International Survey on Self-Adjustment Mechanisms and long-term sustainability of the Canada Pension Plan

Presentation to the International Social Security Association Technical Seminar on Pensions
“Which retirement systems and which reforms for which pension?”

Jean-Claude Ménard, Chief Actuary

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Agenda

• Presentation of the results of the international survey on Self-Adjustment Mechanisms for Social Security Systems and Employer Sponsored Pension Plans

• Long-term sustainability of the Canada Pension Plan
Objectives of the survey

- To gain a better understanding of the existing or planned self-adjustment mechanisms
- To share the practices existing around the world with ISSA member organizations
- To raise awareness of the importance of mechanisms in pension systems that help ensure the solvency and the sustainability of such systems.
- Survey is not intended:
  - To seek detailed information
  - To assess efficiency of self-adjustment mechanisms
- Survey was prepared by the Office of the Chief Actuary Canada
  - The survey was sent to 38 countries
  - 26 responses were received
Scope of the survey

• A self-adjustment mechanism is defined in a survey as:
  – a selection of predetermined measures set by law
  – to be applied either immediately as required by a set of pre-determined indicators, or on a pre-determined schedule
  – in order to restore the solvency or financial sustainability of pension systems.

• Including self-adjustment mechanisms into laws improves public pensions governance.

• “Ad hoc” adjustments do not meet the above definition, but still are important.
  – Referred to as “temporary”
Structure of the survey

• Adjustment to contribution base
  – Length of contributory period
  – Increase in retirement age
  – Increase in contribution rate
• Adjustment to benefit amount
  – Indexation of benefits in pay
  – Conversion factors for Notional Defined Contributions (NDC) accounts
  – Other adjustments
• Adjustments for pre-funded systems
• Sharing mechanisms between contributors and beneficiaries
• Adjustments for employer provided pension plans
Adjustment to contribution base
“Length of contributory period”

- **France** automatically increases the length of the contributory period necessary to obtain a full benefit:
  - Improvements in life expectancy are divided between contributory period (2/3) and benefit payment period (1/3)
  - Regular reviews starting in 2012
- **Czech Republic** and **Italy** have changed qualifying conditions for pensions
  - these are ad hoc or temporary mechanisms
Adjustment to contribution base
“Increase in retirement age”

• **Denmark** indexes retirement age in line with the increases in life expectancy (initial increase to age 67)
  – Review every five years (2015), implementation in 15 years
  – Approval by Parliament is required

• 8 surveyed countries have adopted scheduled legislative increases – temporary mechanisms
  – Australia, Czech Republic, Germany, Italy, Japan, South Korea, UK and USA
  – Variety of schedules
  – Ultimate retirement age is over 65 (except Italy)
Adjustment to contribution base
“Increase in contribution rate”

- **Japan**: temporary contribution rate increases till 2017
- **Cyprus**: temporary contribution rate increases till 2039
- **Germany**: provision of increase/decrease in contribution rate if the liquidity reserve is outside a specified range
- **Canada - Canada Pension Plan**:
  - triennial valuation and review
  - if the minimum contribution rate is more than a legislated rate and
  - if federal and provincial stewards of the CPP cannot agree on a solutions
  - then the law prescribes a gradual increase in contribution rate.
Adjustment to benefit amount
“NDC Accounts” and “Other adjustments”

Notional Defined Contributions (NDC)

• 4 surveyed countries (Italy, Norway from 2011, Poland and Sweden) adjust conversion factors for NDC component in their systems to account for life expectancy changes.
  – Italy takes into account employment sector in determining life expectancy

Other adjustments

• 5 surveyed countries (Brazil, Finland, Germany, Japan and Portugal) adjust initial benefit in relation to demographic factors (life expectancy, retirement age, population structure).
• In Sweden, growth rate of NDC accounts is affected by solvency position of the system.
### Adjustment to benefit amount

**“Indexation of benefits in pay”**

Focus is on indexation linked to the changes in solvency/sustainability of systems, demographic and economic factors

<table>
<thead>
<tr>
<th>Country</th>
<th>Details</th>
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</table>
| Canada | • Second part of self-adjustment mechanism  
       | • Freeze in indexation is parallel to increase in contribution rate |
| Denmark | ATP’s scheme indexation depends on fund performance |
| Portugal | • Depends on CPI and GDP growth  
           | • More generous toward lower income beneficiaries |
| Sweden | • Depends on solvency position of the system (balance ratio)  
        | • Mechanism allows for catch-up |
| Japan | • Evolution of number of active workers  
       | • Factor approximating increase in life expectancy |
| Germany | • Evolution of the generalized dependency ratio  
         | • Change in contribution rate |
Partially and fully funded social security systems

