Setting-up an effective actuarial function in social security

Webinar

The added value of social security actuaries

Costas Stavrakis

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Structure of presentation

- Importance of actuarial function in social security: an ILO perspective
- Role of actuaries in social security
- Complexity of the environment
- Main implications on the actuarial function
- Key requirements of an effective actuarial function

Importance of actuarial function in social security: an ILO perspective (1)

- Actuarial function contributes towards good financial governance of social security schemes
  - ✓ An important prerequisite for well-founded social security schemes and for establishing a high level of public trust
- Actuarial advice is based on complex demographic, economic, financial, risk management and legal aspects of social security systems
- Actuaries handle reliable economic and statistical data and use sophisticated actuarial models and other quantitative tools
  - ✓ Contributing towards the monitoring of the effectiveness and efficiency of the social security systems

Role of actuaries in social security

- Primary role, typically statutory
  - ✓ Conduct of periodic actuarial reviews for the assessment of the financial sustainability of national social security pension scheme
  - ✓ Assess the future financial development of the scheme and analyse the drivers of its projected financial position
- Other non-statutory responsibilities
  - ✓ Assessment of proposed reform options, such as raising retirement age
  - ✓ Actuarial input to policymaking process, including the introduction of automatic adjustment mechanisms
  - ✓ Conduct of experience studies (mortality rates, life tables, disability rates, etc.) in the context of setting scheme-specific assumptions
  - ✓ Evaluation of funding options and investment possibilities
  - ✓ Communication of actuarial results to government and the public

Complexity of the environment

- Numerous stakeholders concerned
- Comprehensive regulatory framework of social security systems
- Multiple risks and uncertainties

….. in an ageing society

….. in an evolving socio-economic and fiscal environment with significant technological advances

Complexity of the environment

Numerous stakeholders concerned

- Beneficiaries
- Workers/ Trade unions
- Specific groups of workers
  - ✓ Poor and unlucky
  - ✓ Public sector
- Employers
- Government
  - ✓ Ministry of Finance
  - ✓ Ministry of Labour and Social Security
- Politicians/ members of Parliament
- National social security institution
- Insurance companies and other pension providers
- European commission and other international organisations

……. they all have different vested interests and it is thus difficult to reach a consensus

Complexity of the environment

Comprehensive regulatory framework

- Typically, social security systems are governed by complex, comprehensive regulatory framework
- Understanding national laws in social security, interrelationships and implications is a challenge
- In general, citizens and politicians/ members of parliament have knowledge gap in understanding
  - ✓ Importance of social security and value of benefits granted
  - ✓ Policy objectives of social security
  - ✓ How benefits are calculated and financed under various institutional arrangements, for example with respect to pensions: defined benefit vs defined contribution, PAYG vs advance funding

Complexity of the environment

Multiple risks and uncertainties

- Risks are multi-faceted, changing and often complex
- Historically, risks considered were just financial but nowadays, they are much more wide-ranging
- Two main types of risks faced by social security institution: (i) scheme and (ii) operational
- Scheme risks
  - ✓ Direct impact on financial sustainability of the scheme
  - ✓ Impacting the financing and design of benefits
  - ✓ Linked to external factors: individual (claim events), demographic, labour market, macroeconomic, etc
- Operational risks
  - ✓ Indirect impact on financial sustainability
  - ✓ Impacting the management of social security institution
  - ✓ Linked to internal factors: governance, operational, reputational, human resource, etc

Implications on the actuarial function

1. Competencies of actuaries

- Breadth of skills
- Communication to the public is essential
  - ✓ Significant exposure to public opinion
  - ✓ Great need to serve public interest
- Actuarial input is essential in challenging areas of
  - ✓ Risk management, particularly operational risks
  - ✓ Data science/ analytics

