

Retirement – Design and Accounting, US Exam

Spring/Fall 2016

Important Exam Information:

[Exam Registration](#)

Candidates may register online or with an application.

[Order Study Notes](#)

Study notes are part of the required syllabus and are not available electronically but may be purchased through the online store.

[Introductory Study Note](#)

The Introductory Study Note has a complete listing of all study notes as well as errata and other important information.

[Case Study](#)

A copy of the case study will be provided with the examinations. Candidates will not be allowed to bring their copy of the case study into the examination room.

[Past Exams](#)

Past Exams from 2000 - present are available on the SOA website.

[Updates](#)

Candidates should be sure to check the Updates page on the exam home page periodically for additional corrections or notices.

Retirement Benefits: Design and Accounting – U.S.
Spring/Fall 2016

1.

Learning Objectives

The candidate will be able to analyze different types of registered/qualified retirement plans and retiree health plans.

Learning Outcomes

The Candidate will be able to:

Describe the structure of the following plans:

- a) Traditional defined benefit plans
- b) Defined contribution and savings plans
- c) Hybrid Plans
- d) Retiree Health Plans

Given a plan type, explain the relevance, risks and range of plan features including the following:

- a) Plan eligibility requirements
- b) Benefit eligibility requirements, accrual, vesting
- c) Benefit / contribution formula, including the methods of integration with government-provided benefits
- d) Payment options and associated adjustments to the amount of benefit
- e) Ancillary benefits
- f) Benefit subsidies and their value, vested or non-vested
- g) Participant investment options
- h) Required and optional employee contributions
- i) Phased retirement and DROP plans

Resources

- *Retirement Plans - 401(k)s, IRAs and Other Deferred Compensation Approaches*, Allen, 11th Edition
 - Ch. 2, Ch. 3, Ch. 6 - 13, Ch. 17, Ch. 21, Ch. 29, Ch. 31 (pp. 593-606)
- *Fundamentals of Private Pensions*, McGill, 9th Edition
 - Ch. 5, Ch.9, Ch. 10 & Ch. 12
- *Morneau Shepell Handbook of Canadian Pension and Benefit Plans*, 15th Edition
 - Ch. 1, Ch. 2, Ch. 5, Ch. 14 (background only), Ch. 29
- *Fundamentals of Retiree Group Benefits*, Yamamoto, Second Edition
 - Ch. 1, Ch. 4 (excluding pp. 89-110), Ch. 5 (p. 168 only)
- DA-100-13: Issues for Implementing Phased Retirement in Defined Benefit Plans
- DA-101-13: Legal and Research Summary Sheet: Phased Retirement

Retirement Benefits: Design and Accounting – U.S.
Spring/Fall 2016

- DA-102-13: Evaluating the Design of Private Pension Plans: Costs and Benefits of Risk Sharing
- DA-103-13: Risk Allocation in Retirement Plans: A Better Solution
- DA-104-13: Deferred Retirement Option Plans (“DROP” Plans)
- DA-105-13: Measuring Terminable Postretirement Obligations
- DA-107-13: Green DB: Eliminate Wasteful Practices and Make Your DB Plan Sustainable
- DA-109-13: Seven Steps Toward Creating a Standout Retirement Savings Plan
- DA-110-13: Integration With Social Security
- DA-112-13: Converting Pension Plans From a DB to a DC design – Issues to Consider in Canada, pp. 1–6
- DA-113-16: Multi-Employer Plans
- DA-152-15: ACPM Target Benefit Plan Paper, March 30,2012
- DA-153-15: ACPM Target Benefit Plan Supplemental Paper
- DA-159-16: The OECD Roadmap for the Good Design of Defined Contribution Pension Plans
- DA-812-15: State and Local Pension Costs: Pre-Crisis, Post-Crisis and Post-Reform
- [New Retirement Plan Designs for the 21st Century](#), Pension Forum, December 2008, pp. 41-56 (including commentary and responses)
- [SOA Cash Balance Study](#), Pension Forum, Dec. 1, 2000 (sections 1,2,3, plus Appendix A for background only)
- [The Next Evolution in Defined Contribution Retirement Plan Design: A Guide for DC Plan Sponsors to Implementing Retirement Income Programs](#)

Retirement Benefits: Design and Accounting – U.S.
Spring/Fall 2016

2.

