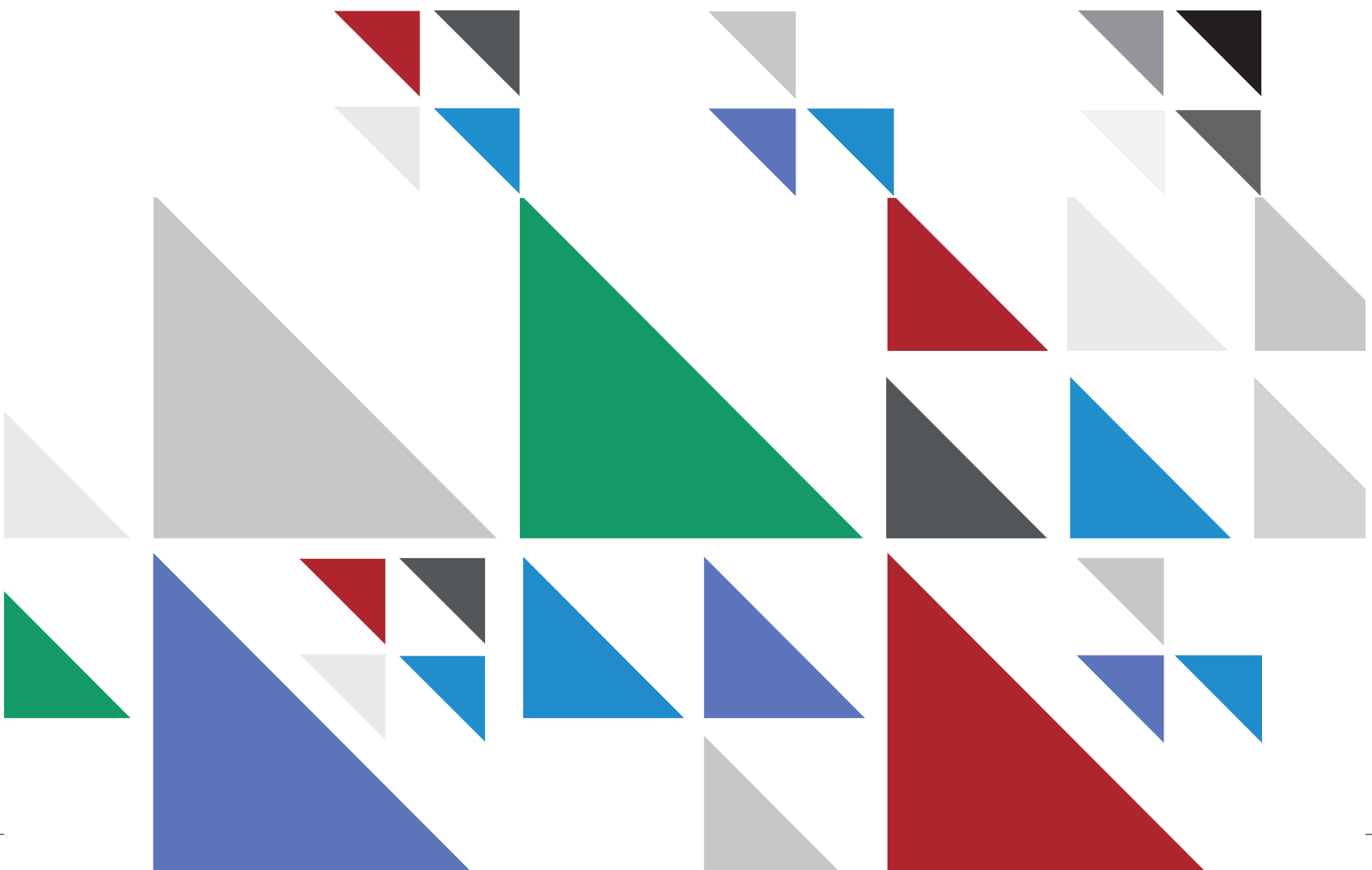


POSITION PAPER ON THE REFORM OF STATE-SUBSIDISED PENSION PROVISIONS IN GERMANY

Martin Hermann, CFA, Peter Nies, CFA

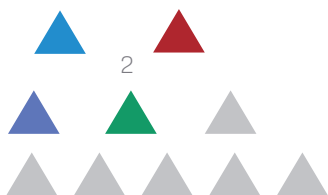
New edition | August 2023



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For better readability, the language forms male, female, and diverse are not used simultaneously. All personal designations apply equally to all genders.

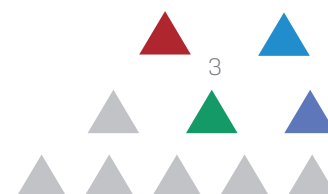
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Contents

Foreword	4
Executive Summary	6
Our Reform Proposals	8
1. The Existing Pension System in Germany: Advantages and Deficits	10
1.1 Pillar I: Statutory Pension Insurance	10
1.2 Pillar II: Occupational Pension	11
1.3 Pillar III: Private Pension Plans	12
1.3.1 Riester Pension	12
1.3.2 Rürup Pension	13
2. Analysis of International Pension Models	15
3. Reform Proposals for State-Subsidised Pension Provisions in Germany	17
3.1 Integration of Occupational Pensions and Subsidised Private Pension Plans	17
3.2 Two Models for Different Market Segments	17
3.2.1 Central Platform Modelled on the Swedish ITP/Collectum	18
3.2.2 Pension Model Based on the Canadian RRSP for Self-Directed Investment Selection	21
3.3 Achieving a Lean Cost Structure for Administrative and Selling Expenses	22
3.4 Expansion of the Circle of Participants	22
3.5 Increasing in Participation	22
3.6 Making Subsidies and Tax Treatment More Flexible	23
3.7 Increase in Pensions Through the Abolition of Guarantees in the Accumulation Phase	24
3.8 Payout Phase and an Additional Increase in Pensions Through Coverage of Longevity Without Guarantees in the Payout Phase	26
4. Conclusion	28
List of Sources	29



Foreword

CFA Society Germany is the leading and largest professional association for professional investors and investment managers in Germany. With nearly 2,900 members, the association represents a cross-section of the German investment industry and is also part of CFA Institute, the world's leading professional association for the investment industry. CFA Institute has individual members in more than 160 countries. Since it was founded in 2000, CFA Society Germany and its members have been committed to establishing the highest professional and ethical standards in the investment industry, to ensuring effective regulation, and to promoting high-quality financial education and training opportunities to strengthen Germany as a financial centre.

Regular studies and surveys among association members, as well as in the investment industry, provide us with valuable insight into the current challenges, opportunities, and risks in the financial sector. In a 2017 survey of representatives of the German investment, financial services, and fintech industries, university teaching (finance and economics), financial market supervision, and other related fields, the need for further development of state-pension provision had already been given top priority.

In the fall of 2017, a working group of volunteer members of the CFA Society Germany met for the first time to develop possible alternatives and reform proposals for the German state-subsidised pension system. All participants were experienced professionals in wealth and capital investment, both in the area of private and institutional investments, and each was certified as a Chartered Financial Analyst (CFA®).

The result was the "Position Paper on the Reform of State-supported Pension Provisions in Germany," which was published in June 2019.

With this paper, two of these same authors offer an updated and shortened version of the original paper with targeted suggestions for solving the main problems of occupational and private pension provisions in Germany. To this end, they have looked abroad, among other things, to draw inspiration for possible design alternatives from international pension systems. On this basis, core recommendations for the reform and further development of the pension system in Germany were developed to increase access, transparency, and acceptance—especially of occupational and private pension schemes—among the general population.

CFA Society Germany would like to offer this position paper as a contribution to the discussion, to enter into an exchange on the reform and expansion of the German pension system and thus to actively shape the long-term prosperity and future viability of Germany as an economic centre.



On behalf of CFA Society Germany, I would like to express my special thanks to our two authors, whose commitment, research, intensive professional dialogue, and expertise made this paper possible.



Susan Spinner, CFA

CEO, CFA Society Germany e. V.



Executive Summary

In the longer term, demographic developments in Germany will lead to a further reduction in the level of pensions in the statutory pension insurance system, albeit indirectly through an increase in the retirement age. For this reason, to compensate for these developments, state-subsidised occupational and private pension plans are needed more than ever.

Our reform proposals should be used to achieve a significant increase in pension levels and to massively increase the current employee participation of only 50%. This would help to preserve social peace and counteract the growing need for state social support as a result of increasing poverty among the elderly in the long term.

