

# **Pensioenbeleid als antwoord op onzekerheid over de lange termijn**

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## Achtergrond & documentatie

- European Commission, *The 2015 Ageing Report*, European Economy 3/2015
- Belgische Commissie Pensioenhervorming 2020-2040

<http://www.academischeraadpensioenen.be/>

- Schokkaert, Devolder, Hindriks, Vandenbroucke, *Towards an equitable and sustainable points system. A proposal for pension reform in Belgium*, Discussion Paper Series 17.03 Department of Economics, KULeuven, February 2017.
- Schokkaert, Devolder, Hindriks, Vandenbroucke, *Het pensioen op punten: naar een nieuw sociaal contract tussen jongeren en ouderen*, *Leuvense Economische Standpunten*, 2017/162, Faculteit Economie en Bedrijfswetenschappen, KULeuven.

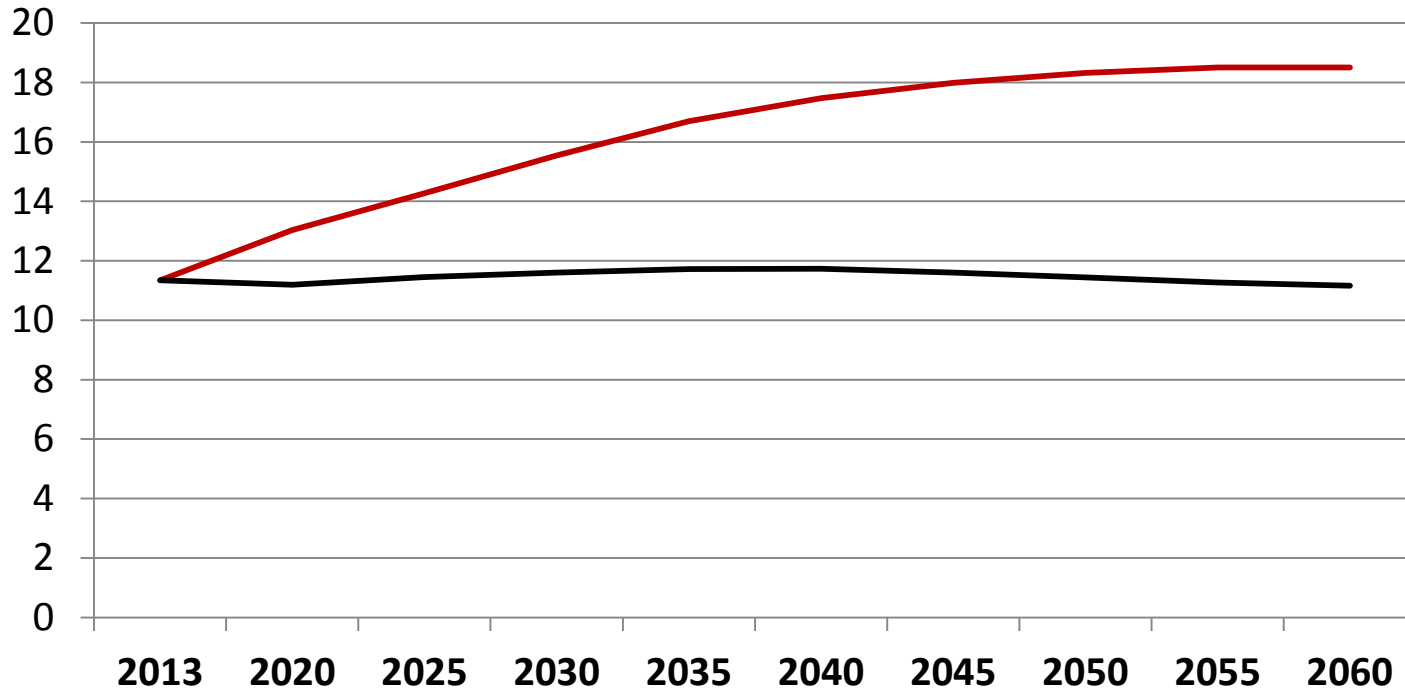
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## Wat leren we uit het *Ageing Report 2015*?

