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Private pension, bonds or reverse mortgage - how do you allocate your capital in old age?

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Abstract

We examine instruments for the consumption of saved capital at retirement age and look at private annuities, annuity (pools), bond plans and reverse mortgages.

Zusammenfassung

Wir untersuchen Instrumente zum Verzehr von angespartem Kapital im Rentenalter. Dabei werden private Rentenversicherungen, Annuitäten(-pools), Anleihepläne und Umkehrhypotheken beleuchtet.

If you receive a lump-sum payment from an endowment insurance policy at the age of 65, if your property is paid off or if you have generated a capital stock in some other way, the question arises of how to allocate the assets you have saved during retirement. Decisive for the decision are personal asset situation and investment goal. The following study examines various options for disbursement at retirement age. We highlight private annuities, annuity (pools), bond plans and reverse mortgages.

How can you live on saved capital in retirement?

If you start putting aside 120 euros a month at the age of 35, you will earn 100,000 euros in capital by the age of 65, assuming an annual interest rate of 5 percent. If you want to (partially) secure your standard of living in old age with this, it is best to look for the highest possible, steady payouts that are maintained until the end of your life. Therefore, placing the investment focus on shares, as seems sensible in the savings phase, can sometimes be too risky due to the volatility in the payout phase. This is particularly the case if there is little liquidity to compensate for monthly fluctuations in payments. A particularly long life also sometimes puts people in financial straits. What options are there to protect against these risks?

Single-premium annuity policies with a life insurer are the classic way to get rid of both risks - price losses and longevity. The insurer pays a lifelong annuity that may fluctuate, but never falls below a minimum amount. The pension amount is helped by surpluses from premature deaths in the insured group, which, due to the recent resurgence of compound interest, enable the "long-lived" to receive higher payments.[1] Implicitly, with the guaranteed minimum pension, the insurer also assumes the investment risk and the collective, systematic longevity risk. In contrast, with so-called annuity pools, the pensioner receives a lifelong pension, but this can be adjusted downward as far as desired in the event of changes in the life expectancy of the collective or adverse developments in the investment.

Due to the rise in interest rates, those who wish to organize their own pension payments once again have the option of hedging against rising living costs with inflation-indexed government bonds and living off the coupon and capital repayments. However, the payments dry up as soon as the last bond matures, and the capital is completely consumed. Longevity is therefore not insured. On the other hand, in the event of a shorter pension phase than

[1] In principle, these instruments provide insurance against longevity. The earlier contributions of those who die before the average life expectancy finance the payments to those who live longer. If the interest rate is positive, interest income from the invested capital stock is added.

calculated in the payout plan for the capital assets, possible descendants inherit residual assets that have grown with inflation.

For those who can call a (largely) debt-free property their own, there are further options. In Germany, reverse mortgages, and life annuities, where the value of the house is liquidated in monthly installments while the owner continues to live in it, are only a niche product, but in America this product is quite common. It is worth looking across the pond to explore the possibilities of a functioning market for Germany.

We will see that each of the options has its advantages and disadvantages. For the retiree, it is therefore crucial to consider his or her own asset situation and investment goals. The decisive question is how much security he needs in his monthly payments.

The classic single-premium annuity insurance

Traditional pension insurance offers protection against longevity and price risks. This has its price.

If I, as a retiree, am dependent on a guaranteed pension until the end of my life and cannot afford fluctuations, then annuity insurance against a single premium offers a safe alternative. For a single premium of 100,000 euros, you are currently (as of January 2023) guaranteed an annual pension of just under 3,300 euros. At first glance, that doesn't sound like much, but you could also invest the 100,000 euros safely for 30 years and receive almost 3,300 euros in interest every year (e.g., from a portfolio of corporate bonds with a low default risk).[2] At age 95, one would then still have a small (real) residual asset that could last until death.

There are several reasons for the stinginess of pension insurers: First, insurers are required to calculate the guaranteed annuity using the current applicable actuarial interest rate. This interest rate, which is traditionally set very conservatively, i.e., low, currently stands at 0.25 percent. A large interest and compound interest effect cannot be represented in this way. However, if you calculate with the actual surpluses of the insurers from the past years, which must be passed on to the insured to a large extent, but are not guaranteed, you can assume a pension of 4,700 euros. With a 30-year payout, this then corresponds to an effective interest rate of 2.5 percent plus longevity insurance thereafter.

