

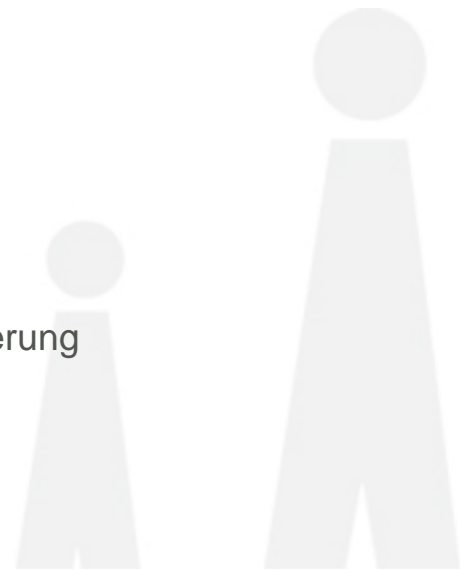
Zwei Seiten einer Medaille

Fiskalische Nachhaltigkeit und Angemessenheit von Renteneinkommen
in Mittel- und Osteuropa – das Beispiel Polen

Christoph Müller

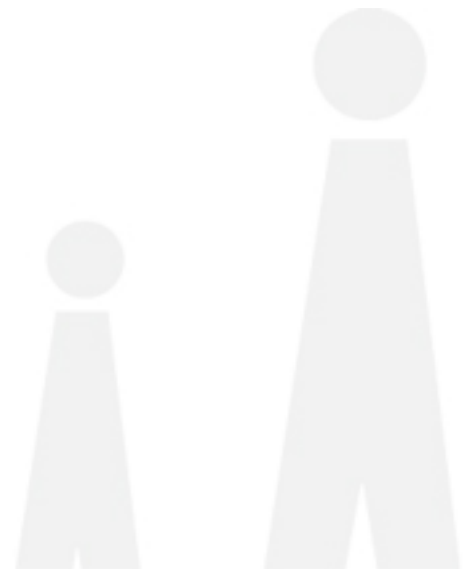
*Albert-Ludwigs-Universität Freiburg
Forschungszentrum Generationenverträge*

9. Graduiertenkolloquium des Forschungsnetzwerkes Alterssicherung
9. Juli 2010



Gliederung des Vortrages

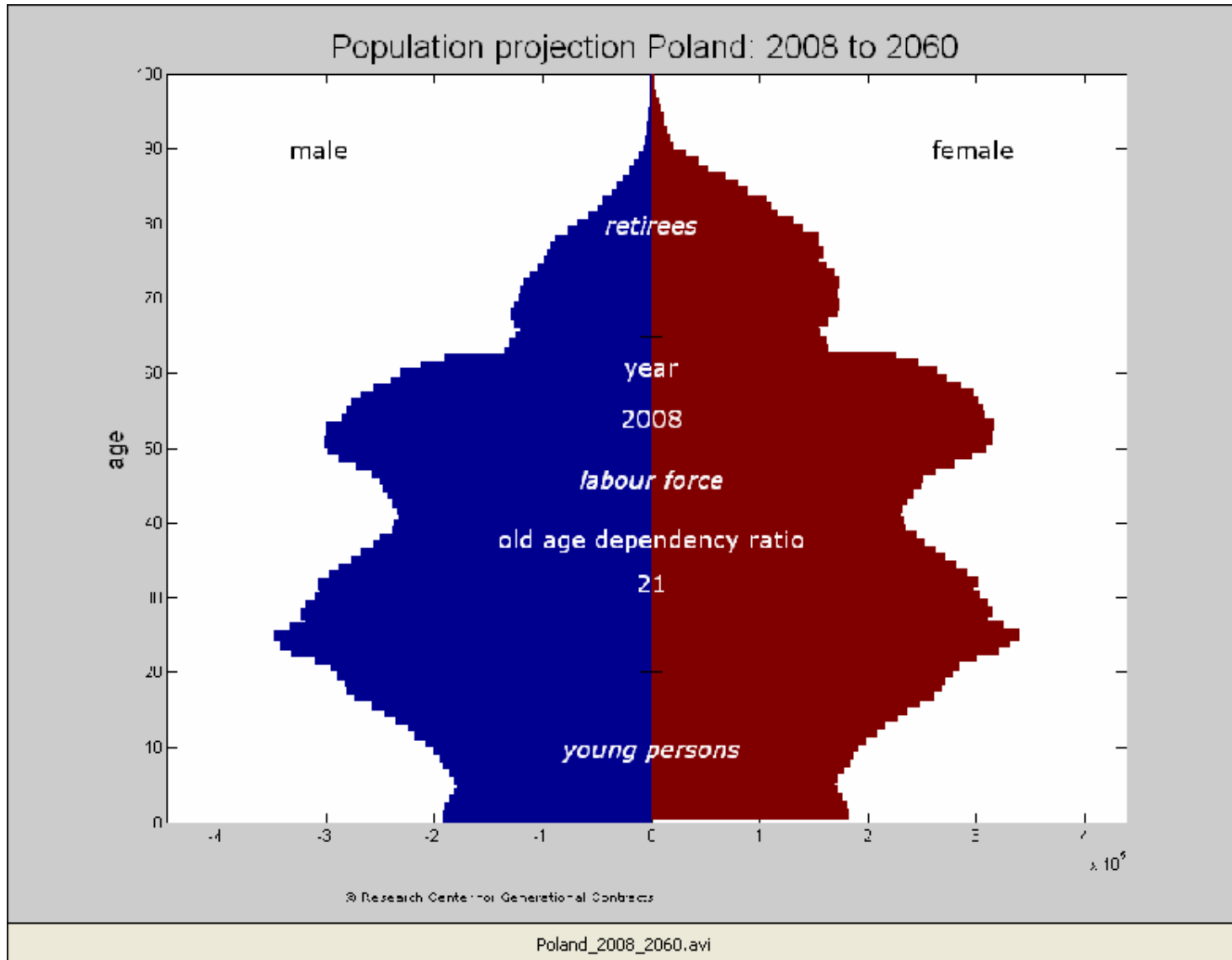
1. **Herausforderung der Rentenpolitik:** Demographische Entwicklung
2. **Lösung:** Rentenreform 1999
3. **Bewertung:** *Nachhaltigkeit vs. Angemessenheit*
4. **Zusammenfassung und Ausblick**



1. Herausforderung: Demographische Entwicklung

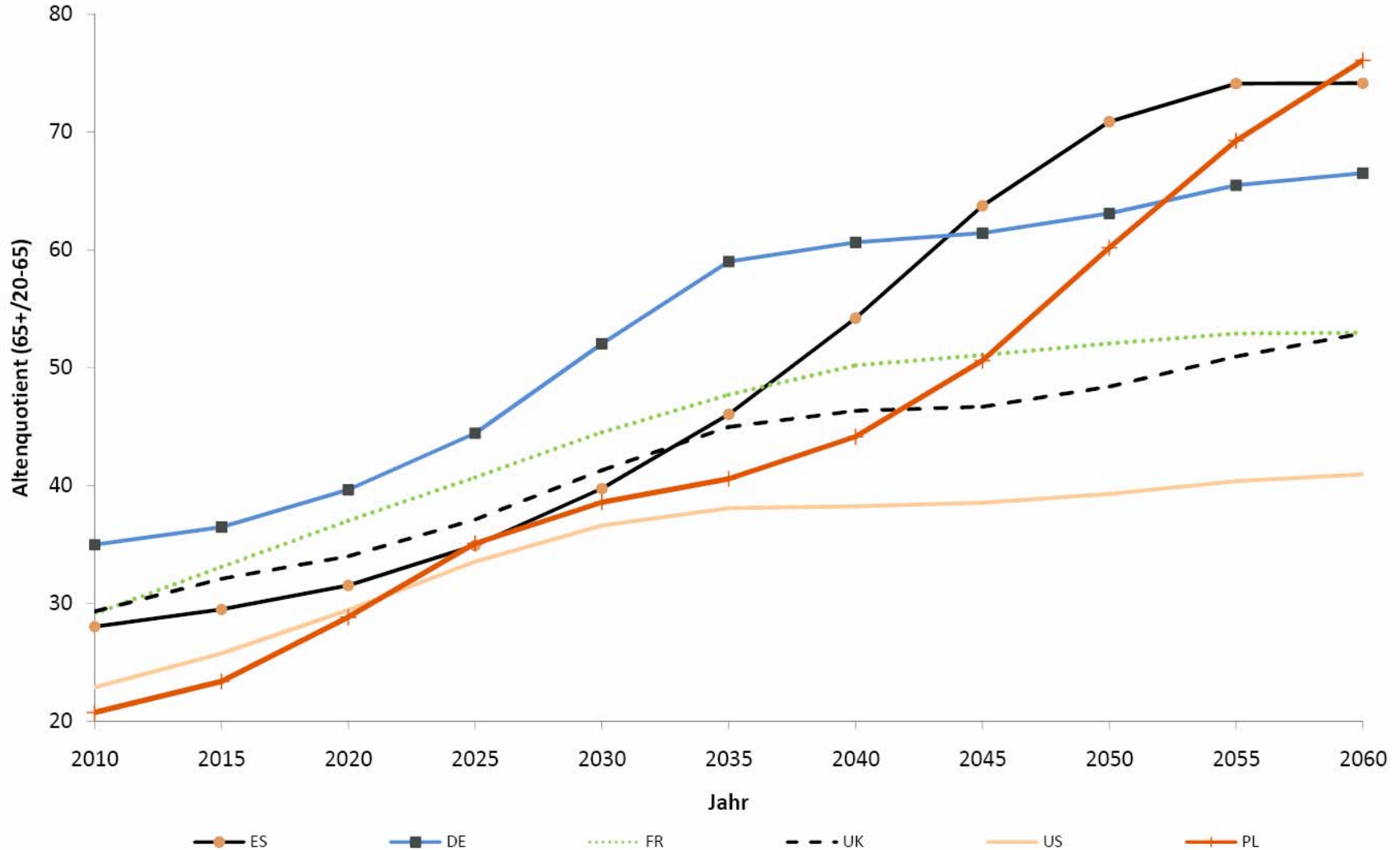


FORSCHUNGS
ZENTRUM
GENERATIONEN
VERTRÄGE



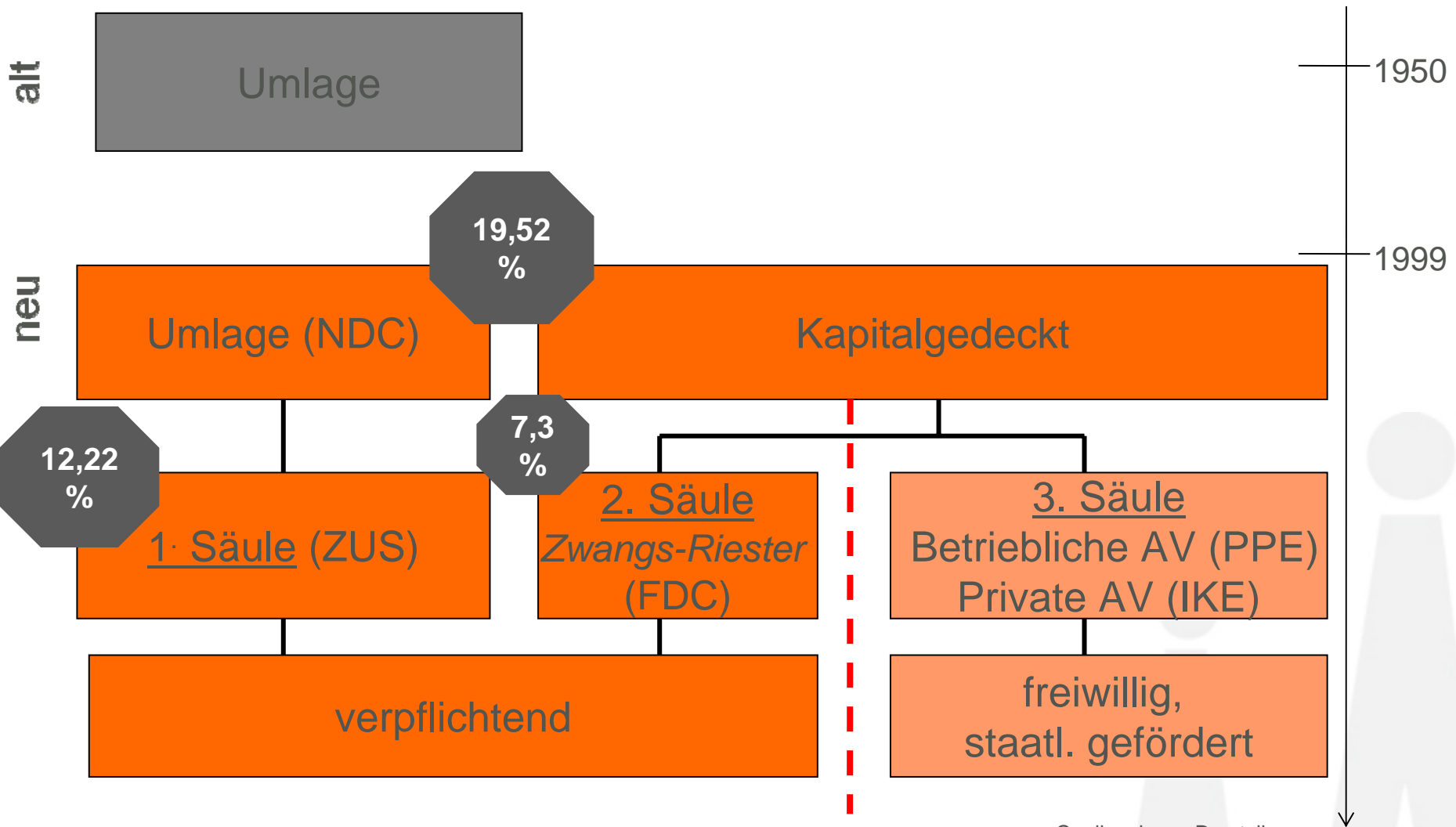
1. Herausforderung: Demographische Entwicklung

Alterungsprozess in Polen wird vergleichsweise rasant an Tempo zulegen!





Die Reform des polnischen Rentensystems



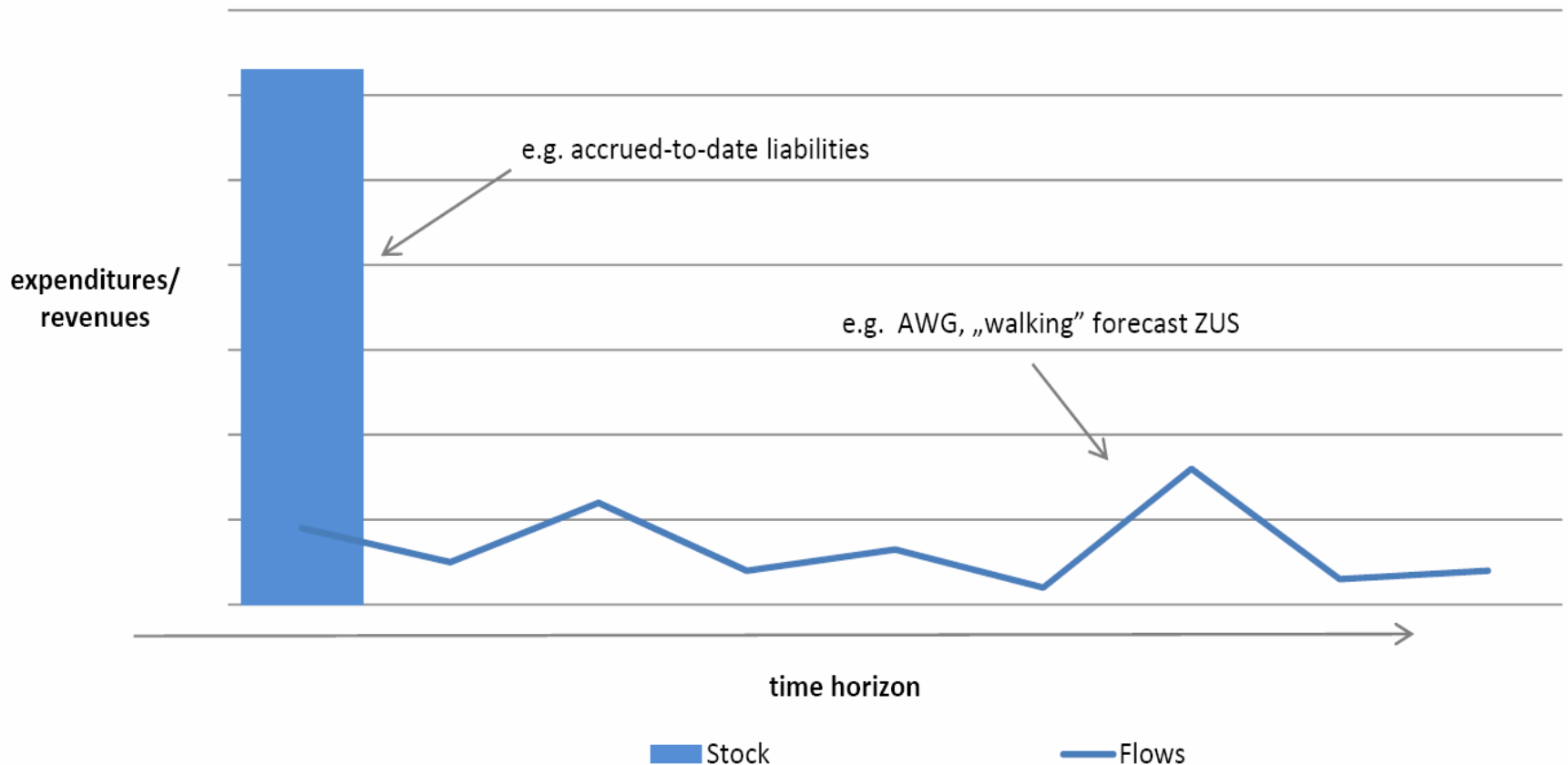
Perspektive der fiskalischen Nachhaltigkeit:

*Kann die gegenwärtige Ausgestaltung der Fiskalpolitik
auch in Zukunft fortgesetzt werden?*

