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INVESTMENT SOLUTIONS & PRODUCTS
Swiss Economics
August 2018

Publishing details

Published by:
Investment Solutions & Products
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Printing
galledia ag, 9230 Flawil

Press date
August 3, 2018

Orders
Electronic copies via
credit-suisse.com/publications.

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(Market & Trends – Swiss Economy)

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Occupational pensions: Lump sum or annuity?

Editorial

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Occupational retirement benefits have been in a state of flux in recent years. This is not due to a comprehensive reform, although this would actually be very desirable. Instead, pension funds have begun to seize the opportunities available to them in non-regulated business areas. In order to adapt the system as far as possible to the new reality of low interest rates and progressive demographic aging, conversion rates and technical interest rates in the extra-mandatory part of the occupational pension fund system have been reduced. Future retirees must therefore expect lower retirement benefits. In this context, the question of how to withdraw retirement savings is gaining relevance. The decision as to whether to withdraw them as a lump sum or in the form of an annuity is becoming increasingly important. In our study, we illustrate how this choice affects the assets that are available during retirement, depending on the conversion rate, return environment, life expectancy and tax burden.

To date, there is still no clear trend indicating an increase in the withdrawal of lump sums. However, this could easily change in the future against the backdrop of declining conversion rates. Another driver of this development could be the growing appeal of 1e pension plans for those with higher salaries, where the retirement benefits are normally paid out as capital.

1e pension plans serve to fulfill the increasing demands for greater flexibility and customization in pension planning: they give insured persons the freedom to choose their own investment strategy based on their risk propensity. However, they are not without consequences for the system of occupational retirement benefits. With 1e plans, insured persons can partially avoid the unintended redistribution between active workers and retirees. At the same time, these plans erode the solidarity in the occupational pension system, because 1e assets are withdrawn from the collective, which renders a restructuring of the pension funds more challenging. These developments underscore the need for a comprehensive reform for sustainably securing retirement provision.

We hope this publication contributes not only to a better understanding of the specific topic of "lump sum or annuity", but also to the ongoing discussion on the future of retirement provision. We wish you an interesting and stimulating read.

Oliver Adler

Occupational pension plans put to the test

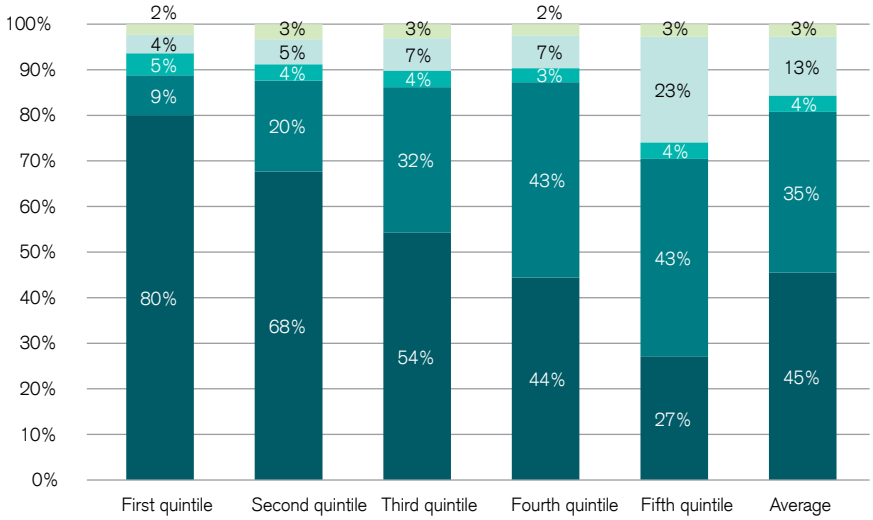
In the three-pillar Swiss pension system, the second pillar is intended to allow retirees to maintain their accustomed standard of living and, combined with the first pillar, social security (AHV), provide retirement income that amounts to around 60% of the last salary. In contrast to the pay-as-you-go system used by the AHV, the occupational pension system relies upon the funding principle. Contributions from employers and employees are deposited with pension funds to cover their retirement provisions. A distinction is made between mandatory and extra-mandatory segments. Mandatory occupational benefits provision (BVG) insures annual salaries of CHF 21,150 to CHF 84,600 and pension funds must guarantee the statutory minimum interest on this portion of the pension capital. When calculating the pension in this system, a statutory minimum conversion rate of 6.8% applies. Most pension funds also provide insurance benefits for salaries that exceed CHF 84,600. This is referred to as extra-mandatory occupational benefits provision. The latter also includes benefits provided by some pension funds that go beyond the statutory benefits for the lower salaries (e.g. higher savings contributions paid by the employer). In the extra-mandatory segment, the pension funds are permitted to set interest and conversion rates at their own discretion. The only requirement is to prove that they can meet the statutory minimum in the mandatory area at all times. This also applies to "all-inclusive" pension funds that apply a uniform conversion rate to the entire retirement assets (i.e. the mandatory and extra-mandatory component).

The role of the second pillar in pension provision

A retiree's retirement provision generally consists of a monthly pension from the first pillar (AHV) and an annuity or a lump-sum payment from the occupational pension scheme; ideally, it should also include private savings and tied 3a pension provision. The contribution of each individual pillar in securing an appropriate standard of living after retirement depends upon two factors: year of birth and income.

The second pillar plays a key role only for higher incomes

Share of gross income of retired households by quintile of income distribution, in %, 2012–2014



* Lump-sum payments from the second and third pillars are allocated to assets and appear indirectly as investment income

Source: Swiss Federal Statistical Office (HBS), Credit Suisse

- Other income (employment, transfers from households)
- Investment and rental income*
- Social security benefits, daily allowances
- Occupational pensions
- AHV/IV pensions

Older retiree generations had few opportunities to ensure comprehensive retirement provision in the modern sense. Although there were early pension funds in Switzerland as long ago as the middle of the nineteenth century, BVG mandatory benefits were only introduced in 1985, and pillar 3a, with its tax benefits, was established in 1986. Missing contributions or a short contribution period sharply diminish the retirement benefits for these older generations that go beyond the first pillar. As well as this generational effect, the importance of occupational pensions in general increases as income levels rise. While for average incomes in the first quintile (lowest 20% of income distribution) the AHV is almost the only source of pension income, the second pillar accounts for more than 40% of incomes in the fourth and fifth quintiles (see Figure). The income level has a greater influence than the year of birth across all retiree generations. Even for younger retiree generations that have been able to participate to a greater extent in building up occupational benefits, this pillar only plays a relatively

significant role for income classes above the median of CHF 68,900.

Low interest rates and demographics are challenges

The environment for Swiss pension funds has changed dramatically since the introduction of BVG mandatory benefits in 1985. From a demographic viewpoint, the aging of the population represents the primary challenge for retirement benefits institutions. Since 1985, the remaining life expectancy at the age of 65 has increased by nearly five years for men and by 3.6 years for women. The increase in the retirement age for women from 62 to 64 years (10th AHV revision) and the reduction of the conversion rate from 7.2% to 6.8% (first BVG revision) don't sufficiently address this trend. Under these conditions, the risk therefore increases that the pension capital saved during one's working life will not suffice for the entire retirement period. If the capital is depleted during the life of the retiree, the remaining pension payments must be financed by the retirement benefits institution as a collective.

From an economic perspective, the persistent environment of low interest rates is problematic. It has a significant impact on investment income in occupational pensions, which in addition to the insured and employers is often referred to as "the third contributor". During times of low interest rates, returns on low-risk bonds, still one of the most important asset classes for Swiss pension funds, suffer the most. In recent years, it was possible to offset these missing returns with simultaneous price gains on the same bonds, triggered by falling interest rates. However, since interest rates are unlikely to fall any further in the foreseeable future, there is little likelihood that bonds will post further valuation gains. In response to the ongoing environment of low interest rates, pension funds have altered the composition of their investment portfolios. Today, these are more likely to include riskier assets, such as shares, real estate or alternative investments. This shift means that retirement benefits institutions are accepting greater risks in order to generate the returns needed to finance their obligations.

Problem of redistribution

To date, the various parameters in the occupational pension system have not been adjusted – or have been adjusted too slowly – to reflect the new demographic and economic realities. A concrete, if not easily visible consequence of this dilemma is a redistribution from active insured persons to retirees, which was not actually intended in the occupational pension system. A first type of redistribution occurs with new pensions when the conversion rate for newly retired people is too high due to an underestimation of life expectancies. Consequently, pension commitments are too high. However, they can no longer be changed at a later date due to regulatory reasons[1]. The resulting funding gaps ultimately have to be borne by the active contributors.

The second type of redistribution from young to old arises in existing pensions when the technical interest rate is set too high, which means that the retirement capital of the retirees has a higher rate of interest over a long period than the retirement capital of active insured persons. The prolonged phase of low interest rates took many pension funds by surprise and the previously fixed technical interest rate intended to reflect possible future investment performance often proved excessive. Our estimates indicate that CHF 5.3 billion was redistributed from contributors to retirees in the second pillar in 2015[2]. This amount is considerably higher than the CHF 3.5 billion in our first estimate for 2010. Although Swiss pension funds have taken measures with the technical interest rate and conversion rate to ease the redistribution, these have clearly altogether not been strong enough.

Trend toward declining conversion rates

In order to avoid unintended redistribution, and to reflect demographic developments and the ongoing environment of low interest rates, a lowering of the minimum conversion rate from the current 6.8% for BVG mandatory benefits is urgently needed. Until a political solution is found, the pension funds that provide services only in the mandatory segment have their hands tied, since the minimum conversion rate there is fixed by law. However, there is room for maneuver for all-inclusive pension funds that are also active in the non-mandatory segment of occupational pensions. In these cases, the funds can set their own conversion rates and thus compensate losses in the mandatory segment. A survey of pension funds by Credit Suisse indicates that all-inclusive pension funds will adopt conversion rates averaging 5.5% for men and women over the next five years. However, the conversion rates still exceed the actuarially correct ones, which, according to pension fund experts, are in the order of 5%. So alongside regulatory measures in the mandatory pension segment, pension funds also need to make further adjustments in the non-mandatory segment to avoid unintended redistribution and ensure the long-term financing of pension benefits.

1 Only in the case of underfunding of the pension fund can the latter demand that retirees contribute to resolving the underfunding. This can only be applied to the extra-mandatory segment and only to the portion of current pensions arising over the preceding ten years due to increases not prescribed by legal or regulatory means (e.g. inflation adjustments).

2 See Swiss Pension Fund Survey: Low Interest Rates and Demographics are the Main Challenges, Credit Suisse, May 2017

“Pensions 2020” reform rejected

The Swiss pension system is on thin ice. The AHV already pays out more than it takes in each year. The AHV fund that has covered the deficit thus far will be depleted by 2030. In the second pillar, an unintended redistribution is taking place at the expense of active contributors. Revisions to the legal framework are long overdue. The last attempt, the “Pensions 2020” reform, did not go far enough in some points, and in others it took the wrong direction. The overloaded package, which combined an overhaul of the first and second pillars, was designed to balance the AHV finances for the next ten years, and to improve the situation of the pension funds. The proposed measures ranged from raising the retirement age for women, to supplemental AHV funding via 0.6% of value-added tax, to a staggered lowering of the minimum conversion rate to 6.0%. In addition, the free choice of retirement between the ages of 62 and 70 and the flexibility of the coordination deductible were intended as an adjustment to social needs such as flexible working models. In order to avoid cutting pensions, however, controversial compensation measures in the AHV and BVG were also included in the bill. In the second pillar, retirement credit rates would have been raised and in the AHV, monthly pensions would have increased by CHF 70 across the board. Against the recommendations of the executive and legislative bodies, Swiss voters rejected the Pension Reform 2020 in September 2017 with 52.7% of the votes cast.

New working models challenging the current system

While demographic and economic aspects are threatening the long-term functionality of the second pillar under current legislation, social trends could result in significant gaps in pension provision for the insured persons affected. The second pillar is not completely shielded from social change and the associated need for flexible working models. Part-time activities, temporary contracts and freelance work have all gained significance. On the one hand, current developments in the educational system are contributing to this trend. For example, the expansion of universities of applied sciences is promoting part-time work among young age groups. Temporary working relationships such as internships are often required in order to obtain a degree or before entering the workforce. At the same time, the desire for a better work-life balance has encouraged the proliferation of flexible work models. Changes in the traditional roles of a couple, with both partners working fewer hours in order to contribute to childcare, play just as great a role as the disruption of traditional work structures through forms of employment such as freelancing.

