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*Singapore Actuarial Society
Health and Retirement Conference 2016*

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Collective Defined Contribution:

*“Torn between 2 lovers:
DB or DC”*

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The Netherlands

- Some facts:
 - 10,500 km from Singapore
 - 37,354 km²: 18% water, 82% land
 - 17M inhabitants (= aver. 550 inh./km² ground)
 - Approx. 1,200 qualified actuaries
 - 110 registered qualified to certifying

The Netherlands



Dykes: 18,000 kms
= 3 x The Great Wall

Windmills: 1,200
Tulips: 6B /yr



NLD pensions = high standards

International surveys

International rankings NLD:

- MGPI 2015: 2 / 25
- Allianz Pension Sustainability Index 2014: 5 / 50
- Allianz Retirement Income Adequacy 2015: 1 / 49

Most countries in Asia reflect to AUS, CAN, UK or USA as the benchmark for pension systems:

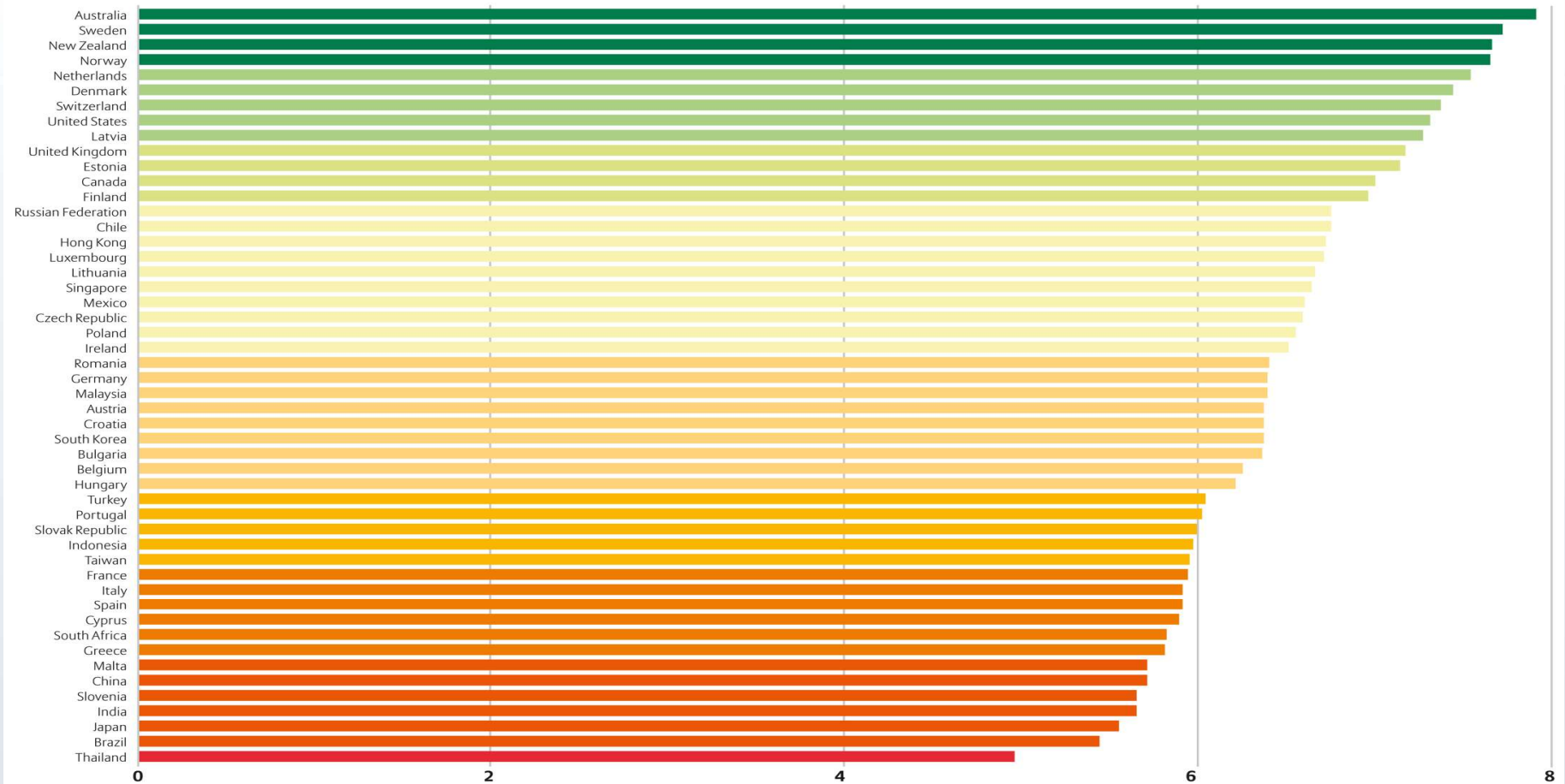
- MGPI 2015: AUS 3 , CAN 7 , UK 9 , USA 14
- Allianz PSI 2014: AUS 1 , CAN 12 , UK 10 , USA 8
- Allianz RIA 2015: AUS 35 , CAN 12 , UK 14 , USA 6

Mercer Global Pension Index 2015

No.	Country	Index value	Adequacy	Sustainability	Integrity
1	Denmark	81,7	(4) 77,2	(1) 84,7	(6) 84,5
2	Netherlands	80,5	(2) 80,5	(2) 74,3	(2) 89,3
3	Australia	79,6	(1) 81,2	(4) 72,1	(3) 87,6
7	Canada	70,0	79,4	56,2	74,3
9	UK	65,0	64,2	51,3	85,5
10	Singapore	64,6	55,7	65,9	77,2
14	USA	56,4	55,1	54,4	61,1
21	Indonesia	48,3	41,3	40,1	70,8
22	China	48,0	62,7	29,8	50,0
23	Japan	44,1	48,8	26,5	61,2
24	Korea (South)	43,8	43,9	41,6	46,8
25	India	40,4	30,0	39,9	57,6
	Average	60,5	63,8	48,2	72,6

