 7

This document contains the exposure draft of a proposed revision of ASOP No. 7, *Life, Health, or Property/Casualty Insurance Cash Flow Risk*. Please review this exposure draft and give the ASB the benefit of your comments and suggestions. Each written comment letter or email received by the comment deadline will receive consideration by the drafting committee and the ASB.

The ASB appreciates comments and suggestions on all areas of this proposed standard. The ASB requests comments be provided using the Comments Template that can be found here and submitted electronically to **comments@actuary.org**. Include the phrase ["ASOP No. 7 COMMENTS"] in the subject line of your message. Also, please indicate in the template whether your comments are being submitted on your own behalf or on behalf of a company.

The ASB posts all signed comments received on its website to encourage transparency and dialogue. Comments received after the deadline may not be considered. Anonymous comments will not be considered by the ASB nor posted on the website. Comments will be posted in the order that they are received. The ASB disclaims any responsibility for the content of the comments, which are solely the responsibility of those who submit them.

For more information on the exposure process, please see the ASB Procedures Manual.

Deadline for receipt of comments: **June 1, 2024**

History of the Standard

Development of actuarial standards of practice for cash flow testing was originally undertaken separately for life and health, and property/casualty (P/C) specialties. The first to be published was ASOP No. 7, *Concerning Cash Flow Testing for Life and Health Insurance Companies*. This was developed by the American Academy of Actuaries' Committee on Life Insurance Financial Reporting in conjunction with the ASB Life Committee and was adopted by the ASB in 1988.

Subsequently, the ASB Casualty Committee, through its Valuation Subcommittee, developed a proposed standard titled *Cash Flow Testing for Property and Casualty Insurers*. This draft was presented to the ASB in 1990. The ASB decided that the document should be revised so that there would be one broad standard that would apply to life and health insurers as well as to P/C

insurers. A Joint Casualty/Life Cash Flow Testing Task Force was appointed by the ASB to accomplish this. The resulting standard was adopted in 1991.

ASOP No. 7 was revised in the early 2000s to reflect changes in practice and the adoption of two new National Association of Insurance Commissioners (NAIC) model regulations, *Synthetic Guaranteed Investment Contracts Model Regulation* and *Separate Accounts Funding Guaranteed Minimum Benefits Under Group Contracts Model Regulation*. These two model regulations contain language requiring insurers to submit an actuarial opinion and memorandum related to cash flow testing.

In addition to ASOP No. 7, as part of the project to look at all cash flow testing standards of practice, ASOP Nos. 14, *When to Do Cash Flow Testing for Life and Health Insurance Companies*, and 22, *Statutory Statements of Opinion Based on Asset Adequacy Analysis by Appointed Actuaries for Life or Health Insurers*, were also reviewed. Relevant portions of ASOP No. 14 were incorporated within the 2001 revisions of ASOP Nos. 7 and 22.

In 2001, the ASB adopted the revised ASOP Nos. 7 and 22 and repealed ASOP No. 14. In April 2002, the ASB deferred the effective date of ASOP No. 7 to July 15, 2002 while it reviewed concerns raised by the Academy's Casualty Practice Council regarding the standard's applicability to P/C practice. At its June 2002 meeting, the ASB amended the scope to conform to generally accepted P/C actuarial practice.

Since the 2002 revision, the use of advanced models for cash flow analysis has become widespread. In addition, the ASB has approved several ASOPs related to the modeling and analysis of cash flows. For these reasons, the ASB decided to revise ASOP No. 7.

Notable Changes from the Existing Standard

The notable changes from the existing standard are summarized below. Notable changes do not include additional changes made to improve readability, clarity, or consistency.

1. In section 1.2, the scope was broadened to include cash flow analysis an actuary performs for a noninsurance entity that insures or self-insures risk. The scope was also changed to apply to actuaries when performing actuarial services involving P/C investment cash flow risk. In addition, guidance for reviewing actuaries was added.

