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Social Policy Highlight 24

Actuaries: Key players for sustainable social security systems

The role of actuaries in social security systems has risen in importance – demographic pressures and the continuing economic crisis are heightening financial sustainability issues, while innovative reforms to the design and financing of benefits require actuarial input and expertise. In many countries, the management of reserve funds also requires a greater appreciation of the nature and level of liabilities and an evaluation of risks. But as key players supporting the financial soundness of social security programmes, the work undertaken by actuaries has become a focus of public scrutiny, demanding conformity to good governance requirements. Most often, this applies to the way that actuarial valuations and analysis are carried out, and how results are reported. With the support of good governance frameworks, such as that produced by the ISSA, this *Highlight* concludes that actuaries are uniquely placed to assess and manage the broad range of risks to sustainability which social security systems must address.

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Actuarial expertise

The role of actuarial expertise is essential to the successful operation of social security systems. Four areas considered here are:
– The sustainability of social security systems
– Plan design and adequacy
– Asset Liability Modelling (ALM)
– Reporting and communicating of information

Sustainability issues

The role of actuaries in ensuring the sustainability of social security systems is twofold: first, to provide an assessment (valuation) of the current and future financial situation of a benefit programme; second, to design measures to improve sustainability.

This issue

– Highlights four key areas where actuaries play a lead role in support of sustainable social security
– Identifies the challenges that actuaries must take into account in fulfilling their mandate
– Summarizes good practices in actuarial work
– Reports on initiatives supported by the ISSA to promote actuarial good practice

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Actuarial valuations

Actuarial valuations are an essential tool in assessing the long-term financial sustainability of social security systems. However, actuarial practice may vary as regard the extent to which valuations are carried out, the number of benefit programmes assessed, and the frequency of such valuations. As populations age and pension costs rise, greater policy attention is directed to issues of financial sustainability and the input and expertise of actuaries is central to assessing this. To complicate this task, the external environment in which social security systems operate is increasingly uncertain and complex. Therefore, actuarial valuations need to appropriately reflect this external environment, and the expertise and judgement of actuaries is required in the choice of method used and in setting the appropriate demographic and financial assumptions for any analysis.

An actuarial valuation has to reflect local realities. And the approach to determining the method and assumptions as well as disclosure of information must meet certain minimum standards. In this regard, the ISSA *Good Governance Guidelines* present key principles regarding actuarial involvement.

ISSA guidelines on actuarial soundness

The ISSA Good Governance Guidelines set down four guidelines which relate to actuarial involvement in social security systems. These guidelines set out the structures recommended and the processes and mechanisms required to ensure that this involvement is in line with good practice. These include guidelines specifying which bodies should be involved; reporting and disclosure considerations; verification procedures; considerations in determining contribution rates; and setting investment benchmarks, and the measuring of fund performance against these.

Actuarial valuations are increasingly used as a tool to help make changes to the way old-age benefits are provided and financed. Most straightforwardly, results from such valuations highlight the future financing position of a system. But the valuation can also be used to test reform options by running alternative scenarios through the changing of one or more parameters. These parameters can include changes in the early retirement age and benefits, reductions in increases to pensions in payment, or the impact of changes to the way contributions are assessed.

Actions taken as a result of the actuarial valuation may be subject to a public consultation process or require legislators and stakeholders to put in place measures to restore financial sustainability over a certain time period. In a number of countries, the action required goes further – an automatic adjustment is made to certain elements of the scheme to improve its short- and long-term financial position.

The role of automatic adjustment mechanisms

A number of countries (e.g. Portugal and Sweden) have introduced automatic adjustment mechanisms (AAM) which trigger changes to the basis and terms on which benefits are calculated, delivered or financed, depending on the financial position of the scheme.

The aim of such mechanisms is to ensure effective and immediate adjustments are made to schemes so that they remain sustainable. Because their application – when necessary – is agreed ex ante, their use avoids the need for what can be a lengthy decision-making process: decision-making on the pre-agreed adjustment measures is – in theory – taken out of the political arena.

Although AAMs should help increase financial sustainability, questions remain regarding their fairness and the basis on which they are applied. Given that the short-term financial health of schemes tends to suffer in periods of economic crisis (owing to falls in asset values, lower contribution levels resulting from reduced economic activity, and increased early retirement), these adjustments trigger a reduction in benefits at the same time as heightened demand for income replacement support from social security. For this reason, in some countries and depending on the measures taken, the "automatic" application of such mechanisms has been overridden as a matter of political necessity.

