

Challenges of an ageing population in developed countries



actuvie partner roundtable October, 14th 2026

Agenda

1	Impact of demographic developments on statutory pension systems
2	Recent Structural Measures in certain OECD -Countries
3	Germany in Detail – tax subsidized measures to improve old age provision
4	Future plans to improve statutory welfare systems
5	Conclusion

The Global Longevity Revolution

Macro Demographics

Expanding Lifespans

Over the past century, advancements in medical technology, sanitation and living standards have steadily added decades to human life expectancy across industrialized countries

> 50%

Of children born in rich nations since 2000 are projected to live to age 100 or beyond

The Fertility Inversion

Prolonged longevity coincides with total fertility rates dropping significantly below replacement level (2.1), accelerating systemic population aging.

1.3 – 1.5

Average fertility rates across major European economies and East Asia driving top-heavy age structures



Social institutions built around fixed 3-stage lifecycles (education, work, retirement) now face fundamental structural obsolescence.

Macroeconomic Pressures on Social Welfare

Fiscal Sustainability

Old-Age Dependency Surge

The proportion of non-working seniors relative to the working-age population is expanding rapidly, eroding the contributory core of public financing.

- OECD Average Ratio (2022) ~33%
- **OECD Average Ratio (2050) >50%**

By 2050, there will be one retiree for every two working-age adults in most OECD nations.

Trilemma of State Liabilities

Longevity exerts compound fiscal pressure three interconnected state-funds domains simultaneously.

- **Public Pensions: Extended drawdowns over 20-25 years**
- **Healthcare Systems: Chronic diseases and complex treatments**
- **Long-Term Care: Skyrocketing demand on specialized assistance**

Public expenditure on aging-related programs threatens to dominate sovereign budgets.



Pay-As-You-Go (PAYG) financing mechanisms are intrinsically sensitive to demographic skew

Development of pension rates and retirement ages

Reform elements in most countries



- Increasing retirement age
- Raising contributions paid
- Reducing benefits
- Combine work and pension
- Raise contribution ceiling
- Introduce funded defined contribution schemes

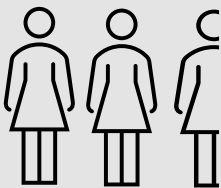
Source: OECD Report Pension at a Glance 2025

Germany's Demographic Squeeze

Case Study: Germany

Contributor-to-Pensioner Ratio

Number of active contributors financing one statutory pensioner in Germany



1992: 2.7



2025: 1.8



2050: 1.3

Dramatic 52% reduction in contributor backing per retiree over 58 years

The Baby Boomer Transition

Germany faces the fastest aging trajectory in Western Europe as cohorts born between 1955 and 1969 reach retirement age.

Mass Labor Exit:

over 12 million skilled retiring in Germany through the mid-2030s

Labor Supply Contraction:

Domestic labor force shrinking by ~400,000 workers annually without sustained immigration.



Shrinking labor pool lowers potential GDP growth while increasing social settlement costs

Source: OECD Report Pension at a Glance 2025

Fiscal Strain on the Statutory Pension (GRV)

Public Finances & Pillar 1

Annual Outlays & Subsidies

The Gesetzliche Rentenversicherung (GRV) operates strictly on PAYG principles. Contributions alone are insufficient to sustain payout guarantees.

Annual Outlays
€ 408 B+
+60% since 2010

Federal Subsidy
€ 112 B+
~25% of federal budget

Federal tax subsidies to the GRV constitute the single largest item in the federal budget.

The 48% Replacement Guarantee

Statutory policy locks a 48% minimum standard replacement rate (Rentenniveau) to prevent old-age poverty, generating major fiscal trade-offs.

Statutory Adequacy Target:

Guaranteed 48% replacement level until 2039 protects standard retirees from pension erosion.

Escalating Contribution Cost:

Without structural adjustments, employee + employer contribution rates must rise from 18.6% forward 22.3% by 2035

Adequacy protections shift the demographic burden directly onto taxpayers and current workers.

