

Hot topics

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International accounting assumptions: Impact of new actuarial tables in Switzerland

The latest actuarial tables of mortality rates and other demographic statistics in Switzerland could lead to material impacts on pension liabilities and costs under international accounting standards.

Companies reporting their pension and other long-term benefit plans under International Financial Reporting Standards (IFRS) or US GAAP are required to make many assumptions about the future when valuing the liabilities. This includes assumptions about how long employees will remain with the company, how many people will become disabled during their employment and how long pensioners will live. Setting assumptions is the responsibility of the company (usually based on actuarial advice) and all assumptions need to be best estimates of future experience.

In Switzerland, many companies make use of standard actuarial tables in setting their assumptions. In December 2010, a new set of tables was published, known as the BVG/LPP 2010 tables. These tables are based on the experience during the period 2005 to 2009 of 14 of the largest autonomous Swiss pension plans. They succeed the BVG/LPP 2005 tables which have been commonly used by companies in recent years (other tables in use include EVK 2000 which are based on the experience of the Swiss Federal Government pension plan).

A significant change compared to the 2005 tables is the inclusion of generational mortality rates which allow for future projections of increasing longevity.

Increasing life expectancy

All developed countries have seen a trend to increased longevity over recent decades. A key

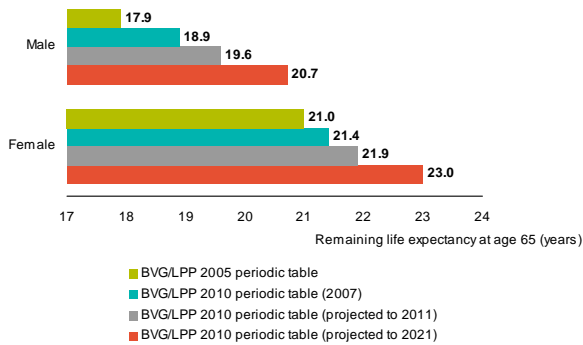
issue for companies setting pension plan assumptions is how they should take changing mortality rates into account. In Switzerland, the mortality tables have only been updated every five years and reflect past experience of the period in which the underlying data were collected. The benefits being valued are of course payable in the future so the tables are, in effect, out of date as soon as they are published. They are known as 'periodic tables' which means they only reflect the mortality rates of one particular period.

To reflect changes in mortality rates between the publication of the tables and a given valuation date, approximate adjustments have typically been applied such as increasing liabilities by 0.5 percent for each year between the effective date of the tables and the valuation date, or by assuming insured members are one year (or more) younger than their actual age.

An alternative option offered by the BVG/LPP 2010 actuarial tables is to project the mortality rates to the desired valuation date. Such a projection, based on actuarial models of the expected mortality improvements over time, removes the need to make any manual adjustments as stated above. For example, instead of using the base BVG/LPP 2010 table (which reflects on average mortality rates in 2007), it can be projected to any future year.

Chart 1 shows how the life expectancies change for a 65 year-old active male and female when the table is projected to different calculation years.

Chart 1: Remaining life expectancy of different periodic tables



The resulting tables are still periodic since they only reflect the mortality rates at the projected date of the table – they do not reflect expected further mortality improvements after that date. This is where generational mortality tables come in.

Generational mortality

Generational mortality tables calculate mortality rates for each individual based on their year of birth, allowing for expected future improvements in mortality. In this way, the future development of life expectancy throughout each individual's life is systematically included in the calculation of the present values used in actuarial valuations.

Such generational tables have been used for many years for determining pension liabilities in other countries such as the UK, USA, Netherlands and Germany. Now, generational tables based on private-sector pension funds are available for the first time in Switzerland.

Using such tables, we can take into account that mortality depends not just on age but on the current age of each individual. For example, a 65-year-old today has a higher chance of dying in the next year than a 65-year-old in 10 or 20 years' time. Table 1 shows how this translates into life expectancies. The first row shows that if a periodic table is used, the life expectancy is the same at any given age no matter when an individual was born.

This contrasts with generational tables which allow for the fact that those reaching age 65 later will be expected to live for longer.

Table 1: Remaining life expectancy of BVG/LPP 2010 periodic versus generational table

| | Male aged 65 in 2011 | Male aged 65 in 2021 | Male aged 65 in 2031 |
|---|----------------------|----------------------|----------------------|
| BVG/LPP 2010 periodic table (projected to 2011) | 19.6 | 19.6 | 19.6 |
| BVG/LPP 2010 generational table | 21.1 | 22.1 | 22.9 |

This shows that if a valuation is carried out in 2011 using the periodic table, the pension of a male member reaching 65 in 2031 would be valued based on a life expectancy which is more than 3 years lower than if the generational table were used. This can serve to have a significant impact on the pension liabilities and costs.

