

2020 BVG/LPP Actuarial Tables

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On 15 December 2020, Aon and Libera published the 2020 BVG/LPP Actuarial Tables which were developed in collaboration with 15 large pension funds. These are the fifth edition of the BVG/LPP Actuarial Tables. For over 20 years, several of the largest independent pension funds in Switzerland have made their membership data available to Aon and Libera for the compilation of these actuarial tables. At the end of 2019, the BVG/LPP Actuarial Tables were used by close to 1,100 occupational benefits institutions and for the valuation of around two-thirds of the pension liabilities of all occupational benefits institutions.

Participating pension funds

The following pension funds have contributed to the success of the project by making their data available and participating in production costs:

- ABB Pensionskasse
- Pensionskasse Alcan Schweiz
- Pensionskasse der BASF Gruppe Schweiz, II
- comPlan
- CPV/CAP Pensionskasse Coop
- Pensionskasse der Credit Suisse Group (Schweiz)
- PKE Vorsorgestiftung Energie
- Migros-Pensionskasse
- Fonds de pensions Nestlé
- Pensionskasse des Bundes PUBLICA
- Pensionskasse Schweizerische Rückversicherungs-Gesellschaft (Swiss Re)
- Pensionskasse SBB
- Caisse de pensions Swatch Group
- Sulzer Vorsorgeeinrichtung
- Pensionskasse der UBS

We would like to thank them for their significant contribution to the second pillar in Switzerland.

Statistics

The 2020 BVG/LPP Actuarial Tables rely on the statistical observations of membership data between 2015 and 2019, meaning that 2017 is essentially the 'reference year'. The total membership observed over the five-year period includes 1,500,000 active members and 900,000 pensioners. The vast amount of data offers the assurance that the results are statistically significant.

The following main probabilities can be derived from the 2020 BVG/LPP Actuarial Tables:

- probability of death for active members and pensioners
- probability of becoming disabled
- probability of entitlement to a survivor's pension
- probability of entitlement to a child's pension (following death / retirement / disability)
- probability of leaving (following resignation or a dismissal)

In addition to the conventional calculation using a fixed technical interest rate, the 2020 BVG/LPP Actuarial Tables also enable present values to be determined using an 'interest rate curve', which allows for the valuation of pension liabilities on an economic basis.

Main findings – Life expectancy

The 2020 BVG/LPP Actuarial Tables confirm that members of Swiss occupational benefit schemes are living longer, but the increase in life expectancy has not been as pronounced as in the past. At the same time, a significantly lower number of new disability cases was observed, confirming the existing trend.

The 2020 BVG/LPP Actuarial Tables do not include statistical data for 2020 and, more specifically, the impact of COVID-19 on the current and future life expectancy of pensioners. The consequences are still very uncertain today and will be taken into consideration in the 2025 BVG/LPP Actuarial Tables.

According to the 2020 BVG/LPP Actuarial Tables, the life expectancy of pensioners has increased over the last five years: for 65-year-old men, it has risen by 0.65 years to 20.42 years; for women, by 0.27 years to 22.20 years. While life expectancy for men increased as expected (forecasted life expectancy of 20.38 years), women's life expectancy increased by slightly less than expected (forecasted life expectancy of 22.47 years).

Table 1 compares life expectancy at the age of 65 according to various actuarial tables:

Table 1: Life expectancy at 65	Men	Women	Spouse/Men	Spouse/Women
2020 BVG/LPP table / P2017	20.42	22.20	20.42	22.08
2015 BVG/LPP table / P2012	19.77	21.93	19.77	22.23
2010 BVG/LPP table / P2007	18.93	21.42	18.93	21.75
2005 BVG/LPP table / P2002	17.90	20.98	17.90	21.19
2000 BVG/LPP table / P2000	17.76	21.09	17.76	21.09
EVK 2000 table / P1997	17.56	20.37	15.64	21.30
VZ 2015 table / P2017	20.91	23.04	20.91	22.77
VZ 2010 table / P2012	20.14	22.89	20.14	22.49
VZ 2005 table / P2006	18.99	22.16	18.99	21.66
VZ 2000 table / P2002	17.30	21.79	15.51	20.95

VZ: Versicherungskasse der Stadt Zürich, now Pensionskasse Stadt Zürich

EVK: Caisse fédérale d'assurance, now Caisse de prévoyance de la Confédération PUBLICA

Mortality projections and generational tables

When using generational mortality tables, the projection model's assumptions regarding future changes in life expectancy also play a role. The 2020 BVG/LPP Actuarial Tables are consistent in that regard, as they use the FSO 2018 model from the Federal Statistical Office, which is mostly a parameter update to the Menthonnex model used in the 2015 BVG/LPP Actuarial Tables. The updated model is, however, meant to be more straightforward, stable and transparent. The life expectancies for certain generations of members are lower than the previous model.