By 2035, tax-funded subsidies to Germany's pension fund could exceed € 150B annually

Prolonged Retirement & Care Pressures

Health & Long-Term Care

Expansion of Retirement Duration

Retirees draw state pensions for significantly longer periods than when modern PAYG systems were designed.

- **Average Payout Men: 18.8 Years (vs 13.6 in 1998)**
- **Average Payout Women: 22.1 Years (vs 18.4 in 1998)**

Each additional year of average lifespan adds billions to cumulate state benefit liabilities.

The Care Deficit (Pflegeversicherung)

German statutory long-term care insurance is confronting its most acute financial crisis since inception in 1995.

- **Care recipients exceeded 5.2 million, surpassing all prior forecasts**
- **Critical shortage of certified nursing staff and institutional capacity**
- **Rising co-pays pushing senior citizens onto municipal social assistance**

Contribution rates for care insurance were repeatedly hiked in 2023-2025 to cover deficits.



Longevity creates health-adjusted life expectancy gaps, concentrating medical expenditures in late life

Intergenerational Equity & Economic Trade Offs

Socio-Economic Balance

Burden on Younger Cohorts

Under current statutory rules, younger and future workers shoulder the triple pressure of higher payroll taxes, higher general taxes, and lower relative returns.

Total social contribution Rate (Pensions, health, care and unemployment combined): **Surpassing 42% of gross salary**

Younger workers face **lower internal return rates** on lifetime social contributions than proceeding generations.

Strains the intergenerational solidarity contract foundational to Bismarckian welfare

Public Investment Crowding-Out

State welfare co-financing threatens to cannibalize public investment capacity required for future competitiveness.

- **Infrastructure modernization (rail, transport, power grids)**
- **Digital public administration and digital economy adoption**
- **Education, universities, and industrial research and development**

Fiscal constraint: Germany's constitutional debt brake (Schuldenbremse) limits compensatory debt financing.



Balancing retiree income adequacy against working cohort competitiveness is Germany's core political dilemma

Reform Dilemmas: Germany's Strategic Pathways

Policy Levers & Legislation

Generationenkapital (Capital Buffer)

Part of the ‚Rentenpaket II‘ legislation: introducing state-funded equity-market backed buffer capital to damp future contribution rises.

Sovereign Buffer Target: €200 Billion by mid-2030s
financed through sovereign debt loans and equity transfers

Projected Contribution Relief:
Estimated to yield ~€10B annually in payouts to subsidize contributions, providing partial but not systemic relief

Represents a historic departure toward capital funding, though scale remains modest

Retirement Age & Labor Policies

Adjusting longevity parameters directly by encouraging longer working lives and reforming private pillars.

- **Statutory Age Step-Up: Reaching 67 by 2031**
debate over linking future statutory age to life expectancy (e.g. age 68-70)
- **Revitalizing Private Savings: Riester Modernization**
shifting from high-cost guarantee insurance to low-cost ETF pension investment accounts

