Towards an equitable and sustainable pension system:
Lessons from the Belgian case

Frank Vandenbroucke
University of Amsterdam
Chair of the Belgian Academic Council on Pension Policy

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Summary

The paper that is presented describes the ‘points system’ that has been proposed by the *BelgianCommission for Pension Reform 2020-2040*.

Intragenerational equity can be realised in a flexible and transparent way through the allocation of points within a cohort.

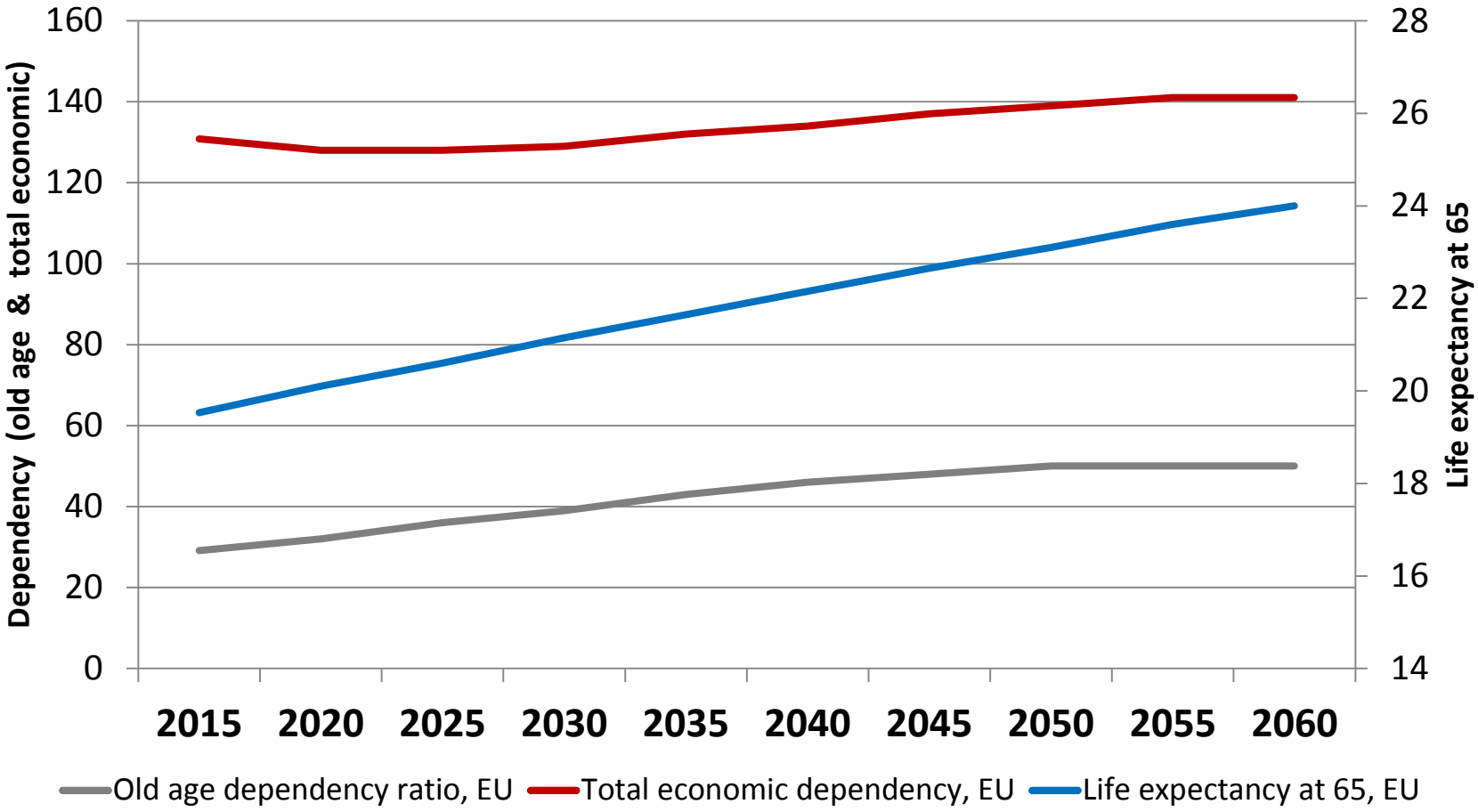
The intergenerational distribution is determined by fixing the value of a point for the newly retired and a sustainability parameter for the actual retirees. The value of the point links future pensions to the future average living standard of the population in employment. This implies that credible promises can be made to the younger contributing generations.