For insured persons affected by these developments, financial disadvantages can arise during retirement. To start with, only salaries above a threshold of CHF 21,150 are insured in mandatory occupational retirement benefits. Moreover, to determine the insured salary, an amount is deducted from the annual salary, the so-called coordination deductible, which currently amounts to CHF 24,675. The argument here is to avoid double insurance of the amount that is already covered through the mandatory AHV pension. For employees who work part-time, or for just a few hours at several different companies, with correspondingly low salaries, these parameters may mean that their BVG savings are very low or even non-existent, resulting in a shortfall in pension savings. They have the option of paying voluntary contributions to a contingency fund as otherwise they will have to rely principally on AHV benefits after retirement. The same is true for the self-employed, who are exempt from the obligation to pay occupational benefit contributions as long as they have no employees.

This problem was also addressed in the "Pensions 2020" reform, which has since been rejected by voters, with the goal of lowering the coordination deductible and making it more flexible. Note, however, that some retirement benefits institutions today no longer apply a fixed coordination deductible, and some do not apply any at all.

According to a 2017 survey, 19% of Swiss pension funds do not stipulate a coordination deductible in their regulations, and 34% apply a variable deductible depending on the salary and workload[3].

3 See Swiss Pension Fund Survey 2017, Swisscanto Vorsorge AG

Facts regarding lump-sum payments

When insured persons are ready to retire, they may withdraw their occupational pension assets in three ways: as a monthly pension, as a one-time lump-sum payment, or as a combination of the two. Many pension funds offer their members the option of withdrawing half or even the entirety of their pension assets as a lump sum. The law stipulates only that a minimum of 25% of the mandatory amount must be paid out at the request of the insured person.

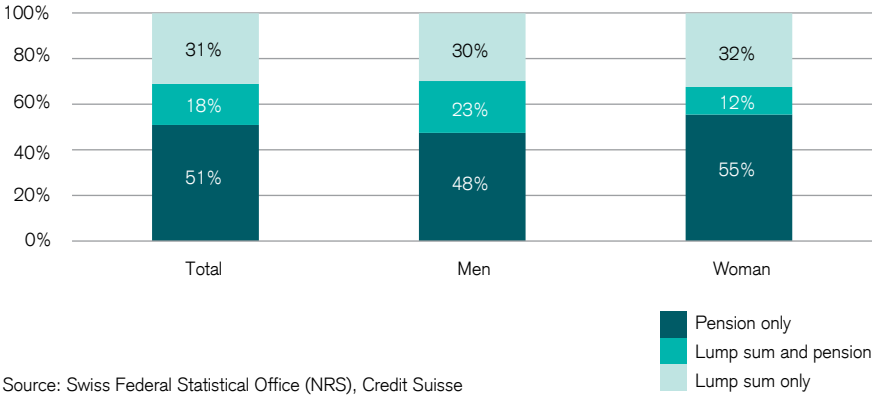
Pure lump-sum payout is not uncommon

In the case of pension funds, the pure monthly pension remains the most popular solution: according to the new retirement statistics (NRS) from the Swiss Federal Statistical Office, around half of the insured choose this option, women somewhat more frequently than men (see Figure). Around 31% withdraw their entire retirement assets as a lump sum, and another 18% choose a combination of these two options. Pension fund statistics show that 2016 total lump-sum payouts in Switzerland exceeded CHF 6.8 billion.

The average amount of capital paid out of occupational retirement benefits at retirement – whether a pure lump-sum payment or in combination with a pension – is CHF 173,892, although at CHF 225,509 men withdraw more than double the CHF 100,689 withdrawn by women. This can be largely explained by the differences in the employment

Nearly a third of the insured withdraw their entire retirement assets as a lump sum

New recipients[4] of occupational pensions (pension funds only)[5] by combination of benefits and gender, in %, 2016 (may not amount to 100% due to rounding)



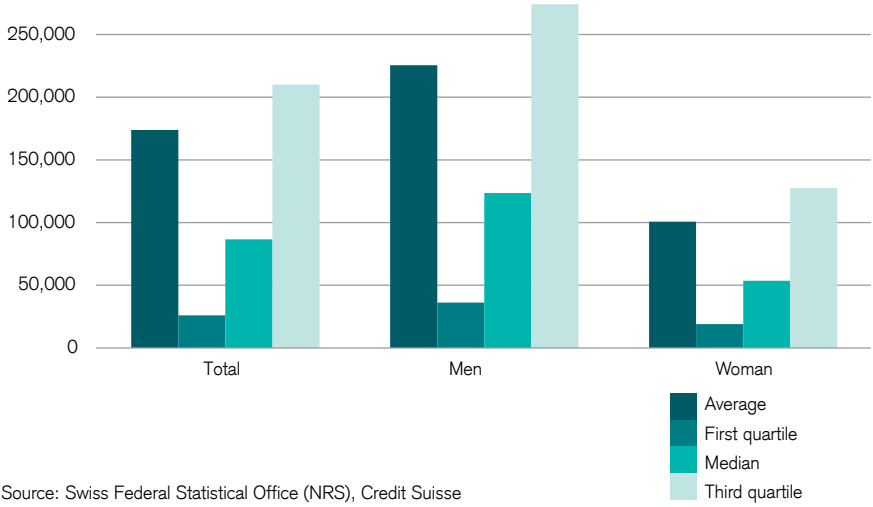
Source: Swiss Federal Statistical Office (NRS), Credit Suisse

biographies of men and women, although advance lump-sum payouts due to divorce or marriage (the latter was permitted until 1995) also play a role. In general, it can be observed that the median for lump-sum payouts is significantly lower than the average. This suggests a wide gap in payout amounts: lump-sum payments in the upper half of the distribution are considerably higher than the median and so pull the average sharply higher. However, this is not the result of just a few extreme cases (see Figure on page 14).

4 The statistics do not indicate whether a person made an additional withdrawal in the past or will do so in the future. It is possible under certain circumstances to make a lump-sum withdrawal from occupational retirement benefits and start drawing an annuity at different times.

5 At vested benefit institutions, only around 2% of all new retirement benefits consist of annuities, the remaining 98% are lump-sum payments.

Large divide in payout amounts
Amount of lump-sum payouts from occupational retirement benefits (pension funds and vested benefit institutions) in CHF, by quartile of the distribution, 2016

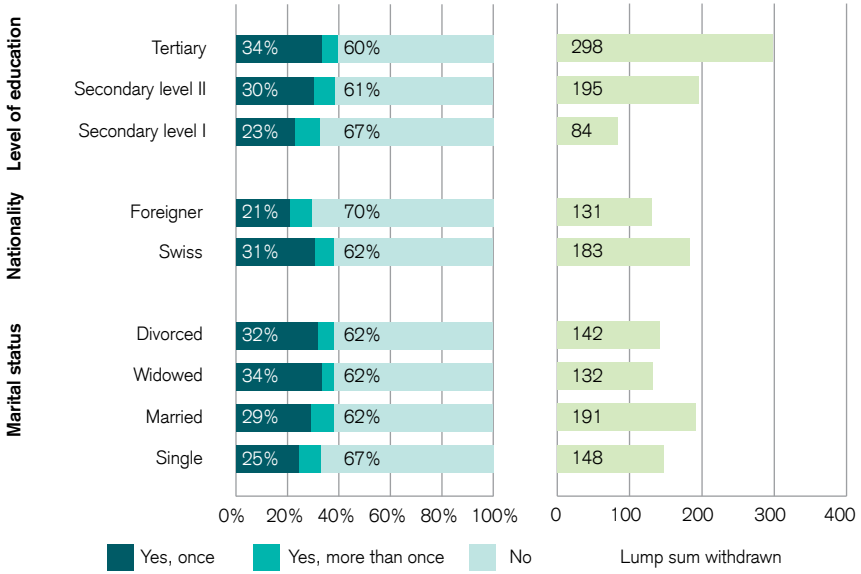


Source: Swiss Federal Statistical Office (NRS), Credit Suisse

Socio-demographic characteristics of those withdrawing capital
The Swiss Labor Force Survey (SLFS) and the new retirement statistics (NRS) by the Swiss Federal Statistical Office provide further insights into the socio-demographic structure of those withdrawing capital (see Figure on page 15). The likelihood of a lump-sum payment and the amount of the capital benefits received generally increase with the educational level of the insured person. Those with tertiary education (university, university of applied sciences, advanced vocational training) drew 40% of their retirement benefits at least partially as a lump sum; for those who have completed only secondary level I (compulsory education), the figure is 33%.
The average lump sum is almost CHF 300,000 for highly qualified workers and around CHF 84,000 for those who have completed compulsory education. The latter, however, tend to stagger their lump-sum withdrawals more often than persons with higher levels of education. This could be due to the use of some of the capital in certain circum-stances as advance withdrawals (see next section).
Lump-sum withdrawals are also more common among Swiss citizens (38%) than among foreigners (30%), while there is little difference between the groups based on marital status. Only single persons are much less likely to withdraw capital from an occupational pension plan. As for the timing of the payouts, around 56% of the lump-sum withdrawals are made between the ages of 63 and 65, another 26% at an earlier point and only 18% are postponed until after statutory retirement age.

Highly qualified workers more likely to withdraw capital from the second pillar

Insured persons withdrawing capital from occupational retirement benefits: percentages by socio-demographic characteristics (left) and amount of lump-sum benefits received (average) in CHF thousands (right), retirees only, 2015/2016

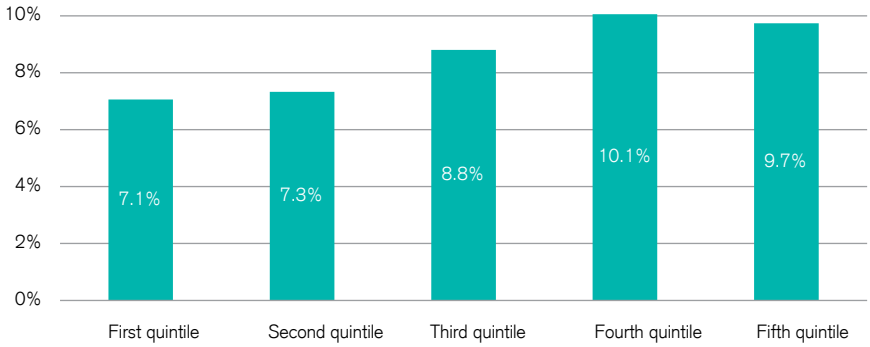


Source: Swiss Federal Statistical Office (SLFS, NRS), Credit Suisse

Advance withdrawals: promotion of home ownership in the foreground

The capital saved in occupational retirement benefits may be paid out before retirement in certain cases. These are: becoming self-employed as the main activity; purchasing a home for the insured's own use, including repayment of a mortgage or financing conversions and renovations; emigrating from Switzerland (limited payout if the insured is moving within the EU or EFTA); or receiving a full disability pension from the Federal Disability Insurance (IV) and the risk of disability is not insured. Capital is most often withdrawn from the second pillar in order to finance the purchase of a home or to take up self-employment. In 2016, new retirement statistics (NRS) indicated that 25,359 individuals in Switzerland took advantage of these two options, with nearly three-quarters of these in connection with home ownership. The average lump-sum withdrawal for home ownership was CHF 78,206, and that for self-employment was CHF 84,391.

Advance withdrawals not only for high earners
Percentage of individuals aged between 55 and 65 who have made an advance withdrawal* from their occupational retirement benefits at least once in their life, by income quintiles in %, 2012/2015



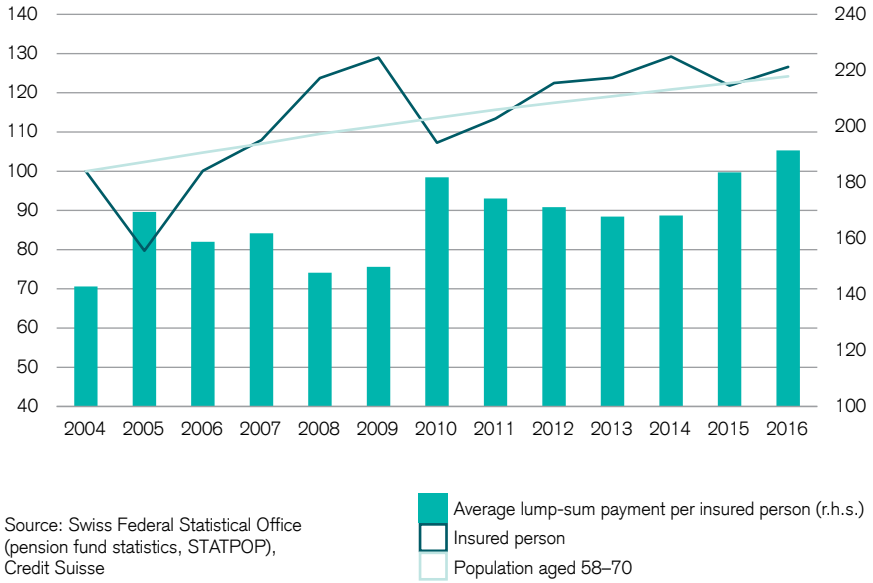
Source: Swiss Federal Statistical Office (SLFS), Credit Suisse
* Only withdrawals for home ownership and self-employment

An analysis of the two main reasons for advance withdrawals of capital by quintiles of the income distribution based on the Swiss Labor Force Survey (SLFS) shows that while early payouts of capital tend to be more prevalent in higher income classes, the difference to the lower income quintiles is relatively small (see Figure). The percentage of individuals who have already made an advance withdrawal varies between around 10% for the income quintiles above the median and around 7% in the lower income classes. A careful assessment of the risks of an advance lump-sum withdrawal is therefore entirely justified.

