CSP-RU & CSP-RC Illustrative Solutions
Spring 2008

All Solutions apply to both the United States and Canada unless otherwise noted

1.

Learning Objectives:

1 – Given a context and sponsor objective, advise a plan sponsor regarding the choice of design elements for their retiree health program
2 – Given the plan sponsor's goals, recommend a plan and defend recommendation
3 – Advise plan sponsor on accounting cost and disclosure for their post-retirement plans

This is a synthesis and calculation question requiring candidates to assess the provisions of the current retiree medical program and calculate the impact on the plan sponsor's financial statements of a change to the design of the post-retirement plan.
In part (a), candidates were required to recommend plan design changes to the current retiree medical program that would result in cost savings. Credit was given for any feasible recommendation where appropriate justification was provided.
In part (b), candidates were required to calculate the impact of the proposed plan design change on the plan sponsor's income statement. Credit was given whether simple or compound interest was used in calculating the impact on expense for the year.

Solution:

(a)

(LO 4h. – Given a context and sponsor objectives, advise a plan sponsor regarding the choice of design elements for their retiree health program)
Yamamoto, Fundamentals of Retiree Group Benefits, Ch. 4

Each component of the current Retiree Health Plan is analyzed and cost containment options are suggest and discussed. For example ...

Deductible

- Introducing an annual deductible of $X before any expenses are paid by the plan will shift cost to the participant, making them more aware of consumption reducing utilization and reducing employer cost by deductibles.

1. **(a) continued**

Copay

- Introducing a copay amount (for example $5) for drugs, office visits, etc., will shift cost to the participant. Lower copays for generic drugs versus premium drugs can encourage participants to use lower cost generic drugs

Limits

- Introducing a lifetime maximum on payment of benefits from the plan or on certain provisions of the plan may limit costs in the plan for participants who are in high risk category

Office Visits

- Limiting the amount of office visits to X per year and then have participant pay for any additional office visits *(U.S. only)*

Hospital Visits

- Only cover ward coverage or semi-private (not private coverage). Could also limit the amount of annual hospital visits paid for by the plan

Surgery

- Put limits on type of surgery covered – exclude all elective surgery

Prescription Drugs

- Implementing a formulary for generic brands, institute use of mail order pharmacies (or cap dispensing fees in Canada)

Cost Sharing

- Implementing cost-sharing with retirees, % coverage based on service with company with a minimum required cost sharing for all retirees. Could also set retiree contributions as a % of cost

Eligibility

- Implement a service component to eligibility or percent covered. E.g., fully 100% employer paid only if has 30 years of service with the company

Spousal coverage

- Do not cover spouse or limit spousal coverage up to participant death or 2 years after death, offer spousal coverage at a cost to the participant

Use Preferred Provider Networks, review method Coordination of Benefits (carveouts versus Exclusion)

Employer cap on contributions to the plan

- Introducing a cap on Employer contributions to the plan will limit cost because if cost of the coverage becomes too expensive, cost containment provisions will need to be implemented. In order for this not to happen, participants will need to monitor their claims in the plan (will also need to be educated) – shop for lower priced drugs, etc.

1. **(a) continued**

Coordination of Benefits

- Ensure that coordination of benefits is being applied for spouses covered by the plan and that Medicare/government paid health care is also being coordinated

Managed Care Programs

- Managed Care Programs provide provider discounts and better management of care (PPO's, HMO's and POS). *(US only)*

Larger Case Management

- Monitor the larger claims cases to ensure they are getting the appropriate and most cost effective care

Utilization Review

- Evaluate the appropriateness of medical treatment before it is provided. This can review future costs by early detection of conditions and inappropriate treatments

Reasonable and Customary Limits

- Only pay claims up to the reasonable and customary limit for that specific treatment/claim

Increase the eligibility age of coverage from age 55 to age X, decreasing retiree medical expense by decreasing the period of payment

Others

(b)

(LO 8d – Advise plan sponsors on accounting cost and disclosure for their retirement plans and LO9b given the plan sponsor's goals, recommend a plan and defend recommendation) Yamamoto, Fundamentals of Retiree Group Benefits, Ch. 7, 8

Impact of plan change on 2007 expense

The first half of the year expense is equal to:

$$\text{SC} = (48,482 \times 0.5) = 24,241$$

$$\text{IC} = (77,650 \times 0.5) = 38,825$$

$$\text{Amort G/L} = (3,190 \times 0.5) = 1,595$$

Total 2007 expense from January 1, 2007 to June 30, 2007
$= 24,241 + 38,825 + 1,595 = \$64,661$

1. (b) continued

The expense for the second half of the year (July 1, 2007 to December 31, 2007) is equal to:

Service Cost
Service Cost is rolled forward with interest for half a year minus the reduction in SC
Service Cost is reduced to $48,482\times(1+0.0575\times0.5)-15,000$
Service Cost = 34,876 annually
Service Cost $=34,876\times0.5=17,438$ for the July 1 – December 31 period

Interest Cost
Interest Cost would be reduced to reflect the fact that the APBO is reduced

Rollforward of APBO to July 1, 2007 = (APBO + half year of SC) + half year of IC – half year of benefit payments (IC from the annual expense calc)
$=1,315,448+48,482\times0.5+77,650\times0.5-27,000\times0.5$
$1,315,448+24,241+38,825-13,500$
$=1,365,014$
Or = (1,315,448 + 48,482 *.5) *(1 + 0.0575*.5) – 27,000*.5*(1+0575*.25) = 1,364,511

New APBO at July 1, 2007 $=1,364,511-300,000=1,064,511$ (or 1,065,014)

IC = half a year's interest on APBO and SC at July 1, 2007 – quarter of a year of interest on half a year's benefit payments
$\text{IC}=(1,064,511+34,876)\times(0.0575\times0.5)-27,000\times0.5\times(0.0575\times0.25)$
$=31,413\ (\text{or } 31,399)$

Amort of PSC
Plan change would constitute a negative plan amendment. The 2007 expense would have a negative prior service cost and be amortized over AFWL to FEA (11 years).
Amort PSC $=\dfrac{(300,000)}{11}=(27,273)$ annually
Amort PSC $=(27,273)\times0.5=(13,636)$ for the July 1 – December 31 period

1. **(b) continued**

Amort G/L

No new gains or losses at July 1, 2007, however the corridor for determining the unrecognized loss to amortize has been reduced thereby increasing the amount of loss to recognize in expense

Amort G/L = (Unrec G/L at July 1 – 10% of APBO at July 1) + Average Future Service at July 1

Unrec G/L at July 1 $= 182,584 - 3,190 \times 0.5 = 180,989$

Amort G/L $= \left(180,989 - 1,064,511 \times 0.10\right) + 15.9 = 4,688$ (or 4,685) annually

Amort G/L $= 4,688 \times 0.5 = 2,344$ (or 2,342) for the July 1 – December 31 period

Expense from July 1, 2007 – December 31, 2007

$$= 17,438 + 31,413 - 13,636 + 2,344 = 37,559$$

$$\text{or } 17,438 + 31,399 - 16,636 + 2,342 = 37,543$$

2007 Expense = 64,661 + 37,559 = $102,220 (or $102,204)

Impact = Old Expense – New Expense

$$\text{Impact} = \text{Old Expense} - \text{New Expense}$$

$$= 129,321 - 102,220 = 27,101\left(\text{or } 27,117\right)$$

$$= 27,101\left(\text{or } 27,117\right) \text{ reduction in expense}$$

2.

