

Measuring retirement savings adequacy: a first multi-pillar approach

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Motivation

Aging society
Financial crisis

Cutbacks in the generosity of pensions and
health care

*How much resources do people have available for
their retirement? Which pension components are
important, and what are the vulnerable groups?*

Setting

- All resources: public pensions (1st pillar), occupational pensions (2nd pillar), third pillar pension products, housing, private savings.
- Dutch contribution to the OECD Retirement Savings Adequacy project.
- International comparison between USA, Netherlands and Chili.
Coming-up: Australia, Canada, Germany, Italy, Ireland, Mexico, Spain, and UK.

Pension retirement adequacy

Are people saving enough?

1. How much have Dutch households built up to finance retirement?
2. “Adequacy” - open to debate
 - to prevent from poverty (relative or absolute)
 - continue standard of living (replacement rates)
 - cover needs (consumption) during retirement
3. Any bench mark confronts ad 1 with ad 2



Pension savings – built-up

Heterogeneity in the amount and composition of pension savings

➡ Multi-pillar approach
Actual accumulation
Assumptions between now (observations)
and retirement

➡ Combination of large representative
administrative (micro) datasets

Part of OECD project

Aim of this presentation

- Retirement savings adequacy in the Netherlands
- Briefly: assumptions
- Focus: results

Pension savings = annuitized wealth = sum of public pension rights, occupational pension rights, annuity insurances, annuitized private savings and imputed rent at household level.

Dutch administrative data

- Public pension entitlements (AOW aanspraken 2008): 1st pillar
- Occupational entitlements (Pensioenaanspraken 2008): 2nd pillar → annuity or capital that each participant has built up: annuity that participants would receive in case they remain employed in their current job with their current wage rate until the statutory retirement age of 65
- Income panel 1989-2010 (IPO)
 - labor income, pension income, etc.,
 - 3th pillar premia as from 1989
- IPO wealth 2008 (IPO vermogen)
 - bank accounts, housing, stocks, bonds, etc.
- Life expectancy

Decomposition annuitized wealth

All households aged 35 and over (mean)		# observations = 56,565
	Euro's	Share
1st pillar pension	11,344	36
2nd and 3rd pillar pension	9,808	31
Imputed rent	3,054	10
Net saving accounts	1,982	6
Securities	1,110	4
Other	4,150	13
Total	31,452	100

Annuitized wealth represents yearly income after retirement when people stay in their current job until the age of 65

Summed over all age-groups: GRR = 83% and NRR = 101%

Assumptions (1)

Households

- Singles stay single, couples stay together
- Children are moved out of the house at retirement
- Equivalence scale Dutch Statistics (1.37 for couples)

First pillar

- People stay in NL between now and 65
- First pillar benefits will be adjusted for inflation
- Social assistance up to social minimum
- Scenarios:
 - Changes in public pension eligibility age

Assumptions (2)

Second pillar

- People stay in their current job with current wage rate until 65
- 50% indexation (inflation 2%): *baseline*
- No cuts in private pension rights
- Scenarios:
 - Retirement age
 - Indexation

Assumptions (3)

Third pillar

- Premia accumulated as from 1989
- Future: constant accumulation
- Real rate of return of 1%
- Scenarios:
 - Real rate of return of 0%
 - Real rate of return of 2%

Assumptions (4)

Housing Wealth

- No additional housing wealth is accumulated
- Underestimation: endowment and investment-based mortgages
- Imputed rent (4%)
- Scenarios:
 - Housing prices
 - Full annuitization of housing wealth
 - Mortgage repayment (*future research*)

Assumptions (5)

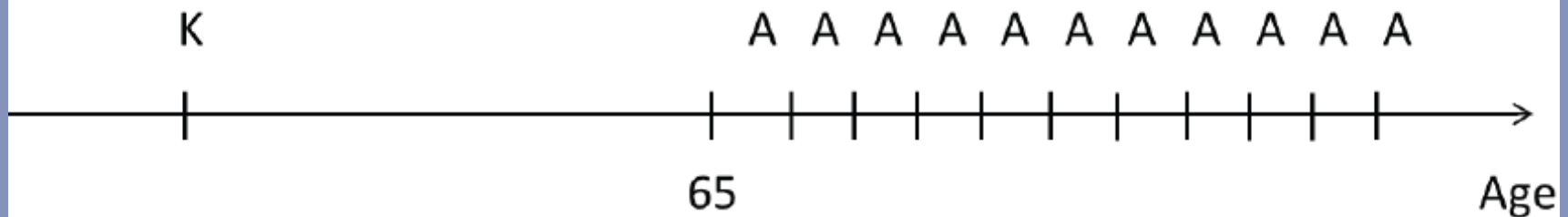
Private wealth

- No additional wealth will be accumulated
- Retirement is the only savings motive
- Full annuitization of wealth
- Real interest rate 1%
- Scenarios:
 - Real interest rate 0%
 - Real interest rate 2%
 - Savings rate (*future research*)