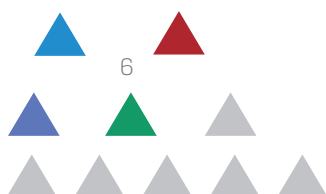
According to our calculations, our proposed pension model would have enabled pensioners to achieve a significantly better performance and therefore a considerably higher pension than a direct life insurance policy or a Riester pension over the past decades—assuming the same contributions and assuming a global investment in equities (see Exhibits 2 and 3). The use of annuity pools in the payout phase, which we have also proposed, could also significantly increase pensions.

In addition to improvements in cost and return on investment, the other benefits would include

- opening pensions for all segments of the population;
- making the subsidised contributions flexible; and
- ensuring portability in case of a change of employer or provider.

These improvements would make the pension system much more flexible, transparent, timely, and equitable.

In addition to the benefits for those making provisions, we also recognise significant improvements for all stakeholders over the status quo. The higher consideration of more profitable investments, such as equities in particular, supported by the financial education content on the government platform, would increase the acceptance of equities among the population. The greater level of acceptance and application of long-term financial investments compared with the popular savings account, would strengthen Germany significantly as a financial centre and would allow financial providers a greater market potential.



We also see important economic reasons for changing the pension model. Germany has been a major exporter of capital for many years because of its current account surpluses. However, this capital has thus far been invested in an extremely unprofitable manner compared with other countries.¹ The expansion of international equity investment in state-subsidised pension schemes should sustainably increase the profitability of German foreign assets. In the following points, we present the key reform proposals.



Our Reform Proposals

1. Integration of occupational pensions and subsidised private pension plans

We propose to combine the occupational and subsidised private pension plans. The historically evolved separation is becoming less and less appropriate for today's working environment. Instead, two models for two market segments should be offered.

2. Two models for different market segments

We recommend the introduction of one model for the standardised retirement provision and one model for the self-directed retirement provision. Both models will lead to a massive reduction in administrative and distribution costs and thus to a significant increase in pension returns, compared with the existing models.

2.1. *A central platform for standardised retirement provisions*

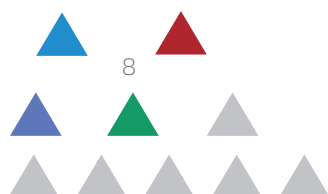
We recommend the establishment of a state platform for standardised pension provision, which providers (life insurers/pension funds) select through a tendering process. Because of the lean cost structure, there are no distribution costs and very low administrative costs. This cost advantage alone would have dramatic benefits for the pension level (see Exhibit 2). This would mirror the Swedish ITP/Collectum model, which has been operating successfully for decades.

2.2. *A pension model for self-directed investment selection*

We also propose the introduction of a model for those pensioners who wish to manage their own investments. Such pensioners would open an account and a custody account with an approved direct bank and select the investments themselves. This would mirror the Canadian RRSP/RRIF model.

3. Expansion of the group of eligible pensioners

The old-age pension system must be accessible to all sections of the population, including employees, mini-jobbers, self-employed, civil servants, and non-employed spouses (i.e., homemakers). Payments should be made by the participants as well as their employers. This model would be suitable for very small businesses and employers and would be easy to handle.



4. Increase participation

Employers should automatically register their employees for the occupational pension (bAV) when they join the company and pay part of their salary as a contribution, unless the employee specifically rejects this option. This mirrors the British system of automatic enrolment/opt-out provision.

5. Flexibility of subsidy and tax treatment

Because employment biographies are becoming increasingly dynamic as a result of changes in the labour market, it should be made possible to save more in the "good years," so that later income gaps or declines do not lead to permanent disadvantages in terms of the pension level. Much higher annual tax allowances are required, which can be carried over several years if they are not utilised. This reflects the British Lifetime Allowance system.

6. Increase in pensions through abolition of guarantees in the accumulation phase

Especially in the low-interest phase, interest and contribution guarantees have led to very low-yielding investment returns. These guarantees should be removed to be able to invest in more profitable asset classes, such as equities, and thus increase pension returns.

7. Additional increase in pensions through longevity coverage without guarantees in the payout phase

For the payout phase, "annuity pools" should be offered through the pension platform. These pools should provide an annuity for life, but still allow an investment in profitable asset classes during the payout phase, given that the amount of the annuity is not guaranteed with this model.



1. The Existing Pension System in Germany: Advantages and Deficits

1.1 Pillar I: Statutory Pension Insurance

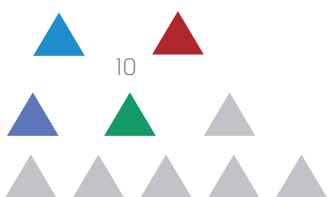
In Germany, the first and strongest pillar of the pension system includes the standard systems in which members are compulsorily insured. In addition to the GRV (*Gesetzliche Rentenversicherung*) for all employees subject to social insurance contributions, the civil servants' pension scheme and special schemes for certain groups of self-employed persons also are offered.

The GRV has a long tradition in Germany and is based on the pay-as-you-go system. The assets that had been accumulated under the funded system were largely lost in the years 1914–1948. In 1969, therefore, the transition was made to a pure pay-as-you-go system, as it still exists today. Current contributors acquire an entitlement to their future pension payment. The provision agreement, which is passed on from generation to generation is also referred to as the "intergenerational contract."

This intergenerational contract was introduced at the time of the baby boomers. Meanwhile, the weight of retirees to contributors has increased substantially despite sustained net immigration. This trend has been slowed in the past 20 years by the increasing employment of women and the abolition of many early retirement schemes, as well as by the active period of most baby boomers. It will pick up speed again throughout the 2020s as baby boomers increasingly retire. The Deutsche Bundesbank has calculated that if the current level of provision (pensions relative to the last salary) were to be continued and the contribution rate maintained, the required federal funds would increase from 4% to 11% of GDP by 2070.² If the level of provision were to be maintained and the required federal funds were to increase "only" from 4% to 5% by 2070, the contribution rate would increase from 20% to 30%. If, however, the contribution rate and the required federal subsidy were to remain stable, the pension level after 45 years of contributions would drop from the current 48% of average insurable employee pay to 30% by 2070.

Conclusion

Because of demographic developments, a further reduction in the pension level in the statutory pension insurance system is likely, albeit possibly by increasing the retirement age. This means that implementation of the second and third pillars will be increasingly required as a necessary compensation for this reduction.



1.2 Pillar II: Occupational Pension

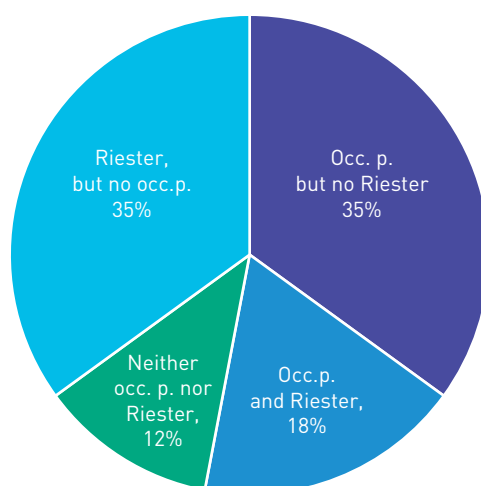
The occupational form of the pension scheme (bAV) has existed longer than the GRV and, unlike the latter, is not financed on a pay-as-you-go basis. Instead, it predominantly is financed on a funded basis and is implemented by the employer. It organises the premium payments and is the contractual partner of the selected provider or financial services provider. The precise rules governing the occupational pension are negotiated by the collective bargaining partners and, if available, are regulated in the collective agreement. Possible ways of implementing the occupational pension are as follows: direct insurance, pension scheme or pension fund, direct pension or pension commitment, or a provident fund. Today, every employee is, in principle, entitled to an occupational pension. Therefore, the employer must use a certain amount of the gross salary as a contribution to an occupational pension (deferred compensation) if this is desired and the collective agreement does not have any provisions to the contrary. If the employer saves social security contributions through deferred compensation, it is also obliged to contribute at least 15% of the amount paid by the employee into the occupational pension. Since passage of the Company Pension Strengthening Act (BRSG), employers are exempt from guaranteeing a minimum pension amount within the occupational pension. As a result, pension products without guarantees are eligible for occupational pensions, which allows for a much higher proportion of higher-yielding asset classes, such as equities, than was previously the case. To date, however, this has hardly been used because few collective bargaining partners have taken up this option.

The company pension is supported by the state through various measures: Contributions paid into a direct insurance policy, pension scheme, or pension fund during a person's working life are exempt from income tax up to a maximum of 8% of the contribution assessment ceiling of the general pension insurance (BBGRV) and also are exempt from social security contributions up to a limit of 4%. In the case of the direct commitment and the provident fund, the employer's expenses are not regarded as wages. Therefore, they are also exempt from tax and social security contributions to an unlimited extent during the accumulation phase. The prerequisite for this exemption is that it is not deferred compensation but rather benefits provided by the employer.

