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A Short Population History of Switzerland

Demographic developments - population, fertility, life-expectancy, migration, demographic ageing.

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This research paper describes and analyses long-term demographic developments of Switzerland. As far as possible data from earlier centuries are included. The first chapter discusses the general development of the population within the territory of Switzerland (before 1848: confederation of states, after 1848 Switzerland as nation). The second chapter analyses fertility patterns in pre-industrial and modern Switzerland (as far as valid data are available). In a third chapter developments in life-expectancy and survival orders for women and men are analysed and discussed. A fourth chapter concentrates on changes in emigration from and immigration to Switzerland. A fifth chapter presents and discusses changes in the age structures of the Swiss population.

The analysis concentrates on a small European country. In some dimensions national particularities can be observed, both regarding historical and actual population developments. However, most of the significant demographic changes – such as the transition from high to low fertility rates or increasing life expectancies – can be observed in all countries after a certain level of socio-economic modernization. In many areas, Switzerland's demographic development is only an illustration of changes that have been and are taking place in similar ways in other European countries.

Horgen, March 4 2025

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1 Population development in the area of today's Switzerland

Pre-industrial Switzerland – like all other regions of Europe – was characterised by a demographic regime of high fertility rates and high mortality rates. Many children were born, but at the same time many people died at a young age. Infant and child mortality were high and average life expectancies were low. Despite high fertility rates, the population did not increase or increased only slowly, at times also as result of emigration of young people from mountain areas. The demographic situation was exacerbated by recurring epidemics (plague, typhus, cholera, etc.) and famines (apart from armed conflicts within the Swiss confederation).

The population figures at that time were subject to strong fluctuations. Plague epidemics reduced the population of entire regions for longer periods, as did famines due to crop failures, at times triggered by poor climatic conditions (Pfister 1984, 2014). Even in good times, agriculture was only able to feed a limited population, especially in mountainous regions of Switzerland. In pre-industrial societies, rapid population growth was often associated with an impoverishment of broad sections of the population. Earning a living abroad – for example as a mercenary, day labourer or maid – or a permanent emigration was at times the only way to escape poverty at home.

The population of pre-industrial Switzerland grew only slowly and population growth was repeatedly interrupted by epidemics or economic crises. Mountain areas with livestock farming and limited grain or fruit production were particularly exposed to bad climatic conditions (too dry or too rainy summers, harsh winters and late springs). The greater susceptibility of mountain region to hunger crises can be explained by the fact that weather extremes could trigger problems with the livestock within a single year and a sharp decline in livestock remained noticeable for years in the form of reduced milk consumption, not least because more milk had to be diverted for breeding in order to fill the gaps in the herds. Therefore, supply crises in Swiss mountain regions were more frequent, lasted longer and had a more drastic effect than in non-alpine regions (Pfister 1984: 64).

The pre-industrial food supply of Swiss Alpine regions was even more limited than in non-alpine regions; historically one of the reasons for conquests and raids into the lowlands or the south (Ticino). An expansion of agricultural production was until the 17th century more often achieved by clearing forests and settling new areas than by more intensive agriculture and better organised livestock farming. However, the settlement of new areas soon reached its limits. Measured against their ecological bases, large parts of the Alpine areas were for centuries 'overpopulated'. This led to the phenomenon of so-called “Reislaufen’ (soldiering) and until the19th century many young Swiss fought as paid soldiers in foreign armies. It is estimated that in the 16th and 17th centuries in some alpine regions of Switzerland paid soldiering absorbed up to half of the birth surplus (Bickel 1947).

Table 1
Population development in the area of present-day Switzerland

	Year	Population in 1000*
Roman empire	around 200	200
Migration period	around 700	100
Founding of many Swiss cities	around1150	400-500
Confederation of eight cantons	around 1300/1350	700-800
	around 1400	600-650
	around 1450	580-600
	around 1500	800
Confederation of thirteen cantons	around 1550	900
	around 1600	900
	around 1700	1‘200
Helvetic census	1798	1‘669
	1837	2‘190
Federal state of Switzerland	1850	2‘393
	1880	2‘832
	1910	3‘753
	1941	4‘266
	1960	5‘429
	1980	6‘342
	2000	7‘204
	2020	8‘667
	2023	8‘962

* Until 1798 estimated figures, afterwards census data.
Sources: Comité pour une Nouvelle Histoire de la Suisse 2006, Head König 2012, Walter 1966, Schuler 2023, 1850-2000: Eidg. Volkszählungen, ab 2000 Strukturerhebungen Bundesamt für Statistik.
Since 1850 the figures refer to resident population. The resident population includes all long-term registered residents of Switzerland. Seasonal workers, trainees, exchange students as well as people living illegally in Switzerland and asylum seekers are not included. Until 2000, persons with diplomatic status were not included in the permanent resident population.

Table 1 shows the population development in the area of present-day Switzerland. [1] Up to 1798, these are estimates that are less accurate the further back in time one goes.

Before Roman times, the area of Switzerland was sparsely populated and people lived in small settlements. Under Roman rule the population increased and the first cities were built as well as a comparatively dense road network (with pass crossings to the south). The local population was strengthened by an immigration of Roman soldiers and settlers. Of the approximately 200,000 people estimated in the 2nd century AD, a good 70,000 were Roman immigrants, most of whom lived in their own colonies (such as Augusta Raurica, Aventicum, Iulia Equestris) or in military bases. The collapse of the Roman Empire and the Alemannic and Burgundian invasions led to a decline in the population. It was not until the 6th and 7th centuries that new settlements were formed again.

At the turn of the millennium an economic renaissance of Europe began, which led in the course of the 12th and 13th centuries to a new cultural peak (construction of Gothic cathedrals). This

[1] For the territories belonging to the Swiss confederation before 1848, see Schuler 2023: Chapter 1.

was partly due to a favorable climate and the spread of more productive agricultural techniques (such as three-field farming). In addition, there was a revival of trade, which benefited some Alpine valleys. The cultural and economic upswing was accompanied by a demographic upswing. This led to the foundation of new cities or the expansion of existing cities. Some settlements that had existed since Roman times developed into bishops' residences (e.g., Sion and Chur). In other places, settlements around monasteries grew into cities (e.g., St. Gallen, Lucerne, Zurich). In addition to the 17 cities that had survived the early Middle Ages, 15 more cities were established in the 12th century. In the 13th century additional 156 new cities were founded, even when many of the newly founded cities remained small. Around 1300 less than 3% of the population in the area of present-day Switzerland lived in cities of 5000 inhabitants and more, compared to 8% in France and Germany and almost 21% in Italy (Head König 2012).

Towards the middle of the 14th century the economic and demographic boom was interrupted by a plague epidemic (Black Death). As in many other regions of Europe the Black Death of 1348/49 affected the Swiss population with full force. The plague led to a marked decline in the total population. Armed conflicts (Sempach, Appenzell and Old Zurich Wars) resulted locally in additional devastations.

A turnaround of population figures did not occur until the second half of the 15th century. The population increased again until the first half of the 16th century. This was especially the case outside the alpine regions. After 1500 the alpine regions lost some of their demographic importance. The share of alpine cantons in the total population within the area of today Switzerland fell from 50-53% (around 1500) to 34% (1700) (Head König 2012). Population growth at the time exceeded the low population capacity especially in alpine regions, resulting in increased demographic pressures that contributed to the military expansion of the Swiss Confederation (e.g., conquest of Ticino). Only the defeat of Swiss soldiers at the Battle of Marignano (1515) put an end to a further expansion of the Old Swiss Confederation.

While in the first half of the 16th century a relatively warm climate had a positive effect on population growth, a renewed deterioration in the climate (‘little ice age’) from 1565 to 1629 resulted in lower agricultural yields. This led to high emigration rates and low population growth, all the more as in 1610/15 and 1628/29 plague epidemics again claimed many victims. It was not until the second half of the 17th century that a relatively dry period led to a renewed growth of the population, which was only interrupted at the end of the century by a significant famine (Pfister 1984).

Until the end of the 17th century, good years were repeatedly followed by years of famine (at times also caused by armed conflicts). A population weakened by poor nutrition fell victim to numerous epidemics. The population development was characterized by recurring demographic crises. This general situation changed only in the course of the 18th century. On the one hand, the plaque epidemics disappeared at the end of the 17th century. Later on, the effects of other diseases (typhoid, cholera, smallpox etc.) could be contained. On the other hand, new methods of agricultural production gradually took hold, such as a departure from three-field farming and better fertilization, introduction of high-yielding clover varieties, cultivation of potatoes and breeding successes in livestock. This increased the productivity of agriculture, improving the nutritional basis for many men and women. In some regions of Switzerland, the emergence of industrial homework created additional earning opportunities. This improved the standard of living particularly of small farmers or landless adults (Braun 1978). As a result, Switzerland's population growth accelerated (despite continued strong emigration). However, the economic and demographic developments varied regionally. In regions with an early tradition of industrial

homework the demographic expansion began as early as the second half of the 17th century, while in alpine valleys the population growth started only in the 19th century (Ruesch 1979a).

From 1700 to 1798, the number of people in what is now Switzerland increased from 1.2 million to nearly 1.7 million. However, at this time population growth in Switzerland – similar to other European countries – had only just started. In the 19th century the population almost doubled, from around 1.7 million (1798) to 3.3 million (1900). Population growth during this period would have been even more pronounced if Switzerland had not experienced a significant emigration of young adults (e.g., to America).

The population growth in the 19th century was caused by mortality rates declining faster than birth rates, contributing to an increased birth surplus. In many regions of Switzerland mortality rates declined already in the18th century and throughout the 19th century. A significant decline of (marital) fertility rates, however, was only observed after 1875/80. The combination of declining mortality rates and still high fertility led to strong natural population growth during much of this period. Only the marriage pattern at that time (many late marriages, high proportion of unmarried women) prevented an even stronger increase of the population. Without corresponding socio-economic development, the rapid population growth would have resulted in a demographic crisis (as expected by the English demographer Thomas Robert Malthus (1766-1834)). [2] Only increased agricultural productivity created the basis for feeding an increasing number of people and only industrial developments made it possible to employ an increasing number of workers.

In the 19th century economic and demographic developments influenced each other (Schmid 1967). However, the development was not free of crises. Especially at the beginning of the 19th century some regions of Switzerland experienced a precarious balance between increasing population and economic growth: Economic crises or poor harvests led to an impoverishment of broad sections of the population. Some Alpine regions barely escaped a vicious circle of population growth, underemployment and increasing poverty. One example was the traditionally Catholic canton of Uri: A growing population was not accompanied by an increase of the economic potential of the canton, due to conservative political structures. Poverty rates increased and, in some communities, up to 50 percent of the population had to ask for social support. “It is no exaggeration to say that between 1770 and 1840 Uri had to endure one of the most dangerous phases of its development. It took several decades for political and economic reforms to prevail and to close the gap between population size and available food “(Bielmann 1972: 222)

The threat of a demographic crisis was one factor in revolutionary unrests in the first half of the 19th century. Only the victory of liberal political forces (who in 1847 rapidly defeated an attempted secession of conservative catholic cantons (“Sonderbundskrieg”) and the establishment of a democratic liberal federal state in 1848 [3] opened the way for socio-economic adaptations to new demographic realities (e.g., abolition of local monopolies and guild structures, single currency and free exchange of goods). Industrial development fundamentally changed the employment structure of the population. The proportion of the workforce employed in agriculture fell from 63% in 1798 to about 50% in 1850, only to fall to 31% by 1900.

[2] In an anonymous polemic first published in 1798 and scientifically modified in 1803 'Essay on the Principle of Population', Thomas R. Malthus sketched a pessimistic law of propagation. In his view, the population tends to grow faster than the necessary food production.

[3] Switzerland was one of the first countries to introduce general voting rights for adults. However, until 1971 only men had the rights to vote and to be elected to political positions.

Conversely, between 1798 and 1900, the share of industry in the workforce increased from 25% to 45% (Bergier 1983). Although small businesses and industrial homework initially dominated, larger factories were gradually established in Switzerland too. However, it was only in 1890 that the number of factory workers surpassed the number of industrial homeworkers. Compared to other European countries (England, France, Germany, etc.), Switzerland experienced in the 19th century a decidedly decentralized industrialization, which resulted in a strong socio-political integration of industrial workers (leading to a low frequency of strikes (Höpflinger 1976).

Despite some economic downturns and crises (such as the economic crisis of 1873) the 19th century and the beginning of the 20th century were an economic, cultural and technical boom period. The general wage level rose and the food situation of the population improved. This was evident in the fact that the physical height of young men increased significantly, from a mean height of 163 cm in 1850 to 170 cm in 1920 and 178 cm in 1980 (Floris et al. 2019: Tab. 4). Switzerland's economic expansion was so strong that despite still relatively high fertility rates, the natural population growth was not sufficient to meet the growing demand for industrial workers. The result was a marked immigration of workers from the surrounding countries. For the first time in Switzerland's history, immigration rates in the last decades of the 19th century exceeded emigration rates; an indication that Switzerland had developed from a rather poor and partly backward country to a comparatively prosperous country.

At the beginning of the First World war (1914) around 150,000 foreigners left Switzerland. This was later followed by further emigration and the number of foreigners living in Switzerland decreased. Despite not being directly involved in the war population growth was further slowed down by declining marriage and fertility rates. In 1918 the Spanish flu claimed between 23,000 and 25,000 lives, resulting in a short-term decline in average life expectancy (Michels 2010).

The interwar period – with its rather modest economic booms and a subsequent severe economic depression – was characterized by modest population growth. Between 1920 and 1941 Switzerland's resident population increased by only 386,000 people, compared to an increase of 835,000 persons during the economic growth period of 1888-1910. A major cause of the demographic slump in the interwar years were declining fertility rates. In the 1930s the fertility rates were below the 2.3 births per woman required at the time for demographic reproduction. During this period fears of a dying and rapidly ageing Switzerland appeared for the first time. Extrapolating from the fertility rates of the period population scenarios projected for the year 2000 a country of only 2.8 million peoples (Studer-Auer 1941). In fact, in 2000 the country counted 7.2 million inhabitants.

Even before the end of the Second World War, but especially in the post-war years, fertility rates increased again, resulting – as in other European countries – to a so-called ‘baby boom’. Until the mid-1960s the fertility rates remained at relatively high levels. Demographically the 'baby boom' was triggered not so much by more large families, but primarily by the fact that more women gave birth to children in the first place. The post-war decades were a period when the traditional marriage model - with a male breadwinner and a mother taking full-time care of household tasks and children - was socially unchallenged, especially in a country without women's suffrage. After years of economic crisis and war the desire for a happy family life was strong and a rapid increase in prosperity allowed young people to realize family formation earlier, particularly in a country that had survived the Second World War intact. Accordingly, the age at first marriage declined and the proportion of childless women fell to historic low levels. As many young mothers withdrew from the labor market the rapidly expanding economy

of Switzerland had soon too few workers, resulting in a rapid increase of immigration of young workers.

The combination of high birth surpluses and strong immigration from the 1950s to the mid-1970s led to higher growth rates of the population than ever before in the history of Switzerland. Efforts by the authorities to limit immigration as well as an economic recession in the mid-1970s led temporarily to lower growth rates and from 1965/66 onwards the fertility rates started to decline. Since 1972 Switzerland the fertility rates are significantly below the demographic replacement level. The spread of family planning, late family formation and few children, coupled with an increasing number of non-marital unions and increased divorce rates, are central elements of the so-called second demographic transition observed in many European countries (Lesthaeghe 2020).

Despite low fertility rates, Switzerland's resident population has continued to grow over the last five decades, from 6.2 million in 1970 to nearly 9 million (2023: 8.96 million). On the one hand, despite low fertility rates, Switzerland continued to experience positive birth surpluses and between 1971 and 2023 the number of births always exceeded the number of deaths, although the birth surplus (births minus death, per 1000 persons living in Switzerland) declined from 6.2 (1971) to 0.9 (2023). On the other hand, during this period (with the exception of the years 1975 to 1978 and 1996-1997) Switzerland experienced positive and often strong net immigration.

In its latest population scenario, the Federal Statistical Office (2020) assumes further, albeit no longer very strong, population growth (9.5 to 10.6 million by 2040), depending on future fertility and migration developments. Slightly lower values are expected according to the most recent population scenarios (9.5 to 10.5 million by 2040) (Bundesamt für Statistik 2025).

2 Family formation – marriage and fertility

In earlier periods marriage behavior and fertility development were closely linked. For a long time, church marriages were the only accepted form of cohabitation between a man and a woman. Forms of premarital and extramarital cohabitation were frowned upon or forbidden. Children born out of wedlock were until 1978 discriminated against in Switzerland. In recent decades this has fundamentally changed. Whether somebody is married or cohabiting unmarried is today of little social interest (even if there are still some differences in law). Same-sex lifestyles are widely accepted and 'marriage for all' (same sex couples) was adopted by the Swiss parliament in 2020 and accepted by the electorate in 2021.

In a first step changes in marriage and marriage behavior are presented. In a second step the development of fertility is analyzed and determinants of low fertility are discussed.

2.1 Development of marriage patterns

As a social institution, monogamous marriages fulfilled for a long time central social functions of order and protection:
First, marriage was an institution to control sexuality and behavior, especially of young women. To a certain degree, marriage was also an institution for taming male sexuality. Premarital and extramarital sexuality were frowned upon and until the beginning of the 20th century at least women were expected to enter marriage as 'virgins'.
Second, marriage was an institution for regulating births and raising children. Only children born in wedlock were accepted and unmarried mothers remained stigmatized. At the same time the institution of marriage established paternal responsibilities. To this day in Switzerland children born within a marriage are automatically considered as children of the husband.
Thirdly, marriage regulated the domestic cohabitation of men and women. Before the introduction of the welfare state, marriage and family were the most important pillars of support and solidarity. In traditional marriages the division of roles between husbands and wives were also strictly defined.

In pre-industrial societies, therefore, the institution of marriage fulfilled both regulatory functions and social tasks. However, the specific design of marriage as well as the everyday cohabitation of spouses changed enormously over time (Goody 1983). Particularly the last decades led to a de-institutionalization of marriage in European societies and to an increasing frequency of alternative ways of life (unmarried couples, same-sex couples, etc.).

With the establishment of Christianity as a religion with a centralized ecclesiastical hierarchy, European marriage gained its specific character. Christianity as a community religion radically broke with earlier house, family and ancestor cults (Reynolds 1994). Compared to many non-European cultures the relationships between the spouses - and not the relationships to a clan - were the main focus of marital norms. The emphasis on marriage as a two-person relationship has, in the long term, both strengthened the position of young wives and promoted the later development into the nuclear family. From the outset monogamy and indissolubility were important regulatory aspects of the Christian marriage model, whereas in medieval theology the personal relationships of the spouses received little attention. The primary purpose of marriage was to produce children ("connubium sine prole est quasi dies sine sole") (Tyrell 1982).

However, the status of marriage within the medieval church was ambivalent: On the one hand, marriage was considered inferior to a chaste life. Compared to celibacy - a chaste life committed

to Christ – married life was considered ‘second best'. This was emphasized especially after the 11th century, when priestly celibacy was enforced within the Church. Medieval society was divided into a celibate clergy (monks, nuns, priests) and a less perfect state of married laity. On the other hand, marriage was treated as sacred and indissoluble. As a sacrament, marriages were placed under ecclesiastical jurisdiction. From the 9th century onwards only marriages organized by the church were accepted. Local traditions were strong and the ecclesiastical monopoly on marriage did in many regions of Europe not prevail until the 10th - 11th centuries (Head König 2013).

From the 12th century onwards, the principle of consent of both partners gradually prevailed in Western Europe: The will to marry or a stated engagement became important and a marriage without the consent of both spouses became an exception (at least outside the aristocracy). As a result, young women gained more independence from their parents (for example, to reject an unpleasant marriage partner). Compared to many non-European cultures - where parents mediated and mediate marriages - young men and women in Western Europe gained relatively early the opportunity to choose their spouse within the given status groups (same social class). The principle of consent also included the freedom to decide against marriage and to enter a monastery. On the part of the Church, the aim was to protect religious vocations in a church organized around celibate monks, nuns and priests.

In many rural or alpine regions of Europe the medieval church had to fight against local traditions, e.g., marriages among blood relatives, bride buying and forms of extramarital sexuality. Given high mortality rates - especially during plague times - the average duration of marriages remained low. Remarriages were frequent, if only for economic reasons. Especially for women, marriage was and remained the only economic security. In some Swiss cities (like Basel) young widows had to remarry within a year or to lose their citizenship.

At the end of the High Middle Ages, canonical marriage law (marriage as an indissoluble sacrament, ecclesiastical monopoly on marriage) was well established in Europe. However, the fundamental dichotomy between priestly celibacy and married laity persisted (and it continues to occupy the Catholic Church to this day).

The Swiss reformers John Calvin (1509-1564) in Geneva and Huldrych Zwingli (1484-1531) in Zurich abolished priestly celibacy and monasteries and the sacramental status of marriage was negated. These two reforms did not lead to a devaluation, but on the contrary to a revaluation of marriage and family: Through the pastor's marriages the separation of clergy and laity was abolished. The parish families became, so to speak, the living and visible models of Christian marriage. Marriage was strengthened by the fact that the protestants placed home and family at the center of their Christian way of life. The abolition of the sacramental character of marriage eased the Church's relationship to conjugal sexuality, with the side effect that extramarital sexuality and non-marital births in Protestant regions of Switzerland were strongly stigmatized (Burghartz 2016, Hofer 1993).

While canonical marriage laws remained valid in the Catholic regions of the Old Confederation, in the Protestant areas of Switzerland there was a regionalization or even municipalization of marriage rules, e.g., with regard to freedom of marriage, the role of marriage vows (engagement), the need for parental consent and the minimum age for marriage. For example, the minimum age for marriage (marital maturity) in Glarus was 16 years from the 17th century to the beginning of the 19th century, 22 years in Neuchâtel in 1748 and even 25 years in Geneva from 1713 onwards (Head König 2013). According to the Zurich Marriage Act of 1524, men from the age of 20 and women from the age of 18 were allowed to marry without the consent

of their parents. New was also the possibility of divorce in the event of adultery. In later laws of the 17th century malicious abandonment and impotence were also accepted as valid grounds for divorce.

The main purposes of marriage remained procreation and rearing of children. With the religious revaluation of the family in Protestant Swiss regions the position of the house father - responsible for the religious domestic order - was explicitly emphasized. The patriarchal division of labor between husband and wife was clearly defined by the Zurich reformer Heinrich Bullinger in his 1547 publication 'Der Christlich Eestand': "Waz ussethalb dem huss zehandeln ist/ als hin und här reisen/ gwün und gwärb fertigen/ kauffen und verkauffen/ und der glychen eehaffte stuck/ ist des manns arbeit. Der sol glych wie ein empsiger vogel hin und här fliegen/ die narung und notturfft samlen und flyssig zuo näst tragen. Und alles was also in daz huss gebracht wirt/sol das wyb samlen/ordnen/nüt zuo verlieren gon lassen/und alles was in huss zethon ist flyssig und fruotig ussrichten." This distribution of roles (man secures the existence of the family, woman takes care of household and children) remained basically unchanged in Switzerland until the introduction of a new marriage law in 1988 that introduced the legal equality of wife and husband.

For the control of marriage - as an institution on which the paternalistic state rested – specific matrimonial courts were set up in Protestant regions. As early as 1525 Huldrych Zwingli introduced such a matrimonial court in Zurich. Other Protestant places too introduced such institutions, which survived until the end of the Old Confederation (Hofer 1993). The tasks of these matrimonial courts were enforcement and preservation of good marital customs: "Pious and honest judges shall be appointed and ordered in the church to a marriage court, who shall protect and preserve marriages, and defend against all fornication and impertinence. And before whom all disputes arising out of marriage shall be interrogated and judged." (Helvetische Confession 1723: 147, own translation of German text). The marriage judges had to decide on disputed marriage vows and they could - in order to prevent the 'vice of fornication' - issue marriage orders. The matrimonial courts also had to judge paternity claims or to punish premarital intercourse.

From the 17th century onwards, the ethical control of married life intensified in the Protestant areas of Switzerland - and as a result of the Counter-Reformation also in Catholic cantons. The influence of church and authorities regarding marriage behavior intensified and well into the 19th century choice of partners and marriage behavior were strictly regulated. In many regions or municipalities, for example, marriages with non-residents were prohibited, as was marriage with persons of another religious denomination. Partially and temporarily a marriage license was made dependent on the proof of a regular income, with the intention of preventing the reproduction of poor people (Head König 2013). Housing shortages, but also waiting for father's inheritance or taking over a craft were further obstacles to early marriages.

The path to a liberal marriage legislation in Switzerland was lengthy. It was not until 1821 that ten cantons concluded an agreement allowing confessional mixed marriages, but it was only in 1850 that prohibitions on confessional mixed marriages were completely abolished in all Switzerland. It took even longer, until 1874, that an individual right to marriage was enshrined and civil marriages were introduced. Marriage laws, however, remained committed to a patriarchal order. Even according to the revised marriage law of 1912, the husband was and remained the head of the family, who, for example, had the right to prohibit his wife from gainful employment outside the home. A legal equality of wife and husband took place only in 1988 with the introduction of a new marriage law.

Historical family analyses point for pre-industrial societies to two different marriage patterns, on the one hand a pattern of early and general prevalence of marriages, more typical for African and Asian countries, and a so-called 'European marriage pattern', characterized by rather late marriages and at times high rates of never-married women and men (Hajnal 1965, Van Zanden et al. 2019).

In the 18th and 19th centuries Switzerland was one of the typical representatives of this 'European marriage pattern'. Switzerland, together with northern European countries, was characterized by relatively high first marriage ages. In the 18th and 19th centuries, the mean age at first marriage for men varied between 27 and 29 years, if not higher (which was quite a high age given the low life expectancy at the time). Like today women married on average two to three years earlier than men. The mean age at first marriage for women was between 25 and 27 years and sometimes higher (see Table 2). This was a higher first marriage age than observed in southern and non-European countries during this period. The fact that social and economic factors played a role in the age at marriage becomes clear in data from the then Republic of Geneva: Economically secure upper classes married earlier than lower classes, whereby in all three social classes the age at marriage was higher in the 18th century than in the 17th century (as in Geneva the minimal legal age to marry was 1713 raised to 25 years) (see Table 3).

A high age at first marriage of women has a negative effect on fertility rates. From the 18th century onwards demographic reasons for restricting early marriages were increasingly discussed (and used to legitimize marriage restrictions). For example, Thomas Malthus (1766-1843) – a prominent proponent of the thesis of increasing overpopulation – came across eager representatives of this principle of population control during his trip through Switzerland, for example in a conversation with a farmer from the Jura: "He was of the firm opinion that too early marriage and too many children would only lead to misery, and he proposed introducing a law to prevent men from marrying before the age of forty and even then only with old girls who would give birth to only two or three instead of six or eight children." (Malthus 1798: 256)

Table 2
Mean age at first marriage of women and men in Switzerland

		Mean age at first marriage			
		women	men	Diff.	Source:
A) Municipal &regional data					
Rural communities (ZH)	1634/35	23.5	25.2	1.7	1
City of Wohlen (AG)	1757-1782	25.5	29.7	4.2	2
Urserental (UR)	1640-1700	26.0	27.1	1.1	3
	1801-1830	27.3	28.4	1.1	
Silenen (UR)	1765-1785	24.0	26.5	2.5	4
Sulgen (TG)	1695-1709	26.7	29.8	3.1	5
	1710-1725	28.1	29.0	0.9	
Speicher (AR)	1720-1749	26.5	28.5	2.0	6
Haslen (AR)	1760-1780	25.5	28.5	3.0	7
City of Lucerne (LU)	1786-1795	27.2	29.3	2.1	8
	1836-1840	28.9	31.8	2.9	
Marbach (LU)	around 1800	25.0	28.0	3.0	8
	1830-1840	28.0	30.0	2.0	
City of St. Gallen (SG)	1800-1835	26.0	28.0	2.0	6
B) Switzerland total					9
	1855	26.1	28.7	2.6	
	1880	26.6	28.8	2.2	
	1900	26.4	28.6	2.2	
	1920	26.7	28.9	2.5	
	1941	26.5	29.0	2.5	
	1960	24.9	27.5	2.6	
	1980	25.0	27.4	2.4	
	2000	27.9	30.3	2.4	
	2022	30.4	32.5	2.1	

1: Letsch 2017, 2: Dubler, Siegrist 1975, 3: Zurfluh 1982, 4: Bielmann 1972, 5: Menolfi 1980, 6: Ruesch 1979b, 7: Schürmann 1974, 8: Burri 1975, 9: Bundesamt für Statistik, Stat-Tab (marriages)

Table 3
Mean age at marriage of women by husband's social class in Geneva (17th to 19th century)

	Social class of husband		
	upper class	middle class	lower class
Mean age at marriage of women			
1625-1644	19.7	23.2	26.8
1700-1704	24.0	26.6	29.7
1745-1749	24.8	26.3	29.5
1800-1810	22.7	25.9	27.2

Source: Perrenoud 1989: 242

Economic hardship preventing young adults from being able to support their own family, but also legal marriage restrictions led to an increase in the number of women and men remaining celibate in some regions of pre-industrial Switzerland. In Geneva, for example, the proportion of unmarried adults increased from 6% (1550-1599) to 29% (1700-1749) (Henry 1956). Not only poor men and women remained single, but also large parts of the servants. In other regions of Switzerland similar, albeit less marked, increases in the proportion of the never-married population were observed. While around 1634/35 in rural parts of the canton of Zurich only 2-3% of 50-year-olds remained single, higher rates of single people were found in the 18th and 19th centuries. The proportion of men and women remaining single was particularly high in Catholic regions with a high proportion of nuns and monks (e.g., in the city of Lucerne towards the end of the 18th century) (see Table 4).