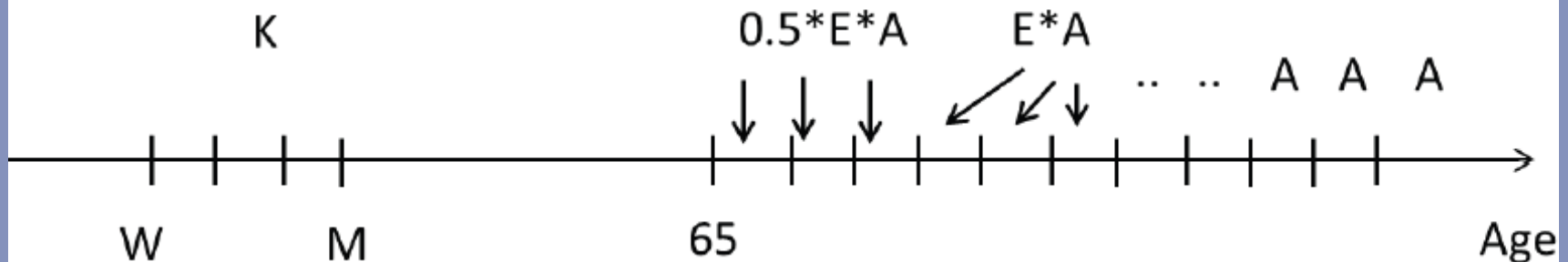
Annuity process

- Mortality rates by gender and cohort (CBS)