2. In section 2, definitions of certain terms were updated, including those of asset, cash flow, cash flow analysis, and liability. Several definitions were also deleted. The defined term "insurer" was changed to "organization" to reflect the inclusion of noninsurance entities that insure or self-insure risk.

3. In section 3.1, guidance for when to perform a cash flow analysis was added.

4. In section 3.2, additional guidance has been provided for cash flow analysis for assets, liabilities, or both assets and liabilities.

5. In section 3.3, guidance was adjusted to include all types of cash flow analysis.

6. Guidance on reinsurance and separate accounts from the existing standard has been incorporated into sections 3.4.1 and 3.5.1.

7. Guidance on modeling and data was revised to avoid overlapping guidance provided in ASOP No. 56, *Modeling;* ASOP No. 23, *Data Quality;* and other practice-specific ASOPs that have been adopted since 2002.

8. In section 3.8, guidance on reliance was added.

9. In section 3.9, guidance on documentation was expanded.

10. Section 4 was updated and expanded to reflect changes made to section 3.

Request for Comments

The ASB appreciates comments and suggestions on all areas of this proposed standard submitted through the Comments Template. Rationale and recommended wording for any suggested changes would be helpful.

In addition, the ASB would like to draw the readers' attention to the following questions:

1. Does the guidance appropriately cover each practice area (life, health, property/casualty)? If not, please recommend clarifications.

    a. For the P/C practice area: The proposed scope includes P/C investment cash flow risk but not most analyses involving underwriting and reserving risk. Previously, ASOP No. 7 applied to actuaries "when performing the analysis of cash flows involving both invested assets and liabilities for property/casualty insurers."

        i. Should P/C actuaries be subject to this standard?

        ii. Is the guidance in proposed section 1.2, Scope, and section 3.1, When to Perform a Cash Flow Analysis, appropriate for P/C actuaries? Please explain.

        iii. Is there current actuarial practice with respect to underwriting or reserving risk that would benefit from expanding the scope for P/C actuaries to include liability cash flow risk?

    b. For the life and health practice areas, is the guidance clear for cash flow analysis based on assets, liabilities, or both assets and liabilities?

c. For the health practice area, does the scope appropriately include health insurance risk covered by nontraditional health insurance entities that self-insure or take on insurance risk?

2. Is the guidance appropriate for an actuary performing cash flow analysis for a noninsurance entity that self-insures or takes on insurance risk? If not, please recommend clarifications.

3. Is the guidance appropriate for all types of cash flow analysis? Does it provide sufficient guidance when determining which type of cash flow analysis to use? If not, please recommend clarifications.

The ASB voted in September 2023 to approve this standard for exposure.

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The Actuarial Standards Board (ASB) sets standards for appropriate actuarial practice in the United States through the development and promulgation of Actuarial Standards of Practice (ASOPs). These ASOPs describe the procedures an actuary should follow when performing actuarial services and identify what the actuary should disclose when communicating the results of those services.

PROPOSED REVISION OF
ACTUARIAL STANDARD OF PRACTICE NO. 7

LIFE, HEALTH, OR
PROPERTY/CASUALTY CASH FLOW RISKS

STANDARD OF PRACTICE

Section 1. Purpose, Scope, Cross References, and Effective Date

1.1 Purpose—This actuarial standard of practice (ASOP) provides guidance to actuaries when performing actuarial services involving life, health, or property/casualty **cash flow risks**.

1.2 Scope—This standard applies to actuaries when performing actuarial services involving life or health **cash flow risks**. This standard also applies to actuaries when performing actuarial services involving property/casualty **cash flow risks** specific to investments.

If the actuary is performing actuarial services that involve reviewing **cash flow analysis** performed by another party, the actuary should use the guidance in section 3 to the extent practicable within the scope of the actuary's assignment.

If the actuary determines that the guidance in this standard conflicts with another practice-area ASOP, the other practice-area ASOP governs.

If a conflict exists between this standard and applicable law (statutes, regulations, and other legally binding authority), the actuary should comply with applicable law. If the actuary departs from the guidance set forth in this standard in order to comply with applicable law, or for any other reason the actuary deems appropriate, the actuary should refer to section 4.

