

Retirement Benefits: Design and Accounting – U.S.  
Spring/Fall 2014

**Important Exam Information:**

Exam Date and Time	A read-through time will be given prior to the start of the exam—15 minutes in the morning session and 15 minutes in the afternoon session.
<a href="#">Exam Registration</a>	Candidates may register online or with an application.
<a href="#">Order Study Notes</a>	Study notes are part of the required syllabus and are not available electronically but may be purchased through the online store.
<a href="#">Introductory Study Note</a>	The Introductory Study Note has a complete listing of all study notes as well as errata and other important information.
<a href="#">Case Study</a>	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.
<a href="#">Past Exams</a>	Past Exams from 2000-present are available on SOA website.
<a href="#">Updates</a>	Candidates should be sure to check the Updates page on the exam home page periodically for additional corrections or notices.

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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) Hybrid plans
- c) Defined contribution 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, 11<sup>th</sup> Edition
  - Ch. 2, Ch. 3, Ch. 6 - 13, Ch. 17, Ch. 21, Ch. 29, Ch. 31 (pp. 579-592)
- *Fundamentals of Private Pensions*, McGill, 9<sup>th</sup> Edition
  - Ch. 5, Ch.9, Ch. 10 & Ch. 12
- *Morneau Shepell Handbook of Canadian Pension and Benefit Plans*, 15<sup>th</sup> Edition
  - Ch. 1, Ch. 2, Ch. 5, Ch. 14 (background only) & Ch. 18
- *Fundamentals of Retiree Group Benefits*, Yamamoto
  - Ch. 1, Ch. 4 (excluding pp. 68-89)
- DA-100-13: Issues for Implementing Phased Retirement in Defined Benefit Plans

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- 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-106-13: The Use of Health Savings Accounts for Health Care in Retirement
- DA-107-13: Green DB: Eliminate Wasteful Practices and Make Your DB Plan Sustainable
- DA-108-13: Increasing Annuitization in 401(k) Plans with Automatic Trial Income, Hamilton Project Policy Brief
- DA-109-13: Seven Steps Toward Creating a Standout Retirement Savings Plan
- DA-110-13: Integration With Social Security
- DA-111-13: An Annuity that People Might Actually Buy
- DA-112-13: Converting Pension Plans From a DB to a DC design – Issues to Consider in Canada, pp.. 1–6
- DA-113-13: Multi-Employer Plans
- DA-800-13: State and Local Government Pension Plans, Current Structure and Funded Status
- [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 1,2,3,5, plus Appendix A for background only)

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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, 11<sup>th</sup> Edition
  - Ch. 6 – 10, 12 - 14, Ch. 17, Ch. 21 & Ch. 31 (pp. 579-592)
- *Fundamentals of Private Pensions*, McGill, 9<sup>th</sup> Edition
  - Ch. 12
- DA-106-13: The Use of Health Savings Accounts for Health Care in Retirement, EBRI, April 2010, pp.1-6
- DA-112-13: Converting Pension Plans From a DB to a DC design – Issues to Consider in Canada, pp. 1-6
- DA-801-13: The Long and Short of the Pension Protection Act of 2006, pp. 10-24 (excluding p.13),( pp. 1-9 and Appendices for background only)

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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:

- a) Identify risks faced by retirees and the elderly
- b) Describe and contrast the risks faced by participants of
  - i. Government sponsored retirement plans
  - ii. Single employer sponsored retirement plans
  - iii. Multiemployer retirement plans, and
  - iv. Social insurance plans
- c) 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**

- *Retirement Plans - 401(k)s, IRAs and Other Deferred Compensation Approaches*, Allen, 11<sup>th</sup> Edition
  - Ch. 11, Ch. 14, Ch. 17, Ch. 21 & Ch. 31 (pp. 579-592)
- *Fundamentals of Private Pensions*, McGill, 9<sup>th</sup> Edition
  - 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-106-13: The Use of Health Savings Accounts for Health Care in Retirement, pp.1-6
- DA-108-13: Increasing Annuitization in 401(k) Plans with Automatic Trial Income, Hamilton Project Policy Brief
- DA-111-13: An Annuity that People Might Actually Buy
- 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-116-13: Pension Issues in Corporate Sales, Mergers and Acquisitions
- DA-117-13: Sharing Risk: The Netherlands' New Approach to Pensions

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- 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-122-13: Chapter 5 of *Private Pension Policies in Industrialized Countries*, pp. 65-81
- DA-123-13: Replacement Ratio Study – A Measurement Tool for Retirement Planning
- DA-151-14: The Real Deal: 2012 Retirement Income Adequacy at Large Companies, Highlights
- [CIA Ed Note: Financial Risks Inherent in Multi-Employer Pension Plans and Target Benefit Pension Plans, CIA TF on MEPP/TBPP Funding](#), May 2011
- [Key Findings and Issues: Understanding and Managing the Risk of Retirement](#), 2011 Risks and Process of Retirement Survey Report, March 2012

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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-122-13: *Private Pension Policies in Industrialized Countries*, Turner & Watanabe, Ch. 5, “Pension Risk and Insurance,” pp. 65-81
- DA-124-13: Funding Risks for Multi-Employer Pension Plans
- DA-126-13: Constructing New Ret Systems: Choosing between Insurance and Investments (Appendices 1 and 2 are background only)
- DA-127-13: The Economics of State and Local Pensions