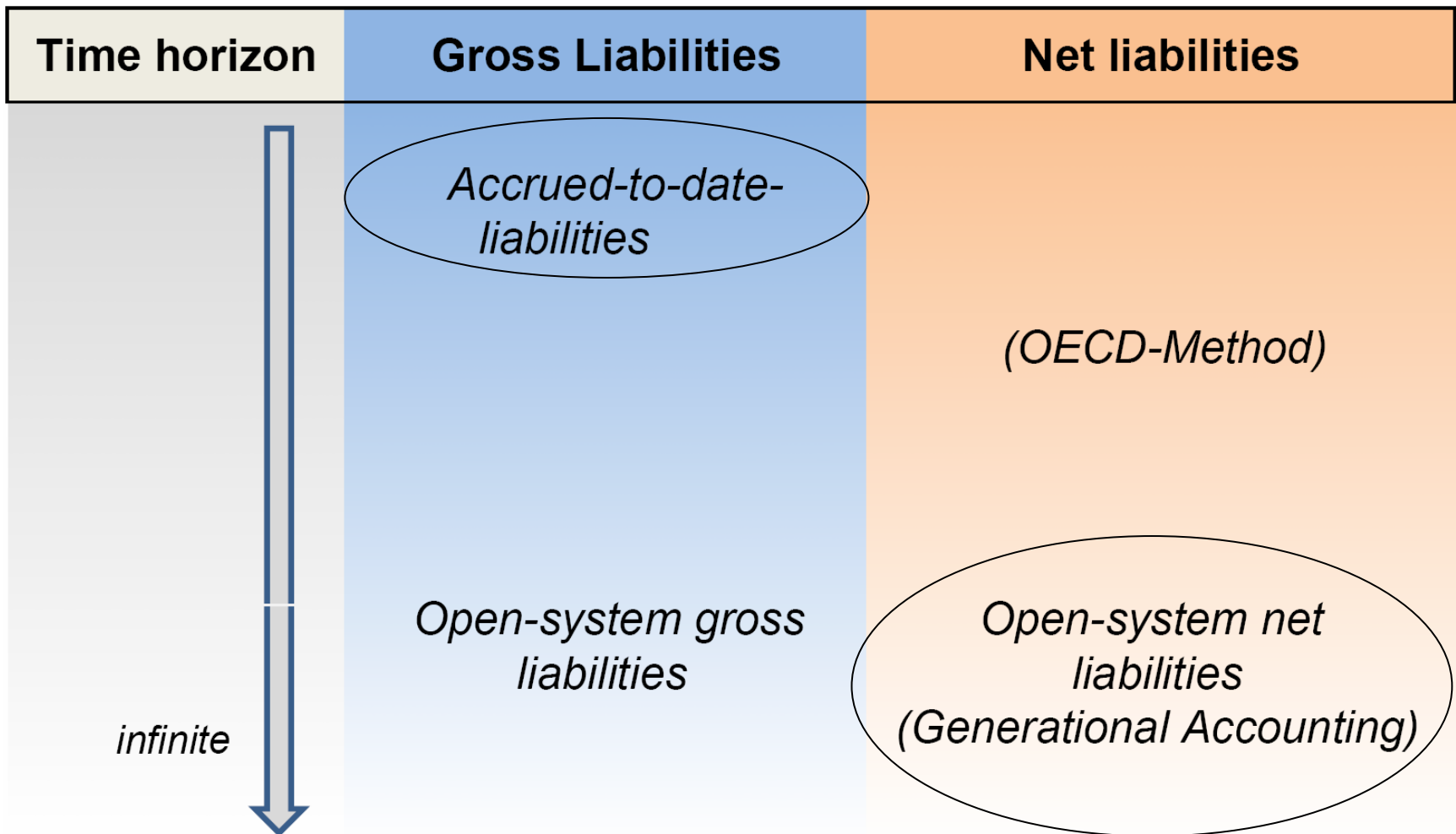


3.1 Langfrist-Indikatoren zur Bewertung von Fiskalsystemen

Bestands- (*stock*) und Fluss- (*flow*) Konzepte

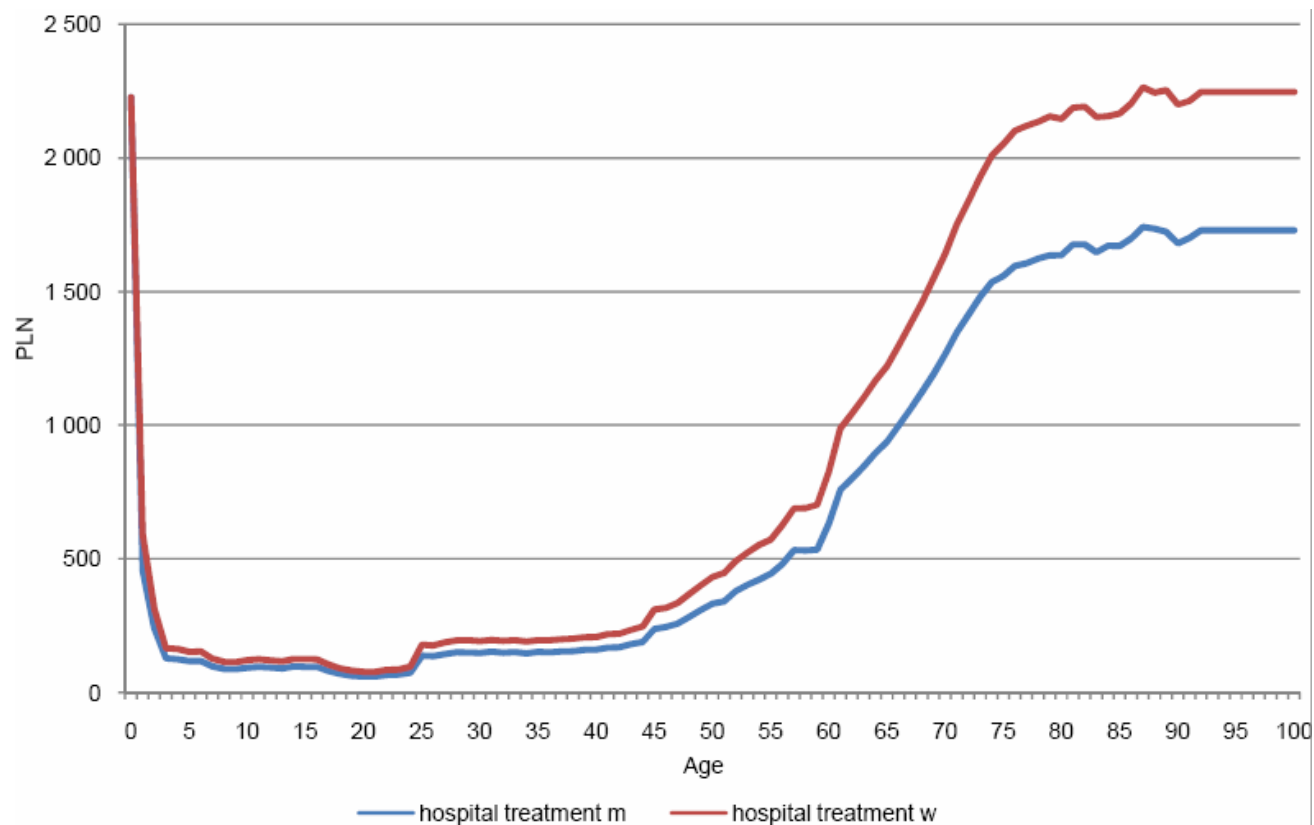


3.1 Langfrist-Indikatoren zur Bewertung von Fiskalsystemen



3.2. Modellierungsansatz:

Schritt 1: Generierung alters- und geschlechtsspezifischer Profile

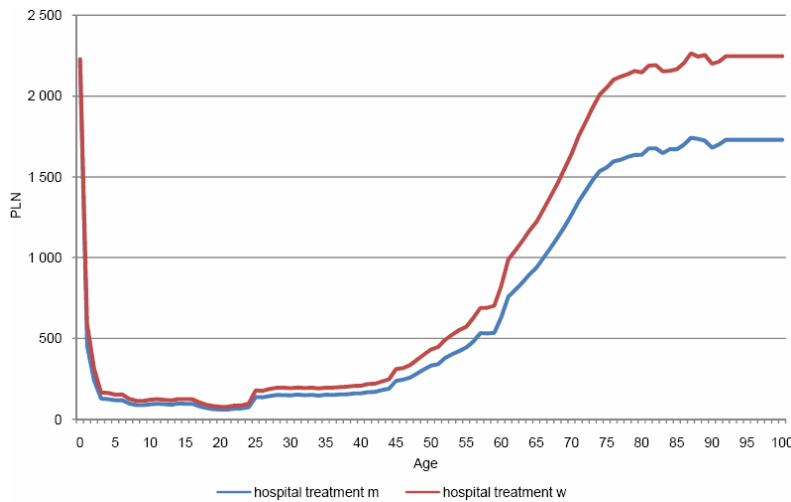


3. Bewertung: Nachhaltigkeit

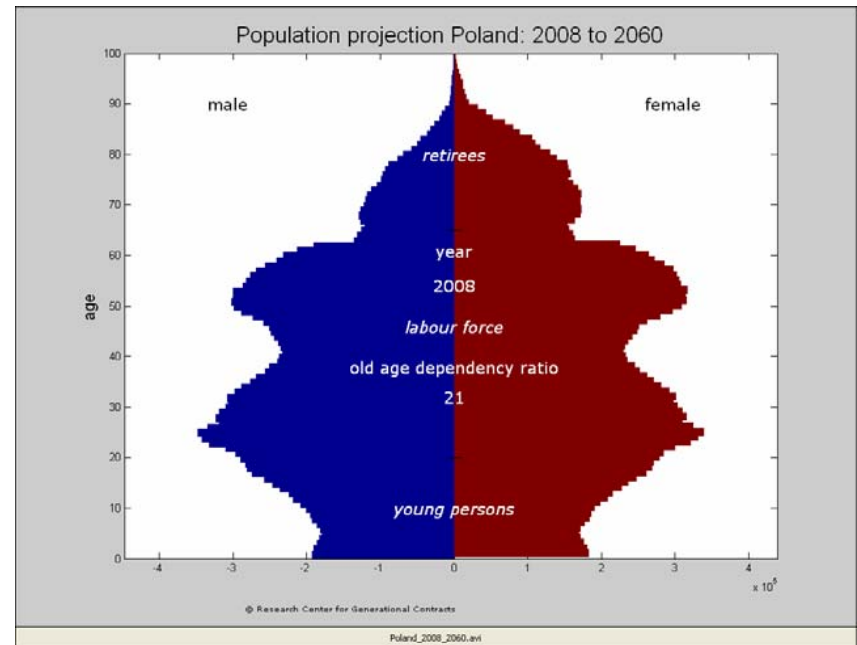
3.2. Modellierungsansatz:

Schritt 2: Projektion von Ausgaben und Einnahmen

Gewichtung mit künftigen Kohortenstärken ...



+



3.2. Modellierungsansatz:

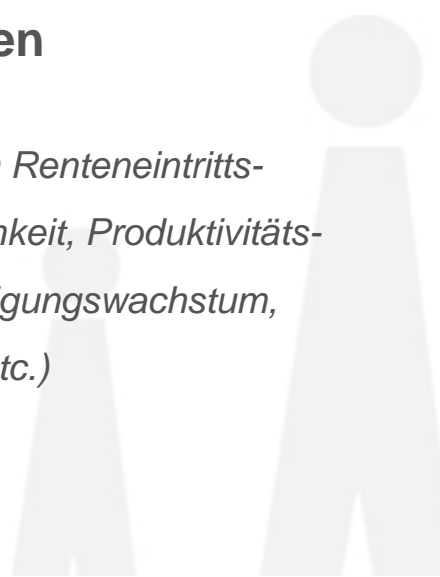
Neues Rentenmodell zur Berücksichtigung der umfassenden Rentenreform 1999:

Profil-Ansatz \longrightarrow **Wahrscheinlichkeitsansatz** (incl. NDC Konten)

NDC-Beiträge + **NDC-Konten** = **NDC-Renten**

*(bedingt durch: Lohn,
Beitragssätze, Renten-
eintrittswahrscheinlichkeit,
Transformationsprozess, etc.)*

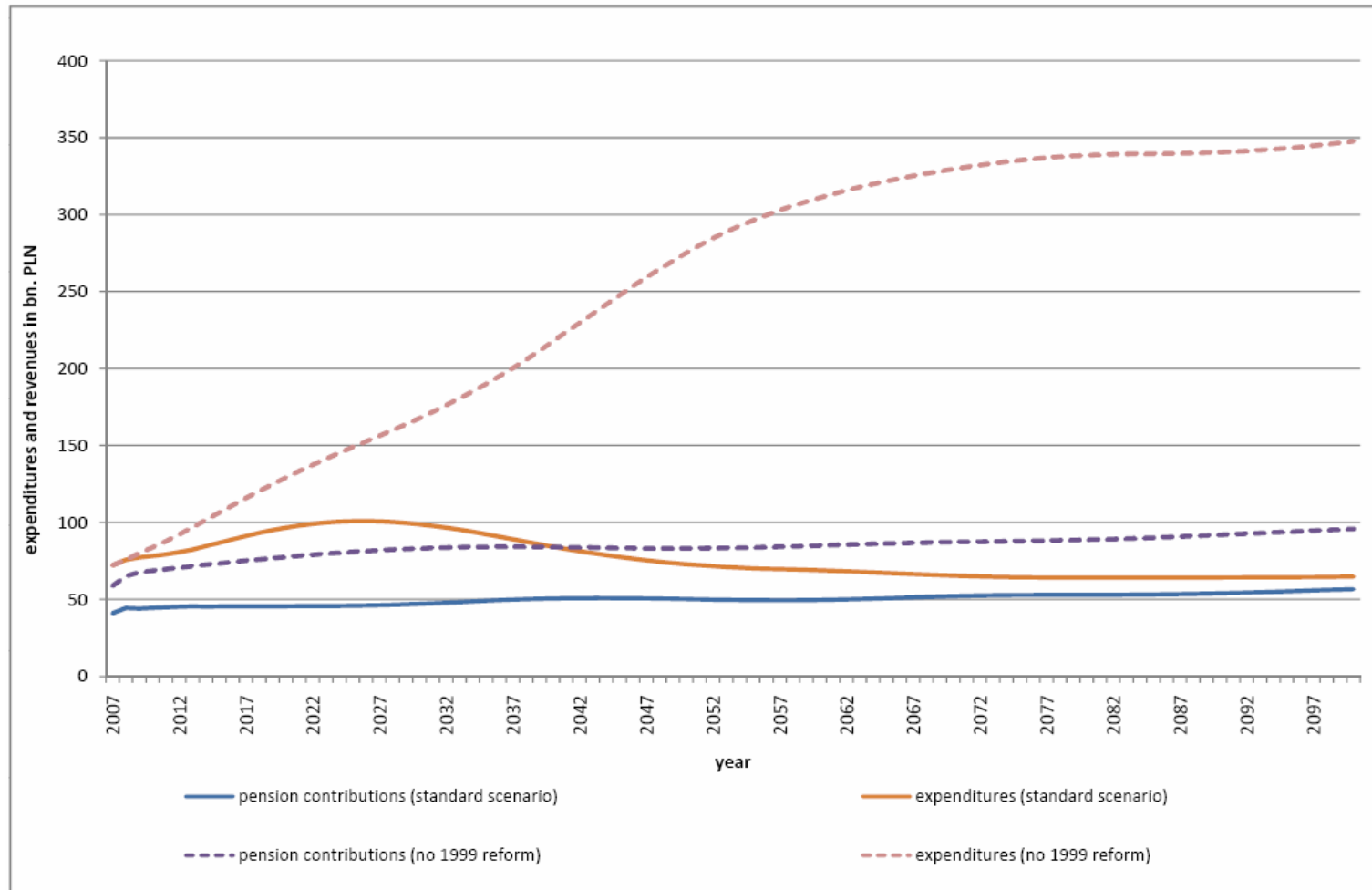
*(bedingt durch Renteneintritts-
wahrscheinlichkeit, Produktivitäts-
und Beschäftigungswachstum,
Indexierung, etc.)*



3.3. Tragfähigkeits-Indikatoren: Cash-Flows

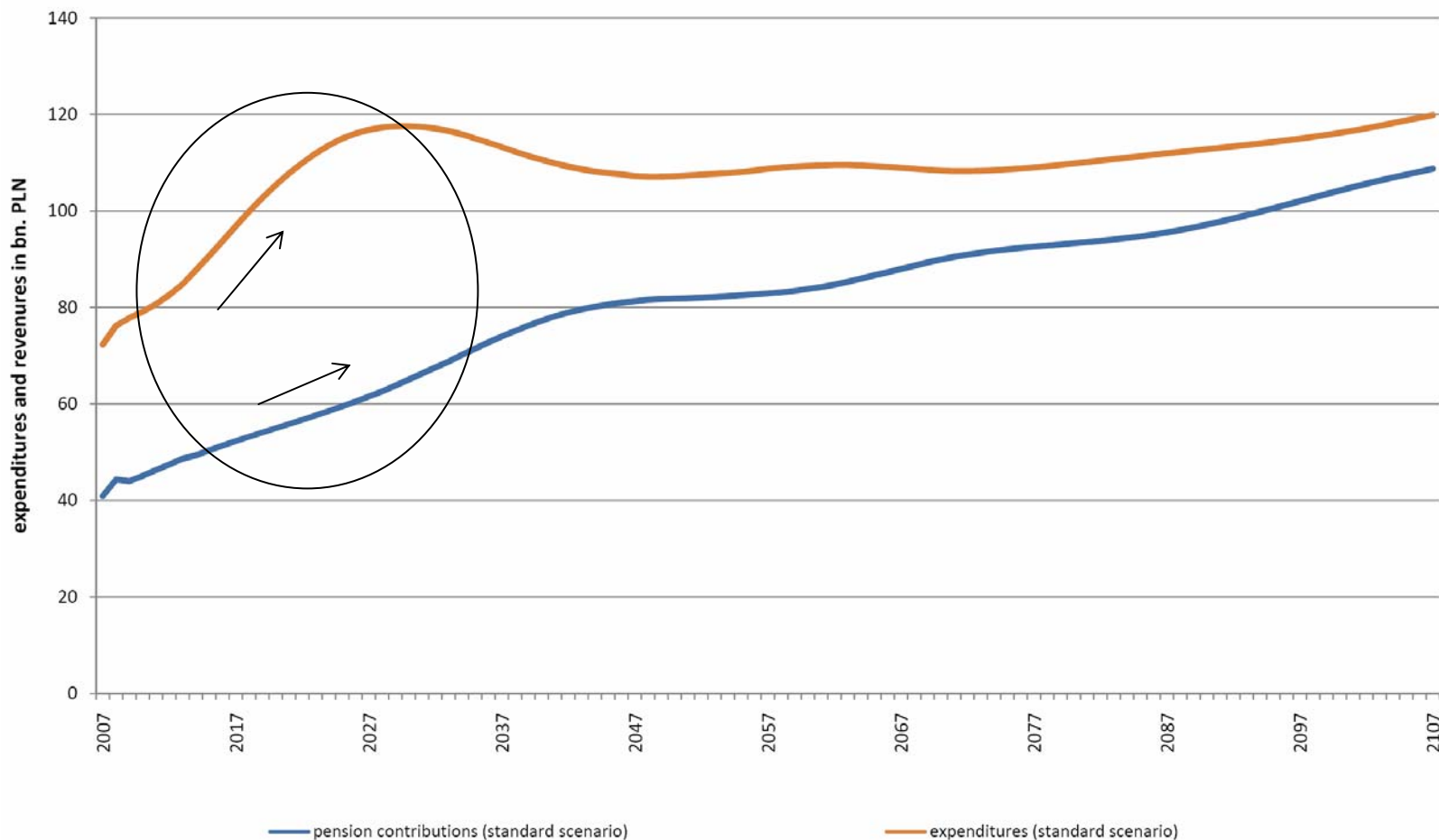
Cash Flows von Rentenbeiträgen und -ausgaben