Allianz Pension Sustainability Index 2014

2014 Pension Sustainability Index*

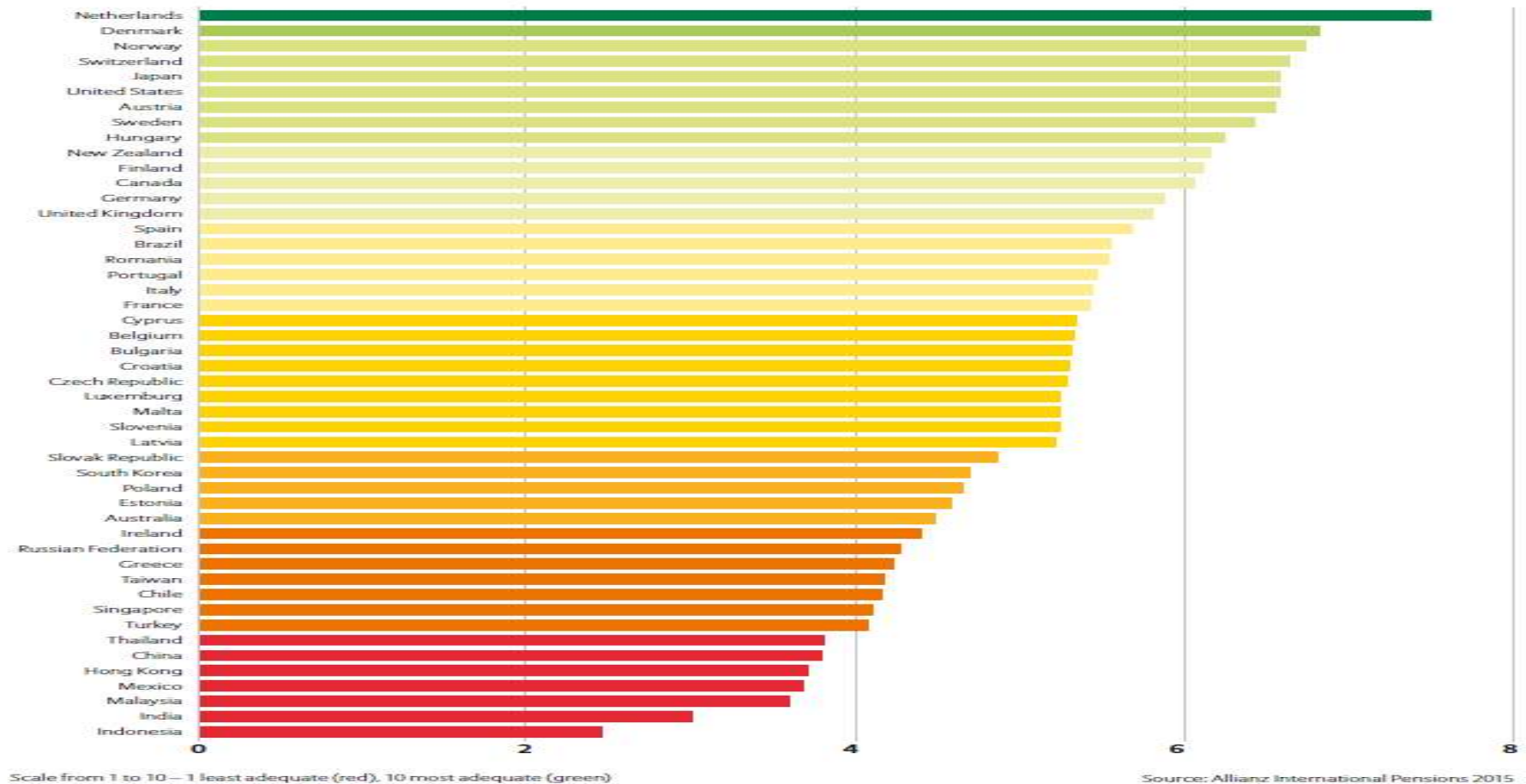


* Scale from 1 – 10: 10 minor need for reforms, 1 high need for reforms

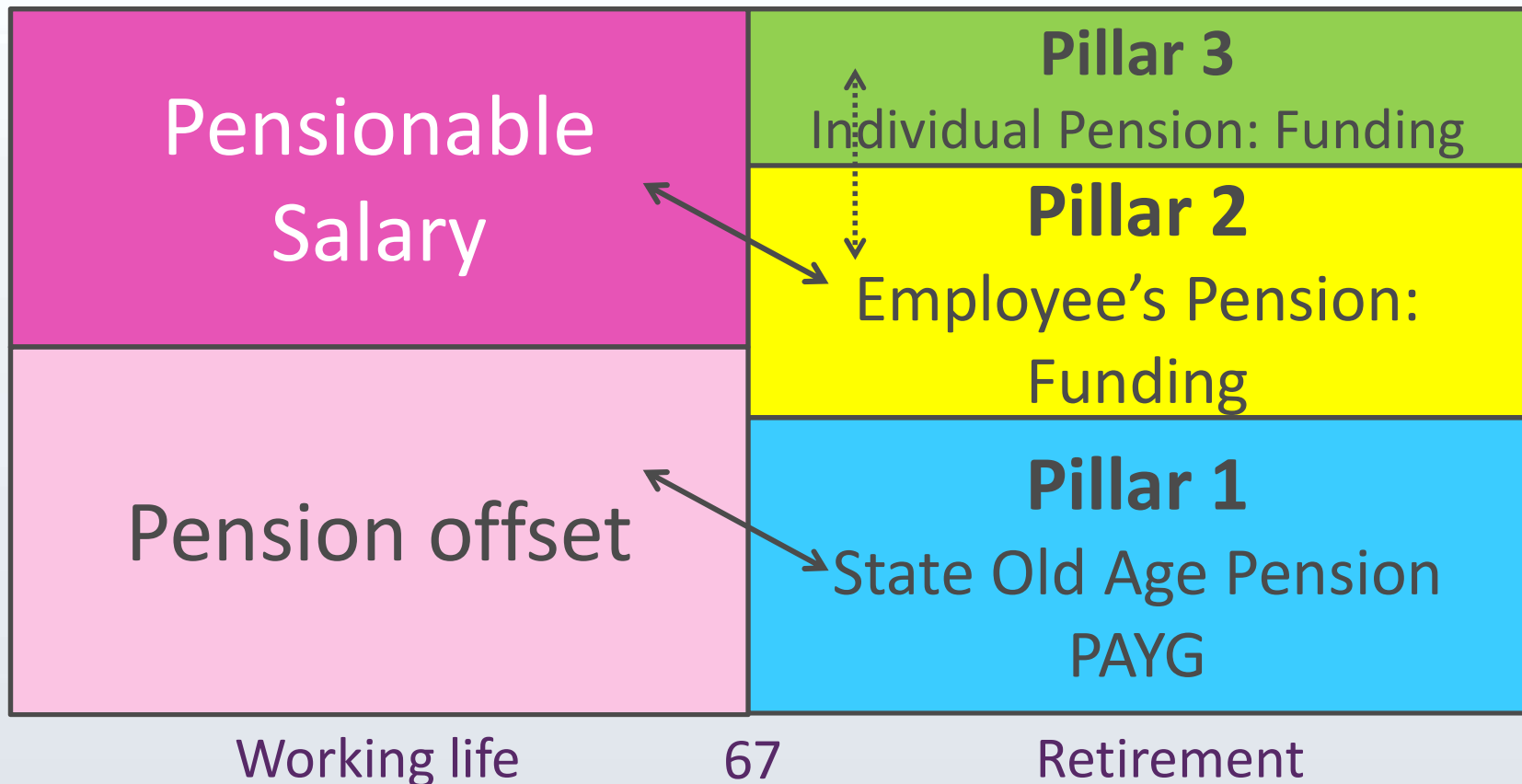