1.3 Cross References—When this standard refers to the provisions of other documents, the reference includes the referenced documents as they may be amended or restated in the future, and any successor to them, by whatever name called. If any amended or restated document differs materially from the originally referenced document, the actuary should follow the guidance in this standard to the extent it is applicable and appropriate.

1.4 Effective Date—This standard of practice is effective for actuarial work performed on or after June 1, 202X.

Section 2. Definitions

The definitions below are defined for use in this standard and appear in bold throughout the ASOP. The actuary should also refer to ASOP No. 1, *Introductory Actuarial Standard of Practice*, for definitions and discussions of common terms, which do not appear in bold in this standard.

2.1 Asset—Any resource that can generate revenue **cash flows** or reduce disbursement **cash flows**. An **asset** can be a tangible or an intangible item, such as risk adjustment payments receivable, prescription drug rebates receivable, premium receipts, corporate bonds, or policy loans.

2.2 Cash Flow—Any receipt, disbursement, or transfer of cash or **asset** equivalents; includes policy **cash flows** and **cash flows** that are not policy related, such as **cash flows** from **assets**, corporate expenses, letters of credit, off-balance sheet items, and litigation costs.

2.3 Cash Flow Analysis—Any evaluation of **cash flow risks**. Types of **cash flow analysis** include cash flow testing, gross premium valuation methods, loss ratio methods, risk theory techniques, and profitability projections. **Cash flow analysis** may include **cash flows** from **assets**, **liabilities**, or both **assets** and **liabilities**.

2.4 Cash Flow Risk— Any risk associated with the amount or timing of **cash flows**, including the mismatching of **cash flows** between **assets** and **liabilities**.

2.5 Liability—Any commitment by, or requirement of, an **organization** that can reduce revenue **cash flows** or generate disbursement **cash flows**. Examples of **liabilities** include claims payable, interest owed on debt, and risk adjustment payments payable.

2.6 Organization—An entity that accepts, self-insures, or retains the risk of financial losses or guarantees stated benefits upon the occurrence of specific contingent events. Examples include insurance companies, risk-bearing healthcare provider **organizations**, health maintenance **organizations**, and self-insured employers or corporations.

2.7 Scenario—A set of economic and other assumptions used in performing **cash flow analysis**.

Section 3. Analysis of Issues and Recommended Practices

3.1 When to Perform Cash Flow Analysis—The actuary must perform **cash flow analysis** when required by law. The actuary should consider performing **cash flow analysis** when **cash flow risk** is relevant to the actuary's assignment or findings. Examples of such assignments may include the following:

a. determination of reserve adequacy;

b. determination of capital adequacy;

c. product development or ratemaking;

d. testing of future charges or benefits that may vary at the discretion of the **organization** (for example, policyholder dividend scales and other nonguaranteed elements);

e. risk transfer or risk distribution testing;

f. evaluation of investment strategy; and

g. actuarial appraisals.

3.2 Scope of the Cash Flow Analysis—The actuary should determine whether **assets**, **liabilities**, or both **assets** and **liabilities** should be included in the **cash flow analysis**. When doing so, the actuary should take into account the intended purpose of the **cash flow analysis** and the risks and options embedded in the **cash flows**.

When determining which **assets** or **liabilities** to include in the **cash flow analysis**, the actuary should take into account the intended purpose of the **cash flow analysis**, the characteristics of the **cash flows**, and the potential for **cash flow** volatility.

3.2.1 Asset Considerations—To the extent that **assets** are included in the scope of the **cash flow analysis**, the actuary should consider including the following:

a. **assets** used in prior or related **cash flow analyses**;

b. notional **assets**, not owned by the **organization**, that change the risk characteristics of either the **assets** or **liabilities** (for example, for synthetic guaranteed investment contracts);

c. policy-related **assets**, such as policy loans and deferred premiums;

d. **assets** representing receivables (for example, those created due to federal or state governmental programs, pharmacy rebates, healthcare provider risk transfer, or reinsurance recoverables); and

e. **assets** that originate with a related entity or related line of business.