To keep the system economically sustainable, we propose an automatic adjustment mechanism, in which a key role is played by the career length. This adjustment mechanism implements the Musgrave rule by stating that the ratio of pensions over labour earnings net of pension contributions should remain constant. This induces a balanced distribution of the burden of demographic and economic shocks over the different cohorts and can be seen as a transparent mechanism of intergenerational risk sharing.

Background

- Belgian Commission on Pension Reform 2020-2040
  - First report: June 2014
  - Additional report on flexibility, part-time pension, strenuous work
  - www.pensioen2040.belgie.be
  - www.pension2040.belgique.be
- New Federal Government (Ch. Michel): sept. 2014
  - Statutory pension age: 67 by 2030
  - Reform w.r.t. specific advantages in civil servants' pension system
  - Creation of a 'National Pension Committee', 'Knowledge Centre' and 'Academic Council'

Dependency and demographic change in the EU



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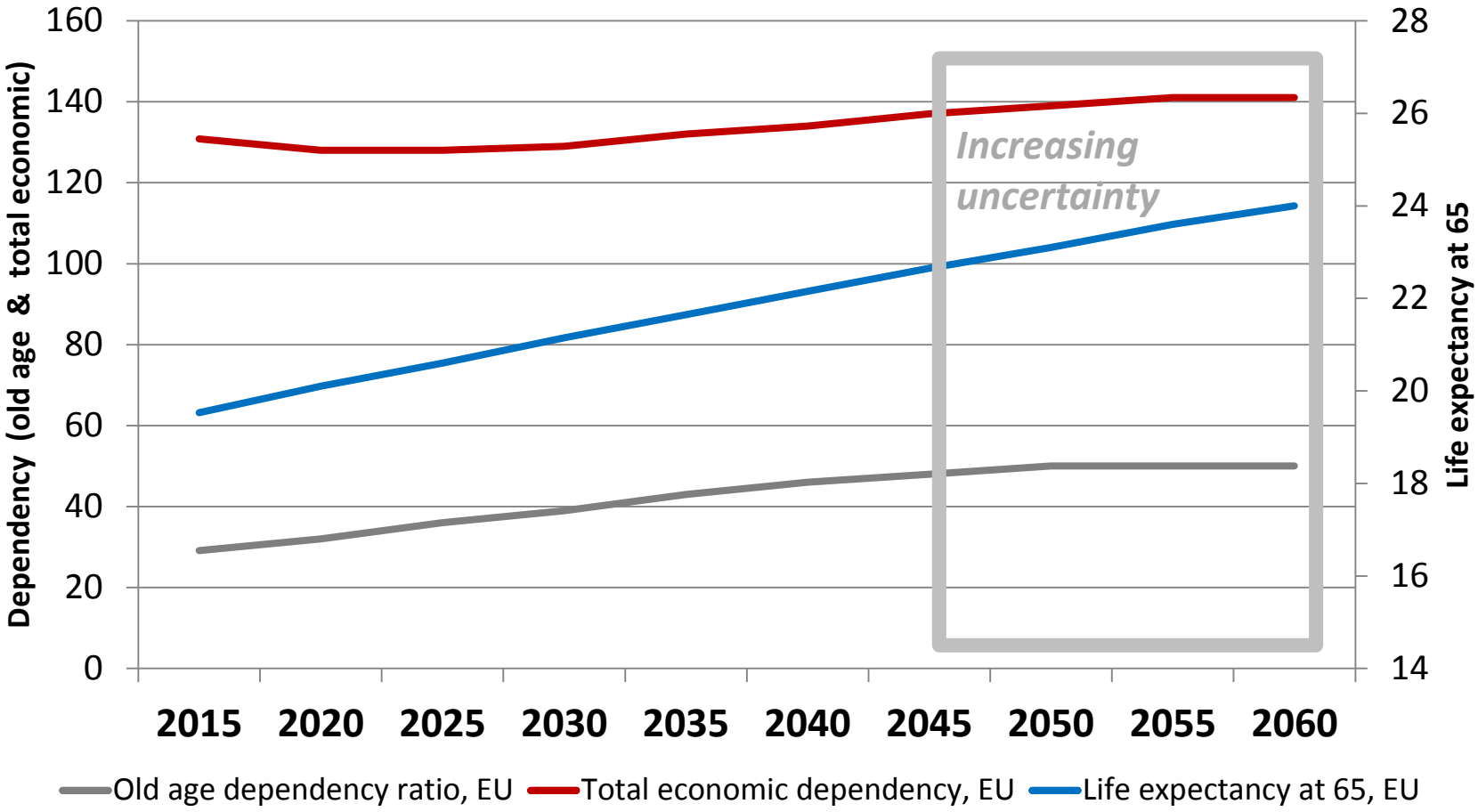
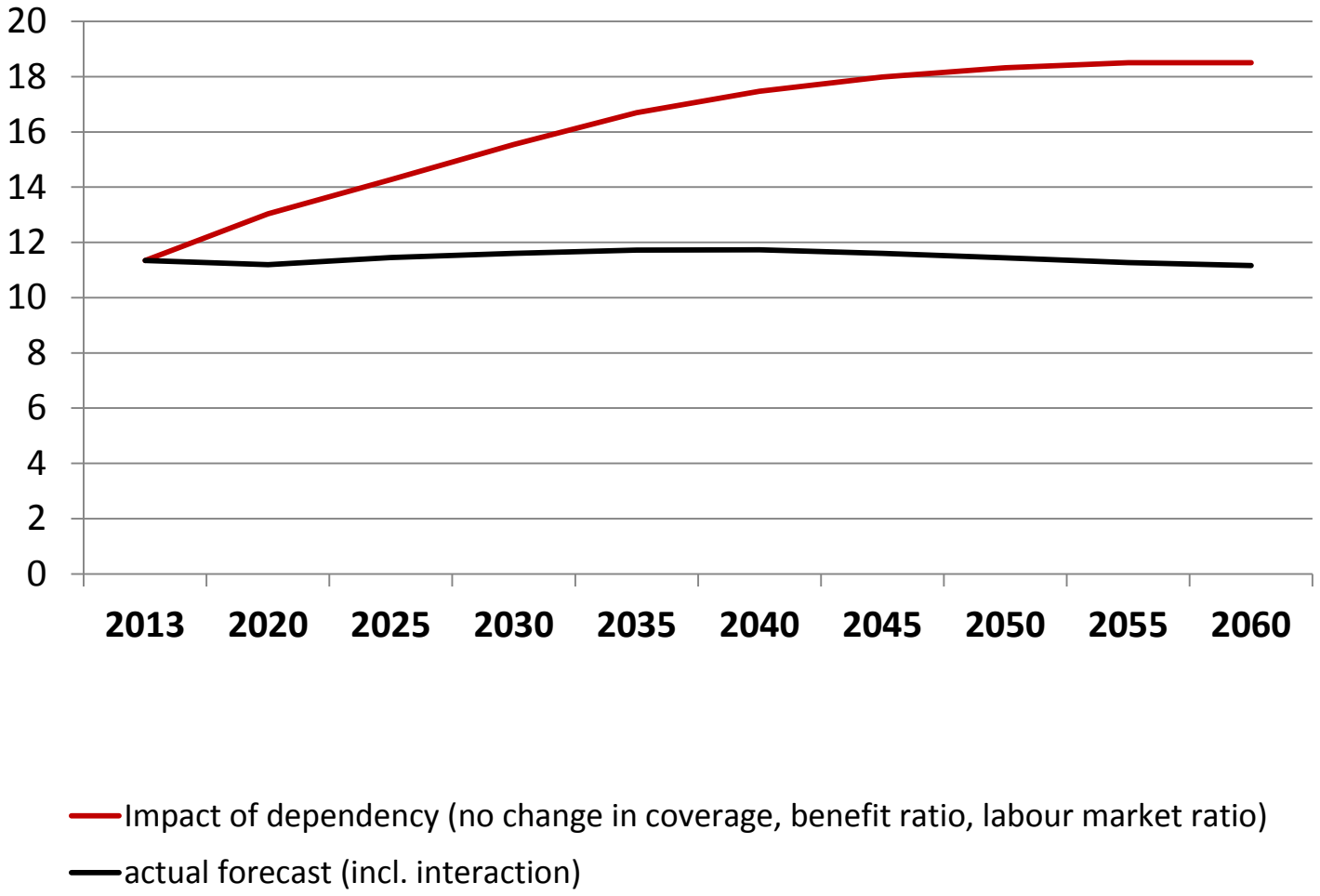