Single



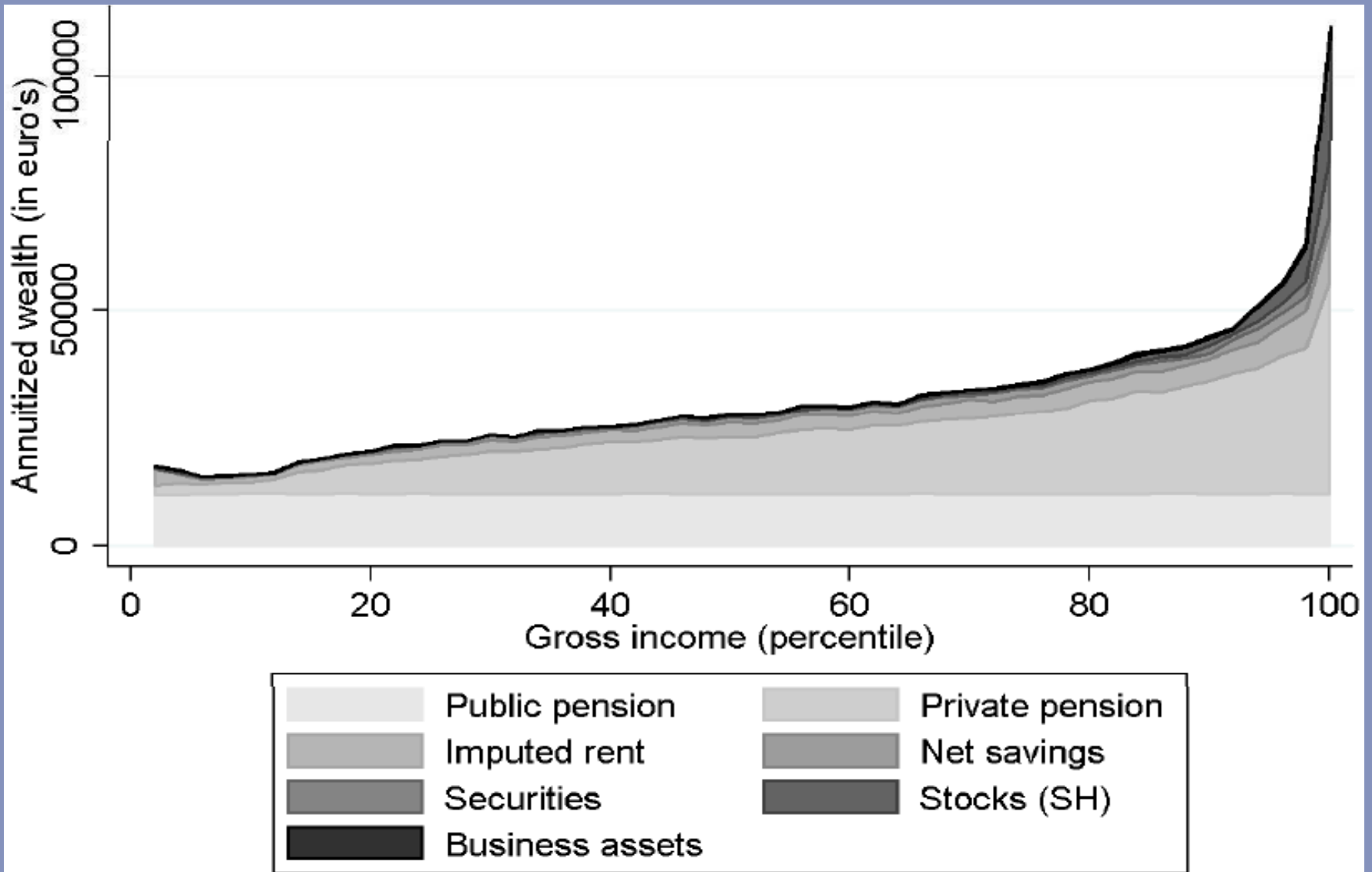
Couple



Projected pension income

Median annuities	35-49	50-54	55-59	60-64
Public pension	10,897	10,897	11,810	12,430
Occupational pension	11,906	10,515	8,875	5,128
Net savings account	379	421	626	719
Imputed rent	987	2,358	2,608	2,810
Total pension annuities	26,660	27,224	26,847	25,808
# Observations	22,245	6,645	6,277	6,479

Annuitized wealth by income level