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- DA-128-13: Phased Retirement: Problems and Prospects
- [New Retirement Plan Designs for the 21st Century](#), Pension Forum, December 2008, pp. 41-56 (incl commentary and responses)
- “[Downsizing and Plan Design](#)”, RSA 1995, Vol. 21 No. 3A
- [SOA Cash Balance Study](#), Pension Forum, Dec. 1, 2000 (sections 1,2,3,5, plus Appendix A for background only)
- [Embedded Options and Pension Plans](#), SOA Pension Section, pp.1-17



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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, 11<sup>th</sup> Edition
  - Ch. 2 & Ch. 3
- *Fundamentals of Retiree Group Benefits*, Yamamoto
  - Ch. 1 & Ch. 4 (excluding pp. 68-89)
- 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

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- 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-116-13: Pension Issues in Corporate Sales, Mergers and Acquisitions
- DA-117-13: Sharing Risk: The Netherlands’ New Approach to Pensions
- DA-122-13: Private Pension Policies in Industrialized Countries, Ch. 5, pp. 65-81
- DA-124-13: Funding Risks for Multi-Employer Pension Plans
- DA-125-13: Should Variable Pay Count Towards Benefits Calculations?
- DA-128-13: Phased Retirement: Problems and Prospects
- DA-129-13: Why are Healthy Employers Freezing their Pensions?
- 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-134-13: Pension Challenges and Pension Reforms in OECD Countries
- [New Retirement Plan Designs for the 21st Century](#), Pension Forum, December 2008, pp. 41-56 (incl commentary and responses)
- [“Downsizing and Plan Design”](#), RSA 1995, Vol. 21 No. 3A

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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**

- *Retirement Plans - 401(k)s, IRAs and Other Deferred Compensation Approaches*, Allen, 11<sup>th</sup> Edition
  - Ch. 14
- DA-135-13: Towers Perrin, The Handbook of Executive Benefits, Chapter 15 (Golden Parachutes) pp. 238-244 only
- DA-150-13: Executive Retirement Benefits Practices
- DA-802-13: Internal Revenue Code 409A and Non-Qualified Plan Design Consideration
- DA-803-13: Evaluating Financing Options for Nonqualified Benefit Plans

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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:

- a) Evaluate appropriateness of current assumptions
- b) Describe and explain the different perspectives on the selection of assumptions
- c) Describe and apply the techniques used in the development of economic assumptions
- d) Recommend appropriate assumptions for a particular type of valuation and defend the selection
- e) Select demographic and economic assumptions appropriate for a projection valuation

**Resources**

- *Fundamentals of Retiree Group Benefits*, Yamamoto
  - Ch. 9 (pp. 256-278 and pp. 287-294)
- DA-136-13: 2009 Selection of Actuarial Assumptions, Consultant Resource Manual, SOA Version, Mercer, pp. 5-63
- DA-137-13: Pension Projections
- DA-138-13: Discounting State and Local Pension Liabilities
- DA-139-13: ASOP 35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations
- DA-140-13: ASOP 27 Selection of Economic Assumptions for Measuring Pension Obligations
- [Modeling Long Term Healthcare Cost Trends](#), Getzen
- [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
- [Selecting and Documenting Mortality Assumptions for Pensions](#) (Appendix background only)

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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*, 15<sup>th</sup> Edition
  - Ch. 5 & Ch. 11 (pp. 304-310)
- *Fundamentals of Retiree Group Benefits*, Yamamoto
  - Ch. 5 (pp. 117-133 and pp. 144-149), Ch. 7, Ch. 9 (pp. 256-278 and pp. 287-294)
- DA-105-13: Measuring Terminable Postretirement Obligations
- DA-113-13: Multi-Employer Plans
- DA-114-13: Risk Management and Public Plan Retirement Systems - Appendix only (pages 1-33 background only)
- DA-124-13: Funding Risks for Multi-Employer Pension Plans
- DA-137-13: Pension Projections
- DA-141-13: An Introduction to Duration for Pension Actuaries

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- DA-142-13: ASOP 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions
- 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-146-13: ASOP 6, Measuring Retiree Group Benefit Obligations
- DA-147-13: Intricately Linked: Pensions and Corporate Financial Performance
- DA-148-13: Mergers and Acquisitions: Due Diligence of Retirement Plans
- DA-149-13: The Funding of State and Local Pensions: 2011-2015, Boston Center for Research (Appendices for background only)
- DA-611-13: Introduction (A58), IFRS1, paragraphs 1-40, Appendix A, Appendix D, D10 and D11 only, IAS19, IFRIC14
- DA-801-13: The Long and Short of the Pension Protection Act of 2006, Watson-Wyatt, pp. 10-24 excluding p.13 (pp. 1-9 and Appendices for background only)
- 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
- [“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 & 5 (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

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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-139-13: ASOP 35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations
- DA-140-13: ASOP 27, Selection of Economic Assumptions for Measuring Pension Obligations
- DA-142-13: ASOP 4, Measuring Pension Obligations
- DA-146-13: ASOP 6, Measuring Retiree Group Benefit Obligations
- 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
- ["A Reevaluation of ASOP 27, Post-Enron: Is It an Adequate Standard of Professionalism?"](#) by Todisco, Pension Forum, January 2005
- [Qualification Standards for Actuaries Issues Statements of Actuarial Opinion in the United States](#)
- [AAA Code of Professional Conduct](#)
- [SOA Code of Professional Conduct](#)

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- [SOA Qualification Standards](#)