Trend to more capital withdrawals?
The topic of lump-sum withdrawals has become somewhat more contentious in recent years since the Swiss Federal Council, as part of an effort to reform supplementary benefits, launched a measure in 2016 to prohibit the withdrawal of capital from the mandatory segment of occupational retirement benefits upon retirement or as an advance withdrawal when taking up self-employment. The Federal Council pointed out the heightened risk that those unable to budget their lump sum and self-employed individuals who go bankrupt might become dependent on supplementary benefits in old age. However, the Federal Council's suggestion was rejected by both chambers of parliament and therefore struck from the bill.

Capital withdrawals increase in phases

Recipients of lump-sum payments upon retirement and population aged between 58 and 70: Index 2004 = 100, average capital withdrawal per recipient in CHF thousands



Source: Swiss Federal Statistical Office (pension fund statistics, STATPOP), Credit Suisse

Is there a general observable trend toward increased lump-sum withdrawals in Switzerland? The increase in the number of recipients of lump-sum payments over the last years does not indicate that the option of capital payment is being chosen more frequently, since it could be simply a side effect of the demographic increase in retirements (see Figure). If we compare the number of lump sum recipients to the trend in the population that could potentially retire each year, there is no clear pattern of lump-sum payouts becoming more frequent, although the average lump-sum amount per recipient has increased. In the past, however, there have been phases in which the number of lump-sum payments increased; these seem to coincide with good years on the stock market. We can also identify such a tendency at the moment. This could gain further impetus in the future as 1e pension plans become more widespread. Under this scheme, insured individuals can choose among various investment strategies and the accumulated capital is generally paid out upon retirement (see section entitled “1e pension plans”).

The employer view: lump-sum payment as an instrument to reduce risk

Due to the prolonged phase of low interest rates, rising life expectancy and the overly high conversion rates and technical interest rates, pension funds are under pressure to meet their pension obligations (see section entitled "Occupational pensions put to the test"). Pensions that are set too high and payable over an increasingly long period create an environment of financial difficulty and high risks for pension funds. It therefore comes as no surprise that pension funds have been seeking a way out of this position in recent years.

Models with variable (extra-mandatory) pensions are an option in order to ease the financial burden on pension funds. In the worst case, only the guaranteed portion of the pension is paid out, while in the best case, the pension is augmented by a variable portion. The PwC pension fund was a leader in this area, introducing a variable pension model back in 2005. So far, however, few pension funds have made use of this instrument. Another form of financial relief could be to oblige new retirees to withdraw part of their retirement savings as a lump sum in order to avoid longer-term pension obligations. The pension funds for Novartis, IBM and Credit Suisse have already implemented such a model. The pension fund survey by Credit Suisse suggests, however, that such provisions are still relatively rare among Swiss pension funds: only 8% of the institutions canvassed have made a lump-sum withdrawal obligatory. Nevertheless, 12% of the respondents indicated that they had already decided to do so, or were discussing the possibility[6].
The introduction of such compulsory lump-sum withdrawals is only possible in the extra-mandatory segment of occupational retirement benefits.
In some cases, this is implemented within the framework of 1e pension plans for the portion of salaries above CHF 126,900 (see section entitled "1e pension plans"). With such a solution, a pension fund can offload risks under two aspects: on the one hand, the insured bear the investment risks themselves, and on the other, the lump-sum payouts relieve the company's balance sheet from long-term pension obligations.

6 See Swiss Pension Fund Survey: Low Interest Rates and Demographics are the Main Challenges, Credit Suisse, May 2017

1e pension plans

1e pension plans are named after the corresponding article in the Federal Ordinance on Occupational Old Age, Survivors' and Invalidity Pension Provision (BVV 2). This allows retirement benefits institutions that cover salary segments above CHF 126,900[7] to offer their insured individuals pension plans with up to ten different investment strategies, at least one of which must have a low risk profile. The beneficiaries bear the full investment risk and normally receive the saved assets as a lump-sum payment upon retirement[8].
These pension plans have existed since 2006, but only a corresponding change in the provisions of the Vested Benefits Act (VBA) as of 1 October 2017 freed pension funds from the obligation of providing their insured persons with minimum guarantees in the event of an exit. This change substantially increased the appeal of 1e pension plans for retirement benefits institutions, and brought these models to the attention of institutions and the general public.

A new segment beyond extra-mandatory emerges
The implementation of 1e pension plans involves managing the corresponding salary segments in a separate legal entity. This results in two separate foundations. The first covers salaries in the mandatory and extra-mandatory segments up to the 1e salary threshold. The second covers pensions for salaries above the 1e threshold.
There are two options for separating this segment: establishing a dedicated new foundation or joining a collective foundation. The structure of the insured persons, the coverage ratio of the pension fund, the desired level of influence as well as cost considerations are the most important evaluation criteria from the viewpoint of the retirement benefits institution.
If a pension fund decides to offer 1e pension plans, all employees with an annual salary in excess of CHF 126,900 must insure this salary segment as part of a 1e pension solution.

7 This amounts to one and a half times the BVG upper salary limit of CHF 84,600 as specified in Art. 1 BVG.
8 Neither Art. 1e BVV 2 nor Art. 19a VBA require benefits to be paid out exclusively as a lump sum. However, a payout in the form of an annuity would eliminate a key advantage of this type of pension plan from an employer's perspective, namely relieving the balance sheet from long-term pension obligations.

Response to increasing demand for customization

1e pension plans offer companies a way to offload long-term pension obligations from their balance sheet (see section entitled “Facts regarding lump-sum payments”). This can be particularly advantageous for firms that prepare their financial reports according to international accounting standards. However, 1e pension plans are also a response to the desire of insured persons to customize their pension solutions, something that has become more prevalent in recent years. With 1e pension plans, the insured have the freedom, depending on their age and risk propensity, to independently choose their own investment strategy and adjust it periodically. Moreover, the insured can safeguard this part of their savings from the unintended redistribution from active contributors to retirees and any possible restructuring of the pension fund.

The flip side of this increased freedom of choice is the investment risk that the insured persons must now fully bear themselves. A certain amount of know-how in asset investment or appropriate advice from the retirement benefits institution regarding risks and costs are advisable in this context. Insured persons must be aware that an unfavorable market development or market crash could result in severe losses in value. The fact that the legislation only grants this freedom of investment strategy above a relatively high income level reflects this concern. In certain situations, however, falling assets can nonetheless be a serious problem. For older employees with a short investment horizon, adverse market developments at the beginning of retirement can lead to a capital loss that may not be recoverable. The situation is similar in the case of a change of employer or job loss if the termination benefits are transferred to the contingency fund or a vested benefits foundation at a bad time from an investment perspective. However, this problem in the design of 1e pension plans is recognized, and measures to ensure the smoothest possible transfer of the investment to private assets or a vested benefits foundation are being sought.

For the insured persons, 1e pension plans can also lead to a reduction in survivor's pensions. In general, every withdrawal of capital from occupational retirement benefits reduces the survivor’s pensions. With 1e pension plans, though, this already takes place before retirement, similar to the case of early withdrawal for home ownership. In the event of the death of the beneficiary, the heirs receive any remaining capital from the 1e pension plan, but the life-long pension will cease. Only the claims under BVG mandatory and extra-mandatory benefits remain. However, there is also the option in 1e pension plans to insure survivor's pensions additionally.

Overview of 1e pension plans

Advantages

For employers	For the insured
No underfunding of the 1e pension scheme is possible, since risks are transferred to the insured.	Protection from redistribution since the retirement assets in the 1e segment are managed separately.
Under defined-contribution accounting, reserves to cover losses in occupational retirement benefits can be reduced (according to IAS 19).	Investment returns can be optimized through the adjusted restrictions on li-quidity and risk.
The pension solution can be tailored optimally to requirements.	Investments can be adjusted regularly in line with the insured person's personal situation and planning.

Disadvantages

For employers	For the insured
Increases complexity in occupational retirement benefits.	Investment risk must be borne by the insured themselves
Additional check of overhangs and basic insurance necessary.	In contrast to executive pension plans, buy-ins are only possible without interest on the planned pension assets.
Less ability to restructure existing pension scheme.	When leaving (retirement, change of employer, job loss), losses may occur in the event of an adverse market environment.

401(k) plans (USA)
The 401(k) retirement plan is an element of the second pillar of the American pension system. As in Switzerland, the first pillar in the USA is sponsored by the government and the third pillar is private savings. In the second pillar, provided by employers, there are only few pension funds that still offer defined-benefit retirement plans in which the investment risk is borne by the employer. These are mainly government organizations or firms that are strongly unionized. As the cost of the fixed-benefit system became too high, most companies switched to defined-contribution plans. This model was introduced in the early 1980s and named after the corresponding paragraph 401(k) in the tax law. Beneficiaries of all income classes may pay up to USD 18,500 (as of 2018) into such plans each year, free of tax. Employer contributions are not required by law, but most companies offer them as part of their compensation package. The choice of investment strategy for the 401(k) plan is in the hands of the insured person. Typically, employers offer five to ten alternatives. This allows the insured persons to choose the investment strategy that best matches their risk propensity and remaining investment horizon. Under these plans, however, the employer transfers the full risk to the insured. Accordingly, there is no hedging of the pension capital. Moreover, there are some restrictions. For example, employees must complete a certain term of service with their employer before gaining access to the latter's deposits, and there are substantial fiscal penalties for early withdrawal of the savings before the official retirement age.

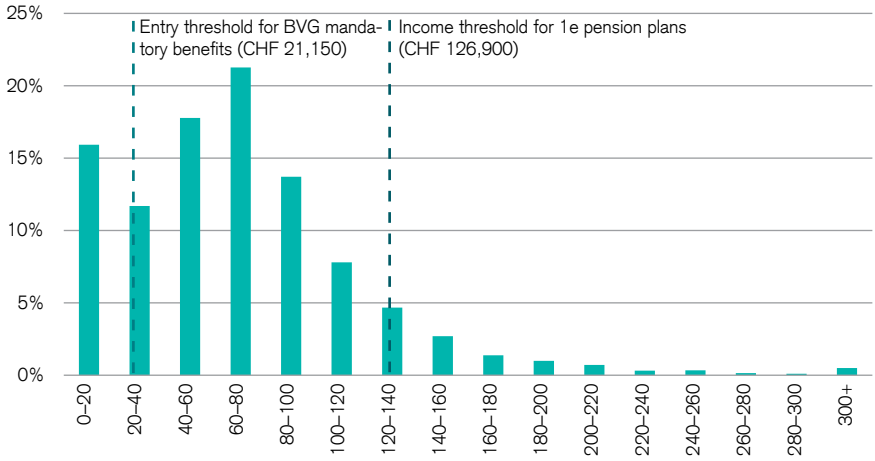
Market potential for 1e pension plans
With a share of CHF 3.6 billion or 0.4% of total pension capital at the end of 2017, 1e pension plans currently play only a minor role[9]. However, we expect these pension solutions to steadily gain significance for the reasons mentioned above. The pension fund survey conducted by Credit Suisse indicated that 13% of the respondents were discussing introducing this model[10].

As well as the potential expansion of 1e pension plans in the Swiss pension fund landscape, there is also the question of how many insured workers

9 See Report on the Financial Position of Pension Schemes 2017, Occupational Pension Supervisory Commission OPSC
10 See Swiss Pension Fund Survey: Low Interest Rates and Demographics are the Main Challenges, Credit Suisse, May 2017

might have the salary level necessary to qualify for such a pension solution. Based on the income distribution according to the Swiss Labor Force Survey (SLFS), we estimate that currently 9.8% of employees who cross the threshold for occupational pensions also have an annual income in excess of CHF 126,000 and would accordingly qualify for 1e pension plans (see Figure). Clearly, such pension solutions are therefore only relevant for a minority of the Swiss workforce. Expressed in pension capital, we currently estimate the potential for 1e pension plans at around CHF 50 billion.

