Better Organisation of Occupational Pensions: What Else Can Germany Learn From the International Context?

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***Abstract* – The organisation of occupational pension schemes in Germany is a topic worthy of further investigation, as there is an opportunity to benefit from the experience of other countries and increase the prevalence of such schemes. For instance, how might the participation and commitment of employees in company pension schemes in Germany be enhanced through the examination of international models? It is crucial to investigate how the occupational pension scheme diverges from those of other leading countries. These questions can serve as a foundation for a more comprehensive inquiry into how Germany could enhance its occupational pension scheme in light of international experience. The extant literature primarily addresses occupational pension schemes at the national level. It is evident from an analysis of the existing literature that occupational pension provision is becoming an increasingly significant aspect of the German pension landscape. This is due to the fact that an increasing number of employees view occupational pension provision as an important supplement to the statutory pension. Consequently, there has been a notable increase in the willingness to take out a pension, with figures more than doubling over the past three years.**

Despite an increase in willingness to take out occupational pension plans, Germany is significantly behind other countries in terms of penetration rates. An analysis of existing literature has revealed a lack of research on international occupational pension systems, highlighting the need for a comparative analysis of these systems with the German system. This paper compares selected occupational pension systems with the German occupational pension system. The sample consists of 10 selected countries. In the methodological part of the study, the differences between the international occupational pension systems are first analysed by means of a qualitative content analysis of the existing literature. In the quantitative part of the research, the differences are then evaluated using Kruskal-Wallis analysis with the statistical programme DATAtab. The results show the differences between successful occupational pension systems and are intended to offer a possible approach for the reform of the German occupational pension system.

***Keywords* – Occupational pension provision international, occupational strengthening pension act, pensions, taxes, comparison.**

DOI: 10.18421/TEM134-67
https://doi.org/10.18421/TEM134-67

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Received: 11 May 2024.
Revised: 12 August 2024.
Accepted: 26 September 2024.
Published: 27 November 2024.

1. Introduction

What are the characteristics of good occupational pension (OP)? This is an understandable question, but one that is not so easy to answer because the introduction and design of pension systems depends on economic and political policies. In many countries, pension systems are organised by different institutions, so the interaction between the different pension systems and the importance of the individual pension system at the core of the respective institutional landscape varies from country to country due to the complicated architecture of the institutions [1]. What many European and non-European countries have in common, however, is the basic archetypal character of their pension systems. Many of these systems consist of three pillars.

The first pillar consists of mandatory public pension provision, e.g. in the form of statutory pension insurance, and is designed to guarantee a minimum standard of living in retirement. The calculation of the minimum living standard pension is independent of previous income. The second pillar consists of an earnings-related mandatory component, e.g. OP, and a voluntary component.

The aim of these components is to raise the standard of living in old age to a level above the statutory minimum. The third pillar consists of voluntary private pension provision, which offers various investment products [2]. Figure 1 provides an overview of the architecture of pension systems and their respective levels.

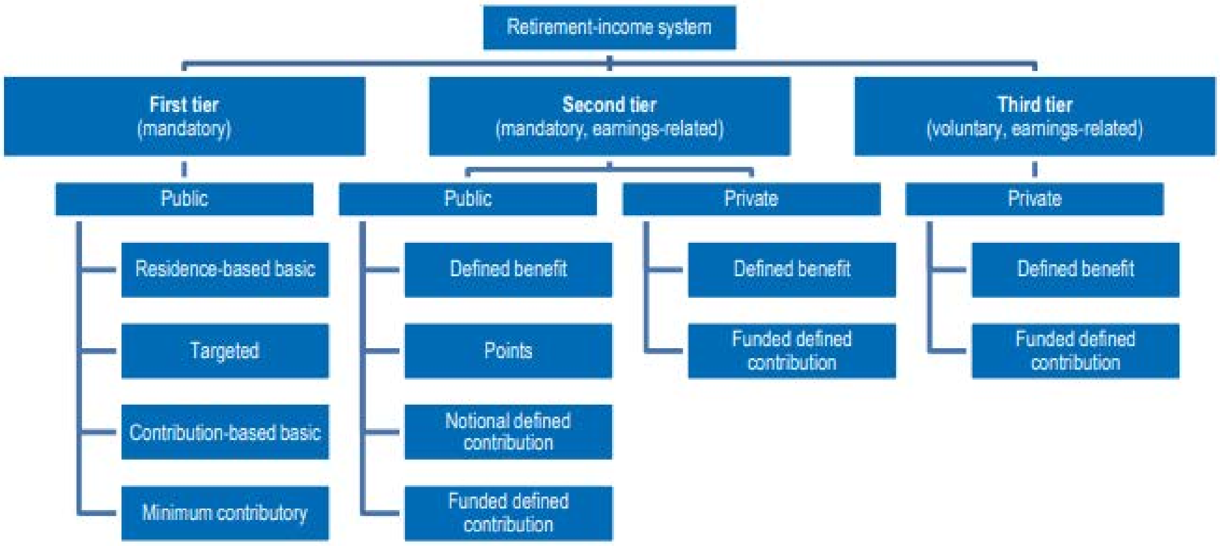

Figure 1. Architecture of pension schemes. Source: [2]