In addition, the products usually also include a guaranteed minimum annuity payout period of 10 years. And the insurer also bears the collective longevity risk. A breakthrough in cancer medicine, for example, could cause the

[2] See for this: [Die Rückkehr des Nominalzinses - Flossbach von Storch (flossbachvonstorch-researchinstitute.com)](flossbachvonstorch-researchinstitute.com)

remaining life expectancy to jump. Both have to be considered and cost some return.

Annuity pools as a variant of private pension insurance

Traditional pension insurance offers protection against longevity and price risks. This has its price.

For those who can cope with a fluctuating pension, annuity pools offer an interesting alternative to traditional pension insurance. Here, several pensioners (generations) join forces and share the systematic risk of longevity as well as the price risk of the capital investment.

As with insurance, the individual is guaranteed an annuity for life. His or her individual longevity risk is covered. But the amount of the annuity can vary. Especially in the case of high-risk investments or a longevity trend in the collective, pension reductions are possible. In return, one saves the risk premium for the guarantee of a minimum pension amount.

An indication of the potential by waiving this guarantee can be estimated from mortality tables of the German Actuarial Association. The tables list the annual mortality probabilities per age. These tables serve as a basis for the calculation of life insurance policies and distinguish between first-order and second-order values. The first-order values include safety margins and are used to ensure a cautious calculation and thus the fulfillment of the guarantee even in the event of adverse developments. With the second-order values, a "realistic" valuation is obtained. The difference thus gives a feeling for the costs of the guarantee. These amount to approximately ten to fifteen percent, depending on the assumed interest rate.[3] Instead of a guaranteed pension of 3,300 euros as calculated above, the pensioner in an annuity pool would receive a pension of about 3,800 euros from the start.

However, this is offset by possible pension reductions due to systematic changes in mortality and fluctuations in the capital investment. For example, the annuity present value, i.e., the capital needed to pay a lifetime annuity of level one, drops from 17.80 to 14.56 at an interest rate of one percent compared to three percent for a 65-year-old man.[4] Or put another way: One percent less investment income means about nine percent less pension at the start of retirement.

However, the rule of thumb also works in the other direction. Annuity increases are possible if the annuity pool is invested for yield. With a capital yield of 5 per cent one receives a pension of 5800 euro and lies thereby again

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[3] zfv_heft_2018_11 (ifa-ulm.de)

[4] 2017-11-16_Ergebnisbericht_Reine-Beitragszusage-gemaess-BRSG.pdf (aktuar.de), Table 1, Site 109.

over the classical pension insurance. Such a capital investment, which is presumably only feasible with a focus on shares and is therefore inherently subject to a certain volatility, can then in turn be provided with smoothing mechanisms that compensate for temporary fluctuations on the capital market. For example, with an expected return of five percent, pensions can initially be calculated with an interest rate of only four percent. This creates a capital buffer. In the following year, the capital is then divided by the present value of the remaining pension entitlements on the basis of the actual return generated. As long as the quotient is between 100% and 125%, the pension remains constant. Otherwise, it is adjusted downward or upward.

Annuity pools offer opportunities for high investment returns due to the lack of guarantees. However, if one does not use the degrees of freedom and is too cautious in the design of the investment, the differences to the classic pension insurance remain marginal.[5] For retirees who can afford and endure certain fluctuations in payments, annuity pools with risk in the investment are a real alternative to classic annuity products. In practice, however, they are of no significance in Germany, while in Sweden, for example, they are part of the state pension.[6]

Inflation-indexed bonds as an alternative

As mentioned above, inflation-indexed bonds are an alternative for someone who wants to bear their own individual longevity risk but fears fluctuating annuity payments. Until recently, the negative real interest rate made these instruments uninteresting to individual investors. Now the real interest rate is positive again and investors are guaranteed to be compensated for losses in purchasing power due to inflation. At the current interest rate level, however, the price for this is the renunciation of the opportunity for real capital appreciation.

Inflation-indexed bonds hedge against loss of purchasing power, but not against longevity.