Learning Objectives:

3 – The candidate will be able to evaluate risks faced by sponsors of a retirement plan by virtue of the plan's design and be aware of methods to mitigate these risks

a. Identify how plan feature, temporary or permanent, can adversely affect the plan sponsor. For example, an early retirement window offering or a lump sum payout option

b. Recommend ways to mitigate the risks identified with particular plan feature (e.g., cap an open-ended COLA)

7 – The candidate will be able to evaluate the sponsor's financial goals and risk management with respect to their plan.

a. Describe ways to work with the sponsor on identifying and prioritizing the goals of management and shareholders related to the financial management of their retirement plan

b. Compare the, sometimes conflicting, interests of management, employees, shareholders or taxpayers (in the case of public sector)

c. Define the retirement plan risks (financial and design) in a way that integrates with the sponsor's risk management strategy

d. Analyze how the retirement plan integrates into the sponsor's overall financial position

e. Describe how retirement plan accounting impacts the sponsor's overall financial results

f. Demonstrate how the retirement plan's cash inflows and outflows can affect the plan sponsor

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

g. Perform and interpret the results of projections for short and long range planning including the effect of proposed plan changes

11 – The candidate will be able to analyze the issues facing retirement plan sponsors regarding investment of fund assets and make recommendations on the actuarial issues

a. Assess the different types and combinations of investment vehicles for providing retirement benefits given the particulars of the sponsor's financial circumstances, philosophy, industry, workforce and benefit package

d. Assess the potential effects of various investments and investment policies on plan funding (short and long-range), accounting, design and administration

e. assess the potential effects of various investments and investment policies on all of the stakeholders, including tax implications

f. Model the effect on setting investment strategy of factors including, cash flow requirements, various plan designs and various economic environments

2. (Learning Objectives) continued

h. Identify the sources of investment risk and assess risk facing retirement funds

This is a synthesis requiring candidates to identify the impact a new plan provision has on the management of plan assets and liabilities. In part (a), candidates were required to evaluate the current asset allocation and recommend a change in light of deterministic forecast. In part (b), candidates were required to evaluate the merits utilizing stochastic forecast for asset allocation purposes.

Solution:

(a)

- The plan is in a surplus position
- However, the deterministic projection predicts that with the addition of the lump sum feature benefit payments are expected to triple over the next 5 years
- Higher benefit payments means the plan will need high investment performance or else may result in the need for higher contributions
- This will lead to the need for higher liquidity
- Current asset allocation is 30% fixed income, 68% equity, only 2% cash
- Having only 2% in cash may not be enough to meet liquidity needs
- Should increase allocation to short-term investments or cash
- Increasing allocation to short term investments or cash may lower investment return which may result in higher contributions or a smaller surplus or deficit
- Large percentage of population is eligible for early retirement, so if forecast is accurate the current asset allocation may result in a duration mismatch in the future
- Because of the higher liquidity need a higher allocation to fixed income may be recommended to maintain benefit security
- The amount of liquidity needed will depend on the number of retirees electing lump sums
- Liquidity problem could worsen in the future – many participants will become early retirement eligible just as benefit payments are increasing
- If the number of annuitants decreases due to the lumps um option the need for long term bonds may decrease

2. (a) continued

Recommendation

- NOC should increase their allocation to fixed income
- Fixed income will result in lower expected returns but will be less risky
- Increasing allocation to international fixed income will provide diversity
- Could make this transition gradually as they don't need to make it immediately (increase in benefit payments happens over 5 years)
- Moving away from equities may lower returns and increase contribution requirements
- Should project both assets and liabilities to understand what the true impact of the lump sum will be and better determine asset allocation

(b)

Deterministic Projection

Disadvantages

- Deterministic projection uses only one set of assumptions
- The assumptions are fixed throughout the forecast period
- Deterministic forecasts are best if chance that assumptions will be met is high

Advantage

- Simpler, may require fewer resources and less time

Stochastic Projections

Advantages

- Produces a range of results
- Allows results to be ranked
- Results can be shown in terms of confidence intervals
- Allow assumptions to be variable
- Assumptions are determined stochastically rather than subjectively
- Is more realistic
- Allow assumptions to interact with each other
- Represents future outcomes by probabilities
- Sensitivity analysis can be done
- Can observe variance of results under different asset allocation scenarios
- Can observe the "tails" of the outcomes to understand best and worst case scenarios
- Less likely to produce results that sponsors vies as "cast in stone"

2. **(b) continued**

Disadvantage

- Tends to be more costly and take more time

Whether to use a deterministic or stochastic forecast depends on

- Level of sophistication needed
- Resources available

3.

Learning Objectives:

1 – Analyze risks faced by retirement plan participants
2 – Evaluate the sponsor's goals for the retirement plan
5 – Synthesize and evaluate supplemental plans for highly paid employees
6 – Understand the general applicability of long-term incentive plan

This is a synthesis question requiring candidates to assess the risks faced by plan participants and the plan sponsor of a particular design for a supplemental retirement plan. In part (c), candidates were required to discuss the considerations and assumptions required to perform the accounting valuation of the proposed plan.