Basisjahr 2007, $r=0\%$, $g=1,5\%$



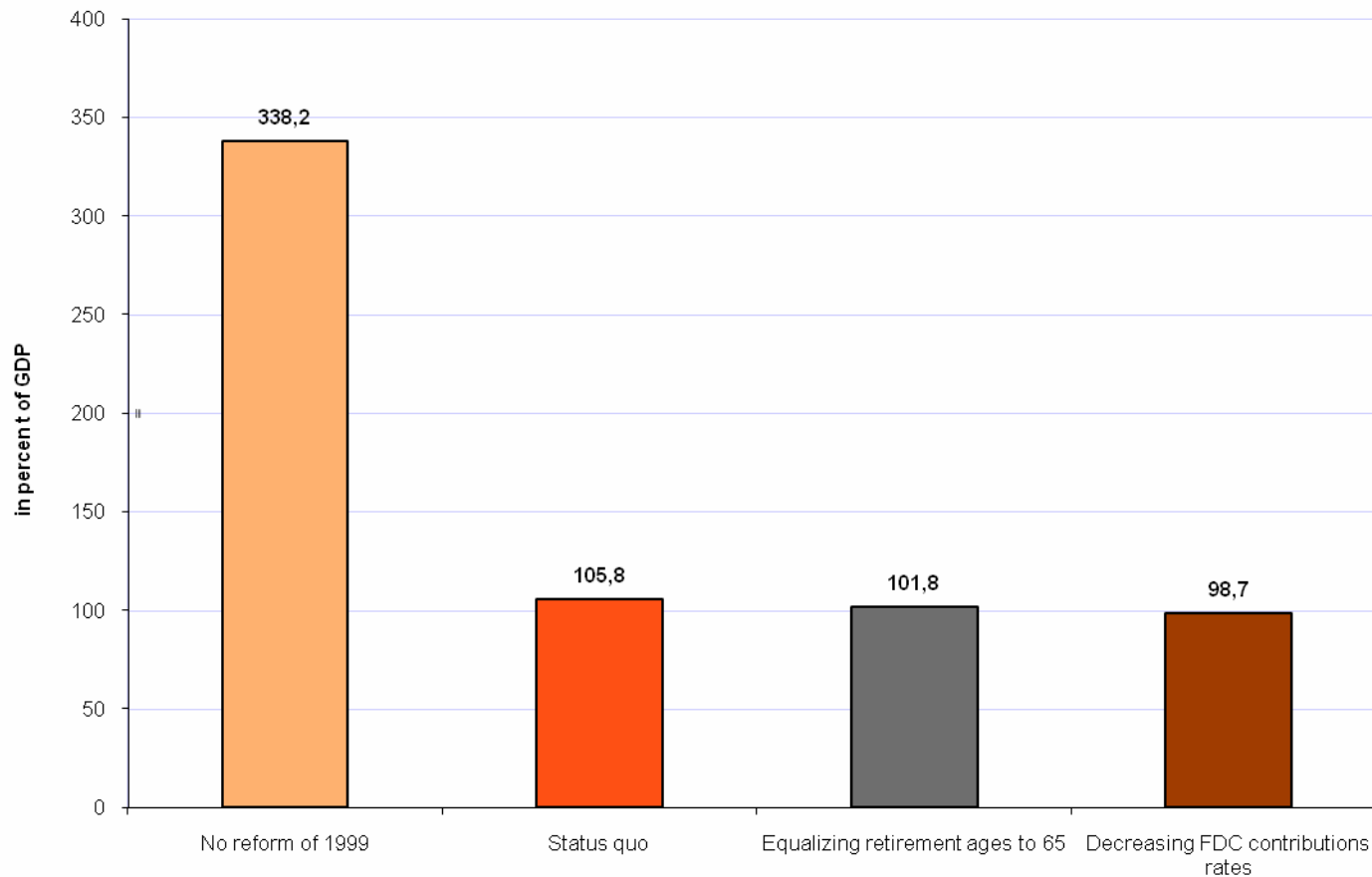
3.3. Tragfähigkeits-Indikatoren: Cash-Flows

Cash Flows von Rentenbeiträgen und -ausgaben
Basisjahr 2007, $r=0\%$, $g=AWG$



3.3. Tragfähigkeits-Indikatoren: Nachhaltigkeitslücken

Isolierte Nachhaltigkeitslücken (status quo)
Basisjahr 2007, $r=3\%$, $g=1.5\%$



Quelle: Eigene Berechnung.

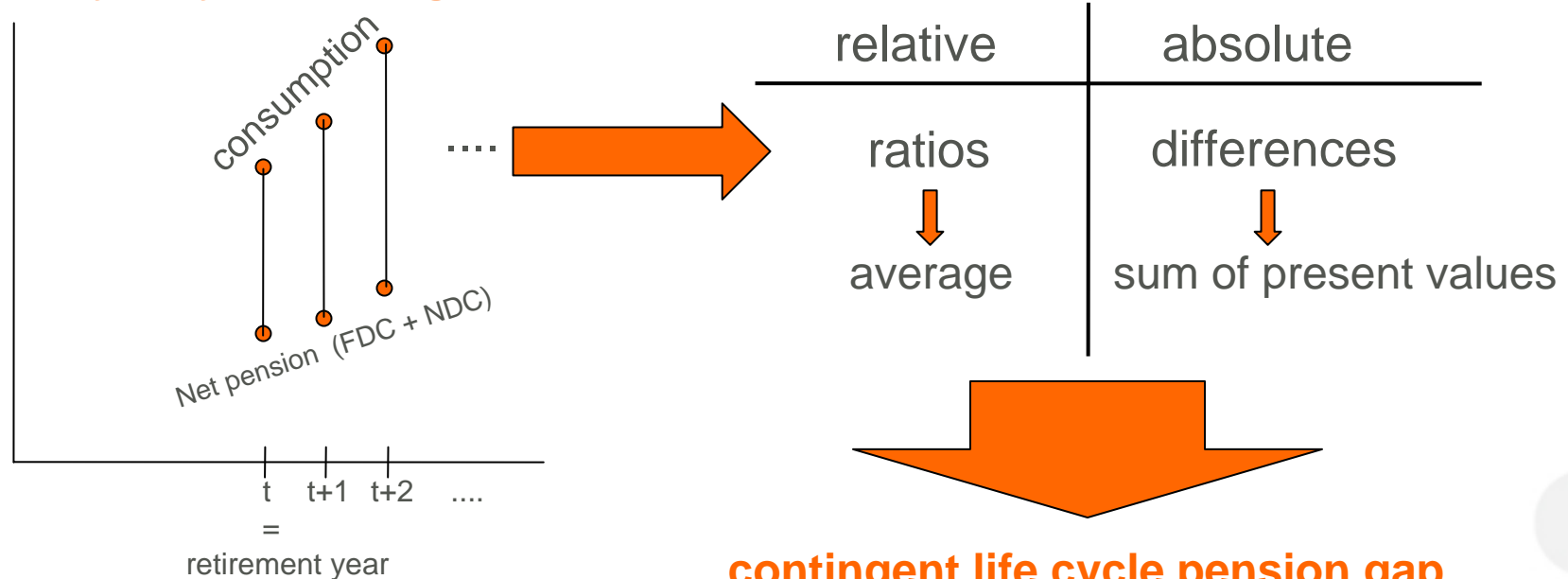
Die Perspektive der *Angemessenheit* von Renten:

*In welchem Umfang können zukünftige
Rentenleistungen das Konsumlevel vor Renteneintritt
aufrechterhalten?*



3.4 Rentenlücken (pension gaps): Konzept und Modellierung

yearly pension gaps



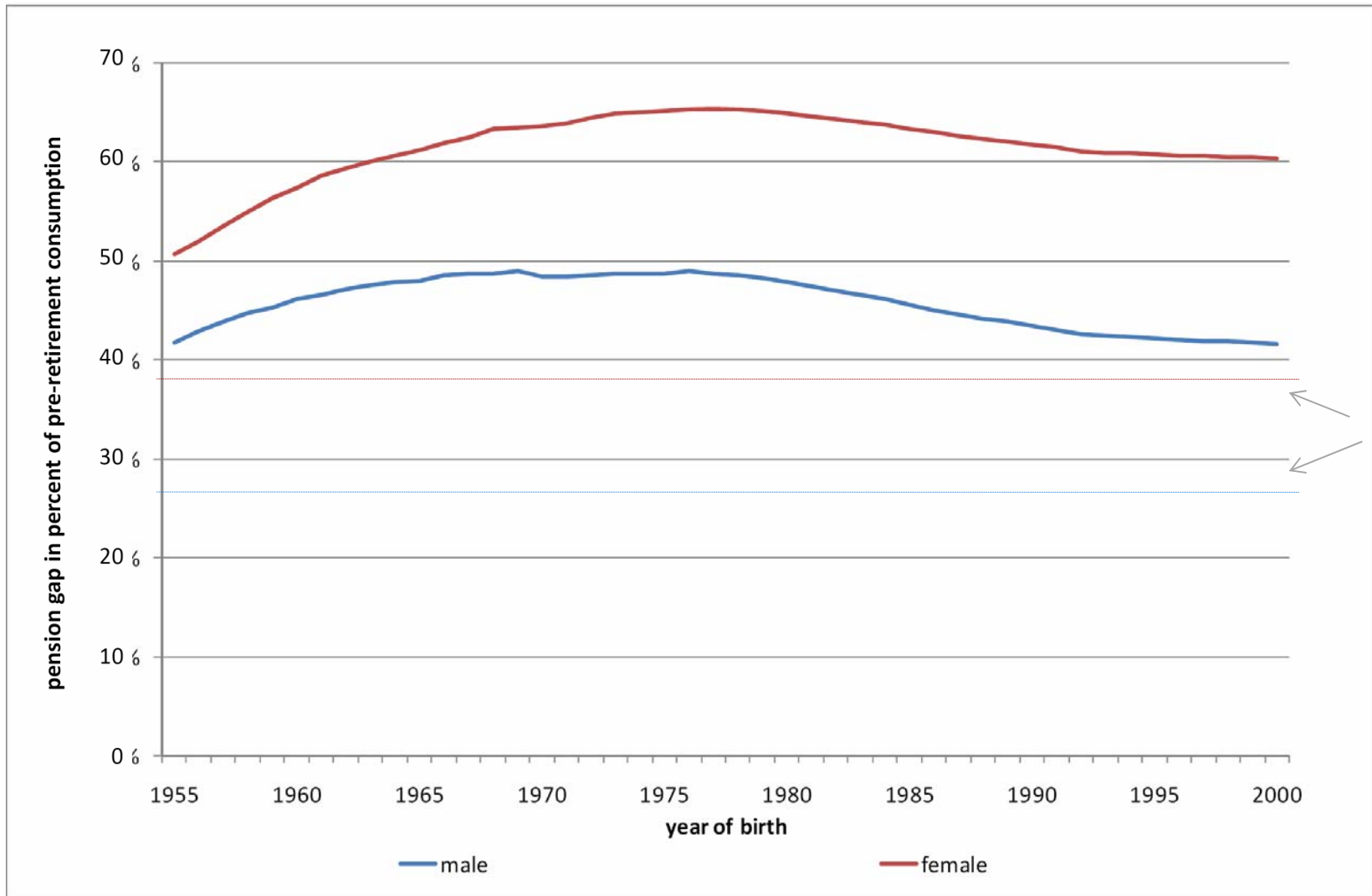
contingent life cycle pension gap
(for each retirement age and cohort)

↓ weighted with
retirement probabilities

life cycle pension gap
(for each cohort)

3. Bewertung: *Angemessenheit*

3.5 Relative Rentenlücken (status quo)



for
comparison
gap of birth
years 1947

Zusammenfassung und Ausblick:

- ⇒ Alterungsprozess in Polen wird rasant an Tempo zulegen
- ⇒ Reform von 1999 hat die langfristige Tragfähigkeit des polnischen Rentensystems deutlich verbessert
- ⇒ Herausforderung der kommenden 20 Jahre: anwachsendes Missverhältnis zwischen Beiträgen und Ausgaben (*quadruple burden*)
- ⇒ Folge der 99er Reform: steigende Rentenlücken, insbesondere für die Geburtsjahrgänge 1965-85 (*intergenerative Umverteilung*)
- ⇒ Reformoption: Anhebung des weiblichen Rentenalters könnte diese Effekte teilweise kompensieren

Danke für Ihre Aufmerksamkeit!

Für eine detaillierte **Beschreibung des Modells und der Ergebnisse** siehe:

Jablonowski, J., C. Müller und B. Raffelhüschen (2010), A fiscal outlook for Poland using Generational Accounts, *Discussion Paper Series Forschungszentrum Generationenverträge*, No. 45 (erscheint demnächst).

Leifels, A., C. Müller und B. Raffelhüschen (2010), Mind the pension gap – On the relationship between future pensions and pre-retirement consumption in Poland, Study on behalf of ERGO Versicherungsgruppe AG.



www.generationenvertraege.de

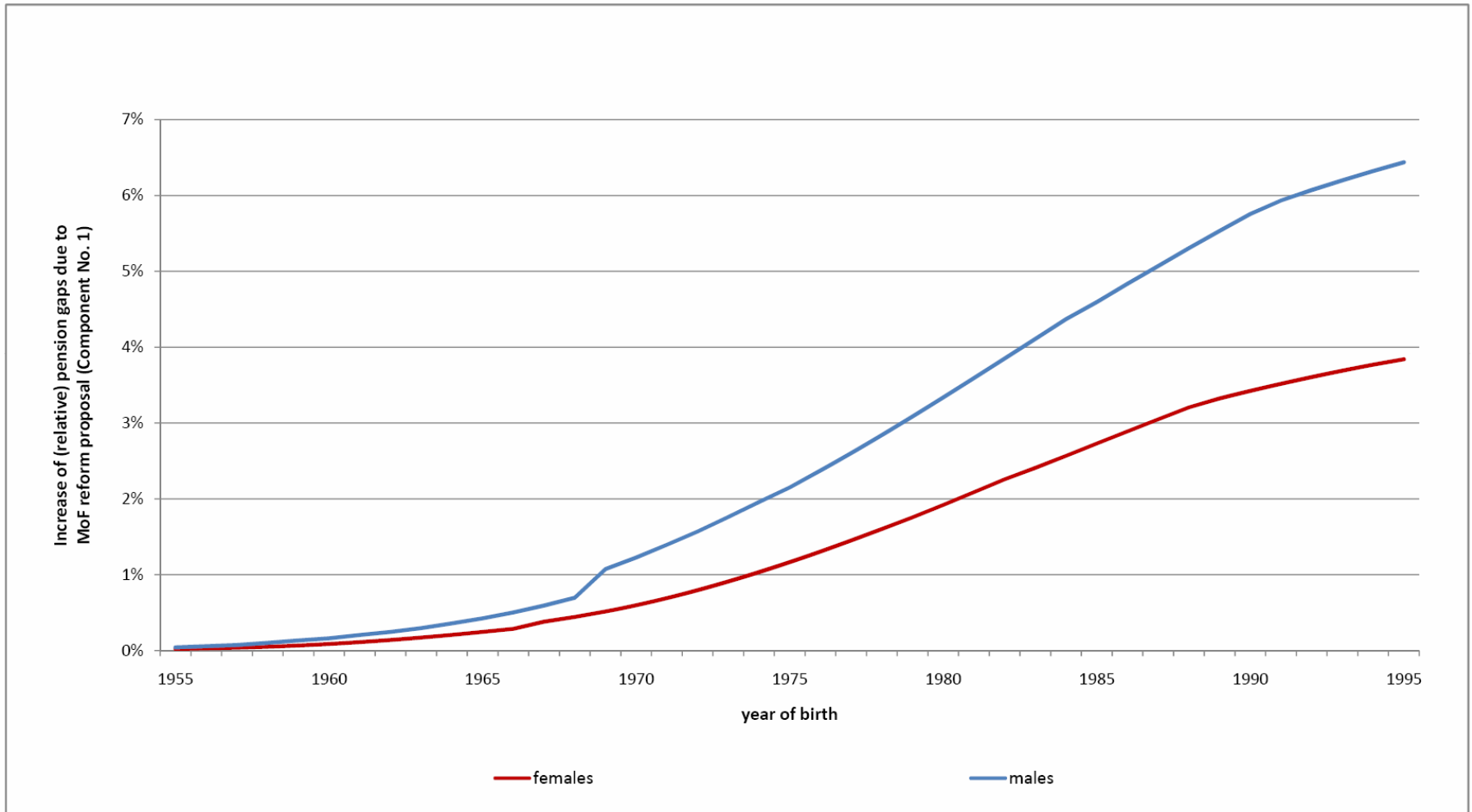


Assessing the reform proposal of the Ministry of Finance (MoF)