Source: Allianz Asset Management, International Pensions, January 2014

Allianz Retirement Income Adequacy 2015

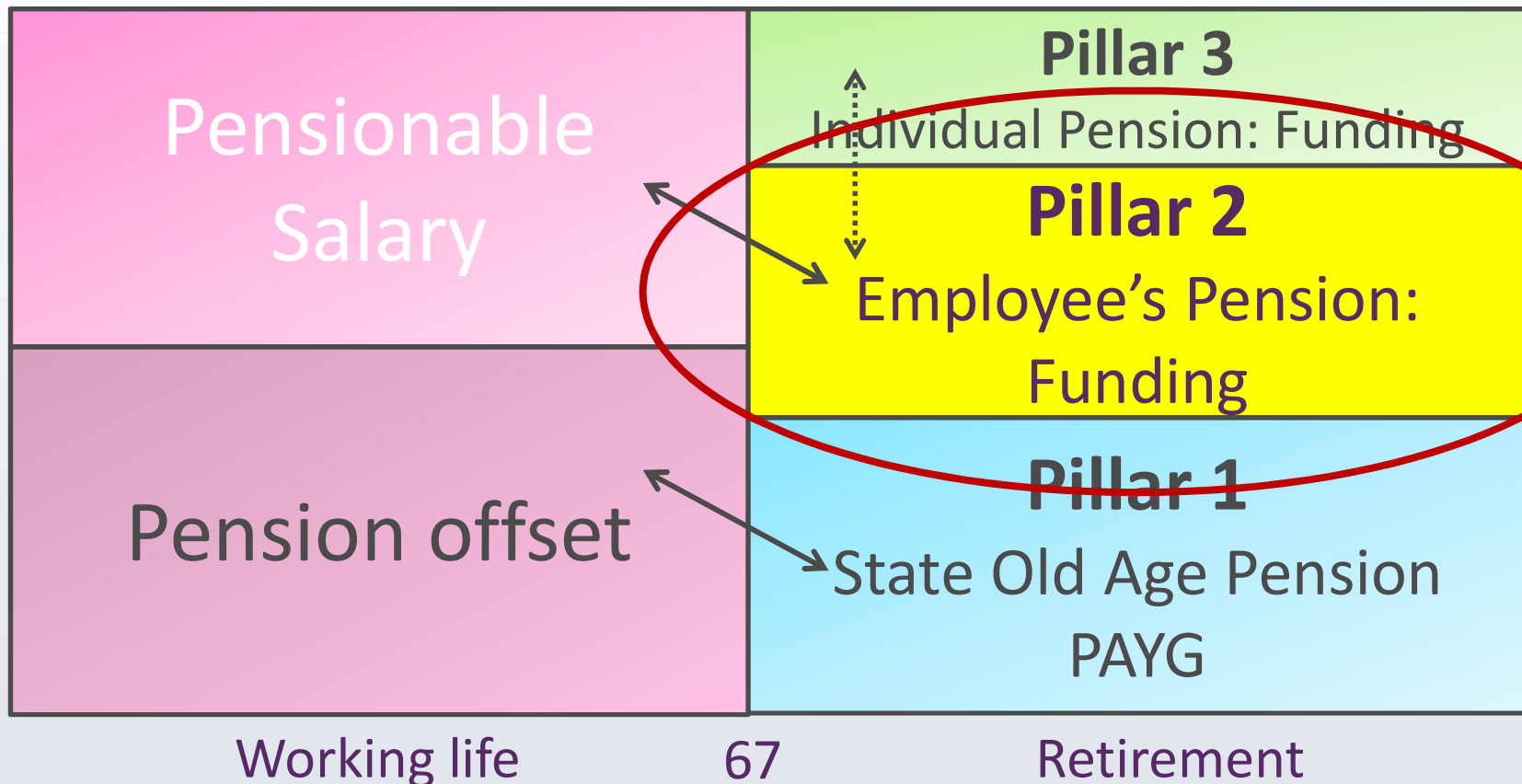
Figure 3: Retirement Income Adequacy (RIA) Ranking