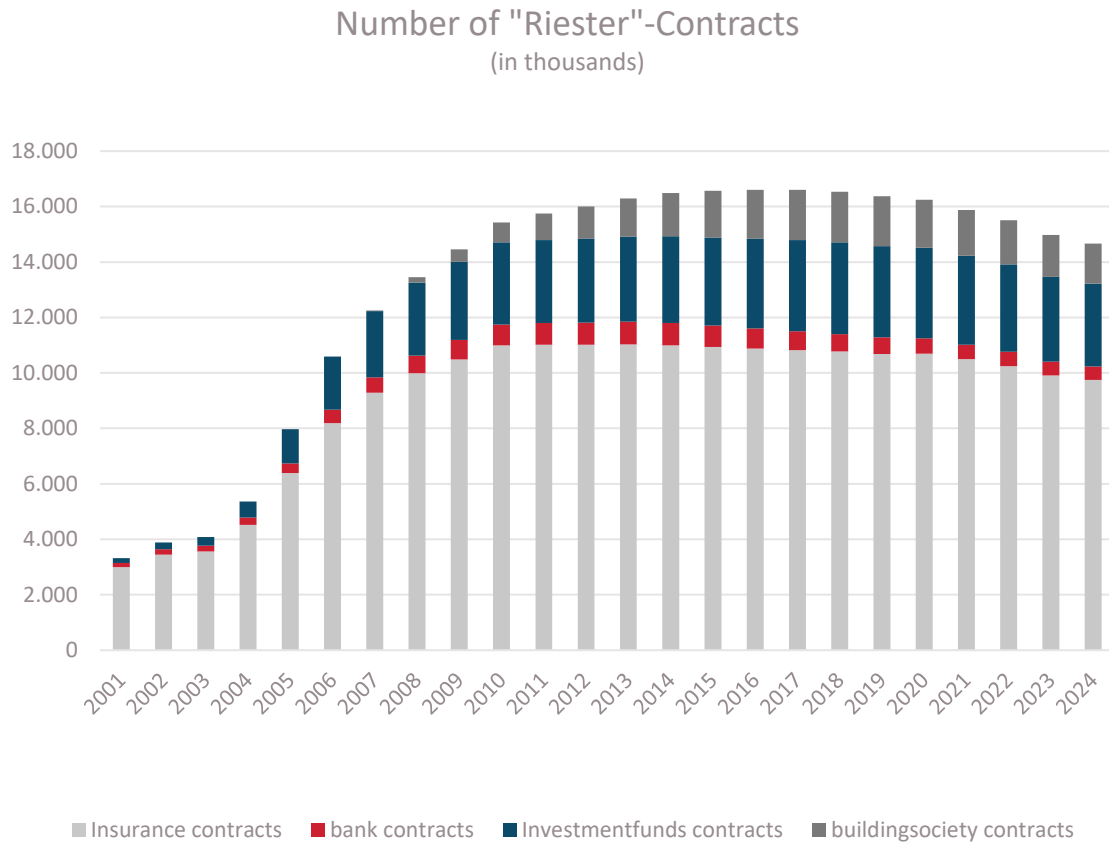
Rising retirement age remains politically contentious despite broad economic endorsement.



Neither capital buffers nor labor incentives alone can replace structural parameter recalibration