Learning Objectives

The candidate will understand the impact of the regulatory environment on plan design.

Learning Outcomes

The Candidate will be able to:

- a) Explain and apply restrictions on plan design features to a proposed plan design
- b) Explain and test for limits on plan designs and features that protect participant rights
- c) Test for plan design restrictions intended to control the use of tax incentives
- d) Describe the process and apply the principles and rules governing the conversion from one type of plan to another
- e) Understand conflicts between regulation and design objectives and recommend alternatives

Resources

- *Retirement Plans - 401(k)s, IRAs and Other Deferred Compensation Approaches*, Allen, 11th Edition
 - Ch. 3 , Ch. 6 – 10, 12 - 14, Ch. 17, Ch. 21 & Ch. 31 (pp. 593-606)
- *Fundamentals of Private Pensions*, McGill, 9th Edition
 - Ch. 12
- DA-152-15: ACPM Target Benefit Plan Paper
- DA-153-15: ACPM Target Benefit Plan Supplemental Paper
- DA-158-15: New Brunswick's New Shared Risk Pension Plan
- DA-160-16: OECD Pensions outlook 2014, pp. 9-13
- DA-801-13: The Long and Short of the Pension Protection Act of 2006, pp. 10-21 (excluding p.13),(pp. 1-9, 22-24 and Appendices for background only)

Retirement Benefits: Design and Accounting – U.S.
Spring/Fall 2016

3.
Learning Objectives
The candidate will be able to analyze the risks faced by retirees and the participants of retirement plans and retiree health plans.
Learning Outcomes
The Candidate will be able to: <ul style="list-style-type: none">a) Identify risks faced by retirees and the elderlyb) Describe and contrast the risks faced by participants of<ul style="list-style-type: none">i. Government sponsored retirement plansii. Single employer sponsored retirement plansiii. Multiemployer retirement plans, andiv. Social insurance plansc) Evaluate benefit adequacy and measure replacement income for members of a particular plan given other sources of retirement income.d) Propose ways in which retirement plans and retiree health plans can manage the range of risks faced by plan participants and retirees
Resources
<ul style="list-style-type: none">• <i>Retirement Plans - 401(k)s, IRAs and Other Deferred Compensation Approaches</i>, Allen, 11th Edition<ul style="list-style-type: none">○ Ch. 11, Ch. 14, Ch. 17, Ch. 21 & Ch. 31 (pp. 593-606)• <i>Fundamentals of Private Pensions</i>, McGill, 9th Edition<ul style="list-style-type: none">○ Ch. 5, Ch. 9 & Ch. 12• DA-102-13: OECD paper, Evaluating the Design of Private Pension Plans: Costs and Benefits of Risk Sharing• DA-103-13: Risk Allocation in Retirement Plans: A Better Solution• DA-114-13: Risk Management and Public Plan Retirement Systems - Appendices only (pages 1-33 background only)• DA-115-13: Private Pensions: Alternative Approaches Could Address Retirement Risks Faced by Workers but Pose Tradeoffs, pp.1-35 , GAO• DA-117-13: Sharing Risk: The Netherlands' New Approach to Pensions• DA-118-13: What is the Distribution of Lifetime Health Care Cost From Age 65?• DA-119-13: State and Local Pensions Are Different From Private Plans• DA-120-13: How Much Risk is Acceptable?• DA-121-13: Are Retirement Savings Too Exposed to Market Risk? Center for Research 2008• DA-123-13: Replacement Ratio Study – A Measurement Tool for Retirement Planning