Dutch 3 Pillar Pension System



Dutch Pillar 2 Pension: E'ee – E'er



Dutch Pensions: Parties involved

2 Supervisory Bodies:

- material/governance
- consumers



Pension providers: Pension Fund

- Company/Industry/General
Insurer
PPI



Service
Agreement

Pension
Plan



Premium

Pension Payment

Employee Contribution

Labour + Pension
Agreement



Dutch Pensions: Parties involved



Pension Law: pension is domain of social partners
Labor Law: equal treatment (= no discrimination on age, gender, marital status)



Supervise execution of pension contract:

- PF Solvency
- Risk Management
- Financial reporting
- Governance
- Consumers protect.



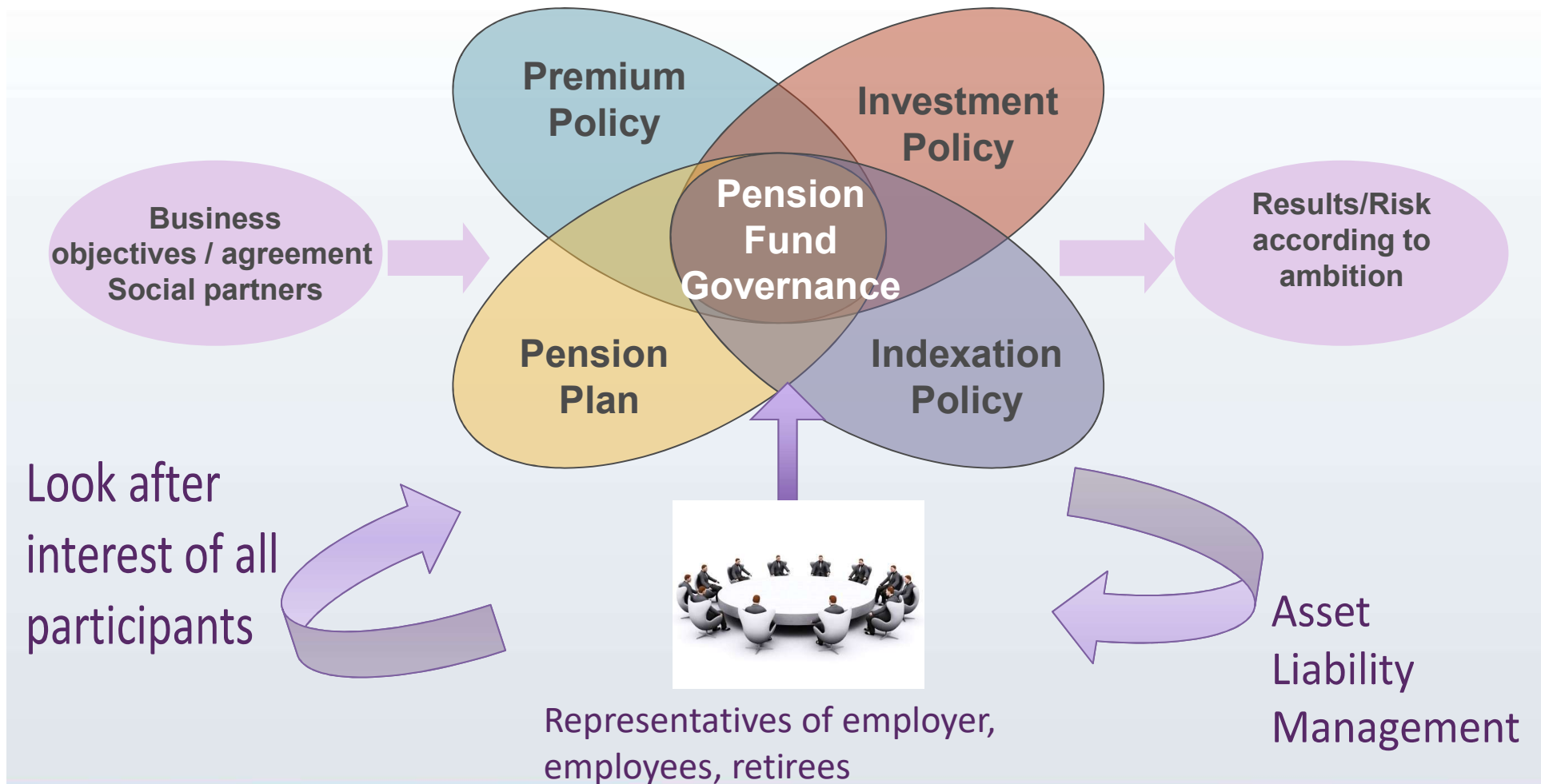
Fiscal Law:

- framework for pension plan design:
- taxation: 'EET' principle

Pillar 2: Fiscal limits

- Salary:
 - < 2015 : unlimited salary
 - ≥ 2015 : max.salary = EUR 100,000 (indexed)
- Minimum offset: EUR 12,953 (2016)
 - $100/75 \times$ Pillar 1 Pension married person
- Maximum accrual:
 - $< \sim 2000$: $40 \times 1.75\% = 70\%$ FinalPay65
 - $\sim 2000 - 2013$: $44 \times 2.25\% = 99\%$ AveragePay $\approx 75\%$ FP65
 - 2014: $44 \times 2.15\% \approx 95\%$ AP $\approx 70\%$ FP65
 - 2015+: $46 \times 1.875\% = 86\%$ AP $\approx 65\%$ FP67

Execution of Pension Plan by PF



How does a Dutch PF work?