If the contributions to the occupational pension plan were tax exempt during the accumulation phase, the benefits are fully subject to income tax in the payout phase (so-called deferred taxation). Furthermore, the full contributions (i.e., employee plus employer share) to statutory health and long-term care insurance must be paid during the payout phase, if applicable.



EXHIBIT 1 LOW PARTICIPATION IN THE SECOND AND THIRD PILLARS OF OLD-AGE PROVISION PARTICIPATION AS PERCENT OF EMPLOYEES SUBJECT TO SOCIAL SECURITY CONTRIBUTIONS



Data source: Infas, 2019.³

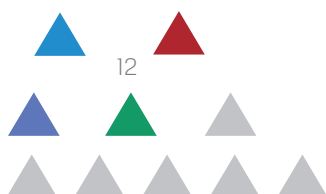
Conclusion

For many employees, the occupational pension is an important supplement to the statutory pension. However, participation remains low, especially in the small and midsize enterprise (SME) sector, where it is only around 30%. Self-employed and homemakers and mini-jobbers are largely excluded, and portability when changing employers is often limited. Interest rate and pension guarantees force providers to invest in the less profitable fixed-income segment. Almost one-third of all pension funds are under special observation by the German Federal Financial Supervisory Authority.

1.3 Pillar III: Private Pension Plans

1.3.1 Riester Pension

The Riester pension (pAV) was introduced in 2001 as part of the reform of the GRV to compensate for the reduction in the pension level. Riester contracts receive state support in the form of a combination of subsidies (Riester allowances) and tax benefits (special expenses deduction) if they have been certified accordingly. To receive the full subsidy, pensioners must pay a minimum contribution of 4% of their pensionable income of the



previous year (less allowances) into the contract. The following people are eligible for subsidies:

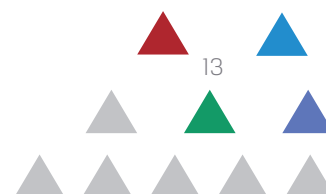
- Employees, trainees, people performing federal voluntary service, and students with a mini-job subject to pension insurance contributions
- Compulsorily insured self-employed
- Civil servants, soldiers, and judges
- Recipients of unemployment benefits (ALG I or II) or sick pay
- People with disabilities, who have been incapacitated, and who have a service-related disability

If these requirements are met, the state pays the Riester allowance. Since 2018, it has amounted to €175 per year. The contributions to the Riester contract, including allowances, can be deducted from income tax as special expenses in the tax return up to a maximum of €2,100 per year. An important criterion for certification is the payment conditions. A Riester pension generally must be paid out as a lifelong pension. Only 30% of the capital saved may be withdrawn one time at the start of the pension. The principle of deferred taxation also applies to the Riester pension: all subsequent pension payments are taxable.

1.3.2 Rürup Pension

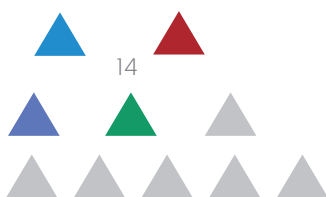
Another form of state-subsidised private pension is the Rürup pension, which was introduced by the legislature in 2005 (also called Basis-Rente). The Rürup pension makes the most sense for the self-employed and higher-earning employees. Here, too, the state supports participants in the savings phase with tax advantages. In 2022, up to 94% of payments into the Rürup pension can be offset as special expenses in the tax return, up to a maximum of €24,101 (this amount also includes the employer and employee contributions to the GRV). Payment is made exclusively in the form of a lifelong pension.

There are no contingencies to make one-off payments—apart from the 30% payment at the start of the pension as in the case of the Riester pension—or terminate the pension prematurely. In addition, the entitlements cannot be inherited or transferred unless it is individually agreed that the saved amount will be paid out as a pension to the spouse in the event of death. However, this "refund of contributions" reduces the individual's pension entitlement.



Conclusion

The deficits of the Riester pension and the basic pension have become increasingly apparent in recent years: The number of Riester contracts has stagnated at 16 million since 2013, of which one-fifth is estimated to be dormant. Rürup pension contracts stand at 2.4 million and are growing only marginally. The system of Riester allowances is considered to be complicated and bureaucratic. Both administrative and sales costs for Riester and Rürup contracts are very high; in the case of Riester pensions, they sometimes exceed the allowances (administrative costs of approximately 1.5% p.a. of saved assets and acquisition commissions of approximately 4% of the premium sum). Because of the capital guarantee, Riester and Rürup pensions are predominantly invested in only moderately profitable fixed-interest investments; equity investments are usually low. The move of a participant from employment to self-employment would require a change in the system from Riester to Rürup, which is not provided for.



2 Analysis of International Pension Models

In search of models for pension reform in Germany, we examined second- and third-pillar pension models in 11 markets: **Australia, Bulgaria, Canada, France, Great Britain, Hong Kong SAR, Netherlands, Sweden, Switzerland, Singapore, and the United States.**

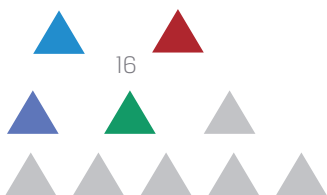
The research was supplemented by interviews with members of local CFA Societies (professional investors, investment managers, and investment advisers) on the strengths and weaknesses of the respective national pension systems.

Findings from the analysis of pension models in 11 markets

- The majority of pensioners prefer a standardised model.
- Self-direction of investment is preferred by a part of the pension beneficiaries and enables the selection of assets according to investor preferences.
- The quality of advice provided by commission-based intermediaries is mostly rated low.
- The majority of the population has major deficits in financial education and long-term private financial planning.
- Administrative and distribution costs are far too high in most countries.
- Interest rates and annuity guarantees lead to low-return investments, although the long investment horizon would allow for more profitable investments.
- The automatic enrolment of new employees in the company pension plan has led to a significant increase in participation.
- Making tax incentives more flexible allows for better provisioning in the event of income fluctuations.
- The option of an early capital payment instead of an annuity has not proven to be successful.
- In most funded pension schemes, longevity coverage is inadequate. Annuity pools offer a solution to this problem, as their more profitable investment in the payout phase enables a higher annuity for life than annuity guarantee products.



The presentation of the analysed pension models as well as the findings from the analysis and the surveys can be found in detail in our first edition (see chapter 3, Analysis of International Pension Models; and chapter 5, Appendix).



3. Reform Proposals for State-Subsidised Old-Age Provision in Germany

3.1 Integration of Occupational Pensions and Subsidised Private Pension Plans

Our analysis of foreign pension models showed that the separation between occupational pensions and private pension plans is far less strict in many countries than it is in Germany. A number of models, such as investment retirement accounts (IRAs) in the United States, registered retirement savings plans (RRSPs) in Canada, the supplementary retirement scheme (SRS) in Singapore, the Mandatory Provident Fund in Hong Kong SAR, and superannuation in Australia (see the descriptions in the appendix of the first edition), are applicable as occupational pensions or as private pension plans. This suggests that the somewhat strict separation between occupational pensions and private pension plans in Germany is rather artificial and historically grown and actually is not necessary. In addition, working life is becoming increasingly dynamic because of employment with multiple employers, shifts to self-employment and perhaps back to working for an employer, parental leave, care leave, sabbaticals, and more flexible retirement. In addition, self-employed and low-income earners have thus far been largely excluded from occupational pensions. Against this backdrop, **the separation between occupational pensions and private pension plans should be abolished.**

3.2 Two Models for Different Market Segments

In section 2, we described that in a number of countries under review, two market segments were observed: The majority, who prefer a limited selection of standard solutions, and a significant minority, who prefer self-management of their pension investments. We address this realisation by introducing two models simultaneously:

- A state-owned central platform for standardised products of life insurers and pension funds
- A model for self-directed investment through individual securities accounts at direct banks



3.2.1 Central Platform Modelled on the Swedish ITP/Collectum

The ITP/Collectum model

In Sweden, a total of four collective agreements exist between employees and employers for different sectors (i.e., white-collar workers, blue-collar workers, municipal employees, and state employees). Each sector has a separate occupational pension system, although they are similar in their outline. We have chosen the ITP/Collectum model, the system for private sector employees, as an example. The employers' associations and trade unions jointly operate the Collectum platform for this occupational group. Providers are selected through a tendering process, framework agreements are concluded with them, their products are made available to the pensioners on the platform for selection and the contributions collected.