State subsidized private pension provision

Geförderte private Altersvorsorge - Riester

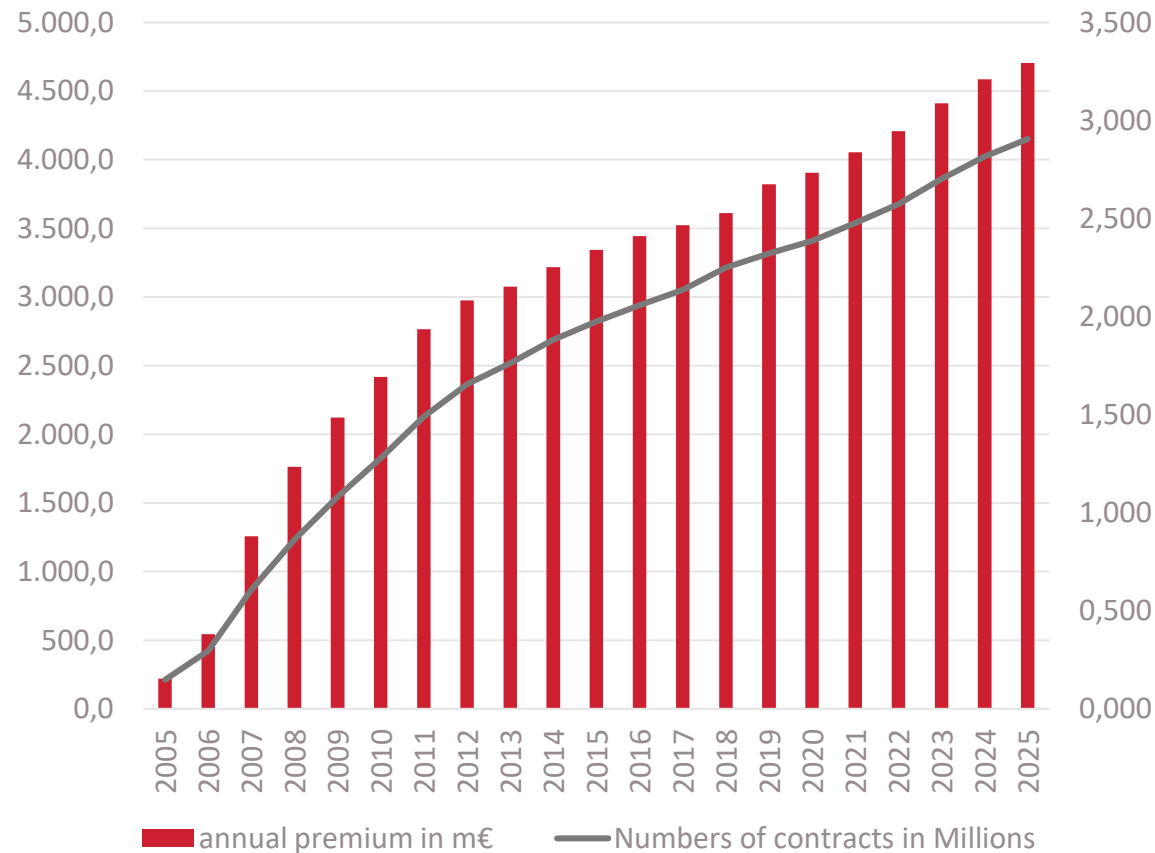


Source GDV own calculations

- 2002, January 1st: Introduction of so called „Riester“ pension product
 - Subsidized by a government financed basic allowance of max. 175 € p.a. in case 4% of income are paid p.a. as own premium and in addition max. 300 € p.a. per child
 - Tax advantage
 - Premium guarantee at the end of savings phase and lifelong annuity mandatory or use for financing an own building
 - Deferred taxation
- 2027, January 1st: Reform of „Riester“ introduction of the so-called Pension investment account (Altersvorsorgedepot)
 - New market players
 - More product varieties: with and without guarantees (80%/100%)
 - Lifelong annuity not mandatory, payout plan until age 85 possible
 - Allowance only in relation to own premium paid
 - Open to self employed people
 - Deferred taxation

State subsidized private pension – „Basisrenten“

Geförderte private Altersvorsorge



Introduction 2005, January 1st

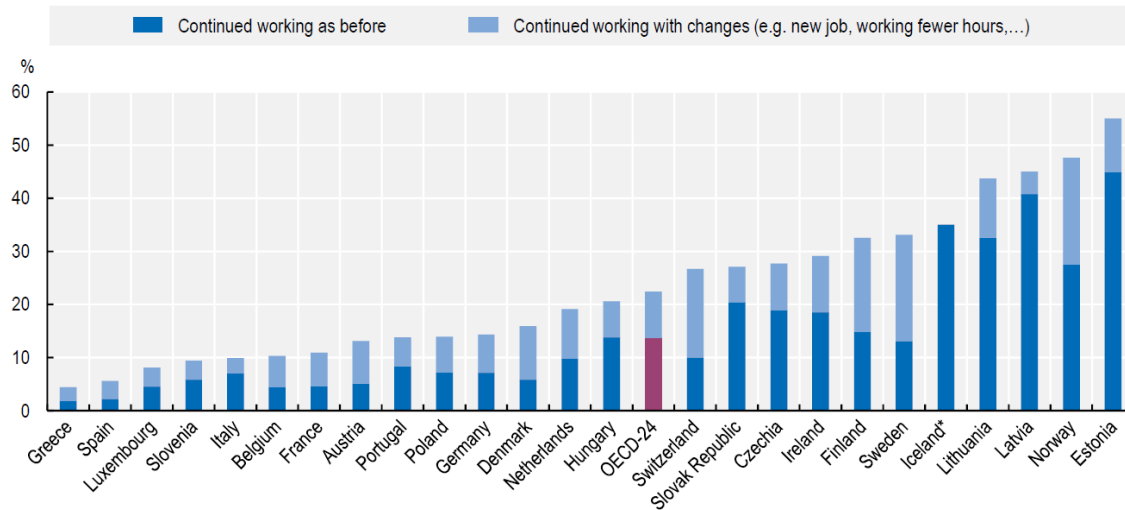
- 30.826 € p.a. tax deductible premium
- deferred taxation
- Lifelong Annuity payment mandatory
- No surrender value
- Target group self employed

Source GDV own calculations

Working Activities after official retirement

„Aktivrente“

Share of recent pensioners (aged 50-69) who continued working during the six months following the receipt of their first old-age pension in Europe, 2023



Source: Eurostat, table lfso_23pens06.

