SUMMARY:
Mortality Assumptions and Longevity Risks

CURRENT STATUS OF THE STUDY

The study was initiated in 2011 and is in the final stages of review. A penultimate draft was presented and discussed at the June meeting of the working party and final comments from delegations are now under consideration.

BACKGROUND AND OBJECTIVES

The project was undertaken as part of the broader priority of the OECD to pursue work related to the long term solvency of financial institutions and pension funds in response to the global financial crisis of 2008 and the recognition that the life expectancy at age 65 has increased by nearly two months per year in OECD countries over the last decade with each additional year adding 3-5% to the value of current liabilities. The study is intended to contribute to the knowledge and policy framework that remains under development in Europe and elsewhere to develop regulations, solvency standards and supervision methods that are consistent in principle across the range of institutions. Specifically it is intended to address the manner in which the liabilities for pension funds and annuity providers that underwrite benefits from employer sponsored plans and individual retirement income instruments account for improvement in longevity in their liability valuations and how they manage the risk arising from uncertainties about future patterns in mortality.

SUMMARY OF KEY FINDINGS AND POLICY RECOMMENDATIONS

The study evaluates the regulations and mortality tables that are used for their implementation in 16 countries for which information was made available through
regulators and the industry. These include: Brazil, Canada, Chile, China, France, Germany, Israel, Korea, Japan, Mexico, the Netherlands, Peru, Spain, Switzerland, the United States and the United Kingdom.

It summarizes the extent to which current regulations and practice in the countries utilize projections of changes in mortality/longevity in the tables used to measure liabilities for purposes of meeting funding and reserve requirements and evaluates using several well know projection methods the extent to which the standards and practices adequately account for likely future changes. It concludes by offering a variety of observations and policy recommendations directed to improving the extent that regulations fully account for longevity improvements and how the capacity of pension funds and annuity providers may be better enabled to manage these risks through the provision of new capital market and hedging instruments.

The survey of current regulations and practices indicates only about one half of the countries reviewed mandate the use of minimum mortality assumptions and only a similar proportion require that the inclusion of future mortality improvements in the measurement of liabilities. The survey indicates however that despite the limited requirements all but three of the countries report that use of mortality improvements in practice. The countries that do not make provisions for improvements in their funding standards for pension funds are Brazil, China, Peru and Japan. Considerable variation in methods for accounting for improvements were also found with the US using the more sophisticated approach of generational tables.

The study made its own projections of mortality improvements for the various countries using four well known models and compared these results to the outcomes using the required tables. This found that current methods exposes pension funds and annuity providers to potentially significant shortfalls in funding liabilities in a number of countries if the mortality tables allowed under current regulations were used.

Five countries (Brazil, China, Switzerland, the US and Japan) were found to have shortfalls of between 5 and 20% of the value of liabilities. For the United States this potential shortfall was found for the older (RP2000 – Scale AA) to be in the 5% to 10% range. The evaluation of the most recent table – the exposure draft of RP although it is noted that this is 2014 concludes that this presents “little or no risk” of a shortfall. The study attributes the projected potential shortfalls to both assumptions about current mortality rates and the nature of the projections regarding how these rates may improve.

The study makes a wide range of policy recommendations to improve this situation many of which are already required and common practice in the US. These include:

1. Making mortality data more readily available and requiring the use of tables derived from experience in the country to which they are applied.
2. Requiring adjustments to the tables on the basis of the specific subpopulations to which they are applied.

3. Developing projections that consider the starting point and likely future patterns in projecting mortality improvements to account for countries with current low life expectancy rapidly reaching the levels of higher income settings and then experiencing a lower rate of improvement.

4. Establishing incentives in the regulatory structure that will encourage pension funds and annuity providers to more effectively manage and hedge longevity risks by linking provisions to manage these risk to required capital and reserve requirements.

5. Undertaking a range of initiatives by public authorities to enhance the ability to manage these risks by regularly publishing mortality tables and making active efforts to establish financial market instruments such as longevity bonds or risk pools for such instruments to facilitate the development of financial products that will enable pension funds and annuity providers to manage and hedge longevity risks.