By bundling purchases at Collectum, the structure remains cost-efficient. Collectum receives 1% of collected premiums, and providers receive administrative fees of approximately 0.15–0.40% of pension assets under management per year. The total cost is approximately 0.20–0.45% per year for an assumed contract term of 20 years.⁴

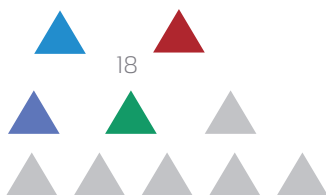
In the event of a change of employer, pensioners can take their total credit balance with them. They also have the option to change insurers but only for a processing fee.

The contributions are tax-deductible for employers and tax-free for employees. The investment income retained in the pension assets is taxed at a flat rate of 15%. Pensions are taxable when they are paid out.

We propose the establishment of a state-operated central platform for the standardised investment selection of occupational pensions and private pension plans. The platform could be installed in the legal form of an institution under public law with the federal government as the sponsor. It should operate on a cost basis and act in the best interests of individual contributors.

The tasks of the central platform would be as follows:

- Selection of product providers, such as life insurers and pension funds, and of products through a tender procedure according to defined quality and cost criteria
- Internet-based presentation of product providers and products, including transparent products and cost comparisons
- Collection of contributions and forwarding them to the providers
- Support for flexible changes in employers and providers for pension plan members



- Provision of financial planning tools for contributors
- Provision of comprehensive financial education content

The platform would be open to all population groups, including employees, self-employed workers, and homemakers, and would include the collection of contributions from employers, employees, or the pensioners. It thus would serve both occupational and private pension plans.

Providers (life insurers and pension funds) have the following responsibilities:

- Asset allocation and investment management for participants in compliance with regulatory requirements
- Comprehensive and transparent reporting for participants
- Payment of pension benefits
- Offer of products for a lifelong annuity, starting at retirement and optionally also at a later date
- Support for a free change of employer as well as an easy and cost-effective change to competitors
- Marketing and sales to a minor extent, as selection and distribution would be carried out by the central platform

Following the example of the Swedish Collectum model, the platform could finance itself in the long run by charging a fee of 1% of the contributions paid in. Seed-funding from the government for the platform in the start-up and development phase would be required.

We advocate a comprehensive educational offering. This offering should be integrated on an internet-based central platform. In addition, the internet platform should offer tools and information for private financial planning.

For fee-based advisers, certification could be introduced regarding subsidised pension plans to set new standards for the quality of advice in fee-based advising and to improve acceptance among the population. For low-income participants, "checks" for basic counselling could be distributed from government agencies or employers.

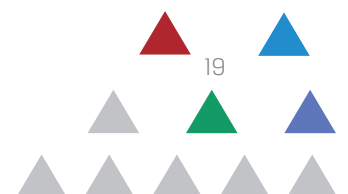
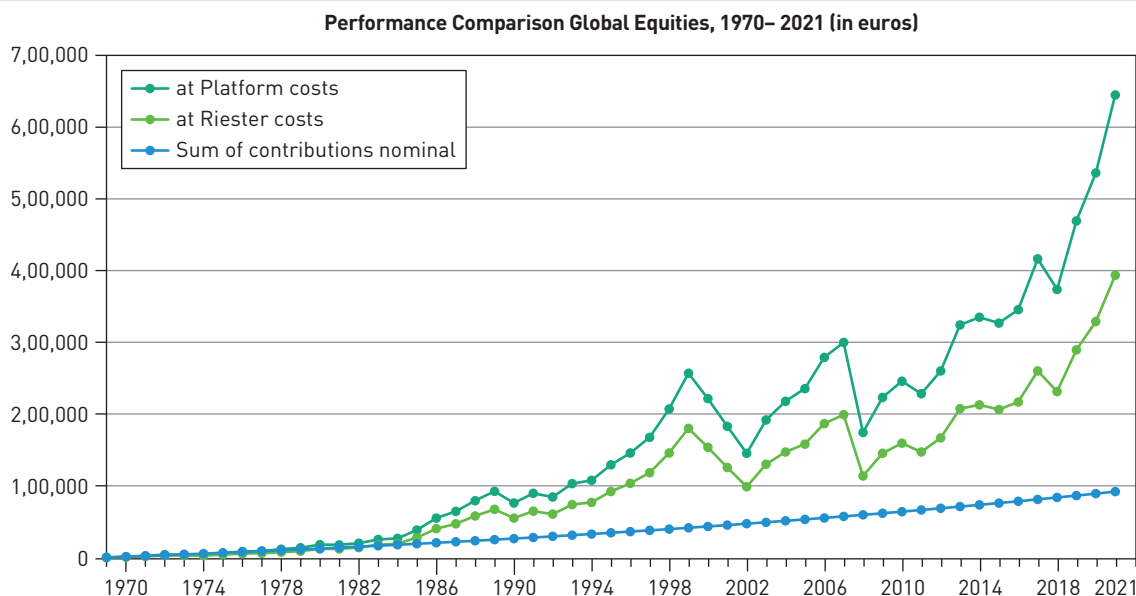


EXHIBIT 2 INCREASING PENSIONS BY REDUCING ADMINISTRATIVE AND DISTRIBUTION COSTS

This chart highlights the differences in performance between Riester pensions and the Swedish ITP/Collectum model *only* due to the different cost rates.

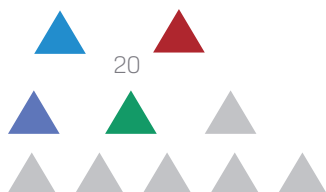


Assumptions: Savings contribution starting in 1970 with €1,000 annually, increasing by 2% each year. Investment in the MSCI World stock index. Due to the guarantee, the actual Riester value development has been significantly lower than shown above.

- Riester costs curve: Calculated using standard cost rates for Riester pensions (administration costs 1.5% of assets, acquisition costs 4% of total premiums).
- Platform costs curve: Calculated with the cost of the proposed platform, with the cost rates of the ITP Collectum model (administrative costs 0.4% of assets, collection commission 1% of contributions).
- Total contributions nominal curve (for comparison).
- Annual fee €1,000, 2% annually increasing.
- Due to the guarantee, the actual Riester value development is significantly lower.

Conclusion

The cost differences between the Riester pension and our proposed platform would lead, because of the compound interest effect, to a dramatic difference in performance and thus in the potential pension available in the long term.



3.2.2 Pension Model Based on the Canadian RRSP for Self-Directed Investment Selection

The Registered Retirement Savings Plan/Registered Retirement Income Fund model

The **Registered Retirement Savings Plan (RRSP)** combines the occupational pension and private pension plan in Canada. It is voluntary and exists in addition to the first pillar (Old Age Security [OAS]) and the mandatory second pillar (Canada Pension Plan [CPP]). Contributions can be made by the employer only, by the employees only, or by both.

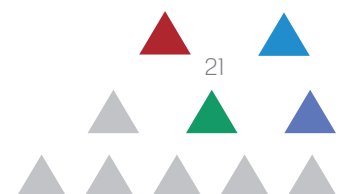
Each RRSP contributor independently opens an account and a securities account at a bank approved for RRSPs and independently purchases securities through the bank. This contribution is also required for group RRSPs used for the occupational pension, but in this case, it is made only at the bank suggested by the employer. A wide range of possibilities is available for investment.

Upon reaching retirement age, the RRSP is converted into a payout plan on a tax-neutral basis, the **Registered Retirement Income Fund (RRIF)**. The money in an RRIF is invested in a similar way to the RRSP. The payouts must be made in accordance with a tax-defined table, which sets the minimum payouts amounts mortality tables. Alternatively, products are offered for a guaranteed annuity for life.

Contributions to the RRSP are tax deductible. Pensions from the RRIF are taxable when paid out. Withholding tax is payable on early withdrawals.

Parallel to the state platform for standardised old-age provision proposed in section 3.2.1, **we recommend establishing a model for self-determined investment.** This model is based on the Canadian RRSP/RRIF model. In this context, pensioners who prefer a self-determined investment should be given the option of opening an account and a securities account for the occupational pension or the private pension plans at a bank approved for this purpose. These accounts may only be used exclusively for this form of pension. Suitable providers would be direct banks, for example. These banks should offer pensioners a wide range of investment products approved for this purpose and monitor any early withdrawals that would be subject to a special withholding tax.

The contribution payments should be tax deductible, analogous to the aforementioned standardised form of investment. Upon retirement, the product would have to be converted to a tax-neutral annuity product, which would also consist of an account and a securities account and from which an annual or monthly percentage of the current pension assets would be withdrawn.



3.3 Achieving a Lean Cost Structure for Administrative and Distribution Costs

Excessive and non-transparent cost structures are often criticised both for Riester and Rürup pensions, as highlighted in our survey of international CFA Societies when compared with their respective foreign models. The two models we proposed in sections 3.2.1. and 3.2.2. enable a lean cost structure that is second to none. We advocate open competition among providers.