Table 4:
Never-married population: Proportion of women and men who remained single at the age of 50

		Still single at age 50		
		Women	men	Source
A) Municipal/regional data				
Rural communities (ZH)	1634/35	2%	3%	1
Vallorbe (VD)	1678-1699	11%	3%	2
	1700-1749	10%	9%	
	1750-1799	10%	9%	
Spirigen (UR)	1681-1710	14%	9%	3
	1711-1760	16%	9%	
	1761-1790	18%	13%	
Sulgen (TG)	1710	14-16%	13-15%	4
	1722	10-14%	9-11%	
Speicher (AR)	1740-69	11%	7%	5
Freienbach/Wollerau (SZ)	1700-1750	21%	19%	6
	1760-1810	21%	14%	
Suhrental (LU)	1786-1794	22%	17%	7
B) Switzerland				
	1856-1860	20%	18%	8
	1881-1885	19%	17%	
	1901-1905	17%	15%	
	1921-1925	18%	14%	
	1941-1945	20%	13%	
	1961-1965	15%	11%	
	1981-1985	12%	9%	
	2000	11%	8%	
	2010	12%	15%	
	2020	17%	23%	

Source: 1: Letsch 2017, 2: Hubler 1984, 3: Zurfluh 1988, 4: Menolfi 1980, 5: Ruesch 1979b, 6: Schelbert 1989, 7: Kurmann 1985, 8: Federal Censuses, after 2000 structural surveys Federal Statistical Office.

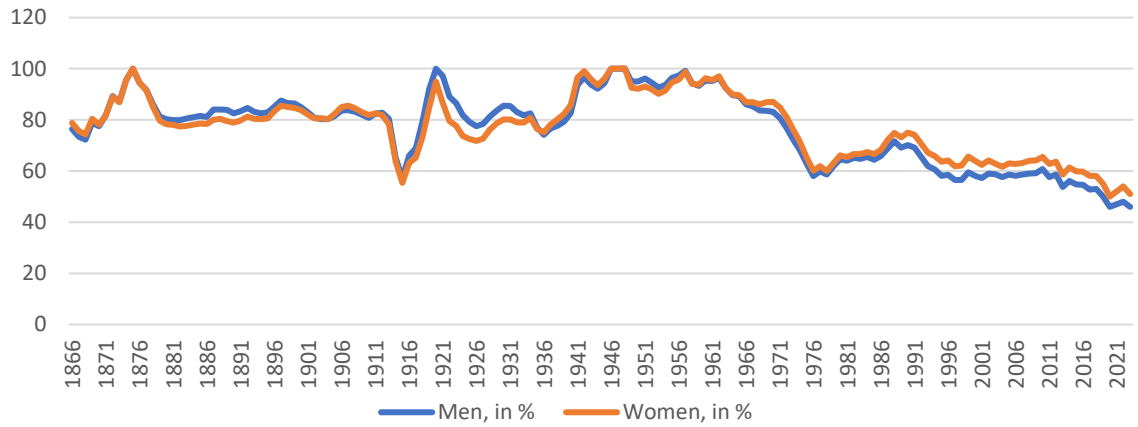
In the 19th century and at the beginning of the 20th century too, a relatively large number of men and women in Switzerland remained single. At times the proportion of women remaining

unmarried was significantly higher than among men. This was particularly the case in periods where there was a marked 'shortage of men' due to war or emigration.

In recent decades the proportion of formally unmarried men and women has again increased, but primarily because more people live in extramarital relationships (and less because more people remain without a partner).

Figure 1 shows the synthetic first marriage rates since 1866. This indicator provides an indication of the proportion of men and women who enter into formal marriage during their lifetime. As a synthetic indicator this figure is subject to short-term fluctuations. For example, the introduction of civil marriage around 1874 led to a marriage boom, whereas the beginning of World War I contributed to the postponement of marriages. Generally economic crises and times of war contributed to reduced marriage rates, with catch-up effects afterwards. Particularly high first marriage rates were observed during the economic boom years after the Second World War. In the post-war decades marriage remained in Switzerland the only legal form of heterosexual cohabitation and non-marital cohabitation remained for a long time formally forbidden. In the canton of Zurich, the ban on extramarital cohabitation was only lifted in 1972. In the Catholic cantons of Schwyz and Valais, formal "cohabitation bans" – which classified extramarital cohabitation as punishable – applied until the 1990s (legalization of non-marital cohabitation: Schwyz 1992, Valais 1995).

Figure 1: Synthetic first marriage rates: Switzerland 1866-2023



Source: Bundesamt für Statistik – Statistik der Bevölkerungsbewegung (Stat-Tab-Datenbank

After the mid-1960s, the willingness to marry decreased again, as other options like non-marital cohabitation or remaining single became more popular. At the same time, the traditional marriage model fell apart. Since the 1970s, a number of significant changes in marital norms and realities can be observed:

First, there was an unbundling or even dissolution of the Christian marriage model, which provided for a clear link between sexuality, living together and having children within a defined way of life.

Secondly, premarital sexuality became popular among younger generations and discrimination against children born out of wedlock and unmarried mothers proved untenable. In 1978, legitimate and illegitimate children were legally treated equally in Switzerland, also with regard to inheritance claims.

Third, marriage became an option of choice and non-marital lifestyles spread in Switzerland, albeit less rapidly than in Sweden (Höpflinger 1999, Le Goff, Ryser 2018). Especially younger people without children often maintain a consensual partnership (see Table 5). A formal marriage often happens after living together for some time or with the birth of a child.

Fourthly, the frequency of divorce increased rapidly after 1966/67. The increased frequency of divorce is not an indication of a loss of importance of couple relationships, but mainly an indirect compliment to the ideal of modern couple relationships and equally a testimony to their difficulties.

Fifthly, the proportion of bi-national marriages has increased in Switzerland due to strong immigration (see Table 6). Marriages and families became multi-cultural.

Table 5:
Distribution of (heterosexual) partnerships by legal form

A) Distribution by age groups 2018-2023

		Marriage		Consensual partnership	
		2018	2023	2018	2023
Age group:	25-34 J.	54.0%	37.3%	46.0%	62.7%
	35-44 J.	77.7%	69.2%	22.3%	30.8%
	45-54 J.	83.5%	78.8%	16.5%	24.2%
	55-64 J.	87.9%	78.1%	12.1%	21.9%
	65-80 J.	93.1%	82.9%	6.9%	17.1%

B) Distribution by age and number of children 2023

		Marriage			Consensual partnership		
Number of children of the couple		0	1	2+	0	1	2+
Age group:	25-34 J.	17.7%	70.5%	82.9%	82.3%	29.5%	17.1%
	35-44 J.	35.5%	74.9%	89.2%	64.5%	25.1%	10.8%
	45-54 J.	41.8%	87.5%	94.7%	58.2%	12.5%	5.3%
	55-64 J.	46.0%	91.7%	99.0%	54.0%	8.3%	1.0%
	65-80 J.	56.2%	93.5%	98.4%	43.8%	6.5%	1.6%

Source: Federal Statistical Office – Family and Generation Surveys 2018 & 2023

Table 6:
Distribution of marriages by nationality of couple in Switzerland 1970-2023

	1970	1980	1990	2000	2023
Both Swiss nationality	74.7%	77.3%	68.0%	56.7%	47.1%
Man foreign, woman: Swiss	7.3%	6.7%	7.6%	9.7%	15.7%
Man Swiss/woman foreign	8.5%	10.3%	15.4%	20.3%	19.3%
Both foreign nationality	9.5%	5.7%	9.0%	13.3%	17.9%

Source: Federal Statistical Office (Stat-Tab) (2023: without same-sex couples)

Marriage lost its monopoly as the only legitimate form of cohabitation for women and men, but explicit reservations about marriage can only be found among a small minority of the

population. In 2018 less than twenty percent of 15-80-year-olds believed marriage was an outdated institution. Interestingly, in this respect there were few significant differences of opinion between young and older people (see Table 7). Greater differences between age groups or generations were 2018 observed in the acceptance of marriage for same-sex couples. Support for 'marriage for all' was at this time more pronounced among younger people than among older respondents.

In 2020 the Federal Parliament approved a proposal to introduce marriage for all (with equal rights) and on 26 September 2021 this proposal was approved by the electorate with a “yes” vote of 64%. Accordingly, the differences in attitudes by age groups on this topic have narrowed in 2023.
Between 2022 and 2023 over 1700 same-sex couples tied the knot. In addition, registered partnerships can be converted into a marriage with the new law. More than 3000 couples have taken advantage of this opportunity (Bundesamt für Statistik 2024b).

Table 7:
Attitudes towards marriage by age groups: Switzerland

		Age group (years)					
%-agree with the statement:		15-24	25-34	35-44	45-54	55-64	65-80
Marriage is an obsolete institution	2018	16%	22%	20%	20%	17%	15%
Homosexual couples should have the same rights as heterosexual couples							
	2018	69%	65%	64%	57%	54%	48%
	2023	74%	74%	71%	67%	69%	68%

Source: Federal Statistical Office – Family and Generation Survey 2018 & 2023

2.2 Fertility and generative behavior in Switzerland

In a first part birth rates and fertility data in pre-industrial Switzerland are presented, as far as valid historical data are available. In a second part the development of fertility rates from the end of the 19th century up to the first decades of the 21st century is analysed.

2.2.1 Birth rates in pre-industrial Switzerland

The data on fertility rates and generative behavior in previous centuries are patchy and confined to local or regional sources. Reasonably reliable data are only available from the 17th century onwards (Letsch 2017). In analyzing birth rates during pre- and early industrial periods, two aspects must be taken into account:

First, infant and child mortality in pre-industrial societies were high. At times only half of children reached adulthood. The number of (surviving) children was thus much lower than the number of newborn children. Although average birth rates were high, this did not mean large families. The average number of persons per household in the city and rural communities of Zurich around 1770/90 was 5.3 persons (Walter 1966). The numbers were higher in rural than urban regions, but in the Old Helvetic Confederation the average number of household members was 4 to 5.5 persons (see Schillig 2020: Tab. 3).
Secondly, high maternal mortality rates at the time reduced the number of births. Childbirth was a considerable mortality risk for young women. Only the strongest women survived five or more births. The effect of the high mortality of women can be seen in the fact that so-called 'full marriages' (marriages that did not end with the premature death of the wife) had significant higher birth rates than the average of all marriages.

The average number of (marital) births in the 17th and 18th centuries varied between 4.5 and 6 births, depending on the region and period (see Table 8). [4] Differences in the number of births were the result of various factors. On the one hand, period effects played a significant role. Famines or epidemics reduced birth rates, while good harvest years or improved incomes led to more births. On the other hand, age of marriage and age at first birth were important intermediate variables. The later the marriages, the lower the subsequent birth rates. In Mollis (Glarus) 1731-1760 women who married before the age of 20 had on average 9.6 births, whereas women with a marriage age between 25 and 29 years had on average 4.9 births. At a marriage age of 30 to 34 years the number of births fell to 3.6 (Head 1989). Regional differences in the age of marriage explain a significant part of the observed fertility differences and an increase in the age of first marriage was an important reason for lower birth rates in many regions during the 18th century (e.g., in Geneva).

[4] Extramarital births were rare in Switzerland in the 16th to 18th centuries. As far as data are available, in many places at most 1-2% of births were 'illegitimate', also because an extramarital pregnancy forced in many cases an immediate marriage (Höpflinger 1986: 40ff.).

Table 8:
Birth rates in the 17th and 18th centuries in the area of present-day Switzerland

		Mean number of births per couple:		% families with … births			
		All marriages	complete marriages*	0-4	5-9	10+	
City of Geneva (GE)	1625-1645	5.1					1
	1650-1674	5.8					
	1675-1699	4.9					
	1700-1704	4.4					
	1725-1727	4.1					
	1745-1749	3.7					
	1770-1772	3.8					
City of Lucerne	1786-1795	4.5		55%	37%	8%	2
Marbach (LU)	End of 18th century	6.0	6.7	31%	49%	20%	2
Triengen (LU)	1650-1699	6.3					2
	1750-1799	5.4	7.0	27%	51%	22%	2
Wohlen (AG)	1655-1680	5.2					3
	1757-1782	4.9		47%	40%	13%	3
Bürglen (TG)	1630-1694	5.9	7.5	37%	41%	22%	4
	1726-1780	5.1	5.4	48%	38%	14%	
Silenen (UR)	1741-1750	5.5		38%	51%	11%	5
Speicher (AR)	1650-1699	3.7					6
	1700-1749	4.3	6.5			19%	
	1750-1799	4.5					
Freienbach (SZ)	1710-1749	5.4					7
	1750-1799	6.4					
Parish of Appenzell	1650-1699	4.5					8
	1700-1749	4.6					
	1750-1799	5.7					
	1800-1829	5.9					
Mollis (GL)	1700-1730	6.4					9
	1731-1760	6.6					
	1761-1790	6.1					
Zollikon (ZH)	1561-1799	5.4		53%	36%	11%	10
Maschwanden (ZH)	1561-1799	4.5		62%	34%	4%	10

* Marriages that were not dissolved by the premature death of the woman.
Sources: 1: Perrenoud 1979, 2: Wicki 1979, 3: Dubler, Siegrist 1975, 4: Menolfi 1980, 5: Bielmann 1972, 6: Ruesch 1979b, 7: Schelbert 1989, 8: Schürmann 1974, 9: Head 1989, 10: Letsch 2017.

The average birth rates conceal large differences in the generative behavior of individual families. Quite a few couples remained childless, for example due to biological infertility, caused by infectious and sexually transmitted diseases. In Vallorbe (Vaud) the proportion of marriages remaining childless between 1639 and 1729 was just over 10%. In 1730 and 1810 this increased to 15% as result of a higher age of marriage (Hubler 1984). In Sulgen (Thurgau) a marital childlessness of about 12% was observed in 1695-1725 (Menolfi 1980). In the Zurich municipalities of Zollikon and Maschwanden the proportion of married couples remaining childless was 13% (Letsch 2017). The values observed for Switzerland correspond to what has

been observed in German villages during the 18th century (13% childless) (Knodel, Shorter 1976: 139). In general, more than one in ten marriages remained childless, although this was more common in second and third marriages than in first marriages. On the other hand, quite a few couples had 10 or more births, although the proportion of families with 10 or more births varied greatly depending on the period and region (between 4% and 22%). Differences in the proportion of marriages with a large number of births were linked to the age of marriage, but also to the economic and health situation of families. Due to the risk of maternal death and poor nutrition, large families were in pre-industrial Switzerland relatively rare.

To what extent the birth figures at that time corresponded to the women's desire to have many children is unknown. It can be assumed that some methods of birth control were already known. Thus, kind of condoms from animal bladders as well as plant decoctions with abortifacient effects were not unknown. In Lucerne court records from 1714 the forbidden application of 'coitus interruptus' is listed (Burri 1975). However, targeted birth control remained the exception rather than the rule until the late 19th century.

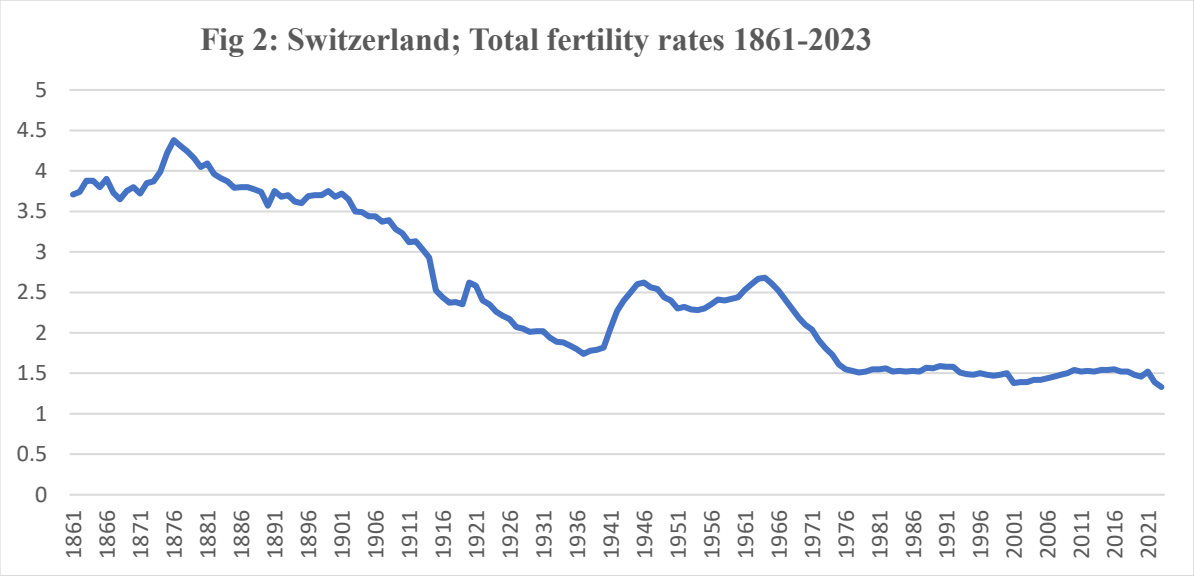
Nonetheless, in Protestant cities, forms of birth restriction have been observed among some groups of the upper classes as early as the 18th century, indicated by increasing intervals between births, for example in Geneva from 1725 onwards (Perrenoud 1974). In the city of Zurich forms of birth restriction among parts of the upper class can be traced back to the middle of the 17th century: "With the introduction of birth restrictions around 1650, Zurich is one of the places in Europe for which this behavior is observed comparatively early." (Pfister 1983: 112). Ruling Zurich families limited their fertility when there was a danger that the social position of the family was threatened by too many surviving sons; a danger particularly acute in periods of declining social mobility and increased expenditures in maintaining a ruling position within the city. In order to promote upward mobility or reverse downward mobility, extraordinary efforts were required, including aiming for a smaller number of children (Pfister 1983: 230, cf. also Pfister 1985). Even for pre-industrial families, the economic cost of 'too many children' could be a weighty motive for limiting births.

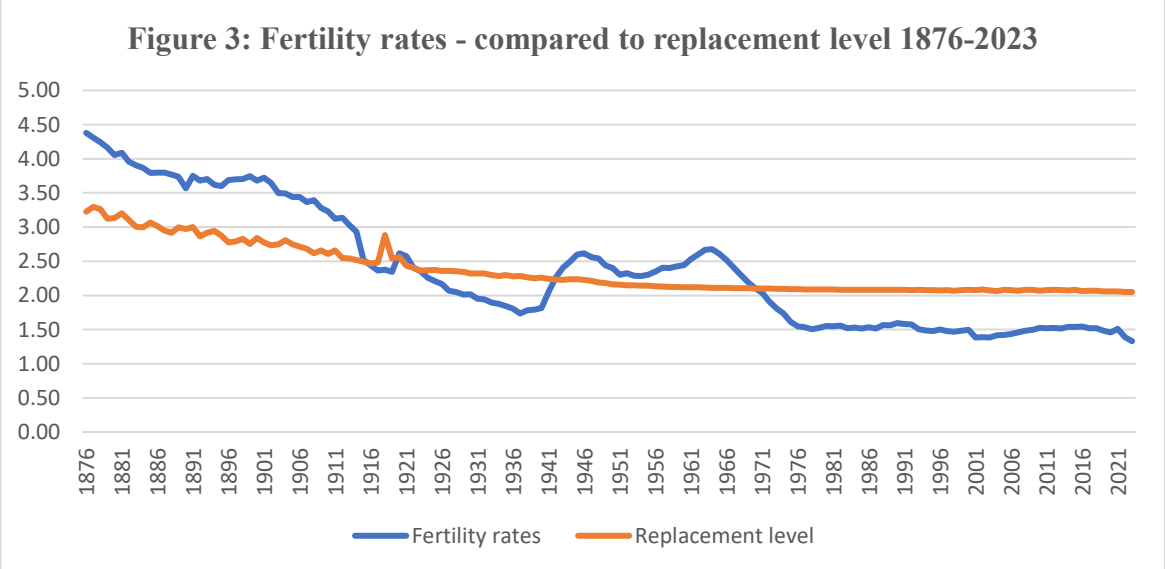
Although the Protestant upper class was the first to begin family planning, parts of the Catholic upper class later adopted forms of family planning too, for example in the Catholic city of Lucerne: "Birth restrictions seem to have occurred at least in some Lucerne families and at least to some extent at the end of the 18th century. For members of the upper class, this can even be said with certainty." (Burri 1975:132)

In rural areas of Switzerland, on the other hand, there is no evidence of significant birth restrictions either in the 18th century or in the first half of the 19th century. As a result, the birth rates remained at a high level in the vast majority of areas of Switzerland well into the 19th century. Alone high ages at first marriages prevented higher birth rates, resulting during the 19th century in many regions of Switzerland in lower birth rates than, for example, in Germany and Austria (Festy 1979).

2.2 Fertility trends and generative behavior since the end of the 19th century

Although by 1870 almost 60% of the workforce was already employed outside agriculture, at this time there was still no general decline in (marital) birth rates and in some regions the development of industrial work even led to more births. It was only after 1875/76 that Switzerland experienced a slow, then accelerated decline in (marital) fertility rates (Calot 1998, see also Figure 2). By 1885 marital fertility had already declined by a good 10% and from 1903 onwards the fertility rates fell under 3.5. Even after that, the decline continued, intensified by the disturbances of the First World War. The total fertility rates fell to 2.4 by 1920 and reached 2.0 in 1929. The following economic crisis reduced fertility further. Between 1932 and 1940 the average fertility rates were less than 2 births per woman. In the period from 1920 to 1940 the Swiss fertility rates were thus below the so-called replacement level, i.e., below the level of births necessary for the long-term maintenance of the resident population (see Figure 3).





Sources for figures 2 and 3: Calot 1998 (1860-1996), From 1996: Federal Statistical Office – Population movement.

Economic development (industrialization) and socio-cultural modernization (diffusion of liberal-secular values and reduced influence of the church) were in Western Europe important factors influencing changes from high to low fertility (Lesthaeghe, Wilson 1982). As in other countries the cities were at the forefront of the new developments: "The whole rationalist mindset emanated from the cities. Here the wealthy classes were particularly strongly represented, here the power of tradition and the Church was particularly weak with an uprooted and very mobile mass thrown together from all regions of the world. Here, as already mentioned, the child first became a pure consumer and weighed twice as heavy within the context of an expensive apartment." (Bickel 1947: 238)

The introduction and enforcement of compulsory schooling has been regarded as a central trigger and amplifier of the development towards families with few children: "It can be argued that the beginning of fertility change is primarily due to the effect of mass schooling on the family economy." (Caldwell 1982:301) International comparisons indicate that after two generations of mass schooling of women, no society has high fertility: "It seems unlikely - and so far, there is no example of this - that a society can maintain high fertility after two generations of mass education." (Caldwell 1982: 305, cf. also Caldwell 2005, Delventhal et al. 2021)

School attendance eliminated children as workforce and also brought new costs, if only because you had to dress your children properly. Schools increased the pressure on poor parents or peasant populations to conform to bourgeois educational ideals. At the same time, thanks to better education the younger generations gained knowledge independent of the family, undermining the authority of older family members. Centralized education also increased the speed of socio-cultural change, accelerating the breakthrough of new fertility norms.

A socio-historical analysis carried out for Switzerland supports this observation: The fertility decline started earlier and occurred faster in districts with well-educated young recruits than in economically analogously developed districts with a lower general level of education (van de Walle 1980, see Table 9A). Religious differences - at the time pronounced and sometimes conflictive in Switzerland– were also relevant (Head-König 2017). A main reason was the traditional resistance of the Catholic Church to almost all forms of family planning and birth control (an attitude confirmed in 1968 with the papal ban on the use of the contraceptive pill). The decline in fertility rates occurred earlier and faster in Protestant areas than in Catholic areas. Especially in rural Catholic regions birth rates remained high. Even in the 1920s and in the immediate post-war period (1949-1952) fertility levels were shaped by both economic structures and denominational conditions; a good illustration of interactive influences of economic and cultural factors on generative behavior (see Table 9B). Catholic-protestant differences in generative behavior persisted in Switzerland until the 1970s, albeit in weaker form (Höpflinger 1983).

Table 9
Regional differences in fertility rates in Switzerland at the end of the 19th century and the beginning of the 20th century

A) Marital fertility in districts by level of education of recruits and denomination 1888

	Marital Fertility Index (Ig) 1888			
Education: %- recruits with highest scores*	Catholic districts	Protestant districts	Mixed districts	All districts
- less than 10%	.81	.78	-	.80'
- 10-19%	.73	.72	.70	.72
- 20-29%	.64	.61	.59	.61
- 30% and more	-	.56.	50	.53
Total	.74	.66	.59	.67

* Basis: Education-related performance of recruits in the recruit examination.
Source: Van de Walle 1980.

B) Marital fertility in districts by economic structure and denomination 1891/1900 to 1949/52

	Live births per 1000 wives aged 15-44		
	1891/1900	1921/1930	1949/1952
All districts	270	164	146
Agricultural districts	305	293	220
- majority Catholic	319	305	220
- majority Protestant	289	209	-
- equal/mixed	197	-	-
Economically mixed districts	284	253	153
- majority Catholic	300	306	253
- majority Protestant	275	208	173
- equal/mixed	273	243	-
Commercial-industrial districts	266	153	144
- majority Catholic	294	214	181
- majority Protestant	254	138	130
- equal/mixed	205	122	-

Sources: Brüschweiler 1938, Bickel 1958.

In the interwar period (1919-1939) the fertility rates fell in all regions of Switzerland. The economic crisis after 1929 reduced fertility levels further, as economic difficulties contributed to the postponement of family formation. Between 1932 and 1940 the average fertility rates were lower than 2 births per woman. Switzerland was a European country with one of the lowest fertility rates. During this period discourses and scenarios about a demographically ageing and even depopulated Switzerland intensified: "Our source of life is drying up. In about a dozen

years, more people will be buried in Switzerland than will be born. I am not guilty of exaggeration in stating that the procreation will of the present generation carries within itself the germ of self-destruction." (Studer-Auer 1941: 6). "Quickly things will go downhill with us. Even if we assume that in the next two decades marital fertility will decline only half as fast as in the last decade, in 60 years, i.e., at the turn of the next century, Switzerland will have only 2.8 million inhabitants instead of 4.2 according to the fairly reliable forecasts of the Federal Statistical Office." (Studer-Auer 1941: 9). [5] The causes of this 'alarming development' were blamed on the 'consumerism' of many married couples as well as on the general 'disintegration of the family'. Demands for a pro-natalist population policy became popular.

Only a few years after the forecasts of a rapid depopulation of Switzerland, the number of births began to rise; a development that was unexpected for most experts of the time. As early as 1941, the fertility rate again reached the value of 2 births per woman and in the following war years – when the defeat of the Third Reich became apparent – birth rates of 2.3 to 2.6 resulted. The post-war period – with the reconstruction of Europe and an economic boom – was accompanied by a 'baby boom', not only in European countries, but also in the USA and Canada. In Switzerland, the fertility rates from 1945 to 1968 were well above the replacement level (varying between 2.3 and 2.7 births per woman). The earlier scenarios about depopulation and demographic ageing of Switzerland were rapidly forgotten.

In Switzerland, there were historically two birth peaks and correspondingly two different baby booms: The first increase in births rates in Switzerland - in contrast to war-disabled countries - started in the last years of the war. From 1943 to 1950 birth rates were 2.4 and higher. From 1951 to 1956 birth rates were slightly lower, but reached again 2.4 to 2.6 between 1957 and 1966. Thus, the birth cohorts 1943-1950 represent war and post-war baby boomers, while the birth cohorts 1957-1966 can be described as prosperity baby boomers.

In the immediate post-war period, the 'baby boom' reflected a catch-up effect (family formations postponed due to the war were realized). During the economic boom years too, fertility rates remained at a comparatively high level, accompanied by significant reductions in the age at first marriages and age at first births. Age-specific birth rates of women under the age of 30 rose and remained at a high level until 1970. On the other hand, the birth rates of women over 35 years of age fell markedly (see Table 10). The increased fertility level in the late 1940s and the 1950s was therefore hardly the result of women giving birth to significantly more children. On the contrary, the proportion of women with 4 or more births continued to fall. The increase in births was during this period primarily determined by the fact that more women (and men) than before started a family with children. While around one in four women born in 1911/15 – who grew up during an economic crisis – remained childless, the proportion of childless women born in 1936/40 – who grew up in the boom years of the post-war period – was only around ten percent (Höpflinger 1987).

[5] In 2000 Switzerland had in fact a population of 7.2 millions (and not as projected only 2.8 millions).

Table 10:
Age-specific fertility rates in Switzerland 1930-2023

	Number of live births per 1000 women in each age group						
Age:	15-19	20-24	25-29	30-34	35-39	40-44	45-49
1930	8. 4	68.0	121.8	104.5	62.6	23.4	2.3
1940	7. 8	70.5	116.7	95.7	55.6	18.5	1.6
1950	12.2	101.7	156.2	120.4	66.4	21.7	1.7
1960	11.0	113.3	167.1	116.8	58.6	20.2	2.0
1970	16.0	116.3	142.8	90. 5	41.7	12.2	1.2
1980	7.2	71.6	125.9	77.4	23.7	4.7	0.4
1990	4.6	50.6	124.7	99.7	33.8	5.0	0.2
2000	4.1	41.5	96.0	104.8	44.7	7.8	0.4
2010	2.7	29.7	78.6	117.7	66.9	14.0	0.8
2020	1.1	17.9	68.4	112.8	74.3	18.2	1.6
2023	1.0	15.8	58.6	102.1	70.8	17.9	1.8

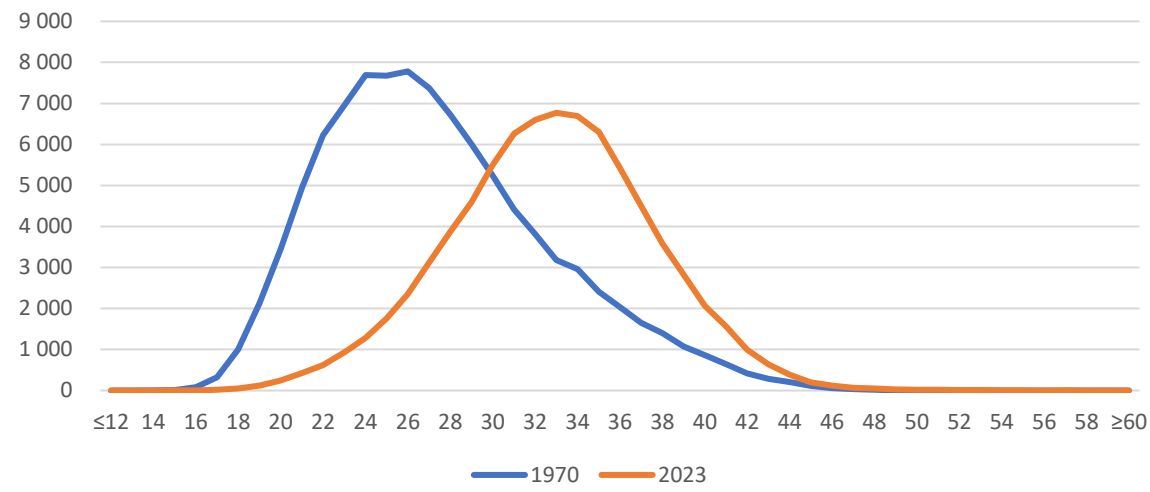
Sources: 1930-1950: Calot 1998, 1960-2000: Milojevic-Grgic 2014, from 2000 onwards: Federal Statistical Office, Population movements.