The Occupational Strengthening Pensions Act (OSPA), which came into force in 2018, and the Grand Coalition's agreement to introduce a basic pension at the end of 2019 have triggered a debate about the structure and future of the German pension system. It is discussed that the introduction of a non-means-tested minimum pension in the state system could mean that the statutory pension insurance alone will no longer be able to guarantee many people a pension above the basic income threshold after more than 30 years of contributions, let alone secure their standard of living in old age [3], [4]. The main aim of the pension reforms of the 2000s was to reduce the level of benefits in the statutory pension scheme while increasing the importance of occupational and private pension provision [5]. Since the introduction of the OSPA, there have been numerous studies on the prevalence of OP in Germany. However, these studies are based on national surveys. For example, the 2018 Deloitte [6] study on OP shows that OP are becoming increasingly important in Germany. More and more employees see OP as an important supplement to the state pension. In particular, the German Act to Strengthen Company Pensions has contributed to the promotion and spread of OP. Deloitte concludes that OP has more than doubled in three years [6]. Further studies by Deloitte from 2019 to 2022 will also look at OP in Germany [7], [8], [9], [10].

In the most recent study from 2023, Deloitte concludes that although employees are now more aware of company pension schemes, take-up has fallen compared to the previous year. This is partly due to the fact that many employers do not offer workplace pensions and some schemes are perceived to be too complex [11]. Willis Towers Watson is conducting a study on workplace pensions from the employee perspective, also based on national surveys. The results of this study come to the same conclusions as the 2018 Deloitte study, namely that interest in OP has increased in Germany, mainly because the OSPA has helped to promote and spread OP, and again the conclusion is that the spread of OP has more than doubled in the last three years [12]. The latest Willis Towers Watson study shows that there is still a lot of potential for OP, but that demand for OP is stagnating from the perspective of the companies surveyed. Unattractive subsidies and ignorance are cited as reasons for this [13]. Although these studies show that OP are becoming more widespread, Germany lags far behind in terms of penetration rates in an international comparison. For example, 90% of employees in Sweden, 66% in the UK and 65% in Australia have a company pension [1]. In Germany, by contrast, the figure is 53.9% [14). Based on these findings, it is very important to have an overview of OP in Europe and beyond.

In their 2021 article, Schneider [1] analyse the institutional structure of pension provision in Europe and three non-European countries. They analysed the pension systems of 25 countries. These are 22 EU countries and three non-EU countries [1].

An analysis of the existing literature has shown that international occupational pension systems (IOPS) have not yet been sufficiently researched, which is why an analysis of these systems in comparison with the German system is relevant. The aim of this research paper is to find an answer to the question of how the German occupational pension system (GOPS) can be better organised and whether Germany can learn something from the international context. Are there countries with better occupational pension systems (OPS) than Germany? The first chapter of this article provides an introduction to the topic and an overview of the existing literature. In the second section, the methodological approach is presented before the results are interpreted in the third chapter. The results are discussed in the fourth chapter and summarised in the fifth chapter.

2. Methodology

This chapter describes what differences exist in the OPS of selected countries and whether there are approaches for the GOPS to increase the spread of OP. The approach includes the use of content analysis, the development of hypotheses and the performance of analyses such as Kruskal-Wallis analysis.

By analysing the literature, insights are gained into IOPS. Countries with pension systems similar to the German system will be analysed. Countries with future-oriented pension systems and countries in which OP play an important role and are characterised by flexibility and leanness. Since the analysis of the entire pension systems of these countries is not the subject of this study, the analysis refers to the OP of the selected countries. In addition, the analysis will provide evidence to support and deepen the qualitative findings and provide a comprehensive understanding of what characterises OPS in comparison with the German system.

2.1. Qualitative Analysis

Kuckartz [15] and Mayring [16], [17] argue in favour of content analysis, which provides a methodological framework for exploring the intricacies of the literature. This approach is essential for understanding the complex interrelationships surrounding differences in OPS in an international comparison.

The process of qualitative content analysis is iterative and involves a series of interlinked steps to gain insights from the existing literature;

- Firstly, the process begins with an analysis of the literature to ensure that all the distinctive features and nuances are accurately captured to provide a solid foundation for the subsequent analysis.
- Once the analysis is complete, the researcher immerses himself in the data to gain an understanding of its content. This initial immersion helps to familiarise the researcher with the breadth and depth of information provided by the existing literature.
- As the researcher delves deeper into the data, he or she moves on to categorisation, i.e. organising the data into categories or codes that represent key concepts, themes or recurring patterns identified in the interviews. These categories form the basis of the analysis.
- Once the categories are defined, the researcher applies them systematically to the existing literature using coding procedures.
- Each section of text is coded according to its relevance to the topic, which facilitates the organisation and retrieval of information during analysis.
- After coding the data, the researcher moves on to the stage of analysing the coded information to uncover patterns, relationships and meanings. In this interpretive process, the coded data is combined to create interpretations and develop hypotheses or ideas.
- Throughout the analysis, rigorous validation methods are used to ensure the credibility and accuracy of the results.