Public pension spending, % GDP, EU



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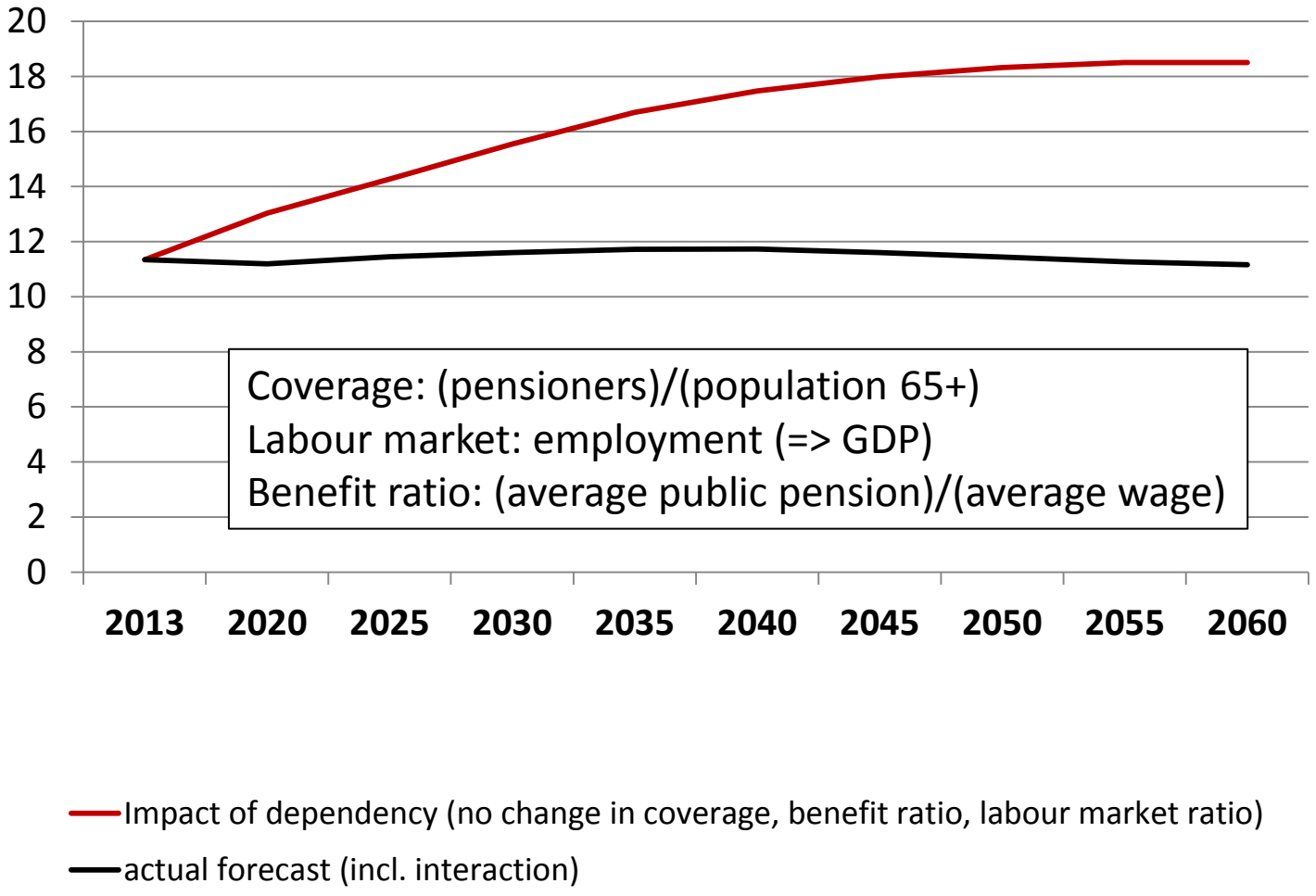