Replacement rates

Replacement rate = annuitized wealth / current gross income

Do people have enough savings to maintain current income after retirement?

(When people stay in their current job until the age of 65 and do not build up more private savings)

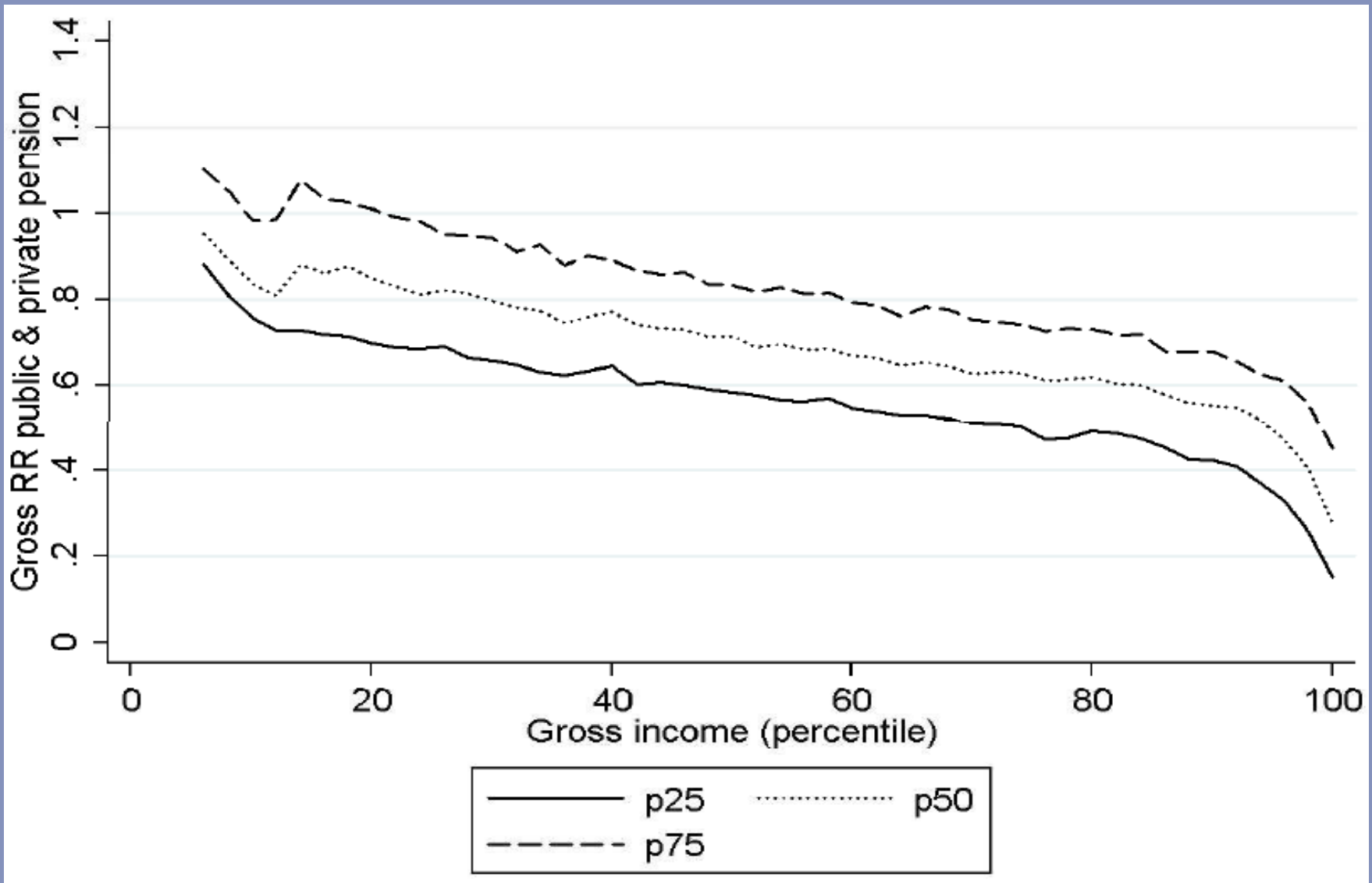
Given their current savings, can households replace their current income?