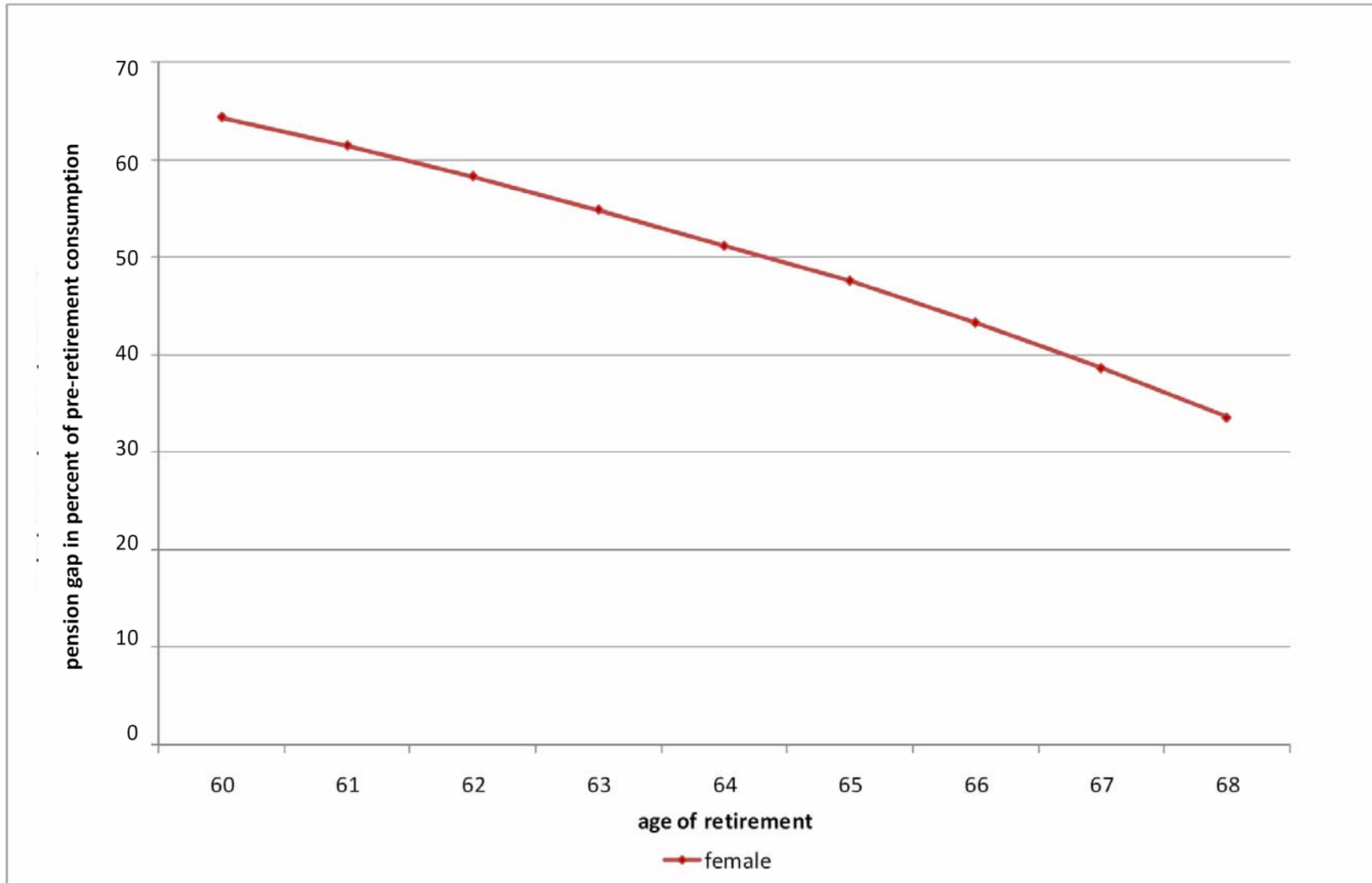
- Component No. 1: Shifting back towards PAYG (NDC)
- Component No. 2: Align legal retirement ages between genders



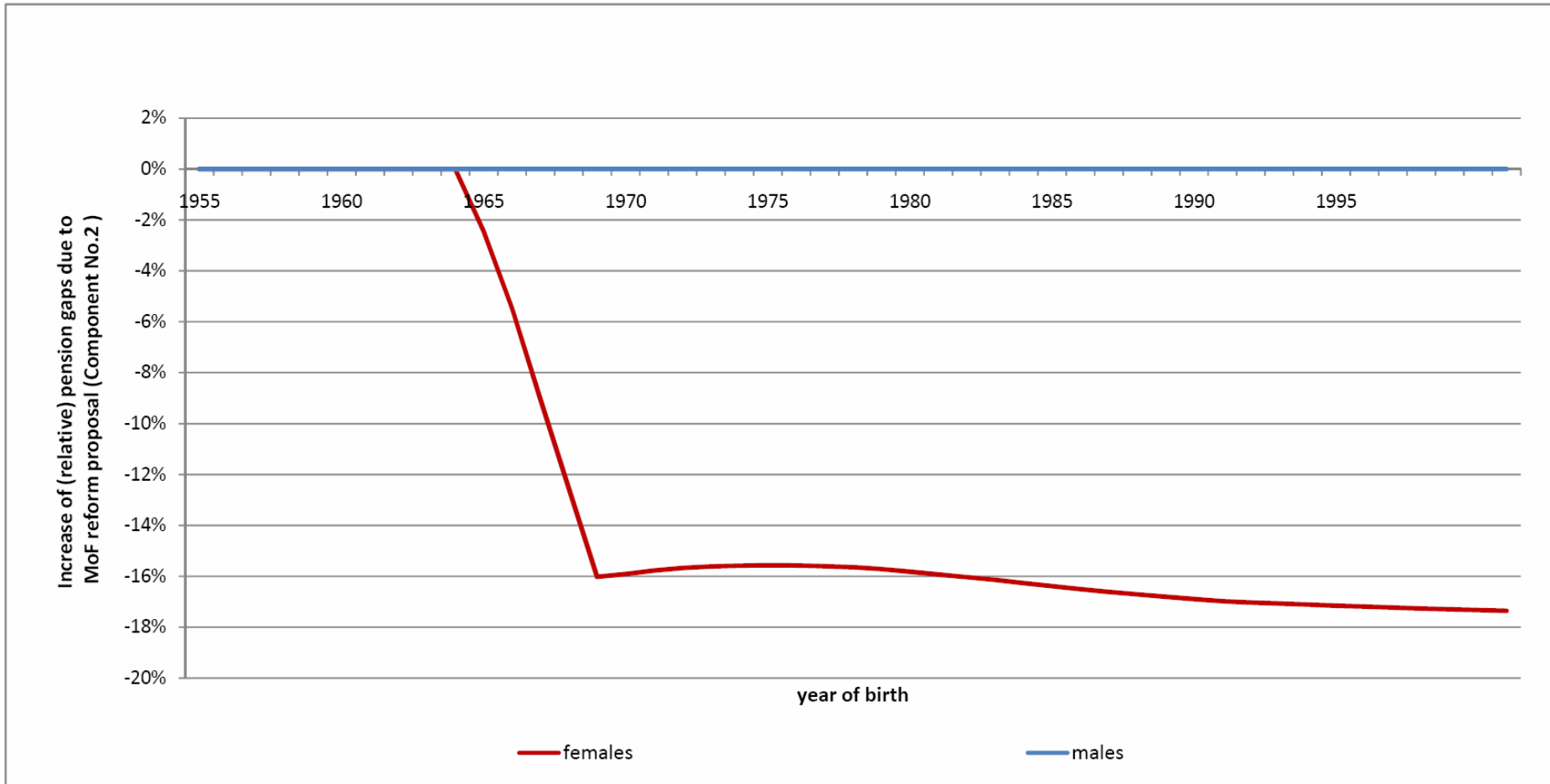
Component No. 1: Shifting contributions from the funded to the unfunded pillar



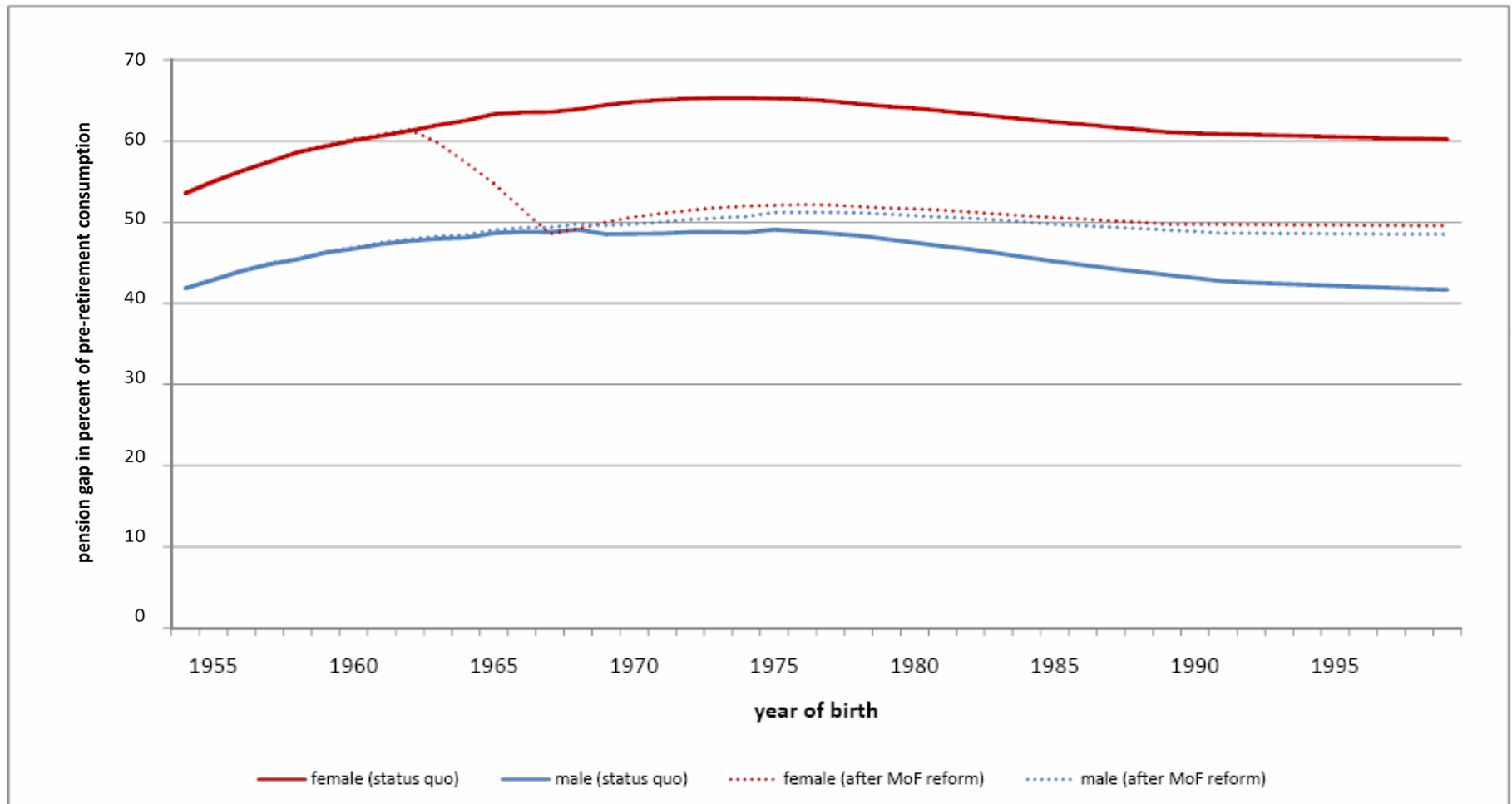
Variation of the effective retirement age (woman born in 1970)



Component No. 2: Higher female retirement ages

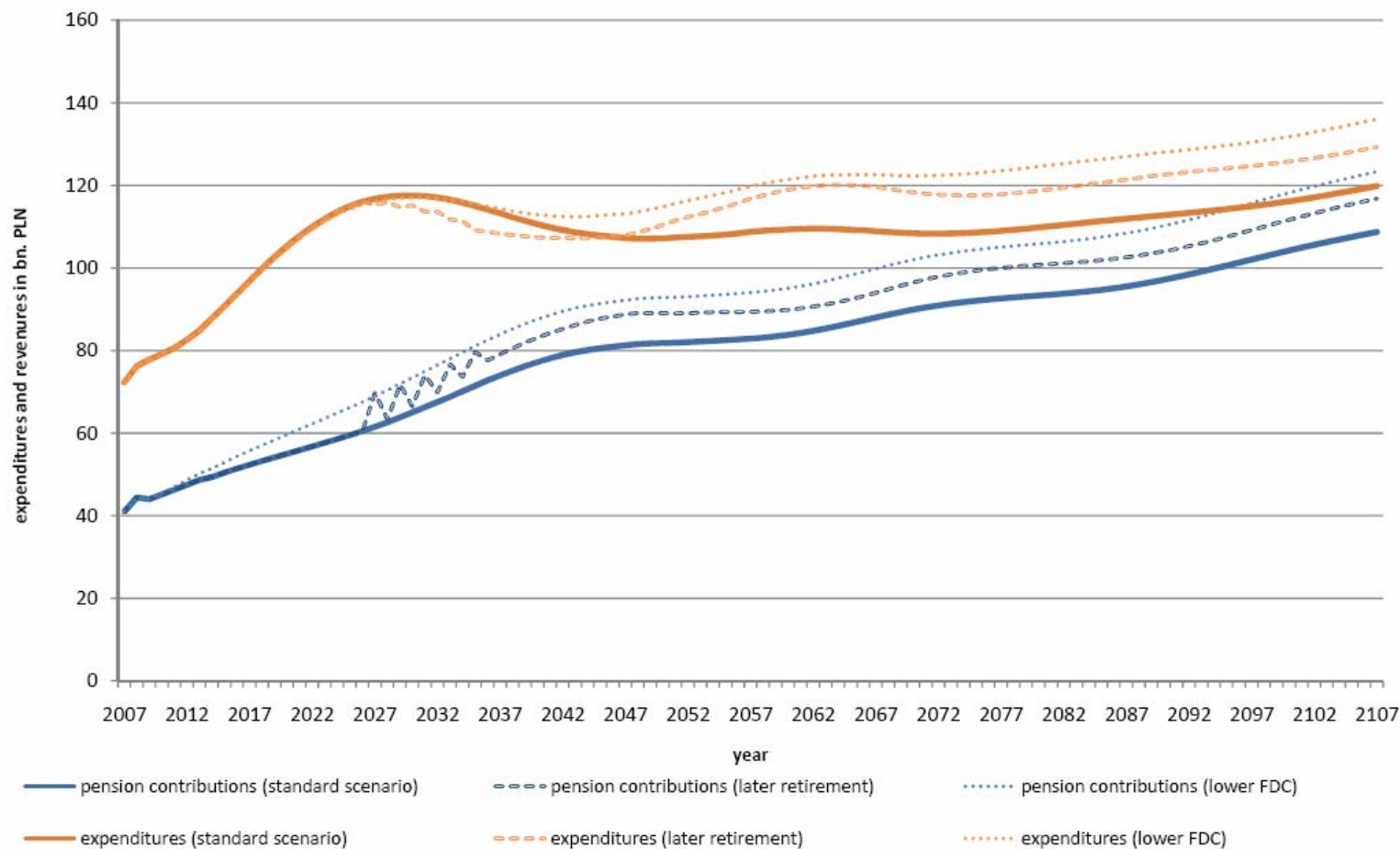


Impact of the MoF reform proposal as a whole



Cash flows: Impact of the recently discussed pension reforms (I)

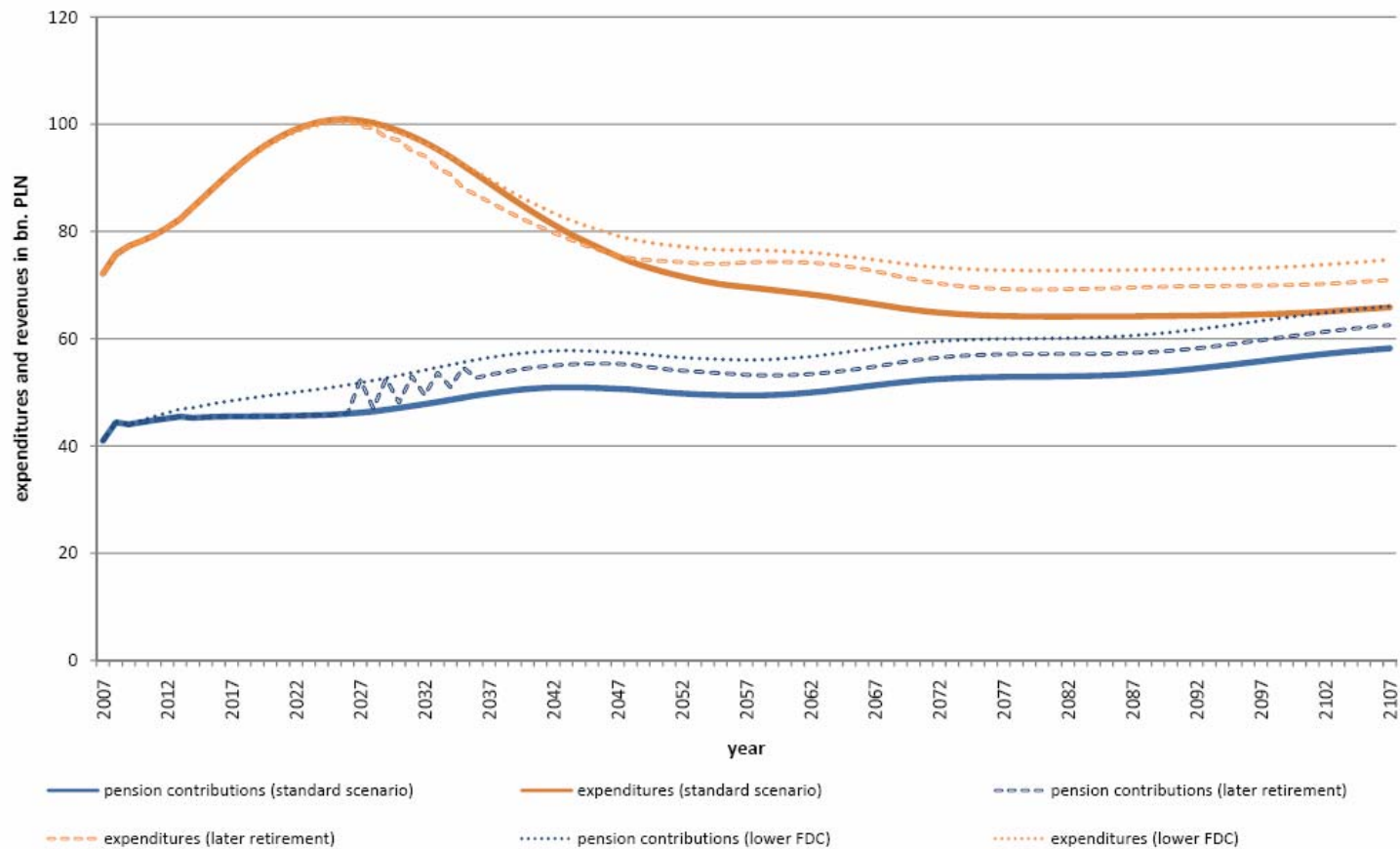
Cash Flows of ZUS pension contributions and expenditures
base year 2007, $r=3\%$, $g=AWG$



Growth assumptions make a difference ...