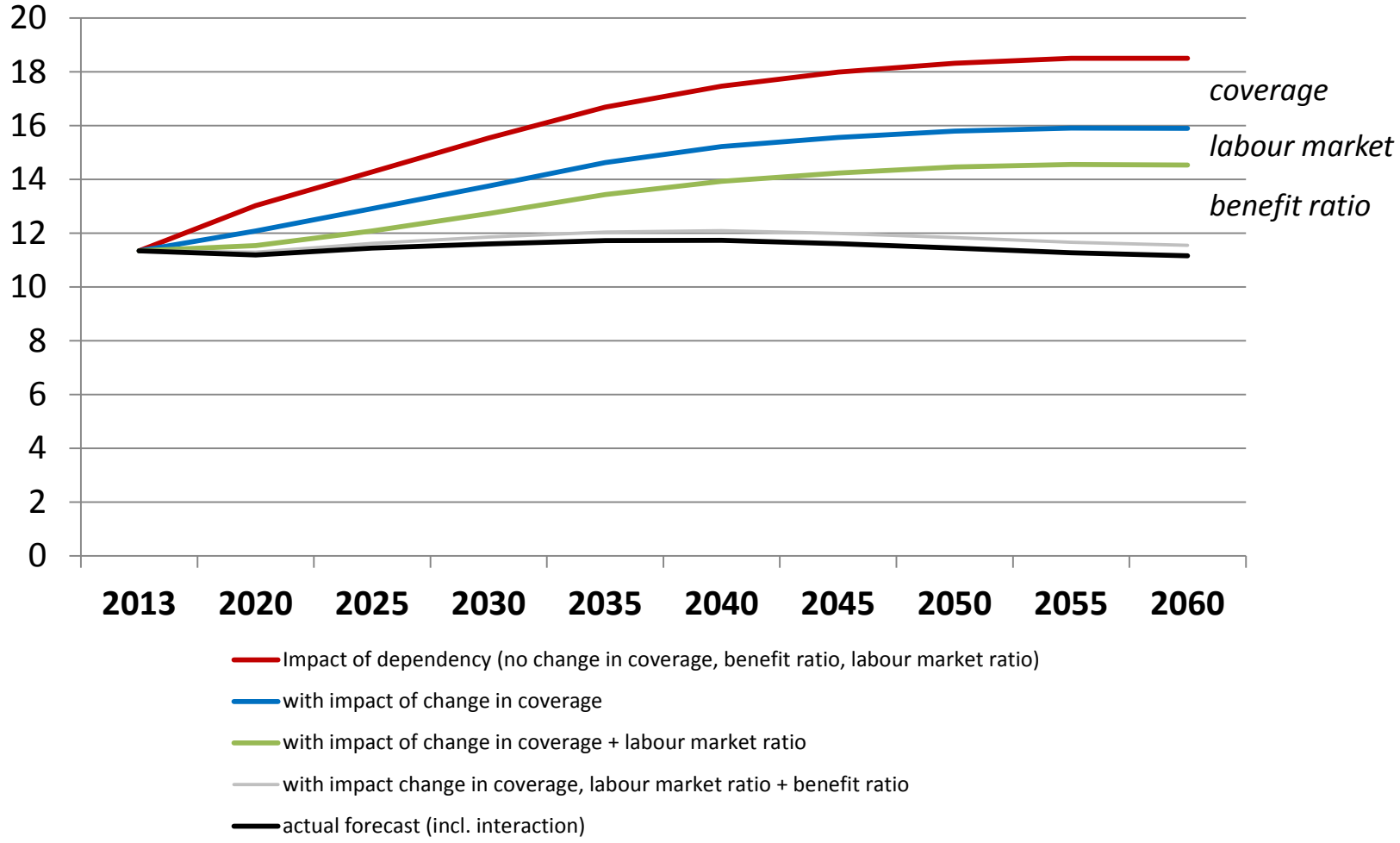
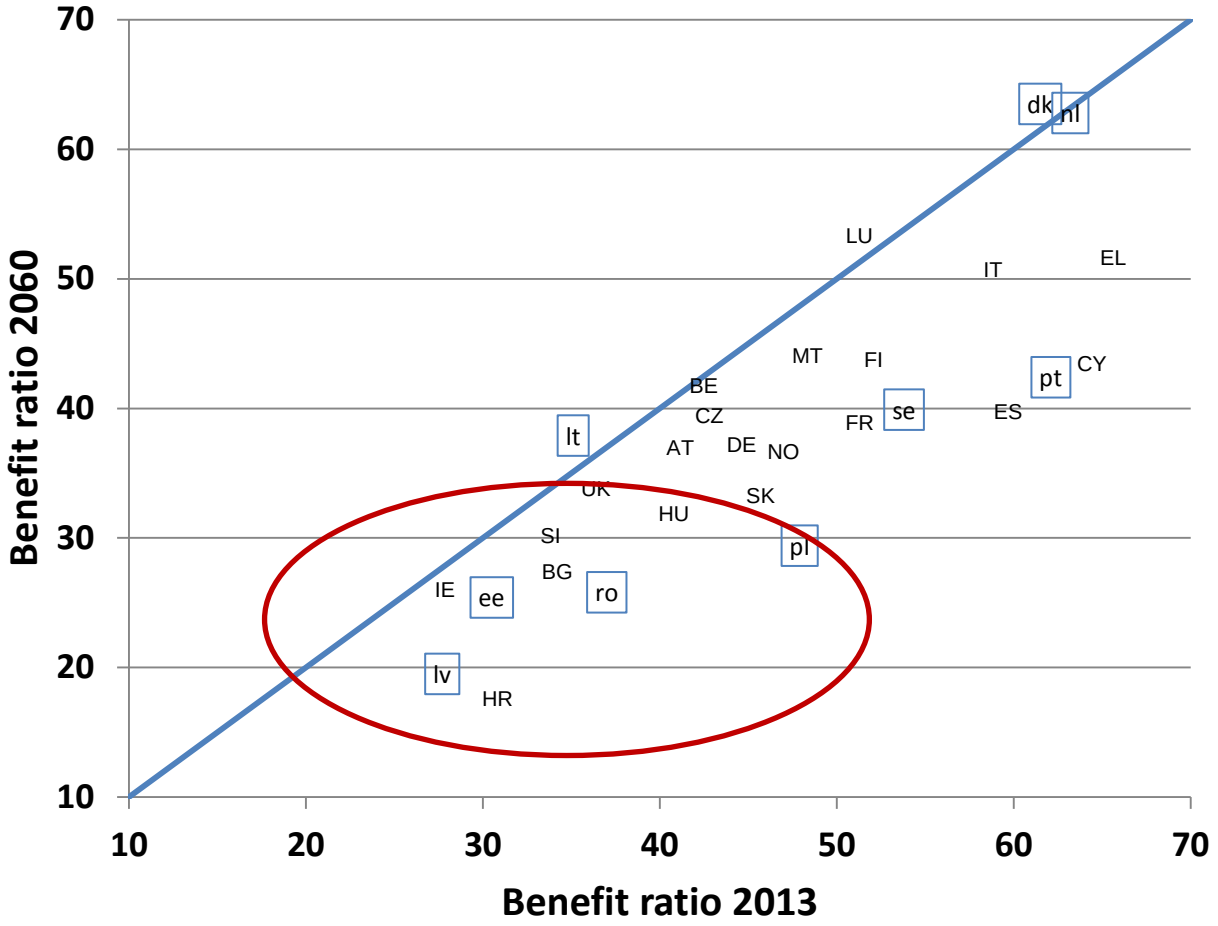