By going through these stages of content analysis, the researcher can uncover and understand the differences in complex international OP. This methodological approach not only contributes to a better understanding of the differences in IOPS, but also provides valuable insights for policy makers, employers and other stakeholders in the field of pension provision and regulation.

2.2. Hypothesis Formulation

Based on the analysis of the existing literature and the findings from the detailed content analysis, hypotheses will be developed to investigate the differences between the OPS studied and the German system and how the GOPS could be improved. The research questions will be translated into hypotheses that can be tested using methods.

H0: There is no difference between the analysed countries for the independent variable in relation to the dependent variable number of differentiation criteria fulfilled.

H1: There is a difference between the analysed countries of the independent variable in relation to the dependent variable Number of fulfilled differentiation criteria.

2.3. Statistical Analysis

After formulating hypotheses based on the results of content analysis, the next step is to conduct analyses to test these hypotheses and to examine the relationships between different variables. The decision as to which quantitative research method to use depends on the nature of the hypotheses and the data available. Statistical analysis provides a perspective for examining the relationships between different variables and the distinguishing characteristics of occupational pension schemes in an international context. The use of Kruskal-Wallis Test allows the researcher to quantitatively assess the significance and impact of these relationships, thereby increasing rigour. The statistical results complement the findings by providing evidence and statistical significance, thereby increasing the depth and strength of the research findings.

The Kruskal-Wallis test is a non-parametric statistical test that assesses the differences between three or more independently analysed groups on a single, non-normally distributed continuous variable. Non-normally distributed data (e.g. ordinal or ranked data) are appropriate for the Kruskal-Wallis test. In contrast, the one-way analysis of variance (ANOVA), which is a parametric test, can be used for a normally distributed continuous variable. The Kruskal-Wallis test is an extension of the Mann-Whitney U test for two groups (Wilcoxon rank). Thus, the Kruskal-Wallis test is a more general form of the Mann-Whitney U test and the non-parametric version of one-way ANOVA [18].

The integration of qualitative and quantitative results allows for triangulation, an approach that involves validating results from data sources to increase credibility and validity. Through triangulation, researchers can confirm their findings, identify similarities or discrepancies, and develop an understanding of the research topic. By linking findings and data, the combined results produce a comprehensive report that highlights the differences in IOPS. This increases the credibility and relevance of the research findings and helps to shape policy decisions and strategic actions related to increasing the uptake of OP in Germany.

3. Results

In addition to the GOPS, the OPS of nine other countries were analysed:

- Australia
- Canada
- France
- Great Britain
- Hongkong
- Netherlands
- Sweden
- Switzerland
- USA

Australia – Superannuation

Superannuation is the mandatory company pension scheme in Australia. 9.5% of the employee's salary is paid into the superannuation fund and employees also have the option of paying in up to 9.5% of their salary. The superannuation funds are managed as trusts, also known as trust assets, which is why a trustee is responsible for their administration. There are the following five types of superannuation funds:

- Employer Stand Alone Funds, are managed by an employer for its own employees.
- Industry Funds, operated by the parties to collective bargaining agreements.
- Retail Master Trusts, run by financial service providers for private individuals.
- Self-manage superannuation funds, operated by individual private individuals.
- Wholesale Master Trusts, run by financial services providers for a group of employers for their employees.

There are few restrictions on the choice of investments. There are no guarantees. Employer contributions are predominantly fixed. Withdrawal of funds before retirement age is also severely restricted.

The employer contribution is taxable, although it can be reduced by employees to a favourable tax amount (albeit somewhat tax-bearing, but not tax-free). The government contributes 50% of the contributions for the underprivileged. Accumulated investment income is taxed at a flat rate of 15 per cent in the accumulation phase and is tax-free in the pension phase. The pensions paid out are tax-free. The pension from superannuation is offset against the state pension for pension for low earner [19], [20].

Canada – RRSP & RRIF

In Canada, the Registered Retirement Savings Plan (RRSP) is a voluntary mechanism that combines private and corporate retirement savings. Contributions may be made solely by the employer, solely by the employee, or by both. There are three types of RRSPs:

- Individual RRSPs, for an individual's private pension plan. Under certain circumstances, self-employed individuals can be included here.
- Spousal RRSPs, for the private retirement savings of a married couple, with the predominant case of tax optimisation for the spouses.
- Group RRSPs, for a company pension plan.

Each RRSP member must independently open an account and a securities account with a bank. For Group RRSPs, the account and securities account must be opened at a bank specified by the employer. The investment can be in shares, bonds or investment funds. However, investments in small companies and shares, land, works of art, commodity futures, put options or writing uncovered call options are excluded. However, the pension fund member can choose from the permitted forms of investment.