• Fund performance affects the application of self-adjustment mechanism.
• Sweden – the performance of buffer fund is one of triggers of the self-adjustment mechanism
• In Canada, fund performance could trigger the self-adjustment mechanism, but it is not a case presently.
• Denmark (ATP scheme) – a defined contribution plan with minimum guarantees
  – Indexation and additional accounts accumulations are provided if funds are available
# Sharing of the adjustment between contributors and beneficiaries

<table>
<thead>
<tr>
<th>Country</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Simultaneous freeze in indexation and increase in contribution rate</td>
</tr>
<tr>
<td>Denmark</td>
<td>ATP’s scheme: both indexation and account growth rate depend on fund performance</td>
</tr>
<tr>
<td>Portugal</td>
<td>Mechanisms applied to contributors and beneficiaries are not directly related</td>
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<tr>
<td>Sweden</td>
<td>Balance ratio affects both indexation and NDC accounts growth rate</td>
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<tr>
<td>Japan</td>
<td>Both initial pension and post-retirement indexation depend on evolution of number of active workers and changes in mortality</td>
</tr>
<tr>
<td>Germany</td>
<td>Both initial pension and post-retirement indexation depend on the generalized dependency ratio. Increase/decrease in contribution rate also affects post-retirement indexation.</td>
</tr>
</tbody>
</table>
**Employer sponsored defined benefit plans**

- Self-adjustment mechanisms are not common for employer sponsored pension plans.
- **United Kingdom:** Public sector pension schemes specify which risks are shared by employer and employees, and how risks are shared.
- **Norway:** AFT plan is planning to introduce adjustment for life expectancy.
- **Canada:** Plans with post-retirement indexation linked to pension fund performance.
Conclusions on the results of the survey

• High response rate to the survey.
• Most popular measure – increase in retirement age. In most cases these are temporary mechanisms.
• Trend of adjusting retirement benefits to account for demographic changes.
• Several countries have sophisticated mechanisms.
• Countries are paying attention to sharing of adjustment between contributors and beneficiaries.
• Employer sponsored defined benefit plans rarely have self-adjustment mechanisms included in their design.
Canadian Retirement Income Security System: Not all eggs in the same basket!

Canadian retirement system with mixed funding approaches is well recognized in the world for its capacity to adapt rapidly to changing conditions.

- Pay-as-you-go funding (OAS/GIS: Demogrants)
- Partial funding (CPP/QPP: DB Earnings-Related)
- Full funding (Occupational Pension Plans/RRSP)

The conceptual framework implies a retirement system funded at about 40%.
Guiding principle of the 1997 CPP Reform: Contribution rate stability

• The 1997 reform has developed guiding principles for Federal-Provincial decisions on the CPP (October 1996).

• Guiding principle #4 reads as follows:

“The CPP must be affordable and sustainable for future generations. This requires fuller funding and a contribution rate no higher than the already legislated future rate of 10.1 per cent”

• At that time the future contribution rate to be applied in 2016 was 10.1% as shown in the 13th actuarial report (Feb. 1992).
Optimal Funding of the CPP

Real Rate of Return (%)

Real Total Earnings Growth (%)

Less Funding (0% - 10%)  
A/E Ratio < 2

Funding (10% - 20%)  
A/E Ratio 2 – 4

More Funding (20% - 100%)  
A/E Ratio 5+

Canada

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CPP Assets should be equal to 25% of liabilities to stabilize the contribution rate
What is the impact of a particular demographic situation on partial funding rate? (assuming South Korea’s Current Demography)

Evolution of the Asset/Expenditure Ratio

11.3% minimum contribution rate
Target years 2019 and 2069

Total fertility rate of 1.3
Net migration rate of 0%
PayGo rates:
2023 – 11.5%  
2050 – 15.3%  
2075 – 17.5%

9.9% Legislated rate
Financing method should be appropriate to the current and projected environments

- A social insurance scheme’s contribution rate is sensitive to changes in the demographic and economic environments.
- Demographic and economic variables impact the rate differently.
- Ways of immunizing a pension system against these fluctuations:
  - Partial funding of the public system
  - A mixed (public-private) system
- Lower funding may be appropriate, especially in a context of high earnings growth and low rates of return, and conversely for higher funding.
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Appendix

October 2009
## Countries/regions which have responded to the survey

<table>
<thead>
<tr>
<th>Argentina*</th>
<th>Germany</th>
<th>Quebec*</th>
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<tbody>
<tr>
<td>Australia</td>
<td>Greece*</td>
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<td>Brazil</td>
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<td>United States of America</td>
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<td>France</td>
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* Countries/regions that currently do not possess self-adjustment mechanism
# Social Security Systems self-adjustment mechanisms

**Brief summary**

<table>
<thead>
<tr>
<th>Country</th>
<th>Adjustment to contribution base</th>
<th>Adjustment to benefits</th>
<th>Sharing mechanism</th>
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<td>Automatic</td>
<td>Temporary</td>
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International Social Security Association (ISSA)

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