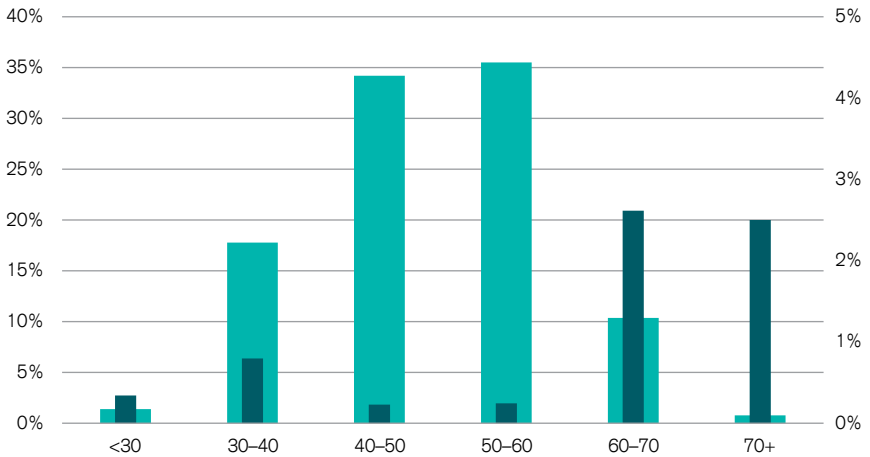
Fewer than 10% of active employees meet the criteria for 1e pension plans
Annual earned income in CHF thousands, shares in %, 2016



Source: Swiss Federal Statistical Office (SLFS), Credit Suisse

Of the active employees who fulfill the conditions, around 34% are between the ages of 40 and 50 (see Figure on page 24). Almost half are already 50 or older and will be entering retirement in the next few years – this is the baby-boomer generation that is gradually exiting the workforce. A fairly significant portion of the capital potentially saved in 1e pension plans will therefore soon be withdrawn by beneficiaries. The following generations are considerably less strongly represented due to lower birth rates.

Potential savers in 1e pension plans will soon retire
Distribution of employees above the income threshold for 1e pension plans for age groups, in %, average annual growth in employees by 2025 in %



Source: Swiss Federal Statistical Office (SLFS), Credit Suisse

Share of employees above 1e threshold
Average growth in employees by 2025 (r.h.s.)

1e pension plans not without consequences for the system
Investment income (the third contributor) is required to finance occupational retirement benefits together with contributions from employers and employees. Thanks to their long-term investment horizon, retirement benefits institutions generally have a higher risk tolerance than individuals. On the one hand, the high number of beneficiaries means that the actuarial risks of old age, disability and death are borne by the collective (reduction in insurance risks). The long-term investment of retirement assets can also better withstand temporary losses on the financial markets and cushion them with value fluctuation reserves (reduction of financial market risks). Retirement benefits institutions are therefore able to take on higher investment risks and take advantage of the risk premiums that can be generated on the financial markets – but only as long as legal requirements do not result in an overly low-risk or even risk-free investment strategy.

However, the more capital that flows out of this collective to be invested at the insured person's own responsibility in 1e pension plans, the more this principle is undermined – with the result of less solidarity in occupational retirement benefits. This is a different effect from the systematic subsidization of retirees by active employees (see section entitled "Occupational pensions put to the test"). This redistribution at the expense of the younger generation is now recognized

as one of the most serious problems facing the second pillar, not least by the Occupational Pension Supervisory Commission (OPSC).

Ability to restructure institutions decreases with 1e pension plans

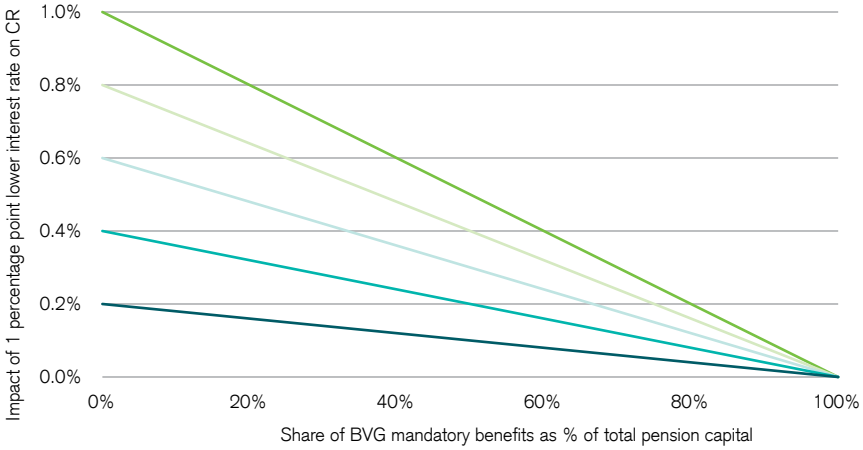
To improve the financial position of a retirement benefits institution, the board of trustees generally has two measures at hand: either additional contributions can be levied or the interest rate on the retirement capital of the active insured persons can be lowered. While additional contributions in the form of salary percentages can be levied without any effect from the existence of 1e pension plans, the picture is different with a lower interest rate. The statutory minimum interest rate must be guaranteed on the mandatory segment of the insured employees' pension capital.

An all-inclusive fund can lower the interest rate on the extra-mandatory segment as long as it can prove in a shadow account that even with a lower interest rate on total pension capital, the minimum rate is always achieved on the mandatory segment. This results in a restructuring and thus a risk capacity that is dependent upon the pension capital of active contributors as a share of total pension capital, and upon the extra-mandatory segment as a share of active contributors' pension capital. Figure on page 26 illustrates these relationships.

If mandatory BVG benefits as a share of total pension capital rise because some of the extra-mandatory assets move into 1e pension plans, the effect of a lower interest rate on the coverage ratio decreases. This reduction is greater the higher the share of active contributors' pension capital compared to the total is.

The higher the BVG mandatory segment, the lower the restructuring capability

Impact of a 1 percentage point decrease in interest rates on the coverage ratio (CR) depending upon various percentages of the pension capital of active contributors compared to total pension capital.



Example: if the BVG mandatory component makes up 40% of total pension capital, and active contributors account for 60% of total pension capital, the coverage ratio increases by 0.36 percentage points if the minimum interest rate falls by 1 percentage point.
Source: Credit Suisse

Varying shares of active insured persons' pension capital as % of total pension capital:

- 20%
- 40%
- 60%
- 80%
- 100%

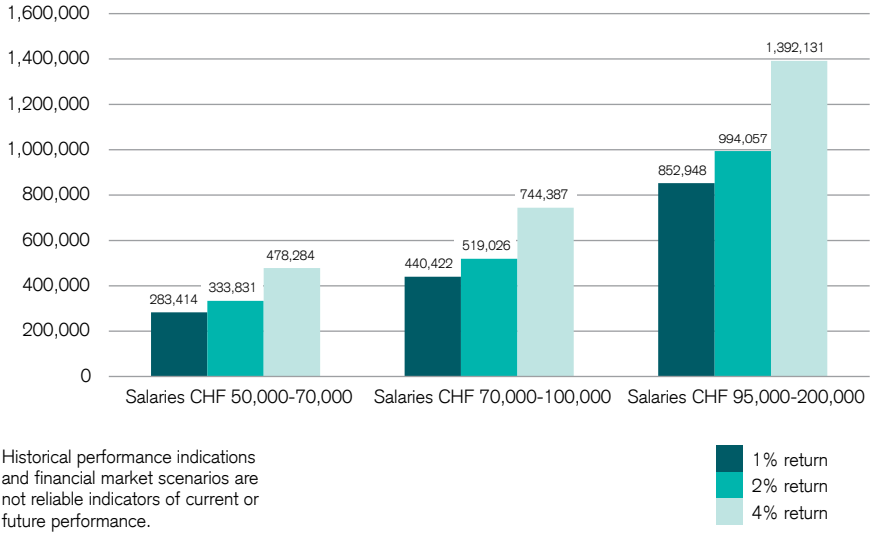
Wealth accumulation in the life cycle: scenarios

The accumulation of retirement savings in occupational pensions is subject to various influencing factors. In addition to the level of income, criteria such as returns, contribution years and part-time working are particularly important. To illustrate the connection between these factors and wealth accumulation, we give three examples with different income levels. To stay as close as possible to reality, we have assumed a certain increase in salary over working life. Our examples concern the approximate rise in income for a salesperson (CHF 50,000–70,000), a teacher (CHF 70,000–100,000) and a lawyer (CHF 95,000–200,000)[11].

The first influencing factor, returns, affects the accumulation of retirement savings via interest credits and the compound interest effect.
The numerical examples in the Figure on page 28 depict how differences in investment performance can affect the beneficiary. In the middle income segment, retirement assets of CHF 440,422 are saved with a 1% return, which when divided into monthly payments equals CHF 2,019[12]. With an annual return of 2% or even 4%, the retirement assets increase to CHF 519,026 and CHF 744,387 respectively. The corresponding monthly pensions amount to CHF 2,379 and CHF 3,412 respectively

11 Salesperson in retail with occupational training, non-management function; teacher with certification, non-management function; lawyer in legal services with university degree and mid- to upper-level management function toward the end of his/her career (source: Salarium – Individual Wage Calculator 2014, Swiss Federal Statistical Office).
12 Assumption: conversion rate of 5.5%.

Return is decisive for the accumulation of retirement assets
Retirement assets after 40 years for various salary levels, coordination deductible of CHF 15,000[13]



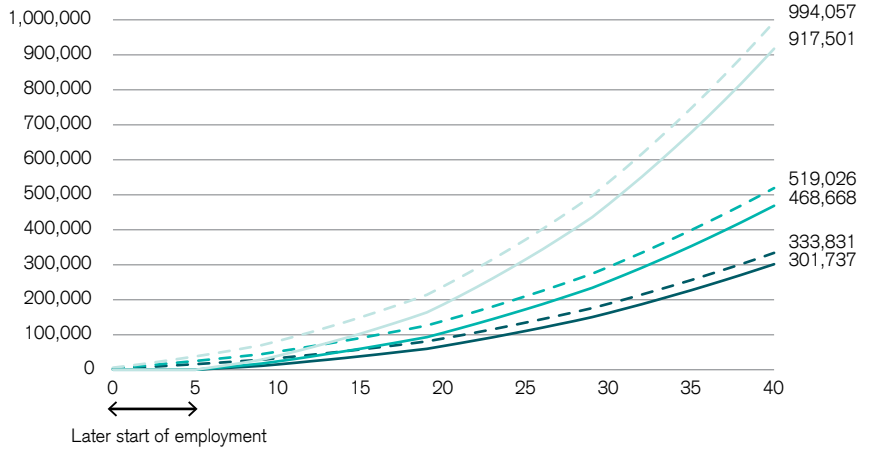
Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

Source: Credit Suisse

Another factor that can impact retirement savings substantially is the contribution period. The savings process in the second pillar is compulsory for employees aged 25 and over. Employees and employers make contributions, and the pension fund pays interest on them, every year until retirement. If an individual delays entering the workforce by six years for extended education and training, the assets at retirement are 8–10% lower in the income classes under review (see Figure on page 29). A similar effect on the accumulation of retirement savings occurs in the case of a six-year career break for childrearing.

13 Since around half of Swiss pension funds now use either a flexible coordination deductible or none at all, we apply a lower value than CHF 24,675. The minimum insured salary is CHF 3,525.

Payment gaps in early years reduce retirement capital by 10%
Development of retirement assets over 40 years for various salary levels, coordination deductible of CHF 15,000, return 2%



Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

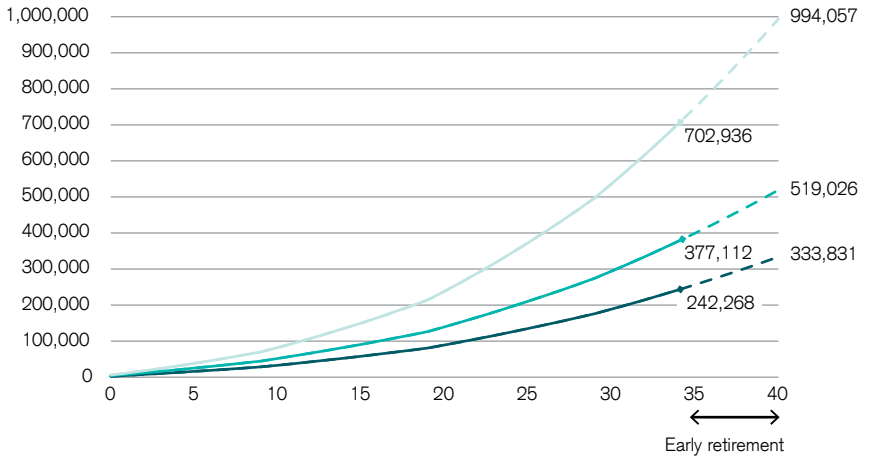
Source: Credit Suisse

When considering the duration of contributions, it is important to note the effects of the varying rates for BVG contributions. The statutory retirement credits determine which percentage of the coordinated salary must be paid into occupational retirement benefits. The retirement credits rise with age, from 7% at the age of 25 to up to 18% after the age of 55. This is why an interruption in employment at a later stage of working life can have a more damaging effect on retirement capital despite an identical development in income. If an insured person takes early retirement, say at 59, the missing contributions make a greater impact than a delayed entry to the workforce. Retiring six years earlier in the income classes under review makes a difference of almost 30% in the retirement assets compared to retirement at normal retirement age (see Figure on page 30)[14]. For this reason, insured persons considering early retirement should find out from their pension fund how great the reduction would be and what transitional solutions exist and could be applied.