Impacts of changing to generational mortality tables

As illustrated above, since the projected mortality rates reflect the expectation that younger people today will live longer than older people today, future retirement pensions are expected to be paid for longer than currently assumed using periodic tables. The result is an increase to pension liabilities (under IAS19: *Defined Benefit Obligation* or *DBO*, under US GAAP: *Projected Benefit Obligation* or *PBO*) and service costs. Table 2 shows the approximate impacts of adopting the BVG/LPP 2010 periodic or generational tables for mortality instead of the adjusted BVG/LPP 2005 tables – and assuming other assumptions remain the same for the moment. These results are for a plan with a typical membership of active members and pensioners. The impacts can vary depending on the current assumptions used, the membership profile and the benefit structure.

Table 2: Approximate change compared to adjusted BVG/LPP 2005 for a typical plan

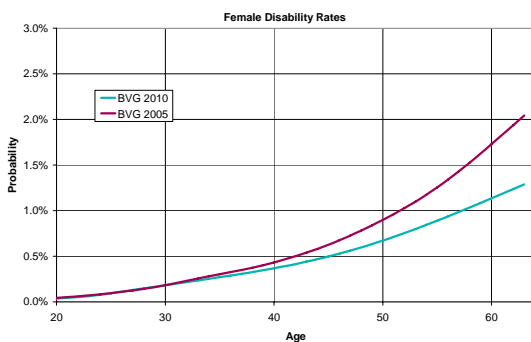
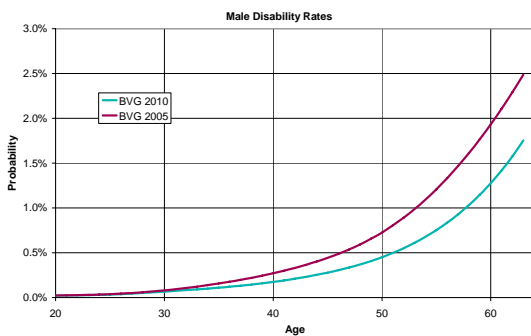
| | Active liability (DBO/PBO) | Retiree liability (DBO/PBO) | Service cost |
|---|----------------------------|-----------------------------|--------------|
| BVG/LPP 2010 periodic table (projected to 2011) | +1% to 2% | +1% to 2% | + 0% to 1% |
| BVG/LPP 2010 generational table | +4% to 6% | +5% to 6% | +3% to 4% |

Under international accounting standards such a liability impact would be disclosed as an ‘actuarial loss due to assumption changes’ which would need to be reflected in Other Comprehensive Income and/or amortised through the P&L statement, depending on which accounting standard is used and what options the company has taken.

Disability incidence rates

Disability benefits account for a significant proportion of the liabilities and costs of pension plans in Switzerland. The BVG/LPP tables include assumptions for disability incidence rates. The rates in the 2010 tables are markedly lower than in the 2005 tables (see Charts 2 and 3).

Charts 2 and 3: Male and female disability rates per BVG/LPP 2005 and 2010 tables



Some companies have in the past made adjustments to the BVG/LPP 2005 rates to reduce them – on the basis that the standard rates were significantly higher than levels actually experienced. In such cases, if a change to use the BVG/LPP 2010 table is under consideration, then a review of the adjustment being applied would also be necessary to assess what adjustment to the 2010 rates best fits the company’s expectations.

If a company had no strong reasons to adjust the standard tables and considers a change from the BVG/LPP 2005 table to the BVG/LPP 2010 table without any adjustments, then a reduction in liabilities and service cost (in this respect alone) can

be expected. For a typical plan the liability reduction would be in the region of 5% of the active liability and service cost reduction would be around 2%.

Other demographic assumptions

The BVG/LPP tables also include assumptions for termination rates from employment, number and age of dependent children, percentage of members married and ages of spouses. All of these tables are relatively similar in the 2010 tables compared to the 2005 tables. The change in the termination rates from employment may increase the active liability and service cost for a typical plan by up to around 1% but there would not be a significant impact of updating the other assumptions.

Conclusions

When companies set assumptions for their next international accounting valuations this issue should be one of the key discussion topics.

We expect that many companies will consider adopting the generational mortality tables as this is expected to meet the ‘best estimate’ requirements of the accounting standards and brings Switzerland into line with what is already being done in many other countries. However, there is not a ‘one size fits all’ answer and this needs to be discussed with actuarial advisors and auditors.

Adopting the generational mortality tables would be expected to lead to an increase in liabilities and service cost; however, some companies might see an offsetting impact – that is, a decrease in liability and service cost – of changing their disability rates to the BVG/LPP 2010 tables. However this will depend on whether any adjustments have been made to the tables in the past and what adjustment, if any, might be appropriate in future.

Companies should start reviewing possible changes to their assumptions prior to the year-end to help prepare for, and budget for, the potential impacts.

For further information

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