In contrast to a normal bond, inflation-indexed securities are not repaid at par at the end of their term, but with the cumulative compensation for the inflation accumulated during the holding period. At two percent inflation, with a real interest rate of zero and a three-year term, 106.12 euros will be returned for 100 euros of invested capital. The annual coupon is also increased by the inflation rate. In the event of deflation, at least the nominal value is returned at the end of the term.

The German government currently has five inflation-linked bonds outstanding, two of which it designates as benchmark bonds. These two have a

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[5] 2017-11-16_Ergebnisbericht_Reine-Beitragszusage-gemaess-BRSG.pdf (aktuar.de), Site 117 and PowerPoint-Präsentation (ifa-ulm.de)

[6] CFAGermany_Positionspapier_Altersvorsorge_2022_web_FINAL.pdf (cfa-germany.de)

coupon of 0.1 percent. Both were first issued in 2016. One expires in 2033, the other in 2046, and additional volume of the former was issued on Jan. 10. Based on a price above par (as of Jan. 24), the annual real yield on this is 0.06 percent.

However, in order to build a steady stream of payments with the initially assumed capital of 100,000 euros, the pensioner needs a multiple of bonds whose remaining terms are evenly distributed over his retirement period. This is the only way he can make a living, protected against inflation, from the coupons and the capital repaid in installments. With the two German benchmark bonds, he will only get his capital back in 2033 and 2046. The French government is a good match. There are currently 15 inflation-indexed French government bonds of various residual maturities in circulation. With the exception of 2026, at least one bond will expire every year until 2032. Thereafter, bonds will mature in 2036, 2040 and 2047. So, together with the two German benchmark bonds, you can convert your capital into relatively constant annual payments for almost 25 years.

If one compares the yields of inflation-indexed securities of only slightly more than zero percent in real terms with the above-mentioned interest rates of classic pension insurance policies, one is superior to the latter in terms of pension amount from an annual inflation of more than 2.5 percent. In other words, the ECB's own target of average inflation of 2 percent would have to be narrowly missed in the long term. In any case, there is still the risk of longevity. Either people set aside separate funds for this purpose or risk having to rely on basic benefits once their capital has been used up.

Reverse mortgages - an imperfect market in Germany

Those who own assets in the form of their own real estate at the age of 65 have another option for their pension. In various guises, the principle always remains the same: monthly payments are used to liquidate the capital tied up in the property.

Reverse mortgages and annuities are a niche market in Germany. In America, these options for property owners are more widespread.

In practice, a distinction is made between two main models: On the one hand, a loan can be taken out for part of the value of the property, which is paid out to the pensioner in monthly installments. The loan is secured over the real estate. This is also known as a reverse mortgage. On the other hand, the house can be sold in exchange for a lifelong right to live there, including a monthly annuity. This is known as a life annuity. In Germany, both options are absolute niche products. Reverse mortgages were first offered in Germany in 2006. Products from various providers followed, but none of them was able to gain widespread acceptance. According to estimates, there are currently only 500 to 1,000 annuity contracts.[7]

There are many reasons for the current low volume: According to a study by EconPol, providers have to consider the longevity of policyholders, who are only likely to enter into the business if they have reasonable expectations of living longer than average.[8] As a result, products are priced expensively because of the longevity risk premium. Reverse mortgages have been found to have effective interest rates of up to ten percent in the past, which significantly reduces the payout amount from principal consumption for the borrower.[9]

On the demand side, product complexity, trust in the provider and emotional attachment to one's own property stand in the way of these concepts. It remains questionable what market size can be expected in Germany and what percentage of it is "lost" simply due to the existing product poverty or the high prices of the products. For this purpose, we first take a look at the USA, the world's largest market for reverse mortgages.