Implications on the actuarial function

1. Competencies of actuaries (cont'd)

- Actuarial input in mitigating operational risks - illustrations

1. Conduct of Independent Peer Review by external experts on a regular basis
   ✓ Mitigating governance risk and reputational risk
2. Effective communication of results of actuarial work to government, parliament and general public
   ✓ Contributing towards reduction of reputational risk (and political risk)
3. Conduct of robust data analytics to assess (i) operational efficiency (e.g. identifying/ addressing emerging quality issues) and (ii) effectiveness of social security programs (e.g. identifying/ addressing anti-fraud)
   ✓ Contributing towards reduction of operational risk

Implications on the actuarial function

2. Processes and models/ tools

- Establishment of lateral processes with other professionals/ experts, even if they are external to actuarial function, such as demographers and legal specialists
  - ✓ High-quality actuarial advice, adherence to actuarial standards
  - ✓ Synergies in the production of output
  - ✓ Effective risk management
- Comprehensive tools and integrated models for assessing financial and social impact are needed
  - ✓ Social impact through micro-simulation techniques
  - ✓ Evaluation of efficiency and effectiveness of social security programs though data analytics, risk analyses, statistical predictive models

Key requirements of an effective actuarial function

- Should employ high-calibre actuaries ensuring professional independence and compliance with actuarial professional standards
  - ✓ IAA standards(2), ILO-ISSA guidelines(3), ILO actuarial standards and perhaps national actuarial standards
- Should create benefits of scale by bringing together under one roof actuaries and other experts (e.g. data analytics) who perform actuarial-related work in various government units
  - ✓ Effective utilisation of resources
  - ✓ Fostering development of professional expertise
  - ✓ Encouraging innovation in IT tools/ methodologies/ models used
- Should facilitate information-processing patterns of the actuarial function that match the requirements of the actuarial work
  - ✓ Set-up of robust infrastructure – data collection and analysis, and models/ IT tools
  - ✓ Conduct of solid actuarial and statistical research-related work

References

1. Actuarial Practice in Social Security
   International Labour Office, International Social Security Association, Quantitative Methods in Social Protection Series, Geneva, 2002

2. International standard of actuarial practice 2 (ISAP2) – Financial analysis of social security programs, Ottawa, International Actuarial Association, 2013

3. ISSA-ILO Guidelines on actuarial work for social security
   International Social Security Association, International Labour Office, Geneva, 2016

Definitions of risks faced by social security schemes

ILO-ISSA guidelines on risk management (guidelines 29-34)

- Scheme risks (external)
  - ✓ Individual (claim events), such as longevity risk: increased life expectancy resulting in higher number of pensioners and duration of payments
  - ✓ Demographic: population ageing, affects number of contributors and pensioners
  - ✓ Labour market changes: affects employment/ unemployment levels and wages
  - ✓ Macroeconomic: affects GDP, labour productivity, price inflation and interest rates
  - ✓ Investment risk: relating to a failure of investments to deliver expected levels of return, as a result of bad decisions or through poor choice of individual investments
  - ✓ Financing risk: relates to the possibility of having insufficient financial resources to meet scheme’s pension expenditure
  - ✓ Legislative changes: particularly, ad-hoc payments not envisaged in the benefit rules
  - ✓ Political risk: unforeseen changes in policies, as a result of political initiatives, which impact scheme’s benefits and financing

Definitions of risks faced by social security schemes

ILO-ISSA guidelines on risk management (guidelines 29-34)

- Operational risks (external)
  - ✓ Human resource risk: relating to a failure of attracting and retaining competent staff and professionals, such as actuaries, data analysts and risk management specialists
  - ✓ Governance risk: relating to poor governance within the social security institution
  - ✓ Operational risk: relating to accuracy of administration, security of ICT, business continuity and efficiency of business processes
  - ✓ Reputational risk: relating to: (i) events leading to a negative impact on institute's reputation (failure to pay benefits, poor service due to errors in benefit calculations or delays in payments), and (ii) the provision of inadequate benefits, or perceived poor service (rejection of application, or termination of benefit as per law)

ACTUARIAL ASSOCIATION OF EUROPE

Actuarial House

1 Place du Samedi

1000 Brussels

Belgium

www.actuary.eu

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