By introducing a central platform (see section 3.2.1.), competition would arise both in the tender phase and among the selected suppliers, allowing for direct comparison. A distinction must be made between distribution and administrative expenses.

Currently, distribution costs are particularly burdensome in private pension plans because they usually account for a large proportion of the premiums made during the first years, precisely the contribution years that could benefit the longest from the compound interest effect.

In terms of administrative costs, competition, which could be forced by a central platform, should have a positive effect, because products with excessively high administrative costs would not be selected through the tender process. In the case of a self-directed investment model, based on Canada's RRSP/RRIF, direct banks, which are generally known to have relatively low costs, should offer favourable terms in competition with each other.

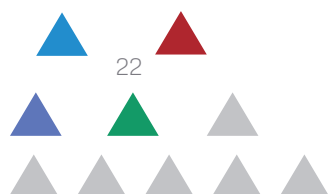
3.4 Expansion of the Circle of Eligible Participants

Germany has approximately 4 million self-employed workers and 1.7 million civil servants. The vast majority of these employees do not have practical access to occupational pensions, the second pillar of old-age provision. Therefore, it makes sense to extend occupational pensions to include civil servants and, in particular, the self-employed.

We are in favour of extending state-subsidised pensions to all employed persons, including civil servants and the self-employed, as well as to homemakers. The system should be available not only for occupational pensions but also for private pensions, so that contributors can conclude a contract with a pension provider without the involvement of their employer. This expansion of benefits is especially important for people who do not have an employer or an occupational pension plan, such as the self-employed, civil servants, and homemakers.

3.5 Increase in Participation

In Germany, more than 45 million people were employed in 2021. Only one in two employees in the German private sector is currently entitled to an occupational pension. Particularly



among employees in small and midsize enterprises (SMEs), both the prevalence and the level of pension entitlements are far lower than on average.

In 2008, **automatic enrolment** was introduced in the United Kingdom. This means that employers generally include every employee in the occupational pension and deduct their contributions directly from their salary. Employees can object within a short period of time by "opting out" (i.e., an active objection if the employee demonstrably made other provisions) and thus choose not to participate. Since the introduction of automatic enrolment, participation in occupational pensions has increased massively.

We propose the introduction of automatic enrolment, at least for occupational pensions. With the help of an opt-out provision, extensive coverage would be achieved.

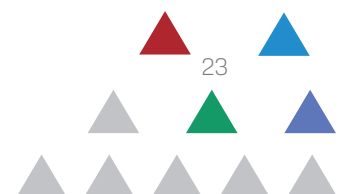
3.6 Making Subsidies and Tax Treatment More Flexible

The standard international tax treatment of occupational and private pension plan models is as follows:

- Employer contributions are tax-deductible for employers and tax-free for employees (no "non-cash benefit").
- Employee contributions are tax deductible.
- Investment income accruing and retained in pension assets is tax-exempt or tax-privileged income (e.g., flat tax of 15% in Sweden).
- Pensions are taxable when paid out.

This tax treatment of pensions, in which the contribution and capital gains are tax-privileged income and only the pension is fully taxed, is also known as Exempt-Exempt-Taxed (EET) and its incentive structure has been proven internationally.

The tax rules in the United Kingdom are unusually flexible and particularly forward-looking. Contributors can make tax-deductible contributions up to the amount of their total annual salary, up to a maximum of £40,000 per year. Unused tax allowances can be carried forward for up to three years. However, a lifetime allowance (LTA) applies. If a contributor has accumulated pension fund assets in excess of £1.07 million, additional taxation is levied on the excess part of the pension paid out. Considering today's more dynamic employment biographies, this **more flexible tax treatment of contributions** is becoming increasingly important. Contributors should have the opportunity to make higher contributions in "good years" so that a later gap in contributions does not necessarily cause permanent damage to their pension entitlement.



Although the proportion of non-employed women has decreased significantly in Germany in recent decades, about half of all employed women work part-time and therefore acquire disproportionately low pension entitlements. In the mini-job sector, they often do not have any entitlements. Part-time employees should be able to make disproportionately high tax-subsidised contributions relative to their salary. These contributions could be financed by their spouses or partners, for example.

In Germany, we are in favour of tax deductibility of contributions and tax benefits for reinvested investment income from pension assets. Taxation should take place only in the payout phase. The amount of annual tax-deductible contributions should be increased substantially, as in the United Kingdom. In addition, we consider the possibility of "carrying forward" unused tax allowances over a period of several years. Beyond the existing regulation in the so-called *Betriebsrentenstärkungsgesetz*, in the case of continued employment, this should also apply to active contractual relationships.

A maximum limit on pension assets (analogous to the British LTA) should limit the subsidised volume. If this amount is exceeded, an additional tax would have to be levied on the pension payout. For low-income earners, a subsidy from the state would be desirable so that a minimum contribution flows into the pension plan.

Furthermore, we are opposed to taking pension contributions into account for health insurance and pension insurance contributions (as is currently the case for deferred compensation) to avoid the obligation to refund health insurance contributions and the reduction of statutory pension insurance entitlements.

3.7 Increase in Pensions Through the Abolition of Guarantees in the Accumulation Phase

The majority of pension products in Germany feature interest rates, annuity, or premium guarantees, such as the guaranteed interest rate for traditional life insurance policies and the premium guarantee for Riester and Rürup policies. The basic idea is to provide investment security to ensure a minimum payout for beneficiaries. The guarantee of a minimum interest rate, however, significantly reduces the achievable investment return. The low-interest phase has massively exacerbated this problem. Therefore, the disadvantages of interest and premium guarantees now clearly outweigh the disadvantages. Because of the long-term investment periods, it can be assumed that the risks are largely balanced over time (i.e., time diversification).

In line with the lifecycle concept, the opportunity to invest in profitable assets, such as equities, should be seized, in particular in the savings phase. The waiver of guarantees also enables life insurers to achieve significantly lower equity backing and solvency. These savings make the product cheaper for the contributors.

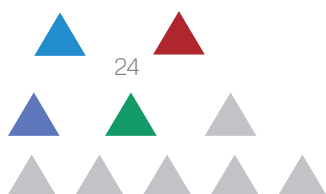
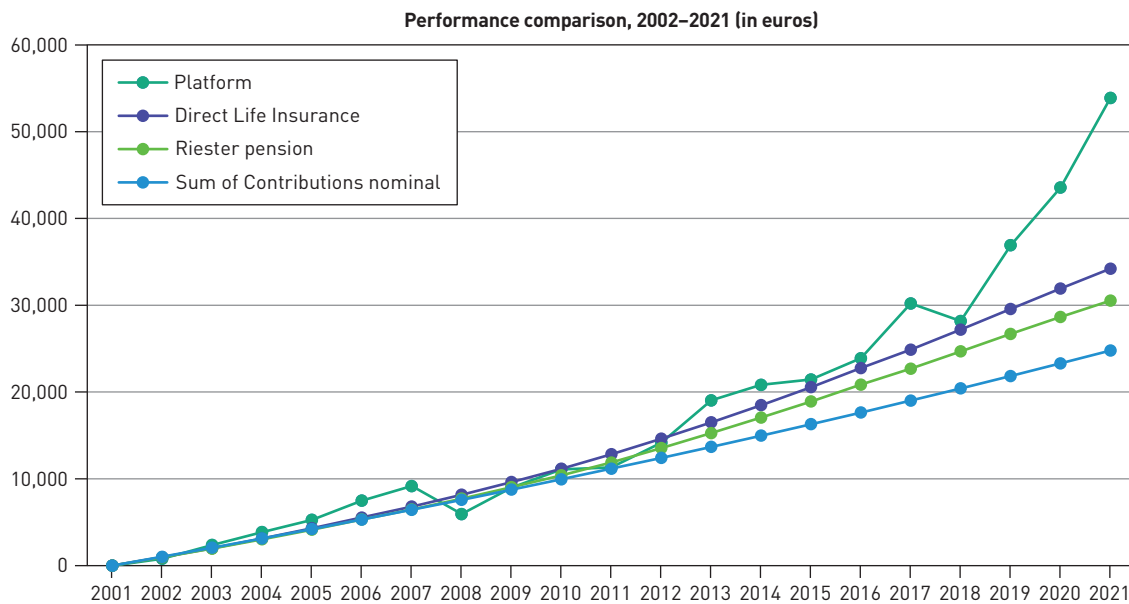


EXHIBIT 3 PENSION INCREASE THROUGH COST REDUCTION AND WAIVER OF GUARANTEE



We fundamentally oppose the use of guarantees and, therefore, call on providers to explain to investors how they work and to discuss the advantages and disadvantages of guarantees.