On retirement, the RRSP is converted into a tax-neutral Registered Retirement Income Fund (RRIF), which corresponds to a payout plan. The money is invested here in the same way as in the RRSP. The taxation of the benefits is governed by the tax regulations, which are specified by a table for minimum payouts and are based on mortality tables. Pension products with a guaranteed annuity for life can also be offered. Contributions to the RRSP are tax-deductible, but pensions from the RRIF must be taxed at a slightly reduced rate during the payout phase. Early withdrawals are tax-deductible, but part of the assets can be withdrawn in a tax-neutral manner when purchasing a property if this is repaid within a specified period [21].

France – ARRCO & AGIRC

In France, there are two primary mandatory occupational pension funds: ARRCO, which is for all regular employees, and AGIRC, which is for "cadres," or non-tariff employees. Both the employer and the employees contribute. In order to cut expenses and improve efficiency (having just one point of contact for employers and employees), the two systems were combined in January 2019.

Based on the pay-as-you-go model, the system operates. The AGIRC and ARRCO payouts are guaranteed to a minimum of a "pension point," but despite low inflation since 2014, this value has not increased, resulting in low real pension payouts (no interest guarantee).

Generally, only pension benefits (no one-time payments) are allowed, and early disposal is only permitted under certain circumstances. Pension benefits are taxable, but employer and employee contributions are tax deductible. The AGIRC and ARRCO pension funds are non-profit organizations that are managed by representatives of employers, employees, and employees (trade unions) [22], [23].

Great Britain – Automatic Erollment and NEST

Automatic enrolment was introduced in 2008. Employees automatically receive a company pension scheme and the contributions are automatically deducted directly from their salary. As part of the opt-out, however, employees have the opportunity to object to the company pension scheme within a short period of time if they do not want it. Since the introduction of automatic enrolment, company pension schemes have become much more widespread.

The National Employment Savings Trust (NEST) was founded alongside Automatic Enrolment to give small companies and the self-employed the opportunity to take out a company pension scheme for reasons of solidarity. NEST is operated and financed by the state and is a non-profit organisation. This works because uncomplicated standard products are offered via an easy-to-use internet platform to cover costs. NEST is intended as a provider of OP for small and medium-sized companies. In addition to NEST, there are other private providers such as The Lewis Workplace Pension Trust (TLWPT), Standard Life and True Potential Investors, which offer OP.

The basis of taxation is unimaginably flexible compared to other countries. Tax-deductible contributions can be deducted up to the amount of the entire annual salary, capped at £44,030 per year (in 2022). If any allowances remain, they can be carried forward for up to three years. If a contributor has accumulated pension fund assets of more than £1.03 million, they will have to pay 25% tax on the excess when a pension is paid out and 55% when a lump sum is paid out. This procedure is referred to as Lifetime Allowance (LTA). If the pension payment is less than the LTA, then taxation is based on normal income tax rates [24], [25], [26].

Hongkong – MPF

The mandatory OP in Hong Kong is the Mandatory Provident Fund (MPF). Employers and employees must each pay 5% of their salary in contributions. Self-employed persons only have to pay a contribution of 5%. A trustee is responsible for managing the funds as trusts, while the financial services providers are responsible for administration. A special feature is the payment of severance benefits for employees by the employer. The severance payments can be offset against the accumulated pension assets. The following organisational forms exist:

- Master trust scheme: Association of small employers and self-employed persons in a larger trust.
- Employer-sponsored scheme: These are operated by an employer.
- Industry scheme: Association of employers in one industry.

Employees have the option of continuing their contract if they change employer within the industry. Employers and employees can deduct the contributions from tax during the qualifying phase. Taxation only takes place when the pension is paid out [27], [28].

Netherlands – Occupational Pension

The Netherlands has one of the highest levels of company pension schemes. For example, nearly 95% employees have a company pension scheme. The contributions are paid by employers and employees. OP are offered by pension funds, which always cover one sector. The pension funds are usually non-profit organisations. Defined-benefit (DB) contracts are the most widespread implementation method, as they offer benefit guarantees. As in the pay-as-you-go system, the pensions of current pensioners are subsidised by the contributions of the contributing generations. A paradigm shift has taken place in recent years, as benefit guarantees have been abandoned in favour of fixed contributions.

The contributions can be claimed for tax purposes and the accumulated capital gains are tax-free. Pensions are only taxed in the pension phase [2].

Sweden – ITP

The Swedish OP consists of four collective agreements between employees and employers. These include:

- For white-collar employees, the private white-collar sector.
- The private blue-collar sector for blue-collar workers.
- The sector for the municipal sector.
- and the area for the state sector.

A company pension scheme covers one of these collective agreements. As the blue-collar, municipal and state schemes are very similar, the supplementary pension scheme for industry and commerce, also known as the ITP, is therefore described in the white-collar sector. The special feature of these four systems is that they are not insurable for the self-employed and small companies, which is why they must insure themselves directly with the providers.