The development towards more and earlier born children was triggered by the popularity of traditional marriage and family values after years of crisis and war. During this period family norms were shaped – especially in Switzerland – by the model of a nuclear family organized according to a clear division of female and male roles (husband as breadwinner, wife as full-time housewife). Other forms of partnership – such as non-marital cohabitation – were not only frowned upon, but in many cantons explicitly forbidden. The post-war period can be regarded as the 'golden age of bourgeois marriage and family'. Traditional family patterns were reinforced by the fact that - thanks to the reconstruction of Europe- the post-war decades were characterized by strong economic growth with corresponding prosperity effects. As a country not involved in the war and having an intact industrial structure, Switzerland was able to benefit disproportionately from the post-war reconstruction of Germany, France and Italy. This had the consequence that women's employment rates declined, as more working-class and white-collar families were able to secure their livelihoods through the husband's wages (Baumgartner 2008).

After 1965/66 fertility rates again fell rapidly. As the contraceptive pill was introduced, the decline in births at that time is also referred to as ‘post-pill fertility decline’. In 1972 the average fertility rate was again below 2, only to decline further to an average of 1.5 births per woman by 1978. Over the past four decades fertility rates in Switzerland remained low (1.4 to 1.6 births per woman). They were thus again well below the demographic replacement level. In the mid-1980s this triggered renewed discourses on the 'extinction of the Swiss' (Kommission Bevölkerungspolitik 1985). Covid-19 epidemic and its aftermath contributed to historically low birth rates in 2022-2023 (2022: 1.39, 2023: 1.33) (Le Vu et al. 2023).

The decline in the fertility rates from the mid-1960s onwards were accompanied by significant changes in the timing of family formation, similar to Germany and Austria (Sobotka 2011). The trend towards early first marriages ended and the age of marriage rose again (see Table 2). This also delayed the birth of a first child and subsequent births, as Figure 4 illustrates. The average age of married women at first birth increased between 1970 and 2023 from 25 to 31.

Figure 4: Live births by maternal age, 1970 and 2023



Source: Federal Statistical Office (population movement) (Stat-Tab)

At the same time, individualistic lifestyles became popular, especially among younger generations. On the one hand, the number of single-person households ('singles') increased. On the other hand, forms of premarital and non-marital cohabitation gained popularity, leading to an increasing frequency of births outside marriage. In addition, divorce rates increased with all the associated social consequences, such as an increasing number of second marriages or single-parent families (Fux 2005, Höpflinger, Fux 2007).

Table 11:
Estimated number of children for selected birth cohorts of women in Switzerland

	0 Children	1 Child	2 Children	3+ Children
Women born:				
1911-1915	25%	13%	22%	40%
1916-1925	19%	14%	24%	43%
1926-1935	16%	12%	28%	56%
1933-1948	18%	14%	36%	32%
1949-1958	21%	17%	40%	22%
1954-1963	22%	15%	39%	24%
1964-1973	24%	17%	39%	20%
1974-1978	24%	18%	40%	18%

Estimated values, since in Switzerland only the birth sequences of marital births are recorded.
Sources: Birth years 1926-1935: Höpflinger 1986. Birth cohorts 1933-1978: Conversion of data from the family and generation surveys 2013, 2018 and 2023 (note: adopted children are included.

Due to the decline in the fertility rates, the number and proportion of families with one or two children increased, whereas large families with four or more children became rarer (Milojevic-Grgic 2014: 164). Table 11 presents some indications on the final number of children for selected birth cohorts of women. On the one hand, the relatively high proportion of women who remained childless is striking. International comparisons indicate that Switzerland – together with Germany – is one of the European countries with comparatively high childlessness rates

(Dorbritz 2005, Fux 2019, Höpflinger 1991, Sobotka 2017). The proportion of childless women is strongly associated with their educational background. While 11% of women born in 1961-70 with only compulsory schooling remained childless, this was the case for 19% of women with post-compulsory education and for 28% of women with tertiary education (Le Goff, Ryser 2025: 8). On the other hand, women (and men) who start a family usually have more than one child. In Switzerland families with two children are relatively common, whereas the proportion of women with three or more children, has become rarer among younger generations of women.

In recent decades in modern European societies, there has been an increased importance of emotional values and a decreasing importance of economic utility functions of children (Trommsdorff 2006). Emotional-affective relationship, intimacy and stimulation are among the values emphasized when young parents are asked about the benefits of having children. However, these post-materialistic values of children are motives for limiting the number of children. The trend towards few children is strengthened by high economic costs of children (Nauck 2007).

Table 12:
Ideal or desired number of children according to different surveys

		Ideal number of children:					
		0	1	2	3	4+	Source
Blue collar workers, Zurich	1960	2%	6%	62%	25%	5%	1
Married couples*	1970	2%	3%	50%	32%	13%	2
Married couples							
German-speaking regions	1980	1%	1%	73%	23%	2%	3
Persons aged 20-49 y.*	1994	1%	3%	71%	18%	7%	4
		Desired number of children					
		0	1	2	3	4+	Source:
German-speaking regions	1980						
Wives		3%	7%	53%	27%	10%	3
Husbands		3%	6%	57%	26%	8%	3
Women aged 20-49 y.*	1994	10%	10%	48%	21%	11%	4
Men aged 20-49 y. *	1994	10%	9%	49%	20%	12%	4
Women aged18-51 y.*	2002	11%	7%	47%	23%	12%	5
Childless women 20-29 y.*	2013	6%	3%	62%	3+: 29%		6
Women aged 18-51 y.*	2014	10%	7%	50%	23%	10%	7
Men aged 18-51 y.*	2014	11%	7%	53%	20%	9%	7
Childless women 20-29 y.*	2018	10%	2%	61%	3+: 27%		8
Childless men 20-29 y.*	2018	8%	5%	62%	3+: 25%		8
Childless women 20-29 y.*	2023	16%	5%	55%	3+: 24%		9
Childless men 20-29 y.*	2023	18%	6%	55%	3+: 26%		9

* National surveys
Sources: 1: Hanhart 1963, 2: Höpflinger, Kühne 1979, 3: Hoffmann-Nowotny et al. 1984, 4: Gabadinho 1998, 5: Switzerland. Household panel (own analyses) 6: Bundesamt für Statistik 2015, 7: Switzerland. Household panel (own analyses), 8: Bundesamt für Statistik 2018. 9: Bundesamt für Statistik 2024a.

Looking at ideal or desired number of children, we find during the last decades a marked continuity with a strong emphasis on the two-child norm; a norm embraced by urban workers even before the onset of fertility decline (Hanhart 1963). In addition to a preference for families

with a maximum of three children, two other aspects are significant (see Table 12): A one-child family is classified as ideal or desirable only by comparatively few respondents, for example because the absence of siblings is perceived as problem or because an excessive adult orientation of an only child is feared. At the same time, there was no increased advocacy of a childless life. The proportion of respondents who considered childlessness to be ideal or personally desirable has hardly increased. Even in 2018 only 10% of 20-29-year-old childless women wished to remain childless. However, the most recent survey on family and generations 2023 indicates among the young men and women an increased emphasis to remain childless (probably related wo widespread pessimism about the future (Bundesamt für Statistik 2024a).

Overall, the realized number of children has in the last decades been lower than originally desired. More women and men remain childless as originally planned. This can have personal reasons, such as separation from a partner, health problems or biological infertility. For childless young people who want children, the quality of the partner relationship is particularly important for starting a family. In addition, one's own health and working conditions are important. Especially for women with tertiary education the decision for or against children is significantly influenced by working conditions (Baumgartner 2008, Milojevic-Grgic 2014). Family-work incompatibilities contributed and continue to contribute to the fact that family plans are only partially realized. Of women aged 50-59, 24% were childless in 2023. Childlessness is particularly pronounced among women with a tertiary education (33% childless) (Bundesamt für Statistik 2024a). This makes it clear that women with high levels of education often fail to implement their original family plans if those are not compatible with professional goals (Häberling 2013, Le Goff, Ryser 2025).

Family values have in recent decades not experienced any general devaluation. Rather the realization of family plans and not a fundamental renunciation of the family seems to be the problem. Where there have been significant shifts, however, is the timing of family formation. The trend towards small families was accompanied and partly reinforced by a strong trend towards late family formation. As mentioned earlier on, the average age of a woman at childbirth has shifted upwards. While 65% of women born in 1934-43 – who started their families in the post-war decades – were under 30 when their first child was born, this proportion was only 30% for women born in 1974-83 who started a family at the beginning of the 21st century. For men, the corresponding proportion fell from 50% (born 1934-43) to 19% (born 1974-83). Extended education, later entering into a stable partner relationship and increased labor market participation among women are considered to be the main causes of delayed family formation. Accordingly, particularly women and men with tertiary education are postponing their family formation. In urban areas, delayed family formation has been and continues to be reinforced by the emergence of youth-oriented lifestyles among young adults; in the sense of young adults who temporarily enjoy a youthful phase of life before having children.

In 2022 women under the age of 25 accounted for only 6% of all births, compared to 33% in 1970. 88% of children were born to mothers aged 25-39 and 6% to women aged 40 and over. As a result of this development, the window of opportunity for starting a family has narrowed, especially for women (Wirthlin 2015). The phase of life between the ages of 25 and 40 is a phase of life in which today's younger adults – and increasingly women and men alike – experience the most intense occupational stress; to build a professional career or to consolidate their economic situation. It is part of the challenge of younger adulthood that - under today's social and professional conditions - the central life decisions (stabilization of a partner relationship, employment career, starting a family) must be made within a narrow and possibly too narrow time frame.

The consequences of starting a family later are, on the one hand, increased age gaps between the generations. On the other hand, with increasing age of a woman (and a man) at the birth of children, the genetic risks as well as the risk of biologically induced infertility increase. This is an important driver for prenatal diagnosis and an increase in medically assisted reproduction (in vitro fertility), which began in Switzerland in 1983.
In its population scenarios, the Federal Statistical Office (2020) assumes that the birth rate will remain below 2 births per woman in the future. Depending on the scenario, a fertility rate of 1.4 to 1.8 births per woman is expected in 2050, with a slight tendency towards even higher age of first birth. [6]

3 Mortality and life expectancy

There is hardly any other demographic development that has changed people's lives as much as the increase in life expectancy in Europe in recent centuries or the decline in premature deaths of infants, children and young adults: "For our ancestors, death was a natural phenomenon in their everyday lives. By means of a handful of recurring causes (smallpox, typhus, cholera, plague) death struck everywhere, at every age, in every class, men and women, infants and children, married and single." (Imhof 1981:33) In modern European societies, this has changed fundamentally and most people can benefit from a long and secure life expectancy (often for a long time in good health).

3.1 Life expectancy and survival order in pre-industrial Switzerland

In pre-industrial times people in the area of today's Switzerland were - as in other European regions - affected by recurring demographic crises. Epidemics (plague, smallpox, typhus, cholera, etc.) as well as famines after crop failures repeatedly killed large parts of the population. Raids and military campaigns as well as feudal exploitation also reduced the life chances of broad sections of the population

In particular, the plague ('Black Death'), which repeatedly appeared in Europe since the middle of the 14th century, claimed many victims in Switzerland too. The plague epidemic of 1348/49 led to more than 150,000 deaths, out of a total population of 700,000 to 800,000 people (Häberli 1978). In Valais, a quarter to a third of the adult population died of the plague (Dubuis 1991). Major epidemics were also common in later centuries. Between 1300 and 1700, the city of Basel was affected 35 times by a major epidemic, of which 24 times by the Black Death alone. Severe plague epidemics reduced the urban population by a third or even half within weeks or months (Gschwind 1977). The city physician Felix Platter (1536-1614) in Basel noted that the plague epidemic of 1611 killed more than a third of the city's population (Letsch 2017: 376). In the city and canton of Zurich, it is estimated that more than a quarter of the population died from the same plague epidemic (known as locally as 'Das grosse Sterbend') (Letsch 2012b). After each major epidemic, however, there was a rapid recovery of the population, as surviving women and men benefited from vacant housing, jobs or land ownership. A shortage of workers led to higher wages (which improved marriage opportunities of the surviving young adults).

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[6] The data for 2020 and 2021 indicate for Switzerland a relatively small effect of the Covid-19-Pandemic: Fertility rates 2019: 1.48; 2020: 1.46, 2021: 1.51). However, in the following years the fertility rates decreased to very low levels (2022: 1.39, 2023: 1.33); probably a reaction to increased anomie and crises (increased inflation, war in Ukraine etc.)

Mortality rates were not only high in the Middle Ages and early modern times, but they fluctuated greatly from year to year. Even in earlier centuries, people from the upper classes, however, had better chances of experiencing longer lives than people from the lower classes. Thus, in the city republic of Geneva in the 17th century, 305 out of 1000 people from the upper classes (higher officials, high and middle bourgeoisie) reached the age of 60. Among the middle classes (petty bourgeoisie, craftsmen, skilled workers) 171 and among the lower classes (unskilled workers) only 106 out of 1000 lived to see their 60th birthday (Perrenoud 1975). In later centuries too, the life expectancy of social elites was higher as in lower social groups, as a detailed analysis of survival rates in Geneva 1625-2004) illustrates: „In Geneva, the social elites have maintained their advantage in survival for more than four centuries.» (Schumacher, Oris 2011: 364).

The pattern of a population repeatedly decimated by epidemics and famine began to change in Europe only towards the end of the 17th century. The end of the deadly plague waves was an important step. For the territory of Switzerland, the plague epidemic of 1667-1669 was the last recorded plague (at that time in the town of Uster (ZH) around 400 of 1,100 inhabitants died) (Letsch 2017: 406). In 1722 the last Western European plague epidemic was recorded, which, thanks to quarantine measures, only reached Marseille and the surrounding area.

In the 18th century crop failures followed by local famine or infectious diseases such as smallpox, cholera or typhus continued to hit people hard. In the 18th century, for example, smallpox epidemics directly or indirectly affected 15-20% of each birth cohort (Mercer 1985; Sundin 1994). Around 1770, the average life expectancy after birth in Europe was only 34.3 years (Riley 2005: 538). However, in some European regions from the 18th century onwards, it became possible to contain the spread of epidemics and famines. This was mainly due to the establishment of centralized state structures: Strict quarantine regulations prevented the spread of epidemics. The consequences of local crop failures were limited by improved transport routes and increased stockpiling (both justified by state and military policies) (Kunitz 1983). An agricultural modernization that began in the 18th century also improved the situation as more people could profit from a better nutritional basis. Such developments resulted during the 18th century in an increase in average life expectancy at least in better organized areas of Europe, even though the risk of death for infants and children remained high. While in the Republic of Geneva at the end of the 16th century only 14% reached the age of 50, by the end of the 17th century already 22% reached this age and at the end of the 18th century the corresponding proportion was 35% (Perrenoud 1979). In the well-organized Republic of Geneva in the middle of the 18th century – based on Halley's mortality tables – a good 24% reached even the age of 70: a much higher percentage than observed at the same time in Leipzig (11%) or in Berlin (7%) (Süssmilch 1765).

Table 13 shows available data on (average) life expectancy from previous centuries to the present day. In some regions, there was a significant increase in average life expectancy in the 18th century, compared to the 17th century. However, a clear increase in life expectancy did not occur in many regions until the second half of the 19th century. In the 145 years after 1876/80, average life expectancy in Switzerland doubled, from 42 to 84 years (see Fig. 6).

In earlier centuries the average life expectancy at birth remained low also due to high infant mortality. We observe higher average values if life expectancy is calculated after the age of 1. While the average life expectancy in rural Zurich in 1635 was only 25 years, it was 34-36 years after surviving the first year.

Table 13:
Average life expectancy in the territory of present-day Switzerland

A) Local or regional data

		Average life expectancy (in years)					
		At birth			At the age of 1 year		
		All	M	F	All	M	F
City of Geneva	1561-1600	21.2					
	1601-1700	25.7					
	1701-1750	32.6	29.2	35.7			
	1751-1800	34.5	31.9	37.0			
	1801-1813	38.5	35.1	41.5			
	1814-1833	40.7	38.5	42.7			
Zurich: Rural regions	1635	25.2	25.2	24.9		35.9	33.5
Zurich City	1778	30.6					
Canton of Vaud*	1751-1760	37.5	35.0	39.4			
Sulgen (TG)	1695-1715	26.3			40.2		
Haslen (AI)	1760-1780	24.8			36.4		
	1809-1829	21.2			36.2		
Gonten (AI)	1812-1832	21.3			38.0		
Andermatt (UR)	1751-1800	38.4					
	1801-1830	39.1					
Silenen (UR)	1741-1830	30.0			41.5		
City of Lucerne (LU)	1745-1795	31.2	30.5	32.7	43.5	41.8	45.3
Entlebuch (LU)	1810-1824	39.8			47.2		
B) Total Switzerland							
	1876/1880	42.0	40.6	43.3	50.5	49.9	51.1
	1901/1910	50.7	49.3	52.2	56.9	56.1	57.7
	1921/1930	59.8	58.1	61.4	62.5	61.3	63.8
	1941/1950	66.2	64.1	68.3	67.8	66.0	69.7
	1960/1970	72.1	69.2	75.0	72.5	69.7	75.3
	1982/1983	76.2	72.8	79.5	75.7	72.4	79.0
	1990	76.6	74.0	79.2	76.9	73.5	80.3
	2000	79.8	76.9	82.6	79.2	76.4	82.0
	2010	82.4	80.2	84.6	81.7	79.5	83.9
	2019	83.8	81.9	85.6	83.1	81.2	84.9
	2020 (Covid-19)	83.0	81.0	85.1	82.4	80.4	84.4
	2023	84.1	82.2	85.8	83.3	81.5	85.1

* 40 parishes in the canton of Vaud
M: Men, F: Women
Source: Bickel 1949 (Geneva, Vaud), Burri 1975 (Lucerne), Letsch 2017 (Zurich Country, City of Zurich): 452 & 464, Menolfi 1980 (Sulgen), Schürmann 1974 (Haslen, Entlebuch, Silenen), Zurfluh 1982 (Andermatt), Switzerland as a whole: Statistical Yearbooks of Switzerland, Statistical Office (mortality tables).

The historical data on average life expectancy reveal three facts:

Firstly, in the 18th century, at least in some regions (such as Geneva or Lucerne), there was a tendency for women to live longer than men whereas until the 17th century there were no clear gender differences in life expectancy.
Secondly, life expectancy in the cities was at times lower than in the countryside (because cramped living conditions facilitated the spread of epidemics). In addition, the food supply in the cities was more precarious for the lower classes than in rural regions.
Thirdly, there were some distinct areas of misery in the Old Swiss Confederation, which were characterized by exceptionally low life expectancies even by the standards of the time. At the beginning of the 19th century, the average values in some poor Appenzell municipalities were only 21 years, compared to almost 40 years in wealthier regions.

Table 14:
Survival order according to mortality tables

A) Local and regional data

	Survivors up to age.... out of 1000 born										
	1	5	10	15	20	30	40	50	60	70	80
City of Geneva											
1580-1599	754	562	486	439	394	275	189	132	77	36	9
1600-1649*	757	574	507	467	425	321	247	185	117	63	18
1650-1699	767	604	539	505	469	366	287	211	129	59	10
1700-1749	801	654	591	566	539	445	369	289	185	91	16
1750-1799	790	679	626	598	570	477	411	331	223	105	22
1800-1811	829	737	695	672	643	533	458	360	238	105	19
Rural regions of Zurich											
1635 Men	691	546	487	471	445	387	335	261	179	87	16
Women	734	589	543	518	490	386	291	228	142	64	14
Igis-Landquart (GR)											
1703-1768 -	-	632	592	559	545	487	428	345	268	158	-
Maienfeld/Jenins (GR)											
1762-1802	827	-	578	-	541	498	440	370	285	155	-
Speicher (AR)											
1740-1769	615	480	441	423	399	355	298	234	154	74	-
Men	567	436	400	381	358	324	280	232	153	85	-
Women	660	522	479	463	438	386	316	238	155	62	-
1840-1869	621	548	525	515	496	449	397	344	267	131	-
Men	548	516	491	481	468	430	397	348	275	140	-
Women	655	577	557	547	522	467	396	341	261	124	-
Silenen (UR)											
1741-1830	710	650	590	537	512	448	394	318	231	120	-
City of Lucerne											
End of 18th century	701	615	565	549	527	464	418	371	260	136	34
Men	710	616	572	543	531	432	410	360	246	108	22
Women	703	623	565	553	532	484	435	389	278	168	46
Haslen (AI)											
1809-1829	542	-	-	354	328	308	274	230	176	90	25
Gonten (AI)											
1812-1832	659	-	-	467	437	388	315	251	150	83	25

Table 14: Continued

b) Switzerland

	Survivors up to age..., out of 1000 born										
	1	5	10	15	20	30	40	50	60	70	80
Switzerland 1876											
Men	773	715	694	682	667	605	536	449	330	182	47
Women	809	748	728	714	693	638	571	503	399	226	64
Switzerland 1950											
Men	965	957	954	951	945	928	906	862	735	552	248
Women	973	967	964	962	959	949	933	901	828	670	356
Switzerland 2022											
Men	996	995	995	995	993	983	971	972	939	851	662
Women	997	996	996	996	995	993	990	983	963	912	777

*Without plague 1615-16

Note: The historical mortality tables listed above – with the exception of the data for rural regions of Zurich 1635 (Letsch 2017) – were calculated according to the so-called Halley's method, i.e., they are based on a stationary population model that exclusively includes the age breakdown of the deceased. Accordingly, an increase or decrease in the population as well as inward and outward migration can lead to distortions of the results. For methodological questions and problems, see especially Letsch 2017.

Sources: Bielmann 1972 (Silenen), Bündnerische Monatsblätter Nr. 7 1863 & Nr. 7 1865 (Maienfeld/Jenins), Burri 1975 (Luzern), Der neue Sammler, ein gemeinnütziges Archiv für Bünden 1809 (Igis-Landquart), Letsch 2017: 349 (rural regions of Zurich), Perrenoud 1979 (Geneva), Ruesch 1979b (Speicher), Schürmann 1974 (Haslen, Gonten). All of Switzerland: Mortality tables of Switzerland.

Another form of representation of mortality development is provided by mortality tables, which indicate the proportion of surviving persons at different ages. The data in Table 14 present data on survival orders from the territory of Switzerland and for Switzerland in its present form. It should be noted that the vast majority of historical mortality tables were calculated according to the so-called Halley's method, i.e., they are based on a stationary population model that is based on the age distribution of deceased persons. Accordingly, an increase or decrease in the population as well as inward and outward migration can lead to distortions of the results (on methodological questions see Letsch 2017). In addition, the survival orders presented in Table 14 are period-specific data (which may be biased by cohort effects).

Despite the methodological inaccuracies, the data illustrate a clear fact: In earlier centuries, only comparatively few people reached old age. Growing old was the exception and not – as today – an expected normality. There were particularly many deaths in infancy and childhood. At times only half or less of children born ever reached adulthood.

3.2 Infant mortality

A significant factor in the low average life expectancy in earlier eras was a high infant and child mortality. Out of 100 newborns in the 18th and 19th centuries many died in the first year of life (Flinn 1981). Gastrointestinal diseases in particular swept away many infants and toddlers. Some infectious diseases (such as smallpox, measles, scarlet fever, whooping cough) "lost their age-independent character with increasing traffic and communication density during the 18th and early19th centuries and became typical childhood diseases, which primarily threatened infants and young children." (Spree 1992: 15-16). For those who survived the first year of life in the 18th and 19th centuries, however, life expectancy increased significantly as the survivors became immune to some infectious diseases.

Table 15 provides data on infant mortality in pre-industrial Switzerland. Depending on the region and time, between 20% and 30% of infants died. Years of crisis and famine led to higher rates, whereas good harvests contributed to more surviving infants. The general prosperity of a region was also significant. For example, death rates were lower in wealthier regions (rural regions of Zurich, Entlebuch) than in poorer regions of Switzerland, such as Appenzell, where economic crises at times contributed to the impoverishment of the landless population.

Table 15:
Infant mortality

A) Local and regional data

	Deaths in the first year of life per 100 births						Source :
	1600-1650	1650-1700	1700-1750	1750-1800	1800-1850	1850-1870	
City of Geneva	30	29	22-24	24			1
City of Lucerne			24-26	22-26	22		2
Zollikon (ZH)		29	17-25	22-25	21-25		11
Marbach LU			23	14-19	15-16		2
Amt Entlebuch (LU)			22 18	17-18			3
Urserental (UR)		32	31	29	26		4
Igis-Landquart (GR)			25				5
Sulgen (TG)			29	40-44			6
Speicher (AR)			24	35	39	30	7
Freienbach SZ		27	24	32			8
Gais (AR)				27	23		7
Wolfhalden (AR)				31		32	7
Canton Appenzell-AR						34 (1867/71)	9
Haslen (AI)				31	37		10
Gonten (AI)				36	38		10
Canton Appenzell-IR						40 (1867/71)	9
Canton Ticino						15 (1867/71)	9

B) Total Switzerland

Switzerland total	1867/71	24.6
	1876	19.7
	1890	15.7
	1910	10.5
	1930	5.1
	1950	3.1
	1970	1.5
	1990	0.7
	2010	0.4
	2023	0.3

Source: 1: Perrenoud 1979, 2: Burri 1975, 3: Bucher 1974, 4: Zurfluh 1982, 5: Der neue Samler 1809, 6: Menolfi 1980, 7: Ruesch 1979, 8: Schelbert 1989, 9: Geburten, Sterbefälle und Trauungen in der Schweiz 1867-1871, 10: Schürmann 1974. Switzerland as a whole: Swiss Federal Statistical Office.11: Letsch 2017: 303

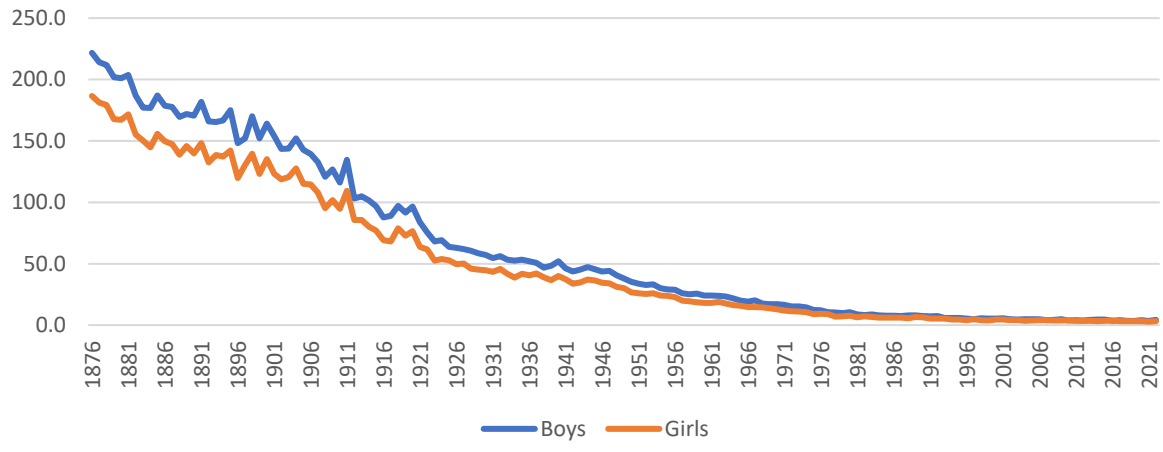
The economic and social situation of parents was also important for the survival of infants and toddlers. This is illustrated by a comparison of Appenzell families from different social classes towards the end of the 18th century: "In the socially and economically better-off families, the infant mortality rate of 17.2% was only half as high as in the other families." (Schürmann 1974: 108) Similar social differences during this period were also observed in the city of Lucerne (Burri 1975). Significant social differences of infant mortality were also observed in the 19th century, for example in Geneva from 1800-1880: „Among children of the elite, 93% survived their first year of life, compared to 85% among those born to lower skilled or unskilled workers.» (Schumacher 2010: 456).

Although infant and child mortality began to decline slightly in a few regions since the 18th century, the high infant mortality rates – mainly caused by digestive diseases - changed little until the end of the 19th century in most areas of Europe. In the middle of the 19th century infant and infant mortality in some regions even increased temporarily, due to increased virulence of diphtheria and scarlet fever. Proletarianization and urbanization facilitated the spread of epidemics. While in 1849-63 in Berlin 25% of all infants born in wedlock died before the age of 1, in 1876-80 the corresponding figure was 30% (Cromm 1989). In many regions, a marked and progressive decline in infant mortality did not occur until the end of the 19th century or the beginning of the 20th century.

As late as 1867/71 almost 25% of those born in Switzerland died in their first year (with boys having a higher mortality rate than girls). Large regional differences were observed during this period (15% infant mortality in the Italian-speaking canton of Ticino compared to 40% in the rural canton of Appenzell-Innerrhoden, at the time affected by a crisis in the textile industry.

After 1867/71, infant mortality in Switzerland fell rapidly and continuously, by 1912 to less than 10%. Even after that, it continued to fall steadily, to a value of 0.3% by 2023 (see also Figure 5). Part of the decline after 1867/71 is due to microbiological changes as earlier life-threatening childhood diseases became more 'harmless'. Above all, however, better care, hygiene and nutrition of infants were central. In the post-war decades, the spread of antibiotics also contributed to reduced death rates.