Public pensions spending, % GDP, EU - decomposed



Change in pension benefit ratios, incl. private pensions ( )



$$\textit{Pension benefit ratio} = \frac{average\ pension}{average\ wage}$$

$$\text{Musgrave rule} = \frac{average\ pension}{average\ net\ wage}$$

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)

- Options for risk sharing

	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

Intergenerational risk sharing: generic formula

- Pay-as-you-go budgetary equilibrium:

$$\overline{P}B = \pi\overline{S}\mathrm{A}$$

P = pension; *B* = number of retirees;
A = employed population; *S* = wage; π = contribution rate

- Dependency $D = \frac{B}{A}$
- Hence: $\delta\mathrm{D} = \pi$ 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

$$\frac{\bar{P}}{(1-\pi)\bar{S}} = \mu$$ = '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	π	$\delta = (\overline{P}/\overline{S})$	$\mu = \delta/(1-\pi)$
contribution rate π	π	δD	$\mu D/(1+\mu D)$
average pension $\overline{P}$	$\pi\overline{S}/D$	$\delta\overline{S}$	$\mu\overline{S}/(1+\mu D)$
average net earnings $(1-\pi)\overline{S}$	$(1-\pi)\overline{S}$	$(1-\delta D)\overline{S}$	$\overline{S}/(1+\mu D)$
Musgrave ratio $\frac{\overline{P}_T}{(1-\pi_T)\overline{S}_T}$	$\frac{1}{D}\frac{\pi}{(1-\pi)}$	$\frac{\delta}{1-\delta D}$	μ
effect of $\triangle S$	shared	shared	shared
effect of $\triangle D$	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 μ? 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):

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

Intergenerational risk sharing: the social contract

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- 'Conditional certainty' for the individual citizen
  - stabilize $\frac{average\ net\ pension\ income}{average\ net\ income\ active\ population}$ (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

Pay-as-you-go allows ‘defined ambition’, with point system

- Pension = (**number** of points) x (**value** of point)
  x (actuarial **corrections**)
  x (**indexation** to income growth)

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- **Number** of points <= career (contributory and non-contributory elements are possible; strenuous jobs)

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- **Value** of point ≈ **f** (average income employed)

  Premised on a desirable and sustainable replacement rate for a ‘standard worker’ with a ‘normal career’;

  ‘normal career’ takes into account changes in demography etc.

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- Positive / negative **corrections** ≈ **f** (career), given social stratification of age of entry and healthy life years

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- **Indexation** ≈ **f** (growth real incomes), with sustainability coefficient

‘Defined ambition’ : in between DC and DB

Two objectives:

- Target replacement rate for ‘standard worker’ with ‘normal career’

  & stabilisation of income ratio pensioners/employed

- Stabilisation of the contribution rates on earned income

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$\Rightarrow$ Postponing retirement (flexibility in pension system, but !)

$\Rightarrow$ ‘Alternative’ funding (tax shift)

Funded pensions in a supplementary second pillar

- Why funding? => diversification of risk

- Law on Supplementary Pensions, 2003

  - 'Democratization' of supplementary pensions
  - Sector approach: coverage of SME
  - Embedded in social dialogue
  - Mobility
  - Problem of guaranteed minimal return

Sustainable reform…

- Requires large consensus
- Based on sense of common purpose: defined ambition

Resources

- European Commission, *The 2015 Ageing Report*, European Economy 3/2015
- Belgian Commission on Pension Reform 2020-2040
  - www.pensioen2040.belgie.be
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- 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.
- Hindriks, Devolder, Schokkaert, Vandenbroucke, Réforme des pensions légales: le système de pension à points, *Regards Economiques*, numéro 130, Mars 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.

www.frankvandenbroucke.uva.nl