The level of contributions for OP by employers is already agreed in the collective labour agreements concluded. The umbrella organisations (employers and trade unions) operate the Collectum platform for the ITP system. The Collectum platform has the following tasks:

- Life insurers and pension funds are selected for the company pension scheme via a tendering process.
- Framework agreements are concluded with the selected life insurers and pension funds for the company pension scheme and the conditions are defined.
- Provision of the Internet platform for the selection of products and information about the products.
- Collection of contributions.

The insurers' product range includes classic life and pension insurance policies as well as unit-linked life insurance policies. Persons born up to 1978 receive guaranteed benefits under the defined benefit system. Persons born in 1979 or later do not receive guaranteed benefits under the defined contribution system and the contributions are fixed. The ITP system based on the OP does not permit contribution payments by employees. When choosing a unit-linked life insurance policy, employees can choose their own fund portfolio from a selection of funds available from around five insurers or pension funds. The same applies when choosing a classic life and pension insurance policy.

The portability of the contract assets is fully possible in the event of a change of employer. In addition, the insurer can also be changed for a processing fee.

In the payout phase, the insured persons have the option of having the credit balance paid out either as a lifelong pension or spread over five years when they retire. The contributions are tax-deductible for the employer and tax-exempt for the employee. Accumulated capital gains are taxed at a flat rate of 15 per cent and pension benefits from ITP must be taxed upon payment [29], [1].

Switzerland – Occupational benefits

The company pension scheme model is called OP. All employees are required to pay a contribution if their annual income exceeds 21,510 Swiss francs in 2022. The contribution to be paid depends on income and age.

The pension schemes are run as foundations. The Board of Trustees, which is made up of equal numbers of employers and employees, manages the foundations. Generally, large companies have their own pension fund. However, employers have the option of joining a collective or joint foundation operated by banks or insurance companies instead of setting up their own pension fund. In the event of a change of employer, the pension assets can be portable.

The mandatory employer and employee contributions are tax-deductible. Accumulating capital gains are tax-free and the pensions on retirement must be partially taxed [30].

USA – 401k, Roth 401k, IRA and Roth IRA

In the most important federal tax law in the USA, 401k is an internal revenue code that regulates company and private pension schemes. There are the following 401k pension schemes:

- Traditional 401k Plans. Employer and employee pay equal contributions. This variant is often found in large companies.
- Self-directed 401k plans. These are opened and managed by individuals and employers also make contributions.

401k is regulated as a defined contribution model. Employer contributions are fixed, but not the benefits. The maximum employee contributions are regulated by tax law. The models are operated in trusts. The following roles exist:

- The plan administrator is the provider and administrator of the trust/pension plan.
- The fiduciary is responsible for the trust/pension plan.
- The trustee is responsible for managing the plan assets.

The employer decides how the plan is operated, whether with automatic enrolment or opt-out (see UK for explanation).

The contributions are tax-deductible. Accumulated capital gains are not taxed and pensions must be taxed. The principle is that the minimum pension must be based on the IRS pension tables, which are based on mortality tables.

Roth 401k is another pension option that only a few employers offer. Contributions are made from taxed income and the accumulated capital gains and pensions are tax-free. If the employer also pays contributions, these are treated as non-Roth 401k contributions for tax purposes, which means that the pension must be taxed. If desired, the assets saved can be temporarily lent to the pensioner for a possible property purchase.

The Individual Retirement Account (IRA) is a model for occupational and/or private pension provision. As a rule, pensioners open an account and a securities account with an IRA custodian, i.e. a bank or broker, which also carries out the necessary tax reporting.

The contributions are tax-deductible and the accumulated capital gains are tax-free. Pensions or capital withdrawals are possible after reaching the age of 60 and must be taxed.

A second option is Roth IRA where contributions are made from taxed income and the accumulated investment income and withdrawals after age 60 are tax-free. IRAs are offered as private retirement plans, as retirement plans for the self-employed and as company retirement plans for small businesses [31], [32] and [33].

Following a thorough literature review, a total of 12 distinguishing criteria were identified for the occupational pension schemes analysed. The criteria were coded DC1 - DC12. If a country met the criterion, it was awarded 1 point; if it did not meet the criterion, it was awarded 0 points. Table 1 provides an overview of the differentiation criteria and their scaling.

Table 1. Differentiation criteria of occupational pension schemes and scaling. Source: Author's own illustration

Code	Differentation critera (DC)	Full-filled	Not fulfilled
DC 1	Mandatory company pension scheme?		
DC 2	Employer pays contributions?		
DC 3	Employees pay contributions?		
DC 4	Contributions are tax-deductible for employers?		
DC 5	Contributions are tax-deductible for employees?		
DC 6	Are the reinvested capital gains tax-free?		
DC 7	Pensions are tax-free?		
DC 8	Withdrawal of funds possible for good cause?		
DC 9	Money can be withdrawn to purchase a home?		
DC 10	Guarantee?		
DC 11	Portability to another provider possible?	Scoring with 1	Scoring with 0
DC 12	Portability to another employer possible?		