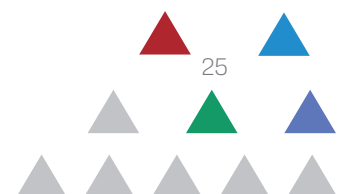
Exhibit 3 highlights the differences in the performance of Riester pensions, direct life insurance, and the proposed platform model without guarantees. The differences in performance are mainly due to differences in costs and guarantees.

Exhibit 3 also shows that even by taking the high-net interest rates of the years 2002–2021 for Riester pensions and direct life insurance policies, which are unlikely to be achieved in the foreseeable future, as a basis, a pure equity investment without a guarantee and with the lean cost structure of our proposed platform would have achieved much better results, despite the financial crisis and the COVID-19 pandemic.

Assumptions: The Savings contribution starts at €1,000 per year in 2002 (introduction of the Riester pension) and increases by 2% per year.

The performance is shown for the following models in historical comparison:

- Platform curve: An equity investment in the MSCI World Equity Index with the costs of the proposed platform based on the ITP/Collectum model.
- Direct life insurance curve: A direct life insurance policy with the performance of the net interest of the German life insurers during this period (with the usual cost rates of a direct life insurance policy; acquisition costs at 1% of the premium sum; and administration costs at 5% of the premium paid).



- Riester pension curve: A Riester pension as a life insurance policy with the performance of the net return of the German life insurers in this period with the usual cost rates of a Riester pension (administrative costs at 1.5% of assets, and sales commission at 4% of the premium sum).
- Total contributions nominal curve (for comparison): Total of all premiums in nominal terms excluding performance and cost charges.
- The government subsidy is not included in this chart.

3.8 Payout Phase and an Additional Increase in Pensions Through Coverage of Longevity Without Guarantees in the Payout Phase

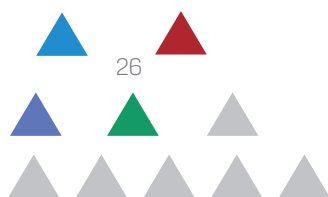
We advocate an annuity payment as the only payout option. Examples from Singapore and Sweden have shown that a one-time payment can lead to subsequent financial gaps in the pension. We are in favour of covering longevity risk in old age. A financial gap in old age as a result of longevity would represent too high a risk for pensioners.

The coverage of longevity risk can be efficiently implemented only in the collective. **However, the existing models of longevity protection are either state intergenerational contracts (like the GRV in Germany) or, if privately offered, involve expensive interest or pension guarantees. Therefore, it is desirable to find a model that hedges longevity risk without guarantees and allows investment in higher-yielding investments, such as equities, during the payout phase.**

Annuity Pools (Tontines/Dynamic Pension Pools)

Annuity pools allow the offer of an annuity for life while investing the pension assets in profitable investments, because the amount of the annuity is not guaranteed.

Annuity pools, also called tontines or dynamic pension pools, provide a lifetime annuity without guarantees. Therefore, they are an attractive model for dealing with the individual longevity risk of pensioners. Although the individual longevity risk is collectivised (i.e., diversified away and thus insured), the investment risk and the systematic longevity risk (i.e., the life expectancy in the entire collective is higher than calculated) are fully borne by the participating pensioners. This eliminates the need for guarantees, allowing for more profitable investments compared to annuity guarantees. In addition, the providers require less equity capital since they do not provide guarantees. These advantages allow for significantly higher pensions, which are, however, subject to annual fluctuations. In practice, these fluctuations are reduced by smoothing mechanisms of the models.



In Germany, the Insurance Supervision Act (*Versicherungsaufsichtsgesetz, VAG*) provides for "tontine deals" as a branch of insurance (Annex 1 No. 22 to the ISA). However, this model has not yet gained any significance in practice in Germany. Internationally, it has been implemented by only a few institutions, although in some cases for decades.

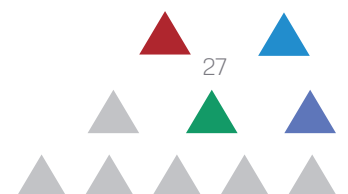
The Teachers Insurance and Annuity Association of America (TIAA), a US pension fund, manages \$1.3 trillion in assets for the retirement of 3.9 million teachers. This institution has been operating the College Retirement Equities Fund (CREF) successfully since 1952 according to the principle of the annuity pool. During the payout phase, the accumulated assets are primarily invested in equities. The pension amount is adjusted annually and can also fluctuate considerably—depending on the capital market. The establishment of CREF in 1952 aimed to protect policyholders against inflation risks better than investments in nominal assets, such as bonds.⁵

Since 1998, the idea of annuity pools has also been implemented in the Swedish premium pension, the funded part of the state pension systems. Assumptions are made here about achievable investment income and the average life expectancy of the collective, based on which pensions are paid out. The assumptions are reviewed regularly, and the pensions are adjusted upward or downward accordingly. Smoothing mechanisms were built in to keep fluctuations in pensions low. The assumptions are therefore calculated with a buffer, which means, that an annuity is initially paid out that is a certain percentage lower than the annuity calculated based on of the assumptions.

In Canada, the UBC Faculty Pension Plan has operated the Variable Payment Life Annuity (VPLA) since 1967. The Australian pension fund QSuper introduced the Lifetime Pension in 2021 based on the annuity pool model.

More recently, the annuity pool model has been widely promoted in Canada, where it is also known as the dynamic pension pool. Many citizens have accumulated high savings in pension funds, but they have not yet been able to convert them efficiently into lifelong pension. Traditional payout plans often fail to adequately cover retirees who live past the age of 95.

We support offering pensioners the option of participating in an annuity pool for the payout phase. This model enables significantly higher lifetime pensions than the guaranteed lifetime pensions that have been customary to date, thanks to the more profitable investment and the lower equity capital costs for providers. This model should be offered on the platform proposed in section 3.2.1 by life insurers and pension funds.



4. Conclusion

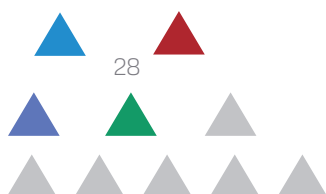
The proposed pension model, with the lean cost structure of a state platform and without a guarantee, would have provided pensioners (with the same contributions) a significantly better performance and thus a considerably higher pension than a direct life insurance policy or a Riester pension, assuming a global investment in equities (see Exhibits 2 and 3). The use of annuity pools in the payout phase, which we also have proposed, could significantly increase pensions.

The integration of occupational pensions and state-subsidised private pensions, as we have proposed, along with opening access to all sections of the population, flexible of subsidised contributions, and portability in the event of a change of employer or provider, would make the pension system much more flexible, transparent, up to date, and fair. Our reform proposals would make the state-subsidised pension system considerably more attractive. In addition, the introduction of automatic enrolment/opt-out provision could massively increase participation.

Our reform proposals should be utilised to increase pensions and participation efficiently and sustainably, countering the foreseeable trend toward increased old-age poverty in Germany. This would help to preserve social peace and counteract the growing need for state-provided social support as a result of rising old-age poverty.

Giving significant consideration to more profitable investments, such as equities in particular, supported by financial education content on the government platform, could increase the population's acceptance of equities and introduce additional segments of the population to long-term equity investing. This would strengthen Germany as a financial centre.

For many years, Germany has been a major exporter of capital due to its current account surpluses. To date, however, this capital has been invested extremely unprofitably compared with other countries. The expansion of international equity investments into state-subsidised pensions should sustainably increase the profitability of German foreign assets.



List of Sources

References

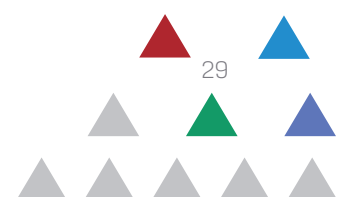
1 **Hünnekes, F., M. Schularick, and C. Trebesch. 2019.** "Exportweltmeister, The Low Returns on Germany's Capital Exports." Kiel Institute for the World Economy. https://www.ifw-kiel.de/fileadmin/Dateiverwaltung/IfW-Publications/Christoph_Trebesch/KWP_2133.pdf.

2 **Deutsche Bundesbank. October 2019.** "Langfristige Perspektiven der gesetzlichen Rentenversicherung," 70. <https://www.bundesbank.de/resource/blob/811952/3683f523452442381e2121a78aa3cec6/mL/2019-10-rentenversicherung-data.pdf>.

3 **Bundesministerium für Arbeit und Soziales. 2020.** "Verbreitung der Altersvorsorge 2019." <https://www.bmas.de/DE/Service/Publikationen/Forschungsberichte/fb-565-verbreitung-der-altersvorsorge-2019.html>.

4 **Collectum AB. 2019.** "Companies and Charges." <https://collectum.se/en/startpage/private/invest-your-pension/companies-and-charges>.