14 We assume normal retirement at the age of 65.

Early retirement reduces retirement capital by 30%

Development of retirement assets for various salary levels, coordination deductible of CHF 15,000, return 2%



Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

Ordinary retirement
- salaries CHF 50,000-70,000
- salaries CHF 70,000-100,000
- salaries CHF 95,000-200,000

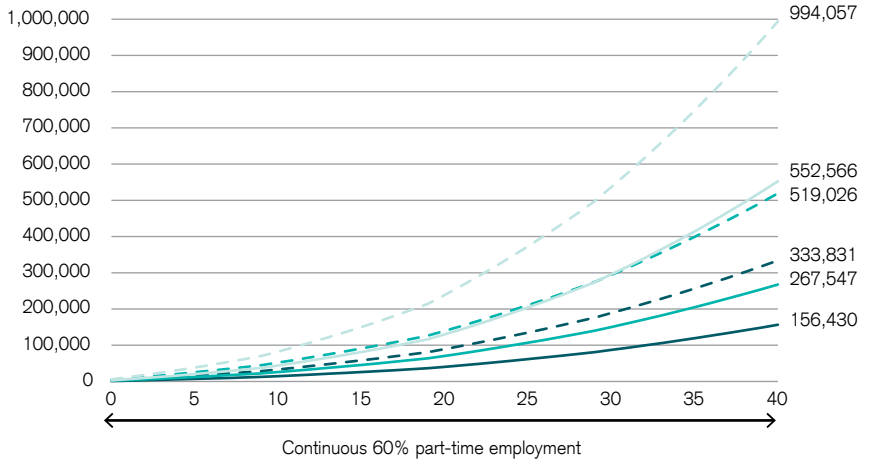
Early retirement
- salaries CHF 50,000-70,000
- salaries CHF 70,000-100,000
- salaries CHF 95,000-200,000

Source: Credit Suisse

The final factor to examine, particularly in the context of more flexible work models, is part-time hours. Because of the compound interest effect, retirement capital does not increase proportionally to the percentage of working hours. At the lowest salary level in our case studies, insured persons with a 60% employment contract will receive only 47% of the retirement capital that they would have had if they had worked full time (see Figure on page 31). In the middle and upper salary segments, the figures are 48% and 52%. As well as the compound interest effect, the effect of rising retirement credits should also not be underestimated for part-time workers. Most of the retirement assets accrue in the second half of a 40-year period of contributions thanks to the higher retirement credits. Thus a reduction to part-time work during this period has a more adverse effect on retirement capital than beginning with part-time work and then increasing to

Part-time work is a sharp brake on retirement capital

Development of retirement assets for various salary levels, coordination deductible of CHF 15,000, return 2%



Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

Full-time employment
- salaries CHF 50,000-70,000
- salaries CHF 70,000-100,000
- salaries CHF 95,000-200,000

60% part-time employment
- salaries CHF 50,000-70,000
- salaries CHF 70,000-100,000
- salaries CHF 95,000-200,000

Source: Credit Suisse

full-time. Insured persons who work part-time or have gaps in their pension contributions should consider making voluntary payments to their pension fund, provided they have the financial means to do so and their pension fund is in a good financial situation. Topping up the pension fund can be a tax-effective way of securing retirement assets.

Lump sum or annuity?

The pension fund assets are often the greatest asset at the end of one's working life. It is therefore important to consider whether to withdraw them at retirement as a lump sum or in the form of a pension. According to the law, each insured person is entitled to withdraw at least 25% of their mandatory BVG retirement benefits as a lump sum. Around half of all pension funds allow the entire amount to be withdrawn as a lump sum. At the same time, there is often an obligation in the non-mandatory segment to withdraw at least part of the pension fund savings as a lump sum (see section entitled "Facts regarding lump-sum payments", page 12). It is in all events important to consider carefully whether to take an annuity or a lump sum – and in the latter case, what percentage to withdraw. The amount of the monthly pension or capital income that can be expected (capital consumption plus return) depends particularly on the following factors, which will subsequently be discussed in greater detail:

Key factors impacting the amount of annuity and capital income

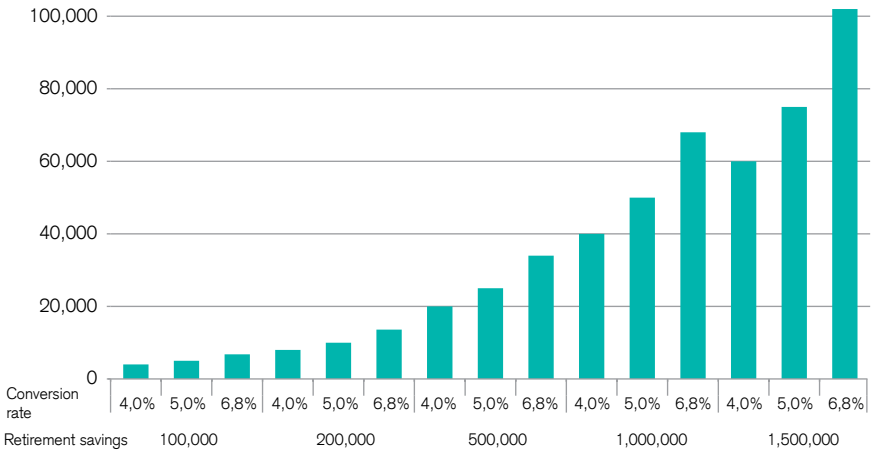
	Annuity	Capital income
Conversion rate	The higher the conversion rate, the higher the resulting pension	No impact
Duration of capital consumption	No impact	The shorter the period during which the insured must live on the withdrawn capital, the greater the annual capital income
Expected return on capital	No impact	The higher the expected return on the withdrawn capital, the greater the annual capital income
Taxation	No impact on retirement Pension payments are fully taxable	Tax on lump sum at retirement. The lower the tax on the lump sum, the greater the annual capital income Capital gains and capital consumption are not taxable Capital revenue (rental income, interest income, coupons, dividends) is fully taxable

Conversion rate

If retirement savings are drawn from the second pillar in the form of a pension, the amount of the pension is calculated using the conversion rate. In the BVG mandatory segment (see page 6), this conversion rate is fixed by law and currently stands at 6.8%. This means the annual pension equals 6.8% of the accrued retirement capital. So if the retirement capital amounts to CHF 100,000, for example, the pension would be CHF 6,800 per year (see Figure). For benefits that exceed the BVG mandatory segment, the conversion rate can be defined by the retirement benefits institution. In 2015, the actual conversion rate applied averaged 6.2% for men and 6.1% for women. The pension fund survey by Credit Suisse[15] suggests that by 2022 the average conversion rate applied by pension funds will be 5.5% for both men and women. However, a majority of pension funds believe that a considerably lower conversion rate would be appropriate – the correct conversion rate in actuarial terms was somewhere around 5.0% in 2015. Using this rate would give a sharply lower annual pension of CHF 5,000 on retirement assets of CHF 100,000.

15 See Swiss Pension Fund Survey: Low Interest Rates and Demographics are the Main Challenges, Credit Suisse, May 2017

Declining conversion rates reduce the resulting pension
Annual gross income from pension payments (in CHF) for various levels of definitive retirement savings and conversion rates

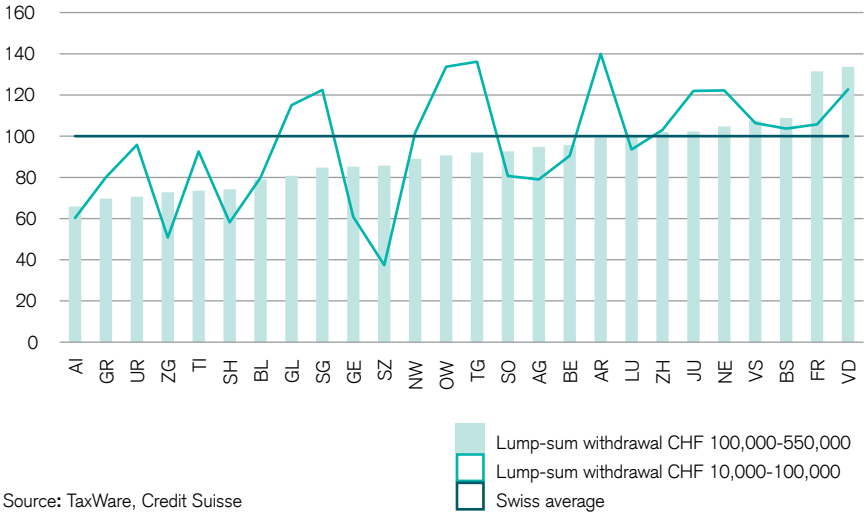


Source: Credit Suisse

Taxation of lump-sum withdrawals
When the capital is withdrawn, it is taxed at a reduced rate and separately from other income, but there are great differences from one canton to another. For withdrawals between CHF 10,000 and CHF 100,000, the lowest taxes are levied in Canton Schwyz, followed closely by Cantons Zug, Schaffhausen, Appenzell Innerrhoden and Geneva (see turquoise line in Figure on page 35). The tax burden is much more onerous in Cantons Obwalden, Thurgau and Appenzell Ausserrhoden. As at the federal level, lump-sum payouts are also subject to tax progression in most cantons, so high lump-sum payouts are subject to proportionately higher tax. For higher lump-sum payouts of CHF 100,000 to CHF 550,000, the lowest taxes are levied in Cantons Appenzell Innerrhoden, Graubünden and Uri, while taxes are highest in Cantons Basel Stadt, Fribourg and Vaud. Cantons Glarus, St. Gallen, Obwalden, Thurgau and Appenzell Ausserrhoden are much more attractive for higher than for lower payouts. In contrast, Schwyz, Fribourg and Geneva are much less attractive, relative to the Swiss average, for payouts above CHF 100,000 than for lower amounts.

Taxes on lump-sum withdrawals above CHF 100,000 lowest in Appenzell Innerrhoden and Graubünden

Tax burden on lump-sum payments, artificial index based on lump-sum withdrawals of CHF 10,000–100,000 and CHF 100,000–550,000 respectively for singles and married couples, 2017



Source: TaxWare, Credit Suisse

The differences from one municipality to another can amount to several thousand francs. For example, in fiscally attractive Wollerau (Schwyz), a withdrawal of CHF 100,000 would be subject to CHF 1,938 in taxes, but in Herisau (Appenzell Ausserrhoden) this would be nearly four times as much at CHF 7,875. The difference is even more glaring for a lump-sum withdrawal of CHF 200,000: Wollerau would charge taxes of CHF 7,903, whereas in various municipalities in Vaud, about 10% of the saved capital would disappear in taxes of around CHF 20,000. For a lump-sum withdrawal of CHF 500,000, the municipality of Appenzell is the most attractive: Taxes would amount to CHF 27,332 while some municipalities in Vaud would take more than CHF 63,000.

Duration of capital consumption and expected return

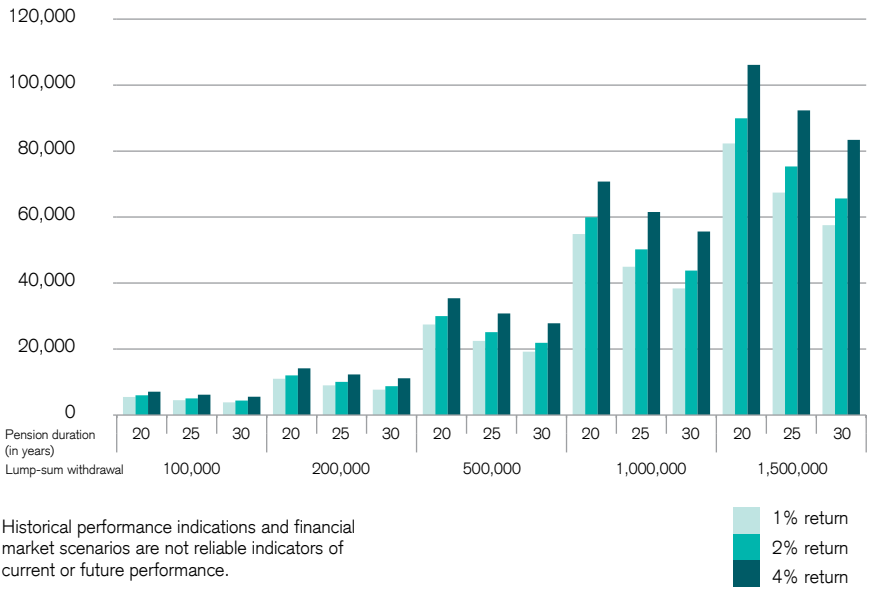
The capital that remains after deduction of the lump-sum withdrawal tax is transferred to the individual's private assets. The individual has free use of the money, whether to invest it, pay off a mortgage, or finance an expensive hobby. Both the planned duration of the pension and the expected return must be included in a calculation of the annual capital income available from the lump-sum payment. If the capital income is intended to cover a significant portion of the cost of living, these aspects must be carefully considered so that the capital

is not depleted prematurely. The longer the capital is planned to last, the lower the maximum annual capital withdrawal should be, at an equal return. For example, assuming an average annual return of 2% and capital consumption over 20 years, a lump-sum withdrawal of CHF 500,000 (after taxes) would provide capital income (before taxes) of almost CHF 30,000 per year; over 30 years, some CHF 8,000 less per year (see Figure).