Terminologie gebruikt in de volgende slides:

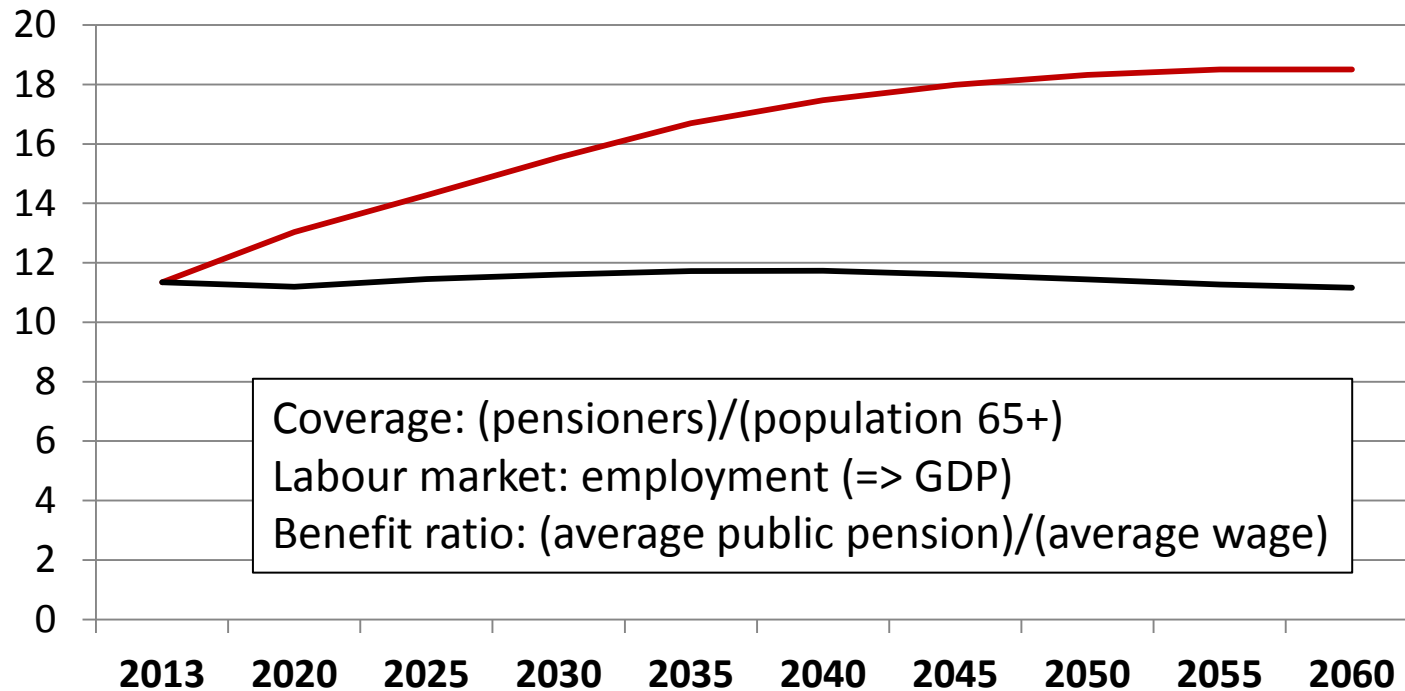
- *Coverage*: “dekking” = verhouding (aantal gepensioneerden)/(bevolking 65+)
- *Labour market*: “arbeidsmarkt”  $\approx$  werkzaamheid
- *Benefit ratio*: “uitkeringsratio”  $\approx$  verhouding (gemiddeld pensioen)/(gemiddeld loon)

# Public pension spending, % GDP, EU



- Impact of dependency (no change in coverage, benefit ratio, labour market ratio)
- actual forecast (incl. interaction)