The actuary should determine whether certain items (for example, non-admitted, below investment grade, or illiquid resources) should be excluded from the **cash flow analysis** under applicable law or guidance, or based on professional judgment.

The actuary should determine whether the **cash flows** of an **asset** are used to support more than one **liability**. If so, the actuary should confirm that the **cash flows** used are available to support the **liabilities** for the **cash flow analysis**.

3.2.2 Liability Considerations—To the extent that **liabilities** are included in the scope of the **cash flow analysis**, the actuary should consider including the following:

a. **cash flows** not specifically associated with policy **cash flows** (for example, corporate expenses, payables, surplus notes, shareholder dividends, hedging strategies, or balance sheet items that result from litigation);

b. **liabilities** representing payables (for example, those created due to federal or state governmental programs, or healthcare provider risk transfer);

c. off-balance sheet **liabilities** (for example, letters of credit); and

d. contingent **liabilities** (for example, contracts that require an insurer to post collateral if its rating falls below the contractual threshold).

3.3 Type of the Cash Flow Analysis—When performing a **cash flow analysis**, the actuary should determine the appropriate type of analysis (for example, cash flow testing, gross premium valuation methods, loss ratio methods, risk theory techniques, and profitability projections). When determining which type of analysis to use, the actuary should take into account the following:

a. whether the timing and amount of **cash flows** of **assets** could differ materially under various **scenarios** (for example, **assets** with significant prepayment, default, concentration, or liquidity risk, or optionality);

b. whether the **liabilities** and underlying **assets** could have **cash flows** with different timing or durations (for example, a company has a new or rapidly expanding or contracting line of business, or there is a significant lag between receipt of premium and payment of claims);

c. whether the exercising of any options which may have been granted to policyholders, borrowers, or counterparties could have a significant impact on the **cash flow analysis** (for example, an annuity contract holder's option to surrender the annuity for cash at book value);

d. whether the risks to be analyzed are short-term **liabilities** supported by short-term **assets**; and

e. whether the **asset** and **liability cash flows**, taken together with the risks to be analyzed, are insensitive to changes in economic conditions or noneconomic factors.

The actuary should consider using cash flow testing when the combined **asset** and **liability cash flows** could differ materially under various economic **scenarios**.

3.4 Projection of Asset Cash Flows—When projecting **cash flows** of **assets**, the actuary should take into account the **asset** characteristics and investment strategy.

3.4.1 Asset Characteristics—When projecting **cash flows** of **assets** (for example, **cash flows** of callable bonds, mortgage-backed securities, common stocks, or derivative contracts), the actuary should take into account the following **asset** characteristics, when applicable to the assignment:

a. whether **cash flows** are sensitive to economic factors such as interest rates, market returns, and inflation rates;

b. the impact on the amount or timing of **cash flows** associated with **asset** quality as it relates to the risk of a delay in **cash flows**, **asset** default, or other financial nonperformance;

c. any limitations on the ability to use **asset cash flows** to support **liability cash flows**, such as when a block of **assets** supports a particular block of business by contract or regulation;

d. the associated costs of maintaining the **assets** or of converting the **assets** into cash when necessary;

e. the historical experience of similar **assets**, to the extent such experience is credible and relevant to the projection of future **cash flows**;

f. company or industry practices;

g. the ability of the policyholder or other party to exercise options under the policy that have an effect on **cash flows** (for example, paying additional premiums); and

h. other known factors that are likely to have a material effect on **cash flows**.

When projecting **cash flows** of **liability**-related **assets**, such as a reinsurance recoverable, premium receivable, or a risk adjustment payment accrual, the actuary should take into account the terms and conditions of any agreement or treaty, as well as the **liability** considerations listed in section 3.5.