Figure 5: Infant mortality per 1000 live births by sex: Switzerland 1876-2022



3.3 Increasing life expectancy – trends and causes

While infant and child mortality remained high until the late 19th century, the risk of death of young adults in some regions of what was then Switzerland fell as early as the 18th century, primarily due to the onset of agricultural modernization which increased agricultural productivity and thus improved the nutritional basis of the population. In other regions of Europe, too, an important factor in the gradual reduction of premature death was an improved diet for broad sections of the population (Fogel 2004). Thanks to better management of the land, the introduction of new fodder crops, targeted breeding of dairy cows and the gradual spread of the potato, larger parts of the population were better protected against famines: "The protein gap began to close, people were able to eat better and more abundantly despite their growing numbers. The triad of dairy, cereals and potatoes provides the most plausible explanation for the decline in mortality in the 18th century." (Pfister 1984: 124-125) At the same time, in Switzerland the emergence of industrial homework (e.g., textile industry, watch industry) improved the standard of persons with little or no land ownership. Industrial homework also enabled the survival of small Alpine farms. Accordingly, the decline in mortality began earlier in regions of Switzerland with expanded proto-industrial homework (e.g., Basel-Land, Neuchâtel, Glarus, Entlebuch) than in other regions (Mattmüller 1976, cf. also Braun 1978).

At the end of the 18th century attitudes towards illness and death gradually changed. Instead of a fatalistic and passive acceptance of illness and death more active attitudes against diseases emerged within the framework of an enlightened belief in progress. Targeted medical interventions – such as smallpox vaccination – proved effective (Mercer 1985). In the emerging nation states of Europe health policy efforts (to improve the militarily important "public health of young men") were introduced, resulting in sometime massive central government health, hygiene and vaccination campaigns (Sundin 1994: 127). State-enforced social hygiene measures, such as an improved drinking water supply and regulated sewage and waste disposal, were central to the suppression of premature deaths, especially in cities. With increasing industrialization, the living and housing conditions of lower social classes gradually improved. The fact that Switzerland did not experience a proletarianization of the working classes and urban slum formation to the same extent as other European countries was one reason why Switzerland had at the beginning of the 20th century a slightly higher life expectancy than its neighboring countries (Switzerland 50.7 years, France: 48.0 years, Germany 45.5 years, Italy 43.8 years). (cf. Floris et al. 2019).

However, due to the limited medical resources available at the time to combat and cure them, infectious diseases remained a frequent cause of early death until the first half of the 20th century. Young men and women, for example, were often victims of pulmonary tuberculosis; a disease that caused around 10% of all deaths in Europe in the late 19th century, making it a major cause of death among young adults (Spree 1992). Nevertheless, average life expectancy in Europe gradually increased in the second half of the 19th century, from 36 years around 1850 to 1913 to almost 48 years (Riley 2005:538).

Overall, the increase in life expectancy in Europe up to the first half of the 20th century can be attributed to the interplay of improved living conditions (especially nutrition), increased social discipline (internalization of cleanliness and hygiene standards) and national interventions (better water supply, waste and sanitation disposal, health campaigns). However, the change to high life expectancy did not occur until the 20th century, especially after 1945/50, when better socio-political security and prosperity in combination with medical advances (antibiotics etc.) rapidly reduced the risks of an early death.

In the 147 years after 1876/80, average life expectancy in Switzerland doubled, from 42 to 84 years (see Fig. 6). The life expectancy of women and men rose steadily, with only a short-term slump due to the Spanish flu, which led to an estimated 23,000 deaths in Switzerland (Michels 2010).[7] Since 1918/19 there have been flu epidemics and new infectious diseases (such as AIDS) in Switzerland too, but their effects on overall life expectancy were statistically small. Only the latest pandemic (Covid-19) has temporarily contributed to a slight decline in total life expectancy in 2020 (men 2019: 81.9, 2020: 81.0, 2021: 81.6, 2022: 81.6; women 2019: 85.6, 2020: 85.1, 2021: 85.7, 2022: 85.4). In 2023 the 'normal values' were again observed (women 85.9, men: 82.3)

Figure 6: Avrage life-expectancy (at birth): Switzerland 1876-2023

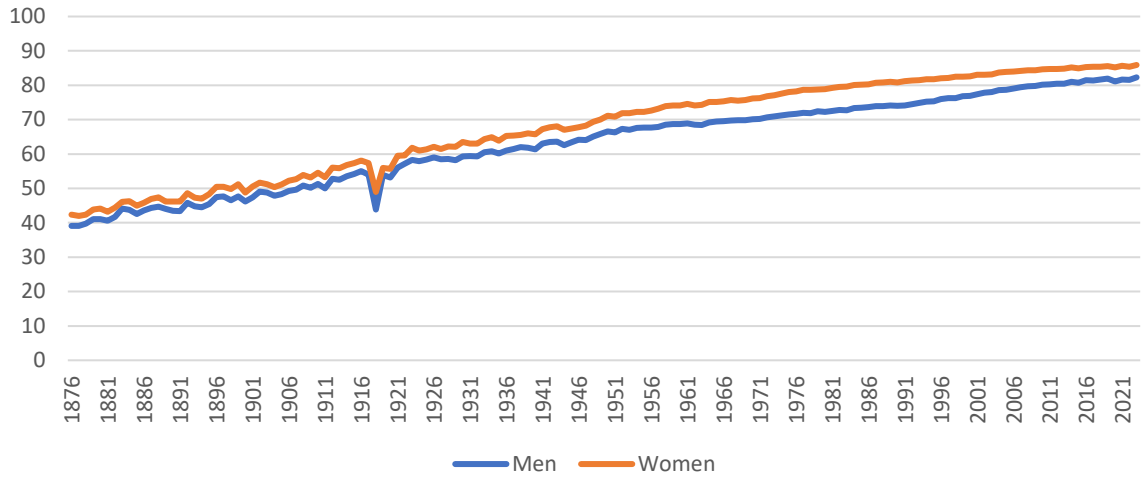
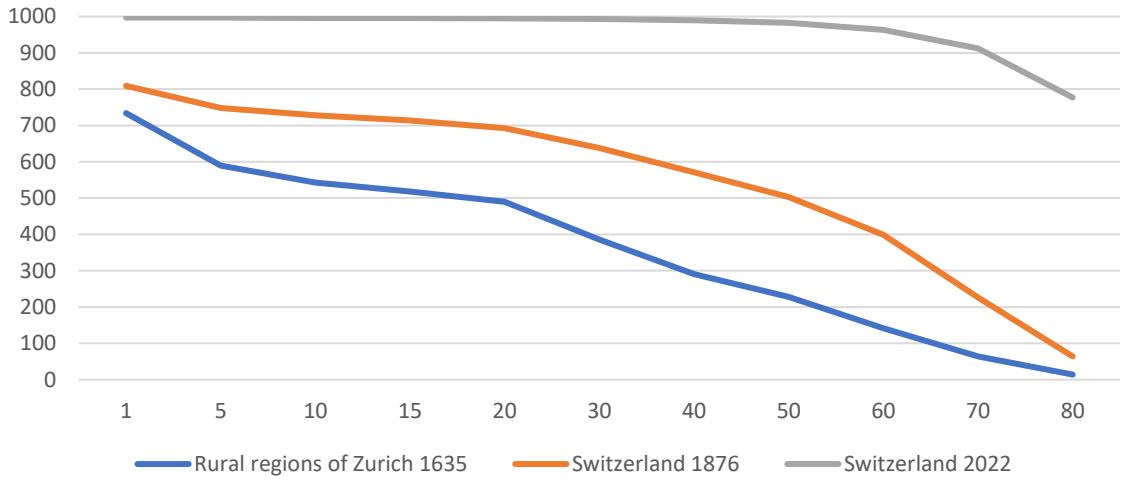


Figure 7: Survival order for women - long-term comparison



The development towards a society of high life expectancies is also visible when we look at the survival order (see Table 14). The proportion of women and men reaching old age has increased. While according to period-specific mortality tables in 1876 only 5% of men experienced their 80th birthday, in 2022 the corresponding figure for men was 67%. For women, the proportion

[7] In some cantons, authorities issued a general ban on gatherings, cultural events and religious services in response to the Spanish flu (Staub et al. 2021). Similar strategies were used in 2020 in the context of the Covid-19 pandemic.

experiencing their 80th birthday increased from 6% to 78%. Figure 7 illustrates the fundamental changes in life chances for women in a long-term comparison from 1635 to 2021.

The data presented in tables 13 and 14 and in figures 6 and 7 include the methodological problem that they are the sum of cross-sectional data. Period-specific mortality tables and survival orders are based on the age-specific mortality of different birth cohorts. At a time when life expectancy is changing rapidly, such figures can present a distorted picture. In recent decades, for example, period-specific mortality data have led to a systematic underestimation of the life expectancy of new generations of women and men, with the result that pension systems based on such data significantly underestimated the payment time of pensions.

A more demographically correct picture is obtained by converting period-specific mortality tables into generation-specific survival orders (Menthonnex 2015). The so-called "cohort mortality tables" provide information on the proportion of men and women from different birth cohorts who reach a certain age. Table 16 shows data for selected birth cohorts between 1876 and 1980. The figures in italics refer to estimates for younger generations who will only in the future reach old age (under the assumption of a continuing trend towards higher life expectancy).

These figures confirm the picture of an increased and probably further increasing longevity. The proportion of men who celebrated their 90th birthday increased from 2% to 18% from birth cohort 1876 to birth cohort1930 (and is expected to continue to rise). For women, an increase from 4% to 35% can be observed.

Table 16
Cohort survival order of selected birth cohorts (Switzerland)

Out of 100 born... % reach the age listed

	Men					Women				
Born	:60	70	80	90	100	60	70	80	90	100
1876	44%	31%	14%	2%	0.04	50%	39%	20%	4%	0.1%
1900	58%	43%	22%	5%	0.2%	65%	56%	38%	13%	0.8%
1910	66%	51%	29%	8%	0.3%	73%	66%	49%	20%	1.2%
1920	72%	58%	36%	12%	0.5%	80%	73%	58%	27%	2.0%
1930	78%	66%	47%	18%	*0.8%*	86%	80%	66%	35%	*3.2%*
1940	82%	73%	56%	*25%*	*1.5%*	89%	83%	71%	*41%*	*5.0%*
1950	85%	77%	*61%*	*30%*	*2.1%*	91%	86%	*75%*	*46%*	*6.7%*
1960	88%	*81%*	*68%*	*37%*	*3.2%*	93%	*89%*	*80%*	*53%*	*9.0%*
1970	*91%*	*85%*	*74%*	*43%*	*4.7%*	*95%*	*92%*	*84%*	*58%*	*11.7%*
1980	*94%*	*89%*	*79%*	*50%*	*6.4%*	*96%*	*94%*	*87%*	*63%*	*14.5%*

Italics: Based on projections
Source: Federal Statistical Office, Cohort mortality tables 1876-2030.
(Table px-x-0102020300_101), see. Kohli 2023

The number and proportion of people reaching a very old age have increased considerably. This becomes also clear when we look at the numerical development of centenarians and older people in Switzerland. Until the middle of the 20th century, a centenary birthday was an

extraordinary event. In recent decades, the numbers of centenarians and older people have increased rapidly, the majority of whom are women (see Table 17).

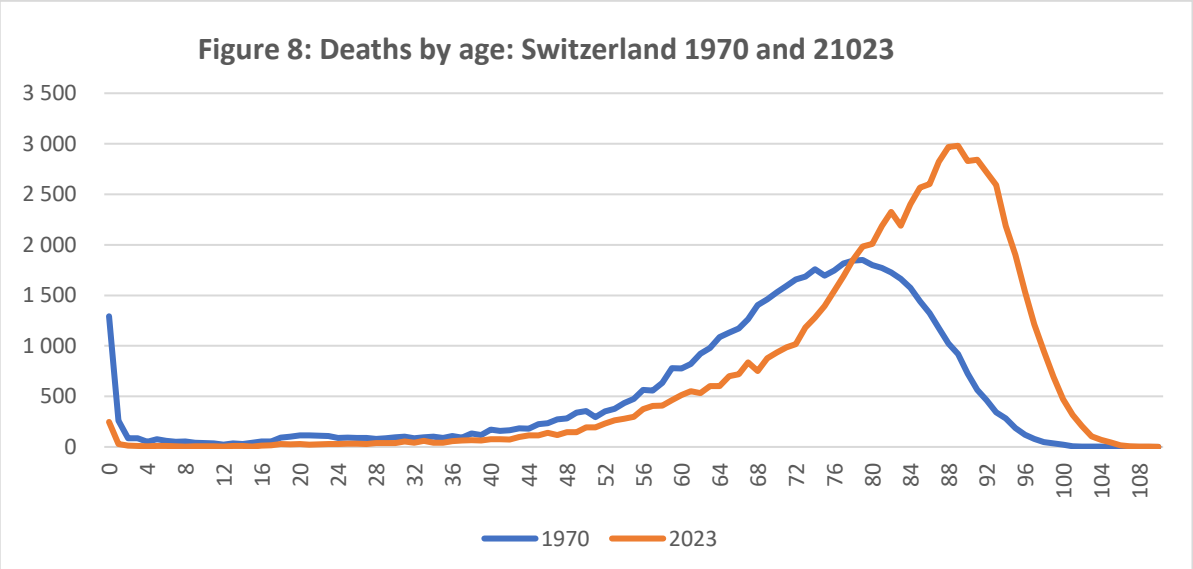
The highest ages at death have also risen since the 1950s. The maximum age reached in Switzerland - which between 1880 and 1920 was 102 – increased to 104 years by 1960 (Robine, Paccaud 2005). In 2020 it was already more than 112 years. Mrs. Rosa Rein (March 24, 1897 to February 14, 2010) died after 112 years and 327 days. In November 2020, Mrs. Alice Schaufelberger-Hunziker (born January 11, 1908) died in a retirement home in Zurich after 112 years and 295 days.

Table 17:
Numerical development of 100-year-olds and older people in Switzerland

	Total	Women	Men
1880	2	2	0
1888	0	0	0
1900	2	2	0
1910	2	2	0
1920	3	2	1
1930	7	4	3
1941	17	11	6
1950	12	9	3
1960	23	19	4
1970	61	45	16
1980	179	136	43
1990	277	214	63
2000	787	676	111
2010	1332	1114	218
2020	1718	1419	299
2023	2088	1708	378

Source: Censuses up to 2000, then population statistics Federal Statistical Office

Figure 8 illustrates the upward shift in age at deaths in recent decades. Even though quite a few people continue to die prematurely, the peak in deaths in Switzerland is currently among people aged 88 to 90.



It is noteworthy that in Switzerland, the increases in life expectancy have in earlier scenarios been systematically underestimated. In a 1935 analysis of future housing and care needs for old age in Switzerland, it was assumed that the number of 90-year-olds and older people would rise to 1,900 by 2000 (Hartmann 1935). In fact, in 2000 Switzerland counted 46,700 people aged 90 and more. The sharp increase in the number of very old people was closely linked to medical advances after 1945 (antibiotics, improved treatment of cardiovascular diseases etc.). In an analysis of the demographic development of Switzerland published in 1969, an increase in average life expectancy to more than 74 years was considered unlikely for the next few decades (Gilliand 1969). In the population projections 1976-2006 calculated by the Federal Statistical Office in 1977, it was assumed that life expectancy for men would increase to 72.1 years by 2001/05. For women, a life-expectancy of 78.8 years was forecast (Eidg. Statistisches Amt 1977). Both estimates were in fact exceeded at the beginning of the 1980s.

The determination of an upper limit of human lifespan ('maximum life span') has to this day remained a hotly discussed undertaking. Interestingly, in recent decades the corresponding estimates have steadily been raised. At the end of the 1970s, a maximum life expectancy of 80.3 years for women and 73.8 years for men was estimated (Bourgeois-Pichat 1978). In the early 1990s, Stuart Olshansky - based on recent developments of death rates - postulated an upper limit of 82 years for men and 88 years for women (Olshansky et al. 1990). Other studies, based on twin studies, assumed an upper maximum lifespan of the human species of 93-94 years (Yashin, Iachine 1997). Detailed analyses of current survival orders in countries with already high life expectancy (such as Australia, France, Italy, Japan, Switzerland, South Korea, Spain) indicate that a strong extension of human lifespan is unlikely, at least with unchanged genetic constitution of humans: „Our analysis suggests that survival to age 100 years is unlikely to exceed 15% for females and 5% for males, altogether suggesting that, unless the processes of biological aging can be markedly slowed, radical human life extension is implausible in this century.» (Olshansky et al. 2024). Other analyses, on the other hand, assume that the probability that at least some individuals will break the previous life record of 122 years is very high (Pearce, Raferty 2021).

The increases in total life expectancy over the last 50 to 55 years are due, on the one hand, to a further decline in infant and child mortality. The risk of death among adolescents and young adults also decreased, although in some countries the risk of death of 20-35-year-old men from AIDS and drugs temporarily increased again. On the other hand, the life expectancies of older women and men increased significantly (see also Bundesamt für Statistik 2009). In recent decades, the reduction in the risk of dying prematurely from cardiovascular disease, particularly ischemic heart diseases, has contributed to a further increase in life expectancy in old age. As a result, the phase of life after retirement was extended. Demographic ageing from below (triggered by low fertility rates) was reinforced by demographic ageing from above (more people aged 65 who survive longer).

Additional information on the factors that have contributed to the decline in premature deaths in recent decades can be found in the next two tables.

Table 18 shows the development of potentially lost years of life between the ages of 1 and 70 from 1970 to 2023. This indicator measures the number of years of life lost due to the fact that some men and women die before their 70th birthday. The data indicate a decrease in premature deaths (up to age 70) among women and men for all listed causes of death: Deaths due to accidents (at work and leisure) could be reduced by preventive measures (e.g., wearing of seat belts, better braking systems for automobiles, prevention of occupational accidents, etc.).

Suicide rates have fallen in recent decades across all age groups. Successes have also been recorded in the medical treatment of tumor diseases as well as in the treatment of cardiovascular diseases.

The Covid-19 pandemic had temporary also an impact on the causes of death and in 2020/21 the proportion of deaths with Covid-19 as the main cause of death (2020: 12%, 2021: 8.4%) was in third place after cardiovascular diseases and cancer. In 2022 Covid-19 was in fifth place, after dementia and respiratory diseases, but ahead of accidents and violence. In 2023, Covid-19 was no longer one of the five most common causes of death.

The gender gap in mortality risks narrowed overall in Switzerland between 1970 and 2023. However, men continue to have significantly higher risks of dying prematurely by accident or suicide. With regard to cardiovascular diseases, the gender gaps have even widened,

Table 18:
Potentially lost years of life by gender, Switzerland 1970 and 2023

	Potentially lost years of life between 1 and 70 years of age per 100,000 inhabitants*					
	Men		Women		Ratio M/F	
	1970	2023	1970	2023	1970	2023
All causes of death	8157	2296	4091	14346	2.0	1.7
Accidents	2122	324	582	106	3.6	3.1
Suicides	681	294	224	137	3.0	2.1
Infectious diseases	169	32	104	21	1.6	1.5
Tumor diseases (cancer)	1692	535	1416	518	1.2	1.0
Circulatory system/heart.	1737	294	699	105	2.5	2.8
Respiratory organs	402	70	217	38	1.9	1.8
Cirrhosis of the liver	202	36	36	20	5.6	1.8

* Age-standardized rates per 100,000 inhabitants; Source: Federal Statistical Office, Statistics on causes of death

A disadvantage of the data given in Table 18 is that they are limited to people up to the age of 70. This is partly justified by the fact that in old age the main cause of death is not always clear due to the occurrence of various diseases at the same time (multimorbidity). However, the fact that the remaining life expectancy of older people has also increased is significant for today's high general life expectancy. The average remaining life expectancy of an 80-year-old woman in 2023 was 10.6 years, compared to only 6.1 years in 1958/63. 80-year-old men, for their part, could expect an average of 9.1 more years of life in 2022 (compared to 5.5 years in 1958/63).

Table 19 shows age-standardized death rates of men and women aged 65-84 and of men and women aged 85 and over between 1990 and 2022. The exact comparison between 1990 and 2022 is complicated by the fact that dementia has been recorded as a cause of death in the Swiss death statistics since 1995 (although it is unclear to what extent old people die from dementia or with dementia). In 2022 deaths from Covid-19-diseases were also recorded.

Overall, these data confirm the previous statements: Even at retirement age the death rates have declined over the last three decades, with lower values for almost all causes of death. Likewise, we observe clear gender-specific differences in old age. For all causes of death, with the exception of dementia, age-specific death rates are lower for women than for men. Or in other words: Even in old age, women have an average higher residual life expectancy than men.

Table 19:
Trends in mortality rates by selected causes of death in old age, 1990 and 2022

	Age-standardized mortality rate per 100,000 persons							
	Men				Women			
	1990		2019		1990		2019	
Age:	65-84	85+	65-84	85+	65-84	85+	65-84	85+
All causes of death	4941	21262	2568	15907	2930	16247	1743	13775
Accidents	159	856	74	655	110	850	51	519
Suicides**	61	136	31	70	24	18	9	10
Infectious diseases/AIDS	36	139	37	210	18	94	20	197
Covid-19			159	1254			82	772
Tumor diseases (cancer)	1532	3903	813	2479	786	1882	567	1272
Circulatory system/heart	2189	11246	597	5436	1369	9944	367	5106
Respiratory organs	470	2672	187	1087	207	1658	122	722
Cirrhosis of the liver	44	54	22	19	7	7	9	3
Dementia*	--		116	1486			139	2213

*Classified as possible cause of death from 1995 onwards, ** excluding assisted suicides
Source: Federal Statistical Office, Statistics on causes of death

The further development of life expectancy is discussed controversially. On the one hand, medical advances (especially in cardiovascular diseases and cancer treatments) and social developments - such as higher educational levels of new generations of old people - can contribute to a further increase in life expectancy. Since the main causes of death in old age in both women and men are primarily degenerative diseases, a further increase in life expectancy in old age is dependent on developments in the treatment of degenerative diseases. On the other hand, some population groups show negative health trends, such as obesity. The proportion of people who are severely overweight (body mass index of 30 and more) has risen in Switzerland too. Widespread antibiotic resistance or the occurrence of severe influenza epidemics can also have negative impacts on life expectancies, especially for older people. The Covid-19 pandemic – which mainly threatened older people – shows that the risks of infectious diseases – long considered overcome – remain virulent. Accordingly, there were higher death rates due to infectious in 2020/21 than in 2019. Climate changes too can affect live expectancy, as indicated by analyzing the effects of heat-waves in Switzerland (Lerch, Oris 2018, Schrijver et al. 2022).

In general, in developed regions a further increase in life expectancy is expected. An international study discussing future life expectancies according to 21 different scenarios concludes that there is a high probability of a further increase in life expectancy in wealthy countries. The scenarios for economically poorer countries are less clear (Kontis et al. 2017). For Japan, Singapore, Spain and Switzerland, life expectancies for both sexes are expected to be over 85 years by 2040 (Foreman et al. 2018). The Federal Statistical Office also expects a further increase in average life expectancy in its population scenarios for Switzerland

(Bundesamt für Statistik 2025). Depending on the scenario, it is assumed that the average life expectancy of men could increase to 85-87 years by 2055. For women, an increase to 89-90 years is expected by 2055.

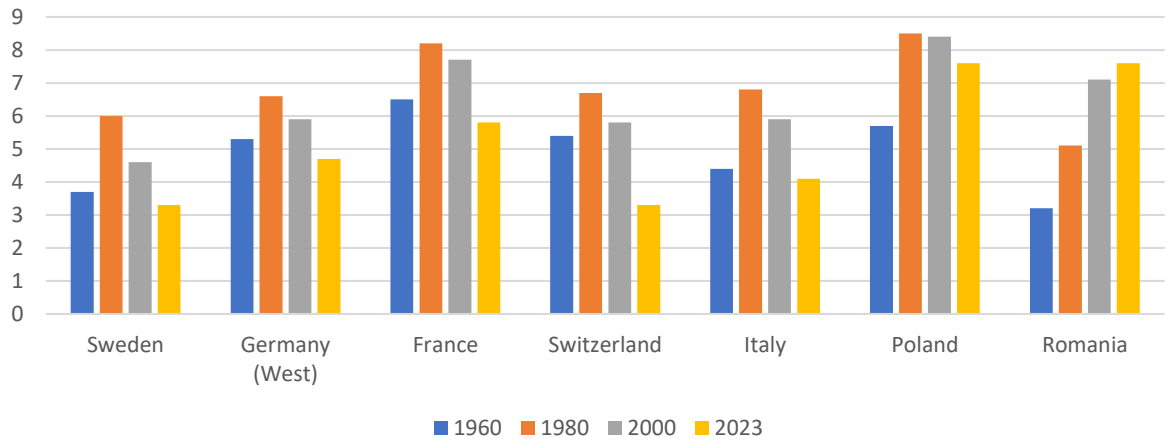
3.4 Social differences in life expectancy

Since both socio-economic living conditions and individual behaviors determine mortality risks and life expectancy, we observe significant social differences in life expectancy. In the following section, central dimensions of such inequalities are discussed and illustrated using the example of Switzerland. First, we look at gender-related differences in the survival order (and their causes). Secondly, the extent to which lifestyle and marital status affect life expectancy is discussed. Thirdly, differences in mortality-risks and life expectancy related to education and social class are presented (as far as data are available for Switzerland).

3.4.1 Gender differences in life expectancy

A striking phenomenon of modern societies are the higher average life expectancies of women compared to men, with gender differences varying according to time period and country (see also Figure 9).

Figure 9: Differences in average life expectancies between women and men 2023



A significantly longer life expectancy of women is a socio-demographic phenomenon that mainly developed in the course of the 20th century. For centuries, the birth of children was a high risk of death for mothers. In the rural regions of Zurich, for example, more women than men reached the age of 20 in 1635, but thereafter the mortality of women increased more rapidly than that of men due to high maternal mortality (see Table 14).

In some regions of Europe (Switzerland, Sweden) the trend towards female longevity began as early as the end of the 18th century, especially in regions where women were relieved of hard physical work during pregnancy and after childbirth and where hygiene conditions improved (Bickel 1949; Sundin 1994) (see also Tables 13 & 14). In Switzerland, as in other European countries, however, a marked widening of gender differences in life expectancy was observed in the 20th century: Whereas in 1876/80 the average life expectancy (at birth) for women was 2.7 years higher than for men, by 1941/50 the difference had widened to 4.2 years. In the following decades, the difference increased further (1960: 5.4 years, 1980: 6.7 years). In

general, gender disparities in life expectancies widen with increasing industrial development and urbanization. The relative longevity of women is an important social phenomenon of modern societies, with the result that in older age-groups women form the demographic majority; a trend referred as ‘feminization of old age’ (Backes 2007, Ryter, Barben 2012).

In some European countries – such as Sweden, Germany, France, Switzerland – the gender gap in life expectancy has in recent decades narrowed (in Switzerland between 1980 and 2023 from 6.7 to 3.6 years). In other European countries – such as Poland and Romania – the differences remain high or have even increased (see Figure 9).

The finding that differences in life expectancy (at birth and at older ages) between women and men vary between countries leads to the conclusion that social, economic and cultural factors determine most of the differences in the survival order of women and men. Genetic-biological differences do exist, for example women are slightly better protected against cardiovascular diseases than men due to immunobiological advantages (Hazzard 1986; Rogers et al. 2010; Waldron 1986). However, the effect of such biological factors is limited. An analysis of Bavarian women's and men's monasteries indicates that the increase in male excess mortality that took place after 1945 can be attributed primarily to behavioral and environmental causes. The author concludes that his results indicate a difference of about one and a half years in life expectancy in favor of women, which could ultimately be due to biological factors (Luy 2011: 6, cf. also Luy 2003). This corresponds to what was estimated in earlier analyses (Stuckelberger, Höpflinger 1996).

The gender-related differences in life expectancy and survival order are clearly linked to differences in life style and behavior between women and men. For example, gender-specific risk behavior mean that women are less likely to be involved in fatal accidents than men. For example, men in Switzerland are more than three times as likely as women to die in an accident before the age of 70 (see Table 18). On the one hand, this has to do with the fact that more men than women work in relatively dangerous professions. On the other hand, fatal leisure accidents are more common among men than among women. While women are more likely to react to mental health problems with depressive symptoms, this is more likely to lead to self-aggressive behaviors (suicide or addictive behavior) in men. Thus, suicide rates are higher for men of all ages than for women. In later years of life, gender differences in cardiovascular diseases in particular contribute to differences in life expectancy (also due to a higher prevalence of obesity in men than women). Even comparatively small behavioral differences between women and men can over the life course contribute to significant differences in survival order.

The social and socio-cultural differences in life and behavior which contribute to the fact that men are more likely to die prematurely are manifold, but they are obviously linked to gender role models and gender-specific role distributions at a specific time. A traditional orientation of women to caring duties – as mother or wife or partner – contributes to the fact that women are more likely to be socialized to articulate their emotions and physical symptoms and to tackle complaints and illnesses at an early stage. By taking on family responsibilities and care (caring for sick children and elderly parents) many women gain a pronounced health expertise, which enables them to react better to illnesses. Even an adjustment of gender role behavior leads only with a time lag to a reduction in gender-related differences in life expectancy.

However, when analyzing gender-specific differences in old age, it is necessary to carefully examine age effects (more women reach old age) and social effects (different life biographies and gender-related lifestyles). For example, the majority of older people with dementia are female because more women than men reach an age where dementia disorders become more

common and they often survive longer with dementia (and less because the age-specific risk of dementia is higher in women than men). A recent meta-analysis supports this thesis: „Globally, there are no sex differences in age-specific dementia incidence, but prevalence of AD is higher in women. Country-level factors like life expectancy and gender differences in education may explain variability in sex differences." (Huque et al. 2023: 1231).

3.4.2 Life expectancy by marital status

Again and again, differences in morbidity and mortality rates have been observed according to marital status. Despite significant changes in marital and family relationships, married persons have lower age-specific mortality rates than single, divorced and widowed persons. This can also be observed in Switzerland (Table 20)

Table 20
Mortality rates by marital status in Switzerland

A) Mortality rates (deaths per 1000 persons) 2008/2013

	Marital status:	single	married	divorced	widowed
Men	30-44 years	2.1	0.8	1.9	-
	45-64 years	17.8	7.3	14.4	14.3
	65-79 years	60.2	31.2	49.8	48.2
Women	30-44 years	1.2	0.5	1.1	-
	45-64 years	9.3	4.5	7.5	7.2
	65-79 years	27.8	16.5	27.3	23.7

B) Mortality rates (deaths per 1000 persons) 2023

	Marital status:	single	married	divorced	widowed
Men	30-44 years	0.9	0.4	0.9	-
	45-64 years	5.5	2.3	4.8	5.2
	65-79 years	33.3	16.3	24.3	31.6
Women	30-44 years	0.5	0.3	0.5	-
	45-64 years	6.5	1.4	2.6	2.7
	65-79 years	18.5	9.1	15.2	18.3

Source: Bundesamt für Statistik (2017) Sterbetafeln für die Schweiz 2008/2013, Neuchâtel, 2023: Own calculations based on data of population and death by marital status

However, the interpretation of observed differences in life expectancy and health by marital status is far from clear. Both influences of health variables on the choice of a life form and effects of the life form on health behavior are to be expected If men and women in a stable partnership have better health and lower mortality rates than men and women of the same age without a partner, different causal factors can be relevant (Höpflinger 2016a, Rapp 2011):
On the one hand, health factors can directly or indirectly determine the marital status and lifestyle of women and men. Physical, psychological or mental problems can reduce the chances of marriage, and after a divorce, women and men with higher mental and health resources have

better chances of entering into a new partnership. At the same time, unhealthy behavior can increase the risk of divorce. Thus, alcohol dependence can contribute to the shortening of both life and the duration of marriage through divorce.