While life expectancy is expected to continue rising in Switzerland, the pace of increase is uncertain. To allow for this uncertainty, the 2020 BVG/LPP Actuarial Tables can also be used with a second model to project future mortality trends. This second model has been developed by Continuous Mortality Investigation Limited (an organisation owned by the UK Institute and Faculty of Actuaries) and adapted for use in Switzerland. For measuring pension liabilities, using this CMI model with a 2% long-term rate (LTR) for mortality improvement produces similar results to those obtained using the FSO projection model (differing results may be observed depending on the structure of the membership).

Table 2 compares life expectancy at age 65 while taking into consideration prospective mortality improvements, using various projection models and mortality assumptions:

Table 2: Life expectancy in 2021 according to generational tables	Men Age 65	Women Age 65	Men Age 80	Women Age 80
2020 BVG/LPP – FSO model	22.57	24.37	9.77	10.91
2020 BVG/LPP – CMI model (LTR = 1%)	21.50	23.20	9.73	10.54
2020 BVG/LPP – CMI model (LTR = 2%)	22.30	24.06	9.96	10.81
2020 BVG/LPP – CMI model (LTR = 3%)	23.14	24.96	10.20	11.07

We recommend that pension funds discuss the update to the 2020 BVG/LPP Actuarial Tables with their pension fund expert this year and consider adopting these tables when preparing full-year financial statements for 2021.

Main findings – Survivor’s pension

Pensioners’ liabilities (and the actuarial conversion rates) also depend on the probability that a survivor’s pension will become payable on the death of an insured person.

These probabilities have decreased compared with the 2015 BVG/LPP Actuarial Tables. The figures now fully take into account the fact that most of the participating pension funds also provide a (cohabiting) partner’s pension in the event of an insured person’s death. This observation confirms the change in practice observed in recent years, during which time this extra-mandatory benefit has become widespread in pension funds. Based on this development, the fixed 10% increase to probabilities that had previously been applied was abandoned for the purposes of the 2020 BVG/LPP Actuarial Tables.

Table 3 compares the probabilities of a survivor’s pension becoming payable:

Table 3: Probability of entitlement to a survivor’s pension	Men Age 65	Women Age 65	Men Age 80	Women Age 80
2020 BVG/LPP	69%	39%	68%	18%
2015 BVG/LPP	80%	42%	77%	16%

These revised probabilities will have the effect of reducing pensioners’ liabilities, especially among men.

Pension funds that determine actuarial liabilities using the ‘individual’ method (taking into account the pensioner’s marital status and the date of birth of his/her spouse/partner) will not be affected by these revised probabilities.

Contact

Aon Suisse SA

Avenue Edouard-Dubois 20
2000 Neuchâtel

Aon Suisse SA

Avenue Edouard Rod 4
Case postale 1203
1260 Nyon 1

Aon Schweiz AG

Vulkanstrasse 106
8048 Zürich

+41 (0) 58 266 10 11
swissnews@aon.com
aon.ch

Main findings – Conversion rates

Considering a reference year of 2021 (periodic tables projected to 2021), and assuming a reversionary survivor's pension of 60% and a reversionary orphan's pension of 20%, the actuarial conversion rates are as follows, for sample discount rates (Table 4):

Table 4: Conversion rate at age 65	Periodic tables		Generational tables	
	Men	Women	Men	Women
BVG 2020, 2.5 %	5.53 %	5.78 %	5.26 %	5.50 %
BVG 2020, 2.0 %	5.21 %	5.47 %	4.94 %	5.18 %
BVG 2020, 1.5 %	4.90 %	5.16 %	4.63 %	4.87 %

As observed previously, the conversion rate with generational tables is close to that achieved with periodic tables when the technical interest rate is decreased by 0.5%.

The 2020 BVG/LPP Actuarial Tables enable the specific conversion rates for each fund to be compared against the most recent findings and potentially updated.

Main findings – Disability

The assessment of disability cases shows a significant decrease of approximately 20% in the number of disability cases compared with the 2015 BVG/LPP Actuarial Tables. The reduction was observed more among men than women. As a result, the probability of disability has continued to fall; it has decreased by almost 50% over the past decade. This evolution is undoubtedly explained by the increased use of case-management models, the conditions for recognition of a disability by IV/AI insurance authorities and the characteristics of the labour market over the past five years.

It should also be noted that the BVG/LPP Actuarial Tables measure the probability that a contributory member becomes disabled but does not take into account the degree of disability. Taking this additional parameter into consideration suggests a further reduction in the cost of disability risks for pension funds.

For pension funds that do not reinsure disability risks, this welcome development means a reduction in the theoretical risk premium, which in turn may result in a reduction in the fund's specific financing requirement. Alternatively, reallocating savings from reduced risk premiums to the financing of pension benefits is also a possibility.

Aon consultants are available to discuss the specific effects of applying the new 2020 BVG/LPP Actuarial Tables for the evaluation of your pension liabilities.

About Aon

Aon plc (NYSE:AON) is a leading global professional services firm providing a broad range of risk, retirement and health solutions. Our 50,000 colleagues in 120 countries empower results for clients by using proprietary data and analytics to deliver insights that reduce volatility and improve performance.

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