Different expected returns also create big differences in income. A lump-sum withdrawal of CHF 1,000,000 (after taxes) and an average annual return on the capital of 1% can produce annual gross income of over CHF 45,000 to fully deplete the capital over the assumed capital consumption period of 25 years. The amount available under a 4% return scenario would be considerably higher, over CHF 61,000.

Rein in capital consumption if returns are low and the time horizon is long

Annual gross income in CHF for various lump-sum withdrawals (after taxes) for various retirement durations (in years) and expected returns



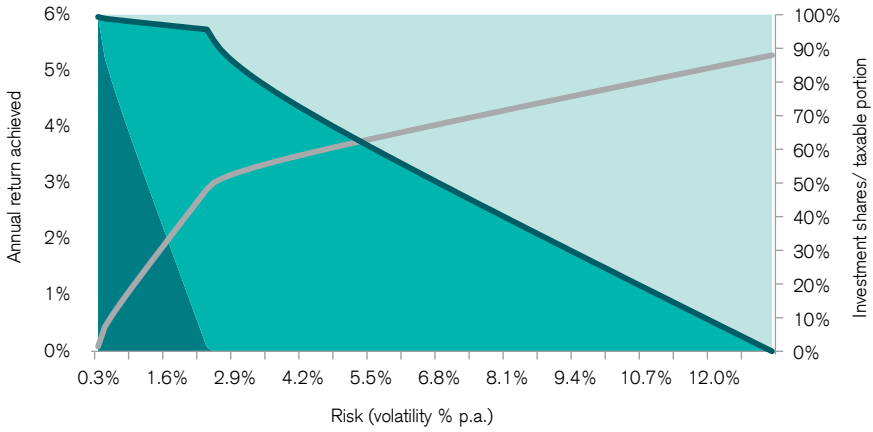
Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

Source: Credit Suisse

Higher returns typically involve higher risks. The following figure shows the returns achieved with various portfolio compositions, based on historical data for a simple portfolio over the last ten years. The higher the equity component, the higher the expected average return per year. At the same time, the risk rises, as measured by the average volatility of returns. An average annual return of 2% was achieved, while minimizing investment risk, with a portfolio composed of 29% CHF money market, 68% CHF bonds and 3% Swiss equities, under average annual volatility of 1.7%. With a return of 4%, the ideal investment strategy would have consisted of half CHF bonds and half Swiss equities, and the volatility would have been 6.6% p.a. The investment strategy for the capital withdrawn must thus be determined according to risk propensity.

Investment strategy shapes potential return, risk and tax burden

Efficient composition of investment portfolio depends on average annual return achieved, 01/2008–12/2017



Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

Source: Morningstar, Credit Suisse

* In simple terms, the taxable portion here corresponds to the portion that is not generated by equity investments.

- CHF money market (r.h.s.)
- CHF bonds (r.h.s.)
- Swiss equities (r.h.s.)
- Annual return achieved
- Taxable portion* (r.h.s.)

Taxation of retirement benefits
The factors described above influence the amount of gross income from a retirement pension (depending on the conversion rate) or from a lump-sum withdrawal (depending on the tax on lump-sum withdrawals, the pension duration and the return achieved). To calculate estimated net income, fiscal aspects must subsequently be added to the equation.

Pensions, whether from occupational retirement benefits or the AHV, are fully taxed as income. A lump-sum withdrawal involves not only the tax on lump-sum withdrawals but also wealth taxes, since the capital becomes part of private assets – however, compared to income tax, these normally play a much less significant role. At the same time, income taxes apply to only a portion of investment income. The figure on page 37 shows that the taxable portion decreases as the equity component of a portfolio increases: as a result, given an expected return of 4% and an equity allocation of roughly 50%, around half of the investment returns would be taxable[16].

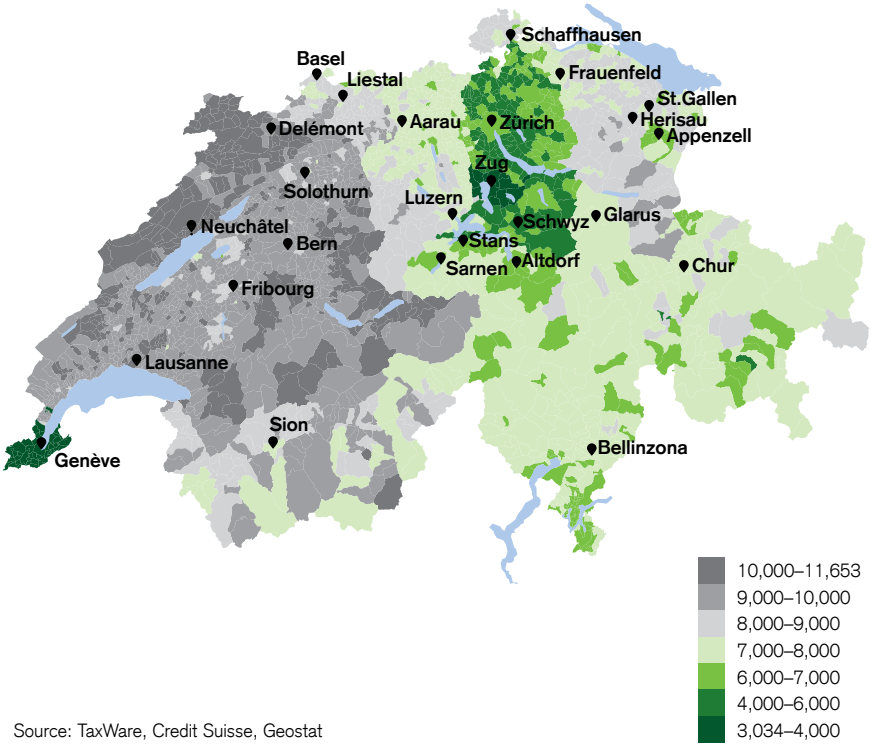
Due to Switzerland's federalist tax system, there are major differences in the tax burden from one region to another. On the whole, the taxation of natural persons is divided in two: Western Switzerland tends to charge distinctly higher ordinary tax rates on natural persons than German-speaking Switzerland and Ticino. The tax burden for incomes after retirement, which are typically much lower, shows a slightly different picture. Alongside Canton Zug, which is fiscally attractive for higher incomes as well, Canton Geneva – which in tax matters is usually found in the bottom third of the ratings – taxes lower incomes at a below-average rate (see map). Canton Ticino is also more attractive for lower incomes than the average. There are regional differences in wealth taxes as well, but they are insignificant compared to income taxes.

Pension or lump-sum payment: overall financial perspective
The decision on how to draw retirement benefits is only made once in a lifetime and is irrevocable. It is therefore vitally important to use a personalized simulation to visualize each solution – a pension, a combined option, or a pure lump-sum withdrawal. Taking the key factors described above (conversion rate, capital consumption period, expected return, tax burden) into consideration, an overall financial analysis can then be carried out. How does the choice between lump sum and annuity affect the assets that are available during retirement?

16 In Switzerland, no capital gains tax is levied on private investors. Interest income from money market investments and bonds (coupon) is taxed as income, while the capital gains on bonds and equities resulting from rising prices are exempt from taxes. Dividends on equities, however, are taxable as long as they are not made in the form of payouts from reserves from capital contributions. The following estimate of net income available in retirement uses the simplifying assumption that returns on equities are exempt from tax

For retirees, new regions may be fiscally attractive, depending on income

Income tax burden in CHF, single retiree with gross income of CHF 60,000, 2017



Source: TaxWare, Credit Suisse, Geostat

To answer this question, net income after taxes was estimated for all municipalities in Switzerland under a variety of scenarios. In each case, there is an estimate for converting the entire retirement benefit from the second pillar into a pension, for taking a lump-sum payment, and for a combined solution. Scenarios were calculated for a variety of retirement assets with different assumptions regarding conversion rate, capital consumption period, and expected return, and taking account of the burden from lump-sum, income and wealth taxes that varies from one municipality to another.

The following example for the city of Zurich uses a capital return averaging 2% and a pension duration of 25 years. The retirement savings accrued in the second pillar amount to CHF 1 million, of which 100%, 80%, 50% or 0% is drawn as a pension. Moreover, it is assumed that the maximum AHV individual pension of CHF 28,200 per year is paid out. In this example, a pension and a lump-sum payout at a conversion rate of 5.0% are about

equally financially attractive; annual net income after taxes amounts to CHF 67,713 with a pure pension and CHF 67,328 for a complete lump-sum withdrawal. The combined solution of lump-sum payout and pension yields a slightly higher net income.

AHV, pension and capital income: simulation of the income available in retirement

Annual net income in CHF on retirement benefits of CHF 1 million, drawn in varying percentages as annuity and lump sum; average return = 2% p.a., pension duration = 25 years; single retiree, city of Zurich, 2017

Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

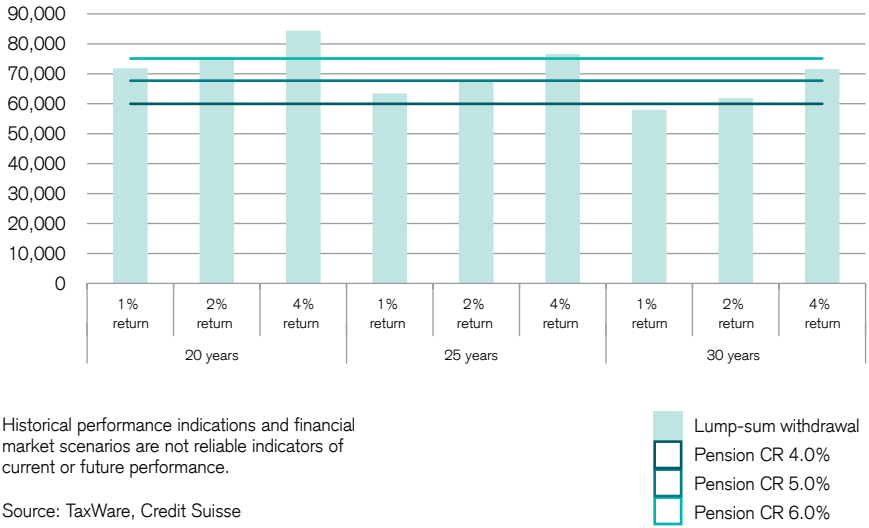
Source: TaxWare, Credit Suisse
* CR = conversion rate

The figure shows that the tax burden is much lower in the case of a complete lump-sum withdrawal: the wealth tax is higher but is more than offset by the reduction in income tax. For individuals with high retirement benefits, the tax burden should at all events be considered in the lump sum versus annuity decision – especially in regions with high income taxes.

While with today's standard conversion rates a pension is in many cases more financially attractive in the above example, this could shift toward lump-sum withdrawals as conversion rates continue to decline. Moreover, the situation changes if a higher return or shorter pension duration are expected (see Figure).