Cash flows: Impact of the recently discussed pension reforms (II)

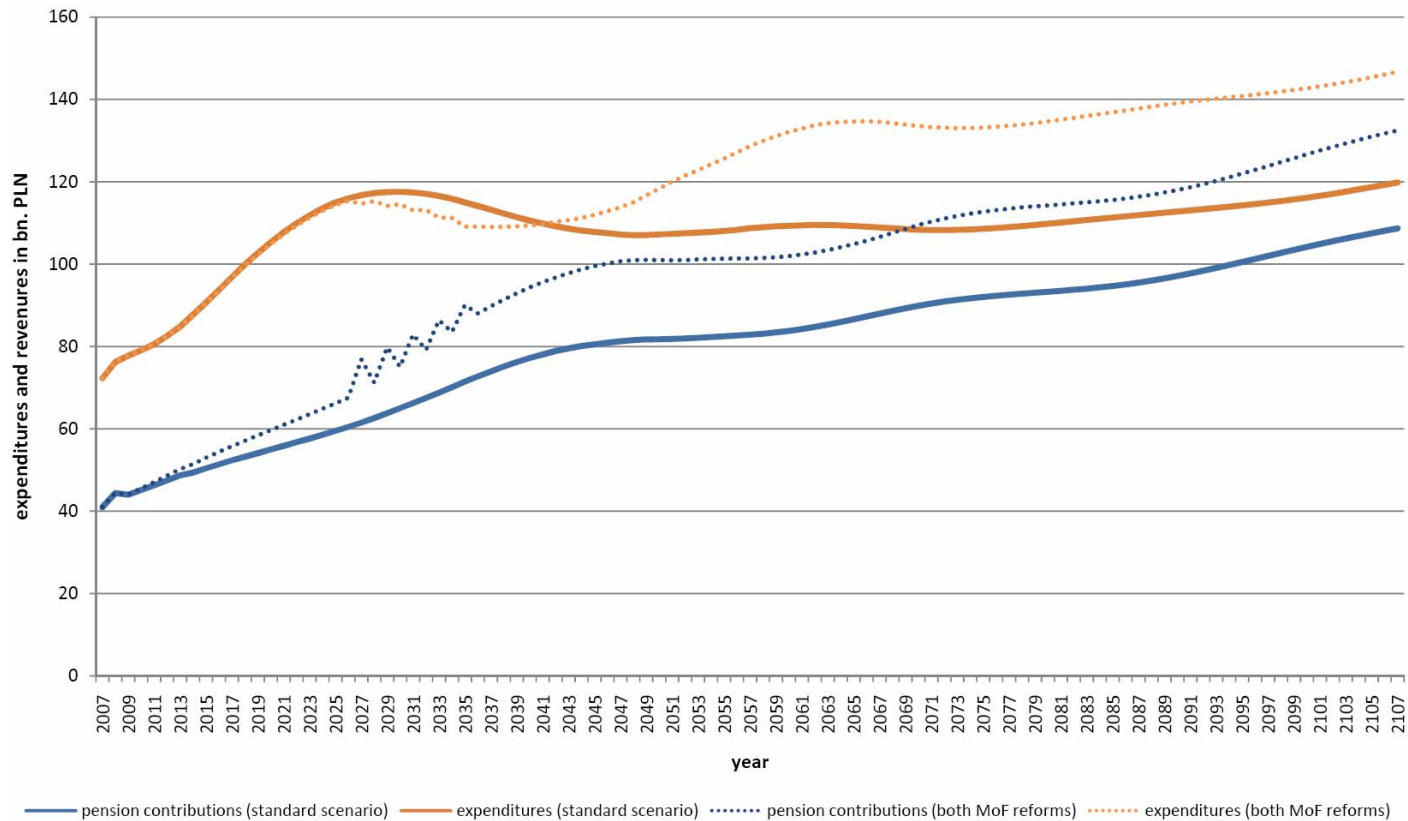
Cash Flows of ZUS pension contributions and expenditures
base year 2007, $r=3\%$, $g=AWG$



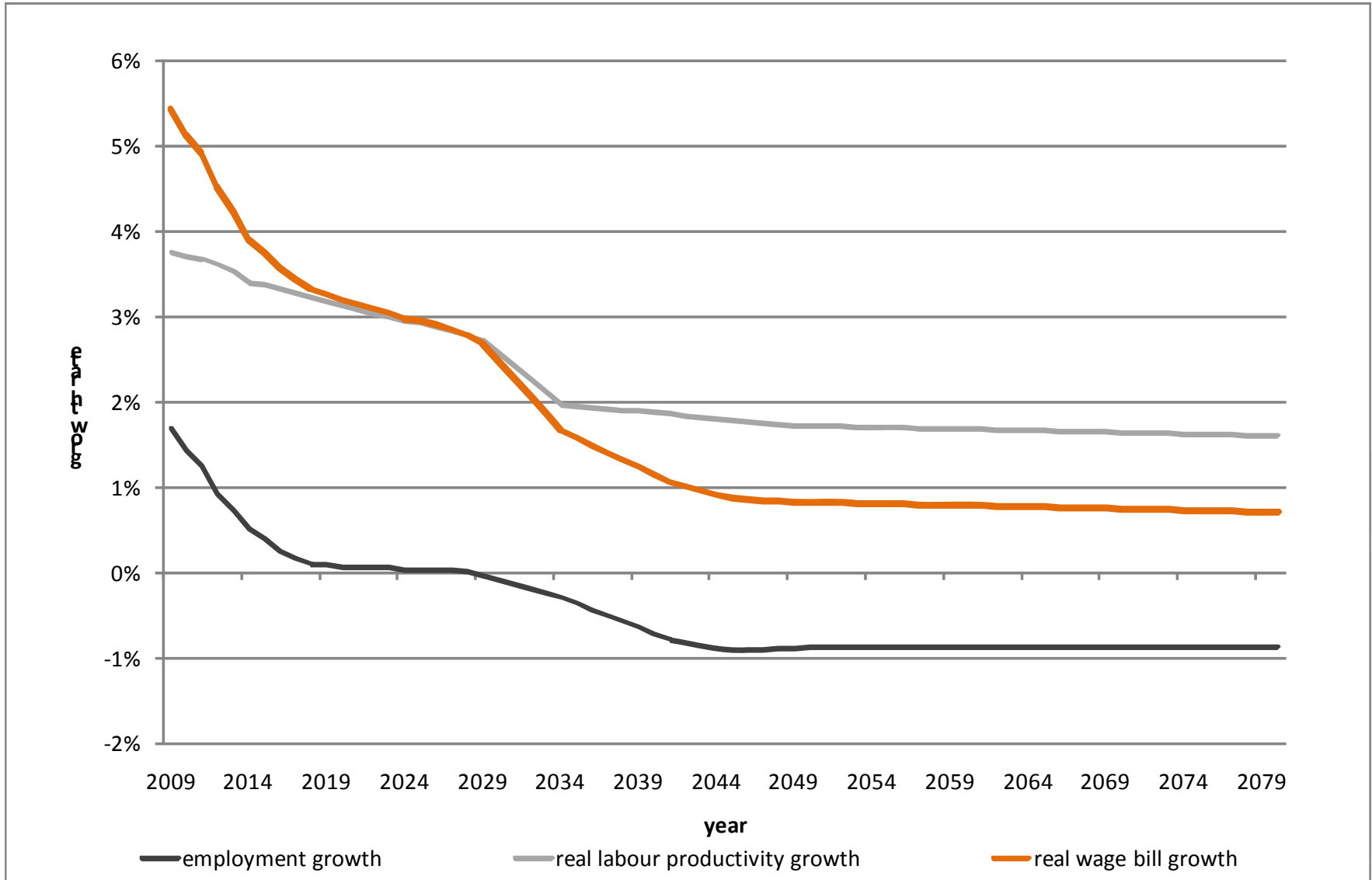
Both reforms combined can partially bridge the deficits in the coming years ...

Cash flows: Impact of the recently discussed pension reforms (III)

Cash Flows of ZUS pension contributions and expenditures
base year 2007, $r=3\%$, $g=AWG$



Assumptions concerning NDC returns



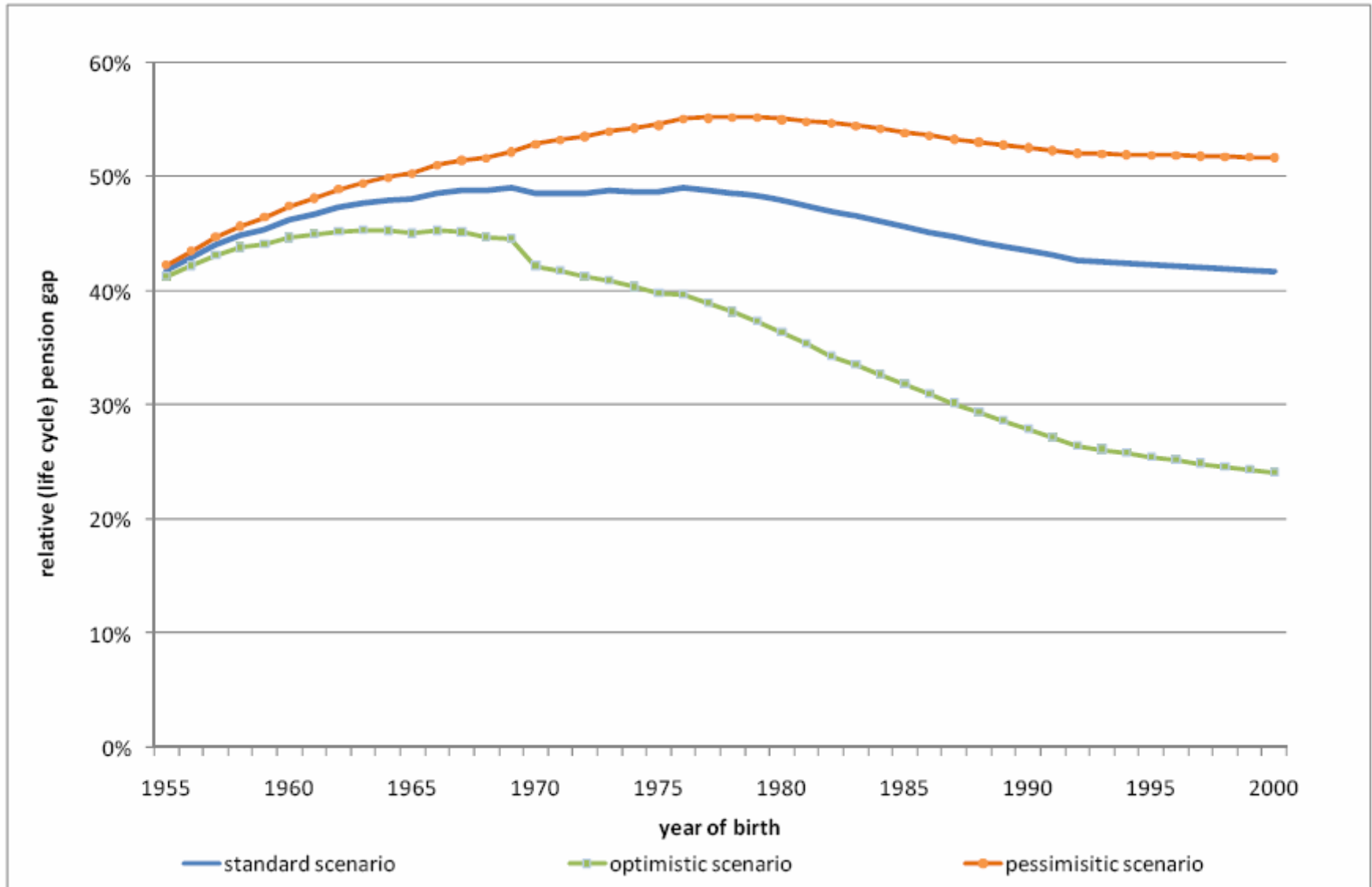
Estimating pension liabilities



FORSCHUNGS
ZENTRUM
GENERATIONEN
VERTRÄGE

Aspect	Assumption	Source
Demography	Life expectancy - male (female) : 2008: 71.4 (79.9) years 2060: 82.5 (88) years Fertility.: 1.31 (2007) - > 1.46 (2060) Migration: time-varying	EUROPOP (2009a)
Scope of the study	only general public pension system (ZUS), only mandatory schemes	
Average savings rate	13 percent	Scaling Numbers for Germany according to ratio of savings rates (for want of data)
Contribution ratio	22.71 percent	
Income tax rate (working life + retirement)	10 percent	
Age for reference consumption	64 (men), 59 (women)	
Indexation of NDC contributions	100 per cent of real wage bill growth	
Indexation of pensions (NDC and FDC)	20 percent of real wage growth	
FDC rate of return	4 percent	
Minimum pensions	Omitted (636.29)	
FDC contribution charges	7 percent and lowered thereafter	Duszczuk and Wisniewski (2006)
FDC asset management charges	0.6 percent and	
Indexing of reference consumption over retirement	productivity growth	
Birth cohorts considered in the study	1955-2000	
Employment growth	time varying	European Commission
Real labour productivity growth	time varying	European Commission
Real wage bill growth	time varying	European Commission
Real wage growth	equals real labour productivity growth	
discount rate / real wage	3 percent	

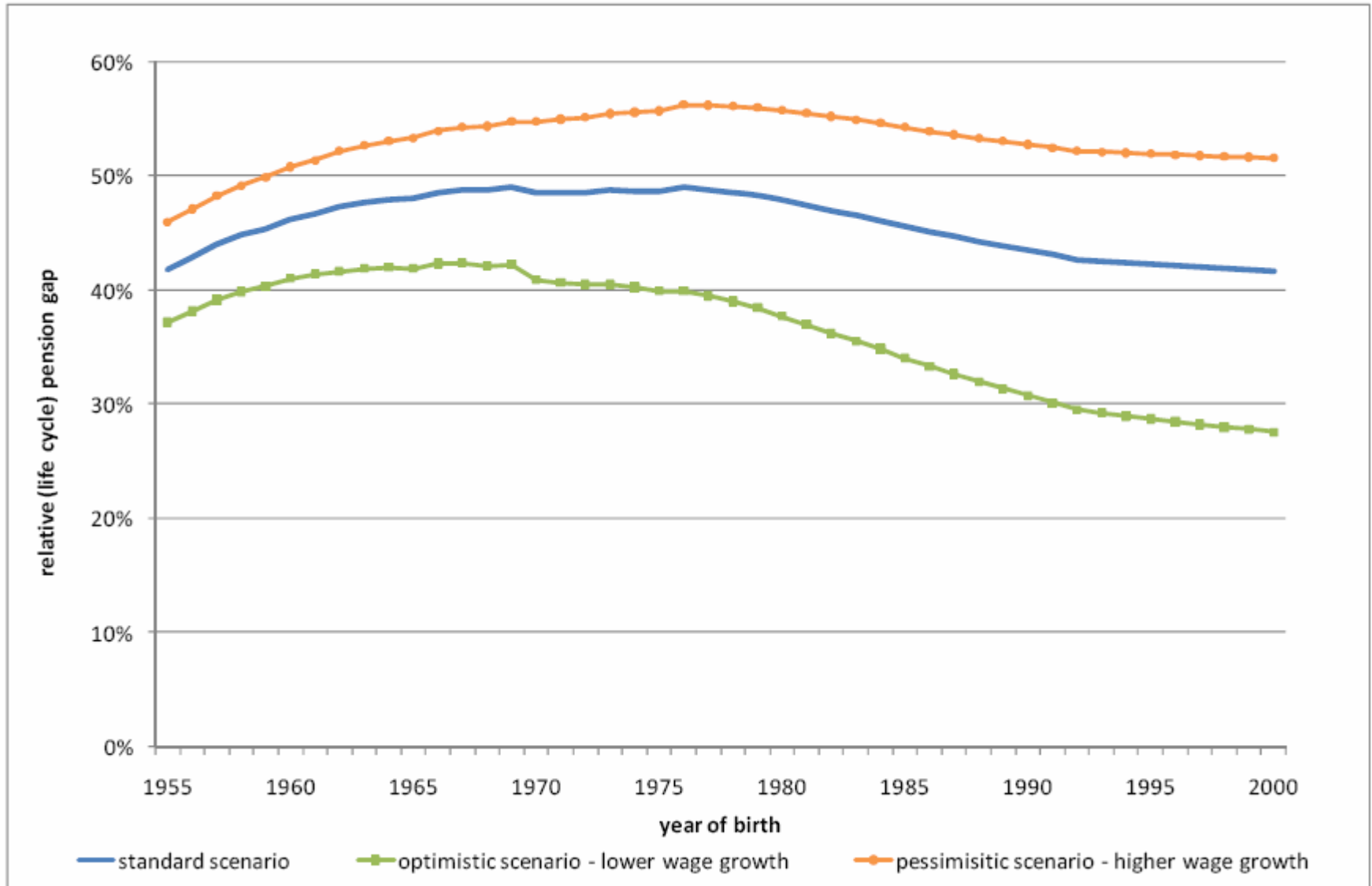
Variation of the FDC rate of return



- FDC scheme has higher returns (here: 2 percentage points)
→ everybody's pension gap is reduced
- Particularly cohorts born after 1968 profit, because they have an obligatory FDC participation of 100 percent.
- The jump between 1968 and 1969 is due to a jump in average FDC participation (from 76 to 100 percent).



