

# Pure DC in Germany – How Does It Work?

Thomas Hagemann  
Mercer

Dr. Georg Thurnes  
Aon

# About the speaker



## Thomas Hagemann

- Chief Actuary Germany
- Since 1996 actuary for occupational pensions, since 2009 Chief Actuary of Mercer Germany. One of the focal points is German DC.



## Mercer

- Consulting and digital solutions that help companies meet the health, wealth and career requirements of a changing work environment.
- More than 22,000 employees in 44 countries.
- In Germany, more than 600 employees at 7 locations.
- Focus on consulting companies on all aspects of occupational pensions, investments and pension administration as well as remuneration, human capital strategy and M&A.

# About the speaker



## Dr. Georg Thurnes

- Partner and Chief Actuary Germany
- since 1990 in the actuarial consulting field, since 2012 as Chief Actuary; board member of IVS and aba (German expert organization for occupational pensions); focus on multinational firms, Pensionskassen and Pensionsfonds and ALM-related topics



## Aon

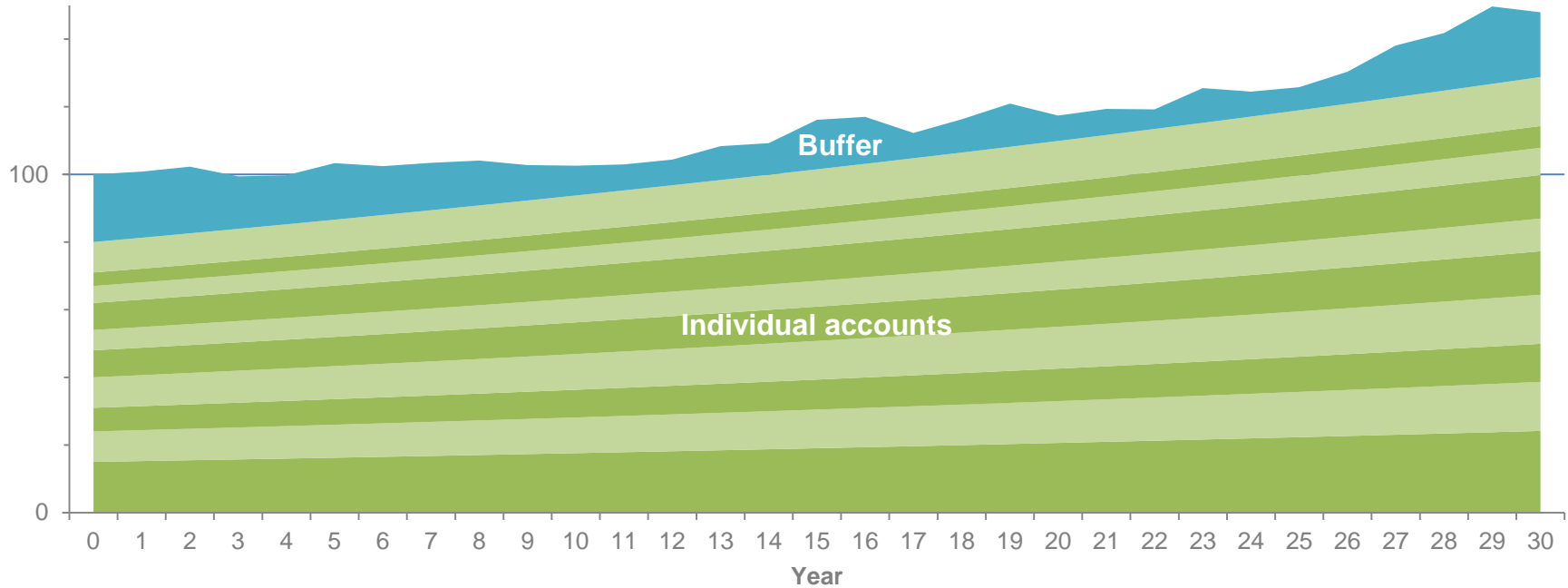
- One of the world's leading global risk, health and HR consulting firms.
- In Germany strong focus on brokerage business as well as benefit and actuarial consulting in occupational pensions.
- About 50,000 `ees in 120 countries.
- German retirement & investment practice 450 `ees in 5 locations.

# German DC: Overview



- **Currently**, occupational pensions always include **guarantees**
  - Plan or company has to assure a specified level of benefits
  - Means restrictions on asset allocation, lower investment returns, lower benefits
  - Requires higher contingency margins for the financing entity
- Under the **new framework** guarantees are **not even allowed**
  - Lower cost (e.g. because of lower contingency margins)
  - Higher returns (investment strategy can be less defensive)
- New framework prefers **collective saving models**; market volatility can be buffered collectively (1st buffer)
- **Annuities** are mandatory and an integral part of the system
- **Funding ratio** during decumulation between 100 % and 125 % (2nd buffer)
- Buffer for both entitled and retired plan members, built up by an additional "**safety contribution**" (3rd buffer)

# Entitled members: How collective saving could work



# Retired members: Annuities and funding ratio

## Individual calculation as of retirement date

- Entitled member has a **certain capital** which is converted into an **annuity**
- **Discount rate** in general has to be selected **prudently**
- Discount rate for calculating the annuity can be chosen **more prudently**, but individual funding ratio must **not exceed 125 %**.
- Other calculation bases: **best estimate**, taking into account its future changes

## Collective calculation for retired population

- **Actuarial reserves** for pensioners correspond in total to the assets held for pensioners
- **Funding ratio** (actuarial reserves/present value of the pensions) must be between 100 % and 125 % (after increasing pensions at minimum 110 %)
- **No individual accounts**; individual calculations of the funded status only at the date of retirement.