As conversion rates decline, lump-sum withdrawals become increasingly attractive

Annual net income in CHF from AHV pension, occupational pension and capital income upon withdrawal of CHF 1 million in retirement benefits as pure annuity or pure lump sum; single retiree, city of Zurich, 2017

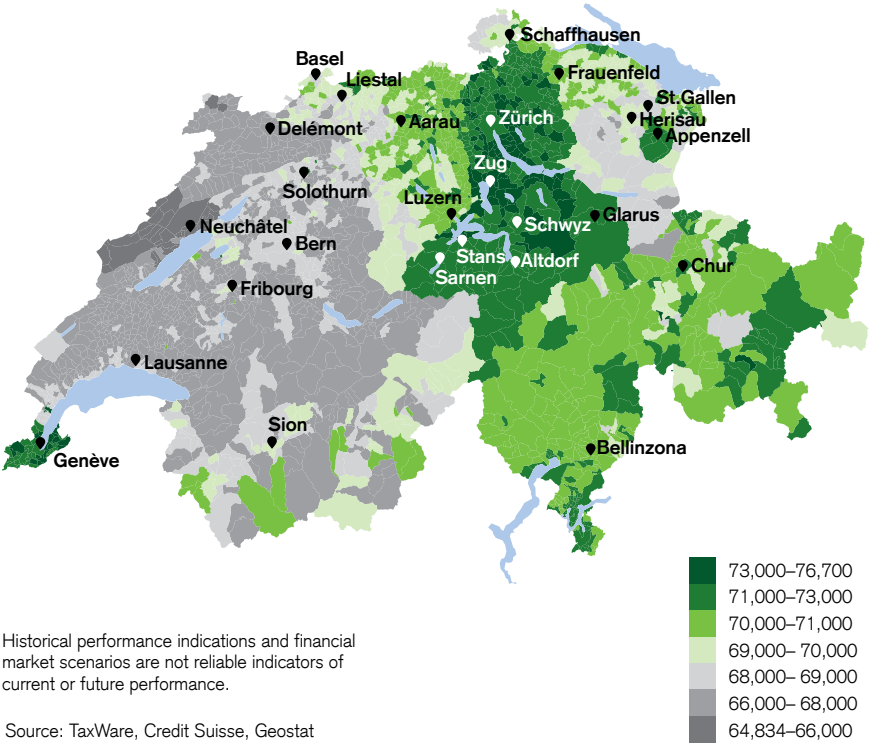


Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

Source: TaxWare, Credit Suisse

Regional differences in annual net income

Annual net income in CHF from AHV pension, occupational pension and capital income upon withdrawal of CHF 1 million in retirement benefits at 80%/20% annuity/lump sum, conversion rate = 5.5%, average return = 2% p.a., pension duration = 25 years, 2017



Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

Source: TaxWare, Credit Suisse, Geostat

Due to the regional differences in the burden of income, lump-sum and wealth taxes, the amount of income available during retirement also depends on the place of residence. The differences in estimated net income are significant (see map).

The differences in taxation mean that the lump sum versus annuity decision will not be the same everywhere. In the city of Zurich, which is more attractive than the Swiss average when it comes to the taxation of natural persons, a pension is in some cases more attractive than a lump-sum payment, while in regions with higher tax burdens, such as Neuchâtel, a lump-sum payment appears financially more appealing. The table on pages 44 to 47 depicts the difference in annual net income for

the two cities. A positive value indicates that a pure pension is more financially attractive, while a negative value means that a pure lump-sum withdrawal yields a higher income.

These examples illustrate the implications of the lump sum versus annuity decision, and how they can vary depending on the place of residence. The financial aspects mentioned must be considered in detail for each specific case. Each case is different and the family situation, inheritance aspects, health and living conditions must also be taken into account (see overview "Annuity vs. lump sum").

Annuity vs. lump sum

	Annuity	Lump sum
Security	Life-long pension	Is depleted over the years
Income	Regular, for one's entire life (depends on conversion rate), value erosion from inflation is not always compensated	Irregular, depending upon investment returns (gains or losses possible)
Investment decisions	Made by retirement benefits institution	Made individually
Flexibility	No flexibility	Flexible availability (e.g. to pay off mortgage)
Capital consumpton	Systematic	As required
In case of death (inheritability)	Pension fund pays survivor's pension (generally 50–60% for spouse and 20% for children), no benefits for non-married survivors	Remaining capital is part of estate
Taxes	Pensions are 100% taxable	One-time taxation at the pension rate (varies by canton), investment income is taxable

Lump sum or pension: the difference in disposable net income can amount to thousands of francs each year

Difference in annual net income in CHF (from AHV, occupational pension and capital income) for various retirement benefit levels as pure annuity or pure lump sum; cities of Zurich and Neuchâtel, single retiree, 2017

City of Zurich

Conversion rate	Years	Return	Retirement benefits				
			100,000	200,000	500,000	1,000,000	1,500,000
4%	20	0,5%	-970	-2,428	-5,879	-10,079	-14,126
		1,0%	-1,204	-2,891	-6,966	-11,870	-16,728
		1,5%	-1,442	-3,366	-7,877	-13,679	-19,364
		2,0%	-1,687	-3,851	-8,925	-15,574	-22,102
		2,5%	-1,936	-4,346	-9,954	-17,516	-24,756
		3,0%	-2,190	-4,756	-10,978	-19,486	-27,616
		3,5%	-2,448	-5,329	-12,282	-21,925	-31,130
		4,0%	-2,711	-5,879	-13,639	-24,462	-34,980
	25	0,5%	-22	-549	-1,454	-1,732	-1,960
		1,0%	-261	-1,023	-2,567	-3,523	-4,640
		1,5%	-507	-1,511	-3,493	-5,406	-7,383
		2,0%	-760	-2,010	-4,582	-7,352	-10,122
		2,5%	-1,020	-2,525	-5,642	-9,362	-12,960
		3,0%	-1,286	-2,936	-6,744	-11,443	-15,915
		3,5%	-1,558	-3,542	-8,068	-13,927	-19,580
		4,0%	-1,837	-4,141	-9,545	-16,666	-23,613
	30	0,5%	609	703	1,493	3,873	6,115
		1,0%	366	220	367	2,033	3,428
		1,5%	113	-277	-594	93	607
		2,0%	-148	-796	-1,713	-1,927	-2,221
		2,5%	-417	-1,307	-2,795	-3,999	-5,119
		3,0%	-694	-1,760	-3,958	-6,120	-8,218
		3,5%	-979	-2,380	-5,347	-8,800	-12,043
		4,0%	-1,271	-3,018	-6,875	-11,617	-16,242
5%	20	0,5%	-557	-1,088	-1,777	-2,342	-3,072
		1,0%	-791	-1,551	-2,864	-4,133	-5,674
		1,5%	-1,029	-2,026	-3,775	-5,942	-8,310
		2,0%	-1,274	-2,511	-4,823	-7,837	-11,048
		2,5%	-1,523	-3,006	-5,852	-9,779	-13,702
		3,0%	-1,777	-3,416	-6,876	-11,749	-16,562
		3,5%	-2,035	-3,989	-8,180	-14,188	-20,076
		4,0%	-2,298	-4,539	-9,537	-16,725	-23,926
	25	0,5%	391	791	2,648	6,005	9,094
		1,0%	152	317	1,535	4,214	6,414
		1,5%	-94	-171	609	2,331	3,671
		2,0%	-347	-670	-480	385	932
		2,5%	-607	-1,185	-1,540	-1,625	-1,906
		3,0%	-873	-1,596	-2,642	-3,706	-4,861
		3,5%	-1,145	-2,202	-3,966	-6,190	-8,526
		4,0%	-1,424	-2,801	-5,443	-8,929	-12,559
	30	0,5%	1,022	2,043	5,595	11,610	17,169
		1,0%	779	1,560	4,469	9,770	14,482
		1,5%	526	1,063	3,508	7,830	11,661
		2,0%	265	544	2,389	5,810	8,833
		2,5%	-4	33	1,307	3,738	5,935
		3,0%	-281	-420	144	1,617	2,836
		3,5%	-566	-1,040	-1,245	-1,063	-989
		4,0%	-858	-1,678	-2,773	-3,880	-5,188

Blue = Lump-sum withdrawal is financially more attractive

Turquoise = Annuity is financially more attractive

Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

City of Neuchâtel

Conversion rate	Years	Return	Retirement benefits 100,000	200,000	500,000	1,000,000	1,500,000
4%	20	0,5%	-794	-2,787	-8,216	-16,059	-24,367
		1,0%	-1,026	-3,212	-9,296	-17,557	-26,858
		1,5%	-1,248	-3,661	-9,906	-19,074	-29,216
		2,0%	-1,490	-4,135	-10,758	-20,693	-31,852
		2,5%	-1,736	-4,618	-11,607	-22,514	-34,311
		3,0%	-1,988	-4,898	-12,551	-24,444	-37,235
		3,5%	-2,229	-5,542	-13,960	-27,125	-41,197
		4,0%	-2,489	-6,094	-15,569	-30,161	-45,909
	25	0,5%	150	-940	-3,616	-6,901	-10,664
		1,0%	-86	-1,381	-4,735	-8,421	-13,092
		1,5%	-330	-1,847	-5,407	-10,003	-15,694
		2,0%	-569	-2,338	-6,282	-11,724	-18,384
		2,5%	-826	-2,842	-7,167	-13,540	-21,000
		3,0%	-1,089	-3,108	-8,156	-15,597	-23,860
		3,5%	-1,347	-3,795	-9,597	-18,389	-28,167
		4,0%	-1,622	-4,391	-11,268	-21,613	-32,981
	30	0,5%	770	291	-584	-779	-1,565
		1,0%	539	-163	-1,678	-2,345	-4,023
		1,5%	289	-643	-2,364	-3,978	-6,652
		2,0%	40	-1,131	-3,335	-5,711	-9,307
		2,5%	-227	-1,653	-4,186	-7,629	-12,008
		3,0%	-491	-1,945	-5,196	-9,710	-15,116
		3,5%	-773	-2,621	-6,676	-12,575	-19,489
		4,0%	-1,052	-3,281	-8,494	-15,905	-24,509
5%	20	0,5%	-1,214	-2,161	-4,602	-9,188	-14,593
		1,0%	-1,446	-2,586	-5,682	-10,686	-17,084
		1,5%	-1,668	-3,035	-6,292	-12,203	-19,442
		2,0%	-1,910	-3,509	-7,144	-13,822	-22,078
		2,5%	-2,156	-3,992	-7,993	-15,643	-24,537
		3,0%	-2,408	-4,272	-8,937	-17,573	-27,461
		3,5%	-2,649	-4,916	-10,346	-20,254	-31,423
		4,0%	-2,909	-5,468	-11,955	-23,290	-36,135
	25	0,5%	-270	-314	-2	-30	-890
		1,0%	-506	-755	-1,121	-1,550	-3,318
		1,5%	-750	-1,221	-1,793	-3,132	-5,920
		2,0%	-989	-1,712	-2,668	-4,853	-8,610
		2,5%	-1,246	-2,216	-3,553	-6,669	-11,226
		3,0%	-1,509	-2,482	-4,542	-8,726	-14,086
		3,5%	-1,767	-3,169	-5,983	-11,518	-18,393
		4,0%	-2,042	-3,765	-7,654	-14,742	-23,207
	30	0,5%	350	917	3,030	6,092	8,209
		1,0%	119	463	1,936	4,526	5,751
		1,5%	-131	-17	1,250	2,893	3,122
		2,0%	-380	-505	279	1,160	467
		2,5%	-647	-1,027	-572	-758	-2,234
		3,0%	-911	-1,319	-1,582	-2,839	-5,342
		3,5%	-1,193	-1,995	-3,062	-5,704	-9,715
		4,0%	-1,472	-2,655	-4,880	-9,034	-14,735

Source: Credit Suisse

City of Zurich							
Conversion rate	Years	Return	Retirement benefits				
			100,000	200,000	500,000	1,000,000	1,500,000
6%	20	0,5%	443	912	2,317	5,032	7,445
		1,0%	209	449	1,230	3,241	4,843
		1,5%	-29	-26	319	1,432	2,207
		2,0%	-274	-511	-729	-463	-531
		2,5%	-523	-1,006	-1,758	-2,405	-3,185
		3,0%	-777	-1,416	-2,782	-4,375	-6,045
		3,5%	-1,035	-1,989	-4,086	-6,814	-9,559
		4,0%	-1,298	-2,539	-5,443	-9,351	-13,409
	25	0,5%	1,391	2,791	6,742	13,379	19,611
		1,0%	1,152	2,317	5,629	11,588	16,931
		1,5%	906	1,829	4,703	9,705	14,188
		2,0%	653	1,330	3,614	7,759	11,449
		2,5%	393	815	2,554	5,749	8,611
		3,0%	127	404	1,452	3,668	5,656
		3,5%	-145	-202	128	1,184	1,991
		4,0%	-424	-801	-1,349	-1,555	-2,042
	30	0,5%	2,022	4,043	9,689	18,984	27,686
		1,0%	1,779	3,560	8,563	17,144	24,999
		1,5%	1,526	3,063	7,602	15,204	22,178
		2,0%	1,265	2,544	6,483	13,184	19,350
		2,5%	996	2,033	5,401	11,112	16,452
		3,0%	719	1,580	4,238	8,991	13,353
		3,5%	434	960	2,849	6,311	9,528
		4,0%	142	322	1,321	3,494	5,329
6,8%	20	0,5%	1,243	2,512	6,317	11,717	16,375
		1,0%	1,009	2,049	5,230	9,926	13,773
		1,5%	771	1,574	4,319	8,117	11,137
		2,0%	526	1,089	3,271	6,222	8,399
		2,5%	277	594	2,242	4,280	5,745
		3,0%	23	184	1,218	2,310	2,885
		3,5%	-235	-389	-86	-129	-629
		4,0%	-498	-939	-1,443	-2,666	-4,479
	25	0,5%	2,191	4,391	10,742	20,064	28,541
		1,0%	1,952	3,917	9,629	18,273	25,861
		1,5%	1,706	3,429	8,703	16,390	23,118
		2,0%	1,453	2,930	7,614	14,444	20,379
		2,5%	1,193	2,415	6,554	12,434	17,541
		3,0%	927	2,004	5,452	10,353	14,586
		3,5%	655	1,398	4,128	7,869	10,921
		4,0%	376	799	2,651	5,130	6,888
	30	0,5%	2,822	5,643	13,689	25,669	36,616
		1,0%	2,579	5,160	12,563	23,829	33,929
		1,5%	2,326	4,663	11,602	21,889	31,108
		2,0%	2,065	4,144	10,483	19,869	28,280
		2,5%	1,796	3,633	9,401	17,797	25,382
		3,0%	1,519	3,180	8,238	15,676	22,283
		3,5%	1,234	2,560	6,849	12,996	18,458
		4,0%	942	1,922	5,321	10,179	14,259