„Aktivrente“ in Germany

- The rules apply to employees who have reached the statutory retirement age (between 65 and 67, depending on their year of birth)
- It is irrelevant whether they are already receiving a pension or are deferring the start of their pension payments
- earn up to 2,000 euros per month (a total of 24,000 euros per year) tax-free.
- This allowance is already taken into account in the payroll tax deduction process, so that the payment is made directly as net pay.
- contributions to health and long-term care insurance continue to be paid, as well as their share towards pension and unemployment insurance.

Early Start Pension for Children - “Frühstartrente”

Summary

1

Start & Eligibility

From 2027 on (retroactive 2026) for children up from 6, 2020 first year of birth, which is supported, max. 144 month of funding

2

Product

Standardaccount (certified product until 18) or state organized product at Deutsche Bundesbank

3

Funding

10 €/p.m. automatic without application, up to 6.840 €/p.a. possible to pay in privately by parents, grant parents or third parties

4

Taxes

Deferred taxes, no tax advantage for own premiums. Pension Payment not before 65.

5

from 18: „Full“ Flexibility

Free product choice out of certified funded private pension products family, chance of supplier possible payout not before 65

6

Legal specificities

Repayment to government in case of death before age 18, in case of a value above 120 €.

7

For Supplier: prohibition of acquisition costs

No acquisition costs allowed until age of 18

8

Strategic Recommendation

Early customer binding with a lot of potential to build up a funded private pension, financial education

Planned Pension Measures

33 Eckpunkte Rentenkommission

1. Key indicator: overall pension provision level

- The Commission recommends setting a **net replacement rate** of at least 70 % after tax as the policy target for a pension scheme that safeguards living standards within the multi-pillar system.
- Further development of the **Digital Pension Overview** as an information and planning tool

2. Retirement, rehabilitation and prevention

- Moderate increase of standard retirement age linked on longevity improvements in relation 2:1
- Reform survival pension
- Improve rehabilitation – Reha-budget

3. Financing of the statutory pension scheme

- Linking development of pensions to developments of wages
- introduction of a transitional factor
- Transparency on benefits of the statutory pension scheme

Source: https://www.bmas.de/SharedDocs/Downloads/DE/Soziales/empfehlungen-der-rentenkommission-bmas-juni-2026.pdf?__blob=publicationFile&v=4

Planned Pension Measures

33 Eckpunkte Rentenkommission

4. Preventing poverty in old age

- Welfare state reform
- Basic income support

5. Inclusion of further groups in the statutory pension scheme

- Self employed, civil servants, Members of Parliament

6. Funded elements

- Strengthening funded elements in pension provision – role models in other countries
- Transparent governance
- Statutory funded pension: individual capital accounts- additional contribution rate of 2% invested in the capital market
- Improve corporate pension schemes as part of the overall level of provision
- “Frühstartrente” – Subsidized product for children

7. Digitalization and administrative modernization

- Improve processes within the DRV

Source: https://www.bmas.de/SharedDocs/Downloads/DE/Soziales/empfehlungen-der-rentenkommission-bmas-juni-2026.pdf?__blob=publicationFile&v=4

Planned Health Care Reform

Pflegereform

- Drastic deterioration of financial situation
 - High demand: forecasted people requiring care over 6 million
 - Cost trends: rising wages, increasing cost of care
 - Demographic change: ratio contributors/benefit recipients from 29 in 1998 to 10 in 2025
- Planned Measures
 - Strengthening revenue
 - Indexation of benefits
 - Improving efficiency
 - Assessment
 - Prevention-oriented, professional guidance and support in home care

Source: <https://www.bundesgesundheitsministerium.de/service/gesetze-und-verordnungen/guv-21-lp/pnog#c34565>