On the other hand, a stable partnership can have a health-protective effect, for example as a result of increased mental well-being, improved economic security or better social support and health care in the event of illness (protection thesis). The lower mortality and morbidity risks of married couples have often been associated with a more regular life of married people, but also with social, emotional and caring support from the partner (Waite, Gallagher 2000). A close partnership can also have a protective effect because partnership's care improves the chances of recovery after an illness. The protective effect of a partnership seems to be more pronounced in men than in women (Kolip 2005). This is especially true for people over 50 years of age, with a protective effect of a partnership being strongest in family-oriented European countries (Zueras et al. 2020).

In general, mortality and morbidity rates of persons of different marital status are influenced by intervening influencing factors, such as social class, level of education, income, ethnicity, religious values or status and age differences between partners. An analysis of Swiss data indicated that originally pronounced differences in age-standardized death rates by marital status were significantly reduced when socioeconomic variables are statistically controlled (Schumacher, Vilpert 2011).

Overall, social support from a partner, but also from other family members or friends and neighbors contributes to both reduced risks of illness and increased chances of recovery after an illness, particularly for older people (Sirven, Debrand 2012). Accordingly, there are consistently positive relationships between self-rated health and perceived quality of social networks among elderly people in European countries (Deindl et al. 2013).

3.4.3 Social disparities in life expectancy

One of the best documented findings of sociological research is the finding that social inequalities in education, income and social status contribute to inequalities in life expectancy. In general, the higher a person's social class, the longer the expected life span. Poverty, low education, low status and social marginalization are all associated with a significantly increased risk of a premature death (Klotz et al. 2021). These factors result also in social inequalities of healthy life years, successful ageing and quality of life in general. Therefore, social differences in mortality rates and life expectancy are hard indicators of the negative impact of social inequalities. "Health inequalities do not only affect a disadvantaged social underclass, which differ from the rest of the population by its particularly visible impoverishment. Rather, the social inequality of health and disease permeates the entire social structure of a society. The relationship is usually linear, which is why it is also referred to as a social gradient" (Richter, Hurrelmann 2007: 5).

The factors affecting social inequalities of morbidity and mortality are manifold. Social selection effects cannot be ruled out as life-shortening disabilities contribute to poverty and social decline or that good health has a positive influence on professional success and income. The main effect, however, is that social inequalities contribute to inequalities in life expectancies (Richter, Hurrelmann 2006, Lampert, Kroll 2014).

Schematically, social differences in life expectancy can be related to three main factors:

1. Unequal health care for given health problems (institutional inequalities of opportunity), which can contribute to socially unequal chances of recovery in the case of an illness.
2. Unequal use of health care for given health problems (inequality of demand). Even institutional equality of opportunity does not guarantee equality in health care. Lower social classes tend - due to high social distance to health professionals – to consult a doctor late. In Switzerland too, low health literacy is closely linked to financial deprivation and a lack of social support (De Gani et al. 2021).
3. Unequal exposure due to health risks. Lower social classes are more frequently exposed to health-damaging factors both at work and at their place of residence than upper classes (such as noise, dust or cramped living conditions). Social differences in diet, exercise and addiction patterns can also contribute to differences in morbidity and mortality.

Although many social factors can create social inequalities – from working conditions to housing conditions – occupational status, income and education are the most common characteristics of class affiliation in relation to issues of unequal life expectancy. The occupational status is relevant insofar as different health hazards and risks occur depending on occupation and professional work. Matching data on occupational status and completed education from the 2000 census and data on marital status 2000-2005 made it possible to determine the risk of dying between the age of 25 and 64 among different occupational categories (Wanner, Lerch 2012).

Table 21:
Number of deaths between 25 and 64 years of age per 1000 persons by socio-professional category (Switzerland 1990-2005)

	Men		Women	
	1990-95	2000-05	1990-95	2000-05
Unskilled workers	236	138	93	63
Manual workers	210	137	83	61
Employees	200	126	86	57
Craftsmen	175	115	83	54
Self-employed	195	115	86	61
Farmers	156	109	76	54
Intermediate occupations	156	93	78	52
Top management	129	84	67	70
Liberal professions	129	74	75	55
Engineers/technical cadre	133	71	75	48

Source: Wanner, Lerch 2012: Tab. 4.22 & Tab. 4.23

As expected, mortality rates up to retirement age varied at the beginning of the 21th century significantly according to the socio-professional occupational category: Unskilled workers and manual workers had higher risks than managers, engineers or representatives of the liberal professions (see Table 21). Generally, social inequalities in premature death affect men more than women (a difference also observed in other European countries). On the positive side, between 1990 and 2005, all occupational categories benefited from lower mortality rates.

Since social circumstances usually affect mortality rates over a longer period of time, the comparatively stable indicator 'education' is often preferred as a status indicator. Connections between better education and increased life expectancy can be seen in all countries (Henson et

al. 2024). Accordingly, educational differences in mortality and health have been observed in all European countries (Stirbu et al. 2010, Klotz et al. 2021). In addition, educational indicators – in contrast to occupational status – can also be measured for groups that are not economically active. "While income and occupational status are affected by a deterioration in health status – so that it is difficult to determine whether poor health is due to low social status or, conversely, low social status is due to poor health – the importance of selection effects in educational attainment is rather low." (Klein et al. 2001: 385).

The higher mortality of educationally disadvantaged groups in European countries is currently most strongly determined by low economic resources (poverty), regular tobacco consumption and frequent obesity (Mackenbach et al. 2019). In Switzerland, too, massive obesity - with the associated cardiovascular risks - is relatively most common among people with low levels of education (Mestral et al. 2019).

In 2000 Swiss men with tertiary education could expect an average life expectancy after age 65 of 18.7 years, compared to only 16.0 years for men without professional training. For women aged 65 the values were 22.4 years with high education level and 20.4 years with low educational level (Wanner, Lerch 2012). A similar analysis – based on longitudinal data 1990-1997 in German-speaking Switzerland – revealed similar educational differences in life expectancy. Tobacco and alcohol consumption as well as obesity (which contributes to cardiovascular diseases) were cited as reasons for higher mortality rates among educationally disadvantaged men (Spoerri et al. 2006). A more detailed analysis revealed that in men both their own educational status as well as the educational status of their spouse had an effect on mortality rates (Spoerri et al. 2014).

Table 22 presents some additional data on life expectancy according to educational level in Switzerland:

Table 22
Average life expectancy at age 25 and age 65 according to educational level: Switzerland

	Men		Women	
2000: Highest educational attainment	25 y.	65 y.	25 y.	65 x.
basic schooling	50.8 y.	16.0 y.	57.2 y.	20.4 y.
secondary education I	51.2 y.	16.1 y.	57.6 y.	20.3 y.
secondary education II	53.2 y.	17.3 y.	58.9 y.	21.2 y.
tertiary education	55.7 y.	18.7 y.	60.2 y.	22.4 y.
2010-2019: Educational level				
Only basic schooling		17.1 y.		22.4 y.
Tertiary education		20.0 y.		23.6 y.

Quelle: 2000: Wanner, Lerch 2012, 2010-2019: BfS, Gesundheit. Taschenstatistik 2024: 18.

A recently published analysis on the development of life expectancy of persons aged 30 indicated that at least in Switzerland educational related inequalities in average life expectancy decreased between 1990 and 2014: At the beginning of the 1990s, the gap between compulsory schooling and higher education graduates was around 6 years for men and for women 4 years. Two decades later, this gap had been reduced to less than 5 years for men and 2.5 years for women (Remund, Cullati 2022). According to this study, however, the educational differences in healthy life expectancy have increased (see chapter 3.5).

In addition to individual factors (income, education), housing and context dimensions can contribute to inequalities in life expectancy. Those who live in a green and low-traffic residential area are confronted with less environmental pollution than people in a busy area. Matching individual data from a national cohort study 2000-2008 with Swiss census data revealed that the social composition of the neighborhood has a significant effect on life expectancy: A socio-economic neighborhood index (based on average housing costs, education and occupational status of heads of households) showed that – even after controlling for individual characteristics (education, marital status, nationality, occupation) – the further life expectancy of 30-year-old women and men were related to the socio-economic status of the neighborhood. Men who lived in the 10% highest-status neighborhoods had a life expectancy 4.5 years higher than men of the same age in the 10% lowest-status neighborhoods. For women, the difference was slightly smaller at 2.5 years (Moser et al. 2014). Analogous geographical inequalities in life chances were also visible in a recent analysis of the canton of Geneva (Ladoy et al, 2021).

3.5 The concept of healthy or disability-free life expectancy

Life expectancy as a health indicator is only meaningful in societies where diseases, such as infectious diseases, quickly lead to death. In societies in which primarily chronic and degenerative diseases - i.e., diseases that are only fatal in the long term - occur, an increase in life expectancy is possible even if the health of the population deteriorates, for example if more sick people survive longer thanks to modern medicine.

For this reason, there has been a lot of attempts in recent decades to measure the quality of the years of life gained, using different concepts (Kim et al. 2022, Unger 2016):

(a) Healthy life expectancy as the number of years of life spent in good health. Since health is a broad concept with different dimensions, there are different definitions of life expectancy in good health. In practice, life expectancy in good health is often used as a general term for indicators that combine data on mortality and data on morbidity into a single measure.
b) Disability-free life expectancy as a measure of the number of years of life spent without functional limitations. Such measures combine data on age-specific mortality with data on age-specific frequency of functional problems in daily living. Conversely, disabled life expectancy captures the average number of years spent with health-related impairments. In order to avoid a purely negative perspective, sometimes the concept of active life expectancy (life expectancy without significant health problems in everyday life) is used.

Such indicators make it possible to determine the extent to which the increased life expectancy includes more years in good health or whether death is simply unnecessarily postponed and the years in illness and long-term care are extended. However, the measurement of healthy or disability-free life expectancy are methodologically demanding and depend on reliable and valid information on the health status of the population (Luy 2024).

Research carried out indicate that in many European countries' men and women generally not only live long, but also live relatively long healthy lives (Jagger et al. 2011, Cao et al. 2020). Time series analyses point to an increase in healthy life expectancy since the end of the 1980s in many – though not all – highly developed countries: "Both in the USA and in many European countries, there was a relative compression of chronic morbidity in the course of increasing life expectancy." (Kroll, Lampert 2008: 50-51, cf. also Unger 2016). This was also observed for Switzerland: "Life expectancy without severe impairment increased in Switzerland during the

study period from 2007 to 2017, both in absolute terms and compared to total life expectancy. As a result, the lifetime spent with severe impairments has been reduced by a few months. There are also signs of a positive development regarding slight impairments." (Schweizerisches Gesundheitsobservatorium 2021). An international study indicates that in Switzerland on average 86-88% of life time is spent in functionally good health (2019: men 12% of life expectancy from birth in poor health, women 14% of life expectancy from birth in poor health (Garmany, Terzie 2024).

Table 23 provides some data on average life expectancy in Switzerland as a whole and in good health. In 2017, Switzerland – together with Singapore, Japan, Spain and Italy – was one the countries with relatively high healthy life expectancies (Cao et al. 2020).

Table 23
Average life expectancy overall and in good health in Switzerland

A) Life expectancy (at birth)

	Life expectancy (LE)	Healthy life expectancy (HALE)	HALE in % LE
1995	78.5 J.	67.9 J.	86%
2000	80.0 J.	68.9 J.	86%
2017	83.3 J.	72.1 J.	87%
2025 Trend	84.3 J.	73.4 J.	87%

Source: Cao et al. 2020

B) At the age of 65

	Men			Women		
	LT	GT	GT in %	LT	GT	GT in %
1981/82*	14.5	10.2	70%	18.5	10.5	57%
1992/93	15.9	11.1	70%	20.3	11.9	59%
2002	17.5	12.6	72%	21.1	13.5	64%
2022	19.8	14.4	73%	22.5	14.9	66%

* Estimates based on health data available at the time.
LT: Total average life expectancy (in years)
GT: Average healthy life expectancy in years
GT in %: Life expectancy in good health as % of total remaining life expectancy

Source: 1992-2022: Schweiz. Gesundheitsobservatorium (www.obsan.ch, indicators, 19.feb. 2025. 1981/82: Höpflinger, Stuckelberger 1999: 39.

In Switzerland men and women currently not only benefit from a relatively long retirement live after the age of 65, but they experience retirement also longer in good health than earlier generations. In relation to the total remaining life expectancy after 65, the increase in healthy life years was roughly parallel. On average, men at the age of 65 still spend 73% of their remaining life expectancy in good health. For women, total life expectancy and healthy life expectancy are slightly higher, but the ratio of total and healthy lifespan in old age is slightly worse (around 66% healthy lifetime).

As expected, life expectancy in good health too is subject to significant social differences and in recent decades education-related differences in life expectancy in good health increased. A detailed study indicates that between 1990 and 2014 the difference in healthy life years (from the age of 30) between persons with compulsory schooling and those with higher education increased for men from 7.6 to 8.8 years and for women from 3.3 to 5.0 years. While well-educated individuals have benefited from a longer healthy life expectancy, among men with only compulsory schooling, life expectancy in good health remained unchanged (Remund, Cullati 2022).

3.6 Social consequences of longevity

The increase in life expectancy has significant effects on family relationships as well as for life courses. In a first step, central effects of longevity on family structures are addressed. In a second step, the repercussions of increased life expectancy for life courses will be discussed.

The increased life expectancy of recent decades has contributed to an expansion of the common lifespan of family generations. For example, the average age of a person at the death of his (biological) mother increased in Sweden between 1950 and 2000 from 45 years to 52 years. Similar developments towards increased intergenerational lifespans have been observed in other countries, even as in some European countries (like Switzerland) delayed family formation has slowed down the increase in the common lifespan (Haberkern et al. 2012: 199). From an economic point of view, the expansion of the intergenerational lifespan results in a slowdown of intergenerational asset transfers and inheritances occur later in life (Stutz et al. 2007). In 2017, in Switzerland almost 60% of inheritances were received by persons over the age of 60. Only 5% of the inheritances benefited persons under the age of 40 (Brülhart 2019).

A positive development is the fact that the risk of children to experience an early death of a parent has been reduced. At the beginning of the 20th century almost one-fifth of children suffered the death of at least one parent before the age of 15. At the beginning of the 21st century this affected less than 4% of children (Wanner 2006:25). Even in adolescence and young adulthood a majority of today's people still have both parents. The death of the parents' generation currently usually occurs in middle age (see Table 24).

Table 24:
Having living parents by age: Switzerland 1900 and 2020/21

	Age of (adult) children				
	25-34 J.	35-44 J.	45-54 J.	55-64 J.	65-74 J.
Both parents already deceased:					
1900	17%	43%	78%	97%	100%
2020/21	1%	2%	17%	48%	88%
Situation 2020/21:					
- Mother alive	97%	94%	76%	46%	11%
- Father alive	89%	81%	52%	18%	4%

Source: 1900: Wanner 2006, 2020/21: European Social Survey, Round 10 (own analysis)

In 2020/21 only 17% of adults aged 45-54 had lost both parents, compared to 78% at the beginning of the 20th century. The death of parents has become a life event primarily of middle-

aged men and women. Surveys indicate that in middle age of today one of the most negatively experienced transitions are the deaths of father or mother: “The death of one's own parents is a 'critical life event', which is hardly discussed in society, but affects many of the middle-aged women and men surveyed " (Perrig-Chiello, Höpflinger 2001: 92-93). The age of (adult) children at the death of their parents varies depending on intergenerational age gaps. Late parenthood leads earlier to the loss of parents than early parenthood. Likewise, the common lifespan for firstborn children is longer than for children born later.

As result of the extension of intergenerational lifespans more adult children experience the gradual ageing of their own parents; an ambivalently experienced life event that generates direct and indirect personal concerns, also because it anticipates one's own aging. For the next generation the ageing of their parents is, so to speak, the "shadow of one's own future", in a positive as well as in a negative sense. A successful ageing of one's own parents strengthens the hopes for an equally successful ageing. An unhappy aging of mother or father, burdened by physical and mental decline, can cause fears about one's own age, but also the desire to shape one's own age differently. A practical consequence is that requests for care structures in old age and expectations of nursing homes are often postulated by daughters and sons.

Table 25:
On the development of the common lifespan with grandparents in Switzerland

A) Average number of living (biological) grandparents

At age	5	20	35	Source
1900	1.8	0.3	0.0	1
1950-55	3.5	-	0.7	3
2000	3.6	1.8	-	1
2020-25	3.8	-	1.6	3

B) % without living (biological) grandparents

	Grandchildren aged:						
	5 y.	10 y.	15 y.	20 y.	25 y.	30 y.	
1900	9%	23%	46%	73%	91%	99%	1
2000	0	1%	2%	8%	27%	61%	1
2020 estimated values	0	1%	2%	8%	25%	58%	2

1: Calculations by Philippe Wanner (University of Geneva) based on demographic cross-sectional data on survival order and ages at birth, cf. Perrig-Chiello et al. 2008: Tab. 5. 2: Own calculations, based on the same method, 3: Alburez-Gutierrez et al. 2023 (Appendix)

The increased life expectancy has also extended the intergenerational lifespan of grandparents and grandchildren. At the beginning of the 20th century, out of four biological grandparents shortly after the birth of a child on average only half were still alive and between the ages of 10 and 15 their number fell to less than one person. More than a fifth of 10-year-old children had in 1900 already lost all grandparents and by the teenage years (15 years old) almost half had no grandparents. At the beginning of the 21st century, the situation has changed fundamentally. Only a few ten-year-old children have lost all grandparents and more than 90% of 20-year-olds have at least one grandparent (see Table 25). Children and teenagers of today are mostly able to benefit from active and healthy grandparents (Höpflinger 2016c). Since women on average

live longer and at the same time are younger than men when starting a family, the common life span of grandchildren with their grandmothers is more extended than with their grandfathers.

In general, the extension of lifetime contributed to the development of new phases of life. In recent decades, in addition to youth, youthful early adulthood has emerged, particularly in urban regions: Young adults maintain a youth-oriented consumption and leisure behavior even after the end of adolescence and postpone starting a family (which increases intergenerational age gaps). Thanks to high life expectancy the post-professional phase of life too experienced a significant extension. On the one hand, this leads to demographic ageing from above. On the other hand, as more older women and men benefit from a long healthy life expectancy, there is a strong tendency toward more active life-styles after retirement, especially among social groups that benefit from good economic security in old age. Accordingly, from a sociological point of view, demographic ageing is to a certain degree compensated by a socio-cultural rejuvenation of older adults. This is especially true for the so-called 'young old' or ‘silver generation’ and the conceptual differentiation of different phases in later life (third age, fourth age) is a central social process within the framework of a society of high life expectancy (Höpflinger 2017).

4 Migration – emigration and immigration

For centuries, the territory of Switzerland was characterized by strong emigration. More men and women moved away from the Alpine regions than immigrated to Switzerland. It was not until the late 19th century that the pattern reversed. Since then, immigration to Switzerland has outweighed emigration from Switzerland. In a first part, important aspects of the history of Swiss emigration are presented. In a second part, immigration movements to Switzerland from the late 19th century onwards are discussed.

4.1 Emigration from Switzerland

Until the breakthrough of industrialization, the area of today's Switzerland was in large parts a rather poor region that could support only a limited population. This was particularly true for Alpine regions, which until the 20th century had high poverty rates and very limited job prospects for young adults. Under these conditions many young people sought a livelihood outside their homeland (e.g., as mercenaries, seasonal workers or maids, etc.). Switzerland's migration balance (ratio of emigration to immigration) was for centuries negative. It was not until after 1888 that Switzerland experienced an immigration surplus.

A special feature of pre-industrial Switzerland was the importance of military emigration (mercenaries). Until the 19th century civil emigration – with a few exceptions (Ticino, Vaud in the 18th century) – was numerically less significant than the military exodus of young men. Historically, various factors have contributed to the emergence of Swiss mercenaries (entry into foreign military service). On the one hand the Alpine combatants had an international reputation as brave fighters due to military victories against knights' armies. On the other hand, warfare changed with the dissolution of the medieval feudal order and more armies used paid soldiers. Young Swiss men willing to fight were taken into paid service by warring princes or city-states (Fuhrer, Eyer 2006; Schelbert 1976, Schmid 2023).

Swiss mercenaries were already used in the early 13th century, but paid military service intensified from the 14th century onwards, for example in the Milanese Wars (Rogger 2015). "From the middle of the 15th century onwards, potential employers multiplied, and above all the power struggles at the European level became a perennial issue. This opened up a permanent labour market that could be included in an individual way of life. War service went from being an opportunity to earn money temporarily to a "craft of war" that was available as a permanent opportunity and alternative to the conventional areas of work." (Schmid 2023: 9) Until around 1670 temporary recruitment for a campaign was predominant. After that, permanent mercenary troops were formed, first in France, later also in other countries.

A main focus of the Swiss mercenary system was the service for French kings. Between 1474 and 1772 an estimated 580,000 to 700,000 Swiss mercenaries were mobilized by French kings, particularly from Catholic regions (Wyler 1923). In the 18th century the mercenary system lost its importance, as in the emerging nation states foreign soldiers were replaced by local soldiers. Only in the French Foreign Legion the principle of foreign military service survived into the 20th century.

From an economic point of view, the mercenary system at that time had a double-edged impact. On the one hand, military service and officer's pensions were an important source of large fortunes, primarily benefiting the local upper classes (who, for example, could afford manor houses in remote mountain valleys). On the other hand, the mass emigration of young men

proved to be an obstacle to economic development; a reason why in some Protestant regions foreign military service was restricted or banned from the 17th century onwards.

From a demographic point of view, the mercenary system had a significant impact. In the 16th century about a third of Swiss men were at least once engaged in foreign military service. In the 17th century it was between 20-25% and in the 18th century still 10-15% (Head-König 2007). How many Swiss men died in foreign service is unclear. Often the losses of the armies due to epidemics and diseases were much higher than due to war losses. In addition, there was desertion and permanent residence abroad. In any case, military emigration absorbed a significant part of natural population growth. Since it was mainly young men who moved away, pre-industrial Switzerland had a considerable surplus of women, resulting in reduced marriage opportunities in their home region.

Compared to military emigration, civilian emigration was for a long time less significant, even as occupation-related migration movements were frequent. Years of apprenticeship and study were often years of travel. Seasonal agricultural work, building trades or domestic services often meant taking up work far from home. In the late 17th and early 18th centuries, for example, young farmers from eastern Switzerland were employed in Hesse as milkers and cattle breeders. Workers from Ticino and Graubünden moved all over Europe as stonemasons, stove builders or confectioners to escape poverty at home. In some regions of Switzerland – namely in the valleys of Ticino and Grisons – seasonal work and professional migration persisted well into the 19th century. In 1835, for example, in the canton of Grison around 15-20% of men were employed abroad. In the Italian-speaking region of Ticino the months-long absence of young men had in the 19th century a significant negative impact on marriage and birth rates (van de Walle 1975).

In the 17th century settlement emigration from Switzerland increased, as after the end of the 30 Years' War (1618-1648) large areas in neighboring countries were depopulated and new migration opportunities arose. In Alsace and Burgundy alone, between 1660 and 1740 an estimated 15,000 - 20,000 people immigrated from Switzerland. Other Swiss emigrated to German regions (Palatinate, Württemberg, Bavaria, Brandenburg) (Head-König 2007). This settlement emigration was primarily dominated by craftsmen and farmers.

In the 18th century the emigration destinations expanded, for example to Eastern Europe and to the American colonies. Between 1734 and 1744 around 12,000 people emigrated from the Swiss Confederation to North America, stimulated by the foundation of a Swiss colony in South Carolina in 1732. Other groups settled in religiously tolerant Pennsylvania, for example religious groups (e.g., Anabaptists) expelled from Switzerland (Blocher 1976).

Switzerland as such was not a colonial power, but during the 19th century Swiss citizens too were involved in colonial settlement and conquest (whereby some Swiss families and banks greatly profited from slave trade and colonial exploitation): "The Swiss emigrants who went overseas in the territories of indigenous peoples inescapably intertwined Switzerland with the global European expansion. Under the protection and assistance of leading European nations, they participated as soldiers, entrepreneurs, professionals, missionaries and settlers on all continents in the subjugation, displacement or decimation of indigenous peoples and in the building of new white nations" (Schelbert 1976:27)

Until the beginning of the 19th century poor transport routes hampered emigration to other continents (and the possibilities of a return migration in the event of a failed settlement in the new continent). This changed with the expansion of rail network and the introduction of regular

shipping connections across the Atlantic. From the middle of the 19th century organized emigration to other continents was established. Popular destinations were the USA and temporarily Latin America (see Table 26). The overseas emigration at that time was part of a process of rapid industrial development and increasing global economic interdependencies. For various European regions a high correlation between the beginning of industrial development and the beginning of mass overseas emigration has been observed (Massey 1988). In the course of the 19th century the earlier agrarian-oriented settlement emigration changed into an industrial labor migration. This movement included also a significant return migration. It is estimated that 16% of Europeans immigrating to the USA at this time later returned back to Europe (Easterlin 1985: 25).

Table 26
Organized emigration from Switzerland to other continents 1700-1935

Period	Number of emigrants	%-Distribution by destination: USA	Canada	Latin America	Africa	Asia	Oceania
1700-1800	ca. 25'000						
1851-1855	37‘500						
1856-1860	13‘100	74%					
1861-1865	11‘800						
1866-1870	23‘400	70%					
1871-1875	18‘152	67%	0	27%	3%	0	2%
1876-1880	17‘583	72%	0	20%	4%	1%	3%
1881-1885	53‘590	88%	0	11%	0	0	0
1886-1890	38‘428	83%	0	16%	0	0	0
1891-1895	29‘645	91%	0	8%	0	0	0
1896-1900	14‘435	86%	1%	12%	1%	0	0
1901-1905	24‘312	89%	1%	8%	1%	0	1%
1906-1910	24‘755	82%	3%	13%	0	1%	1%
1911-1915	23‘419	72%	5%	19%	1%	1%	2%
1916-1920	14‘763	73%	2%	16%	5%	4%	0
1921-1925	29‘396	58%	10%	19%	7%	3%	2%
1926-1930	23‘263	48%	14%	18%	13%	4%	3%
1931-1935	6‘646	29%	3%	26%	27%	14%	2%

Data refer to emigrants registered by Swiss emigration agencies. Figures prior to 1871 are based on estimates.
0= less than 0.5%.
Sources: Blocher 1976, Ferenczi 1970, Lobsiger 1946, Schelbert 1976, Zbinden 1931.

In the 1850s, the first emigration agencies emerged in Switzerland and by 1882 there were no fewer than 187 emigration agencies operating. Widespread poverty and increasing expenditures to support poor families resulted in some communities to encourage or even to organize oversea emigration. In 1855, for example, the municipality of Motorist (AG) sent in a concerted action around 12% of its inhabitants to North America (after social spending had risen for years) (Sauerländer 2016). Poverty was an important motivation for emigration, but for landless persons or small farmers, the hope of land ownership was also attractive (Ritzmann-Blickenstorfer 1997). In some cases, Swiss people were lured overseas with empty promises or communities tried to 'deport' their poor forcibly. However, "it should be noted that although the forced emigration of poor people was the most spectacular and perhaps also the most

characteristic form of emigration from 1851 to 1855, it was by no means the only or even the most widespread. Much more common was the practice of subsidizing the travel expenses of needy families or individuals on a case-by-case basis." (Wessendorf 1973: 233)

Between 1851 and 1900 257,600 people emigrated overseas from Switzerland, which at that time corresponded to around 7-8% of the resident population. Between 1901 and 1935, a further 146,500 persons experienced an organized emigration to other continents (see Table 26). Emigration from Switzerland – as a country without its own colonies – was concentrated on the USA (Schelbert 1992). From 1866 to 1900 the USA were the target of 70-90% of organized overseas emigration. It was not until the 1920s and 1930s that European immigration to the United States declined as a result of restrictive immigration policies.

In second place was emigration to Latin America. Argentina and Brazil in particular attracted larger groups of Swiss. However, the failure of the second emigration (Swiss emigrants treated like slaves) to Brazil in 1852-1866 slowed down immigration to Latin America (Cunha 2004; Ziegler 1985), just as the Argentine economic crisis led to an increased return migration to Switzerland (Zbinden 1931). Important Swiss colonies also emerged in Uruguay, Chile and – despite initial difficulties – again in Brazil (Arlettaz 1979, Schneiter 1983).

