Summary of projection approach for Income Tax Act excess surplus

At the request of the Ontario Government, some projection scenarios of the Ontario Teachers Pension Plan (OTPP) financial situation were looked at.

Projections are performed with the consideration that above a certain surplus amount, the Income Tax Act (ITA) requires that contributions to a pension plan be reduced (or even stopped) to avoid "undue" accrual of pension funds in a plan that is overly funded.

The Income Tax Act (ITA) excess surplus threshold

The excess surplus is defined as follows:

- The threshold for a pension plan is determined as being 25% of the plan going-concern obligation
- If the value of the assets exceeds 125% of the going-concern obligation at a given valuation date (December 31 as an example), the assets above that threshold are identified as the plan excess surplus
- If the plan has an excess surplus at a given valuation date, the employer cannot contribute to the plan until the excess surplus no longer exists, starting with the upcoming year
- Considering the nature of the OTPP being shared between the employees and the Government, the projections performed are based on the assumption that the Government and the employees would both benefit from contribution reduction when an excess surplus exists

Objective

- Project going-concern valuation results over future years through usual extrapolation process of the going-concern obligation and the value of assets
- Determine the plan going-concern surplus in future years
- Identify the plan going-concern surplus that exceeds the Income Tax Act (ITA) threshold
- Calculate the Government contribution reduction derived from the ITA excess surplus application
- Use the Government contribution reduction form the projection file to determine the minimum employer contribution required within the expected future benefit calculation for the Province financial statements accounting purposes
- 2 scenarios are looked at:
    - Scenario 1, the surplus ongoing is never use until the time it reaches the ITA threshold. Once attained, the excess surplus is used at 50% for employees and 50% for the Government to reduce contributions in ensuing year
    - Scenario 2, the surplus ongoing is used at 50% to improve members benefit (increase the plan obligation) while the remaining unused 50% remains in a balance account that continues to accrue with return on asset. Every year, 50% of the new surplus element (not the past unused) is applied for improved benefits and the remaining 50% of the new surplus is added to the balance account that continues to accrue. Once the ITA threshold is used, the excess surplus is used 50% and 50% to reduce contributions by the employees and the Government.

Information to use

Taken from the January 1, 2015 funding report and from the Government March 31, 2016 excel calculation supporting file

- Going-concern financial situation at January 1, 2015 for the service accrued to date, $142,569M from page 9 of the funding report
- Going-concern service cost to determine the value of service accrual (derived from future service value of benefits vs future contribution values in the January 1, 2015 going-concern valuation) – present value of future accrual = $54,774M and total present value of future contributions = ($38,817M + $3,406M = $42,223M) from page 9 of the funding report
- Fair value of asset at January 1, 2016 of $171,420M taken from the Government accounting excel file – sheet "Data Input", cell AC26
- Going-concern actuarial value of asset methodology based on smoothing of gains and losses - 3 years recognition of gains and losses – from page 23 of the funding report
- 2015 employees contribution taken from the Government accounting excel file – sheet "Data Input", cell AC32
- 2015 Government contribution taken from the Government accounting excel file – sheet "Data Input", cells AC33, AC34, AC35, AC36
- 2015 benefit payments taken from the Government accounting excel file – sheet "Data Input", cell AC18
- Assumption for going-concern interest to project obligation at 4.85%, from page 6 of the funding report
- Assumption for asset return projection at 6.25%, Government best estimate for Province financial statements
- Assumption for projection of contributions and service cost based on 3%, Government best estimate of salary increase for Province financial statements
- Assumption for projection of benefit payment at 4% - this is based on the average of most recent years and upcoming years increase (10 increase average) taken from the Government accounting excel file – sheet "Data Input", cells W18 to AG18 (covering years 2009 to 2019)
- Use of surplus before reaching ITA excess surplus threshold as per the scenarios described in the objective section
- Use of surplus for portion above ITA excess surplus threshold once attained as per the scenarios described in the objective section

Steps (reference of line coming from the projection file)