Retirement Benefits: Design and Accounting – U.S.
Spring/Fall 2016

- DA-151-14: The Real Deal: 2012 Retirement Income Adequacy at Large Companies, Highlights
- DA-152-15: ACPM Target Benefit Plan Paper
- DA-153-15: ACPM Target Benefit Plan Supplemental Paper
- DA-161-16: Pension Issues in Mergers and Acquisitions
- [CIA Ed Note: Financial Risks Inherent in Multi-Employer Pension Plans and Target Benefit Pension Plans, CIA TF on MEPP/TBPP Funding, May 2011](#)
- [Retirement Survey Report Key Findings and Issues: Understanding and Managing the Risks of Retirement](#)
- [The Next Evolution in Defined Contribution Retirement Plan Design: A Guide for DC Plan Sponsors to Implementing Retirement Income Programs](#)
- [Hybrid Pensions: Risk Sharing Arrangements for Pension Plan Sponsors and Participants](#)
- [Managing Post-Retirement Risks, A Guide to Retirement Planning](#)

Retirement Benefits: Design and Accounting – U.S.
Spring/Fall 2016

4.

Learning Objectives

The candidate will be able to evaluate plan design risks faced by sponsors of retirement plans and retiree health plans.

Learning Outcomes

The Candidate will be able to:

- a) Identify how plan features, temporary or permanent, can adversely affect the plan sponsor.
- b) Assess the risk from options offered, including:
 - i. Phased retirement
 - ii. Postponed retirement
 - iii. Early retirement
 - iv. Option factors
 - v. Embedded Options
 - vi. Portability Options
- c) Recommend ways to mitigate the risks identified with a particular plan feature
- d) Analyze the issues related to plan provisions that cannot be removed.
- e) In a given context, assess the effect that changes in plan design might have on collective bargaining agreements.
- f) Assess the impact of possible changes in plan design due to changes in legislation

Resources

- DA-100-13: Issues for Implementing Phased Retirement in Defined Benefit Plans
- DA-101-13: Legal and Research Summary Sheet: Phased Retirement
- DA-102-13: Evaluating the Design of Private Pension Plans: Costs and Benefits of Risk Sharing
- DA-103-13: Risk Allocation in Retirement Plans: A Better Solution
- DA-104-13: Deferred Retirement Option Plans (“DROP” Plans)
- DA-114-13: Risk Management and Public Plan Retirement Systems, Appendix only (pp. 1-33 background only)
- DA-127-13: The Economics of State and Local Pensions
- DA-152-15: ACPM Target Benefit Plan Paper, March 30,2012
- DA-153-15: ACPM Target Benefit Plan Supplemental Paper
- DA-154-15: Implementing Early Retirement Incentive Programs: A Step-by-Step Guide
- [New Retirement Plan Designs for the 21st Century](#), Pension Forum, December 2008, pp. 41-56 (include commentary and responses)

Retirement Benefits: Design and Accounting – U.S.
Spring/Fall 2016

- [SOA Cash Balance Study](#), Pension Forum, Dec. 1, 2000 (sections 1,2,3, , plus Appendix A for background only)
- [Embedded Options and Pension Plans](#), SOA Pension Section, pp.1-17
- [The Next Evolution in Defined Contribution Retirement Plan Design: A Guide for DC Plan Sponsors to Implementing Retirement Income Programs](#)
- [Hybrid Pensions: Risk Sharing Arrangements for Pension Plan Sponsors and Participants](#)

Retirement Benefits: Design and Accounting – U.S.
Spring/Fall 2016

5.

Learning Objectives

The candidate will be able to evaluate sponsor's goals for the retirement plan, evaluate alternative plan types and features, and recommend a plan design appropriate for the sponsor's goals.