Comparative Models: Bismarckian vs. Multi-Pillar

Global Benchmarking

Bismarckian Model: Germany, Italy, France

High PAYG Reliance

Dominant first pillar provides near-universal coverage and wage replacement, but concentrates demographic risk directly in the sovereign budget

- Vulnerable to fertility declines and retirement duration expansion
- Occupational (Pillar2) and private(Pillar3) coverage under-penetrated
- Demographic shocks trigger tax surges or benefit freezes

Historically resilient, but severely stressed by modern 100-year life trends

Advanced Multi-Pillar: Netherlands, Australia, Nordics

Diversified Risk Architecture

Combines a universal flat basic state pension with quasi-mandatory funded occupational pillars and sovereign wealth buffers.

- Funded pension assets exceed 150-200% of GDP, cushioning demographics
- Automatic indexing of state pension age to life expectancy
- Higher total replacement rates without disproportionate state debt

Consistently achieve top ranks in Mercer CFA Global Pension Index for sustainability



Lesson für Germany: Transitioning toward balanced multi-pillar risk pooling is essential for long-term fiscal solvency

Building a Resilient Longevity Architecture

Future Roadmap

True Multi-Pillar Expansion to relieve singular reliance on PAYG

- Scale up capital-funded components (Generationenkapital)
- simplify occupational pensions (bAV) via autoenrollment

Target: Diversified income foundation

Labor Market Mobilization

- Counteract demographic shrinkage by boosting female full-time participation
- Streamlining immigration
- Incentivizing silver work past 65

Target: Stabelize contributor-to-retiree base

Care& Health System Restructuring

- Invest in preventive healthcare to extent healthy life expectancy
- Automate clinical workflows
- Structural recapitalize long-term care insurance

Target: Curtail late-life care deficits

Dynamic Longevity Indexing

- Depoliticize future pension age debates by tying statutory retirement thresholds to actuarial life expectancy gains
- Mirroring Nordic models

Target: intergenerational fairness



Strategic Imperativ: Longevity is an achievement, not merely a fiscal burden.

Adapting institutional architecture ensures dignified aging without overburdening tomorrows generation

Source: OECD Report Pension at a Glance 2025

Role of Actuaries

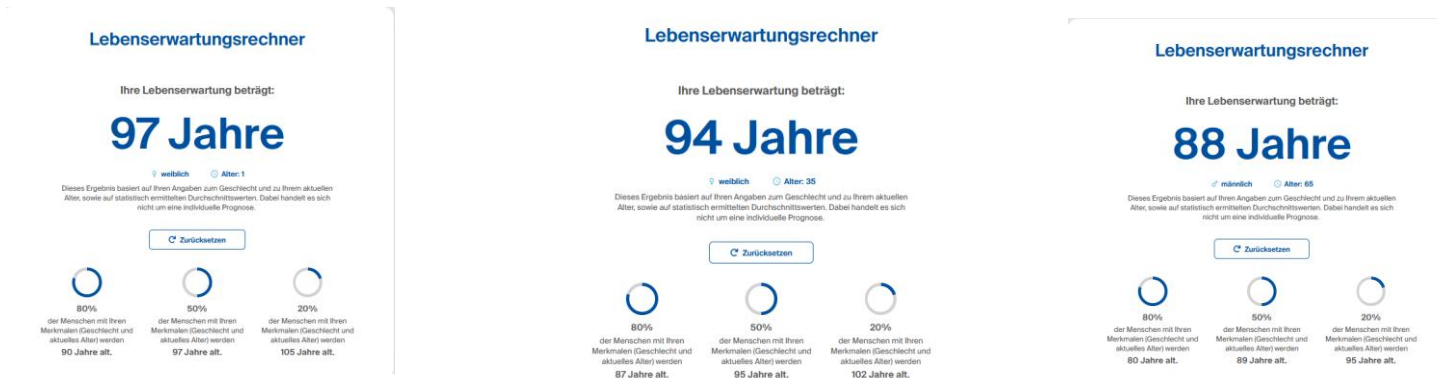
strengthen the security and resilience of our societies