Variation of the NDC rate of return



Pensions: from Profile Approach \longrightarrow **Probability Approach (incl. NDC accounts)**

1) Contributions + **NDC accounts** = **2) NDC pensions**

*(determined by wage,
contribution rates, retirement
behaviour, etc.)*

*(determined by contributions
retirement behaviour, growth, etc.)*



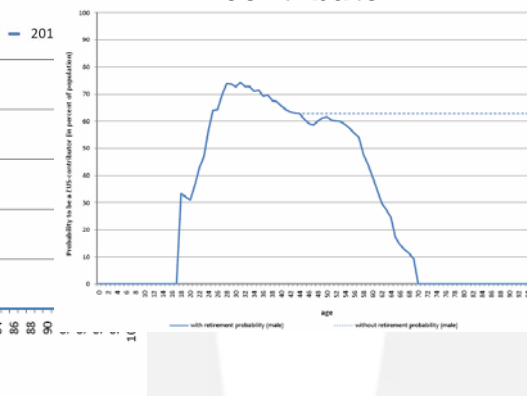
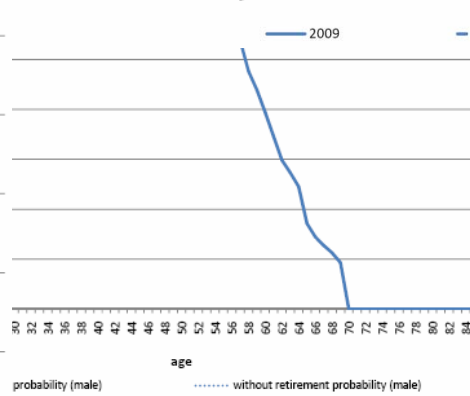
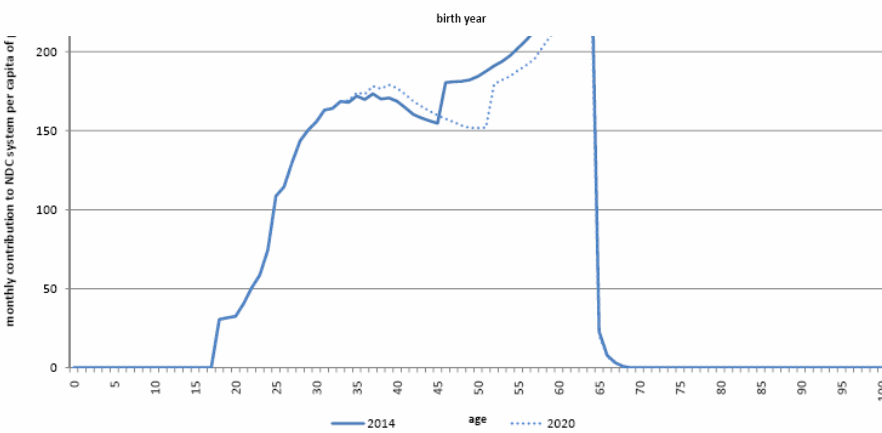
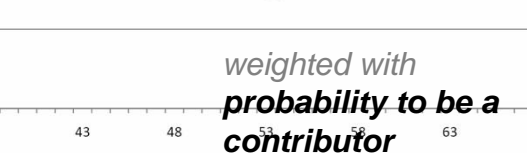
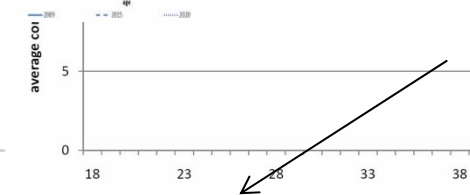
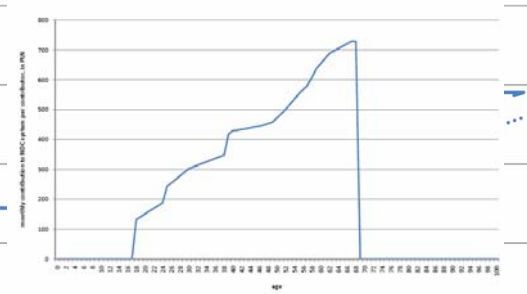
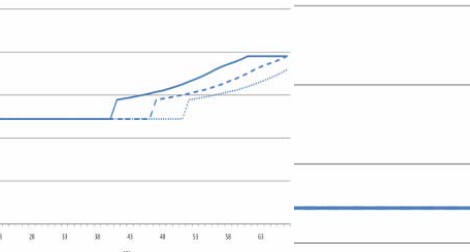
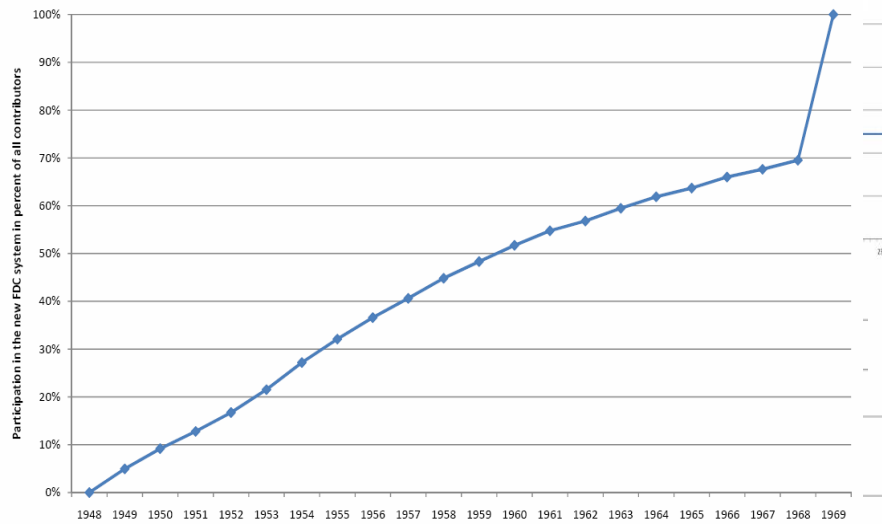
Profile Approach → Probability Approach (with NDC accounts)

1) Contributions per capita

age specific wage PDC-participation
(male) contributor →

cohort specific contribution rate

cohort specific contributions per contributor



Pensions: *from Profile Approach* \longrightarrow ***Probability Approach*** (incl. NDC accounts)

1) Contributions + **NDC** = **2) NDC pensions**
accounts

*(determined by wage,
contribution rates, retirement
behaviour, etc.)*

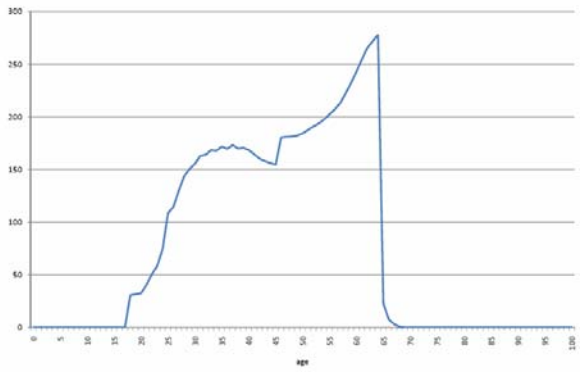
*determined by contributions
retirement behaviour, growth, etc.)*



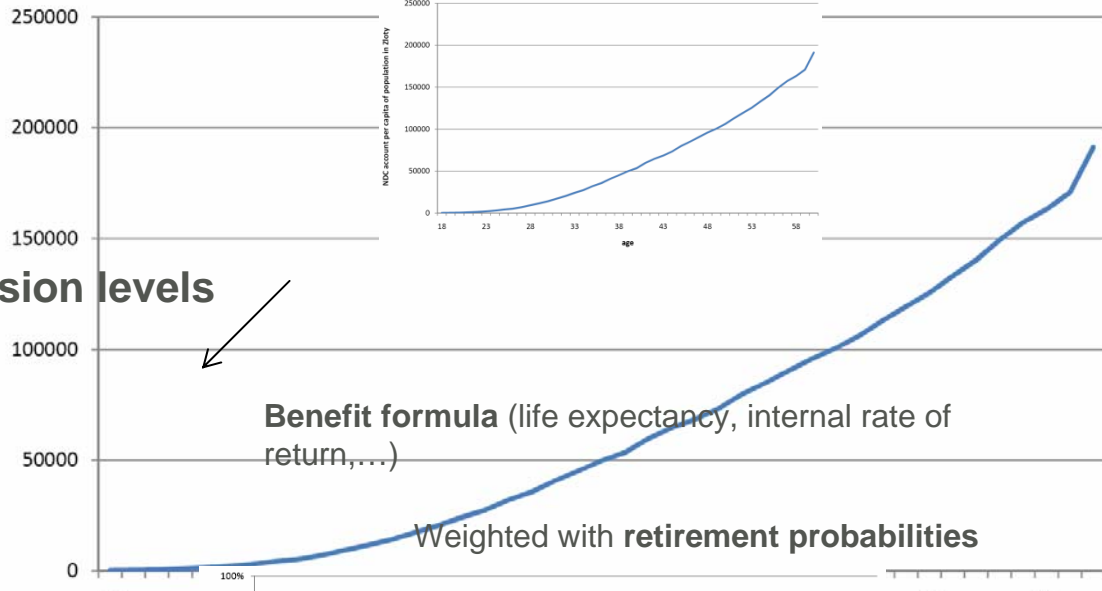
Profile Approach → Probability Approach (with NDC accounts)

2) NDC pensions per capita

per capita contributions



per capita NDC accounts



+

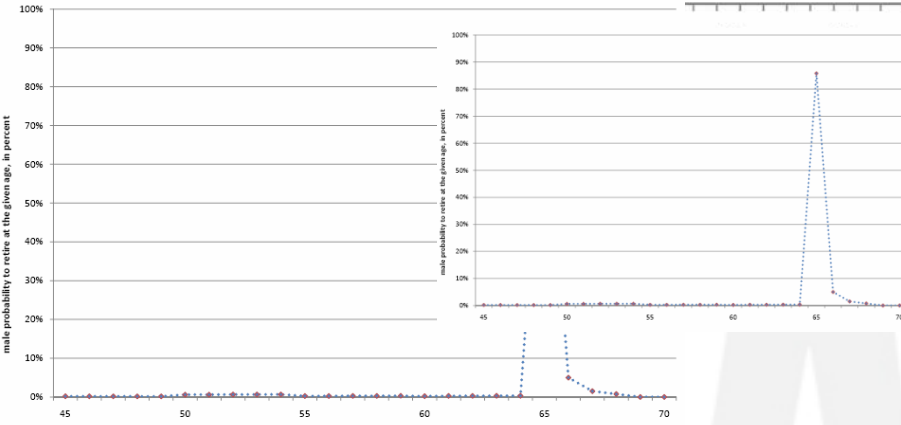
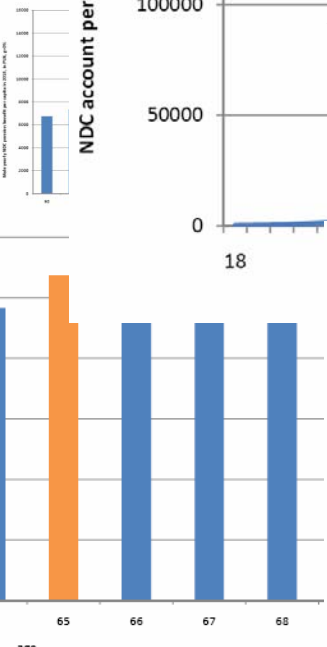
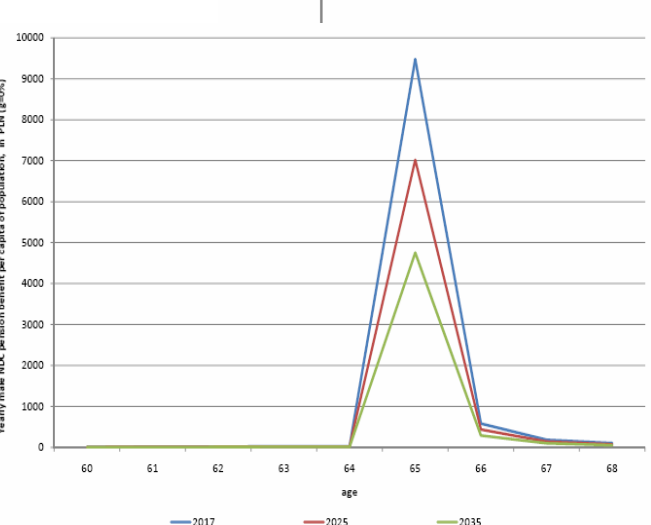
Pension levels

NDC account per capita of population in Zloty

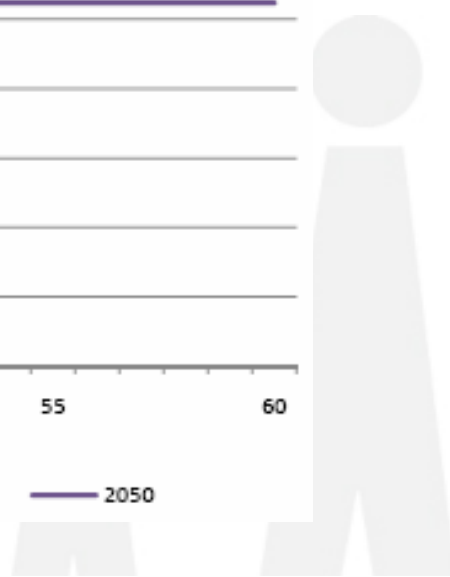
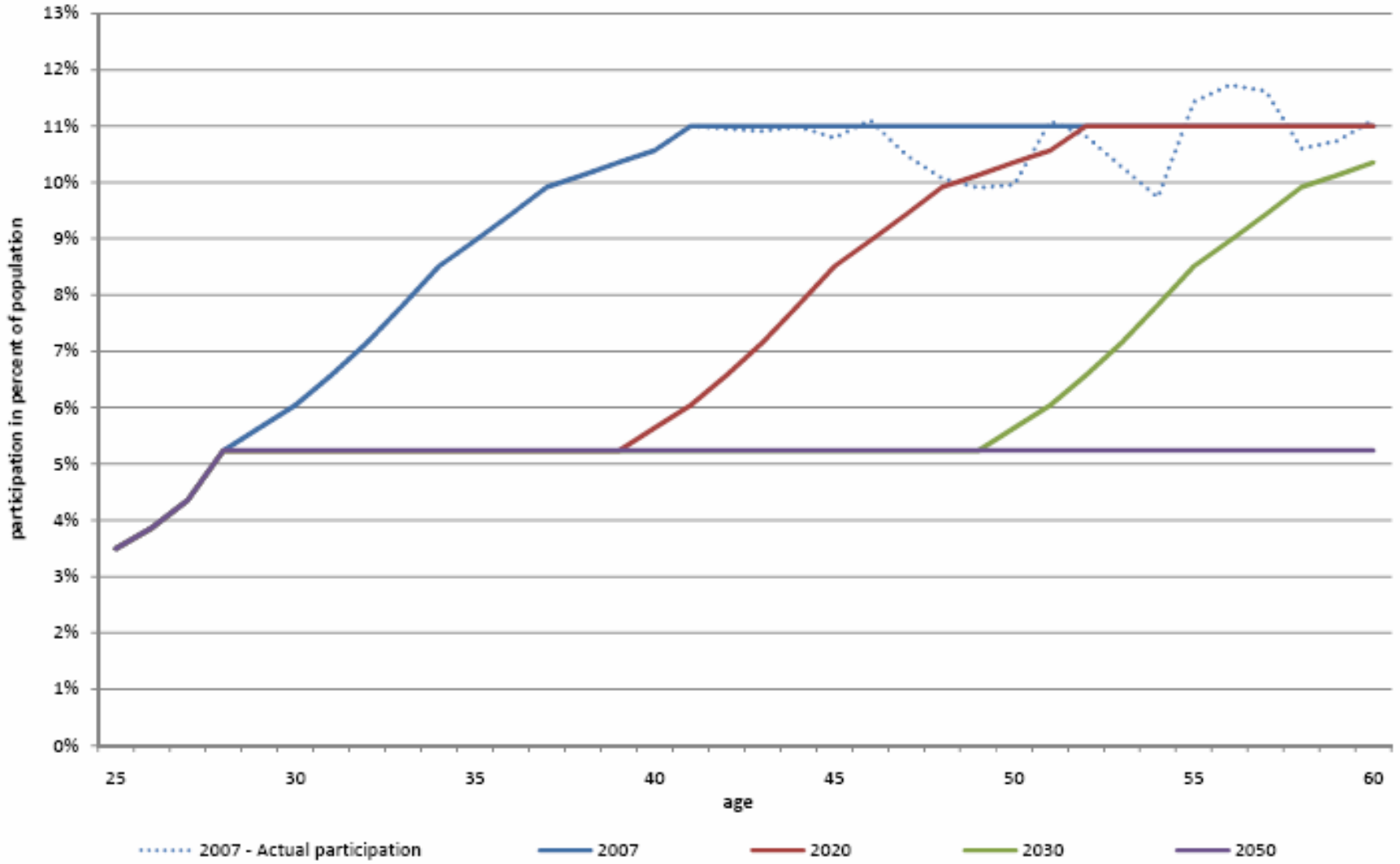
Benefit formula (life expectancy, internal rate of return,...)