5 **MacDonald, B.-J., B. Sanders, L. Strachan, and M. Frazer. November 2021.** "Affordable Lifetime Pension Income for a Better Tomorrow. How We Can Address the \$1.5 Trillion Decumulation Disconnect in the Canadian Retirement Income System with Dynamic Pension Pools." National Institute on Ageing, Ryerson University, and Global Risk Institute.



Bibliography

ACIO networks GmbH. "Gesetzliche Grundlagen im Rahmen der betrieblichen Altersversorgung." http://www.versicherung-vergleiche.de/betriebliche_altersvorsorge/gesetze_bav.htm.

Administration Française. "Épargne salariale, participation et intéressement." <https://www.service-public.fr/particuliers/vosdroits/N517>.

agirc-arrco Retraite Complémentaire. GIE Agirc-Arrco. Paris, France. <http://www.agirc-arrco.fr/>.

Baker, G., and E. Kistler. 2016. "Empirische Befunde: Die betriebliche Altersversorgung in der Privatwirtschaft." <http://www.bpb.de/politik/innenpolitik/rentenpolitik/223145/empirische-befunde>.

Blank, F., and S. Wiecek. 2012. "Die betriebliche Altersversorgung in Deutschland: Verbreitung, Durchführungswege und Finanzierung," 13. https://www.boeckler.de/pdf/p_wsi_disp_181.pdf.

Blome, S., A. Kling, and J. Ruß. 2018. "Annuity Pools: Wackelrente oder sinnvolle Produktinnovation?" https://www.ifa-ulm.de/fileadmin/user_upload/download/sonstiges/2018_ifa_Blome-et-al_Annui-ty-Pools--Wackelrente-oder-sinnvolle-Produktinnovation.pdf.

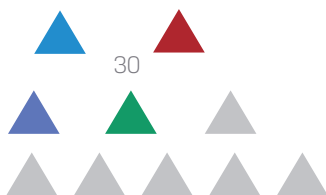
Börsch-Supan, A., and M. Gasche. 2010. "Zur Sinnhaftigkeit der Riester-Rente," 2, 4. http://mea.mpisoc.mpg.de/uploads/user_mea_discussionpapers/1093_197-10.pdf.

Bovenberg, L., R. Cox, and S. Lundbergh. 2015. "Lessons from the Swedish Occupational Pension System," 9ff. Netspar Industry Paper Series, no. 45. NETSPAR. https://pure.uvt.nl/ws/portalfiles/portal/9092186/netspar_design_paper_45.pdf.

Brandstetter, B. 2008. "Gebühren fressen die Riester-Zulagen auf." *Die Welt*. <https://www.welt.de/finanzen/article2320361/Gebuehren-fressen-die-Riester-Zulagen-auf.html>.

Bundesanstalt für Finanzdienstleistungsaufsicht. 2016. "Einrichtungen der betrieblichen Altersversorgung." https://www.bafin.de/DE/Aufsicht/VersichererPensionsfonds/Einrichtungen_bAV/betriebliche_altersversorgung_node.html.

Bundesanstalt für Finanzdienstleistungsaufsicht. 2016. "Versicherungsaufsicht." https://www.ba-fin.de/DE/DieBaFin/AufgabenGeschichte/Versicherungsaufsicht/versicherungsaufsicht_node.html.



Bundesministerium für Arbeit und Soziales. 2018. "Zusätzliche Altersvorsorge Betriebsrente und Riester-Rente," 9, 11f, 19f, 26. http://www.bmas.de/SharedDocs/Downloads/DE/PDF-Publikationen/a817-zusaetzliche-altersvorsorge.pdf?_blob=publicationFile.

Bundesministerium für Arbeit und Soziales. "Reformvorschläge zur Gesetzlichen Rentenversicherung," 69, 71f. http://www.bmas.de/SharedDocs/Downloads/DE/PDF-Publikationen/c318-kapitel-3.pdf?_blob=publicationFile.

Bundeszentralamt für Steuern. 2014. "Zertifizierung von Altersvorsorge und Basisrentenverträgen." http://www.bzst.de/DE/Steuern_National/Zertifizierungsstelle/zertifizierung_node.html.

Bundeszentrale für politische Bildung. 2016. "Umlagefinanzierung." <http://www.bpb.de/nachschlagen/lexika/lexikon-der-wirtschaft/20886/umlageverfahren>.

College Retirement Equities Fund Rules of the Fund. TIAA. https://www.tiaa.org/public/pdf/c/cref_rules_of_the_fund.pdf.

Demografie Portal des Bundes und der Länder. 2017. "Zunehmende Belastung der Beitragszahler in der gesetzlichen Rentenversicherung." https://www.demografie-portal.de/SharedDocs/Informieren/DE/ZahlenFakten/Beitragszahler_Altersrentner.html.

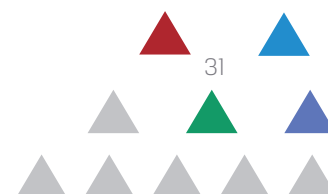
Deutsche Bundesbank. 2021. "Alterssicherung nach Corona: Probleme ungelöst-Spielräume eingengt." <https://www.bundesbank.de/de/presse/reden/alterssicherung-nach-corona-probleme-unge-loest-spielraeume-eingeengt-874866>. [11.05.2022]

Deutsche Gesellschaft für Finanzanalyse mbH. "Voraussetzungen der Riester Zertifizierung-Verbraucherschutz durch die Riester Zertifizierung." http://altersvorsorge-riester-rente.net/riester_zertifizierung0.html.

Deutsche Rentenversicherung. 2014. "125 Jahre gesetzliche Rentenversicherung." https://www.deutsche-rentenversicherung.de/Allgemein/de/Inhalt/4_Presse/infos_der_pressestelle/02_medieninformationen/03_pressematerial/pressemappen/125_jahre_rentenversicherung/broschuere_125_jahre.pdf?_blob=publicationFile&v=11.

Deutsche Rentenversicherung. 2017. "Zusätzlich vorsorgen-eine wichtige Entscheidung." *Privatvorsorge von A bis Z*, 4. https://www.deutsche-rentenversicherung.de/cae/servlet/content_blob/232712/publicationFile/48703/privatvorsorge_von_a_z.pdf.

Deutsche Rentenversicherung. 2019. "Betriebliche Altersversorgung." https://www.deutsche-rentenversicherung.de/Allgemein/de/Inhalt/5_Services/03_broschueren_und_mehr/01_broschueren/01_national/betriebliche_altersversorgung.pdf?_blob=publicationFile&v=26.



Deutscher Bundestag. 2015. "Performance of the Riester pension: Aufsichtsund steuerrechtliche Fragen." <https://www.bundestag.de/blob/408032/0bc89b99acdb4c67c63b421dd8f3f7/wd-4-033-15-pdf-data.pdf>.

Deutsches Aktieninstitut. 2017. "Aktien in Deutschland fördern–Anregungen des Deutschen Aktieninstituts zur Bundestagswahl 2017," 3. https://www.dai.de/files/dai_usercontent/dokumente/positions-papere/2017-03-27%20Deutsches%20Aktieninstitut%20Anregungen%20zur%20Bundestagswahl%202017.pdf.

Deutsches Aktieninstitut, B. Metzler seel. Son & Co. KGaA, DekaBank Deutsche Girozentrale und Union Asset Management Holding AG. 2016. "Lebensstandard im Alter sichern–Rentenlücke mit Aktien schließen." https://www.dai.de/files/dai_usercontent/dokumente/studien/2016-12-06%20Studie%20Aktienorientierte%20Altersvorsorge%20DAI%20Deka%20Metzler%20Ul.pdf.

Doelman, T. W., and S. H. Sardarli. 2016. "Investment Fees, Net Returns, and Conflict of Interest in 401(k) Plans." *Journal of Financial Research* 39 (1): 5–33.

Drefahl, S. 2013. "Lebenserwartung Deutschland-Welt 1960-2009." Wikipedia Commons Based on Data from the Human Mortality Database (Germany) and the World Health Organization (Global). https://commons.wikimedia.org/wiki/File:Life_expectancy_Germany_world_1960-2009.svg?uselang=en.

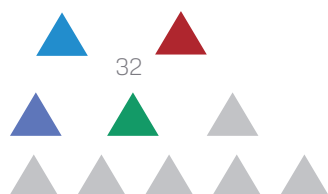
Fullmer, R. K. 2019. "Tontines: A Practitioner's Guide to Mortality-Pooled Investments." CFA Institute. <https://www.cfainstitute.org/en/research/foundation/2019/tontines>.