- Advice governmental commissions to reform the statutory pension systems
- Inform public about impacts of longevity on the welfare systems
- Knowledge transfer
- Support by projections strategic structure for new systems or system adjustments
- Design attractive products for occupational or private pension schemes as well as private healthcare products

DAV's Activities

Publications and Initiatives

Wie alt werden wir? Ein Lebenserwartungsrechner der DAV gibt Orientierung



Kapitalgedeckte Alterssicherung stärken: DAV fordert flächendeckende und lebenslange Absicherung

Die Deutsche Aktuarvereinigung (DAV) e.V. begrüßt die aktuellen Reformen zur betrieblichen Altersversorgung und privaten Altersvorsorge als wichtigen Schritt hin zu einer stärkeren kapitalgedeckten Alterssicherung. Zugleich mahnen die deutschen Aktuarinnen und Aktuarien an, die Reformen konsequent auf das Ziel einer flächendeckenden und lebenslangen Einkommenssicherung im Alter auszurichten.

Stellungnahme der DAV und des IVS zum Entwurf eines Gesetzes zur Stabilisierung des Rentenniveaus und zum Aufbau eines Generationenkapitals für die gesetzliche Rentenversicherung (Rentenniveaustabilisierungs- und Generationenkapitalgesetz)

IVS: Ohne starke bAV und ohne Kapitalmarkt ist die 70 Prozent Nettoersatzquote nicht zu schaffen

Gestaltungsvorschläge zu den Empfehlungen der Alterssicherungskommission - DAV und IVS beziehen Stellung

Thank You

For Your Attention!

Impressum – Rechtliche Hinweise

Aeiforia GmbH, Kaiserstraße 1, 56410 Montabaur

Telefon +49 (2602) 99983-0, mail@aeiforia.de, www.aeiforia.de

Die Aeiforia GmbH wird gesetzlich durch die Geschäftsführung (Martin Gattung (Vorsitzender), Martina Backes, Dr. Jutta Krienke, Ingo Priebe, Torsten Schwendrat vertreten.

Handelsregister: Amtsgericht Montabaur, Registergericht: HRB 22857, USt.-Id.-Nr. DE280790585

Haftungsausschluss

Die Aeiforia GmbH aktualisiert und prüft die Informationen in ihren Schulungsunterlagen, Präsentationen und Druckstücken ständig. Trotz aller Sorgfalt können sich Fehler einschleichen oder sich Daten inzwischen geändert haben. Eine Haftung oder Garantie für die Aktualität, Richtigkeit und Vollständigkeit der zur Verfügung gestellten Informationen kann daher nicht übernommen werden. Ebenso übernimmt die Aeiforia GmbH keine Haftung für Schäden, die durch die Nutzung der Information in jeglicher Form entstehen. Gleiches gilt auch für alle Webseiten, auf die mittels Hyperlinks verwiesen wird. Die Aeiforia GmbH ist für den Inhalt der Webseiten, die aufgrund einer solchen Verbindung erreicht werden, nicht verantwortlich.

Urheberrecht

© 2012 - 2026 Aeiforia GmbH, Montabaur (Deutschland)

Alle Rechte vorbehalten. Texte, Bilder, Grafiken, Animationen und Videos sowie deren Anordnung in dieser Präsentation bzw. den Schulungsunterlagen der Aeiforia GmbH unterliegen dem Schutz des Urheberrechts und anderer Schutzgesetze. Der Inhalt dieser Unterlagen darf nicht zu kommerziellen Zwecken kopiert, verbreitet, verändert oder Dritten zugänglich gemacht werden. Wir weisen darauf hin, dass auf per Hyperlink verwiesenen Webseiten enthaltene Bilder und Text dem Urheberrecht Dritter unterliegen.

Bildnachweis Titelfolie: Adobe Stock, Silhouettes (denisismagilov)

Weitere Bildnachweise hier eintragen:

Diagramme, Grafiken, Tabellen, Übersichten etc. sind Eigentum der Aeiforia GmbH, soweit es in den Fußzeilen nicht anders angegeben ist.