Weighted with retirement probabilities

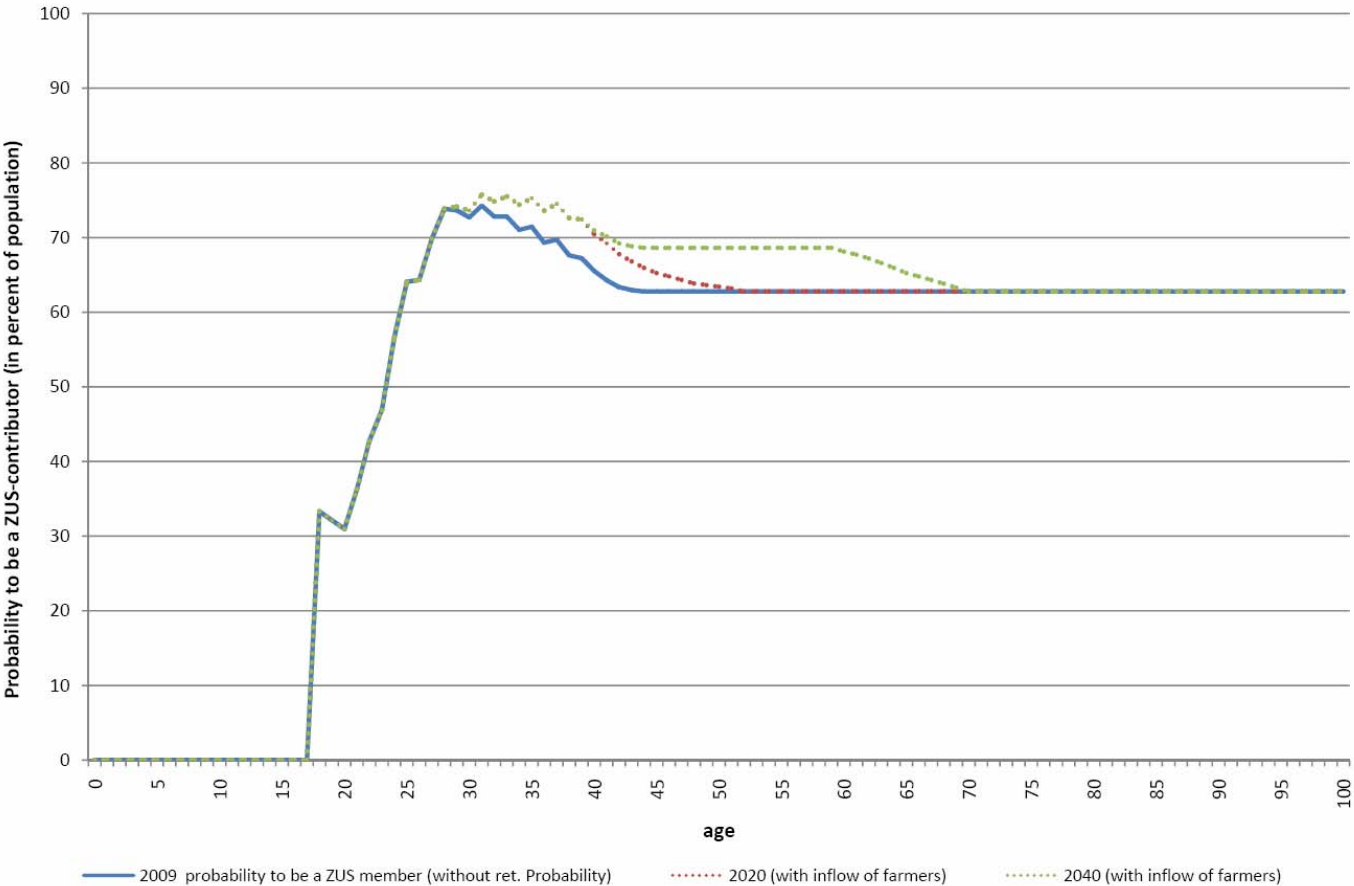
per capita pension



Age specific participation rates in KRUS

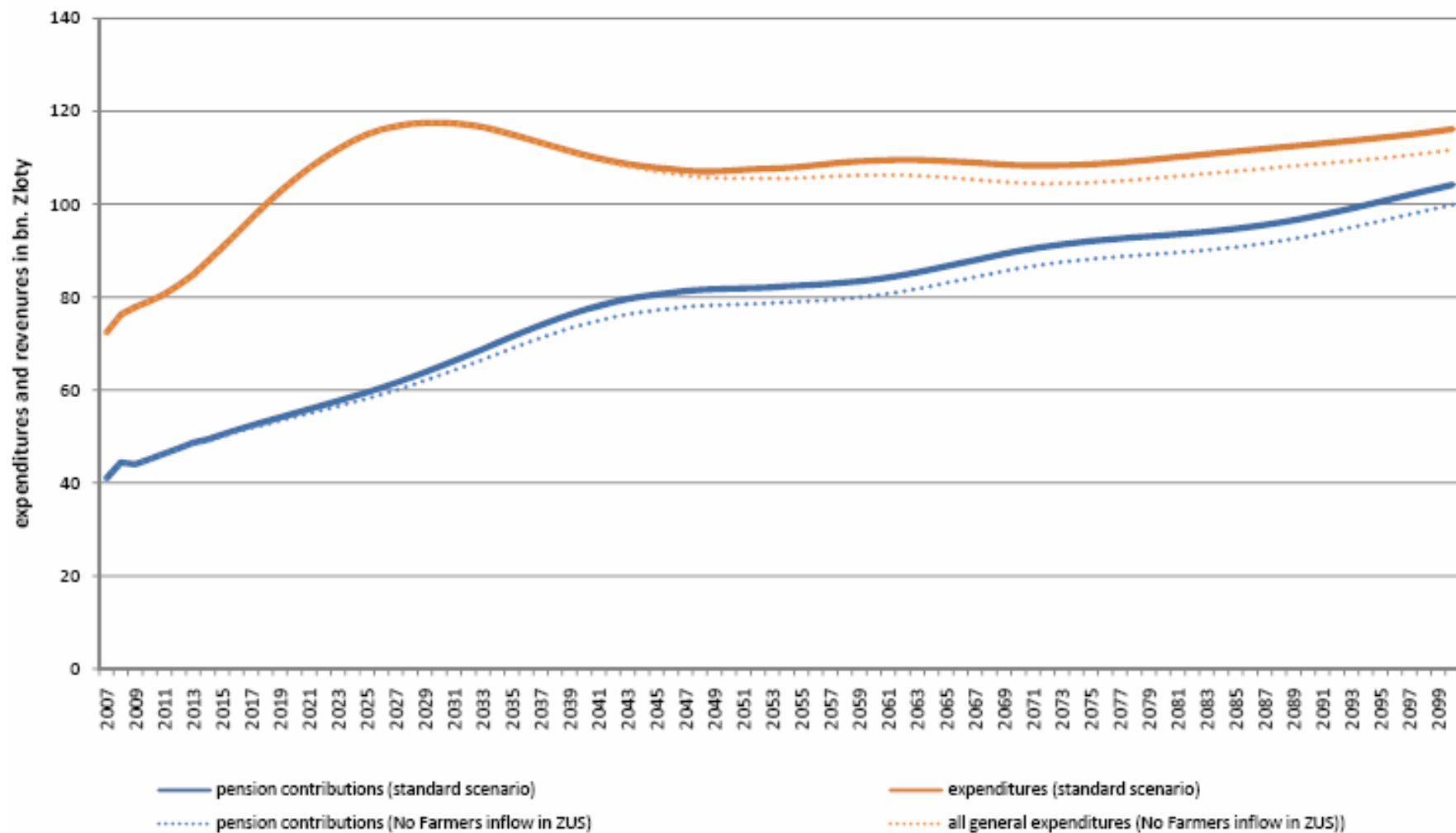


Farmers inflow into ZUS



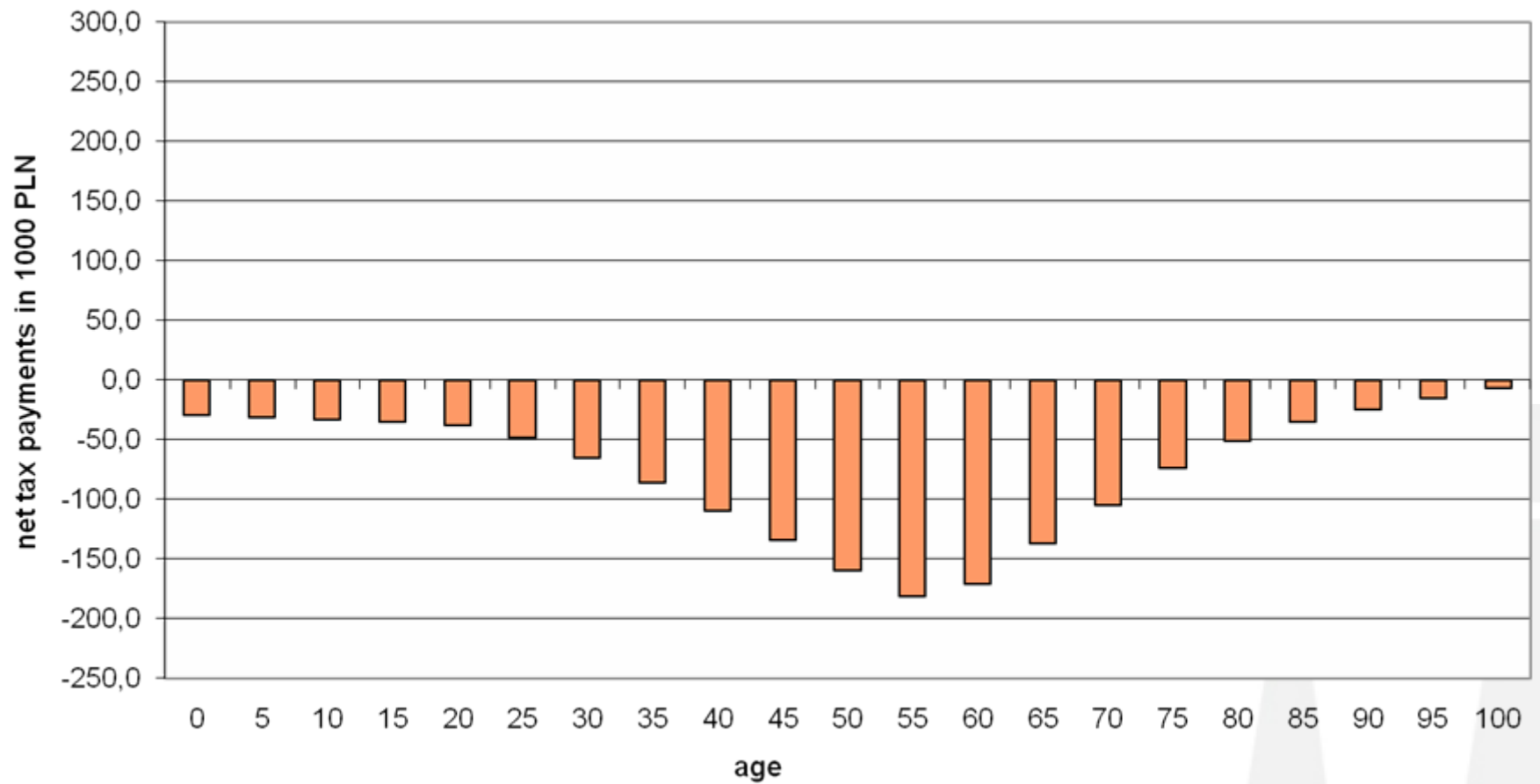
4. Conclusion and Discussion

ZUS development of pension rev. & exp. farmers outflow (g=AWG, r=0)



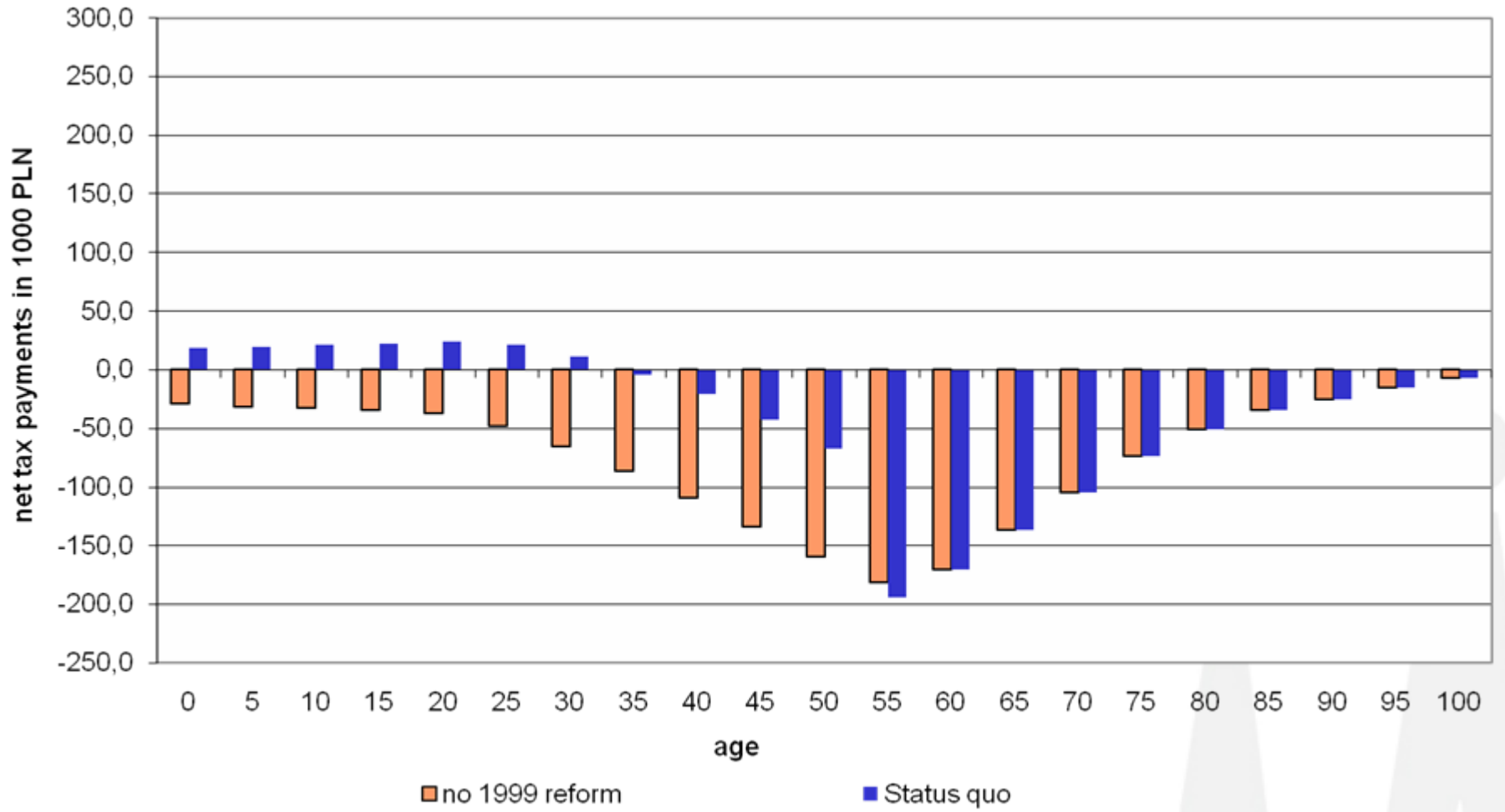
Generational accounts: An indicator to assess intergenerational redistribution

The example of the 1999 pension reform



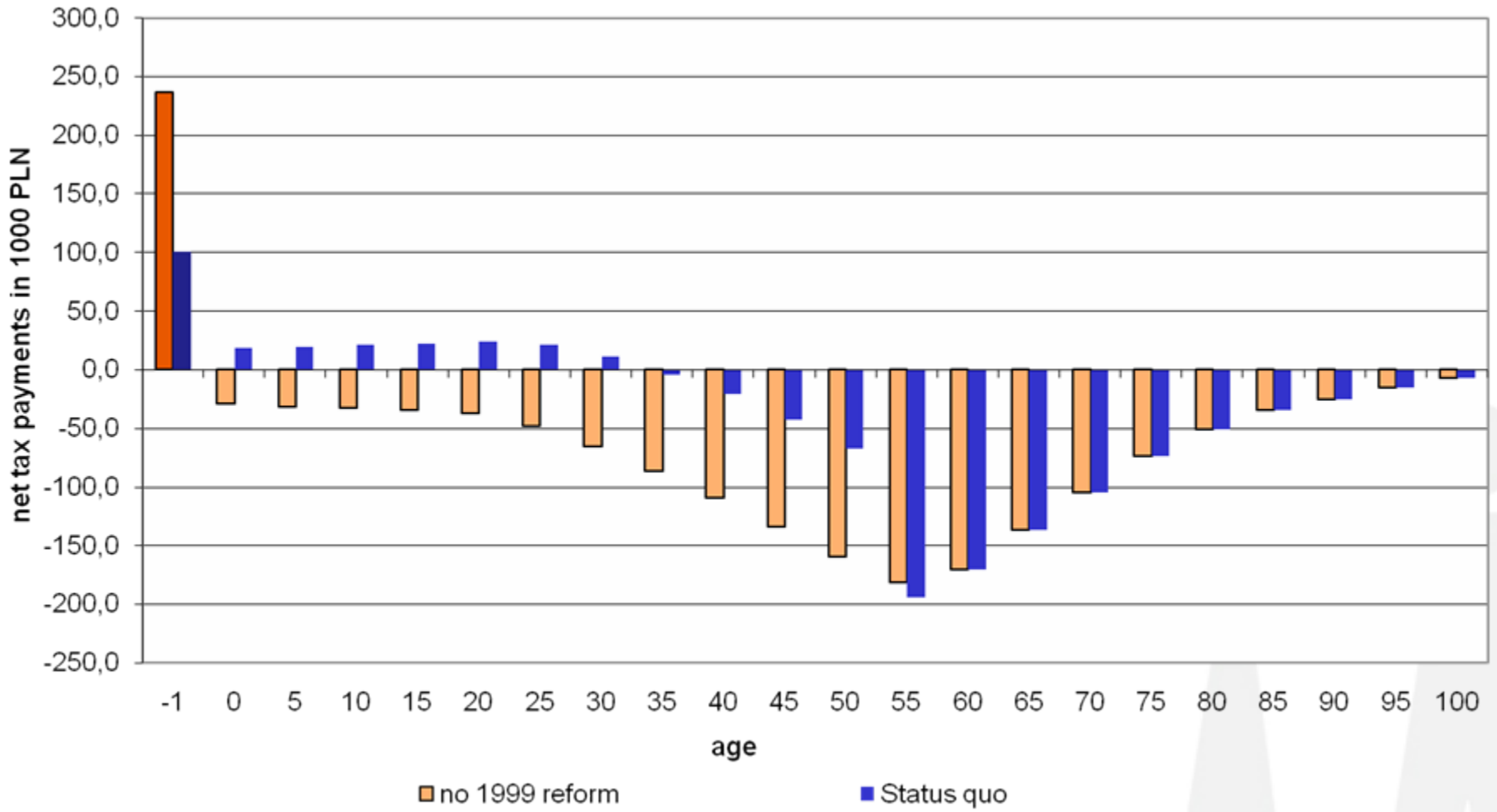
Generational accounts: An indicator to assess intergenerational redistribution

