

# **Poverty alleviation and consumption smoothing in European pension systems: convergence or divergence?**

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# Agenda:

- Goal and motivation
- Theoretical framework
- Research strategy and data
- Results
- Conclusions

# Goal and Motivation

- an important gap concerning the analysis of relationship between two main dimensions of pension adequacy – poverty alleviation and consumption smoothing
- this study attempts to fill this gap and to answer the question: **do poverty alleviation and consumption smoothing become more convergent or divergent?**

# Theoretical framework (1):

- Incomes during working life and the level of consumption smoothing are two main factors determining the incomes of pensioners.
- Consumption smoothing is mainly based on LCM (Modigliani, Broomberg and Ando).
- Consumption smoothing is "a central purpose of retirement pensions" (Barr and Diamond 2006)

# Theoretical framework (2):

- Poverty alleviation is another objective of a pension system
- Some people are not able to smooth consumption as to maintain living standard after retirement above poverty threshold
- Therefore we need redistribution in a pension system
- Redistribution may affect not only poverty measures but also income measures. That's why I ask the research question mentioned before

# Research strategy and data (1):

- The main assumption of the study is that the most important objective of the contemporary pension systems is poverty alleviation (when a government faces the problem of the choice between poverty alleviation and consumption smoothing it chooses the former first)

# Research strategy and data (2):

Variables:

- **Poverty alleviation: ARP and SMD (dependent)**
- Consumption smoothing: ARR and MRI
- Redistribution:  $S80/S20_r = \frac{S80/S20_{65-}}{S80/S20_{65+}}$
- Pension expenditure adjusted to demographics (PE/ODR)

# Research strategy and data (3):

## Method:

- Regression models for cross-sectional and panel data

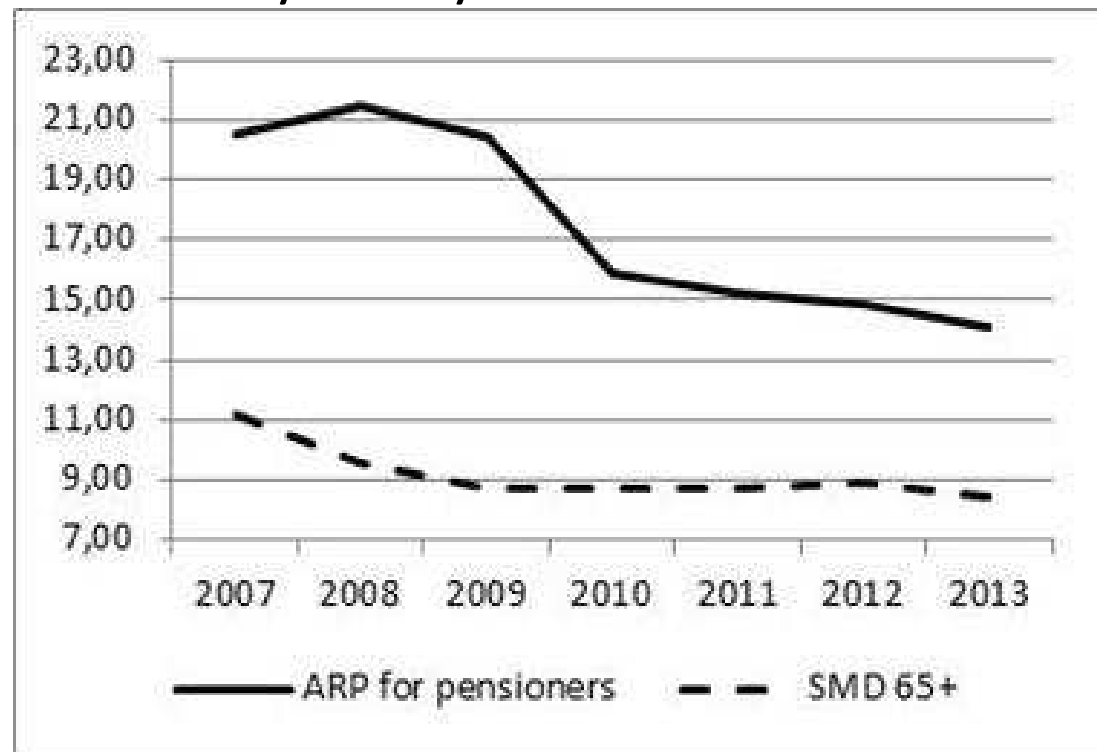
## Data:

- Eurostat database for 30 European countries in the years 2007-2013



# Results (1):

- Although the share of pensioners' population with living standard under the poverty threshold (ARP) decreases, the ratio of people who cannot afford 4 out of 9 items (SMD) remains stable or decreases very slowly.