Around 50,000 home equity conversion mortgages, or HECMs, are concluded there every year.[10] This program, set up in 1989 by the U.S. Department of Housing and Urban Development, or HUD, enables people aged 62 or older who own a property to encumber it with a government-subsidized loan. When the loan is paid out, the homeowner can choose between various annuities, including, in particular, a lifetime payment. A special feature of the loan is a non-recourse clause. Only the value of the house is available for repayment of the loan. If the loan amount ends up exceeding the value of the house, neither the property owner nor, in the event of his or her death, the heirs are liable with additional assets. In order to protect the lender, in such a case, a state insurance coverage takes effect, which replaces the missing amount for the lender. The property owner must pay an annual premium of 1.25 percent for this. Other regulations also apply. For example, the loan amount is limited in absolute terms to $1,089,300 and, depending on age, is initially limited in percentage terms to between 39.6 and 64.4 percent of the value of the property.[11]

In the U.S., pronounced government regulation mitigates the risks we identified in Germany. This government intervention serves to prevent over-indebtedness in old age and to free up tied-up capital. However, the share of

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[7] Microsoft Word - EconPolRM_2020-11-23

[8] Microsoft Word - EconPolRM_2020-11-23

[9] Reverse Mortgage (uni-freiburg.de)

[10] Annual HECM Production Numbers - NRMLA (nrmlaonline.org)

[11] Current Reverse Mortgage Rates: Today's Rates, APR | ARLO™

these special loans is vanishingly small compared with the overall market for real estate lending. Purely private-sector loans against real estate, known as "home equity line of credits" or HELOCs, are far more popular. With 1.12 million loans issued in 2018, they are the most popular type of real estate lending.[12] Americans aged 60 and older account for 47 percent of the outstanding loan balance in 2022.[13] Interest rates are in similar regions for HECMs and HELOCs, currently averaging eight percent.

Why are HELOCs significantly more popular? First, HELOCs allow for higher initial loan-to-value ratios on properties. Up to 85 percent of the property value is possible.[14] In addition, they usually have lower closing costs and can be completed in under two weeks. HECMs, on the other hand, mandatorily include a separate counseling session. The loan origination process takes a total of four to six weeks. The state protection against loss of value of the property as well as a credit line of the HECMs that grows annually with the interest rate level obviously do not outweigh this.

Either way, it can be said that reverse mortgages are much more widespread in the USA than in Germany. Given the same popularity and economic necessity, there should be around 100,000 new loans of this type per year in relation to the total population in Germany. However, if we follow the EconPol study mentioned above, out of six million households with debt-free property and residents over the age of 65, only 400,000 households in total remain who are dissatisfied with their monthly income and consequently have a need for a reverse mortgage.

In previous products, the minimum property value to qualify for a reverse mortgage was 250,000 euros. Households that would like to have more income and own such a property there are only 90,000 in Germany according to surveys. In short, in Germany real estate ownership seems to be almost synonymous with further wealth or income in retirement. The house as the sole source of income is the exception rather than the rule. Compared to the U.S., real estate ownership is significantly lower among middle- and low-income households.[15] In addition, the lack of product variety reduces the already manageable demand by another 75 percent. What remains is a niche market.

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[12] Reverse Mortgage Use Differs by Race and Ethnicity. Here's Why It Matters | Urban Institute

[13] Macrobond, Federal Reserve Bank of New York.

[14] What is a Home Equity Line of Credit and How Does it Work? (bankofamerica.com)

[15] Wohneigentümer nach Einkommen 2021 | Statista und Distribution of Housing Wealth Across Income Groups from 2010–2020 (nar.realtor)

Charitable institutions are taking advantage of this niche. The Liebenau charitable foundation, for example, offers a model with its real estate annuity in which the house or apartment becomes part of the foundation's assets, and the capital thus benefits charitable causes.[16]

Conclusion

The child-poor baby-boomers are now retiring. Demand for instruments to consume capital will therefore increase.

In Germany, models for using up capital saved during working life to supplement state or company pension commitments in retirement are underdeveloped. This is probably due to the illusion, long fostered by politicians, that pension promises could maintain the standard of living in old age (catchphrase: "Pensions are safe."). In the meantime, this illusion has been shattered. Increasingly, pension promises only secure the subsistence level. By contrast, the generation of baby boomers born between 1955 and 1965, who had few children, built up considerable private assets. Those born in January 1955 will (probably) have already retired in September 2020. Those born in January 1964, and thus part of Germany's cohort with the highest birth rate, will be able to retire by 2031 at the latest. It follows that in the next five to ten years there will likely be a sharp rise in demand for instruments to consume the capital saved in retirement.

[16] Immobilienverrentung durch Zustifterrente der Stiftung Liebenau (stiftung-liebenau.de)

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