# Three Independent Buffers in German DC

Buffer for entitled members

Buffer for retired members

Entitlement

Annuity phase

Buffer built by safety contributions

- Additional reserve to be allocated to the beneficiaries as a whole
- Should (but does not have to) be agreed in the collective agreement

# Designing a German DC plan – holistic simulations

- The German DC concept offers extensive design options for:
  - optimising pension benefit levels
  - at the same time reducing the impact of market volatility on individuals
  - avoiding pension cuts
- The challenge is to combine the parameters in such a way that the desired trade-off between benefit level and volatility is very likely to be achieved.
- Given the complexity of the system, especially the inter-relation between the relevant parameters, a calibration of the impact of changes to the parameters can only be estimated by holistic simulations.

Investment strategy

Use of collective capital buffers for saving, conversion and payout

Discount rate for conversion of accrued capital into annuity at retirement

Rules for adjusting pensions in payment

## Examples ....

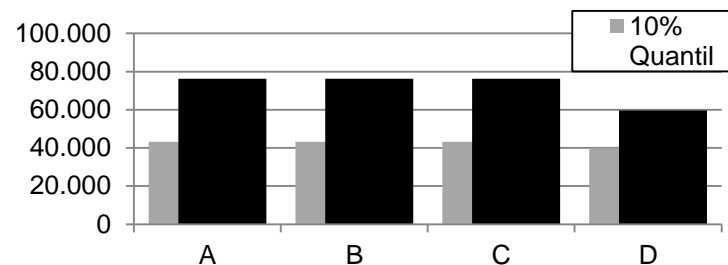
# Evaluation of designs – Examples (1)

	Set A	Set B	Set C	Set D
<b>Investment strategy</b>				
▪ government bonds	25%	25%	25%	40%
▪ corporate bonds	25%	25%	25%	40%
▪ international shares	50%	50%	50%	20%
Long-term return expectations	5.5%	5.5%	5.5%	4.2%
Discount rate for conversion	5.5%	4.0%	4.0%	3.2%
Safety contributions*)	No	No	10%	10%

\*) %age of contributions; use defined to predominantly assure maintenance of contributions at retirement

## Accrued capital (AC) at retirement

	A	B	C	D
Total contributions (TC) accrued at age 63	31,724	31,724	31,724	31,724
Probability AC < TC	1.9%	1.9%	1.9%	0.8%



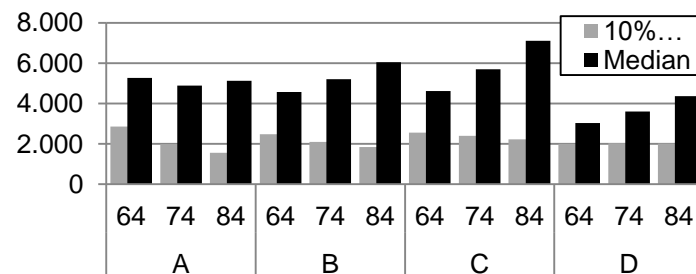
# Evaluation of designs – Examples (2)

	Set A	Set B	Set C	Set D
<b>Investment strategy</b>				
▪ government bonds	25%	25%	25%	40%
▪ corporate bonds	25%	25%	25%	40%
▪ international shares	50%	50%	50%	20%
Long-term return expectations	5.5%	5.5%	5.5%	4.2%
Discount rate for conversion	5.5%	4.0%	4,0%	3.2%
Safety contributions*)	No	No	10%	10%

\*) %age of contributions; use defined to predominantly assure maintenance of contributions at retirement

## Pension payment experience

	A	B	C	D
Average number of				
▪ Pension increases in 20 years	4.3	5.7	5.7	5.3
▪ Pension reductions in 20 years' time	5.2	3.6	1.9	0.6
Probability for				
▪ Pension at age 69 > Pension at age 64	45%	62%	85%	98%
▪ Pension at age 74 > Pension at age 64	41%	60%	77%	93%



**Thank you very much for your attention!**



Contact details:

**Thomas Hagemann**

address: Mercer Deutschland GmbH  
Peter-Müller-Straße 24  
40468 Düsseldorf, Germany

phone: +49 211 44779 1485

mail: [thomas.hagemann@mercer.com](mailto:thomas.hagemann@mercer.com)

web: [www.mercer.de](http://www.mercer.de)  
[www.facebook.com/chefaktuar](https://www.facebook.com/chefaktuar)  
[www.twitter.com/chefaktuar](https://www.twitter.com/chefaktuar)

**Thank you very much for your attention!**



Contact details:

**Dr. Georg Thurnes**

address: Aon Hewitt GmbH  
St.-Martin-Straße 60  
81541 München / Germany

phone: +49 89 52305 4769

mail: [georg.Thurnes@aon.com](mailto:georg.Thurnes@aon.com)

web: [www.aon.com](http://www.aon.com)