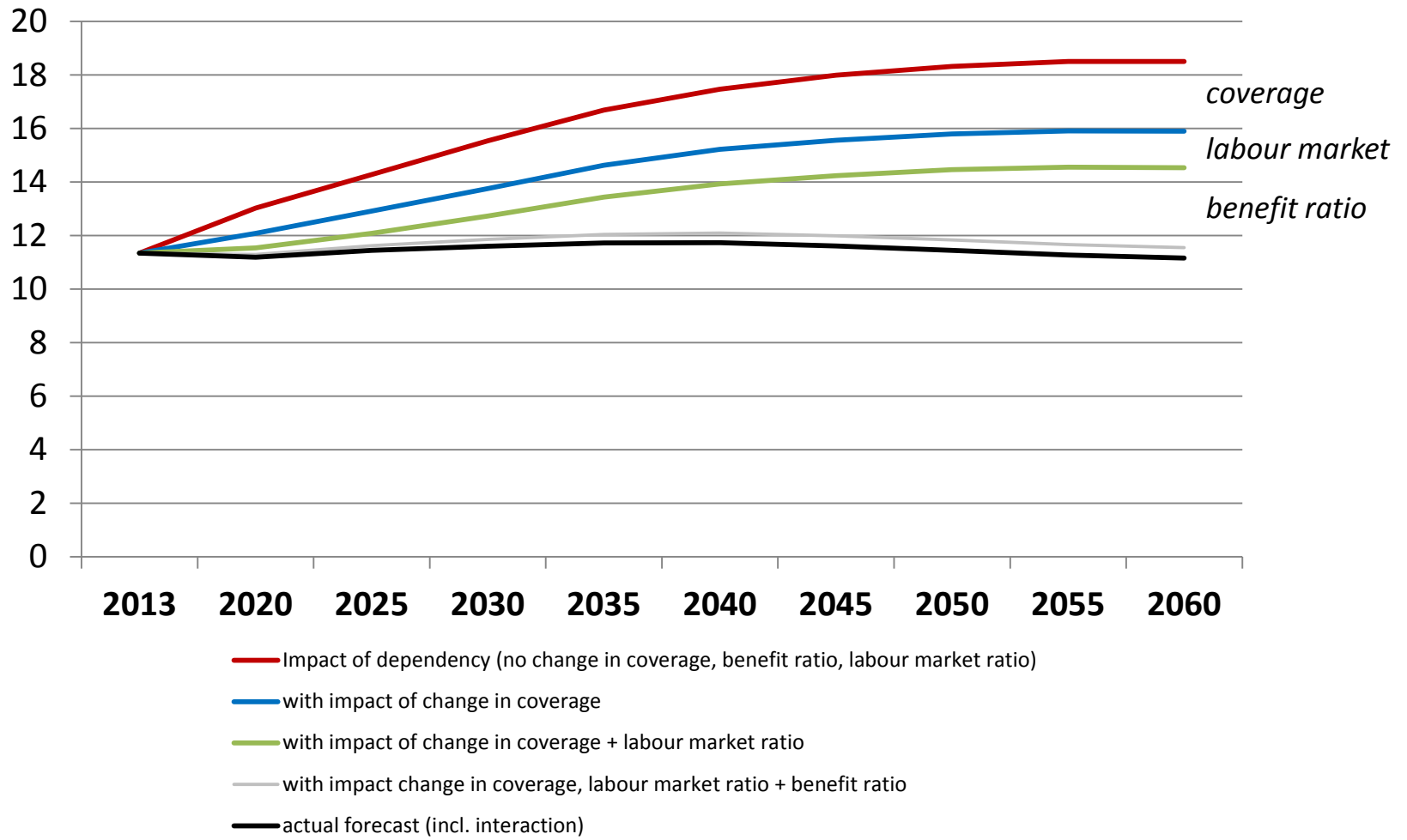
# Public pension spending, % GDP, EU



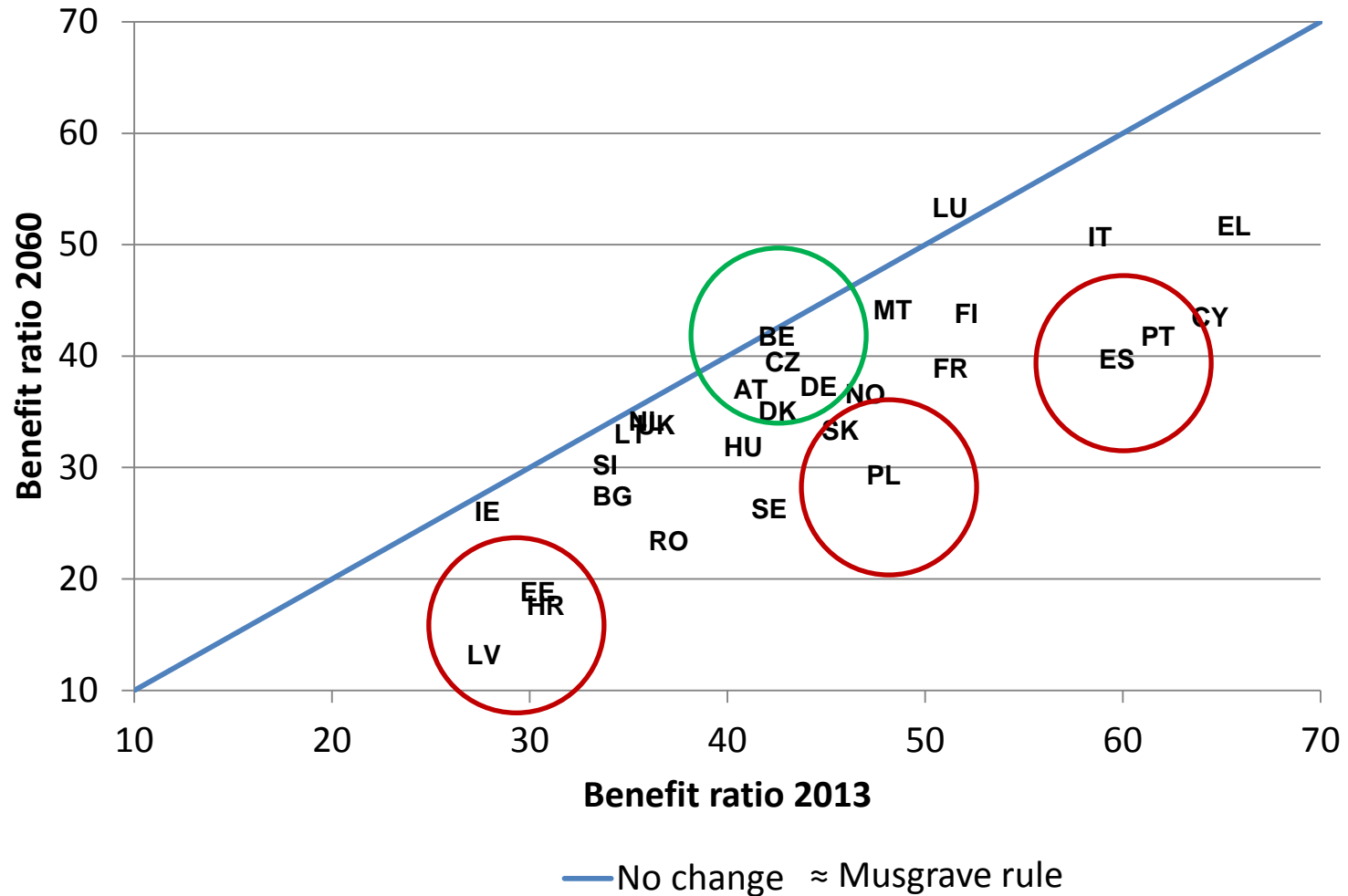
Coverage: (pensioners)/(population 65+)  
Labour market: employment ( $\Rightarrow$  GDP)  
Benefit ratio: (average public pension)/(average wage)

- Impact of dependency (no change in coverage, benefit ratio, labour market ratio)
- actual forecast (incl. interaction)