Gesamtverband der Deutschen Versicherungswirtschaft e. V. 2020. "Die deutsche Lebensversicherung in Zahlen 2020." <https://www.gdv.de/resource/blob/60734/ba7317759252abad585896e4fe700507/bav---lv-in-zahlen-2020---download-data.pdf>.

Gesamtverband der Deutschen Versicherungswirtschaft e. V. 2015. "7-Punkte-Plan der Versicherungswirtschaft zur Stärkung der betrieblichen Altersversorgung." <http://www.gdv.de/wp-content/uploads/2016/04/GDV-Broschuere-Regulierung-Versicherungswirtschaft-Volkswirtschaft-2015n.pdf>.

Greenough, W. C. 1990. "It's My Retirement Money—Take Good Care Of It: The TIAA-CREF Story." Homewood, IL: IRWIN for the Pension Research Council of the Wharton School, University of Pennsylvania.

Huberman, G., S. S. Iyengar, and W. Jiang. 2003. "How Much Choice Is Too Much? Contributions to 401(k) Retirement Plans," 1. Semantic Scholar. <https://pdfs.semanticscholar.org/04f0/7b37fc9deb167e56c729e1f35e052998ba4a.pdf>.



Impavido, G. 2008. "Efficiency and Performance of Bulgarian Private Pensions." Washington, DC: International Monetary Fund.

Pfau, W. D., and M. E. Kitces. 2014. "Reducing Retirement Risk with a Rising Equity Glide Path." *Journal of Financial Planning* 27(1): 38–45. <https://www.onefpa.org/journal/Pages/Reducing%20Retirement%20Risk%20with%20a%20Rising%20Equity%20Glide%20Path.aspx>.

Kortmann, K., T. Heien, and J. Heckmann. 2014. "Forschungsbericht 449/1, Trägerbefragung zur betrieblichen Altersversorgung," 85. <http://www.bmas.de/SharedDocs/Downloads/DE/PDF-Publikationen/research-report-f449-1.pdf?blob=publicationFile>.

Krohn, P. 2015. "Retirement Planning: No One Thinks about the Cost of a Guarantee." Frankfurt Allgemeine Zeitung (F.A.Z.). <https://www.faz.net/aktuell/finanzen/meine-finanzen/vorsorgen-fuer-das-alter/alters-vorsorge-und-niemand-denkt-an-die-kosten-einer-garantie-13959482.html>.

Lau, H., and R. Schneider. 2015. "A Bold Enterprise—Otto Thoresen, Newly Appointed Chairman of the National Employment Savings Trust, Talks to Richard Schneider and Helen Lau about the Many Challenges Facing the Pensions Industry." *The Actuary* (April 2015): 17–19. <http://www.theactuary.com/features/2015/04/a-bold-enterprise/>.

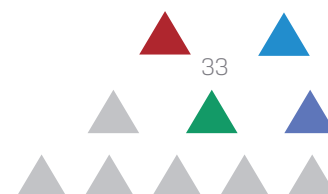
Lundbergh, S. 2017. "Pilot Study of Possible Structural Changes for a More Secure and More Efficient Premium Pension System." Ministry of Health and Social Affairs, Sweden. https://www.government.se/4ad143/globalassets/government/dokument/socialdepartementet/pilot-study-premium-pension_en.pdf.

Marondel, J. 2018. "Private Altersvorsorge: Was Sie vor Abschluss einer Riester-Rente bedenken sollten." Focus Money Online. https://www.focus.de/finanzen/experten/riester-rente-vorteile-und-nachteile-at-a-glance_id_8610147.html.

Melchior, H. H. 2006. "Betriebliche Altersversorgung." <http://www.mathematik.uni-ulm.de/carfi/vortraege/downloads/Vortrag-Melchior.pdf>.

Mercer LLC and CFA Institute. March 2015. "An Ideal Retirement System." CFA Institute. <https://www.cfainstitute.org/-/media/documents/support/future-finance/an-ideal-retirement-system.ashx>.

Milevsky, M. A., and T. S. Sailsbury. 2016. "Equitable Retirement Income Tontines: Mixing Cohorts Without Discriminating." *Astin Bulletin* 46(3): 571–604. https://www.cambridge.org/core/services/aop-cambridge-core/content/view/3174FE869098E8E47A738CC1C2E06A86/S0515036116000192a.pdf/equitable_retirement_income_tontines_mixing_cohorts_without_discriminating.pdf.



Milevsky, M. A. 2015. *King William's Tontine: Why the Retirement Annuity of the Future Should Resemble Its Past.* Cambridge Studies in Comparative Politics. Cambridge: Cambridge University Press.

Ministry of Finance Singapore. 2015. "Supplementary Retirement Scheme (SRS)." https://www.mof.gov.sg/Portals/0/mof%20for/individuals/SRS_Booklet%20-%207%20Dec%202017.pdf.

Monk, M. 2015. "Performance and Asset Allocation of German Pensionskassen and Versorgungswerke." Presentation on 26 November 2015. <https://www.cfa-germany.de/de/events-bil-dung/asset-and-risk-management/325/performance-and-asset-allocation-deutscher-pensionskas-sen-und-versorgungswerke?c=32>.

MSCI. Wikipedia. <https://de.wikipedia.org/w/index.php?title=MSCI&ol-did=221390561>.

Organization for Economic Cooperation and Development. December 2018. "The Tax Treatment of Retirement Savings in Private Pension Plans." OECD Project on Financial Incentives and Retirement Savings. Policy Brief, no. 1. <https://www.oecd.org/daf/fin/private-pensions/Tax-treatment-of-retirement-savings-Policy-Brief-1.pdf>.

Organization for Economic Cooperation and Development. 2015. "Stocktaking of the Tax Treatment of Funded Private Pension Plans in OECD and EU Countries." <http://www.oecd.org/daf/fin/private-pensions/Stocktaking-Tax-Treatment-Pensions-OECD-EU.pdf>.

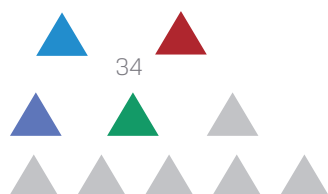
Parliamentary Advisory and Expert Service of the State Parliament of North Rhine-Westphalia. 2003. "Overview of Old-Age Pension Systems in Germany, the Netherlands, and Switzerland," 11, 14, 23. https://www.landtag.nrw.de/portal/WWW/GB_I/1.5/PBGD/Archiv_Veroeffentlichungen_der_13.WP/Alterssichersystems/aging-systems.pdf.

Republic of Bulgaria. 2014. "Country Fiche on Pension Projections." https://europa.eu/epc/sites/epc/files/docs/pages/bulgaria_-country_fiche_on_pensions.pdf.

Rieger, S., and B. Bartsch. 2018. "Betriebsrentenstärkungsgesetz, Überblick über die Änderungen ab 1. Januar 2018." https://www.deutsche-rentenversicherung.de/Nordbayern/de/Inhalt/3_Infos_fuer_Experten/04_0effentlicheVerwaltung_versaemter/08_versicherungsaeemter/Fachinformationen/2018/03-2018_Betriebsrentenstaerkungsgesetz.pdf?blob=publicationFile&v=2.

Royal Commission into Misconduct in the Banking, Superannuation, and Financial Services Industry. Wikipedia. https://en.wikipedia.org/wiki/Royal_Commission_into_Misconduct_in_the_Banking,_Superannuation_and_Financial_Services_Industry.

Russ, J., and S. Schelling. 2018. "Need-Based but Unpopular, Benefits and Acceptability of Lifelong Pensions," 57ff. <https://www.gdv.de/resource/blob/34196/0b709360352a186>



3017e7ab8569ae8f8/studie-bedarfsgerecht-aber-unbeliebt--nutzen-und-akzeptanz-der-lebenslangen-rente-data.pdf.

German Council of Economic Experts. 2017. "Retirement Planning: Strengthening the Three-Pillar Model." In *Annual Report 2016/17*, 289ff.

https://www.sachverstaendigenrat-wirtschaft.de/fileadmin/dateiablage/gutachten/jg201617/kap07_jg16_17.pdf.

Schröder, C. 2011. "Riester pension: Verbreitung, Mobilisierungseffekte und Renditen," S.4, .7. <http://library.fes.de/pdf-files/wiso/08650.pdf>.

Betriebsrentenberatung Berlin/Brandenburg. n.d. "Geschichte der betrieblichen Altersversorgung." <https://www.betriebsrentenberatung-berlinbrandenburg.de/betriebliche-altersversorgung/geschichte-der-bav/>.

Whitehouse, E. 2005. "The Tax Treatment of Funded Pensions." *World Bank Pension Reform Primer Series*. Washington, DC: World Bank. <http://siteresources.worldbank.org/INTPENSIONS/Resources/395443-1121194657824/PRPNoteTaxation.pdf>.