Solution:

(a)

Risks associated with proposed SERP design from senior executive's perspective:

- If bonuses, often a major part of earnings, are not in the definition of compensation on which benefits are based, benefit may not be adequate
- If final earnings decrease (for example because no bonuses are paid), then benefit may not be adequate
- Benefit is not secure in the event of company bankruptcy
- If the value of stock declines after retirement (before the executive sells it), hurts retirement security
- Executive's security is tied very closely to company's – risk from both the SRP and the stock plan
- Change in control may limit company's willingness to pay benefits
- If a mid-career hire, may not provide adequate income
- Benefits may be inadequate upon leaving before becoming vested, or dying or becoming disabled before retirement

Risks from the shareholder's point of view

- Plan may not align executive interests with the company's – DB plan backstop limits the executive's downside risks and may encourage excessive risk-taking
- If stock prices fall, company will need to pay higher net SRP benefits at a time when it is probably difficult to afford it
- Expense is likely to be very volatile because of stock plan offset

3. continued

(b)

FAS 87 (CICA) issues:

- No obvious approach:
  - Should the PBO based on the SERP formula be offset with the current fair value of the stock
  - Or should the stock values be projected to retirement age, and the projected net retirement benefit be accrued on a pro-rata basis
- Setting the discount rate is difficult because the cash flows of the plan are especially uncertain given the stock price volatility
- Attribution method should consider past service (assuming SRP will include it)
  - Would need to set up a prior service cost base
- Have to set assumptions
- Assumptions must be appropriate for covered group and circumstances — may be different from other plans covering a broader group
  - Include turnover, retirement, salary increase (taking into account bonuses)
  - Assumptions for future ESP stock value (how much will be granted and appreciation) is necessary
  - Assumptions and accounting methodology should be consistent between ESP and SRP, and internally within each plan

4.

Learning Objectives:

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

a. Compare the financial economics perspective to the traditional perspective on funding and accounting for retirement plans
c. From a financial economics perspective, describe differences in economic value on the basis of the financial strength of the sponsoring company

Objective of question was to illustrate, through tax arbitrage, that share holder value was increased by investing in higher taxed assets using the theory of financial economics.

Solution:

Under financial economics, the driving force for investing pension assets is shareholders' value. Whether Asset Class 1 or Asset Class 2 provide higher returns is irrelevant. The question is which Asset class will provide the shareholder the best value under their own personal risk profile. When considering pension investing, it has nothing to do with size or even existence of equity risk premium. Question is not which asset class has higher return, but rather where risk should be taken in the corporation's capital structure to maximize shareholders' value. This requires a considering of the individual's personal investment risk profile.

When we consider taxes, pension assets should be invested in the highest taxed asset to maximize the value of the plan's tax shelter and by extension maximize shareholders' value. Asset Class 2 investment returns are taxed at a higher rate than Asset Class 1 investment returns. Therefore, the plan should invest its assets entirely in the asset class, which maximizes shareholders' value. Using the augmented balance sheet we can determine the potential Tax arbitrage for the shareholder.

Corporate Balance Sheet ($mm)

Corporate Assets	4,000
Corporate Liabilities	3,600
Surplus	400

Gross Pension Plan balance Sheet ($mm)

Gross Pension Assets (A)	2,500
Gross Pension Liabilities (B)	2,400
Surplus (C)	100

4. continued

Net Pension Plan Balance Sheet ($mm)	
Net Pension Assets (D)	1,500
Net Pension Liabilities (E)	1,440
Surplus (F)	$60

Augmented Balance Sheet ($mm)	
Total Assets (G)	5,500
Total Liabilities (H)	5,040
Surplus (I)	$460

Policy A
100% Asset Class 1

	Investor's Holdings	**Pre-tax Income**	**Personal Taxes**	**After-tax Income**
Pension Plan				
Asset Class 1	1,500 (D)	120 (J)		
Asset Class 2	0	0		
Total	**1,500**	**120**	**(18) (K)**	**102 (L)**

Direct Holdings				
Asset Class 1	13,500 (M)	1,080 (Q)	(162) (U)	918 (Y)
Asset Class 2	15,000 (N)	750 (R)	(330) (V)	450 (Z)
Total Personal Holdings	28,500 (O)	1,830 (S)	(462) (W)	1,368 (a)

Total Portfolio	30,000 (P)	1,950 (T)	(480) (X)	1,470 (a)

4. continued

Policy B
50% Asset Class 1 & Asset Class 2

	Investor's Holdings	**Pre-tax Income**	**Personal Taxes**	**After-tax Income**
Pension Plan				
Asset Class 1	750 (w1)	60 (h1)	(9) (m1)	51 (r1)
Asset Class 2	750 (w2)	37.5 (h2)	(5.6) (m2)	31.9 (r2)
Total	**1,500**	**97.5**	**-14.6**	**82.9**

Direct Holdings				
Asset Class 1	14,250 (c)	1,140 (i)	(171) (n)	969 (s)
Asset Class 2	14,250 (d)	712.5 (j)	(285) (o)	427.5 (t)
Total Personal Holdings	28,500 (e)	1,852.5 (k)	(456) (p)	1,396.5 (u)

Total Portfolio	30,000 (f)	1,950 (l)	(470.6) (q)	1,479.4 (v)

$1,479,400,000 – $1,470,000,000 = $9,400,000

Arbitrage (Shortcut Formula) = Pension Plan asset × Bond return × (1 – Corporate Tax) × (Tax Spread)

Shortcut Formula = 2.5 billionx0.05.(1-0.4)x(0.4x0.5-0.15x0.5)

Shortcut Formula result = 9.375 million

By investing pension assets in Policy B, investors' after tax income is increased by $9.4 mm per annum (1,479.4 mm in Policy 2 vs. 1,470 mm in Policy A) Note that this is $9.4 mm after all levels of taxation, risk free, year after year a arbitrage

Therefore Asset Class 2 should be chosen to maximize the value of the plan's tax shelter and by extension maximize shareholders' value. However, the CEO has only given a choice for 100% Asset Class 1 and 50% Class 1 / 50% Class 2. So we choose 50/50 in order to maximize shareholder's value as opposed to 100% Class 2.

Shareholders can then adjust their direct holdings in their personal portfolios to maintain the target Asset Class1 / Asset Class 2 mix and hold a larger portion of lower taxed assets in their personal portfolios.

4. continued

In addition, the payoff for bearing risk is better when investing in the corporation's projects than when investing in the pension plan. This is due to the asymmetry of surplus ownership in the plan. It is difficult for shareholders to fully recover surplus emerging from risk bearing investments in the plans due to tax laws and surplus ownership rules. On the other hand, net profits generated by the corporation's projects accrue fully to shareholders.

5.

Learning Objectives:

10e – Describe and recommend proper plan governance practices and the sponsor's fiduciary responsibility.

For this question, candidates were expected to identify and correct the flaws in the governance structure or processes which allowed the investment decision to be made by the CFO. Where candidates discussed areas of governance that were not relevant to the particular investment decision, little or no credit was awarded..

