Social Security and the Role of the Actuary

Institute of Actuaries of India Seminar on Current Issues in Pension, Employee Benefits and Social Security – Mumbai, October 25 and 26, 2010

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Goals of this Workshop

- To illustrate the importance placed on social security work by various actuarial bodies
- To discuss the wide variety of social security arrangements found around the world
- To illustrate types of social security involvement by actuaries
- To discuss practical actuarial considerations in social security work
- To illustrate forgoing discussions with a case study
- To hear the Indian perspective
Agenda

- Actuarial Organizations’ Statements (SOA, IAA, IAI)
- Types of Arrangements Covered in this Workshop
- Types of Social Security Actuarial Employment
- Areas of Possible Actuarial Involvement
- Practical Actuarial Considerations
- Case Study – Funding of Canada Pension Plan and the Independence of the Actuary
Society of Actuaries

- 2007 Actuarial Agreement: “It is important to identify, protect and advance the public interest in the work of our profession, its organizations and its members.”

- The SOA in 2009 formed a new Social Security Section to give the profession a platform for addressing the ongoing fiscal and demographic challenges not only in North America but around the world.

- “Public understanding of the actuarial aspects of these programs is minimal at best.”
“Actuaries possess significant expertise in preparing long-term financial projections and therefore have an important role carrying out analyses of social security programs. It is vital that all demographic and economic analyses carried out by actuaries provide reasonable projections of long-term future costs and financial impact on which those important decisions can be based.”

“If the determination of assumptions used for demographic and financial projections is part of the actuary's mandate, he/she should ensure that they are determined without inappropriate political or external influences.”
Actuarial Mission Statements on Actuary’s Role – IAI

- “The actuarial profession has an obligation to serve the public interest. Collectively it seeks to do so by informed contribution to debate on matters of public interest and by influencing those with power to protect and enhance the public interest. Individually members must maintain and observe the highest standards of conduct. The standing of the profession depends on the judgment of individual members.”
Types of Arrangements Covered in this Workshop

- Legally-mandated arrangements
- Pay as you go DB Pensions
- Partially funded DB Pensions
- DC with notional annuity purchase (e.g. repartition)
- Funded DC (including provident funds)
- Lump Sum DB Plans (gratuities, indemnities)
- Resource-tested plans
Types of Arrangements Covered in Workshop - DB Benefits

- Resource-tested plans (Canada, Australia)
- Flat amount pensions (Canada, UK, Denmark)
- Earnings-related pensions (Canada, US, UK)
- Both lump sum and pension form payouts
Types of Actuarial Employment

- Government In-House Actuary
- External Consulting Actuary (Domestic or Foreign)
Government In-House Actuary

- Government Actuary Department may be all encompassing (UK) or split by role (Canada, US)
- May be part of Finance or Social Security Department but independent of political control
- Non-social security roles may include public service pension valuations, advising foreign governments, regulating private pensions, national life tables, insurance company regulation
- May charge fees for services and be in competition with private consultants
Government In-House Actuary – Canada Approach

- Office of the Chief Actuary (OCA) is part of OSFI, federal regulator for financial institutions and pension plans
- Chief Actuary is independent and solely responsible to sign actuarial reports tabled before Parliament
- OCA provides statutory actuarial services to Canadian Governments on social security and public service plans
- Hourly consulting fees charged for additional services
- Other areas of OSFI have actuaries reviewing insurance companies and federally registered private pension plans
External Consulting Actuary (Foreign or Domestic)

- May be self-employed, in a large consulting firm, in a non-profit (ILO, World bank) or government employee
- Actuarial bodies may also provide input
- Some countries have no government actuary despite statutory social security valuation requirements
- Others with in-house actuaries may want independent third party view or special expertise
- Important to know who is the client! (discussed later in issues)
Areas of Possible Actuarial Involvement

- Determining costs of social security plan changes
- Projecting social security benefit payouts and recommending contribution levels
- Preparing statutory actuarial reports
- Investment assistance
- Analysis and setting of assumptions
- Benefit determination/administration
- Impact on private pension plans
Practical Actuarial Considerations

- Who is the Client?
- Assumption Setting
- Independence of the Actuary
- Types and Content of Reports
- Purposes of Cost Projections
Practical Actuarial Considerations – Who is the Client?

