1 Available data

Mortality data are accessible from various sources:

- For population, the Swiss Federal Statistical Office gives indications up to 2010. [http://www.bfs.admin.ch/bfs/portal/de/index/themen/01/06/blank/key/04.html](http://www.bfs.admin.ch/bfs/portal/de/index/themen/01/06/blank/key/04.html)
  Detailed tables and studies are available in French and German.

- For pension funds, latest tables were published in 2010:
  BVG 2010, from fourteen large autonomous pension funds, computed by Aon Hewitt and
  LCP Libera. It relies on a total exposure (risks / years) of 1.208 million actives and 0.777

- Pension VZ 2010 tables are based on statistics over 21 public pension funds (cantons and
  cities. First table (1960) was covering only the city of Zurich. Tables were computed by the
  Actuarial consultant Olivier Deprez. [http://www.deprez.ch](http://www.deprez.ch) and [www.pkzh.ch](http://www.pkzh.ch)
  They include mortality improvements according to the original Nofli model (exponential
  decrease of mortality) as well as the official demographic projection of the Swiss Federal
  Office for Social Insurance.

- Swiss Insurance Association:
  Members of the association (16 companies) group data and set up 5 year observation
  statistics – the first such report was produced for the period 1961/1965 - separately for
  individual insurance, individual annuities, group insurance and group annuities. This work
  is performed by a Statistics Working Group¹ comparable to the British CMI Committee.
  Besides disability statistics, they compute one comprehensive report about mortality in
  individual insurance (life insurance and annuities) as well as group business (insurance
  and annuities, including widow(er) pensions, and in-between yearly simplified reports
  indicating trends from year to year. The latest reports are relative to the period 201/2005,
  the 2006/2010 report will be set up later this year.
  Those data are available free of charge to participant companies. They can be bought by
  outsiders, but they are not published. No “official” or reference tables of first order may be

¹ Headed by Philippe Maeder, Swiss Re
set up, they are considered by the Competition Committee\(^2\) as an indirect limitation as illegal.

### 2 Mortality Trends and Differences

For annuities, it can be observed that life expectancy, after a slower increase in the first half of the nineties, resumed growing again faster at the beginning of the 21\(^{\text{st}}\) century. Due to generations effects, improvements are not identical for all age groups at a given time.

For group insurance, a fast improvement – mainly due to a reduction in accidental mortality – can be observed for younger ages. There is a slowdown of the improvement between 1996/2000 and 2001/2005 if we compare to the previous period. The annual trend reports confirm a continuation of this trend towards 2010.

Young Females tend to have even faster improvement than Males, and it's contrary above age 45.

The comparison of mortality of population 1998 / 2003 and insurance 2001 / 2005 is of course a bit biased by the difference of 2-3 years between those two sets of statistics. However it shows – as expected – that insurance mortality is clearly lower, and it is also intuitive that individual insurance mortality is, for males, lower than group insurance mortality. But for females, there is barely any difference, which can be explained that amounts insured to females are in general lower than for males, hence the selection process is lighter.

\(^2\) http://www.weko.admin.ch/index.html?lang=en
Mortality in Switzerland
Michael Eves, Swiss Actuarial Association
Contents / Agenda

- Mortality in Switzerland
- Population Data
- Pension Funds Data
- Insurance Data
Population Data

- Source: Federal Office for Statistics
Population Mortality Data Sources

- Swiss Population just reached 8 millions people

- The Swiss Federal Statistical Office publishes
  - Mortality rates are given per age, sex, civil status. Mortality by states (cantons) is also available, and causes of death are part of the package.
  - Annual mortality statistics in simplified format.

Life Expectancy at Birth
Swiss Population

Males
- 2007
- 2008
- 2009
- 2010

Females
- 2007
- 2008
- 2009
- 2010
Life Expectancy at Age 65
Swiss Population

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Changes in Life Expectancy of Population

- Life expectancy at birth:
  - for males: 80.2; the improvement 2007 – 2010 (+0.26 per year) is equal to the average improvement over the period 1985 – 2005; in 2010
  - for females: 84.6; the improvement 2007 – 2010 (+0.20 per year) is slightly higher than the average improvement over the period 1985 – 2005 (+0.19) but remains slower than for men so that the gap females – males reduced from 6.7 years in 1985 to 4.4 years in 2010

- Life expectancy at age 65:
  - for males: 18.9; the improvement 2007 – 2010 (+0.13 per year) is slightly lower than the average improvement over the period 1985 – 2005 (+0.16)
  - for females: 22.2; the improvement 2007 – 2010 (+0.10 per year) is slightly lower than the average improvement over the period 1985 – 2005 (0.13) and remains slower than for men so that the gap females – males reduced from 4.1 years in 1985 to 3.3 years in 2010
Cause of Death Statistics 2009

Shares of the leading causes of death by age group in 2009

Men

Women

Source: Swiss Federal Statistical Office
Pension Funds Data

- Sources: PF consultants
Life Expectancy at Age 65
Pension Funds

BVG males  VZ males  BVG females  VZ females

2000  2005  2010

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Pension Fund Mortality Tables

- The main pension fund tables are the VZ and the BVG tables, published every 5 years. The latest ones are from 2010 and indicate periodic tables and projected mortality improvements.

- LPP/BVG 2010
  - reflect mortality from 14 pension funds of large banks and industrial firms in Switzerland. Latest ones (2010) are based on observations from years 2005 to 2009, that is 1.208 million active/years and 0.777 retired/years.
  - life expectancy at age 65 (table 2010) is 18.9 for males (same as population) and 21.4 for females (lower than population's 22.2)

- VZ 2070 reflect mortality from 21 public service pension funds
  - from 21 public pension funds (cantons, communes, cities)
  - life expectancy at age 65 (table 2010) is 20.1 for males and 22.9 for females, which is higher than population
Insurance Data

- Sources: Swiss Insurance Association
Life Expectancy at Age 65
Private Insurance Companies - Annuities
Group Insurance - Males
Mortality Improvements in 20 years

Swiss Re
Group Insurance - Females
Mortality Improvements in 20 years

- 15-24
- 25-29
- 30-34
- 35-39
- 40-44
- 45-49
- 50-54
- 55-59
- 60-65

1986/1990
1991/1995
1996/2000
2001/2005

![Bar chart showing mortality rates for males aged 25 to 60, comparing individual and group insurance options.](image-url)

- Individual
- Group
Thank you
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