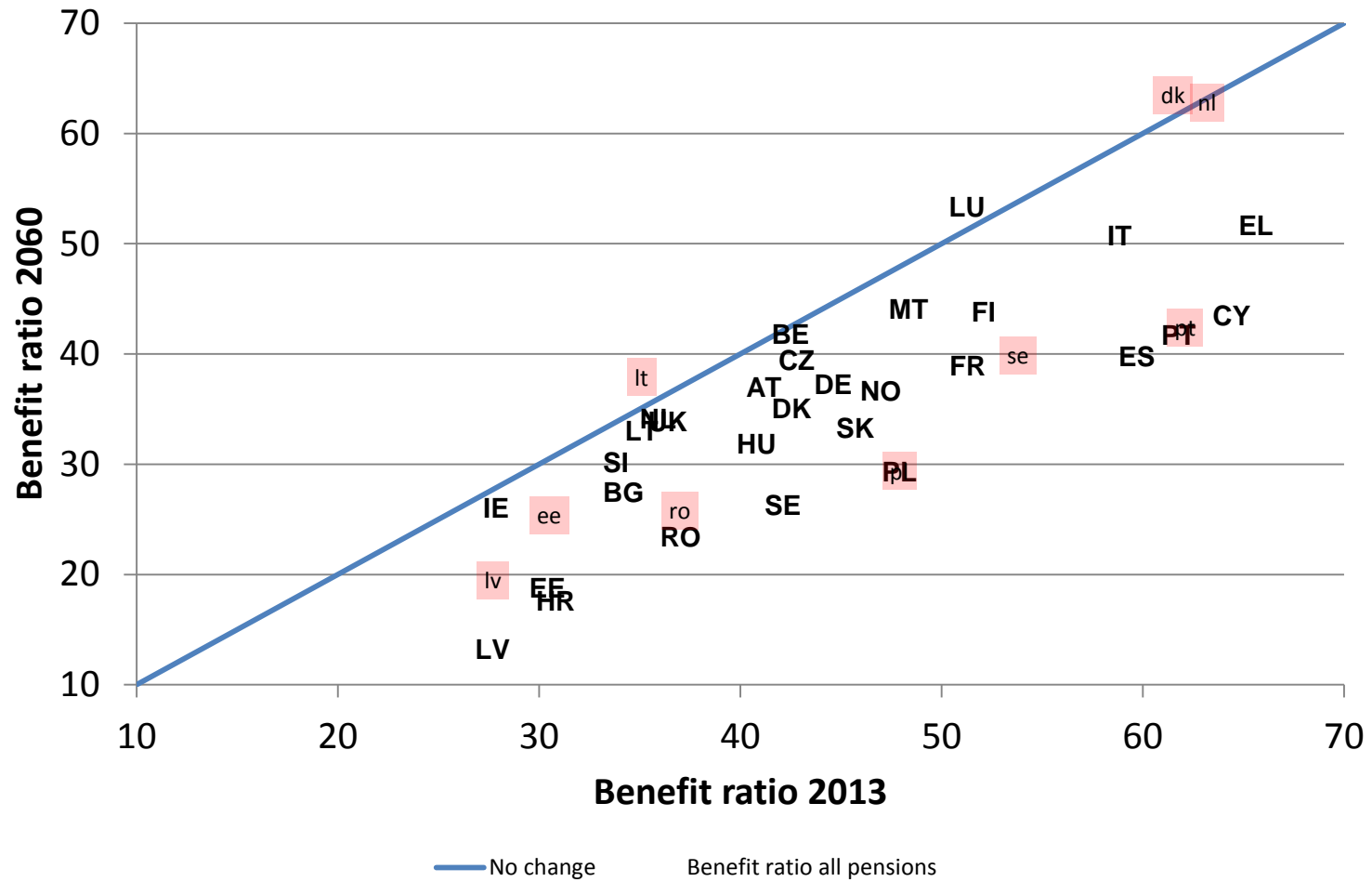
# Public pensions spending, % GDP, EU - decomposed



# Change in public pension benefit ratios, 2013 to 2060



# Change in pension benefit ratios, including private pensions





# Opties voor intergenerationele risicospreiding

	Defined benefit	Defined contribution	Musgrave rule
Fix...	Pension	Contribution rate	(net) pension benefit ratio
Economic risk	Shared risk	Shared risk	Shared risk
Demographic risk	Risk for workers	Risk for retirees	Shared risk

# Doelstellingen van pensioenhervorming volgens CPH 2020-2040

- De gemiddelde **verhouding tussen de inkomens van de gepensioneerden en de inkomens van de actieven** moet zich binnen een wenselijke bandbreedte situeren (“noch *defined benefit*, noch *defined contribution*, maar *defined ambition*”)
- Ook de **bijdragen op de arbeidsinkomens** moeten binnen een bepaalde bandbreedte blijven => loopbanen verlengen
- **Vooraf vastgelegde spelregels** verzekeren dat de doelstellingen van het pensioensysteem behaald worden en dat het financieel evenwicht in stand wordt gehouden, met een rechtvaardige spreiding van de inspanningen die daarvoor nodig zijn.

# Financiering, keuzevrijheid, transparantie

- Omslagstelsel  $\Leftrightarrow$  fondsvorming, en het argument tegen DSS
- Keuzevrijheid bij pensioenopname  $\Leftrightarrow$  keuzevrijheid bij pensioenopbouw
  - Risico's door 'foute beslissingen'
  - Risico's door aantasting noodzakelijke solidariteit
- Transparantie in een 'puntenstelsel':
  - Intragenerationele rechtvaardigheid: verdeling van de punten binnen elke cohorte
  - Intergenerationele rechtvaardigheid: waarde van het punt
  - Flexibiliteit inzake opname punten, mits 'billijke correcties'

# Intergenerational risk sharing: generic formula

- Pay-as-you-go budgetary equilibrium:

$$\bar{P}B = \pi\bar{S}A$$

$P$  = pension;  $B$  = number of retirees;

$A$  = employed population;  $S$  = wage;  $\pi$  = contribution rate

- Dependency  $D = \frac{B}{A}$
- Hence:  $\delta D = \pi$  with (gross) benefit rate  $\delta = \frac{\bar{P}}{\bar{S}}$
- Therefore:  $\frac{dD}{D} = \frac{d\pi}{\pi} - \frac{d\delta}{\delta}$
- Risk sharing:  $\frac{d\pi}{\pi} = (1 - \rho) \frac{dD}{D}$  and  $\frac{d\delta}{\delta} = -\rho \frac{dD}{D}$