Solution:

CFO unilaterally 50% in stock

Flaws in governance

- **Goal of governance is to maximize shareholder value (Flaw) and reduce risk exposure** *(Flaw)*

- **Risk exposure includes contribution and investment risk for DB plans, DC – litigation risk due to management / monitor / search, etc., re: DC investment side**

- **Governance – Areas**
  - Funding and investment policy, includes areas of
    - Assets
    - Management / monitoring
    - Investment / diversification etc. *(Flaw)*
    - Problem here with 50% in stock
    - FAS 88 Events
    - Spending
    - Written policy, re: amount of funding with min/max range
    - Assumptions selection
    - Best practice and impact of assumptions or company
    - SERP
    - Risks if not funding
    - Job of trustee is duty of
    - Diversification of assets *(Flaw)*
    - Impartiality of decisions *(Flaw)*
    - Delegate to appropriate parties
    - Care *(Flaw)*
    - Loyalty *(Flaw)*
    - Act in accordance with trust agreement
    - Statutory compliance
    - Property should be productive *(Flaw)*

5. continued

- Plan design
  - Clear choice / communication of and responding of saving / DC education appropriate
- Employee communication
  - How was this communicated to participants with risk/rewards outlined *(Flaw)*
- Directors have knowledge and experience
- Define roles / responsibilities of involved parties
  - Written policy, re: IPS
  - Identify / resolve conflicts of interest *(Flaw)*
  - Anticipate conflicts of interest / document objective handling of COI
  - Formal review at least every 2 years *(Flaw)*
  - Board is ultimately responsible
- Administration / documentation
- Legal Review / Compliance
  - Follow statutory and formal polices, including allowable % of investment in employer stock
  - Gap analysis to determine deficiencies
  - Process to inform Board about developments
- Integrity and competence of CFO could be questioned in breach of fiduciary duties *(Flaw)*

Board Duties

- Dual duty to shareholders / plan members *(Flaw)*
- Ultimate duty to members *(Flaw)*
- Resolve conflicts of interest
- Delegate as appropriate but maintain oversight; have written policies on delegation, oversight, monitoring and reporting
- To HR / benefits / pension, etc., committees
- Hired experts
- Management

- Board may have delegated duty but should be to a committee, not individual
- Problems with diversification of assets
- 50% in stock too high
- Puts shareholders and members at risk, therefore not making decision in best interest of members
- No accountability for decisions to Board
- Inadequate reporting back to Board
- Risk passed to employee by stock – undiversified income through asset with livelihood for benefit and welfare of company tied to performance
- Was this allowed / addressed in investment policy statement
  - SIP+P should be reviewed annually

5. continued

- Use external asset managers
- Fiduciary duties of prudent investment of assets remain with sponsor / employer
    - This includes management / investment / monitoring, etc.
- Company stock does not add shareholder value and introduces too much risk
- Part of governance is defining roles / responsibilities of parties
- What responsibility was CFO given in selecting asset
    - What was duty to go to Board for approval
- Process for formal / frequent evaluation of governance structure

- Changes to process should include
    - Clear IPS with restrictions on amount of company stock
    - Set period for review of assets and performance
    - Diversification outlined
    - Decisions made by committee, not individual
    - Accountability and better reporting to Board
    - Written policy
    - Monitored at least every two years
    - Policy clearly delegates roles and responsibilities
    - Communication strengthened
    - Adherence to fiduciary duties to delegate / diversify, act in best interest of shareholders, etc.

6.

Learning Objectives:

1 – Analyze risks faced by retirement plan participants
2 – Evaluate the sponsor's goals for the retirement plan
3 – Evaluate risks faced by sponsors of a retirement plan by virtue of the plan's design and be aware of methods to mitigate these risks
4 – Evaluate and recommend a plan design appropriate for the sponsor's goals

This is a synthesis question requiring candidates to assess the risks faced by plan participants and the plan sponsor of a change to the design of the retirement plan. In part (c), candidates were required to recommend a plan design that would meet the needs of the plan sponsor and the plan participants. Credit was given for any feasible recommendation where appropriate justification was provided for this recommendation.

Solution:

(a)

NOC Perspective

- NOC holds the investment risk
- NOC holds the mentality risk
- NOC holds longevity risk
- NOC loses same flexibility in investment choice since must keep more liquid assets to pay retirees
- NOC may incur administrative costs for retirees
- NOC has more assets to use and leverage
- NOC has fiduciary responsibility
- Bias between active and retiree employees
- What is core business – oil or pension

Retiree perspective

- There is business risk that NOC may fold and then benefits are lost
- Risk that health plan benefits change and increase retiree expenses
- Health and pension benefits tied to same business (diversity, risk)

(b)

NOC perspective

- Pay premium per annuity purchase
- Loss of asset buying / leveraging power
- Annuity purchase may cause settlement accenting
- Asset allocation may need to be changed to reflect less liquidity requirements and higher duration
- NOC no longer bears investment risk
- NOC no longer bears longevity risk
- NOC no longer has fiduciary responsibility
- Cost of annuities more when interest rates low (pricing risk)

6. **(b) continued**

Retiree perspective

- Benefits may be more secure at insurance company
- Benefits source now separate from health coverage source so lower risk through diversity

- Retirees have lost potential of future indexing / ad hoc benefit changes
- Communication needs to be addressed

(c)

NOC perspective

- NOC loses investment risk
- NOC loses longevity risk
- Risk that NOC may be called upon should retirees mismanage assets
- Risk that NOC may be called upon should retiree fund experience bad returns
- NOC may experience recruiting / retention issue if it is felt they would do this again to new retirees

Retiree perspective

- Retirees bear investment risk
- Retirees bear longevity risk
- Retirees bear market risk
- Retirees may mismanage assets
- Decrease in purchasing / leverage of assets
- Loss of investment expertise
- Problems with very short duration and need for high liquidity
- Future increases in benefits responsibility of association
- Settlement

- Other risks being faced by retirees under all options
    - Change in tax policy

7.

Learning Objectives:

1(a) – Identify risks faced by retirees and the elderly
1(b) – Propose ways in which retirement plans can manage the range of risks faced by retirees
2(b) – Compare the, sometimes conflicting interests of management, employees, shareholders or taxpayers
2(c)– Describe ways to identify and prioritize the sponsor's goals related to the design of the retirement plan
2(d) – Given a context, assess the feasibility of achieving the sponsor's goals for their retirement plan
2(f) – State relationship or recognize contradictions between management's and shareholder's goals and the retirement risks faced by retirees
7(a) – Describe ways to work with the sponsor on identifying and prioritizing the goals of management and shareholders related to the financial management of their retirement plan
7(c) – Define the retirement plan risks (financial and design) in a way that integrates with the sponsor's risk management strategy

This is a question requiring candidates to compare two different compensation philosophies and provide risks to both.