3.4.2 Investment Strategy—When projecting **cash flows** of **assets**, the actuary should take into account the following investment strategy considerations, when applicable to the assignment:

a. the **organization's asset** segmentation or allocation practices;

b. the **organization's** strategy regarding the sale of **assets** prior to maturity;

c. the extent to which the **organization's** strategy is anticipated to vary over time, such as in response to changing **liability** characteristics;

d. the **organization's** strategy for the investment and reinvestment of future positive or negative **cash flows**;

e. to the extent the **organization's** investment strategy contemplates borrowing to cover negative **cash flows**, whether the funds borrowed pursuant to the strategy are reasonable in relation to the **organization's** existing indebtedness, borrowing capacity, and cost of borrowing funds;

f. the **organization's** use of derivative contracts, including strategies to mitigate **cash flow risk**;

g. to the extent the **organization's** investment strategy contemplates capital contributions from a parent or other source, whether the capital contributions can be sustained and are appropriate for the analysis;

h. the costs or gains due to **cash flows** denominated in foreign currencies; and

i. other known factors that are likely to have a material effect on investment strategy or the **organization's** ability to execute its investment strategy.

3.5 Projection of Liability Cash Flows—When projecting expected **cash flows** of **liabilities**, the actuary should take into account the **liability** characteristics and the **organization's** management policies.

3.5.1 Liability Characteristics—When projecting **cash flows** of **liabilities**, the actuary should take into account the following **liability** characteristics, when applicable to the assignment:

a. the historical experience of similar **liabilities**, to the extent such experience is credible and relevant to the projection of future **cash flows**;

b. the effect of external factors such as interest rates, equity or other market returns, unemployment rates, and inflation rates on **cash flows**;

c. the ability of the policyholder or other party to exercise options under the policy that have an effect on **cash flows** (for example, disintermediation or liquidity options);

d. the associated costs of maintaining **liabilities** and collecting or paying out **cash flows**;

e. the risk of insolvency or other nonperformance by providers of services, including reinsurers and other counterparties;

f. the effect of changes in premium (for example, scheduled or nonscheduled rate increases) or nonguaranteed elements;

g. company or industry practices; and

h. other known factors that are likely to have a material effect on **liability cash flows**, such as off-balance sheet items, debt payments, and general account guarantees of separate account contracts.

3.5.2 Management Policies—When projecting **cash flows** of **liabilities**, the actuary should take into account the following management policies, when applicable to the assignment:

a. claim settlement and benefit payment practices;

b. strategies to control expenses or mitigate risks;

c. policyholder dividends;

d. nonguaranteed premiums, charges, or benefits;

e. premium rate change policy; and

f. other management policies that may impact **cash flows**.

When projecting **cash flows** of **liabilities** under various **scenarios**, the actuary should take into account how management actions may vary under different **scenarios**, the **organization's** intent and capacity to take such actions, and whether the **liability** assumptions reflect the impact of such actions.

3.6 Scenarios—When performing a **cash flow analysis**, the actuary should use an appropriate type, range, and number of **scenarios**. When using more than one **scenario**, the actuary should consider

a. reflecting, for each assumption that varies between **scenarios**, relationships between that assumption and other assumptions (for example, the relationship between **scenario** interest rates and projected lapse rates);

b. testing modeled **cash flows** for sensitivity to alternative models, assumptions, or data, and performing additional analysis when the resulting **cash flows** are highly sensitive; and

c. selecting a projection period for which the cash flows may be material.

3.7 Interim Values—The actuary should take into account the impact of the pattern of interim values, such as negative balances (particularly surplus), **cash flows**, and earnings, when appropriate for the assignment.

3.8 Reliance on Information Provided by Another Party—When relying on and thereby disclaiming responsibility for data and other information relevant to the use of data provided by another party, the actuary should refer to ASOP No. 23, *Data Quality*.

When relying on and thereby disclaiming responsibility for a model provided by another party, the actuary should refer to ASOP No. 56, *Modeling*.

When relying on and thereby disclaiming responsibility for information other than data or a model provided by another party, the actuary should review the information for reasonableness and consistency to the extent practicable and appropriate within the scope of the actuary's assignment, taking into account the following, as applicable:

a. when the other party is an actuary, the extent to which the other party is known to be appropriately qualified and to have followed applicable ASOPs;

b. whether the other party is known to have expertise in the applicable field;

c. the extent to which the original intended purpose of the information is known to be consistent with the actuary's intended purpose; and

d. whether there are commonly known significant differences of opinion that are material to the actuary's use of the information.