The differences between international occupational pension schemes are shown in Table 2.

As explained above, the US is a special case with four possible pension schemes, so the differences are analysed by scheme rather than as a whole.

Table 2. Differences in international occupational pension schemes. Source: Author's own illustration

Country	Australia	France	Germany	Great Britain	Hong-Kong	Canada	Nether-lands	Sweden	Switzer-land	USA – 401k	USA – Roth 401k	USA-IRA	USA – Roth IRA
DC 1	1	1	0	1	1	0	1	1	1	0	0	0	0
DC 2	1	1	1	1	1	1	1	1	1	1	1	1	1
DC 3	1	1	1	1	1	1	1	0	1	1	1	1	1
DC 4	1	1	1	1	1	1	1	1	1	1	1	1	1
DC 5	1	1	1	1	1	1	1	0	1	1	0	1	0
DC 6	1	1	1	0	1	1	1	1	1	1	1	1	1
DC 7	1	0	0	0	0	0	0	0	0	0	1	0	1
DC 8	1	1	0	0	1	1	0	0	0	1	1	1	1
DC 9	0	0	0	0	0	1	0	0	0	1	1	1	1
DC 10	0	1	1	0	0	0	1	0	1	0	0	1	0
DC 11	1	1	1	1	1	1	1	1	1	1	1	0	1
DC 12	1	1	1	1	1	1	1	1	1	1	1	1	1

Evaluation of the results using the Kruskal-Wallis test showed that Germany met eight of the twelve criteria identified. Table 3 gives an overview of the results.

Table 3. Overview of the results of the Kruskal-Wallis test. Source: Author's own illustration

Countries	n	Median	Middle Rank
Australia	1	10	12,5
France	1	10	12,5
Germany	1	8	3
Great Britain	1	7	2
Hong-Kong	1	9	7,5
Canada	1	9	7,5
Netherlands	1	9	7,5
Sweden	1	6	1
Switzerland	1	9	7,5
USA – 401k	1	9	7,5
USA – Roth 401k	1	9	7,5
USA-IRA	1	9	7,5
USA – Roth IRA	1	9	7,5
Total	13	9	

The Chi-square (Chi2) has a value of 12, which indicates that there are no major differences between the countries being compared. The higher the Chi-square value, the more evidence there is that the groups are different. The degrees of freedom in this case were also 12. The p-value is 0.446. The p-value indicates the probability that the data, or something more extreme, is observed if the null hypothesis is true.

The null hypothesis for the Kruskal-Wallis test is that all groups are equal. A p-value of 0.446 indicates that there is no statistically significant difference between at least two of the groups. Normally a p-value of less than 0.05 is considered statistically significant. In summary, the results of the Kruskal-Wallis test with a chi-square value of 12, a df of 12 and a p-value of 0.446 indicate that there is no statistically significant difference in the variable number of differentiation criteria fulfilled between the groups compared. Table 4 below summarises the results.

Table 4. Results of the Kruskal-Wallis test. Source: Author's own illustration

	Chi^2	df	p
Number of fulfilled differentiation criteria	12	12	0,446

4. Discussion

The aim of this research paper was to investigate how the OPS in Germany could be better organised in an international context. In order to answer this research question, the OPS of certain countries were analysed and selected according to certain criteria. In summary, the GOPS could be better designed in a number of areas.

With regard to the differentiation criteria examined, it became clear that although Germany fulfils good 2/3 of the differentiation criteria analysed, it is below the median of the systems compared. On the basis of the systems analysed and the results of the qualitative and quantitative analysis, the following recommendations are made for possible improvements to the GOPS in order to increase the prevalence of OP:

From the providers' perspective

1. Occupational pension providers should reduce product diversity. There are a large number of occupational pension providers in the German market, and each provider offers its own range of products, making it easy to lose track. This recommendation is a point on which providers need to enter into dialogue with policymakers.
2. The OP of the future should no longer offer guarantees but focus on return opportunities. Some of the countries analysed in this study show how this can work, for example by offering only guaranteed contributions.
3. OP products are generally already very complex. We need to try to make products simpler and easier to understand for employers and employees. Complexity tends to lead to mistrust. Simple, understandable products can build trust. Products need to be more transparent.

From a policy perspective

1. The study has shown that workplace pensions are compulsory in some countries. In the UK, however, employees have the option of opting out at a later date. It is recommended that policymakers focus more on this issue with providers and enter into negotiations. It is also advisable to look at other IOPS that also have an opt-out model to gain further positive lessons. The possibility of a mandatory system combined with an opt-out is essential to avoid giving the public the impression that they are being forced into something.
2. The structures of OP in Germany need to be simplified. With its six implementation channels and the large number of labour, tax and social security regulations, Germany has a very complex OPS by international standards. Future reforms should aim to simplify the system, not make it more complex with each reform.
3. Few people today are tied to one employer for life. The world of work has become more flexible and mobile. In almost all the systems analysed, it is possible to take company pension rights with you. This portability should also be made possible in Germany.