Solution:

(a)

- Compensation philosophy
- Income protection philosophy
- Tax benefits for compensation versus deferred compensation
- Level of cost sharing
- Executive arrangements are possible with DC
- Attraction / retention / performance management
- Competitive standards
- Costs — can be changed in light of bad business performance in profit sharing plan
- Administration costs in DC, none in comp
- Should employees bear interest / inflation risk?
- Offer annuity purchases in DC
- Paternalism / social obligations
- Increased legal / fiduciary responsibility
- Cash compensation over DC: Younger employees prefer cash, don't value pensions, theory that $1 of pay is worth more than $1 of pension, more flexibility with cash
- DC over cash compensation: Protect employees, can use vesting as retention mechanism, forced / disciplined savings

7. continued

(b)

- Longevity (outliving savings): Offer annuities, educate about needs and adjust spending, stagger annuity purchases
- Death of spouse: Estate planning, pick J&S annuity, life insurance
- Inflation: Equity exposure, indexed annuities
- Interest rate risk: Invest in bonds or mortgages closer to retirement, company can negotiate with potential carriers
- Stock market risk: Diversify, buy principal-protected investments, bedge
- Business risk: Avoid concentration of retirement money in ER stock
- Employment risk: Part-time employment in retirement, can't depend on bridge job
- Public policy risk: Tax-free investments
- Unexpected health care needs / costs: Consider supplemental coverage beyond DC plan
- Change in housing needs: Consider long-term care insurance outside DC plan
- Loss of ability to live independently: Get long-term care insurance outside DC plan
- Change in marital status: DC account can be split
- Lack of appropriate consumer info for decision-making: Company can offer appropriate education
- Income adequacy: Additional savings may be required

8.

Learning Objectives:

7 – The candidate will be able to evaluate the sponsor's financial goals and risk management with respect to their plan

f. Demonstrate how the retirement plan's cash inflows and outflows can affect the plan sponsor

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

b. Recommend an appropriate funding method and asset valuation method in line with the sponsor's investment policy and funding goals. The candidate will be able to defend the recommendation.

2 – The candidate will be able to evaluate sponsor's goals for the retirement plan

c. Describe ways to identify and prioritize the sponsor's goals related to the design of the retirement plan
f. State relationship or recognize contradictions between management's and shareholders' goals and the retirement risks faced by retirees

11 – The candidate will be able to analyze the issues facing retirement plan sponsors regarding investment of fund assets and make recommendations on the actuarial issues

a. Assess the different types and combinations of investment vehicles for providing retirement benefits given the particulars of the sponsor's financial circumstances, philosophy, industry, workforce and benefit package.
b. Distinguish the various ways that retirement fund assets are managed.

This is question required candidates to assess the various objectives of a sponser's funding policy. It also required a candidate to evaluate the conflicting objectives associated with a sponsor's funding policy from the perspective of interested stakeholders. Finally, the candidate was asked to discuss approaches of implementing an aggressive investment policy.

8. continued

Solution:

(a)

Reasons for adopting Policy #1 (assumes a minimum funding policy adopted)

- Free up Case for more strategic uses within the company
- Company has willingness and ability to accept more volatile contributions

Reasons for adopting Policy #2 (assumes funding more than the minimum, up to a target)

- Maximize tax deduction
- Increase benefit security for plan participants
- Minimize pension expense
- Reduce contribution volatility and make them more predictable

(b)

Stakeholders and their perspectives:

Plan Members

- Concerned about benefit security
- Since surplus belongs to the plan sponsor, plan members should prefer a more conservative investment strategy because they get no upside benefit for more downside risk.

Shareholders

- Pension asset allocation does not enhance shareholder value
- Investing pension assets in equities hurts shareholder value because of tax arbitrage arguments

NOC (Financial management perspective)

- Need to focus on maximizing shareholder value
- In a transparent reporting environment, financial economics suggests that equity investment destroys shareholder value
- Under current AAP accounting, equity investment makes sense to the extent that investors only look smoothed APP pension expense

NOC (Pension committee perspective)

- Has a fiduciary
- Needs to focus on benefit security

8. **(b) continued**

Government

- From a tax perspective, strong investment returns could grow surplus beyond limits allowed by tax standards

Regulators

- Concerned with benefit security. High risk investments may affect benefit security

Creditors and Financial Analysts

- A more aggressive investment strategy may impact the cost of equity and/or cost of debt

(c)

Approaches for implementing aggressive equity investment tactics:

- Use active management
- Increase allocation to emerging markets
- Use growth managers
- Use small cap managers
- Grant equity managers ability to short stocks
- Add derivatives to the portfolio

9.

Learning Objectives:

2 – The candidate will be able to evaluate sponsor's goals for the retirement plan.

b. Compare the, sometimes conflicting, interests of management, employees, shareholders or taxpayers (in the case of public sector)
c. Describe ways to identify and prioritize the sponsor's goals related to the design of the retirement plan

3 – The candidate will be able to evaluate risks faced by sponsors of a retirement plan by virtue of the plan's design and be aware of methods to mitigate these risks.

b. Recommend ways to mitigate the risks identified with particular plan feature [e.g., cap an open-ended COLA]
g. Assess the impact of possible changes in plan design legislation

7 – The candidate will be able to evaluate the sponsor's financial goals and risk management with respect to their plan.

c. Define the retirement plan risks (financial and design) in a way that integrates with the sponsor's risk management strategy
d. Analyze how the retirement plan integrates into the sponsor's overall financial position
e. Describe how retirement plan accounting impacts the sponsor's overall financial results
f. Demonstrate how the retirement plan's cash inflows and outflows can affect the plan sponsor

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

b. Recommend an appropriate funding method and asset valuation method in line with the sponsor's investment policy and funding goals. The candidate will be able to defend the recommendation.
d. Advise plan sponsors on accounting costs and disclosures for their retirement plans. This would include restrictions imposed by applicable accounting authorities (FASB, CICA, IASC, FRS17)

9. **(Learning Objectives) continued**

11 – The candidate will be able to analyze the issues facing retirement plan sponsors regarding investment of fund assets and make recommendations on the actuarial issues.

a. Assess the different types and combinations of investment vehicles for providing retirement benefits given the particulars of the sponsor's financial circumstances, philosophy, industry, workforce and benefit package.
b. Distinguish the various ways that retirement fund assets are managed.