Contributions:



+



Σ

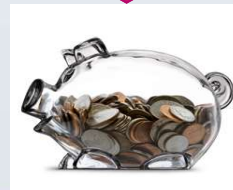
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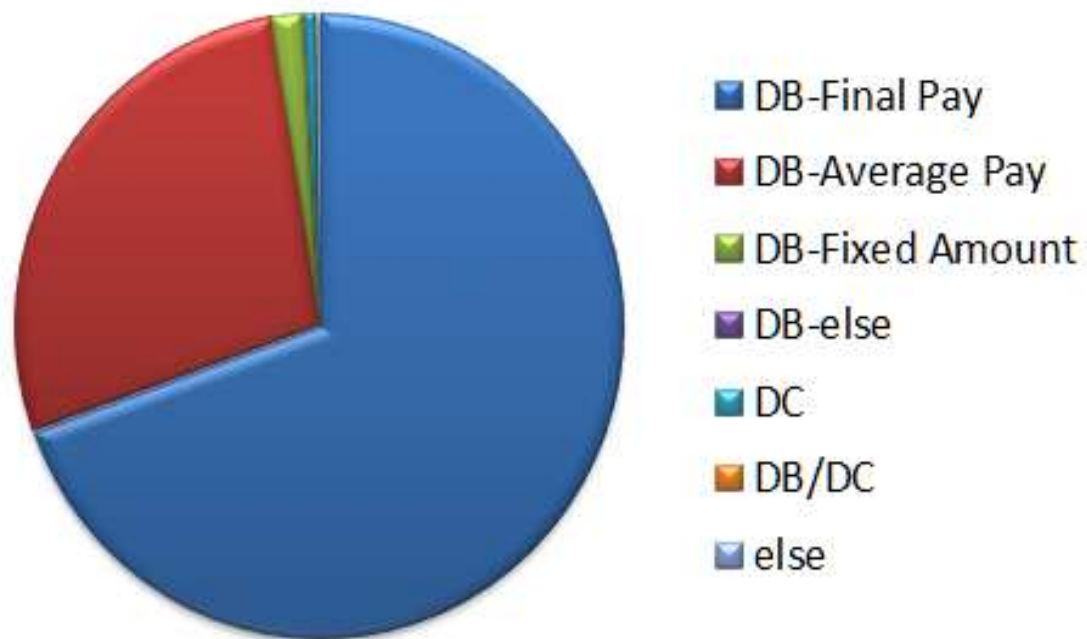


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Pillar 2 Pension schemes: FP→AP