Learning Outcomes

Given a context, the Candidate will be able to:

- a) Describe ways to identify and prioritize the sponsor's goals related to the design of the retirement plan.
- b) Assess the tradeoffs between different goals
- c) Assess the feasibility of achieving the sponsor's goals for their retirement plan
- d) State relationships or recognize contradictions between a sponsor's plan design goals and the retirement risks faced by retirees.
- e) Identify the ways that regulation impacts the sponsor's plan design goals
- f) Design retirement programs that manage retirement risk and are consistent with sponsor objectives.
- g) Design retirement programs that promote employee behavior consistent with sponsor objectives.
- h) Evaluate the pros and cons from both a sponsor and employee perspective of introducing options that impact the labor force demographics.
- i) Recommend a method to integrate government-provided benefits with retirement plan designs in order to meet the plan sponsor's particular goals and defend the recommendation.
- j) Advise a plan sponsor regarding the choice of design elements for their retiree health program
- k) Evaluate and incorporate, as appropriate, different social insurance and employer sponsored plan types and features that occur internationally in providing recommendations
- l) Give examples of plans that are appropriate for multinational companies and their employees including third country nationals and expatriates
- m) Recommend an appropriate plan type and plan design features for providing retirement benefits and defend the recommendations.

Resources

- *Retirement Plans - 401(k)s, IRAs and Other Deferred Compensation Approaches*, Allen, 11th Edition
 - Ch. 2 & Ch. 3, Ch. 29
- *Fundamentals of Private Pensions*, McGill, 9th Edition.
 - Ch. 5
- *Fundamentals of Retiree Group Benefits*, Yamamoto, Second Edition
 - Ch. 1 & Ch. 4 (excluding pp. 89-110)
- DA-100-13: Issues for Implementing Phased Retirement in Defined Benefit Plans

Retirement Benefits: Design and Accounting – U.S.
Spring/Fall 2016

- DA-101-13: Legal and Research Summary Sheet: Phased Retirement
- DA-102-13: Evaluating the Design of Private Pension Plans: Costs and Benefits of Risk Sharing
- DA-103-13: Risk Allocation in Retirement Plans: A Better Solution
- DA-104-13: Deferred Retirement Option Plans (“DROP” Plans)
- DA-105-13: Measuring Terminable Postretirement Obligations
- DA-107-13: Green DB Eliminate Wasteful Practices and Make Your DB Plan Sustainable
- DA-109-13: Seven Steps Toward Creating a Standout Retirement Savings Plan, pp. 13-16
- DA-117-13: Sharing Risk: The Netherlands’ New Approach to Pensions
- DA-125-13: Should Variable Pay Count Towards Benefits Calculations?
- DA-130-13: International (offshore) Pension Plans - A Growing Trend
- DA-131-13: How to Close the Funding Gap in Dutch Pension Plans? Impact on Generations
- DA-132-13: Turner, Pension Policy: The Search for Better Solutions, 2009, Ch. 1, pp. 4-11 and Ch. 5
- DA-133-13: Chapter 34 of *The Handbook of Employee Benefits: Health and Group Benefits*
- DA-161-16: Pension Issues in Mergers and Acquisitions
- DA-813-16: Freezing Defined Benefit Plans
- [New Retirement Plan Designs for the 21st Century](#), Pension Forum, December 2008, pp. 41-56 (include commentary and responses)

Retirement Benefits: Design and Accounting – U.S.
Spring/Fall 2016

6.
Learning Objectives
The candidate will be able to analyze, synthesize and evaluate plans designed for executives or the highly paid.
Learning Outcomes
The Candidate will be able to: a) Given a specific context, synthesize, evaluate and apply principles and features of executive deferred compensation retirement plans. b) Given a specific context, apply principles and features of supplemental retirement plans c) Integrate a plan for executives with the basic benefit plan
Resources
<ul style="list-style-type: none">• <i>Retirement Plans - 401(k)s, IRAs and Other Deferred Compensation Approaches</i>, Allen, 11th Edition<ul style="list-style-type: none">• Ch. 14• DA-135-13: Towers Perrin, The Handbook of Executive Benefits, Chapter 15 (Golden Parachutes) pp. 238-244 only• DA-155-15: TW Executive Retirement Benefits 2013: Recent Action and Design Considerations• DA-156-15: Moving from a DB Executive Retirement Plan to a DC Executive Retirement Plan, October 2014 – Parts 1, 2, and 4 only• DA-802-13: Internal Revenue Code 409A and Non-Qualified Plan Design Consideration• DA-803-13: Evaluating Financing Options for Nonqualified Benefit Plans