Table 27
Registered Swiss citizens living outside Switzerland – by continent

	Registered persons living abroad with a Swiss passport: Distribution by continent						
	Total (in 1000)	Europe	America	of which USA	Africa	Asia	Oceania
1850 A	72.5	63.4%	28.0%	17.9%	0.7%	0.1%	0.3%
1880 A	234.0	51.1%	46.1%	-	1.5%	0.3%	1.0%
1928 A+B	346.1	72.8%	24.0%	14.4%	2.1%	0.7%	0.4%
1938 B	30.5						
1940 A	266.4	68.0%	26.9%	16.5%	3.2%	1.2%	0.7%
1966 A	159.0	65.0%	24.1%	9.8%	6.0%	2.6%	2.3%
1980 A	160.1	59.9%	26.2%	11.5%	7.2%	4.3%	2.4%
1980 B	194.2						
2016A	205.2	61.7%	20.5%	10.1%	3.8%	10.5%	3.4%
2016B	569.7	62.4%	25.1%	10.6%	2.4%	5.7%	4.4%
2023 A	204.7	65.8%	17.7%	9.2%	3.1%	10.1%	3.3%
2023 B	608.7	63.4%	24.2%	10.6%	2.0%	5.8%	4.5%

A: Swiss nationality only

B: Swiss passport plus other citizenship (often country of emigration)

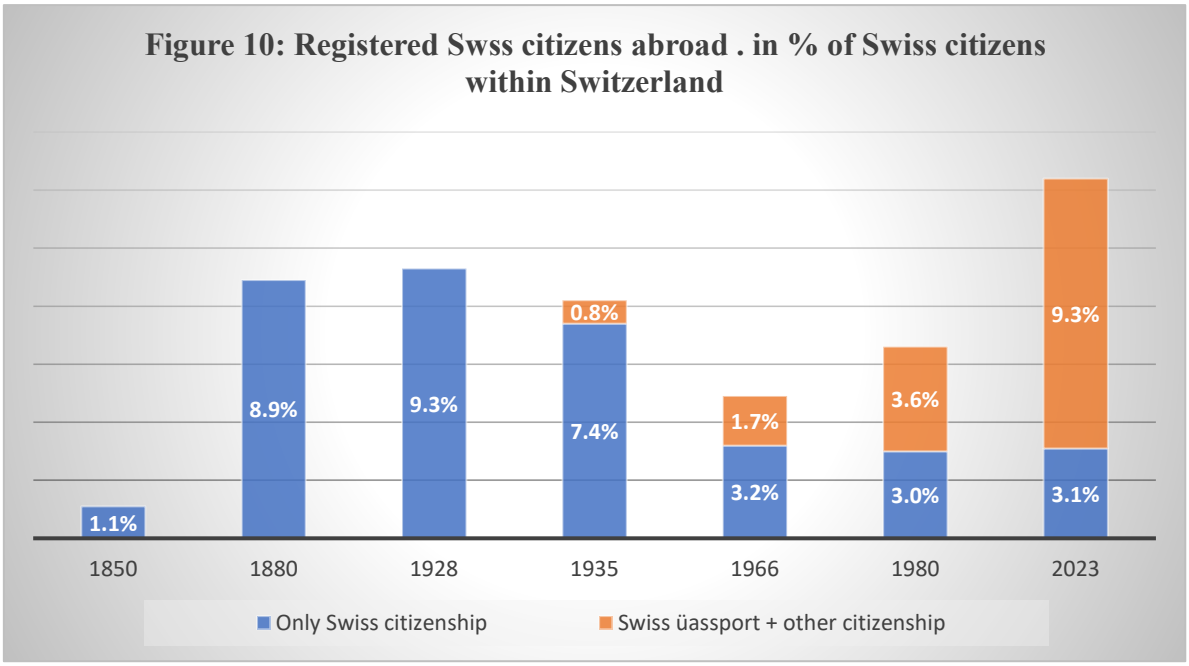
Sources: Schelbert 1976, Statistische Jahrbücher der Schweiz.

Swiss emigration to Africa, Asia or Oceania (Australia, New Zealand) remained rather insignificant. It was not until the 1920s that the proportion of emigration to these continents increased. However, at this point the European emigration wave was coming to an end, just as it was not long before the colonial rule of European countries collapsed.

In addition to overseas emigration temporary or permanent emigration to the neighboring countries and to Eastern Europe (Poland, Russia, etc.) were also important (Bühler 1985, Andrejewski 2002). This is evident in the distribution of Swiss citizens living outside Switzerland (see Table 27). In both the 19th century and the 20th century the vast majority of (registered) Swiss citizens outside Switzerland lived in European countries. Only at the height of overseas emigration at the end of the 19th century did the relationship shift for a short time.

In the 1930s, Swiss emigration and the number of registered Swiss citizens abroad declined. The proportion of Swiss citizens living abroad fell between 1935 and 1966 from 8% to 5% (see Figure 10).

Figure 10: Registered Swss citizens abroad . in % of Swiss citizens within Switzerland

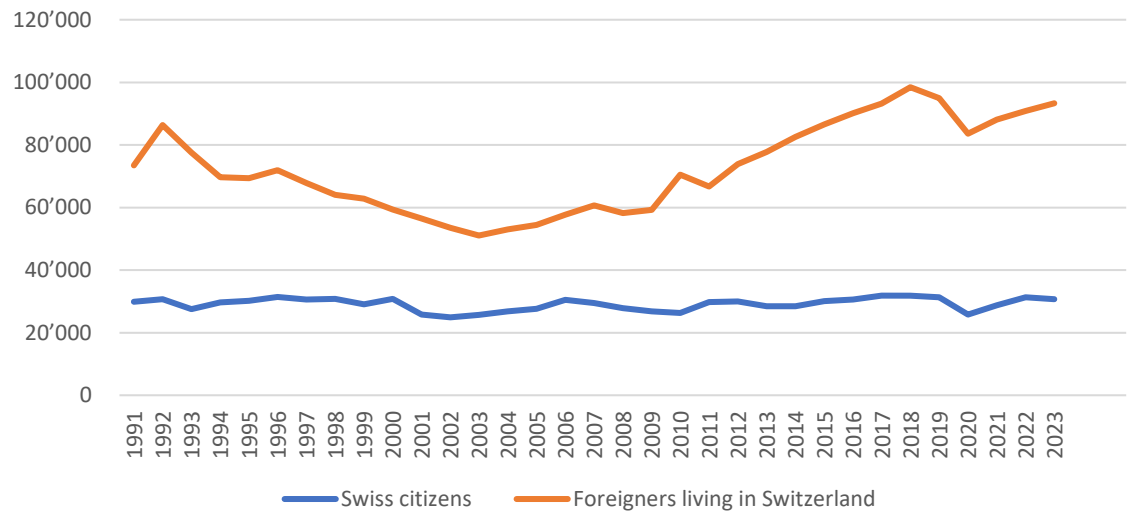


After the Second World War and during the economic boom years emigration from Switzerland increased again. Between 1958 and 1974, around 110,000 Swiss emigrants to overseas were counted. In the same period, however, 95,100 returnees from overseas were reported. The post-war decades were characterized less by permanent emigration than by temporary residence in other countries, for example to study or for professional reasons. In recent decades Swiss emigration has largely taken place within the framework of an internationally or globally oriented economy, which has also made a residence in Asian countries more frequent. In many cases, recent emigration was and is temporary, also because modern means of transport favor shorter professional stay abroad or commuting between different countries has become possible. Of all Swiss citizens who emigrated in 2011, 50% have by 2020 returned to Switzerland (two thirds of them already in the first 3 years after emigration) (Bundesamt für Statistik 2022). A significant part of international emigration was and is therefore temporary, because of modern means of transport favor shorter professional stays abroad or even make it possible to commute between countries.

The last decades were characterized by two new trends:

First, dual and multiple citizenship became more common. While the proportion of Swiss citizens registered abroad with only a Swiss passport remained at 3%, the proportion of Swiss passport holders with dual or multiple citizenship increased significantly (see Figure 10). Swiss citizens living abroad have increasingly become multinational and multicultural (Leimgruber 2016). The move towards dual citizenship has been facilitated by the fact that more countries have accepted dual citizenship.
Secondly, an increasing number of cases of emigration from Switzerland involve the return of foreigners to their countries of origin, for example after a few years of work or after retirement. This development can be seen in Figure 11: On the one hand, the number of Swiss citizens emigrating to other countries remained more or less constant. On the other hand. return migration of foreigners increased, particularly after 2002 (Wanner 2020). The Covid-19 pandemic has temporarily hampered return movements (leading to declining numbers in 2020).

Figure 11: Number of emigrants from Switzerland



As far as international migration (emigration and immigration) is concerned, in recent decades five trends have been observed (Düvell 2006, 2021): First, international migration is becoming increasingly multidirectional and immigration movements are often accompanied by return movements. Secondly, important immigration states are often important emigration states, just as thirdly, former emigration regions mutated into immigration regions (e.g., Italy and Spain). Fourthly, insofar as countries experience at the same time immigration and emigration processes, migration movements are distributed among more states, indicating a globalization of international migration. Fifth, newer forms of international migration became more widespread. One example are lifestyle-oriented forms of migration including migratory movements of young women and men seeking religious-spiritual experiences in India; city dwellers discovering the simple life in rural settings. Another example is emigration of retired people to South European countries. In 2017 around 11% of Swiss men and women over the age of 65 lived abroad. This group included both naturalized migrants who spend their retirement in their country of origin and Swiss citizens who want to benefit from a southern climate or from cheaper costs of living in old age (Repetto, Bolzman 2020).

4.2 Immigration to Switzerland

Compared to emigration increased immigration to Switzerland is a phenomenon that mainly began with the industrialization and economic development of the country, even as some immigration movements occurred before industrial development, for example, Huguenot refugees after the revocation of the Edict of Nantes (1685) (Lachenicht 2010). The religious refugees who settled in the area of today's Switzerland contributed significantly to the upswing of trade and textile industry. From a demographic point of view, however, immigration had little impact until the late 19th century. This changed towards the end of the 19th century, when - with the foundation of a liberal federal state (1848) – Switzerland changed from a rather backward country to a pioneer of liberal political and economic developments. In comparison with neighboring regions (Alsace, southern Germany, Vorarlberg, northern Italy) the economic and socio-political gap increased and Switzerland became more attractive for workers and at times also for political refugees.

Table 28 presents the number and proportion of foreign population since 1837. It should be noted that these figures include only officially registered persons who have been resident in Switzerland for a longer period of time. Short-term stays – such as seasonal workers, students, unrecognized refugees – are not included.

Table 28:
Foreign population and foreign-born persons (Switzerland)

	Residents of Switzerland			
	Foreigners *		Born abroad	
Year	In 1000	% of total population	In 1000	% of total population
1837	57	2.6%		
1850	72	3.0%		
1860	114	4.5%		
1870	152	5.7%		
1880	211	7.4%		
1888	230	7.9%	186	6.4%
1900	383	11.6%	309	9.3%
1910	552	14.7%	441	11.8%
1920	402	10.4%	356	9.2%
1930	356	8.7%	359	8.8%
1941	224	5.2%	291	6.8%
1950	285	6.0%	390	8.3%
1960	514	9.6%	733	13.5%
1970	1002	16.2%	1111	17.7%
1980	914	14.4%	1064	16.7%
1990	1127	16.7%	1392	20.3%
2000	1424	19.8%	-	-
2010	1766	22.4%	2015	26.4%
2020	2209	25.5%	2630	30.3%
2023	2416	27.0%	2954	33.9%

* Excluding seasonal workers, students, asylum seekers or 'undocumented' persons.
1837-2000: Results of the Federal Censuses
Since 2000: Federal Office for Statistics, Population & Population Movement Statistics

Since the number of foreign residents is not only influenced by immigration rates, but also by naturalization rates, modern migration research prefers another migration indicator: the number and proportion of foreign-born population (first-generation migrant population). Where data are available, those figures are presented in table 28. If the proportion of foreign residents is higher than the proportion of foreign-born persons, this indicates a rather restrictive naturalization policy (because, for example, persons born in Switzerland became and become not automatically Swiss citizens, as in the USA). Inversely, increasing rates of naturalizations result in more people being born outside the country than foreigners (as more immigrants become Swiss citizens).

In the second half of the 19th century the proportion of foreigners increased from 3% to almost 12% of the total population, reaching almost 15% in 1910. Especially after 1888 the migration balance became positive for the first time, as a long-term economic upswing slowed down emigration and increased immigration. Until the First World War the immigration laws were permissive and the liberal order of this period emphasized the equality of domestic and foreign nationals regarding working conditions. In all important European countries – as well as in Switzerland – foreigners were guaranteed freedom of trade (Argast 2007, Stoffel 1979). Nor were there any restrictions on family reunification. Police interventions at that time were largely limited to political tasks (e.g., control or expulsion of political 'rioters').

The vast majority of immigration until the First World War came from neighboring regions, especially from Alsace and southern Germany. With increasing industrial development and the development of transport routes (railway construction), the proportion of Italian migrants also increased (see Table 29). Between 1860 and 1910 the proportion of immigrants from the four neighboring countries was 95-98% of all immigrants. Some of the foreigners were entrepreneurs and tradesmen (1910: 19% of employed foreigners), but most migrants were employed as unskilled to skilled workers. In 1910 65% of foreigners were employed in blue-collar occupations and the proportion of foreign workers in the total workforce at that time was 20% (Hoffmann-Nowotny 1973). For this reason foreign workers and craftsmen were instrumental in building up the Swiss trade union movement. In 1910, more than half of the members of the Swiss Federation of Trade Unions (SGB) were of foreign nationality (Urner 1976).

Before the outbreak of World War I, an estimated 600,000 foreigners lived in Switzerland. After the beginning of the war around 150,000 of these persons left Switzerland, often to join the war on the side of their home country. In the following years the number of foreigners declined further to 402,000 (1920). As result of strong nationalist trends xenophobic views became more widespread in Switzerland too. In 1916, for example, Ludwig Forrer, a member of the Swiss Federal council (national government) spoke before the New Helvetic Society of "the fact of foreign infiltration" (Efionayi-Mäder 2019: 22). Nationalistic trends after World War I led to the collapse of the hitherto permissive policy on foreigners. More and more countries introduced immigration restrictions (including the USA). In the interwar period the number of foreigners in Switzerland continued to decline. By 1941 it had fallen to 224,000 persons, or to 291,000 if all foreign-born women and men are counted. For the period 1915 to 1941 half of the decline in the foreign population can be attributed to naturalizations (including naturalizations by marriage) and half to return migration (Hagmann 1966).

Table 29
Distribution of foreign population in Switzerland by selected regions of origin 1860-2023

	Distribution in % (rounded up or down to whole percentages)					
	Neighboring countries				Other European	Non-European
Year:	D	F	It	Ö	countries	countries
1860	42%	41%	12%	3% *	2%	0% (0.4%)
1870	38%	41%	12%	4% *	4%	1%
1880	45%	25%	20%	6% *	3%	1%
1888	49%	23%	18%	6% *	3%	1%
1900	44%	15%	31%	6% *	3%	1%
1910	40%	11%	37%	7%	4%	1%
1920	37%	14%	34%	5%	9%	1%
1930	38%	10%	36%	6%	9%	1%
1941	35%	11%	43%	-----	8%	3%
1950	19%	10%	49%	8%	9%	5%
1960	16%	5%	59%	7%	7%	6%
1970	12%	5%	54%	4%	14%	11%
1980	9%	5%	46%	3%	29%	8%
1990	7%	5%	33%	3%	42%	10%
2000	8%	4%	22%	2%	50%	14%
2010	14%	5%	16%	2%	55%	18%
2020	14%	7%	15%	2%	45%	17%
2023	13%	7%	14%	2%	44%	20%

D: Germany, F: France, It: Italy, Ö Austria,
* Austro-Hungarian Monarchy.
Germany: 1880 to 1910: incl. Alsace-Lorraine, France 1880 to 1910: without Alsace-Lorraine, Germany1941: incl. Austria.
Persons from Turkey (2020: 3%) are counted here as part of the non-European population. In some statistics, however, they are classified as 'rest of Europe'.

Source: until 2000: Swiss Censuses (Statistical Yearbooks of Switzerland). Since 2000 Federal Office for Statistics, Statistics of Population & Population Movements

The economic crises of the interwar period finally ended the liberal immigration policy and protectionist rules were tightened. In 1923 legislation on residence and settlement was transferred from the cantons to the Confederation. In 1931 a federal law (Federal Act on the Residence and Settlement of Foreigners (ANAG)) was passed and put into force (1934). A special police force ("Fremdenpolizei") got a veto right regarding immigrants in order to guarantee the "absorption capacity of the country" and to prevent foreign "infiltrations'" (Efionayi-Mäder 2019: 23). Furthermore, a legal distinction between different categories of residence (long term versus short stay permits, seasonal permits) was introduced (Niederberger 1982). Thus, a dual labor market for foreign workers was legalized, since the legal position of the immigrants with short-stay permit was substantially weaker compared to foreigners with no time limited permits (no right to self-employment, restrictions on changing jobs as well as on family reunification, etc.).

The segmentation of immigrants by different permits and settlement rights determined immigration policy in the post-war decades: Immigration before 1914 had taken place within the framework of a liberal policy on foreigners. Discriminatory immigrations law emerged at a

time when all European states were trying to protect their national labor markets through protectionist measures. However, immigration after 1945 and the increasing freedom of movement within Europe coincided in Switzerland with the existence of a discriminatory and defensive policy on foreigners. The immediate result was a further tightening of political restrictions for many foreign workers. In the longer term, this resulted in the paradox that foreigners were perceived by the population more than ever as a "danger of foreign infiltration", although they were subject to increasingly sophisticated regulations created specifically to ward off the "danger of foreign infiltration." (Haug 1980: 39) From an economic point of view, the Swiss labor market policy was for many years largely at the service of structural backward economic sectors: "Foreign workers were channeled into structurally weak sectors and regions whose working conditions became unattractive for Swiss and who therefore suffered from chronic labor shortages. In order to prevent foreign workers from migrating to more attractive sectors of the economy, their geographical and occupational mobility was legally restricted." (Sheldon 2007:17). This was particularly the case for seasonal workers or immigrants with a residence permit of only a year.

The first immigration of foreign workers to Switzerland occurred immediately after the end of the Second World War (although at the same time more than 70,000 refugees and military internees left Switzerland). As a country without any war damages, Switzerland was able to benefit from the reconstruction of Western Europe and the post-war order supported by the USA. As early as 1946 the Swiss economy lacked between 100,000 and 150,000 workers (also due to low birth rates in previous decades). The solution was to increase the recruitment and employment of foreign workers, notably from Italy, where many regions were slow to recover from the war and high unemployment rates. By 1947 the number of works permits for foreigners had risen to 149,500 (of which 95,000 were seasonal permits) (Boscardin 1962).

At the time the employment of foreign workers was considered a temporary phenomenon, as neither employers nor political authorities expected a prolonged post-war boom. The economic downturn of 1949/50 and the subsequent reduction of foreign workers underscored this perspective. Economic experts at this time expected only short-term economic upswings. As a result, both employers and public authorities perceived foreign workers primarily as a temporary 'economic buffer'. Nobody expected permanent immigration and in the 1950s an explicit “rotation policy” of foreign work permits was pursued. In this context the status of seasonal worker (1949 precisely defined) became a central pillar of the immigration and labor market policy of the time: Without a right to change jobs or bring one's family to Switzerland seasonal workers (often working in agriculture and construction, but also in the hospitality industry) were regarded as the ideal of a flexible and short-term workforce without political rights. Accordingly, seasonal workers were statistically not included in the resident population of Switzerland, although they actually lived here for a large part of the year.[8]

Another category of foreigners were immigrants with annual residence permits (which could be prolonged). Having more rights than seasonal workers, they were nevertheless subject to clear restrictions, particularly in the first years of residence (such as the requirement to obtain a formal authorization for a change of employer, a waiting period for family reunification, etc.). Since the Swiss economy was increasingly dependent on foreign workers working all year round from the 1950s onwards, the number of foreigners with such annual residence permits rose rapidly. Between 1950 and 1960 the number of annual residents increased from 120,000 to 357,000, rising to 608,000 by 1965. At this time around 76% of the foreign resident

[8] The seasonal worker status was only abolished in 2002 (with the introduction of a free movement regime with the European Union).

population surveyed had only an annual permit. In the 1950s and 1960s the annual rotation of foreign workers was high. In both 1955 and 1960, only about 25% of workers with an annual permit had lived in Switzerland for more than three years (Bourguignon et al. 1977).

In 1960 more than 80% of the foreign workers were employed as manual workers in crafts, industry and agriculture (see Table 30). At that time, they accounted for a good 27% of the total workforce in Switzerland. By 1970 their share of the total workforce had risen to 38% (Hoffmann-Nowotny 1973). A shift of foreign workers from industrial to service work occurred only from the 1980s onwards.

Table 30
Foreign workers by occupational status 1900-2023

	1900	1920	1941	1960	1980	1991	2023
Self-employed	17%	20%	21%	3%	4%	3%	12%
Senior position/executive	-	2%	2%	3%	4%	3%	8%
Employees/Services	-	11%	12%	9%	21%	48%	52%
Manual workers	70%	63%	60%	84%	69%	44%	28%

Rest to 100%: Apprentices/not specified.
Until 1980: Federal Diploma Censuses, 1991-2023 Switzerland. Labour force survey. Please note: The categorizations before and after 1991 are only partially comparable and seasonal work is not included.

As result of good economic conditions and a rapid international expansion of Swiss enterprises, Switzerland experienced between 1950 and 1970 a massive immigration. The proportion of the foreign population increased during this period from 6% to 16% respectively from 8% to 18% if foreign-born Swiss citizens are included. With the exception of Luxembourg, in 1970 Switzerland had a significantly higher proportion of foreigners than other Western and Northern European countries (Miller 1981).

The figures quoted above, however, massively underestimate the migration movement that took place during this period, as a strong return migration was observed. Between 1950 and 1970 an estimated 2.7 million foreigners immigrated to Switzerland with a residence permit. In addition, a good 3 million season permits were granted. Among refugees, the Tibetans (1963: more than 1000 refugees) and Hungarians (after the suppression of the uprising in 1956) formed important groups (and in 1956/57 around 14,000 Hungarians were admitted to Switzerland).

Between 1950 and 1970 Italians were the largest group of foreigners, accounting for 50% or more of the resident foreign population (see table 29). For this reason, xenophobic stereotypes concentrated on the Italian population. In the city of Zurich in 1969, for example, a good 54% of Swiss citizens had strong reservations about marrying a daughter to an Italian guest worker. At that time only 26% regarded the Italians as an enrichment of Swiss culture. As a replication study from 1995 illustrated, these reservations diminished over time: In 1995 only 8% of Swiss citizens were against an Italian marriage and 88% believed that Italians were a cultural enrichment of Switzerland (Stolz 1998). The immigrants from Italy and later from other southern European countries gradually became socially accepted and xenophobic views shifted to other groups of foreigners (e.g., people from Balkan countries, men from North Africa).

The issue of Switzerland's "foreign infiltration" („Überfremdung“) – first triggered by foreign workers, later also by refugees – has determined political discourses and right-wing populist movements from the end of the 1960s to the present day. There were repeated popular initiatives to limit immigration, some of which were massively rejected, but some only narrowly. In 2014 an initiative 'Against mass immigration' was narrowly accepted (50.3% yes votes). As result talks with the EU on the free movement of persons became more complicated.

Popular initiatives to limit immigration and their fate

1968: First initiative against further immigration: initiative was withdrawn.
1970: Initiative against "Überfremdung" (too much foreigners): rejected (54% no votes).
1974; Initiative "Against overpopulation of Switzerland": rejected, (66% no votes).
1977: Fourth initiative against immigration: rejected (71% no votes)
1984: Initiative "Against sell-out of homeland": rejected (51% no votes).
1987: Radical initiative against immigration: failed in the collection stage.
1988: Initiative to limit acceptance of asylum seekers": failed in the collection stage.
1988: Initiative to limit immigration: rejected (67% no votes).
1996: Initiative for a reasonable asylum policy: declared invalid.
1996: Initiative against illegal immigration: rejected (54% no votes).
1997: Initiative to moderate immigration: failed in the collection stage.
2000: Initiative for a regulation of immigration: rejected (64% no votes)
2014: Initiative against mass immigration: narrow approval (50.3% yes votes).
2014: Initiative to stop overpopulation: rejected (74% no votes)
2020: Initiative for limited immigration: rejected (62% no votes)

On the other hand, the (few) initiatives to improve the legal position and the social integration of the foreign resident population were also unsuccessful. In 1981, for example, an initiative demanding extensive legal equality between foreigners and Swiss citizens was massively rejected (84% no votes).

During the 1960s it became obvious that immigration of foreign workers was not a temporary phenomenon. Immigration changed from a cyclical to a structural phenomenon; a change also visible in reduced return rates and increased numbers of family reunifications. In 1964 Italian workers after a continuous residence of three years were allowed to bring family members to Switzerland (a reform introduced after interventions from Italy). As during this period Italy experienced a rapid economic development, the recruitment of foreign workers was increasingly extended to other southern European countries (such as Spain, Portugal, Greece). After the suppression of the Prague Spring in 1968, around 12,000 women and men from Czechoslovakia were granted asylum in Switzerland.

In the 1960s and early 1970s immigration gained further momentum, as the employment of foreign workers contributed to a rapid economic growth which in turn further stimulated labor demand: "The demand for workers could now only be satiated by the influx of foreigners. The higher export rates made possible by the expansion of the production structure led to new inflows of capital and new investments that further increased the demand for workers. Immigration gradually assumed the structure of a vicious circle." (Niederberger 1982) In some sectors and regions the influx of cheap workers had structural preserving effects, resulting at times in missed economic and technological innovations (e.g., in the watch industry, agriculture and building industry) (Sheldon 2007).

From the early 1960s onwards, the Swiss government tried to restrict immigration (as reaction to xenophobic political currents). 1963 and 1965 immigration limits were introduced; limits reinforced by regional quotas for foreign workers (Doleschal 1977). The effect of all these measures was limited and the number of foreigners continued to increase. In the late 1960s and early 1970s two main factors were responsible: On the one hand more foreigners got the right to bring their wives and children to Switzerland (which increased the proportion of non-economically active foreign residents). On the other hand, more foreigners acquired the right to settle permanently in Switzerland. Thus, between 1959 and 1971, the proportion of foreign residents with a residence of 5 years or more increased from 11% to 46%. In addition, rules for occupational changes were relaxed, for example by a Federal Council decree of 1970, which in principle allowed a job change after one year. In 1976 the minimum length of stay for occupational changes was legally reduced to one year, resulting in increased occupational mobility of foreign workers.

Despite stronger social integration of foreign residents, the dangers of immigration were politically played up and in 1970, the first of many initiatives to limit immigration (the so-called 'Schwarzenbach Initiative') was only narrowly rejected with 54% no votes to 46% yes votes (Ebel, Fiala 1983). Reacting to the high proportion of "yes" votes the Federal Council expanded immigration limits. However, a temporary decline of the foreign population was not triggered by official measures, but by the economic recession (“oil crisis”) of 1974-1976. Like other European countries, Switzerland experienced a marked decline in employment. The net number of persons in employment fell by 254,650, of which 82% were foreign workers (who had to return to their home country) (cf. Sheldon 2007: Table 3.1). Most of the unemployment was, so to speak, 'exported' and the registered unemployment rate of the Swiss labor force increased only slightly (to 0.7%) (Lewin 1983).

After the end of the recession of 1974-76, in the late 1970s and early 1980s the number of foreign workers increased again, within a dual labor market: On the one hand, socially integrated foreign workers with the same rights as Swiss workers and on the other hand a substantial number of legally disadvantaged foreign workers (seasonal work, etc.).

During the 1980s Italian nationals remained the largest group of migrants. However, as the recruitment of unskilled workers from Italy gradually became more difficult, more workers from Spain and Portugal were recruited (see Table 31). Another important group were women and men from Yugoslavia and Turkey. Turkish immigration was partly labor migration, but also partly refugee migration (e.g., after the military coup in 1980 and later due to conflicts in Kurdish areas) (Haab et al. 2010). The number and proportion of foreigners from Spain, Portugal, Yugoslavia and Turkey continued to increase. Particularly immigration from Yugoslavia became more significant and between 1980 and 1990, the number of people from Yugoslavia increased from 44,000 to 141,000.

In 1990 the proportion of the non-Swiss-born resident population exceeded for the first time the 20% threshold. In addition, there were foreign workers who, as seasonal workers or as cross-border commuters (place of residence in neighboring countries, place of work in Switzerland), were and are not counted as part of the resident population, but were and are relevant for Switzerland's economic production. For example, the number of cross-border commuters increased between 1996 and 2022 from 141,277 to 374,304. In 2020, 29% of employees in the Italian-speaking canton of Ticino were cross-border commuters and in the canton of Geneva 24% (Bundesamt für Statistik 2021).

Table 31
Foreign resident population – main countries of origin 1980-20203

	Foreign resident population by nationality (in 1000)				
	1980	1990	2000	2010	2023
Italy	423.0	381.5	321.8	287.1	338.0
Spain	98.1	117.0	84.3	64.1	95.2
Germany	87.4	84.5	109.8	263.3	323.6
France	48.0	51.7	61.7	95.6	163.7
Yugoslavia	44.1	141.4	344.3*	314.2 *	283.0
- Croatia			43.9	33.5	31.6
- Serbia/Montenegro			190.9 **	123.9 ***	60.4
- Kosovo			-	58.8	116.0
- Bosnia and Herzegovina			45.1	35.5	27.2
- North Macedonia			56.1	60.1	70.0
Turkey	38.4	64.9	80.2	71.8	74.4
Austria	32.0	29.1	29.2	37.0	47.2
United Kingdom	16.1	18.3	22.3	37.3	39.1
Portugal	10.9	86.0	135.4	212.6	255.3
USA	10.6	11.2	14.1	18.8	20.1
Netherlands	10.2	12.1	14.6	19.2	22.2
Greece	9.0	8.5	6.1	6.8	20.5
Hungary	6.2	4.7	3.6	6.6	30.0
Belgium	4.0	5.9	7.8	10.8	15.5
India	2.3	3.9	5.9	10.4	18.9
Poland	2.2	5.3	4.2	11.7	46.6
Romania	1.4	2.4	2.7	6.0	35.1
Brazil	1.0	2.2	8.3	17.9	24.3
China	0.5	1.8	5.4	10.3	22,8
Sri Lanka	0.4	2.8	20.2	29.0	28.7
Syria	0.4	0.6	0.7	2.2	27.3
Afghanistan	0.2	0.6	1.3	3.6	30.2
Russia	-	-	5.8	11.9	17.0
Eritrea	-	-	0.6	8.0	43.8
Ukraine	-	-	1.5	4.8	59.5

* Independent States of Yugoslavia
** incl. Kosovo
incl. persons who could not yet be assigned to a successor state of the former Serbia and Montenegro.
Sources: PETRA (1980-2009), STATPOP (from 2010)

At the beginning of the 1990s, a reorientation of Switzerland's policy on foreigners took place in the form of a so-called 'three-sphere model': In 1991 the recruitment areas for foreign workers were divided into three geographical spheres: The inner, privileged sphere included nationals of the EU and EFTA states. These states were subject to a liberal admission policy. Nationals from the USA, Canada, Australia and New Zealand (as well as Andorra, Monaco, San Marino) were assigned to the second sphere (primarily because economic links required professional migration). All other states were assigned to a third sphere with the lowest recruitment priority. In 1994 the right to convert a seasonal permit into an annual residence permit was limited to national of the first sphere. Towards the end of the 1990s (Nov. 1998) the three-sphere model

was terminated. Thereafter, only nationals of EU and EFTA states had a privileged position. "Citizens of other countries were only granted a permit to carry out an activity if, among other things, they were well-qualified persons. In effect, this led to a dual admission model in which individual qualifications were systematically used as an entry criterion." (Sheldon 2007:14)

As result of bilateral agreements between Switzerland and the European Union, this dual model was consolidated at the beginning of the 21st century (Fibbi, D'Amato 2025: Tab. 2.1). In 2002 the free movement of persons for nationals of EU and EFTA states was gradually introduced by reducing immigration and residence restrictions. Since June 2007 full freedom of movement has been in force for 17 EU member states as well as Iceland, Liechtenstein and Norway (EFTA states). For Central and Eastern European states which joined the EU in 2004, full freedom of movement was introduced in May 2011 and for Bulgaria and Romania – which joined the EU in 2007 – this right was granted in June 2019. Croatia (which joined the EU in 2013) has been subject to the free movement rule with some transitional provisions since January 2017. From all other countries, however, only immigration of qualified professionals who cannot be recruited in EU and EFTA countries is allowed.