1998



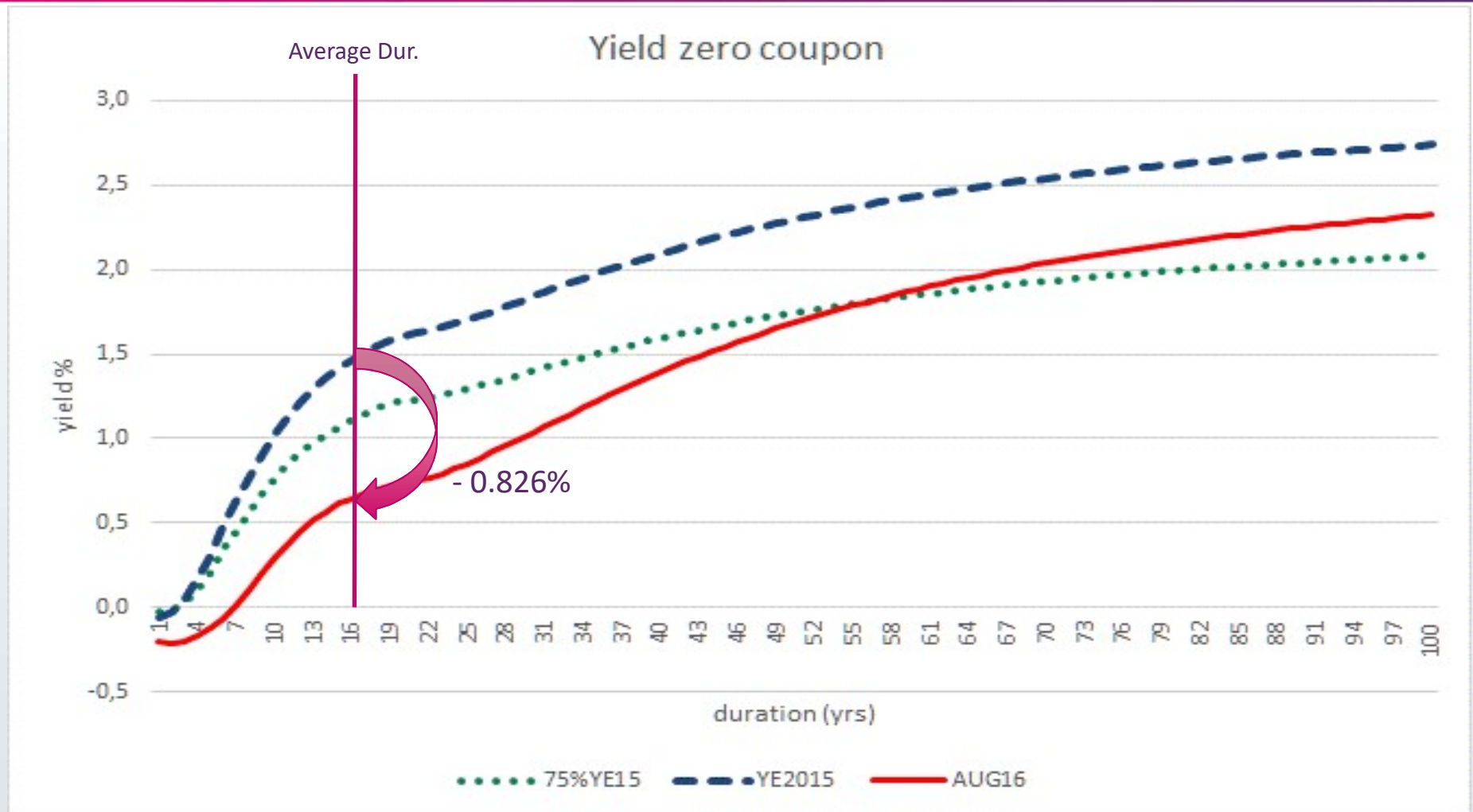
99% real DB

2015



96% looks like DB

Pension Funds: Discount rate + UFR



Definitions IAS 19

Defined contribution plan:

Under a DC plan, the entity pays fixed contributions into a fund but has no legal or constructive obligation to make further payments if the fund does not have sufficient assets to pay all of the employees' entitlements to post-employment benefits

Defined benefit plan:

A DB plan is a post-employment benefit plan other than a DC plan. These would include both formal plans and those informal practices that create a constructive obligation to the entity's employees.

Definitions IAS 26

Defined contribution plan:

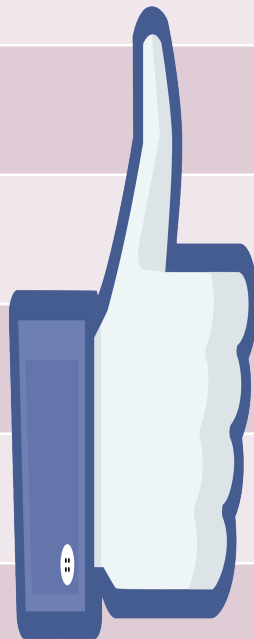
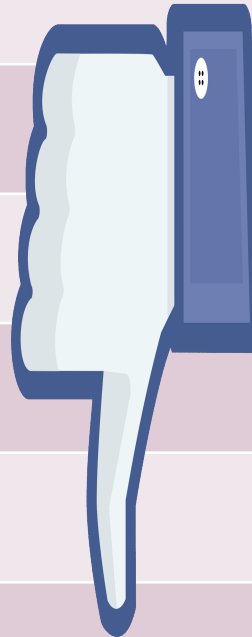
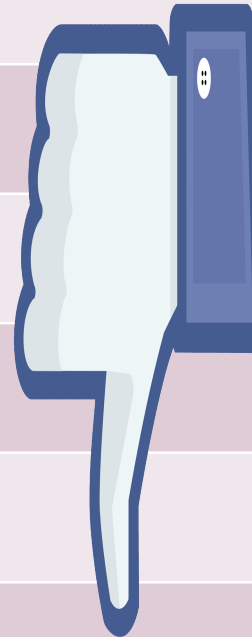
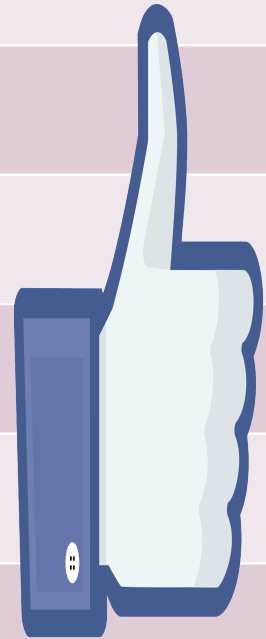
A retirement benefit plan by which benefits to employees are based on the amount of funds contributed to the plan plus investment earnings thereon. [IAS 26.8]

Defined benefit plan:

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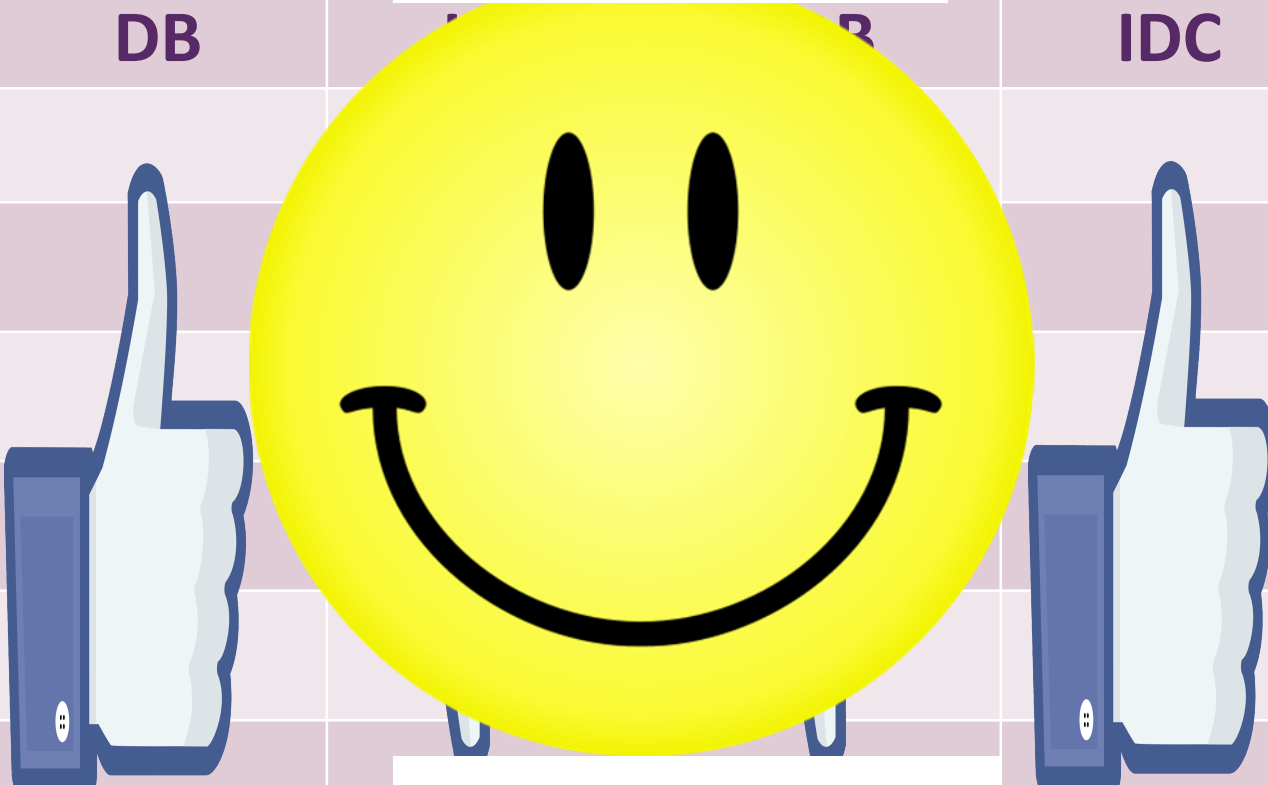
Risk distribution DB vs Indiv.DC