Candidates were asked to address plan design, cost and investment considerations of the new government mandate. Plan design issues were expected to include changes that were required and optional for the hourly salaried and supplemental plans, including reference to the union's role in any changes to the hourly plan. Cost implications were expected to include the accounting and funding impact of required and optional charges, both immediate and to be realized over time. In discussing investment considerations, the candidate was expected to discuss the relationship between assets and liabilities, the client's investment based risk and options for managing those risks.

Solution:

Plan Design / Lost Investment

Plan design

- Require change to hourly and salaried plans — must amend
- Hourly plan would typically have to negotiate plan changes, but not mandated changes like this
- Indexing required for only post '08 accruals, company must decide if they want to grant indexing to prior benefit accruals, including whether to grant increases for current retirees
- Company could consider charging plans to offset additional cost of this required indexing. For example: salaried plan – reduce 2% accruals or reduce / eliminate retirement subsidy; Hourly plan – would need to negotiate any plan changes with the union, but could reduce $80 multiplier or negotiate no increases in the future
- Could freeze plans and enhance DC program to avoid indexing requirement completely
- SRP — no change required, however if no change then indexing would shift benefit (and therefore cost) from non-qual to qual as salaried plan benefits increase due to indexing. Note that SRP definition is not required to mirror the sal plan. The SRP can have different accruals.
- If SRP is changed, then NOC has same issues/questions regarding pre-2008 accruals, etc., as with Sal. Plan

9. continued

Cost

- Accounting and funding (sal, hourly, sal)
- **Accounting**
- Technically this is a prospective change only (post-08 accruals)
- If no indexing on prior benefits then NOPC is only impacted as post '08 benefits accrue
- IC — liability will not increase (therefore, no change) unless indexing granted to prior accruals
- SC — increases immediately with cost of indexing
- Prior service cost amort. only increases if indexing on prior service benefits
- SRP — If indexing on SRP, then IC, SC and prior svc cost increases (prior svc cost — plan change recognized over future svc (17.5 years in sal plan))
- **Funding**: Impact depends on funding method. For example, if proj unit credit (e.g., with future accruals recognized and simply service prorate), then cost of indexing will be reflected in liability immediately
- Gunding and accounting will be more unpredictable now that indexing is required

Investments

- SRP not funded
- Hourly — Salary
- Consider using investments linked to inflation to hedge the new risk. Example TIPS, inflation index bonds
- It is important to reflect characteristics of the liability when considering investment options
- With this new volatility it is increasingly important for NOC to focus on surplus volatility (i.e., assets — liabilities)
- Also NOC should consider their own corporate risk tolerance and invest so they need to put money into pensions when business is good rather than the other way around
- As NOC considers inflation indexed investments, they will need to balance the total return versus the inflation hedge
- Equities may be a good option (inflation hedge) with better return than TIPs for example
- Even if NOC was focused on surplus in the past, they need new investments to accomplish this. In the past, long bonds were a good liability match (assets and liability up when interest rates down), but with indexing, the value of long bonds won't increase with inflation the way the liabilities will.

10.

Learning Objectives:

Compare the sometimes conflicting interests of management, employees or shareholders.
Design retirement programs that promote employee behavior consistent with sponsor objectives.
Advise Plan sponsors of the financial implications of conversions from one plan to another.

In describing the various kinds of "plan freezes", candidates were expected to address plan design issues, changes in risk for the employer and the members, and the associated high-level effects on both funding and accounting.

Solution:

(a)

Types of Plan Freezes

Traditional Plan Freezes

Hard Freeze — all future accruals (other than vesting and eligibility) are frozen. Pay and benefit service are frozen.

Employer's perspective

- Funding will be reduced for salaried plan
- Normal cost will be $0 for the DB provision
- Actuarial accrued liability will decrease to present value of accrued benefits (removes impact of future salary increases)
- Accounting expense will be reduced
- Service cost will be $0 for the DB provision
- PBO will decrease to ABO (significant decrease)
- Curtailment accounting will be required, decrease in PBO to ABO will be curtailment gain
- No unrecognized prior service cost for salaried plan to recognize
- DC is easier to administer and communicate
- HR may be concerned with employee dissatisfaction
- Reduced cost (funding and expense) and reduced volatility
- May make it difficult for the Company to meet attraction and retention objectives

10. continued

Employees' perspective

- Impact greater for mid-career employees
- Benefit adequacy (this is harshest freeze type)
- Increases risks to employees with DC Plan for future service
- Longevity risk, market risk, inflation risk (lost future salary leverage for past service in Salaried final average pay Plan)

Soft Freeze — only future service accruals, other than eligibility and vesting, are frozen; future pay increases are taken into account

Employer's perspective

- Does not reduce funding and expense as much as hard freeze (reduced volatility less than hard freeze as well)
- Normal cost and accounting service cost still both drop to $0 for the DB provision
- There is no change to PBO and actuarial accrued liability for future salary increases
- Maintains risk associated with salary increases

Employees' perspective

- Provides more protection than hard freeze (pre-retirement inflation protection on past service)
- Greater employee satisfaction than hard freeze

Non-traditional freezes

Close plan to new entrants

- Protects current participants
- Easy to communicate
- Disadvantage of bifurcated benefits program
- Easier to administer than grandfather or choice options
- Reduced DB contributions and expense (reduced volatility as well, but impact will take longer to be noticeable)
- Some current members may prefer DC
- Possible issues as not all members treated the same
- No immediate liability gain

10. continued

Provide choice between current plan and new plan

- Either to entire population or select group
- Increases administration costs
- Reduces future design flexibility (participants who choose current plan may be disgruntled if the plan changes in the future)
- Protect choice group by allowing them to determine which plan to participate in
- Higher cost (antiselection) and volatility than traditional freeze
- Important to educate employees

Grandfather participants at or near retirement eligibility

- Increased administration cost
- More expensive than traditional freeze
- Grandfathered employees may prefer DC plan
- Non-grandfathered employees may be dissatisfied
- Increased plan costs (contributions and expense) since older costlier employees remain in DC
- Increased cost volatility (depending on the size of the grandfathered group)

Delayed Freeze

- Gives employees time to prepare
- Gives employees time to transition

Convert DB benefit to DC balance

- Concern about potential high costs

10. continued

(b)

Key accounting and funding issues:

- Curtailment accounting required since significant future service curtailed
- Settlement accounting required if conversion
- Less volatility in pension expense
- Decrease of PBO to ABO (under hard freeze, optional and grandfathered to a lesser extent) will be recognized as a curtailment gain because salaried plan has an unrecognized gain (else offset against unrecognized losses first)
- Salaried Plan does not have unrecognized past service costs to recognize
- Hard freeze and soft freeze will have $0 normal cost and service cost for the DB provision
- Grandfathered option, choice option and plan closure to new entrants will have a continued service cost under the DB Provision (although lower than under the current plan)
- Change in investment allocation may impact the expected return assumption and interest rate for funding
- Change in Plan's duration may impact the discount rate assumption for accounting
- Revisit other assumptions:
    - Retirement (due to benefit inadequacy, may postpone retirement)
    - Withdrawal (similar concerns as retirement)
    - Salary scale — may change depending on the group remaining in DB and type of freeze
- Costs are less volatile
- Costs will likely reduce, depending on the group remaining in DB and type of freeze
- May be additional liquidity needs

11. Canada

Learning Objectives:

8d – Advise plan sponsors on accounting costs and disclosures for their retirement plans. This would include restrictions imposed by applicable accounting authorities (FASB, CICA, IASC, FRS17)

The candidate was expected to determine the accounting effects of a settlement in part (a) and determine the effects of the limit on the carrying value of the accrued benefit asset in part (b). The majority of the points available in this question were in part (a).

Solution:

(a)

All #s in 000s.

Expense from 1/1/2008 to 7/1/2008

$$\text{SC} = 0$$
$$\text{IC} = .0575 \times 0.5 \times (350{,}000 - 6{,}000 \times 0.5) = 9{,}976$$
$$(\text{EROA}) = .070 \times 0.5 \times (450{,}000 - 6{,}000 \times 0.5) = 15{,}645$$
$$\text{PSC} = \frac{75{,}000}{5} \times 0.5 = 7{,}500$$
$$\frac{\text{U(G)}}{\text{L}} = \frac{(50{,}000 - 45{,}000)}{5} \times 0.5 = (500)$$

Expense = $0 + 9{,}976 - 15{,}645 + 7{,}500 - 500 = 1{,}331$

Expected ABO at 7/1/2008 = 350,000 + 0 (SC) + 9,976 (IC) – 6,000 (Ben Pay) = 353,976
Expected Assets at 7/1/2008 = 450,000 + 0 (Cont) + 15,645 (EROA) – 6,000 (Ben Pay) = 459,645
Loss on ABO = 368,000 – 353,967 = 14,024
Gain on Asset = 470,820 – 459,645 = 11,175

11. (a) continued - Canada

	1/1/2008	7/1/2008 Before Settlement	Settlement Effect	7/1/2008 After Settlement
ABO	350,000	368,000	158,000	210,000
Assets	450,000	470,820	158,000	312,820
Funded Status	100,000	102,820	0	102,820
Unamort. (gains) losses	(50,000)	(46,651)	20,027	(26,624)
Unamort PSC	75,000	67,500	0	67,500
Accrued benefit asset (liability)	125,000	123,669	20,027	143,696

7/1/2008 Before Settlement

46,651 = 50,000 – 500 – 14,024 + 11,175
67,500 = 75,000 – 7,500
123,669 = 125,000 – 1,331

Settlement impact

$$20,027 = 42.93\% \left(\text{ABO settled} = \frac{158}{368} \right) \times 46,651$$

Expense 7/1/2008 to 12/31/2008

$$\text{SC} = 0$$

$$\text{IC} = .0550 \times 0.5 \times (210,000 - 0 \times 0.5) = 5,775$$

$$(\text{EROA}) = .075 \times 0.5 \times (312,820 - 0 \times 0.5) = 11,731$$

$$\text{PSC} = \frac{67,500}{4.5} \times 0.5 = 7,500$$

$$\frac{\text{U(G)}}{\text{L}} = 0 \,(\text{within the } 10\% \text{ corridor})$$

Expense 7/1 to 12/31 = 0 + 5,775 – 11,731 + 7,500 + 0 = 1,554

Total 2008 Expense (before V.A.) = 1,331 – 20,027 + 1,544 = (17,152); an income

11. **continued - Canada**

(b)

An increase in the Valuation Allowance (VA) during the year is an expense

At 1/1/2008

VA = Adjusted Benefit asset – Expected Future Benefit (EFB)

Adjusted Benefit Assets = Accrued Benefit Assets less aggregate of unamortized losses and prior service cost over aggregate of gains

EFB = 0 (no right to surplus)

Adjusted Benefit Asset = 125,000 – Max (75,000 – 50,000) = 100,000

VA = 100,000 – 0 = 100,000

At 12/31/2008

ABO = 210,000 + 5,775 (IC) = 215,775

Asset = 312,820 + 11,731 (EROA) = 324,551

Accrued Benefit Assets = 143,696 + 0 (Cont) – 1,544 (Expense) = 142,152

Unamort. PSC = 67,500 – 7,500 (amortization) = 60,000

Unamort Act. Gains = 26,624 + 0 (no new gain) – 0 (no amortization) = 26,624

Adjusted Benefit Assets = 142,152 – Max (60,000 – 26,624 , 0) = 108,776

VA = 108,776 – 0 (no EFB) = 108,776

Impact on 2008 Expense

Increase in the VA = 108,776 – 100,000 = 8,776 (expense)

2008 Expense = (17,152) + 8,776 = (8,376) – an income

12. Canada

Learning Objectives:

8(d): Advise plan sponsors on accounting costs and disclosures for their retirement plans.
10(a): Evaluate the effect of regulatory policies and restrictions associated with plan termination/windup
11: The candidate will be able to analyze the issues facing retirement plan sponsors regarding investment of fund assets and make recommendations on the actuarial issues.

This question addresses key aspects of winding-up a pension plan in Ontario. Part (a) addresses the process of winding-up a plan and part (b) addresses the related implications of the wind-up.