Retirement Benefits: Design and Accounting – U.S.
Spring/Fall 2016

7.
Learning Objectives
The candidate will be able to analyze/synthesize the factors that go into selection of actuarial assumptions.
Learning Outcomes
Given a context, the Candidate will be able to: <ul style="list-style-type: none">a) Evaluate appropriateness of current assumptionsb) Describe and explain the different perspectives on the selection of assumptionsc) Describe and apply the techniques used in the development of economic assumptionsd) Recommend appropriate assumptions for a particular type of valuation and defend the selectione) Select demographic and economic assumptions appropriate for a projection valuation
Resources
<ul style="list-style-type: none">• <i>Fundamentals of Retiree Group Benefits</i>, Yamamoto, Second Edition<ul style="list-style-type: none">○ Ch. 9 (pp. 308-339 and pp. 350-357)• DA-136-16: Selection of Actuarial Assumptions, Consultant Resource Manual, SOA Version, Mercer, pp. 5-68• DA-137-13: Pension Projections• DA-138-13: Discounting State and Local Pension Liabilities• DA-139-15: ASOP 35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations• DA-140-15: ASOP 27 Selection of Economic Assumptions for Measuring Pension Obligations• DA-162-16: Selecting and Documenting Mortality Assumptions for Pensions including Appendix 2 (Appendix 1 for background only)• DA-163-16: Financial Reporting Considerations Related to Pension and other Postretirement Benefits (Deloitte Alert 14-4)• Modeling Long Term Healthcare Cost Trends• SOA Long Term Healthcare Trends Resource Model, Practical Issues for Actuaries• Can Pensions Be Valued as Marketed Securities, Bader, Pension Section News, June, 2009• What's Wrong with ASOP 27? Bad Measures, Bad Decisions by Bader and Gold

Retirement Benefits: Design and Accounting – U.S.
Spring/Fall 2016

8.

Learning Objectives

The candidate will be able to recommend and advise on the financial effects of funding policy and accounting standards in line with the sponsor's goals, given constraints.

Learning Outcomes

The Candidate will be able to:

- a) Perform valuations for special purposes, including:
 - i. Plan termination/windup
 - ii. Accounting valuations
 - iii. Open group valuations
 - iv. Plan mergers, acquisitions and spinoffs
- b) Analyze, recommend, and defend an appropriate funding method and asset valuation method in line with the sponsor's investment policy and funding goals.
- c) Demonstrate how the retirement plan's cash inflows and outflows can affect the plan sponsor.
- d) Advise retirement plan sponsors on funding costs including tax deductibility, required contributions and other alternatives to meet the sponsor's goals, consistent with government regulation.
- e) Advise plan sponsors on accounting costs and disclosures for their retirement plans.
- f) Demonstrate the sensitivity of financial measures to given changes in plan design
- g) Describe how a plan's funded status can impact union negotiations and multiemployer plans.
- h) Perform and interpret the results of projections for short and long range planning including the effect of proposed plan changes.

Resources

- *Morneau Shepell Handbook of Canadian Pension and Benefit Plans*, 15th Edition
 - Ch. 5 & Ch. 11 (pp. 304-310)
- *Fundamentals of Retiree Group Benefits*, Yamamoto, Second Edition
 - Ch. 5 (exclude pages 161-167 and 176), Ch. 7, Ch. 9 (pp. 308-339 and pp. 350-357)
- DA-105-13: Measuring Terminable Postretirement Obligations
- DA-113-16: Multi-Employer Plans
- DA-114-13: Risk Management and Public Plan Retirement Systems - Appendix only (pages 1-33 background only)
- DA-137-13: Pension Projections
- DA-142-15: ASOP 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions

Retirement Benefits: Design and Accounting – U.S.
Spring/Fall 2016

- DA-143-13: Comp of IAS 19, Rev. 2011 with FASB ASC 715 Summary of Provisions Affecting Accounting for Postretirement
- DA-144-13: Accounting for Pension Buy-In Arrangements
- DA-145-13: Acquiring a U.S. Operation—A Primer
- DA-146-15: ASOP 6, Measuring Retiree Group Benefit Obligations and Determining Retiree Group Benefits Program Periodic Costs or Actuarially Determined Contributions
- DA-147-13: Intricately Linked: Pensions and Corporate Financial Performance
- DA-148-13: Mergers and Acquisitions: Due Diligence of Retirement Plans
- DA-149-16: The Funding of State and Local Pensions: 2014-2018 (Appendices for background only)
- DA-157-15: PWC IFRS Manual of Accounting (paragraphs 11.1 – 11.10 (Intro), 11.53-11.63 (termination benefits), 11.63-11.261 (Post-employment benefits (exclude paragraphs and notes that start with “UK”))
- DA-611-13: Introduction (A58), IFRS1, paragraphs 1-40, Appendix A, Appendix D, D10 and D11 only, IAS19, IFRIC14
- DA-804-13: FASB Accounting Standards Codification Topic 715
- DA-806-13: ASOP 21 - Responding to or Assisting Auditors or Examiners in Connection with Financial Statements
- DA-807-13: ASOP 44, Selection and Use of Asset Valuation Methods for pension Valuations
- DA-811-15: Gearing Up to Comply with GASB’s New Accounting Standards for Public Sector Pension Plans and Sponsoring Employers, Segal, *Public Sector Letter*, December 2012
- DA-814-16: Accounting for Plan Splits & Plan Mergers Under U.S. GAAP

- [A Look at Dynamic Pension Plan Valuation](#), Pension Forum, 8/2001, pp. 71-82
- [SOA Cash Balance Study](#), Pension Forum, Dec. 1, 2000, Sections 1,2,3 (Appendix A background only)
- [CIA Ed Note: Financial Risks Inherent in Multi-Employer Pension Plans and Target Benefit Pension Plans](#), CIA TF on MEPP/TBPP Funding, May 2011
- [Embedded Options and Pension Plans](#), SOA Pension Section, pp.1-17
- [Duration and Convexity for Pension Liabilities](#), Pension Section News Issue #81 September 2013

Retirement Benefits: Design and Accounting – U.S.
Spring/Fall 2016

9.

Learning Objectives

The candidate will be able to apply the standards of practice and guides to professional conduct.

Learning Outcomes

In general or given a context, the Candidate will be able to:

- a) Apply the standards related to communications to plan sponsors and others with an interest in an actuary's results (i.e., participants, auditors, etc.).
- b) Explain and apply the Guides to Professional Conduct.
- c) Explain and apply relevant qualification standards
- d) Demonstrate compliance with requirements regarding the actuary's responsibilities to the participants, plan sponsors, etc.
- e) Explain and apply all of the applicable standards of practice related to valuing retirement obligations.
- f) Recognize situations and actions that violate or compromise Standards or the Guides to Professional Conduct.
- g) Recommend a course of action to repair a violation of the Standards or the Guides to Professional Conduct.

Resources

- DA-139-1: ASOP 35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations
- DA-140-15: ASOP 27, Selection of Economic Assumptions for Measuring Pension Obligations
- DA-142-15: ASOP 4, Measuring Pension Obligations
- DA-146-15: ASOP 6, Measuring Retiree Group Benefit Obligations and Determining Retiree Group Benefits Program Periodic Costs or Actuarially Determined Contributions
- DA-805-13: ASOP 23 – Data Quality, BACKGROUND ONLY
- DA-806-13: ASOP 21 - Responding to or Assisting Auditors or Examiners in Connection with Financial Statements
- DA-807-13: ASOP 44, Selection and Use of Asset Valuation Methods for pension Valuations
- DA-808-13: ASOP 34, Actuarial Practice Concerning Retirement Plan Benefits in Domestic Relations Actions, pp. 1-16
- DA-809-13: ASOP 41, Actuarial Communications
- [Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States](#)
- [AAA Code of Professional Conduct](#)
- [SOA Code of Professional Conduct](#)
- [SOA Qualification Standards](#)