Such mechanisms risk a move towards a solely financial appreciation of the operation of benefit schemes – ensuring that they meet sustainability requirements – and a move away from the broader social objectives of social security, not least to provide adequate benefits.

Plan design and adequacy issues

The role of actuaries in the reform of old-age benefits is a challenging one. Actuaries have to assess the financial implications of proposed changes to benefits and how such benefits are to be financed. In this task, and by working with policy-makers and other experts, actuaries must not lose sight of the broader aims of social security.

Actuaries have sometimes been expected to play a passive role in determining the costs and liabilities related to social security benefits. Increasingly actuaries are being asked to become more proactive in the design of new ways of providing and financing old-age benefits and to address the delicate balance between financial constraints and the provision of adequate benefits.

The challenges of Notional Defined Contribution plans and the role of actuaries

A number of countries such as Poland, Sweden and Latvia have incorporated a system of Notional Defined Contribution (NDC) individual accounts into a multi-pillar reform. Such an approach may be more transparent in the build-up phase, but there are a number of challenges too. The role of actuaries is to ensure that appropriate consideration is given to the amount of benefit eventually paid and the cost of providing it, and that this information is communicated clearly and unambiguously to all plan members.

This involvement is important in the determination of two critical parameters, which impact on the level of benefits and the total cost of the system: the annual rate of indexation of account balances up to retirement, and the conversion rate of accumulated balances at retirement into periodic pension payments.

In some NDC reforms, an overriding focus has been on the cost of pension systems to the detriment of the level of benefit provided. Due to more irregular working patterns, greater incidence of part-time working and, sometimes, lower retirement ages, women have often been particularly impacted, with projected low replacement rates at retirement. Actuaries need to play an active role in ensuring that the implications of rules on the indexation rate applied to accumulated contributions (and later on the benefits received) are clear and take into account the risk factors (e.g. career breaks, salary variability, early retirement, etc.) inherent in these systems.

The rate at which notional account balances are converted to pension payments also raises a number of important economic and social issues. Should unisex rates – which reflect average life expectancy at the pension age for a birth cohort irrespective of gender – be used? Should annuity conversion rates reflect "market" conditions or the economic environment in which the scheme operates? How should annuity rates be adjusted to reflect changes in longevity? These issues are complex. For example, using one conversion rate discriminates against those in poorer health, often male manual workers. However, it may be administratively very difficult to put in place more than one rate and such a move may lead to adverse selection.

Actuarial input is therefore essential in the planning and management of NDC plans to ensure that policy decisions appropriately reflect both adequacy and sustainability issues. Actuaries can project likely benefits received under a system using different scenarios and compare these results with an assessment of the financial cost of such benefits allowing policy-makers and social security administrations to make appropriate decisions.

National Provident Funds (NPFs) – what to credit and how to convert?

Similar issues arise in the management of NPFs except, in this case, benefit promises are backed by financial assets. The interest to be credited to individual accounts therefore needs to be assessed in the context of the actual return on assets held by the Fund. Where legislation requires a minimum rate of return to be awarded, the actuary should offer advice on the rate to credit as well as for any reserve or guarantee fund requirements, taking into account future possible fluctuations in the return on assets held by the Fund. In addition, the actuary will advise on the appropriate investment strategy, long-term cash flow planning, and the policy regarding the crediting of interest. Decisions on conversion rates need to broadly reflect the demographic situation in the country and its likely evolution, but also satisfy a number of social, financial and labour market considerations.

Guarantees in defined contribution plans

There is concern that defined contribution (DC) plans, including National Provident Funds, cause individuals to bear too much risk. A growing consensus is building on the need for risks to be more equitably shared. Individuals may be unable or unwilling to assume all the risk related to benefit provision, but the design of the benefit system can incorporate certain guarantees to reduce risk. Here, the role of actuaries is to design and cost such guarantees (i.e. minimum rates of return or conversion rates for DC plans) as well as assessing any reserving requirements that may result. For the individual plan member, the actuary can ensure that benefit projections correctly explain the impact of such guarantees on final benefit levels.

Early and flexible retirement

Pension systems need to reflect the changing nature of national labour markets. An inflexible statutory retirement age is often no longer appropriate, as older workers seek to work part-time, stop and re-start work, or defer retirement. In addition, many systems which provide generous early retirement terms, often to support previous employment policy objectives, are no longer sustainable or fair. In many countries, in the light of growing financial constraints and the need to support employment policies aimed at increasing the employment rate of older workers, the role of actuaries in re-calibrating early retirement terms and conditions is likely to grow.