Solution:

(a)

Describe the process for winding up an Ontario-registered pension plan

- The employer decides to wind up the plan or is ordered to wind up the plan
    - Determine the effective date of wind up
    - Effective date cannot be prior to date that employee contributions ceased to be deducted
- Distribute notice of wind up to plan members, FSCO, union, advisory committee, and the Superintendent
    - No new payments can be paid from the fund after notice issued but can apply to the Superintendent to pay new retirees
- The plan administrator files a wind up report and related documentation to the Superintendent
    - Must be filed within 6 months of effective date
    - Includes the funded status of the plan
- Issues benefit statements
    - Must be provided within 60 days of approval of wind-up report
    - Describe benefit entitlements and options (transfer and pension options)
    - Election made within 90 days of receiving option form
- The Superintendent approves the payments of basic benefits
    - If there is a deficit, employer funds the deficit prior to payment of entitlements
- Distribute basic benefits
    - Annuity purchase for members who elected pension option and pensioners

12. **(a) continued - Canada**

- If there is a surplus, submit surplus application. Once approved, the administrator can distribute the surplus
- Once all assets are distributed, inform the regulators that the plan is closed
- Additional filings:
  - Amendments and resolutions
  - Checklist for compliance
  - AIR and PBGF Assessments
  - Financial statements for pension fund

(b)

Analyze the legal, investment, cash flow, and accounting issues that XYZ must address as a result of this wind up

Legal Issues

- Consider statutory employment considerations
- Severance implications
- Review plan text for wording related to wind up and other considerations
- Prepare amendments / resolution effecting wind up and any additional changes
- Provide grow-in benefits if meet the age and service eligibility
- All members are fully vested

Cash Flow issues

- No payments must be made once the notice has been distributed, except to existing pensioners
- File application with FSCO for approval to commence payments to new retirees
- Payment of lump sum transfer and purchase annuities simultaneously

Investment Issues

- Review investment policy
- Minimize volatility of portfolio
- Review liquidity of assets
- Revisions to SIPP to reflect changes to investment policy

12. (b) continued - Canada

Accounting Issues

- There will be curtailment and settlement
- Curtailment — significant reduction of expected future years of service
- Recognize when event is probable
- Settlement — e.g., lump sum transfers and annuity purchase
- Recognize when liabilities are settled

Surplus Issues

- Who is entitled to surplus? Should review historical plan and funding documents
- How to distribute surplus? Paid in cash (consider tax implications) or in the form of benefit enhancement?
- Need to determine method to allocate surplus (based on benefit entitlements or liabilities)

Deficit Issues

- No lump sum payments or purchase of annuities can occur before the wind up deficiency is funded
- The company can fund the wind up deficiency for a period not exceeding 5 years
- The company can make a lump sum contribution to fund the deficiency

13. Canada

Learning Objectives:

4 – Evaluate and recommend a plan design appropriate for the sponsor's goals.
- **c –** Given a context and sponsor objectives, recommend an appropriate plan type for providing retirement benefits and defend the recommendations
- **f –** Identify the ways that regulation impacts the sponsor's plan design goals

8. c – Advise retirement plan sponsors on funding costs including tax deductibility, required contributions and other alternatives to meet the sponsor's goals

10. a – Evaluate the effect of regulatory policies and restrictions, for all retirement plans, associated with plan design.

10. b – Evaluate the tax implications of retirement plan designs and funding alternatives for the plan sponsor, shareholders, and the participants

This question requires the candidate to think about the Canadian tax laws and how these laws impact members of various retirement arrangements. Part (a) addresses the retirement savings limits for members of various arrangements. Part (b) requires the candidate to recommend a plan design for a small business owner.

Solution:

(a)

Retirement savings limits background

- The system of savings limits applies to all retirement income arrangements
- This means an individual's allowable RRSP contributions are reduced by the value of any benefits earned under registered plans or DPSPs
- Achieved by assigning a pension adjustment
- Contributions are tax-deductible within limits
- Principle is that tax-assistance should be same for all individuals with same income, regardless of arrangement they participate in

Contribution Limit **A** + **B** + **C** – **D**

A – unused contribution room at the end of the preceding year
B – Lesser of 18% of earned income or RRSP dollar limit – PA for preceding year
C – taxpayer's PAR for the year
D – taxpayer's net PSPA for the year

13. (a) continued - Canada

Unused room carried over to future years

Members of registered defined benefit plans
For defined benefit pension plans, the PA is 9 times the pension accrued during the year minus $600

- Factor of 9 does not vary by age
- Factor of 9 does not change with economic environment
- The Factor of 9 is based on key assumptions
  - Employee will remain to retirement
  - Plan provides ancillary benefits (such as an unreduced retirement at age 63, survivor benefits, indexing)
- The Factor of 9 overvalues pension accruals under all defined benefit pension plans, particularly for younger employees who will not remain in the same pension plans for their full careers
- Few plans other than public sector provide all of the ancillary benefits assumed in the calculations
- Pension adjustment reversal (PAR) restores RRSP contributions if an employee ceases participation in a RPP but without interest
- DB PA is equitable at older ages, e.g. age 40, but not at lower ages
- This is because the value of DB accruals increase exponentially with age, while DC and RRSP are level regardless of age
- PA more equitable for DB plans with regular or optional ancillary benefits

Members of registered defined contribution plans
For defined contribution plans, the PA is equal to the sum of employer and employee contributions

- This is equitable since the reduction in RRSP deduction limit from DC contributions is dollar for dollar
- May be at a disadvantage if older, where a DB pension could be more valuable than the annual maximum RRSP contribution

Canadians who are not members of any registered plan
- Can contribute fully to RRSP, no adjustment as with DB, DC or DPSP plan participation

13. continued - Canada

(b)

- Maximize employer contributions, not employee contributions
- Must maximize for past service
- Must maximize for current/future service
- She is connected, special rules apply

Current Service

DB

- To maximize tax-effectiveness, plan must optimize PA or optimize current contribution
- Providing a defined benefit plan with highest permissible benefits uses up RRSP room
- DB contributions are age-related, and probably provide a higher value than DC at ages above 40
- 2% benefit, indexed
- Provide ancillaries, such as survivor, guarantee, subsidized early retirement, bridge, indexing must be within maximum permissible benefits applicable to connected employees
- DB valuation subject to maximum funding rules in ITA
- At retirement, terminal funding available as plan no longer designated, if she uses optimal clauses such as early retirement / bridge

DC

- For a young owner, value maximized by using DC contributions in early years and DB in later years
- Before around age 40, maximum DC contributions tend to be higher than DB contributions
- One year advantage of the DC over the Group RRSP

Past Service

DB

- No RRSP contributions means can catch-up with past service without qualifying transfer
- Provide DB plan for all past service, and employer pays
- May want to wait till on or after age 40 to do so however
- She is connected, some restrictions on pre 1991
- Past service in DB give rise to PSPA and will use up available RRSP room

13. **(b) continued - Canada**

DC

- No past service DC contributions permitted
- Company must give taxable income to her so that she can contribute to her own RRSP
- Likely less than DB value above