The new regulations introduced increased immigration from countries of the European Community, for example from Portugal. The number of Portuguese residents in Switzerland increased from 86,000 in 1990 to just over 267,000 in 2017. Subsequently, return migration and naturalizations contributed to declining numbers (2023: 255,000). Immigration from France, the Netherlands and Great Britain also recorded increasing numbers. Immigration from Germany was particularly noteworthy, from 85,000 people in 1990 to gut 323‘600 people in 2023. For countries outside the EU, immigration from the successor states of Yugoslavia after the country's disintegration and the civil war that followed was particularly strong (see table 31).

The immigration of the last three decades was characterized by three major structural trends: First, there was an increased immigration of highly qualified people to Switzerland, as a result of an economic change to a modern and globalized service society. Secondly, asylum applications increased and a significant proportion of new immigrants sought and found refuge in Switzerland (e.g., from Sri Lanka, Kosovo, Syria and Ukraine). Thirdly, number and proportion of retired first-generation immigrant increased as fewer migrants as expected returned to their country of origin after retirement.

4.2.1 Trend towards skilled immigration

The economy and labor markets of modern European countries have in recent decades been characterized by profound changes as they developed to modern service societies with strong professional specialization. This has increased the demand for skilled workers and reduced the need for unskilled labor. The mechanization and outsourcing of simple activities to low-wage regions also reduced the need for unskilled labor. Switzerland - with its internationally oriented production and competence centers (pharmaceutical industry, banking and financial services, design and cultural sector, high-tech export industry, etc.) was and is particularly affected by these structural changes. The demand for qualified workers could not be met by Swiss citizens as result of low birth rates and an increasing number of Swiss baby-boomers retiring (Steiner, Fibbi 2016). For such reasons, "a strong development in highly qualified immigration in fields of activity with high added value has recently been observed" (Wanner, Steiner 2018: 4).

Accordingly, the proportion of foreigners with tertiary education increased (see Table 32). This is especially true for immigration from Germany or France, where the proportion of women

and men with tertiary education is significantly higher than that of the Swiss resident population.[9]

Table 32
Adult population by nationality in Switzerland: % share with tertiary education 2003-2023

Nationality	% share with tertiary education		
	2003	2013	2023
Switzerland	21%	29%	36%
Germany	51%	56%	60%
France	44%	55%	63%
Italy	10%	18%	30%
Austria	34%	39%	46%
Spain	11%	24%	33%
Portugal	3%	8%	15%
Other EU-EFTA-countries	-	50%	55%
Other European countries	-	16%	23%
Noneuropean countries	-	40%	38%

Source: Swiss Labor Force Surveys

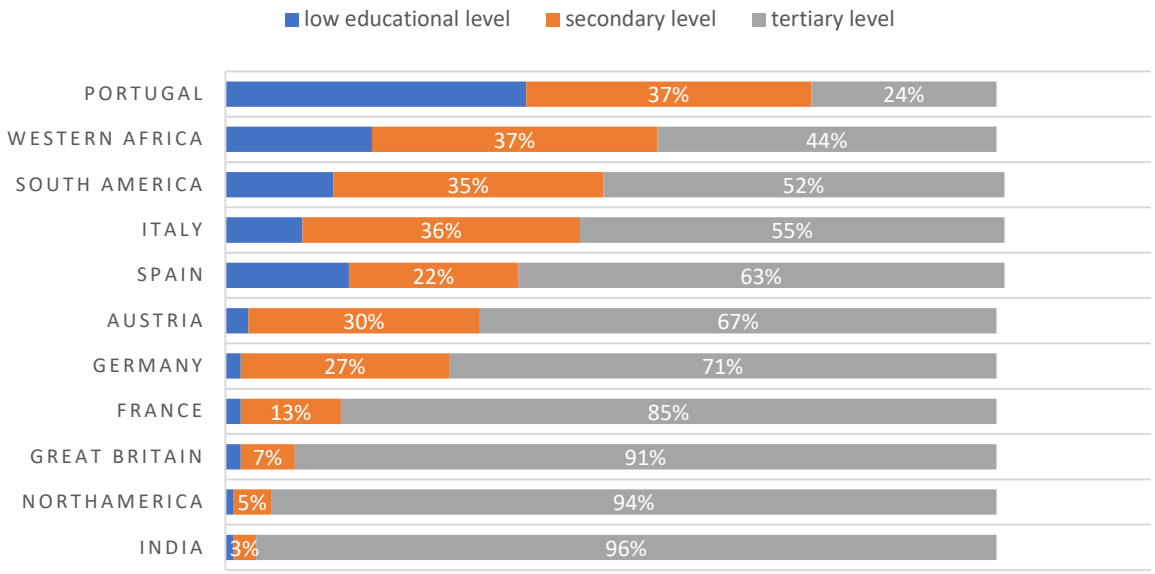
The change becomes even clearer when new immigrants are considered: The proportion of persons without vocational training who had immigrated in the previous five years fell between 1990 and 2000 from 60% to 37%. On the other hand, the proportion with tertiary education (university, colleges) increased from 9% to 32% (Sheldon 2007: Fig. 3.6). Both trends continued after 2000. While in 1991 around 33% of all new immigrants had tertiary education, between 2007 and 2014 the corresponding figures were 50-54% (Wanner, Steiner 2018: 7).

A high proportion of academically educated immigrants are observed among migrants from North America, Great Britain and India. New migration from neighboring countries also involves primarily qualified people (see Figure 12). While immigration to Switzerland until the end of the 20th century has been characterized by unskilled labor, in recent decades the educational levels of new migrants have radically changed. Only Portuguese immigration continues to show a relatively high proportion of unskilled immigrants.

As result of the development towards skilled immigration, immigrants have become important not only for current economy, but increasingly also for Switzerland's social, economic and cultural innovative strength and future prosperity. Limiting immigration would limit Switzerland's future (e.g., as many starts-ups are founded by young men and women with bi-national origin).

[9] It should be noted, however, that differences in age structure also play a role here. Since immigrants are overall younger than the native population, cohort effects (better education of younger generations) can also contribute to different educational backgrounds.

Figure 12: Level of education of persons immigrating to Switzerland from 2006 to 2016 - selected regions of origin



Low educational level: only compulsory. school education, no vocational training, secondary education: vocational training, apprenticeship, tertiary level: higher education, universities
Source: Migration-Mobility Survey (weighted data), Wanner, Steiner 2018: 7.

Table 33
Poverty rate of the resident population aged 16 and over by migration status and level of education, 2012 and 2021

%-classified as poor:	without migration background		with migration background	
	2012	2021	2012	2021
Total	7.0%	7.4%	9.6%	11.4%
First generation of migrants	-	-	10.8%	12.3%
Second generation of migrants	-	-	5.2%	6.7%
Level of education:				
- Only compulsory school	14.7%	15.4%	14.5%	16.7%
- Secondary level (apprenticeship)	7.2%	7.8%	8.5%	11.5%
- Tertiary level (university)	3.4%	4.6%	6.8%	8.6%

Source: Survey on income and living conditions, SILC

Since formal education and vocational training are central to work opportunities in a modern society, among the migrant population there is a strong correlation between level of education and socio-economic status. Similar to the native population, the risk of poverty is higher for migrants without further education than for migrants with technical or tertiary education (see Table 33). As the second generation of immigrants often has higher educational level than their parents, the poverty rates for the second generation are lower than for the first generation of immigrants. Nonetheless, a migration effect can be observed insofar as the poverty rates for

migrants is 2-3% higher than for the native population of the same educational level. This is partly due to language barriers, but partly also to discrimination and formal disadvantages (such as lack of recognition of foreign diplomas).

4.2.2 Refugees and asylum applications

"At the turn of the 1970s and the 1980s, the number of individual asylum applications in Switzerland increased from around a thousand per year to a multiple within a short period of time – already in 1982 there were around 5,000. A new trend was that those seeking protection increasingly came from countries such as Sri Lanka, Turkey or the former Zaire and no longer almost exclusively from socialist states and especially from Eastern Europe, as has been the case since the end of the Second World War." (Pärli 2019: 187)

Towards the end of the 20th century, there was an increased mixing of political, social and economic forms of refugees: “In addition to all those who were threatened with life in their home country, there were those who left their country because of poverty and economic hopelessness. Towards the end of the 20th century, this mixing of motives meant that the target countries were less and less able to absorb all persons arriving. Politicians were therefore beginning to create more access controls in order to control the situation. However, these measures created a 'vicious circle'. Due to restricted access, migrants tried their luck as refugees and refugees as migrants. This in turn resulted to increased mistrust of asylum applicants and to even more restrictive measures against 'foreigners'." (Toggenburg 2008: 2)

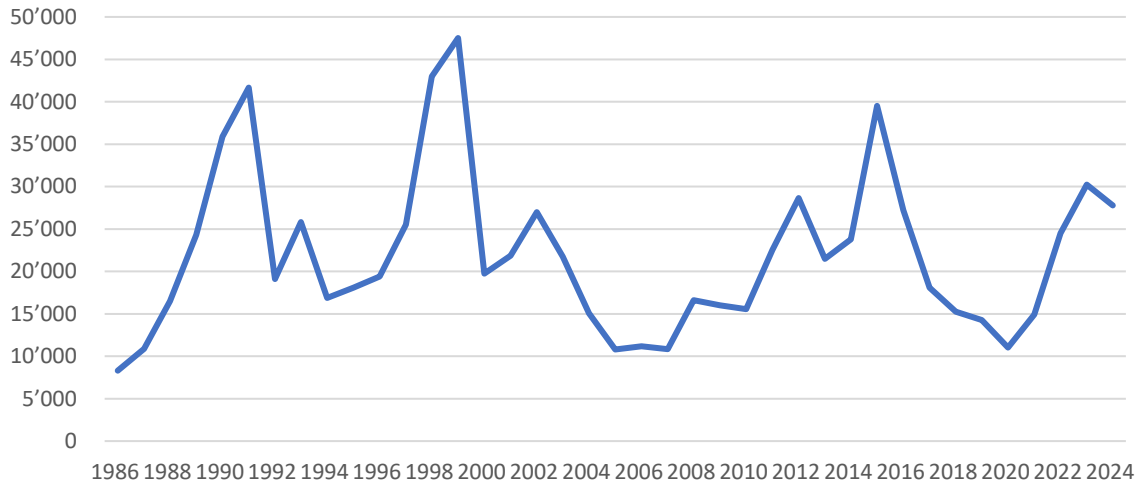
In Switzerland, too, asylum policy became a politically sensitive issue from the mid-1980s onwards. "In public debates, people seeking protection were often disparagingly referred to as so-called “asylum seekers” in order to indicate that their motives for migration were unclear and that they were not legitimate to claim refugee status, since they had come to obtain residence by fraud." (D'Amato 2008: 186) The asylum law passed in 1979 and introduced in 1981 was repeatedly revised in the direction of stricter rules. "While in the 1970s an average of 80 to 90 percent of individual applications had been approved, the recognition rate fell to just over 10 percent by mid-1985 and in the early 1990s fell even further (to below 5 percent)." (Pärli 2019: 187) In the late 1990s, the recognition rate rose slightly (to 9%) (Efionayi-Mäder 2003). Of new asylum applications submitted between 2008 and 2019, around 21% were assessed positively, albeit differently depending on the country of origin. Asylum applications from people from Nigeria, for example, were rejected in 9 out of 10 cases. According to Benjamin Schindler (2017), the right of asylum has in recent decades become a political-legal 'experimental field': “The word 'experimental' stands for a process of 'trial and error', often influenced by short-term political whims” (Schindler 2017: 203)

Between 1986 and 2024, 858’446 asylum applications were officially lodged (see Figure 13). During this period, asylum applications were most frequently people from the former Yugoslavia, Turkey (Kurds), Sri Lanka (Tamils), Afghanistan, Syria and Nigeria. In the 1990s, the Tamils in particular were a larger non-European refugee group who fled to Switzerland due to a civil war in Sri Lanka. Between 1994 and 2008, 100,900 Tamil men and 58,100 Tamil women applied for asylum.

"In the 1990s, the Balkan wars brought new waves of refugees from Bosnia and Kosovo to the country. Some of these war refugees had relatives in Switzerland, mostly migrant workers who had emigrated before the civil war. Between 1990 and 2002, 146,587 asylum applications were filed in Switzerland from the war-torn Balkan region." (D'Amato 2008: 187) In 1991 ethnic expulsions resulted in increasing asylum applications and in 1998/99 a second wave occurred

as result of conflicts in Kosovo. Another highlight occurred in 2015 as a result of the Syrian conflict (see Figure 13). In 2022 the Russian invasion of Ukraine brought a new wave of (mostly female) refugees (as these persons were accorded a special status (Status S) they are not included in the statistics on asylum applications. October 2023 this special status was accorded to 66'00 persons from Ukraine.

Figure 13: Asylum applications 1986 bis 2024



Source: Official statistics on asylum applications

4.2.3 The ageing of migrants

As generally younger people migrate, immigration reduces the mean age of a population. This effect can be amplified if migrant families have above-average fertility rates. From the 1990s onwards, however, a demographic ageing of the first generations of migrants became visible, because many of the first generation of migrants remained in Switzerland after retirement. Their return rates were significantly lower than expected (Bolzman et al. 2006, 2019b; Fibbi 2003, Hungerbühler 2011). This has increased the proportion of older people with a migration background. In 2023, the proportion of foreign-born 65-year-olds and older was 24.5%. The largest group are retired Italians, followed by immigrants from Germany and France. Many former Eastern Bloc refugees (e.g., from Hungary) are also retired.

Children and grandchildren living in Switzerland are often an important motive for remaining in the immigration context. Return means separation from close family members and many older immigrants play an important role as grandparents. Established social contacts and relationships in the neighbourhood can also be a motive to remain in Switzerland. Furthermore, many migrants realize that the conditions in their region of origin have changed, for example when relatives or friends have moved away or have died. Poor health and financial problems after retirement can be further reasons to remain in Switzerland as pensioners who are dependent on supplementary benefits due to low pensions lose this important social support by leaving Switzerland (Eidg. Kommission für Migrationsfragen 2012, Nedelcu, Ravazzini 2024).

The women and men of the first generation of immigrants who retired from the 1990s onwards – namely former migrant workers from southern Europe – were or are shaped by specific life and professional biographies (Ciobanu et al. 2017, Hungerbühler 2004, Soom Amann 2011):

a) Rural origin of some older migrants - and changed homeland: The women and men who immigrated in the 1960s to 1980s often came from regions of southern Europe that were not very developed at the time. Underdevelopment and high unemployment rates were central motives for seeking work in the north. Many came from rural regions of southern Europe and migration meant not only a change from a familiar country to a foreign-language country, but also a change from a rural social order to urban living conditions. In recent decades, the countries of origin of the first generations of immigrants have undergone major economic, social and political changes. The original homeland is no longer the same as at the time of their emigration. For older migrants, this can result in a double loss: The originally homeland no longer exists, but Switzerland is not yet a real home either.

b) Rotation policy and delayed integration**:** While some Eastern European refugees (such as the Hungarian refugees after 1956) were welcomed with open arms, the immigration and integration policy towards foreign workers of the first generations was contradictory and based on the concept of only temporary residence in Switzerland, shaping the biographies of these generations of migrants. Firstly, only a few immigrants of the first generations thought of permanent residence in Switzerland, Secondly, family formation or family reunification often took place with considerable delay. Living and working biographies of the first generations of migrants were often discontinuous (e.g., beginning as a seasonal worker, separation from family, later settlement and family reunification). This has hampered the linguistic and social integration of these immigrants, resulting in old age in higher rates of loneliness (Ciobanu et al. 2024.

c) Migrants as social underclass**:** In order to understand the economic, psychological and health situation of older migrants, it is crucial to know that they often had to take on unqualified, hard physical work. Many women and men of the first generations of immigrants were unskilled workers. While only 21% of Swiss men born between 1920 and 1940 did not complete any higher education or apprenticeship, 47% of male immigrants of the same birth cohorts did not receive any higher education or apprenticeship and among female immigrants the corresponding figure is 64%. The 'foreign workers' of the first generations of migrants filled mostly those working positions that the Swiss avoided because they were dirty, dangerous, physically hard or poorly paid. As a result, these older migrants – whether naturalized or not – are more likely to be confronted in old age with economic, psychological and health problems than Swiss people of the same age. While in 2020 12% of Swiss pensioners claimed supplementary benefits to their pensions, 29% of foreign pensioners depended on such supplementary benefits. Older migrants are also more likely to suffer from bad housing conditions (Bolzman, Bridji 2019a: 215). Hard physical work has negative health effects and immigrant or naturalized retirees are more likely to suffer from depressive symptoms than natives (Bolzman, Vagni 2015). Accordingly, people of the first generations of immigrants have on average shorter life expectancies in good health than native persons.

However, it should be noted that it is not international migration that contributed to health problems in old age, but a lack of education, hard work, precarious financial situation and a lack of social integration. For later generations of migrants – who are more likely to have tertiary education and skilled work – other health dimensions will be important. Depending on the region of origin, different health problems are relevant. Men and women from the Middle East are, for example, more affected by mental illness, heart disease and diseases of the spine and back. Italian men and Eastern European women are more likely to be hospitalized for ischemic heart disease. Compared to Swiss people, diabetes is diagnosed more frequently in men and women from the Middle East, Eastern Europe and Italy, but not in migrants from Western Europe (Schweiz. Gesundheitsobservatorium 2012, Guggisberg et al. 2020).

The number of women and men from the migrant population who in old age become dependent on care is rapidly increasing. This has contributed to the development of concepts of culturally sensitive care (Meier zu Verl 2020). At least in larger Swiss cities, Mediterranean nursing departments have been created specifically for migrants in need of care (Minou 2019). Especially for elderly women and men with a migration background suffering from dementia culturally sensitive care is crucial, as language skills learned later in life are lost earlier than the language of origin. In addition, previous experiences of loss in connection with the migration biography can be reactivated: The time in the home country, migration and foreignness in Switzerland – with the associated feelings of loss – can be become relevant at the end of life (Schweiz. Rotes Kreuz 2013).

5 Age distribution of the population – dimensions of demographic ageing

The age distribution of the population in a country, a region or a municipality is determined by fertility rates, life expectancy and the age structure of immigrants or emigrants (Höpflinger 2023):

High fertility rates lead to a young population, whereas low fertility rates contribute to the demographic ageing of the population. Changes in the number of births have long-term effects on the age structure of a population. The proportion of older people in Switzerland is rising primarily because in recent decades fewer children have been born. Life expectancy is also a relevant factor: High fertility rates combined with low life expectancies lead to a young population, whereas low fertility rates combined with high life expectancies contribute to an upward shift in the age distribution of the population. Gender differences in life expectancy (women living longer than men) contribute to gender-specific differences in the age distribution of the population and modern societies are characterized by a pronounced 'feminization of old age'.

The age distribution of the resident population of a country or a region can also be influenced by processes of migration: An exodus of young people increases the average age of the remaining population. Conversely, immigration often reduces the average age of the population as mainly younger people or younger workers immigrate. In the post-war decades, Switzerland was able to mitigate the demographic ageing of its population through immigration of younger foreign workers and their families. In some cases, the return of retired persons (old age migration) can exacerbate the demographic ageing of a municipality.

Similar to other European countries, Switzerland is currently confronted with a so-called “double demographic ageing”: On the one hand, the proportion of older people is increasing as a result of low birth rates. On the other hand, the proportion of old people is increasing due to an increasing life expectancy of people of retirement age.

5.1 The demographic weight of the population aged 60 + - a historical comparison

In earlier centuries, the age of 60 was often considered as the threshold to old age. In ancient Greek Sparta, the council of elders consisted of men over 60 years old, In the sixth century BC, the army reform of the Roman king Servius Tullius was based on a division into the 17-45-year-old 'juniors' and the 46-60-year-old 'seniors'. After the age of 60 men were exempted from military service. In the Middle Ages too, men were generally exempted from military service and from the obligation to take on public offices at the age of 60 (Letsch 2012a). In the republic of Venice, monks aged 60 were exempted from mortifications and in England a decree was issued in 1503 that beggars aged over 60 should be treated more leniently than younger beggars (Shahar 2005: 75). The age of 60 also plays an important role in Asian culture. According to Chinese and Japanese traditions the 60th birthday is considered an important threshold (Hendry 2012: 157).

To some extent – for example in some Chinese statistics – the age 60 was recently still used as the beginning of age, as people over 59 years of age were demographically counted as part of the elderly population. In Switzerland, age 65 has been defined as the beginning of ‘old age’ as early as 1889 (Daszynska 1889: 389). Today too, old age begins statistically at age 65, based on the formal retirement age of men since 1948. Internationally, too, the norm is increasingly to count persons over the age of 65 as part of the elderly population (for a critical view of chronological age definitions, see chapter 5.5).

Table 34 presents a historical comparison of the proportion of men and women aged 60 and over within the population for the territory of present-day Switzerland (see also Höpflinger 2023b).

Table 34:
The demographic weight of the elderly population in the area of today Switzerland - a historical comparison

		Proportion of persons aged 60 and over in the total population	Sources:
Roman Empire (grave inscriptions)			
Gaul/Northern Italy		5-7%	Russell 1990: 123
Central & Northern Europe			
	1-520 A.D.	3%	"
	520-750 (Plague times)	1-2%	"
	750-1000	3%	"
	1000-1348	3%	"
	1348-1500 (Plague times)	2%	"
Wills: Testator 60+ years):			
Wallis	1350-1400	1%	Dubuis 1991: 236
	1400-1500	3%	"
Census data			
City of Geneva	1561-1600	5%	Bickel 1947: 292
Mettmenstetten ZH	1634	5%	Walter 1966: 64
Albisrieden/Zumikon ZH	1634	4%	"
City of Zurich	1637	6%	Daszynska 1889
Sulgen TG	1710	6%	Menolfi 1980:
	1722	8%	"
Wiesendangen ZH	1721	6%	Walter 1966: 64
Ober- & Unterstammheim	1764	10%	"
City of Bern	1764	10%	Sommer 1945
City of Geneva	1798	11%	Perrenoud 1979
	1816	11%	"
City of Lucerne	1812	10%	Burri 1975
Switzerland.			
Swiss Confederation	1860	8.5%	Swiss Census
	1880	8.8%	„
	1900	9.2%	"
	1920	9.3%	„
	1941	12.9%	"
	1960	15.1%	„
	1980	18.3%	“
	2000	20.2%	„
	2012	23.1%	STATPOP
	2020	24.7%	„
	2023	25.8%	„

High birth rates (which led to a high proportion of young people) and low life expectancy (which meant that few people reached an older age) reduced the proportion of older people in pre-industrial societies. In times of peace, it was slightly higher than in times of war or during epidemics, but generally the demographic weight of the elderly population was low. In some rural regions, the proportion of old people could at times be higher due to emigration of young women and men, but even in such regions the 'old' remained a small minority, even if they could play an important cultural role regarding local traditions.

In the well-organized Roman Empire, the proportion of person aged 60+ was estimated to be 5-7%. After the fall of the Roman Empire and during the Middle Ages it was lower, estimated at 1-3%. In the early modern period (1500-1700) the proportion of older people 60+ increased again, to 4-6%. In the 18th century, at least in some regions of Switzerland, the living conditions of broader sections of the population improved. A gradual increase in life expectancy increased the number and proportion of older people. While in the early 18th century the proportion of 60-year-olds and older people was between 6% and 8%, in the second half of the 18th century it increased to 10-11%, especially in well-organized urban republics such as Bern and Geneva. In less prosperous regions, their share was lower, except where emigration of young people contributed to the fact that only 'old people' remained in the village.

In Switzerland as a whole, the proportion of 60-year-olds and older people was less than ten percent in the 19th century. On the one hand, birth rates remained high and, on the other hand, the probability of reaching the age of 60 was still comparatively low.

In the first half of the 20th century, a first noticeable demographic ageing was observed, as birth rates fell and the life expectancy of people increased thanks to better nutrition and hygiene. In 1941, the proportion of the elderly population (60+) was already 13%. The baby boom of the post-war years and the immigration of young workers temporarily slowed down the demographic ageing of Switzerland's population. The demographic ageing of the population intensified again in the later 20th century as birth rates fell after 1966 and the life expectancy of older people continued to rise.

Since the end of the 1970s, Switzerland has been experiencing a process of double demographic ageing: Demographic ageing from below due to low fertility rates and demographic ageing from above due to increased life expectancy of older people. The proportion of 60-year-olds and older people in the total population has increased to 25.8% by 2023, with a further increase expected as result of the ageing of the baby-boom-generations.

5.2 The age distribution of the population in Switzerland (1860-2023)

Table 35 shows the age distribution of the resident population in Switzerland from a life-cycle perspective. However, two critical points have to be mentioned: First, this classification is also based on chronological age definitions and life-cycle processes – such as the end of adolescence, the age at family formation or retirement – are only loosely linked to chronological age. Secondly, the life-cycle assignments are based on life cycles of modern societies. For example, the concept of adolescence did not exist in 1860 – when child labour was still frequent – and the idea of middle age is only an issue in societies with high and secure life expectancy.

Nevertheless, the data provide some indications on fundamental shifts in the age distribution of the population over the last 163 years.

The declining proportion of children (0-12 years) is particularly impressive. After 1880 the proportion of children in the total population gradually declined, as a result of a significant decline in marital fertility in the context of Switzerland's industrial development. The First World War and the subsequent economic crisis further reduced the birth rates and in the 1930s the fertility rates were lower than 200 births per 100 women (giving rise to fears of a rapidly declining population). The increased number of births in the post-war decades (baby boom) led to more children and later to a higher proportion of teenagers and adolescents. After 1966 the fertility rates declined again and since 1972 Switzerland has had fertility rates that are significantly lower than necessary for the demographic replacement of the population. While in 1880 more than two-fifths of people in Switzerland were younger than 20 years of age, the proportion of the population under 20 years of age is currently only one fifth.

Table 35:
Age distribution of the resident population of Switzerland from a life-cycle perspective

Age:	0-12	13-19	20-24	25-39	40-59	60-69	70-79	80+ J.
1860	26.2%	13.4%	9.0%	22.5%	20.6%	5.5%	2.4%	0.5%
1870	27.8%	12.3%	8.1%	22.0%	20.8%	6.1%	2.4%	0.5%
1880	28.4%	13.1%	8.3%	20.5%	20.8%	5.8%	2.5%	0.5%
1890	27.8%	13.8%	8.5%	20.5%	20.2%	6.2%	2.5%	0.5%
1900	27.4%	13.3%	9.1%	22.0%	19.0%	6.0%	2.8%	0.4%
1910	27.3%	13.5%	8.5%	22.5%	19.4%	5.6%	2.6%	0.5%
1920	24.0%	14.0%	8.9%	21.8%	22.0%	5.8%	2.8%	0.5%
1930	21.5%	12.0%	9.2%	23.7%	22.8%	6.9%	3.2%	0.6%
1941	19.0%	11.0%	7.6%	24.3%	24.6%	8.2%	3.9%	0.8%
1950	20.9%	9.5%	7.5%	21.6%	26.4%	8.2%	4.8%	1.1%
1960	20.2%	11.2%	7.4%	21.6%	24.5%	8.6%	4.8%	1.5%
1970	20.6%	10.1%	8.1%	22.2%	22.7%	9.3%	5.3%	1.7%
1980	16.0%	11.1%	7.5%	23.1%	23.9%	8.8%	6.7%	2.6%
1990	14.9%	8.5%	7.5%	23.7%	25.9%	9.3%	6.5%	3.7%
2000	15.0%	8.1%	5.8%	23.1%	27.7%	9.3%	7.0%	4.0%
2020	13.1%	6.8%	5.5%	20.8%	28.8%	11.2%	8.5%	5.3%
2023	13.0	6.9%	5.2%	20.7%	28.3%	11.7%	8.5%	5.7%

0-12 years: children, 13-19 years: teenagers/adolescents, 20-24 years: adolescent adults, 25-39 years: younger adults, 40-59 years: middle age, 60-69 years: 'young old', 70-79 years: older people, 80 years and older: very old people.
Source: 1860-2000: Eidg. Censuses, 2020: Demographic statistics BfS.

Since 1990 the proportion of younger adults (25-39 years) has also shown a decreasing trend (which means, for example, that companies are struggling to recruit young professionals). In recent decades, however, the immigration of young workers and young families has contributed to the fact that the proportion of young people and young adults remained higher than expected. A significant part of the birth deficit after 1972 was compensated by immigration. The proportion of persons in the age group 40-59 has also increased, primarily due to the gradual aging of the baby boomers, and the labour market is increasingly dominated by workers over 40. The proportion of people aged 60+ is also rising as result of increased life expectancies of older women and men. However, the increase in the number and proportion of old people aged 80 and over is particularly pronounced. While in 1860 only 0.5% of the population was older than 79 years, by 2023 their share has increased tenfold (to 5.7%).

5. 3 The evolution of demographic ratios

Shifts in the age distribution of the population change the relative demographic weight of different age groups, with corresponding socio-political consequences. For example, an increasing number of elderly people in need of care poses problems if at the same time the number of younger women and men able to care decreases. An increasing number of old-age pensioners can have negative socio-political consequences if at the same time the number of contributory workers who finance these pensions decreases. Demographic ratios are often calculated on the basis of such considerations.