- Start with January 1, 2015 going-concern valuation obligation for the service rendered to date – line f of projection file
- Derive the annual going-concern service cost based on the January 1, 2015 going-concern information on future service as follows:
    - Total going-concern current service cost = % of total plan contributions (employees + Government)
    - Based on going-concern January 1, 2015, the present value of future service accruals is $54,774M vs total expected contributions to the plan is ($38,817M + $3,406M = $42,223M)
    - The derived % is therefore $54,774M / $42,203M = 129.7%
    - Going-concern service cost used for extrapolation purposes is therefore determined as 129.7% x (employees contribution + Government contribution)
    - If a year is affected by a contribution reduction for employees and / or Government, the going-concern service cost is still based on pre-reduction contribution since service continues to accrue on the obligation even when contributions do not accrue on the asset value side
- Extrapolation of going-concern obligation at every year-end is defined as follows – line q of projection file : Going-concern Obligation (t+1) =
    - Going-concern Obligation (t) – line f of projection file, plus
    - total going-concern current service cost in the year – line l of projection file, minus
    - benefit payments in the year – line k of projection file, plus
    - cost of benefit improvement – line i – 3 of projection file, plus
    - interest at 4.85% (full year on obligation and half-year on service cost, benefit payments and plan modification) – line n of projection file
- Derive the January 1, 2016 going-concern obligation value for services rendered to date – cell E32 of projection file
- Determine the annual going-concern service cost as 129.7% of total employees + Government contributions – line k of projection file
- Start with January 1, 2016 fair value of asset to extrapolate fair value over future years as follows – line s of the projection file: Fair value of assets (t + 1) =
    - Fair value of assets (t) – line h of projection file, plus
    - total employees + Government contributions, net of respective reductions – lines i – 1, i – 2, j – 1, j - 2 of projection file, minus
    - benefit payments in the year – line k of projection file, plus
    - return on plan assets based on 6.25% (full year on asset and half-year on contributions, benefit payments) – line p of projection file
- Determine the Actuarial value of assets using the going-concern methodology that recognizes gains (losses) in excess of the interest assumption over a 3 year period as follows – line t of projection file: Going-concern Actuarial asset value (t + 1) =
    - Fair value (t +1) – line s of projection file, minus
    - 66 2/3 % of the difference (actual return at 6.25% (t+1) less expected return at 4.85% (t+1)) – line ee of projection file includes 2 times line dd of year (t+1), minus

    - 33 1/3 % of the difference (actual return (t) less expected return at 4.85% (t)) – line ee of projection file includes 1 time line dd of year (t) of projection file
    - Note that since the future return (6.25%) is in excess of the interest used in Going-concern valuation (4.85%) for Actuarial value calculation, there is always an excess return that within the Actuarial value calculation gets amortized over 3 years and therefore Actuarial value of asset is always slightly lower than the fair value on every year-end of the projection performed (ratio of 98.7%) – line t / line s of projection file
- Assume no other gains and losses on the going-concern valuation results since this is extrapolation
- Assume no use of surplus before reaching the ITA excess surplus threshold (Scenario 1) or use 50% of surplus to improve benefits (while the remaining 50% remains unused and accumulates with return on asset in future years)
- Determine every year if the going-concern surplus of the plan exceeds the ITA excess surplus threshold and if this is the case, identify the portion of surplus in excess – line z of the projection file for the going-concern ratio to compare with 125% and line ff for the excess surplus
- Use the excess surplus amount to reduce contributions for the employees and the Government in equal amount 50% / 50% which is applied against the ensuing year annual contribution – lines i – 2 and j – 2 of projection file. Note that since employees contribution in the year 2015 are slightly lower than Government, the projection contributions are also slightly lower. In order to ensure that 50% / 50% of the excess surplus is shared, any difference between the Government and the employees contribution reduction is added as a benefit improvement to maintain that sharing.
- Identify the % reduction of the Government contributions for all future years based on the projection – line hh of projection file
- Apply the % reduction to the Government contribution in the calculation of the minimum required employee contributions for the expected future benefit that serves for the Province financial statements

<u>Observations</u>

- For Scenario 1:
    - From the projection file we note that the 125% ITA limit for surplus is attained at end of year 2025 for Scenario 1, leading to forced contribution reduction from year 2026
    - Considering a share of contribution reduction for both the employees and the Government, the Government reduction starts around 65% and increases to about 83%
    - Excess surplus never leads to 100% reduction in contributions
    - Every year, the going-concern ratio remains around 125%, slightly higher due to interest difference between the time of recognition of an excess surplus amount (December 31 valuation) and the time of use of the excess surplus to reduce contribution which is over the upcoming year
    - Once attained, excess surplus is always present in future years since the return on plan asset at 6.25% always exceeds the interest on obligation at 4.85%
    - Applying the Government contribution reduction to the expected future benefit calculation, the resulting amount is $23.2B that exceeds $10.1B of accrued benefit asset.

- For Scenario 2:
    - The 125% ITA limit is attained at the end of year 2041. This is later than Scenario 1, since the surplus is used at 50% before to improve employee benefits.
    - Once the limit is attained, the Government and employees do get a full contribution reduction.
    - Similar to Scenario 1, the plan remains in excess surplus position due to the difference in return on plan assets and interest on obligation.
    - Applying the Government contribution reduction to the expected future benefit calculation, the resulting amount is $12.9B that exceeds $10.1B of accrued benefit asset.