## The Musgrave rule

Musgrave proposed to stabilise the *net* benefit ratio, i.e. the ratio of the pensions and the labour earnings, net of pensions contributions, hence, to fix

$$\frac{\bar{P}}{(1-\pi)\bar{S}} = \mu = \text{'Musgrave ratio'}$$

or, equivalently, to fix:

$$\frac{\delta}{(1-\pi)} = \mu$$

This implies:  $\rho = \pi$

## DC, DB and the Musgrave rule compared

	Defined contribution	Defined benefit	Musgrave rule
FIXED	$\pi$	$\delta = (\bar{P}/\bar{S})$	$\mu = \delta/(1 - \pi)$
contribution rate $\pi$	$\pi$	$\delta D$	$\mu D/(1 + \mu D)$
average pension $\bar{P}$	$\pi \bar{S}/D$	$\delta \bar{S}$	$\mu \bar{S}/(1 + \mu D)$
average net earnings $(1 - \pi)\bar{S}$	$(1 - \pi)\bar{S}$	$(1 - \delta D)\bar{S}$	$\bar{S}/(1 + \mu D)$
Musgrave ratio $\frac{\bar{P}_T}{(1 - \pi_T)\bar{S}_T}$	$\frac{1}{D} \frac{\pi}{(1 - \pi)}$	$\frac{\delta}{1 - \delta D}$	$\mu$
effect of $\Delta S$	shared	shared	shared
effect of $\Delta D$	retirees	workers	shared

## The Musgrave rule does not per se *determine* the selection of a unique pension policy

- What is the desirable level of the Musgrave ratio  $\mu$ ?  
Normative views on consumption versus leisure, and allocation of leisure time over the life cycle...
- Dependency ( $D$ ) is not exogenous: the impact of demographic change on dependency is mediated by behavioural changes

## The 'reference career' as adjustment mechanism

- The 'Musgrave rule' must be complemented with a mechanism to determine the socially optimal age of retirement: adjustment mechanism when life expectancy increases.
- Plausible principle: the expected period of retirement (starting at the minimum age of retirement) is a fixed share of adult life => the number of life years gained is divided proportionally over the working and retirement periods => the 'reference career' is linked to life expectancy

=> if successfully applied, stabilisation of  $D$  when life expectancy increases, i.e. 'working longer' is the adjustment mechanism



## Differentiation of adjustment mechanisms according to the nature of the shocks

- Changes in life expectancy:
  - priority for ‘working longer’
  - the Musgrave ratio is conditional on behaviour of the new retirees
  - pensions of actual (old) retirees should not be affected
- Other changes (baby-boom, structural employment rate...)
  - stabilisation of the Musgrave ratio => both contribution rate and gross benefit ratio change
  - burden sharing between new and old retirees: ‘sustainability coefficient’ introduces a correction factor to the wage indexation of actual (old) pensions, equal to rate of change of the reference replacement rate per year of activity (or, to the value of the point, if  $S$  does not change).

# Individual choice and age-related corrections

- Flexibility and choice
- Longevity is socially stratified: corrections for anticipation/postponement of retirement on the basis of length of career rather than on the basis of physical age
- Technique: definition of an individual 'normal age of retirement':  
= (individual) age when career started +  
(uniform) reference career
- Window of flexibility around the 'normal age of retirement', with individual correction factor (simplified):

$$\frac{\textit{life expectancy normal age of retirement}}{\textit{life expectancy actual age of retirement}}$$

# Intergenerational risk sharing: the social contract

- Pensions = managing uncertainty
  - by integrating adjustment mechanisms in the pension system
  - EU Commission: by indexing parameters of pension systems to longevity (e.g. career requirements & retirement age)
- ‘Conditional certainty’ for the individual citizen
  - stabilize  $\frac{\textit{average net pension income}}{\textit{average net income active population}}$  (Musgrave rule)
  - a promise w.r.t. net benefit rates, conditional on demographic context and collective behavioural response to it
  - an individual promise w.r.t. replacement rate, conditional on individual choice

## Implementation: advantages of a point system

- Transparency
  - Intragenerational justice (within generations): allocation of points during working life
  - Intergenerational justice (across generations): value of the point
- Flexible 'partial' retirement
- Family dimension (e.g. splitting pension claims in case of divorce)
- Strenuous jobs