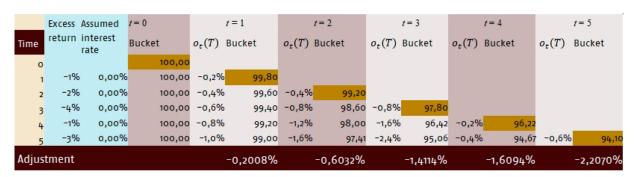**Netspar**

Smoothed return allocation

"Equal fluctuations in pension payments implementable in new Dutch pension scheme"
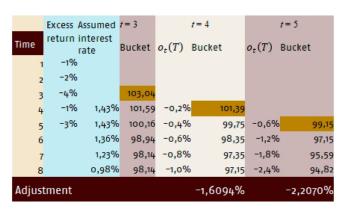
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Pension funds may find it desirable that fluctuations in pension payments are equal for all retirees independent of their age. Moreover, in view of habit-formation preferences, they may wish to allocate returns in a *smoothed* way. We propose a concrete allocation mechanism that achieves both goals and satisfies the requirement that ex-ante redistributions of wealth are prohibited.

Time	Excess return	Assumed interest rate	t=0 Bucket	t=1 $o_t(T)$	t=1 Bucket	t=2 $o_t(T)$	t=2 Bucket	t=3 $o_t(T)$	t=3 Bucket	t=4 $o_t(T)$	t=4 Bucket	t=5 $o_t(T)$	t=5 Bucket
0			100,00										
1	–1%	0,00%	100,00	–0,2%	99,80								
2	–2%	0,00%	100,00	–0,4%	99,60	–0,4%	99,20						
3	–4%	0,00%	100,00	–0,6%	99,40	–0,8%	98,60	–0,8%	97,80				
4	–1%	0,00%	100,00	–0,8%	99,20	–1,2%	98,00	–1,6%	96,42	–0,2%	96,22		
5	–3%	0,00%	100,00	–1,0%	99,00	–1,6%	97,41	–2,4%	95,06	–0,4%	94,67	–0,6%	94,10
Adjustment					–0,2008%		–0,6032%		–1,4114%		–1,6094%		–2,2070%

Principal Findings

- An implementation that combines a dynamic assumed interest rate (i.e. dependent on past excess returns) with appropriately and specific allocation chosen hedge return and allocation of excess returns results in equal percentage adjustments of pension income for all retirees independent of age.
- This implementation still works if a horizon-independent adjustment to the assumed interest rate is added.
- In a material sense, this implementation is free of ex-ante redistribution.

Time	Excess return	Assumed interest rate	t=3 Bucket	t=4 $o_t(T)$	t=4 Bucket	t=5 $o_t(T)$	t=5 Bucket
1	–1%						
2	–2%						
3	–4%		103,04				
4	–1%	1,43%	101,59	–0,2%	101,39		
5	–3%	1,43%	100,16	–0,4%	99,75	–0,6%	99,15
6		1,36%	98,94	–0,6%	98,35	–1,2%	97,15
7		1,23%	98,14	–0,8%	97,35	–1,8%	95,59
8		0,98%	98,14	–1,0%	97,15	–2,4%	94,82
Adjustment					–1,6094%		–2,2070%

Figures: In the upper table the yearly pension payments are displayed for a participant who reaches the retirement age at t=0 and the lower table depicts the pension payments for a participant who retires at t=3. The smoothing period is set to 5 years. Both participants have an initial wealth of € 600 at retirement.

Key Takeaways for the Industry

- Equitable pension payments can be implemented in the new Defined Direct Contribution scheme.
- Clarity is needed about whether the stated capping of the assumed interest rate return in the proposed legislation is inclusive or exclusive of the effect of smoothing.

Want to know more? Read the paper **'Toedeling van rendementen met spreiding'** (in Dutch)