Note: gross and replacement rates

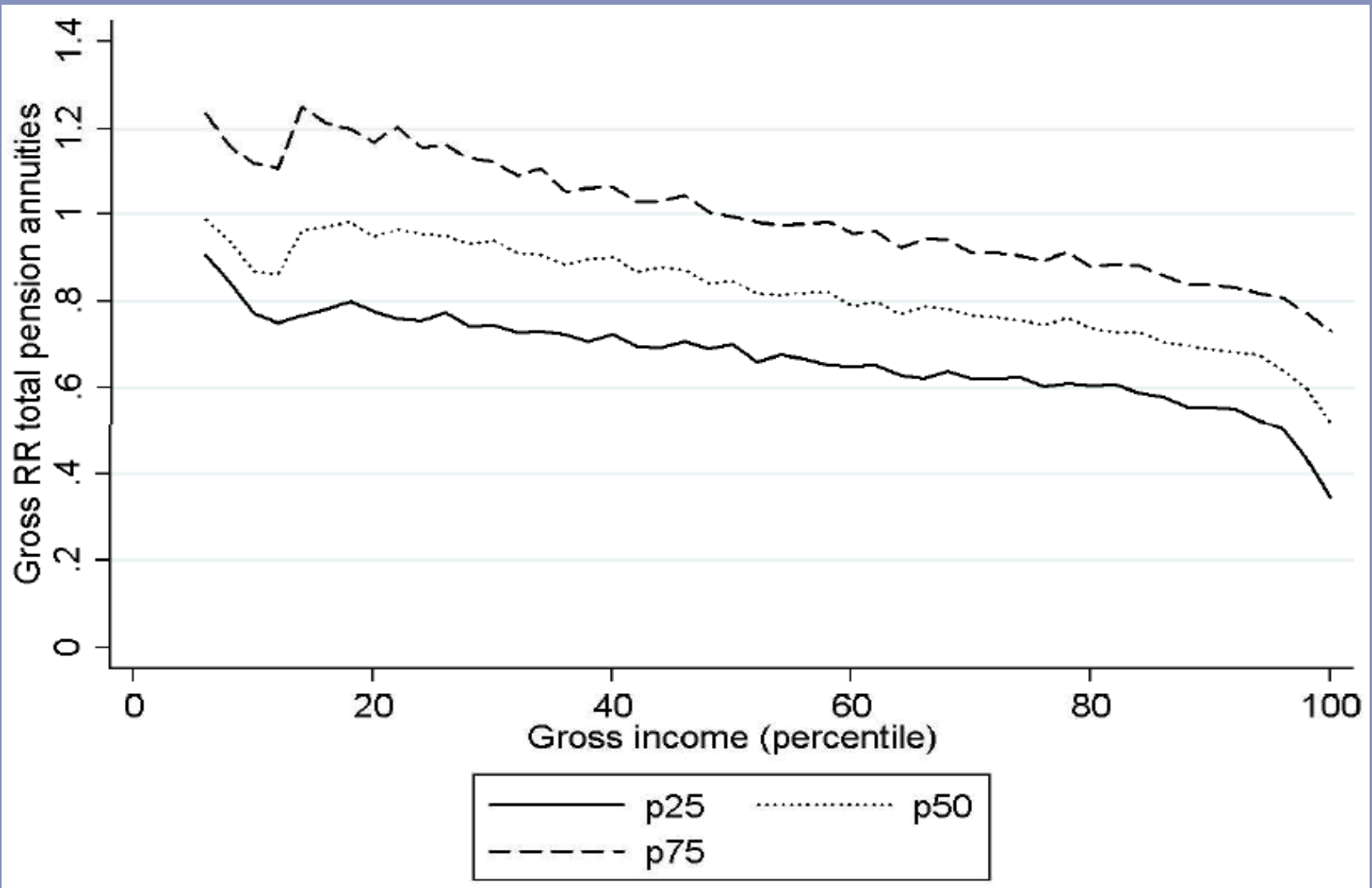
Gross and **net** replacement rates

Age group	35-49	50-54	55-59	60-64	All
1st and 2nd pillar					
P50	0.76	0.63	0.40	0.69	0.71
Net	0.90	0.76	0.78	0.82	0.84
1st and 2nd pillar and private wealth					
P50	0.82	0.69	0.70	0.76	0.77
Net	0.97	0.84	0.86	0.92	0.92
Total annuities					
P50	0.87	0.76	0.77	0.84	0.83
Net	1.04	0.93	0.96	1.03	1.01

Gross replacement rate (1st+2nd pillar)



Gross replacement rate (all)



Net RR: share below 80%-100%

Age group	35-49	50-54	55-59	60-64	All
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Share below 80% NRR

1st and 2nd pillar	0.35	0.57	0.53	0.47	0.43
Idem, incl private wealth	0.26	0.43	0.39	0.33	0.32
Total pension annuities	0.21	0.31	0.26	0.22	0.24

Share below 100% NRR

1st and 2nd pillar	0.67	0.85	0.84	0.75	0.74
Idem, incl private wealth	0.55	0.74	0.73	0.61	0.61
Total pension annuities	0.45	0.59	0.56	0.46	0.49

Poverty: Social assistance supplements

Age group	35-49	50-54	55-59	60-64	All
All households (35-64)	0.04	0.04	0.04	0.03	0.04
First generation immigrants	0.30	0.39	0.40	0.40	0.34

Vulnerable groups: median annuities

	Level	GRR
First generation immigrants	13,865	0.76
Renters	16,659	0.75
Single women	16,785	0.80
At least two years unemployment	23,153	0.78
At least two years disability	21,264	0.75
At least one year social assistance	11,622	0.82
Self-employed	28,694	0.74
All households (35-64)	26,774	0.83

Sensitivity analysis - Scenarios

Scenarios	Pessimistic	Baseline	Optimistic
Inflation	2%	2%	2%
Indexation	0%	50%	100%
Real return assets (after tax)	0%	1%	2%
Real return property (after tax)	-2%	-1%	0%
Imputed rent	4%	4%	4%
Past real return 3rd pension pillar	1%	1%	1%
Future real return 3rd pension pillar	0%	1%	2%
Retirement age	64	65	67

Results: Gross replacement rates (P50)

Age group	35-49	50-54	55-59	60-64	All
Pessimistic					
1 st + 2 nd pillar	0.62	0.54	0.56	0.63	0.60
+/+ private wealth	0.66	0.58	0.61	0.69	0.65
Total pension	0.71	0.65	0.68	0.77	0.70
Optimistic					
1 st + 2 nd pillar	0.99	0.78	0.76	0.80	0.89
+/+ private wealth	1.08	0.86	0.85	0.89	0.97
Total pension	1.15	0.94	0.92	0.98	1.04

Decumulation of housing wealth

- Assume decumulation of housing wealth after retirement → households move to smaller houses or may use reverse mortgages = buy an annuity from their net housing wealth to finance retirement.
- Median pension annuity increase when net housing wealth will be decumulated. GRR 0.83 → GRR 0.88.

Concluding remarks

- Integral approach of all resources is important
- Bench mark: what is adequate? High income households have relatively low RR, but are not suffering from poverty.
- About 24% of Dutch households have a net replacement rate $< 80\%$.
- Pooling all households: total median pension annuity of 83% (gross) or 101% (net).
- Imputed rental income of housing: 10%
- Vulnerable groups: immigrants and self-employed
- Pension reforms

For more information
www.hsz.leidenuniv.nl
Part of research program
Reforming Social Security