- Be clear on who the ultimate audience is
- Public is the client for public or parliamentary report
- Confidential reports for Ministers have different client
- Always risk of political interference on assumptions or material to be presented publicly
- Actuary always has a strong public responsibility and social security work has to be objective and defensible
Practical Actuarial Considerations – Assumptions

- More assumptions than in private pension valuations
- Fertility, migration, labour participation, unemployment, marital rates and earnings distributions typically required
- Accordingly additional sources of data required
- Long term, significant impact of social security on the economy and public warrant extra care on assumption-setting: several demographic and economic expert viewpoints may be desirable
- Independence is paramount!
Practical Actuarial Considerations – Types and Content of Reports

- Most common reports are statutory ones (every 3 or 5 years) or as a result of a benefit change
- Statutory reports typically include long term pure pay as you go cost projections (benefit payouts/covered payroll), contribution suggestions where a fund is involved, analysis of deviations from prior report, sensitivity analysis and projections of fund size to benefit outgo
- Benefit change reports show the impact on the above-mentioned items
- Unfunded accrued liability may also be shown
Practical Actuarial Considerations – Purposes of Cost Projections

- Long term affordability of promises
- Identifying trends
- Short-term government cost budgeting
- Show impact of proposed plan changes
- Impact on capital markets
- Education of politicians and public
Case Study – Funding of Canada Pension Plan (CPP) – Background

- Canada has three social security pension plans
- “GIS” only for people with little or no other income
- “OAS” which is “clawed back” at high income levels
- “CPP” which is employment-related FAE plan
- GIS and OAS funded out of general tax revenue
- CPP funded from employer and employee contributions
- Government Actuary does OAS and CPP valuations
- CPP is focus of this discussion
Case Study – Funding of Canada Pension Plan (CPP) – The problem

- In 1993 Canada was in severe recession: unemployment and federal deficit worse than 2010
- Statutory 31/12/93 CPP actuarial valuation revealed deteriorating financial situation from lower than expected contributions and higher disability pension claims
- Pay as you go rate projected to rise from 7.36% in 1994 to 14.2% in 2030 reflecting aging population
- 1993 CPP contribution rate was 5% with expenditures shortfall covered by interest on provincial bonds in small CPP fund: fund forecast to be exhausted by 2015
Case Study – Funding of Canada Pension Plan (CPP) – The Solution

- Finance Department felt ultimately required CPP contribution rate of 14.2% would be unacceptable to future generations of CPP members
- Public input solicited on CPP options
- CIA provided reports on financing alternatives including impact of benefit changes
- Funding was accelerated to build up a larger fund and keep ultimate contribution rate under 10% of pay
- Several modest benefit reductions also introduced
Case Study – Funding of Canada Pension Plan (CPP) – The Investment Approach

- Important to have large CPP fund outside government control and invested more aggressively than previously
- Independent board (CPPIB) established to oversee all CPP fund investment activities
- Fund forecast to ultimately stabilize at 4.3 x annual benefit payment
- Total contributions forecast at 9.9% of pay
Case Study – Funding of Canada Pension Plan (CPP) – Not the End of the Story!

- Government actuary allegedly refused his boss’ instruction to change a figure in 31/12/97 CPP statutory report to avoid embarrassing Finance Minister
- Government actuary subsequently fired for other reasons: “management differences”
- CIA formally expressed concern over independence of the actuary if government actuary allegations correct
- CIA invited to solicit its membership for a team to independently review 31/12/97 report
Case Study – Funding of Canada Pension Plan (CPP) – Not the End of the Story!

- Independent actuarial review supported long term contribution rate under 10%
- Statutory CPP reports continue to be peer reviewed by independent actuarial committee
- It recommended changes in data, methodology and assumptions in 2003 report. UK reviewed this mandate
- 2010 statement reconfirmed long term CPP rate stability
Case Study – Funding of Canada Pension Plan (CPP) – Summary

- CPP has achieved long term funding stability despite demographic challenges
- Independently managed fund a solution for others?
- Long term level contribution rate a desirable goal?
- Independent actuaries’ peer review ensures independence of Government Actuary results
Summary

- Actuaries have additional pressures in advising on social security arrangements because of public and political pressures
- Large number of required assumptions require additional study and consultation
- Second independent opinions often warranted
Questions?