Blue = Lump-sum withdrawal is financially more attractive

Turquoise = Annuity is financially more attractive

Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

City of Neuchâtel

Conversion rate	Years	Return	Retirement benefits 100,000	200,000	500,000	1,000,000	1,500,000
6%	20	0,5%	-214	-161	-1,024	-2,593	-5,283
		1,0%	-446	-586	-2,104	-4,091	-7,774
		1,5%	-668	-1,035	-2,714	-5,608	-10,132
		2,0%	-910	-1,509	-3,566	-7,227	-12,768
		2,5%	-1,156	-1,992	-4,415	-9,048	-15,227
		3,0%	-1,408	-2,272	-5,359	-10,978	-18,151
		3,5%	-1,649	-2,916	-6,768	-13,659	-22,113
		4,0%	-1,909	-3,468	-8,377	-16,695	-26,825
	25	0,5%	730	1,686	3,576	6,565	8,420
		1,0%	494	1,245	2,457	5,045	5,992
		1,5%	250	779	1,785	3,463	3,390
		2,0%	11	288	910	1,742	700
		2,5%	-246	-216	25	-74	-1,916
		3,0%	-509	-482	-964	-2,131	-4,776
		3,5%	-767	-1,169	-2,405	-4,923	-9,083
		4,0%	-1,042	-1,765	-4,076	-8,147	-13,897
	30	0,5%	1,350	2,917	6,608	12,687	17,519
		1,0%	1,119	2,463	5,514	11,121	15,061
		1,5%	869	1,983	4,828	9,488	12,432
		2,0%	620	1,495	3,857	7,755	9,777
		2,5%	353	973	3,006	5,837	7,076
		3,0%	89	681	1,996	3,756	3,968
		3,5%	-193	5	516	891	-405
		4,0%	-472	-655	-1,302	-2,439	-5,425
6,8%	20	0,5%	586	1,439	2,976	3,681	2,852
		1,0%	354	1,014	1,896	2,183	361
		1,5%	132	565	1,286	666	-1,997
		2,0%	-110	91	434	-953	-4,633
		2,5%	-356	-392	-415	-2,774	-7,092
		3,0%	-608	-672	-1,359	-4,704	-10,016
		3,5%	-849	-1,316	-2,768	-7,385	-13,978
		4,0%	-1,109	-1,868	-4,377	-10,421	-18,690
	25	0,5%	1,530	3,286	7,576	12,839	16,555
		1,0%	1,294	2,845	6,457	11,319	14,127
		1,5%	1,050	2,379	5,785	9,737	11,525
		2,0%	811	1,888	4,910	8,016	8,835
		2,5%	554	1,384	4,025	6,200	6,219
		3,0%	291	1,118	3,036	4,143	3,359
		3,5%	33	431	1,595	1,351	-948
		4,0%	-242	-165	-76	-1,873	-5,762
	30	0,5%	2,150	4,517	10,608	18,961	25,654
		1,0%	1,919	4,063	9,514	17,395	23,196
		1,5%	1,669	3,583	8,828	15,762	20,567
		2,0%	1,420	3,095	7,857	14,029	17,912
		2,5%	1,153	2,573	7,006	12,111	15,211
		3,0%	889	2,281	5,996	10,030	12,103
		3,5%	607	1,605	4,516	7,165	7,730
		4,0%	328	945	2,698	3,835	2,710

Glossary

All-inclusive pension fund Pension fund that insures benefits that exceed the minimum statutory requirements of the BVG and that apply a uniform conversion rate to the entire retirement assets (i.e. the mandatory and extra-mandatory component).

BVG The Federal Act on Occupational Old Age, Survivors' and Invalidity Pension Provision (BVG is the German acronym) was established in 1985.

Conversion rate Percentage rate used to calculate the annual, life-long pension to be paid from the retirement assets upon retirement.

Coordination deductible Amount deducted from the annual salary in order to determine the insured salary. It corresponds to 7/8 of the maximum AHV/AVS pension (currently CHF 24,675).

Coverage ratio The coverage ratio is determined as the ratio between the pension assets and the actuarially required pension capital of a retirement benefits institution. If the coverage ratio is below 100%, there is underfunding.

Defined benefit plan In the case of a defined benefit plan, the type and amount of the retirement benefits is determined in the regulations (in fixed franc amounts or as a percentage of a reference value) and this is used to calculate the amount of the individual or collective pension contributions.

Defined contribution plan In the case of a defined contribution plan, the amount of the contribution is determined in the regulations (in fixed franc amounts or as a percentage of a reference value) and this is used to calculate the amount of the individual retirement benefits.

Entry threshold The lower income limit that determines whether or not oc-cupa-tional retirement benefits for an employee are mandatory (currently CHF 21,150).

Fluctuation reserves	Fluctuation reserves absorb price fluctuations on the investment assets in order to avoid underfunding and possible restructuring measures.
Mandatory/ extramandatory insurance	Minimum benefits defined in the BVG for old age, death and disability are referred to as mandatory insurance, additional benefits as extra-mandatory insurance.
Minimum conversion rate	Minimum conversion rate to be applied by the retirement benefits institutions, upon normal retirement age, to the mandatory part of the pension capital (at present 6.8%).
Minimum interest rate	Minimum interest rate, determined by the Federal Council, which the retirement benefits institutions must pay on the retirement assets of the mandatory insurance (BVG).
Pension capital	Obligation of the retirement benefits institution to the insured. The pension capital of the active insured corresponds in the defined contribution plan to the sum of the retirement assets of the insured. The pension capital of retirees corresponds to the cash value of all current pensions.
Retirement benefits	Retirement benefits represent the sum of the accrued re-tirement credits, including vested benefits and interest.
Retirement credits	Amount that is credited to the retirement benefits of an insured person each year. The rates are set as a percentage of the coordinated annual salary and depend on the age of the insured person.
Technical interest rate	The technical interest rate is the discount rate (or valuation interest rate) used to determine retirement capital or technical provisions as well as the financing of a retirement benefits institution.
Underfunding	Underfunding exists if, on the balance sheet date, the actuarially required pension capital calculated by the occu-pational pension expert is not covered by the available pension assets.
1e pension plans	With 1e pension plans (named after Art. 1e BVV 2), retirement benefits institutions that exclusively insure salary segments above one and a half times the BVG upper salary limit (CHF 126,900) can offer pension plans with different investment strategies.

Pension calculators for an initial assessment of your individual pension situation

With the Credit Suisse pension calculators, you can assess your pension situation better. You will find the offering on the following website: www.credit-suisse.com/pensioncalculators

In the area of occupational retirement benefits, you can use the **pension calculator** to determine the amount of your pension in the event of regular or early retirement. The "**Taxes on Lump-Sum Withdrawals**" calculator assesses how high the taxes will be if you withdraw your retirement savings. It also shows how taxes can be reduced by spreading lump-sum withdrawals from both the second pillar and pillar 3a over several years (provided this is allowed in your canton of residence).

Emerging markets
Where this document relates to emerging markets, you should be aware that there are uncertainties and risks associated with investments and transactions in various types of investments of, or related or linked to, issuers and obligors incorporated, based or principally engaged in business in emerging markets countries. Investments related to emerging markets countries may be considered speculative, and their prices will be much more volatile than those in the more developed countries of the world. Investments in emerging markets investments should be made only by sophisticated investors or experienced professionals who have independent knowledge of the relevant markets, are able to consider and weigh the various risks presented by such investments, and have the financial resources necessary to bear the substantial risk of loss of investment in such investments. It is your responsibility to manage the risks which arise as a result of investing in emerging markets investments and the allocation of assets in your portfolio. You should seek advice from your own advisers with regard to the various risks and factors to be considered when investing in an emerging markets investment.

Alternative investments
Hedge funds are not subject to the numerous investor protection regulations that apply to regulated authorized collective investments and hedge fund managers are largely unregulated. Hedge funds are not limited to any particular investment discipline or trading strategy, and seek to profit in all kinds of markets by using leverage, derivatives, and complex speculative investment strategies that may increase the risk of investment loss.

Commodity transactions carry a high degree of risk and may not be suitable for many private investors. The extent of loss due to market movements can be substantial or even result in a total loss.

Investors in real estate are exposed to liquidity, foreign currency and other risks, including cyclical risk, rental and local market risk as well as environmental risk, and changes to the legal situation.

Interest rate and credit risks
The retention of value of a bond is dependent on the creditworthiness of the Issuer and/or Guarantor (as applicable), which may change over the term of the bond. In the event of default by the Issuer and/or Guarantor of the bond, the bond or any income derived from it is not guaranteed and you may get back none of, or less than, what was originally invested.

Investment Strategy Department
Investment Strategists are responsible for multi-asset class strategy formation and subsequent implementation in CS's discretionary and advisory businesses. If shown, Model Portfolios are provided for illustrative purposes only. Your asset allocation, portfolio weightings and performance may look significantly different based on your particular circumstances and risk tolerance. Opinions and views of Investment Strategists may be different from those expressed by other Departments at CS. Investment Strategist views may change at any time without notice and with no obligation to update. CS is under no obligation to ensure that such updates are brought to your attention.

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Annuity vs. lump-sum payment: A brief summary

Occupational pension plans put to the test

- Occupational pensions play a particularly important role in retirement planning for incomes **above the median (CHF 68,900)**.
- **Rising life expectanc**y increases the risk that retirement savings will not last for the entire pension duration.
- **Persistently low interest rates** are diminishing the investment returns on retirement savings.
- **Financing gaps** at the pension funds are borne by active contributors.
- This results in a **redistribution** from active employees to retirees.
- Insured persons should expect **conversion rates to decline** further in the future.
- Working part-time or taking career breaks can cause significant **gaps in pension savings.**

Lump-sum payments

- **31% of new retirees** draw their retirement assets in the form of a **"pure lump-sum"** payout.
- **51%** opt to take only a **pension.**
- **18%** choose a **combination** of annuity plus lump sum.
- The frequency and amount of lump-sum withdrawals rise in line with the **educational level** of the insured.
- Lump-sum withdrawals are chosen more often among men than women.
- In the past, lump-sum withdrawals have been **more common in good years on the stock market.**
- For pension funds, lump-sum payments can be a tool to **minimize risk.**

1e pension plans

- 1e plans insure **salary segments above CHF 126,900** per year.
- Almost **10%** of those with occupational retirement benefits have a **salary that qualifies for 1e**.
- Where a 1e plan exists, **all** employees in the **qualifying salary** segment **must join**.
- The 1e pension fund assets are managed with an **individually selectable investment strategy**.
- The insured bear the **full investment risk** themselves.
- 1e assets are **exempt from redistribution** between active employees and retirees and from any restructuring of the pension fund.
- Normally, the saved assets are withdrawn as **lump-sum** upon retirement.

Lump sum or annuity?

- Pension funds are **lowering conversion rates** in phases which significantly reduces the resulting pension.
- **Pension payments** are made during the **entire life** of the beneficiary. Furthermore, **survivor's pensions** are paid out.
- In the case of a lump-sum withdrawal, the **return** can be increased depending on the risk tolerance and the chosen **investment strategy.**
- **Life expectancy** plays a pivotal role in capital consumption.
- With a lump-sum withdrawal, the **remaining capital can be bequeathed.**
- **Regional differences in the taxation** of (pension) income, lump-sum withdrawals and assets are considerable and must be taken into account in the decision.

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WJVE 253014 08.2018