	E'ee	E'ee	E'er	E'er
	DB	IDC	DB	IDC
Accrual				
Indexation				
Investment				
Longevity				
Costs				
Balance sheet				



Looking for the right mix

	E'ee	Everybody	E'er
	DB		IDC
Accrual			
Indexation			
Investment			
Longevity			
Costs			
Balance sheet			



Everybody?

The solution is Collective DC (CDC)

- From the **employer's perspective** now DC:
 - Contribution is a fixed % of salary sum
 - No future additional payments,
 - But also no future benefits!
- From the **employee's perspective** still DB:
 - Conditional or ambitious accrual
 - Annual accrual based on average pay pension
 - But the level of accrual may differ each year

Example: $E'_{ee} + E'_{er} = 25\% \text{ Sal.}$

Year	Price 1.875% accrual	Real accrual in year	Price for indexation	Donation for reserving
1	20%	1.875%	2%	3%
2	25%	1.875%	-	-
3	30%	1.563% ⁽¹⁾	-	-
3 alt.	30%	1.674% ⁽²⁾	-	-2%
4	32%	1.465% ⁽³⁾	-	-
4 alt.	32%	1.465% ⁽³⁾	1%	-1%
Etc.				

(1) = $1.875\% \times 25/30$; (2) = $1.875\% \times 25/(30-2)$; (3) = $1.875\% \times 25/32$

Best of 2 worlds?

The **employer** gets what he wants:

- Fixed contribution as % of salary sum
 - his share approx. 15 – 20% of salary sum
- No longer expensive IFRS calculations
- No liabilities on the Balance Sheet => higher value of company => profit for share holders
- Premium in P&L is real contribution

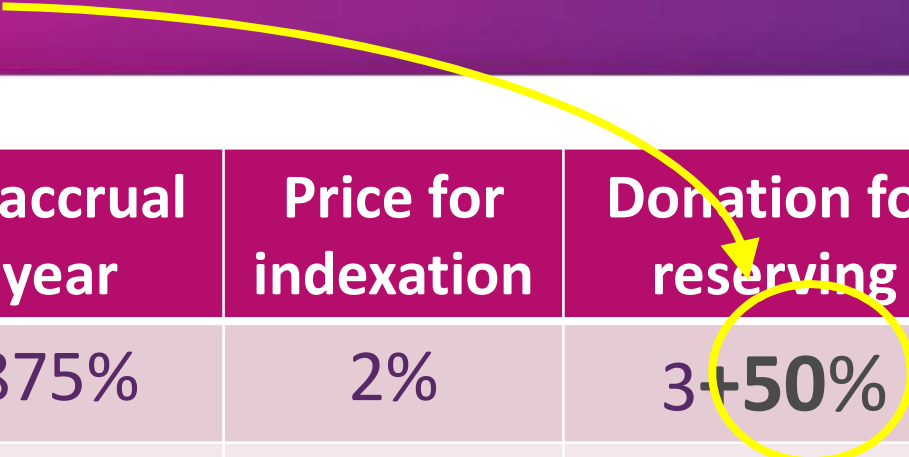
So at least the employer is satisfied!!

Best of 2 worlds?

The **employee** still has:

- a DB pension, although
 - No guaranteed level accrual ☹️
 - No guaranteed level indexation ☹️
 - Perhaps a nice 'dowry' may compensate some of this uncertainty 😊.

Example: $E'_{ee} + E'_{er} = 25\%$
+ dowry E'_{er} 50%



Year	Price 1.875% accrual	Real accrual in year	Price for indexation	Donation for reserving
1	20%	1.875%	2%	3+50%
2	25%	1.875%	2%	-2%
3	30%	1.875%	2%	-7%
4	32%	1.875%	2%	-9%
5	33%	1.875%	2%	-10%

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Some companies with CDC plan (year introduction & 'dowry')



2004; EUR 0 !!