The example of the 1999 pension reform



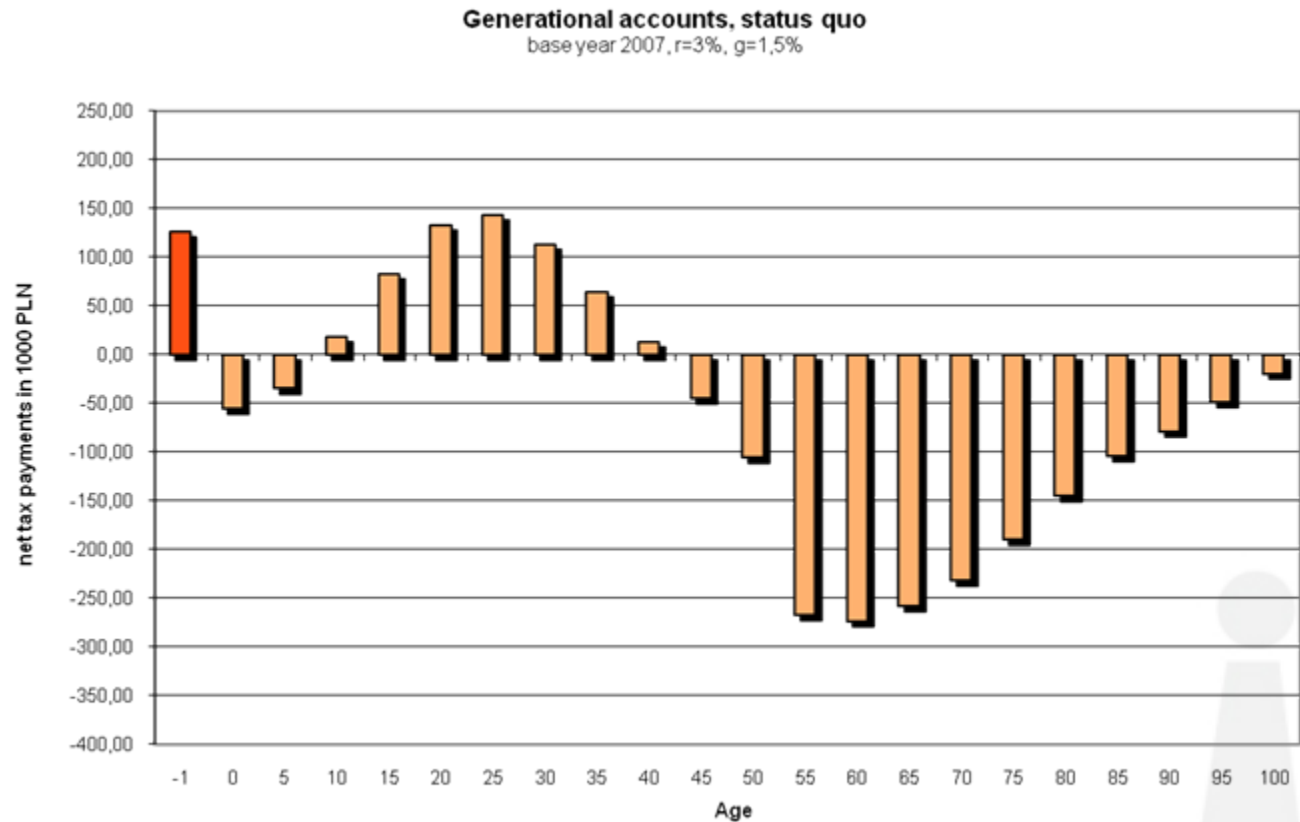
Generational accounts: An indicator to assess intergenerational redistribution

The example of the 1999 pension reform



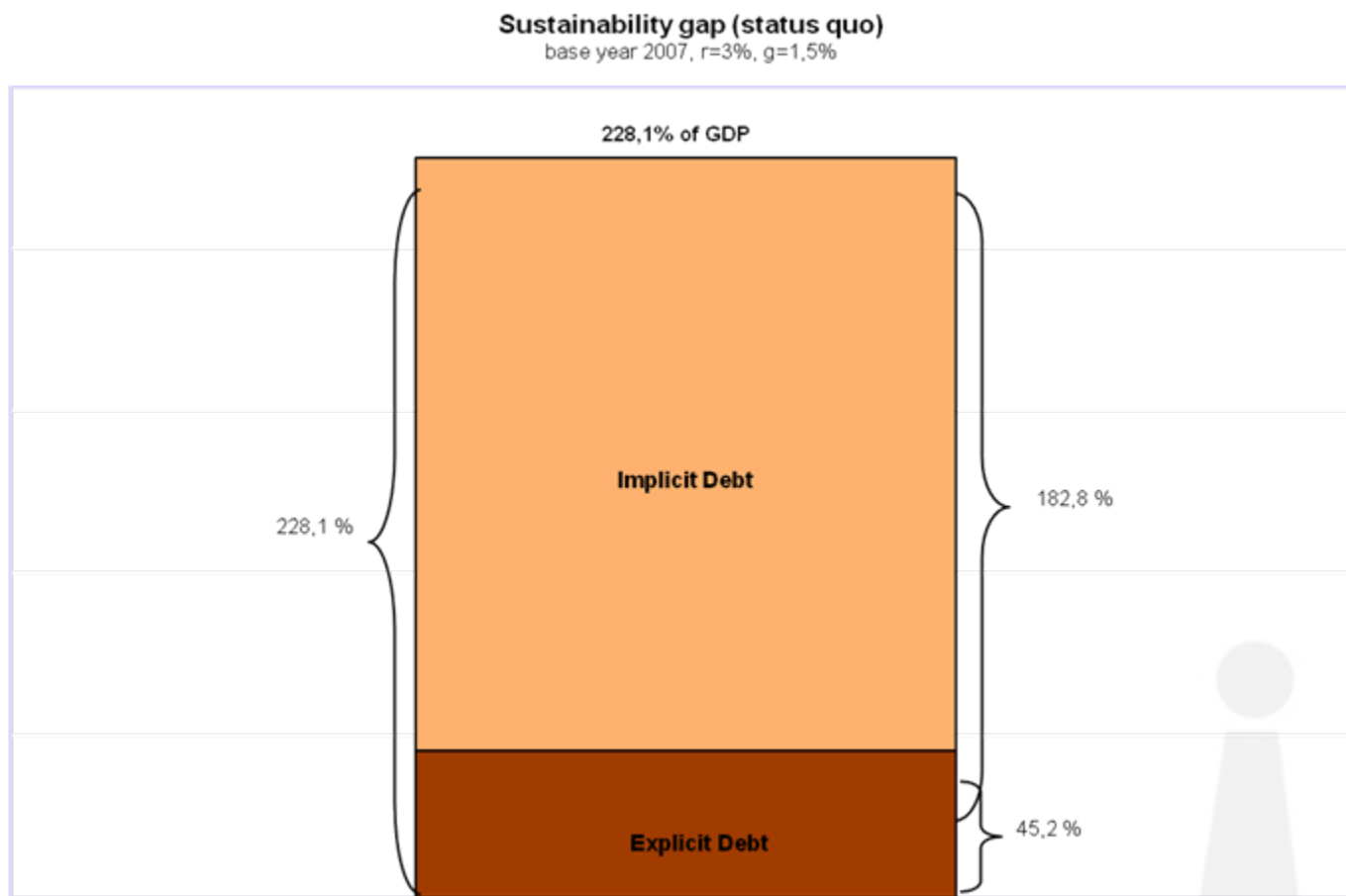
3. Results and indicators:

Generational Accounts – a tool to assess intergenerational redistribution



3. Results and indicators:

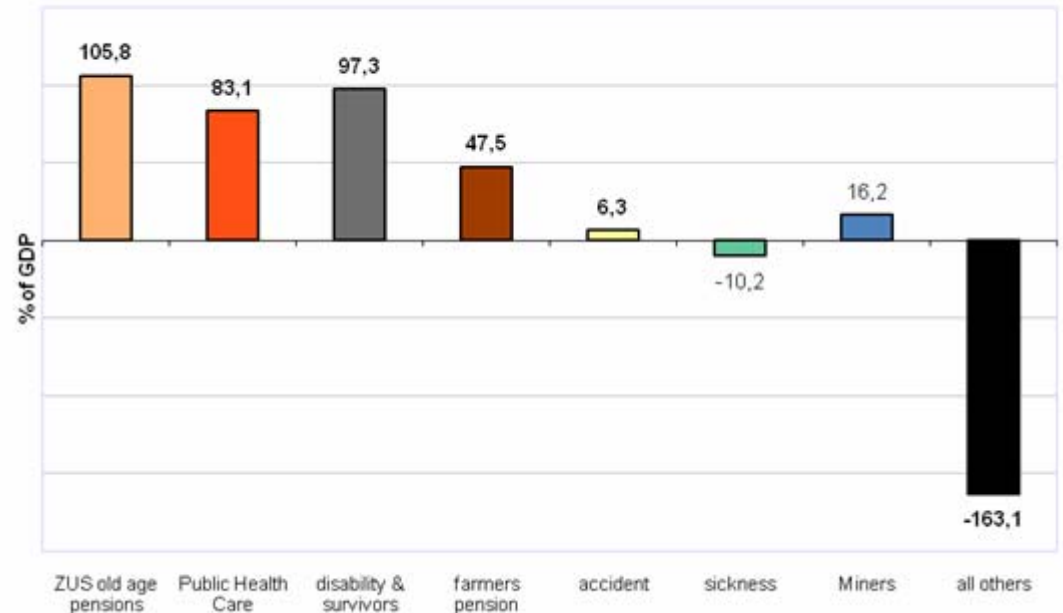
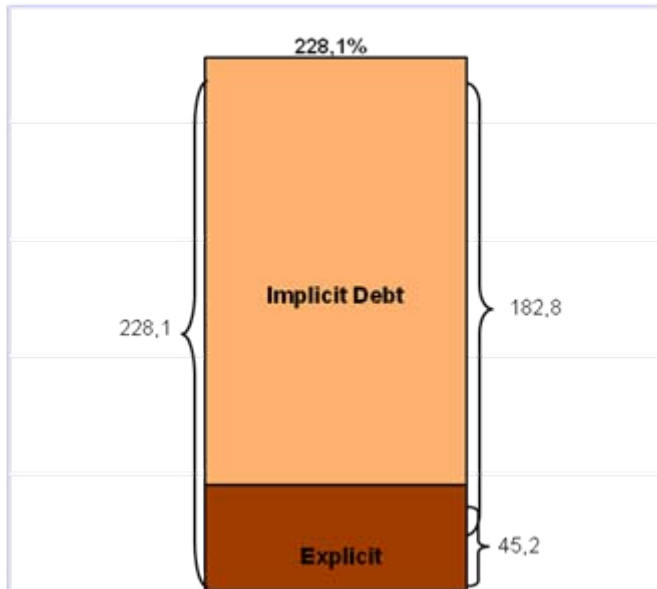
The explicit debt is only the fiscal 'iceberg' → implicit debt four times higher ...



The modification of standard method:
‘Isolations’
of particular subsystems may be a remedy on
lack of GA precision

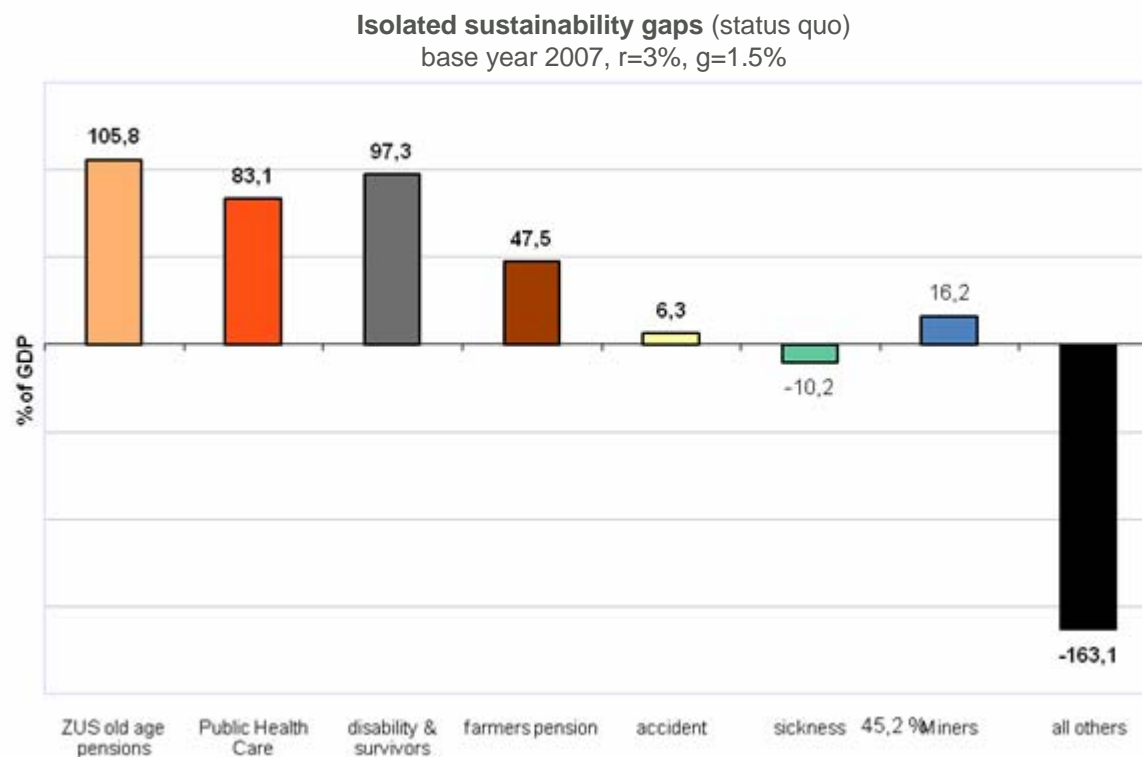
In addition to this:

We get these:



Which are the mayor drivers of the Polish fiscal unsustainability? (I)

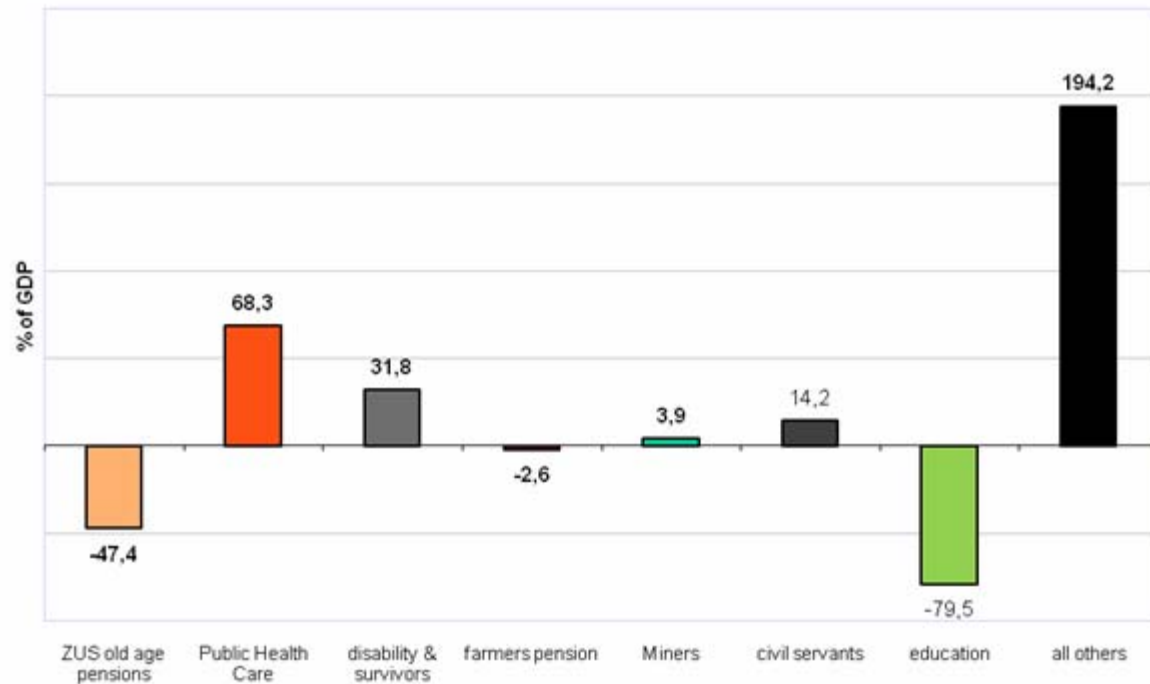
The standard isolation approach:



Which are the mayor drivers of the Polish fiscal unsustainability? (II)

The balanced budget isolation approach:

Isolated sustainability gaps (status quo)
base year 2007, $r=3\%$, $g=1.5\%$



Two types of isolations

Subsystems with 'own' revenues

ZUS funds: for pensions, disability, accident, sickness; NFZ; farmers' social insurance; ...

Subsystems financed from 'taxes'

Civil servants (uniformed services, judges), education

*REVENUE
SIDE:*
VARYING AGE
AND GENDER
SPECIFIC
PROFILE

CONSEQUENCES

For
comparability:
adjusted
option

*REVENUE
SIDE:*
FLAT PROFILE,
BALANCED
BUDGET