5. Conclusion

This research article has focused on OP. They play an important role in all the countries analysed in this article. It does not matter whether there is a pay-as-you-go public pension system or not. The countries analysed are economically and culturally comparable to Germany.

After analysing and evaluating the OPS of the countries in detail, it becomes clear that Germany, with its current OPS and its many implementation channels, has a complex and partly inflexible OPS by international standards. One of the reasons for this is the large number of complex reforms, which make it difficult to gain an overview of the system. However, the results of this research paper also show that there are solutions that have already proved their worth in the countries analysed. There is no need for further complex reforms or a complete overhaul of the existing OPS. It would be prudent to examine the implementation of the proposed changes to the existing system at the political level, in conjunction with the relevant providers. This study has not found a one hundred percent answer that can be adopted one to one. However, the article has shown that there are a number of positive approaches in the countries analysed that demonstrate how the OPS in Germany can be made more efficient in the future. Further research in this area should focus on the financial dimensions, among other things. For example, the authors recommend evaluating the total expenditure on OP and the proportion of expenditure on OP.

References:

[1]. Schneider, S. M., Petrova, T., & Becker, U. (2020). Pension maps: Visualising the institutional structure of old age security in Europe and beyond (2nd ed.). *Max Planck Institute for Social Law and Social Policy.*

[2]. Scarpetta, S., & di Noia, C. (2023). Pensions at a Glance 2023: OECD AND G20 INDICATORS. *Pensions at a Glance.*

[3]. Börsch-Supan, A. H., Bucher-Koenen, T., Coppola, M., & Lamla, B. (2014). Savings in times of demographic change: Lessons from the German experience. *Max Planck Institute for Social Law and Social Policy Discussion Paper*, (18-2014).

[4]. Wiß, T. (2020). Lebensstandardsicherung durch betriebliche Altersvorsorge? Deutschland im Vergleich. In *Neustart in der Rentenpolitik*, 207-234. Nomos Verlagsgesellschaft mbH & Co. KG.

[5]. Baumann, H., & Blank, F. (2016). *Die Betriebliche Altersversorgung: Verbreitung und Finanzierung-Ergebnisse der WSI-Betriebsrätebefragung 2015* (30). WSI Report.

[6]. Deloitte. (2018). *bAV auf dem Weg in die Zukunft. Studie zur betrieblichen Altersversorgung 2018.* Deloitte. Retrieved from: https://www2.deloitte.com/content/dam/Deloitte/de/Documents/human-capital/bAV-Studie-2018-Deloitte-Deutschland.pdf [accessed: 10 March 2024].

[7]. Deloitte. (2019). *Warten auf die neue bAV. Studie zur betrieblichen Altersversorgung 2019.* Deloitte. Retrieved from: https://www2.deloitte.com/content/dam/Deloitte/de/Documents/human-capital/bav-studie-2019-deloitte-deutschland.pdf [accessed: 12 March 2024].

[8]. Deloitte. (2022). *bAV in unsicheren Zeiten. Studie zur betrieblichen Altersversorgung*. Deloitte. Retrieved from: https://www2.deloitte.com/de/de/pages/human-capital/articles/bav-Studie.html [accessed: 13 March 2024].

[9]. Deloitte. (2021). *Wirkt das Betriebsrentenstärkungsgesetz? Studie zur betrieblichen Altersversorgung 2021*. Deloitte. Retrieved from: https://www2.deloitte.com/de/de/pages/human-capital/articles/bav-Studie.html [accessed: 14 March 2024].

[10]. Deloitte. (2022). *Dynamik in der betrieblichen Altersversorgung*. Deloitte. Retrieved from: : https://www2.deloitte.com/content/dam/Deloitte/de/Documents/financial-services/Deloitte-bAV-Studie-2022.pdf [accessed: 20 March 2024].

[11]. Deloitte. (2023). *Betriebliche Altersversorgung im Zeichen der Inflation*. Deloitte. Retrieved from: https://www2.deloitte.com/de/de/pages/human-capital/articles/bav-Studie.html [accessed: 23 March 2024].

[12]. WTW. (2016). *Betriebliche Altersversorgung aus Arbeitnehmersicht. Global Benefits Attitudes Survey 2015/16*. Car perspective. Retrieved from: http://carespektive.de/pdf/BAV-aus-Arbeitnehmersicht.pdf [accessed: 02 April 2024].

[13]. WTW. (2023). WTW Studie „Dynamisch neuen Herausforderungen begegnen – Zur Situation der Entgeltumwandlung 2023“. WTW. Retrieved from: https://www.wtwco.com/de-de/insights/2023/03/zur-situation-der-entgeltumwandlung-2023-studie [accessed: 08 April 2024].