2005; EUR 300M



2005; EUR 105M



Rabobank

2013; EUR 750M



2014; EUR 879M



2014; EUR 288M



2014; EUR 600M

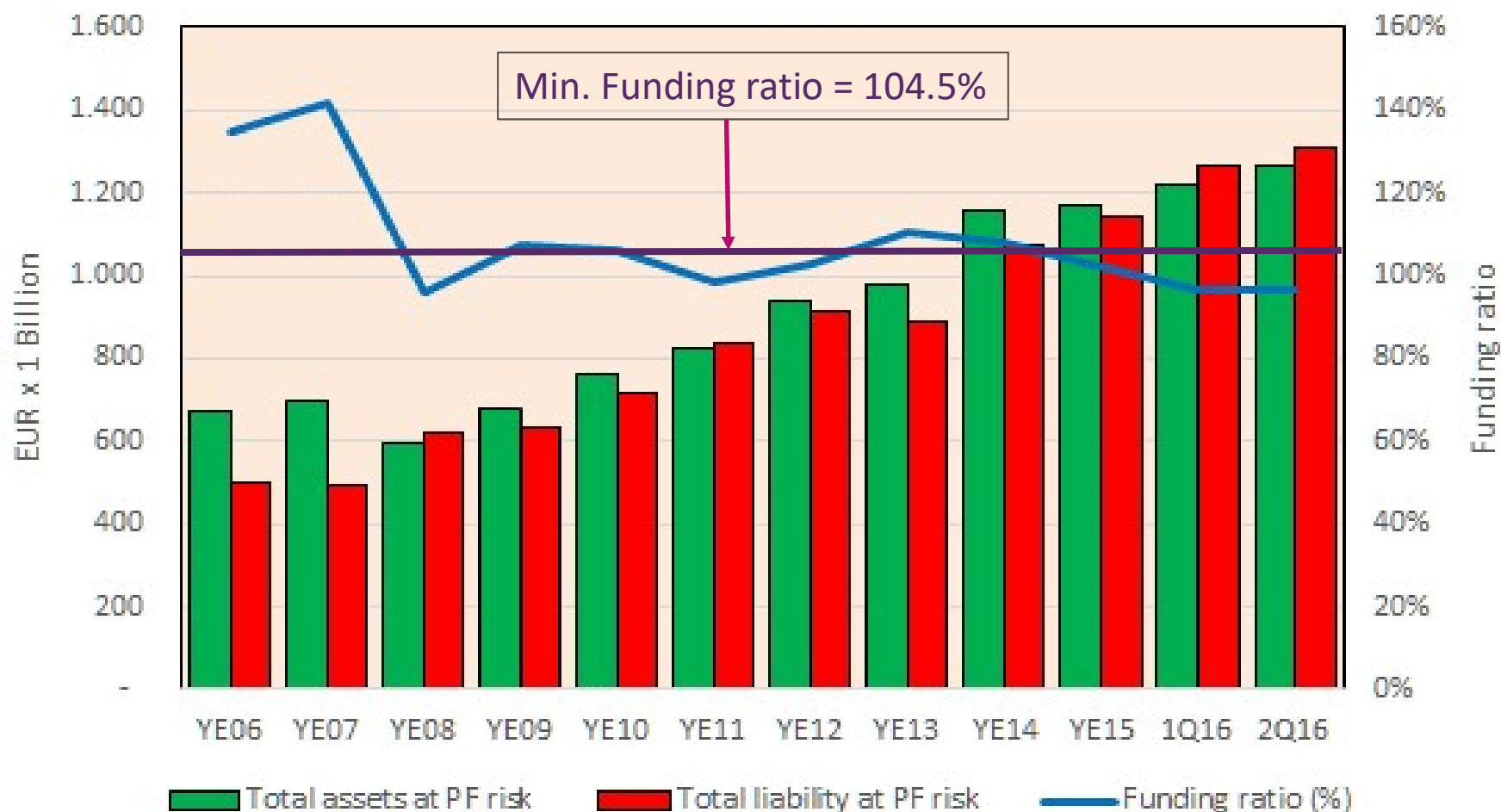


Unilever

2015; EUR 30M

Dutch Pension Funds

Funding Ratio 2007-2016



Future of CDC in NL

- More and more listed companies will shift to CDC as:
 - Employer's contributions will rise due to:
 - Increasing longevity
 - Low discount rate
 - Increasing average age of participants
 - Danger of additional contributions to rescue PF for low funding ratios
 - Shareholders' pressure

To be considered elsewhere?

- Global:
 - Mature markets: large pillar 1 or IDC in pillar 2
 - Upcoming markets: start-up with IDC plans (why?)
- Employees:
 - guaranteed pensions → some (97.5%) secured level of retirement income and less poverty for the elderly
 - unions decide the level of annual accrual, indexation, investment policy, building buffers, etc.
- Employers:
 - no additional obligations (but also no benefits!)
 - easy pricing of products and services

Conclusion

- The Netherlands is a country of compromises (politics, labour) and now also in pensions:
 - The employer:
 - No blank cheque
 - No pension liability on company Balance Sheet
 - The employee:
 - Rather DB than IDC
 - Rather still guarantees even when conditional
 - As CDC is profitable for the E'er, the E'ee may also benefit by means of dowry from E'er.
 - *The actuary: still needed for his advice and calculations*

So ...

- The E'er knows what he wants (DC), but unions are still some anxious for full IDC:
 - The elderly: DB is profitable
 - The youngsters: IDC may be more profitable but DB is still quite convenient => they are 'torn between 2 lovers

Thank you for your attention!



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- Dutch Qualified Actuaries (full members of The Royal Dutch Actuarial Society)
 - Each more than 30 years experience in actuarial education / practice

- Certifying Actuary for insurance companies and pension funds
 - Appointed by the Dutch Financial Supervisory Body (DNB)
- Members of IAA
 - Sections: PBSS, IACA, AWB
 - Member of Education and Professionalism Committee