Denmark and Sweden: Dealing with early retirement

In 1960, the average retirement age for men in Denmark was 66.5; as a result of generous early retirement measures, by 2000 it had fallen to around 61 years calling into question the sustainability of the system. A number of measures were put in place, including increasing early retirement and normal retirement ages (and linking these to longevity improvements) and also incentives for late retirement and disincentives for early retirement. In Sweden, the formal retirement age was replaced by a window for retirement with actuarially-neutral early retirement, while benefits are now indexed to longevity changes.

Asset Liability Modelling (ALM)

The management of reserve funds requires an appreciation of liability and cash flow constraints together with a better appreciation and management of risk. Given the increasing importance and size of reserve funds and the impact of the financial crisis on the returns on assets held, the involvement of actuaries is to be welcomed.

ALM is one instrument of this increased focus on the investment of reserve funds and reflects a wider appreciation of the impact of liability amounts and timings in the determination of investment policy. In addition, risk and diversification of asset classes is also emerging as a key consideration in investment decisions.

As reported at the ISSA's *International Seminar on Social Security: Coping with the Challenges of Sustainability* in Abu Dhabi in 2012, ALM is now an increasing part of the management of reserve funds in many regions.

Reporting and communicating information

Once the actuarial analysis is complete, it is important that the results are used to ensure that the sustainability of the system is strengthened. In a number of countries, legal requirements exist to ensure that results are disclosed in an appropriate form and reporting deadlines met. Accurate, timely and relevant information about the financial situation of the scheme now, and in the future, facilitate the putting in place of reforms that are durable and reflect the true financial situation of the scheme.

Good reporting also increases public confidence in the system and should lead to a greater appreciation of the benefits of social security by the population. In general, the quality, presentation and dissemination of actuarial reporting have improved over recent years and these have been observed and highlighted by the ISSA. Reports and other communication should be reliable, understandable, concise, correct and, ideally, tailored to the individual's needs and situation.

ISSA survey shows importance of actuarial reporting for social security

An ISSA study covering 46 social security institutions in 32 countries reports that, in most cases, an actuarial valuation must be produced at least every three years. In turn, 80 per cent of reports were tabled in Parliament or submitted to government, in around one third of cases legislation requires specific action to be taken based on the findings of the report, and 80 per cent of reports are made public.

Challenges to be addressed

The status of the actuarial profession and of actuarial qualifications varies considerably by country. Despite moves towards mutual recognition of qualifications, wide variations exist in the examination and training requirements and, subsequently, the expertise of actuaries. This may lead to differing appreciations of the value of the professional qualification and work performed by an actuary. Given these national differences, sharing experiences and good practice is important.

Assumptions used for assessments of sustainability and projections of benefits have to be appropriate. Applying a "best estimate" assumption is no longer appropriate, and suitable alternative sets of assumptions should be used for sensitivity analysis and stochastic modelling. Assumptions should incorporate the likely impact of changes in the external environment.

Although reporting has improved, increasing consideration should be given to what might be considered as appropriate information and how best to communicate this. Simply put, more information may not leave members better informed. With the increasing importance accorded to valuations and projections, and their increasing complexity, verification and peer reviewing is critical.

An holistic approach is required wherein actuaries work more closely with other stakeholders and professionals and take into consideration evolving trends such as the impact of climate change, rarefaction of natural resources, and changes in working patterns, migration and demography.

Strengthening national and international support for actuaries

In some countries, the professional body representing actuaries sets down certain professional standards that actuaries should meet when carrying out their work. These often go further than more general guidelines for good practice. In other countries stronger guidance and standards are still required. A further need is for continuing professional development and training activities for actuaries.

At the international level, the International Actuarial Association provides input and events to support knowledge building and sharing. Similarly, the ISSA Good Governance Guidelines pertaining to actuarial issues support the role played by social security actuaries specifically – a role that will be spotlighted at the ISSA's 17th International Conference of Social Security Actuaries and Statisticians, in Berlin in 2012.

Actuarial input is an integral part of sound social security management, operation and planning. However, the world in which social security systems operate is increasingly uncertain. Nevertheless, and not least when shouldered by the appropriate ISSA tools and governance frameworks, actuaries are uniquely placed to assess and manage risk and to address the long-term sustainability challenges of social security systems.

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The **International Social Security Association (ISSA)** is the world's leading international organization bringing together national social security administrations and agencies. The ISSA provides information, research, expert advice and platforms for members to build and promote dynamic social security systems and policy worldwide.

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