[14]. Bundesministerium für Arbeit und Soziales. (2020). *Ergänzender Bericht der Bundesregierung zum Rentenversicherungsbericht 2020 gemäß § 154 Abs. 2 SGB VI (Alterssicherungsbericht 2020)*. BMAS. Retrieved from: http://www.sozialpolitik-aktuell.de/files/sozialpolitik-aktuell/_Politikfelder/Alter-Rente/Dokumente/2020_11_BuReg_Alterssicherungsbericht%202020.pdf [accessed: 09 April 2024].

[15]. Kuckartz, U. (2012). *Qualitative inhaltsanalyse: methoden, praxis, computerunterstützung*. Beltz Juventa.

[16]. Mayring, P. (2010). *Qualitative Inhaltsanalyse: Grundlagen und Techniken*. Landsberg: Beltz.

[17]. Mayring, Ph. & Fenzl, T. (2019). Qualitative inhaltsanalyse. *Handbuch Methoden der empirischen Sozialforschung Handbuch Methoden der empirischen Sozialforschung*, 633-648. Wiesbaden: Springer VS.

[18]. Kruskal, W. H., & Wallis, W. A. (1952). Use of ranks in one-criterion variance analysis. *Journal of the American statistical Association*, *47*(260), 583-621.

[19]. Worthington, A. C. (2008). Knowledge and perceptions of superannuation in Australia. *Journal of Consumer Policy*, *31*, 349-368.

[20]. CFA Society Germany. (2022). *Positionspapier zur Reform der staatlich geförderten Altersvorsorge in Deutschland*. CFASG. Retrieved from: https://www.cfa-germany.de/media/4b/65/11/1656500462/CFAGermany_Positionspapier_Altersvorsorge_2022_web_FINAL.pdf [accessed: 15 April 2024].

[21]. Laurin, A., & Turpie, G. (2023). Strengthening Retirement Income Security: Fairer Tax Rules and More Options Needed. *CD Howe Institute e-Brief*, *343*.

[22]. Gannon, F., Legros, F., & Touzé, V. (2020). The French Mandatory Occupational Pension Scheme: History and Properties of a Point System. *Economic Challenges of Pension Systems: A Sustainability and International Management Perspective*, 211-233.

[23]. Schneider, S. M., Petrova, T., & Becker, U. (2021). Pension Maps: Visualising the Institutional Structure of Old Age Security in Europe. *SSRN 3813024*.

[24]. Aktuelle Sozialpolitik. (2022). Das (vorbildliche?) *Modell der betrieblichen Altersvorsorge in Großbritannien und erste Auswirkungen der rasant gestiegenen Inflationsrate*. Aktuelle Sozialpolitik. Retrieved from: https://aktuelle-sozialpolitik.de/2022/08/25/betriebliche-altersvorsorge-in-grossbritannien/ [accessed: 26 April 2024

[25]. Geyer, J., Felder, L., & Haan, P. (2022). *Hintergrund und Erfahrungen von kapitalgedeckten Alterssicherungssystemen mit automatischer Einschreibung und Abwahlmöglichkeit (" Opt-out") am Beispiel von NEST*, (182). DIW Berlin: Politikberatung kompakt.

[26]. Rödl. (2013). Mehrwert schaffen. Sonderausgabe Auslandsbrief. Informationen aus Großbritannien über Steuern, Recht und Wirtschaft. Rödl. Retrieved from: https://www.roedl.de/de-de/de/medien/publikationen/newsletter/auslandsbrief/documents/auslandsbrief-1306-sonderausgabe.pdf [accessed: 28 April 2024].

[27]. Poon, C. C., & Wong, F. K. J. (2018). Pension Reform Options in Hong Kong. *Journal of Financial Counseling & Planning*, *29*(2).

[28]. Kühner, S., & Chou, K. L. (2020). The politics of MPF reform: Lessons from public attitudes in Hong Kong. *Social policy and society*, *19*(3), 414-430.

[29]. Anderson, K. M. (2020). Financialisation meets collectivisation: occupational pensions in Denmark, the Netherlands and Sweden. *The Political Economy of Pension Financialisation*, 135-154. Routledge.

[30]. Häner, M., Erhardt, T., Koch, N., & Schaltegger, C. A. (2022). Das Drei-Säulen-Modell der Schweizer Altersvorsorge: Ein kompakter Überblick nach 50 Jahren. *Iwp policy papers*.

[31]. Whitehouse, E. (2005). *Taxation: The tax treatment of funded pensions*. World Bank, Washington, DC.

[32]. Okubo, M. (1999). Recent Developments in Retirement Plan Reform in the US-Proposed Alternatives to Succeed the 401 (k)-. *NLI Research Institute*, (129), 18-25.

[33]. Holden, S., & Schrass, D. (2022). The Role of IRAs in US Households’ Saving for Retirement, 2021. *ICI Research Perspective*, *28*(1).