Table 36 shows for Switzerland the evolution of four demographic ratios since 1860: (a) youth dependency ratio, (b) old-age dependency ratio, (c) overall demographic ratio, and (d) intergenerational support rates.

The concept of such demographic ratios is based on the basic idea that the working population - as producers of marketable monetary goods - guarantees the economic security of the non-active population. This idea is justified insofar as the survival of infants and children, but also the income (pensions) of retired women and men is made possible by the efforts of the working population. A deterioration in the demographic ratio of the economically inactive and active population increases the economic and social burden of the working age population. An increasing number of children and young people, for example, increases the necessary investments in education and training. An increased number of old-age pensioners contributes to an increased social burden of workers in pay-as-you-go pension schemes, especially when old-age pensions are financed by wage contributions.

The youth dependency ratio measures in simplified form the ratio between economically dependent children and young people (0-19 years) and the potential labour force (aged 20-64 years). The definition of the age groups is a convention adopted for reasons of international comparability. In earlier epochs, however, children also worked and child labour was formally banned in Switzerland only in 1874. Conversely, in modern societies, more young people are not yet gainfully employed after reaching the age of majority (Switzerland: 18 years of age) due to long periods of education. The youth quotient thus only roughly captures the relationship between economically dependent children and adolescents and the economically active population.

The old-age dependency ratio represents in a simplified way the ratio of old-age pensioners to persons of working age. For reasons of international comparisons, the age limit of 65 has become established, although in most European countries the de facto retirement age has deviated from this age limit due to early retirement (whereas 'work until death' was the rule before the introduction of pension schemes). The old-age dependency ratio measures the demographic relationship between the pension population and the labour force therefore only in a rough way.

The sum of youth and old-age dependency ratios gives the total dependency ratio. This ratio captures in a schematic and simplified way the ratio of young people still in education (children, adolescents) and older persons who are no longer able to work to the part of the population of working age. The higher the dependency ratio, the more the middle generation of the working-age population is confronted with a double burden to provide for future generations (via child-rearing and educational expenditures) as well as for older people who are no longer in employment (pensions, care).

Table 36:
Development of youth and age dependency ratios, overall demographic ratios and intergenerational support rates: Switzerland

	Youth-dependency	Age-dependency	Total demo-graphic ratio	Intergenerational parent support ratios
1860	71.4	9.2	80.6	3.7
1870	74.0	10.1	84.1	3.8
1880	78.2	10.3	88.5	3.6
1890	79.2	10.9	90.1	3.9
1900	76.0	10.8	86.8	4.4
1910	76.6	10.7	87.3	5.1
1920	67.7	10.4	78.1	5.0
1930	56.3	11.4	67.7	4.9
1941	48.9	14.0	62.9	6.0
1950	51.2	16.0	67.2	7.3
1960	54.9	17.7	72.6	9.0
1970	53.9	20.0	73.9	11.5
1980	47.0	23.7	70.7	16.9
1990	37.7	23.5	61.2	23.0
2000	37.6	25.0	62.6	22.6
2010	33.7	27.2	60.9	24.9
2020	32.4	30.7	63.1	24.8
2023	32.8	31.8	64.6	25.0

Youth dependency: 0-19 years old per 100 persons aged 20-64 years.
Age dependency: 65-year-olds and older persons per 100 persons aged 20-64 years.
Total demographic ratio: 0-19 years old and 65+ year olds per 100-20-64 years old.
Intergenerational parent support ratios: Number of 80-year-old and older persons per 100 persons aged 50-64 years.

In the 19th century, comparatively high overall demographic ratios were the norm as adults had to care for a comparatively large number of children. Later on, the decline in marital fertility rates – in Switzerland from the 1880s onwards – led to lower youth dependency ratios. Only the baby boom of the post-war decades temporarily resulted in a period of increased youth dependency ratios, but declining fertility rates from the late 1960s onwards reversed this trend and youth dependency ratios decreased again.

Until the beginning of the 20th century the old-age dependency ratios remained relatively low with little variation from 1870 to 1920. From the 1930s onwards it increased, although not continuously. Between 1980 and 1990, the old-age dependency ratios even slightly declined as result of strong immigration of young workers. Since the beginning of the Swiss old-age pension scheme (AHV) (1948) until today, the old-age dependency ratio has almost doubled, partly because the life expectancies of old-age pensioners have significantly increased since the middle of the 20th century. In recent years, this ratio increased also because more women and men of the baby boom-generations reached retirement age.

As far as the total demographic dependency ratio is concerned, it is striking that it was higher in the 19th century than in the 20th century. At present, it has comparatively low values, also

due to the immigration of young people of working age to Switzerland. In addition, a proportion of the baby boom generations are still at (late) working age. However, a pronounced 'wave of retirements' can be expected in the near future, with the result that the ratios between working population and retirement population will continue to shift. The overall demographic ratios, which have been favourable for economic and social conditions over a long period of time, thus show an upward trend. This requires major adjustments of pension system (raising the retirement age and/or increasing contributions).

Table 36 also presents a less well-known demographic indicator. In order to analyse shifts in intergenerational structures, particularly an increasing burden of care due to more old people, intergenerational support ratios have been calculated (Höpflinger 2005, Lloyd-Sherlock 2010, Myers 1992). In simplified terms, this indicator reflects the relationship between two successive generations (generation of very old parents in relation to the next generation of their children). In all European countries, the proportion of persons 80-year-olds and older in relation to the next generation has changed and intergenerational support rates have increased. This trend will become more pronounced in the coming decades. However, similar to other demographic ratios, intergenerational support rates can also have a suggestive effect, for example if rising rates are interpreted too quickly as evidence of an increased nursing burden on the next generation. In addition, there is a risk of assigning all old people to the group of those in need of help and care, which supports deficit models of old age and does not take into account extensions of disability-free life expectancies. Scenarios on the future intergenerational care burden illustrate that the care burden rates increase only slightly if disability-free life years are extended. Although there are considerable uncertainties regarding the development of healthy or disability-free life expectancies, an extension of disability-free life years can contribute to a situation where - despite a rapid increase in the number of old people - the nursing burdens of future generations are only slightly higher than today (Sanderson, Scherbov 2010).

5.4 Scenarios on demographic ageing

In the following chapter, earlier and actual scenarios on the expected demographic ageing in Switzerland are compared. For earlier scenarios, a comparison with the actual development is possible. It is obvious that the results of demographic projections depend on assumptions about birth trends, life expectancy and migration. All these demographic variables are unpredictable, especially in the longer term, since the development of birth rates, life expectancy and immigration or emigration depends on a variety of economic, social and political conditions. Therefore, significant deviations between expected and actual population development are to be expected in the longer term, especially if current trends are simply updated linearly (Fux 2007).

Table 37 illustrates the expected development of the ageing of the population (% share of population aged 65 and over) and Table 38 shows the predicted evolution of old-age dependency ratios (ratio between persons aged 65+ and persons aged 20-64). All scenarios carried out so far on the demographic development of Switzerland since the 1930s are included.

As early as the mid-1930s, low birth rates due to the economic crisis led to fears of a rapidly ageing of Switzerland's population. A significant increase in the number of elderly people in need of care was also feared: "The ageing of our population and the inevitable increase in the absolute number of cases of typical age-related diseases, the increasing deterioration of the social situation, lack of home care result in an inevitable increase in the number of old people in need of care. More nursing homes and care places must be provided." (Hartmann 1935: 58) The population forecasts carried out at that time (cf. also Friedli 1928) did not foresee the baby

boom of the post-war years or the immigration of young workers: "The probability of greater immigration from abroad, as well as a significant increase in births, is very low, so that no major deviations from the calculated age structure of the population are to be expected." (Hartmann 1935) 43)

Accordingly, a population of only 4 million inhabitants was expected for 1990 (instead of the actual figure of 6.8 million). Despite the emphasis on demographic ageing (and care burden), the share of the age population and the old-age dependency ratios were slightly below the later observed values, as – at a time before antibiotics were discovered - the subsequent increase in life expectancy was strongly underestimated. The proportion of persons aged 80 and over was expected to be 1% of the total population in 1990. In fact, it was 3.6%.

Towards the end of the 1930s, some population forecasts became even more pessimistic: "Things will quickly go down with us. Even if we assume that in the next two decades marital fertility will decline only half as fast as in the last decade, in 60 years, i.e. at the turn of the next century, according to the fairly reliable forecasts of the Federal Statistical Office, Switzerland will have only 2.8 million inhabitants instead of 4.2." (Studer-Auer 1941: 9-10). This pessimistic perspective gave rise to political efforts to promote a family policy promoting births and was used to justify a rejection of the introduction of a comprehensive old-age pension.

The rise of the fertility rates during the post-war years and the economic growth which was accompanied by a strong immigration of young workers, pushed fears of demographic ageing into the background. Discourses on ageing were replaced by discourses on overpopulation. At the beginning of the 1970s, a much-discussed linear projection of population growth pointed to an increase in the population to almost 10 million by 2000 (Schlussbericht Francesco Kneschaurek 1974). Kurt Fricker's (1965) maximum scenario was also based on optimistic growth scenarios, but his semi-dynamic forecasting model – based on a differentiated socio-structural analysis – proved to be more realistic. The resident population of 7.6 million calculated in this scenario for 2000 differed only marginally from the actual population of 7.2 million. The proportion of people aged 65 and over for 2020 was also close to the actual figure (only the long-term forecast for 2040 seems clearly too low). By contrast, the old-age dependency ratios – which influenced political discussions on the financing of old-age pensions – appear to be too low from today's perspective.

After 1966 fertility rates fell again and since 1972 Switzerland has – as already mentioned– fertility rates too low for the long-term replacement of the population. At the same time, economic growth rates also fell in the late 1970s and the economic crisis of 1974/78 led temporarily to a noticeable return migration of foreign workers. The fertility decline brought again fears about demographic ageing and its negative impact on social and health policies. In 1985, a group of experts went public with the provocative book title 'Are the Swiss dying out?' (Kommission ‘Bevölkerungspolitik’ 1985'). From today's perspective, the scenarios on the development of the age population and the old-age dependency ratio proved to be too pessimistic, in particular because they underestimated the later immigration rates.

Table 37
Scenarios for the evolution of the population aged 65+)

			Persons aged 65 and over as % of resident population						
			1990	2000	2010	2020	2030	2040	2050
	Observed		14.6	15.4	16.9	18.8	-	-	-
Scenarios:	Base	Source:							
Scenario Hartmann	1930	1	11.2	-	-	-	-	-	-
Scenario Fricker:	1962	2							
- minimum projection *			14.4	-	15.6		16.2	-	-
- medium projection			13.8	-	19.1	-	16.7	-	
- maximal projection*			11.1	-	16.2	-	18.4	-	-
Expertengruppe Demographie	1980	3	-	-	19.4	23.2	-	28.2	-
Demographiebericht AHV	1985	4							
- main scenario			14.7	15.8	17.8	20.2	22.6	23.4	-
- increased immigration			14.7	15.6	17.1	19.4	21.6	22.3	-
- increased life-expectancies			14.8	16.1	18.5	21.4	24.0	25.0	-
BFS-Szenarien 1995-2050	1994	5							
- trend scenario			-	15.3	17.5	20.5	23.7	24.9	24.9
- positive dynamics			-	15.4	17.4	20.2	23.1	24.0	23.9
- negative dynamics			-	15.5	18.1	21.6	25.6	27.2	27.1
BFS-Szenarien 2000-2060	1999	6							
- trend scenario			-	-	17.4	20.0	23.1	24.2	23.8
- positive dynamics			-	-	17.2	19.6	22.3	23.3	22.8
- negative dynamics			-	-	17.6	20.7	24.4	25.9	25.7
- increased ageing			-		17.7	21.2	25.6	28.7	29.8
- attenuated ageing		-	-		17.1	19.1	21.2	21.4	20.2
BFS-Szenarien 2010-2060	2008	7							
- medium scenario			-	-	17.1	20.1	24.2	26.8	27.7
- high scenario		-	-	-	17.1	19.6	23.3	25.9	27.0
- low scenario		-	-	-	17.1	20.5	25.0	27.8	28.6
BFS-Szenarien 2020-2050	2020	8							
- main scenario				-	-		22.1	24.4	25.6
- high scenario					-	-	22.0	24.0	24.9
- low scenario						-	22.3	24.9	26.5
BFS-Szenarien 2025-2055	2025	9							
- main scenario				-	-	21.7	23.7	24.8	
- high scenario					-	-	21.5	23.2	24.4
- low scenario						-	21.9	24.2	25.3

* Exact: 1993, 2013 und 2033
Sources: 1: Hartmann 1935, 2: Fricker 1965, 3: Kommission ‚Bevölkerungspolitik' 1985 & Hagmann 1991, 4: Bundesamt für Statistik 1990, 5: Bundesamt für Statistik 1996, 6: Bundesamt für Statistik 2002, 7: Bundesamt für Statistik 2010, 8: Bundesamt für Statistik 2020, 9: Bundesamt für Statistik 2025.

Table 38**:**
Scenarios for the evolution of the old-age dependency ratio

			Demographic old-age dependency ratios (65+ year olds per 100 persons aged 20-64 years)						
			1990	2000	2010	2020	2030	2040	2050
	Observe		23.5	25.0	27.6	30.9	-	-	-
Scenarios	Base	Source:							
Scenario Hartmann	1930	1	19.4%	-	-	-	-	-	-
Scenario Fricker:	1962	2							
- minimal projection*.			24.9	-	27.1	-	28.3	-	-
- medium projection			-	23.1	-	35.5	-	29.6	-
- maximal projection*			17.7		29.0	-	34.6	-	-
Expertengruppe Demographie	1980	3	-	27.0	-	39.0	-	52.0	-
Demographiebericht AHV	1985	4							
- main scenario			23.8	25.6	28.8	33.5	39.0	40.8	-
- increased immigration			23.8	25.3	27.6	32.0	36.9	38.4	-
- increased live-expectancies			23.9	26.2	30.3	36.0	42.3	44.5	-
BFS-Szenarien 1995-2050	1994	5							
- trend scenario			-	25.1	28.9	35.8	42.9	45.6	45.3
- positive dynamics			-	25.2	29.1	35.0	42.2	44.8	44.3
- ngative dynamics			-	25.2	29.8	36.4	45.6	49.2	48.9
BFS-Szenarien 2000-2060	1999	6							
- trend scenario			-	-	28.2	33.1	40.8	43.9	42.6
- positive dynamics			-	-	27.9	32.7	40.5	43.5	42.3
- negative dynamics			-	-	28.4	33.8	42.1	45.8	45.0
- increased ageing			-	-	28.6	34.8	44.7	50.8	52.2
- attenuated ageing		-	-		27.8	31.8	38.1	39.3	36.4
BFS-Szenarien 2010-2060	2008	7							
- medium scenario			-	-	27.5	33.4	43.0	49.2	51.3
- high scenario		-	-	-	27.5	32.8	41.8	47.8	50.6
- low scenario		-	-	-	27.6	33.9	43.7	50.4	52.0
BFS-Szenarien 2020-2050	2020	8							
- main scenario				-			38.3	43.6	46.5
- high scenario					-		38.0	43.0	45.6
- low scenario							38.6	44.3	47.5
BFS-Szenarien 2025-2055	2025	9							
- main scenario				-	-	36.8	40.9	43.3	
- high scenario					-	-	36.6	40.6	43.1
- low scenario						-	37.0	41.2	43.6

* Exact: 1993, 2013 und 2033
Sources:1: Hartmann 1935, 2: Fricker 1965, 3: Kommission ‚Bevölkerungspolitik' 1985 & Hagmann 1991, 4: Bundesamt für Statistik 1990, 5: Bundesamt für Statistik 1996, 6: Bundesamt für Statistik 2002, 7: Bundesamt für Statistik 2010, 8: Bundesamt für Statistik 2020, 9: Bundesamt für Statistik 2025.

Socio-political fears about the financing of pay-as-you-go old-age pensions (AHV) led to the publication of a demographic report in 1990, stating that Switzerland was on the threshold of a fundamental population change: "Centuries of population growth are running out, and we are moving towards a stagnant, possibly declining population." (Bundesamt für Statistik 1990: 45). In addition to a main scenario, alternative scenarios (increased immigration, increased life expectancy) were also calculated. However, all three scenarios underestimated both the later immigration and the subsequent increase in life expectancies. Thus, in the main scenario until 2010 a life expectancy of 76.2 years for men and 82.0 years for women was expected. In fact, in 2010 the actual life expectancy was much higher (men: 80.2 years, women 84.6 years). Interestingly, in the scenario 'increased life expectancy', the trend for women was reliably estimated (estimated: 84.7 years, in fact 84.6 years). On the other hand, the catching-up trend among men was clearly underestimated (estimated life expectancy for men in 2010: 77.4 years, in fact 80.2 years).

Underestimated immigration and life expectancy contributed to the fact that population growth was in all three scenarios too low. For 2010 a resident population of 6.9 to 7.2 million people was expected (in fact it was 7.9 million). This was also the case, albeit less markedly, in subsequent population scenarios. As far as the proportion of the population aged 65 and older people and the old-age dependency ratios are concerned, it is striking that the demographic report of 1990 expected too high values in the short term, but assumed lower values in the long term than recent scenarios predict.

In other words, the scenarios at the end of the 1980s and the beginning of the 1990s tended to emphasize the short-term demographic challenges of old-age pension systems (and pessimistic scenarios about state deficits). The latest scenarios 2020-2050 & 2025-2055) assume slightly lower shares of the 65+ age population than, for example, the scenarios 2010-2060 (primarily as an effect of higher immigration rates).

The significant deviations between expected and actual demographic developments had two methodological consequences: On the one hand, there is less talks of population forecasts than of demographic scenarios, whereby recent work by the Federal Statistical Office carefully presents the assumptions made. On the other hand, various scenarios are calculated in order to record the long-term effects of different immigration rates or different developments in life expectancy.

5.5 Critical remarks on classical measures of demographic ageing

A central problem of the usual indicators of demographic ageing is the fact that they are based on chronological age, although chronological age - in the sense of the years of life lived so far - is from a gerontological perspective only to a limited extent a valid measure (Wahl, Heyl 2004: 48). "Why does age begin demographically at the age of 65, even though the life situations and behaviours of older women and men have changed dramatically in recent decades? The usual measures of demographic ageing are clearly too static and they neglect changes in healthy or active life expectancy." (Höpflinger 2023: 219) The problem of fixed age limits for measuring demographic ageing is particularly pronounced when socio-medical progress contributes to shifting social and biological aging processes (Höpflinger 2016b).

As a result of such considerations, the American demographer Norman Ryder proposed a dynamic indicator of demographic ageing as early as the 1970s (Ryder 1975). Instead of setting the limit at age 65, he assumed a dynamic age limit. He proposed drawing the line where the remaining mean life expectancy of a population is less than 10 years. Dynamic indicators of

demographic aging correspond better to modern social gerontological ideas, which reject an equation of fixed chronological age and individual ageing (cf. Sanderson, Scherbov 2010, 2020).

The data in Table 39 illustrate the demographic ageing in Switzerland on the one hand according to the classical, static definition and on the other hand from a dynamic point of view. According to the usual definition (old = older than 65 years), the proportion of elderly increased between 1900 and 2020 from 6% to 19%. A dynamic definition of demographic ageing, which includes only persons who have statistically a (period-specific) life expectancy of less than 10 years, gives a different picture: Taking into account extended life expectancy, the proportion of older people - as defined - rose between 1900 and 2020 only from 5% to 10%.

A refinement of the dynamic indicator of demographic ageing –based on the concept of prospective age (i.e., the expected age-specific residual life expectancy of women and men) – indicates that a dynamically calculated demographic old-age dependency ratio increases between 2005/10 to 2025/30 from 15 to 18, whereas a classic old-age dependency ratio (age starts at age 65) indicates an increase from 27 to 41 (Sanderson, Scherbov 2007: 49). Other demographic methods (e.g., 'optimal group techniques of age distributions') for measuring demographic ageing – also based on age definitions adapted to new social living conditions – go in the same direction (D'Albis, Collard 2012). Indicators of demographic ageing, which are not based on fixed (and outdated) age limits, put into perspective the idea of a rapidly ageing society. The fact that demographic ageing – because it is too statically measured – is partly a pure fiction must be taken into account when discussing the possible social and socio-political consequences of increasing demographic ageing.

Table 39:
Demographic ageing in Switzerland from a static and dynamic perspective 1900-2020

	Classic age definition: old= 65 years and older	Dynamic age definition*
% share 'old':		
1900	6%	5%
1950	10%	6%
1990	15%	7%
2010	17%	9%
2020	19%	10%

* Age limit according to residual life expectancy: women and men with a residual life expectancy of less than 10 years. Source: own calculations.

5.6 Societal and socio-political consequences of demographic ageing

The economic and socio-political effects of demographic ageing are controversially assessed, depending on whether demographic developments are considered in isolation or in their interactions with other social changes. Generally, processes of demographic ageing – however measured – lead to problems above all when and where social structures are not adapted to new demographic conditions, or in the words of Axel Börsch-Supan (2007: 141): " The ageing of the population will only cause us real economic problems if we refuse to adapt our social and economic institutions to changing circumstances." Other studies also indicate that the negative

effects of demographic ageing on economic growth and innovation opportunities remain limited if the economy and society adapt flexibly to the new socio-demographic structures (Bloom et al. 2010).

Changes in the age distribution of a society obviously result in changes on the demand side. In demographically ageing societies products and services for older people are increasingly in demand, whereas the youth market becomes relatively less important. This applies not only to age-adapted housing, health care products and services, but also to leisure, sport, education or tourism (where older people are an increasingly important group). "In addition to housing, care, social services and the health industry, the “senior economy cluster” also includes trade and crafts, tourism, new media and technology as well as banking and financial services." (Heinze et al. 2011: 120) Scenarios for Switzerland indicate that demographic ageing has a positive effect also on state-related, domestically oriented service sectors (Kaiser et al. 2019).

In the post-war decades, old-age provisions have been expanded in European welfare states and pension systems are currently one of the most important pillars of European welfare states (Anttonen et al 2003). In addition, there are expenditures on health and care expenses, primarily benefiting the elderly population. Accordingly, such expenditures are increasing due to processes of demographic ageing. Pension systems based on pay-as-you-go systems (contributions from employed persons are used to finance pensions) are particularly affected by shifts in the age structure. In such a pension system, a deteriorating ratio of employed persons to old-age pensioners has a direct impact on the financial situation of pension funds. Other pension schemes - such as funded schemes (wage contributions are saved and paid after retirement) - are less affected by demographic changes, although long-term capitalization problems are indirectly affected by demographic ageing. Accumulated capital can only be paid out if there is sufficient production capacity (otherwise high inflation can result in the devaluation of accumulated capital).

In view of a significant demographic ageing, major reforms of pension systems are needed in all European countries. Calculations show that without reforms, the direct and indirect socio-political burdens of future generations will rapidly increase (Peters et al. 2018). The first generational accounting for Switzerland – with the starting year 1997 – for the entire tax and social policy (including health costs) revealed a sustainability gap amounting to a good 75% of gross domestic product (GDP) (Raffelhüschen, Borgmann 2001). Subsequent calculations – for 2011 –pointed to an even higher sustainability gap in public spending of 166% of gross domestic product (GDP), in particular due to rising expenditure on old-age pensions and health care costs (Moog et al. 2014). In 2019, it was found that the current value of the total pension promises exceeds the present value of the future income by 169% of Swiss gross domestic product (UBS AG 2019).

Changes in the ratio of the working population to old-age pensioners can be remedied by three reform steps:

(a) Workers' wage contributions to the pension system are increased, implying an additional burden on younger generations. A broader based financing of pension can achieve a better intergenerational balance, for example if old-age pensions are co-financed by general tax revenues, value-added taxes or inheritance taxes.

(b) Pension benefits are reduced, directly or indirectly, for example by refraining from adjusting pensions to inflation or wage levels. However, with massive pension cuts, there is a risk that poverty in old age will again become more frequent. Since poverty among older people reduces disability-free life expectancies, this can in the longer term be associated with increased health and care costs.

(c) Raising formal retirement age. However, raising formal retirement age only makes economic and socio-political sense if the de facto retirement age is also raised, otherwise savings in old-age pensions will be partly offset by increased costs for unemployment benefits, disability pensions or social assistance. An increase in the de facto retirement age requires labour policy measures to improve the employability of older workers, such as permanent professional training, new career models for later years of employment or the provision of age adapted jobs (Michel-Alder 2018, Zölch, Mücke 2015).

At first glance, we observe a close relationship between demographic ageing and rising health expenditures, as the majority of health and long-term care costs are incurred at higher ages. An increasing number of old people leads, it is argued, to increased spending on health. In fact, per capita expenditures on medical treatment increases with age, as the risks of chronic diseases and disabilities accumulate with age. Common diseases in old age include coronary heart diseases, cerebrovascular insufficiency or osteoporosis. The risk of cognitive disorders (Alzheimer's disease and other forms of dementia) also increases with age. Such diseases are often the cause of long-term need for care, even if the equation 'old = sick' is no longer valid.

As result of strong (cross-sectional) correlations between chronological age and medical costs, "the popular conclusion is often drawn that 'the elderly' are the main driver of the cost explosion in health care. But this conclusion is wrong." (Krämer 1992: 572). This statement from the early 1990s has been confirmed for later periods and other countries (Dormont et al. 2006; Steinmann, Telser 2005). A recent decomposition of health costs in Switzerland between 2012 and 2017 indicated, that 44% of the cost increases were due to higher costs per patient, while only 15% were directly the result of changing age-structures (Stucki et al. 2023).

Although the age distribution of the population has an influence on the age distribution of health expenditures at a given point in time, it says little about future developments. The positive correlation between age and medical costs cannot be used to project future cost developments.

Nicholas Eberstadt and Hans Groth (2008) draw attention to the fact that health can also be regarded as a social value: "Even if health expenditures are often presented in the current political debate as if they were a pure cost imposed on modern industrial society, it is an undisputed fact that health and medical services increase the prosperity of a society and its citizens." (p. 36) Spending on health, medicine and medical research can be interpreted as long-term investments in human capital (see also Murphy, Topel 2006). In this perspective, health investments are a key for coping with the demographic future, as an extension of healthy life years can reduce negative effects of demographic ageing. This is partly true even for care costs, where the ageing of baby boomers contributes to rising expenses. Scenarios on the burden of care for future generations indicate that the care burden rates increase less strongly if disability-free life expectancies are extended (Sanderson, Scherbov 2010). Fiscal scenarios carried out for Switzerland also indicate that although long-term care costs will rise in the next decades, this increase in costs is significantly lower if disability-free life expectancy increases more strongly than life expectancy itself (Eidg. Finanzdepartement 2016: Table 9).

Nonetheless, regardless of other influences, the demographic ageing of baby boomers means a marked increase in the demand for medical interventions, care and forms of assisted living (Eidgenössisches Finanzdepartement 2024, Pellegrini et al. 2022). Particularly the ageing of new generations of ageing women and men with high health-demands reinforces this trend, in addition to rapid development of (in a first phase costly) medical interventions.

Interestingly, climate change and demographic ageing are also linked insofar as demographic ageing exacerbates the effects of climate extremes, as an analysis of the mortality effects of cold and heat periods in Switzerland between 1969 and 2017 indicates (Schrijver et al. 2022).

Central to economic or social and health policy adjustments to demographic changes is the realization that "age" and "ageing" are not simply natural facts, but represent to a large extent socially designed and socially influenced phenomena. According to Linda Fried (2016) a competence- and health-promoting policy allows demographically ageing societies to benefit from a 'third demographic dividend': Countries can experience an economic boost or a first demographic dividend through the entry of strong birth cohorts into the labour market, especially if the next generations of women and men are well educated. A second demographic dividend may arise if, thanks to socio-medical and work-related progress older workers remain productive for longer. A third demographic dividend may arise if, thanks to good health, women and men remain intergenerationally engaged for many years even at retirement age (as grandparents, mentors or volunteers).

Final remarks

Many of the demographic changes described for Switzerland are changes affecting most of even all regions of the world at different time periods and under different social conditions. This applies, for example, to the fundamental change from high to low fertility rates and from low to high life expectancy, but also to processes of international migration. Low birth rates and high life expectancy – with all the associated social consequences – will determine the future of Switzerland as well as the future of other European countries and most non-European countries. Therefore, we observe a demographic ageing of the world population, but with regionally significant socio-economic differences: Switzerland and many European countries experience a demographic ageing after they became wealthy, whereas poorer non-European countries (will) experience a demographic ageing before they become wealthy. New epidemics (such as Covid-19) and climate change too are global challenges that have different impacts depending on regional socio-political and economic conditions.

Family demographic changes (marriage behaviour, type and time of family formation) – as presented for Switzerland – are determined by socio-cultural factors, so that significant differences arise for regions with similar economic developments. Family structures and norms in Western and Northern European countries still differ significantly from family structures and norms in Southern and Eastern European countries and especially from non-European countries. Country-specific differences also arise with regard to immigration and emigration or in the political and social reactions to migration movements.

Generally, societies – and politics in particular - only react gradually and with a time lag to demographic changes and demographic fallacies are not uncommon in political discourses. Demographic misperceptions arise when complex interactions between demographic developments and the behaviours of individuals or groups are ignored. A classic example is the equation of demographic ageing with social "ageing". Ideas of an impending war between generations due to an increasing burden of old age are also based on demographic fallacies. Another example is the idea that a decline in the birth rate is a sign of social decline. Demographic fallacies also exist if the need for university places is derived directly and linearly from the number of births or if an increasing number of old people is taken as indication of a future nursing crisis without taking into account intervening socio-medical variables.

When interpreting demographic developments, two basic aspects must be taken into account:

First, the social and economic consequences of demographic changes – such as an increased proportion of older people – depend on social conditions. Political power distributions and cultural norms are just as important factors as the modernity and level of prosperity of a society. This means that numerically the same demographic developments – such as a ten percent increase in the resident population – have different consequences depending on the socio-historical conditions.

Secondly, quantitative demographic changes and qualitative social changes are always interrelated (invalidating simple causal explanations). Furthermore, the consequences of demographic processes vary depending on the chosen time horizon. For example, strong immigration of cheap workers can reduce the wage level of domestic workers in the short term, but it can in the long term contribute to a higher wage level for the local population thanks to increased economic and socio-cultural dynamism.

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