# Results (2):

Regression models for ARP for pensioners

Year	Const.	RMI 65+	ARR	S80/S20_r	PE/ODR	R <sup>2</sup>	F-stat.	p-value
2007	<b>108.19</b>	<b>-55.34</b>	<b>-46.73</b>	-9.07	-33.18	0.77	21.27	<0.0001
2008	<b>109.73</b>	<b>-66.86</b>	-36.00	-7.79	-28.35	0.75	18.59	<0.0001
2009	<b>106.28</b>	<b>-75.20</b>	-23.28	-4.66	-23.05	0.72	16.02	<0.0001
2010	<b>77.57</b>	<b>-50.05</b>	-23.77	-3.74	-5.96	0.56	8.03	<0.0001
2011	<b>75.53</b>	<b>-47.91</b>	-16.11	-7.62	-2.53	0.57	8.27	<0.0001
2012	<b>57.45</b>	<b>-35.62</b>	-14.12	-3.37	0.41	0.45	5.02	0.004
2007–2012 (FE)	<b>101.41</b>	<b>-75.51</b>	-6.31	<b>-12.92</b>	-2.15	0.94	72.27	<0.0001

*Source:* Own adjustment based on Eurostat data

# Results (3):

Regression models for SMD 65+

Year	Const.	RMI 65+	ARR	S80/S20_r	PE/ODR	R <sup>2</sup>	F-stat.	p-value
2007	-	41.37	<b>-99.44</b>	<b>27.55</b>	-38.83	0.64	11.57	<0.0001
2008	-	-1.39	-45.72	<b>29.09</b>	-14.74	0.60	9.72	<0.0001
2009	-	2.92	-45.23	<b>24.22</b>	-7.67	0.54	7.58	<0.0001
2010	-	-1.26	-17.72	<b>18.10</b>	-15.39	0.48	6.11	0.0001
2011	-	18.89	-44.34	<b>18.29</b>	-26.99	0.56	8.13	<0.0001
2012	-	9.47	-24.11	<b>17.99</b>	-32.73	0.58	9.06	<0.0001
2007–2012 (FE)	<b>17.84</b>	<b>15.28</b>	<b>-26.88</b>	<b>3.68</b>	<b>-40.68</b>	0.98	207.83	<0.0001

*Source:* Own adjustment based on Eurostat data

## Results (4):

- The more smoothed the incomes among pensioners in comparison to population aged under 65, the higher the severe material deprivation. The probable explanation of such results may be as follows. Redistribution supports pensioners under the poverty threshold (60% of median equivalised income), yet not the poorest ones.

# Results (5):

The difference and relative difference (increase or decrease) in ARP 65+ in the period 2007-2013 providing the poverty threshold at the level of 50%, 60% and 70% of the national median equivalised disposable income, and the difference in S80/S20\_65+

Country	Income groups (with different percentage of median equivalised income)						S80/S20_65+
	<50%	50-60%	60-70%	<50%	50-60%	60-70%	
	Differences			Relative differences			Increase/ Decrease
Belgium	-4,30	-0,30	2,50	-42,57	-2,33	17,61	-
Bulgaria	3,60	0,40	-0,10	27,91	3,64	-0,88	+
Czech Republic	-0,20	0,50	-0,70	-12,50	12,82	-6,03	+
Denmark	-0,80	-6,30	-3,00	-22,22	-44,68	-14,15	+
Germany	-0,70	-0,60	-1,10	-8,05	-8,00	-10,78	-
Estonia	-7,20	-1,60	3,60	-58,54	-7,66	22,64	-
Ireland	-0,90	-17,30	-12,50	-11,84	-83,57	-62,81	+
Greece	-8,20	0,40	-4,50	-55,78	4,88	-41,67	-
Spain	-8,80	-4,60	-1,00	-58,28	-41,82	-8,40	+
France	-3,90	-0,50	-2,10	-56,52	-8,06	-21,00	+
Italy	-5,40	-1,20	-0,70	-44,63	-12,24	-7,69	-
Cyprus	-26,20	-4,30	6,90	-76,83	-26,06	75,00	+
Latvia	-14,10	-3,90	1,80	-68,45	-26,00	11,54	-
Lithuania	-5,10	-5,30	-2,00	-37,78	-32,52	-14,39	+
Luxembourg	-0,10	-0,90	-0,70	-3,45	-20,93	-10,77	+
Hungary	-0,60	-1,10	-2,00	-27,27	-28,21	-27,40	+
Malta	-3,80	-1,60	3,00	-35,85	-16,49	21,28	-
Netherlands	-1,20	-2,80	-3,70	-35,29	-45,90	-25,00	+
Austria	6,00	-4,60	-0,70	157,89	-45,10	-7,78	+
Poland	2,90	1,60	-0,60	87,88	35,56	-6,90	+
Portugal	-7,00	-3,90	-3,30	-52,63	-31,97	-26,40	-
Romania	-12,80	-2,80	-2,20	-60,38	-29,79	-19,47	-
Slovenia	0,60	0,50	0,50	5,56	5,81	5,56	+
Slovakia	-3,50	-0,10	-3,60	-74,47	-2,04	-30,25	-
Finland	-0,70	-4,80	-1,50	-12,28	-30,19	-8,77	+
Sweden	2,00	4,50	-4,70	52,63	73,77	-25,41	+
UK	-6,00	-3,90	-2,40	-40,00	-33,91	-18,32	-
Iceland	-1,50	-9,60	-3,20	-48,39	-80,00	-19,63	-
Norway	-2,30	-2,10	-4,30	-62,16	-20,19	-31,85	-
Switzerland	3,50	-0,10	-0,50	22,44	-0,95	-4,55	-

Source: Own adjustment based on Eurostat data

# Conclusion:

- Generally there exists a convergence between poverty relief and consumption smoothing in the studied pension systems. However, there are some signs of weakening in this relationship, and this is worth observing and studying in the future since it will show what the direction of public pension systems evolution is.
- Relative poverty is a quite different phenomenon than an absolute one.