3.9 Documentation—The actuary should prepare and retain documentation to support compliance with the requirements of section 3 and the disclosure requirements of section 4. The actuary should prepare and retain such documentation in a form such that another actuary qualified in the same practice area could assess the reasonableness of the actuary's work. The amount, form, and detail of such documentation should be based on the professional judgment of the actuary and may vary with the complexity and purpose of the actuarial services. In addition, the actuary should refer to ASOP No. 41, *Actuarial Communications*, for guidance related to the retention of file material other than that which is to be disclosed under section 4.

Section 4. Communications and Disclosures

4.1 Required Disclosures in an Actuarial Report—When issuing an actuarial report, the actuary should refer to ASOP Nos. 23, 41, and 56. In addition, the actuary should disclose the following in such actuarial reports, if applicable:

a. the intended purpose of the **cash flow analysis** (see section 3.1);

b. the scope of the **cash flow analysis**, as well as relevant **cash flows** omitted from the **cash flow analysis** and the rationale for doing so (see section 3.2);

   1. the **assets** included in the **cash flow analysis** and relevant characteristics (see sections 3.2.1 and 3.4.1);

   2. the **liabilities** included in the **cash flow analysis** and relevant characteristics (see sections 3.2.2 and 3.5.1); and

   3. the treatment of reinsurance in the **cash flow analysis** (see section 3.4.1);

c. the type of the **cash flow analysis** and rationale for the type used (see section 3.3);

d. relevant assumptions related to projection of **assets** and **liabilities** in the **cash flow analysis** (sections 3.4 and 3.5);

e. known deviations from company or industry practices (see sections 3.4 and 3.5);

f. a description of **scenarios**, assumptions, sensitivity testing results, and projection period used when modeling the **cash flows** (see section 3.6);

g. the impact of the pattern of interim values, including any negative results (see section 3.7); and

h. any reliance on information provided by another party (see section 3.8).

4.2 Additional Disclosures in an Actuarial Report—The actuary should also include disclosures in an actuarial report in accordance with ASOP No. 41 for any of the following circumstances:

a. if any material assumption or method was prescribed by applicable law;

b. if the actuary states reliance on other sources and thereby disclaims responsibility for any material assumption or method selected by a party other than the actuary; or

c. if, in the actuary's professional judgment, the actuary has otherwise deviated materially from the guidance of this standard.

4.3 Confidential Information—Nothing in this standard is intended to require the actuary to disclose confidential information.

Appendix

Background and Current Practices

Note: This appendix is provided for informational purposes and is not part of the standard of practice.

Background

Actuaries have been performing financial projections, which include various cash flow elements, for many years. The large increase in the level and volatility of investment rates of return over several decades caused significant swings in cash flows and present values. Regulatory and accounting requirements for reserve setting and testing, including principle-based reserving (PBR), generally accepted accounting principles (GAAP), and international financial reporting standards (IFRS), have changed significantly. Many newer applications of cash flow analysis require more judgment on the part of the actuary. In addition, the sophistication of insurance products has increased during this time. As a result of these changes, cash flow analysis has become an increasingly important aspect of actuarial work.

Current Practices

Cash flow analysis can be used in a variety of ways, such as analyzing the performance of a particular asset or insurance product under certain specified scenarios or evaluating the solvency of the entire company.

Various cash flow analysis methods are used, based on application. Cash flow testing is the most well-known type of cash flow analysis used for the evaluation of long-duration liabilities where combined asset and liability cash flows vary by economic scenario. Other types, such as a gross premium reserve projection or loss ratio methods, are appropriate in several situations such as when the assets and liabilities have short duration.

Applications where cash flow testing is commonly used include principle-based reserves, asset adequacy analysis, reinsurance risk transfer testing, rate making, actuarial appraisals, and investment strategy analysis.