Central European Forum
for Migration Research

Środkowoeuropejskie Forum
Badań Migracyjnych

European economic integration

Changing demographies – future developments in Europe

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The presentation is based on research conducted by Jakub Bijak, Dorota Anna Kicinger, Kupiszewska, Marek Kupiszewski, Katarzyna Saczuk

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Population and labour force forecasts

What are population forecasts?

- Forecasts reflect the demographers' expectations as to the direction and magnitude of future changes in the size and structure of populations
- The forecasts are based on past tendencies of various demographic phenomena (fertility, mortality, migration), as well as on the expert assumptions concerning such trends envisaged for the future
- Usually forecasts are made in several variants, in order to reflect uncertainty about the analysed phenomena
- **Population forecasts do not have to come true!** Their basic role is to provide information for policy decisions, which can e.g. reverse the unfavourable trends

Case study CEFMR population forecats and simulations
Introduction

Model

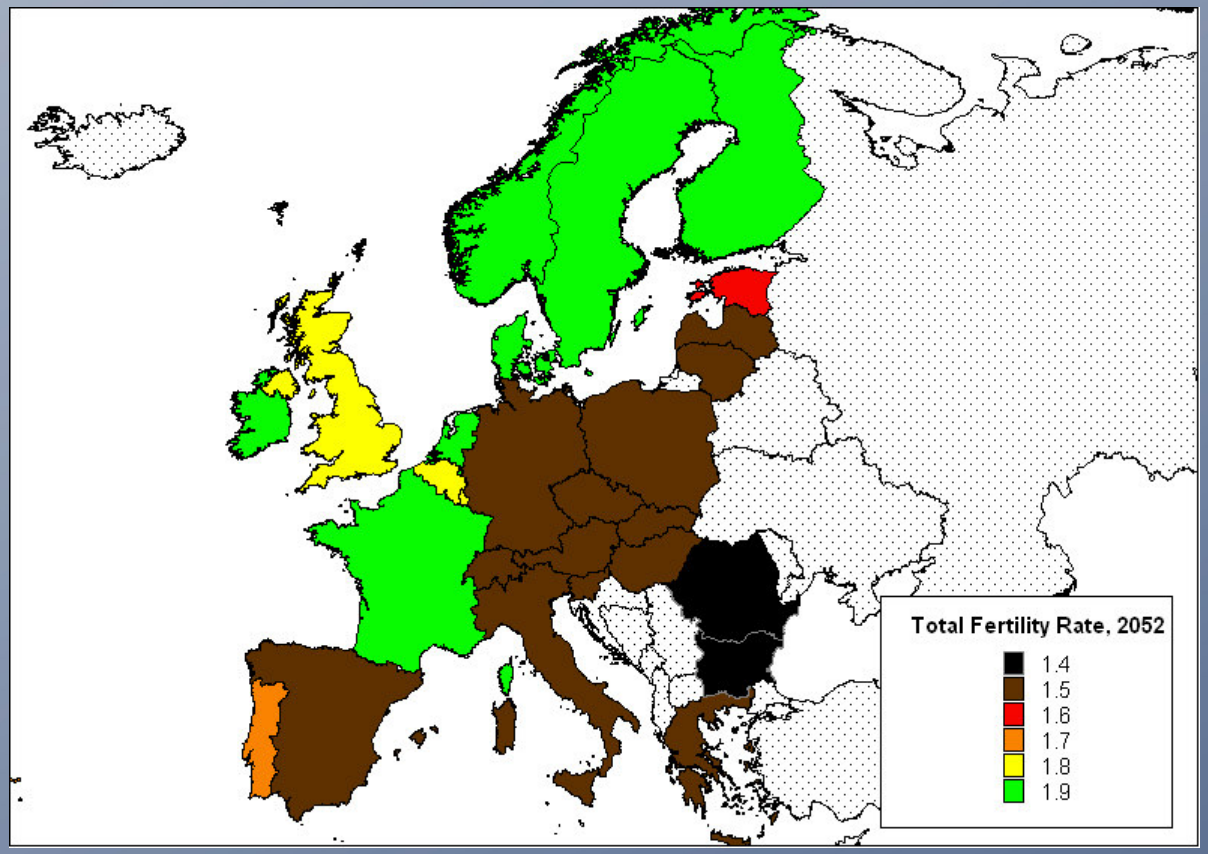
- Multi-regional model of population dynamics MULTIPOLES [Kupiszewski and Kupiszewska, 1998, 2005]

Data

- Demographic data: Eurostat and Council of Europe
- Labour force participation: ILO (*Laborsta* database)
- Migration modelled on two geographical levels:
  - Flows between the system of 27 countries under study (origin-destination emigration rates)
  - Scenarios for Europe account for the expected schedule of opening Western labour markets for the CEE citizens (2004-2006-2009-2011)
  - Net migration from other regions of the world (absolute numbers)

Assumptions: Demographic scenarios

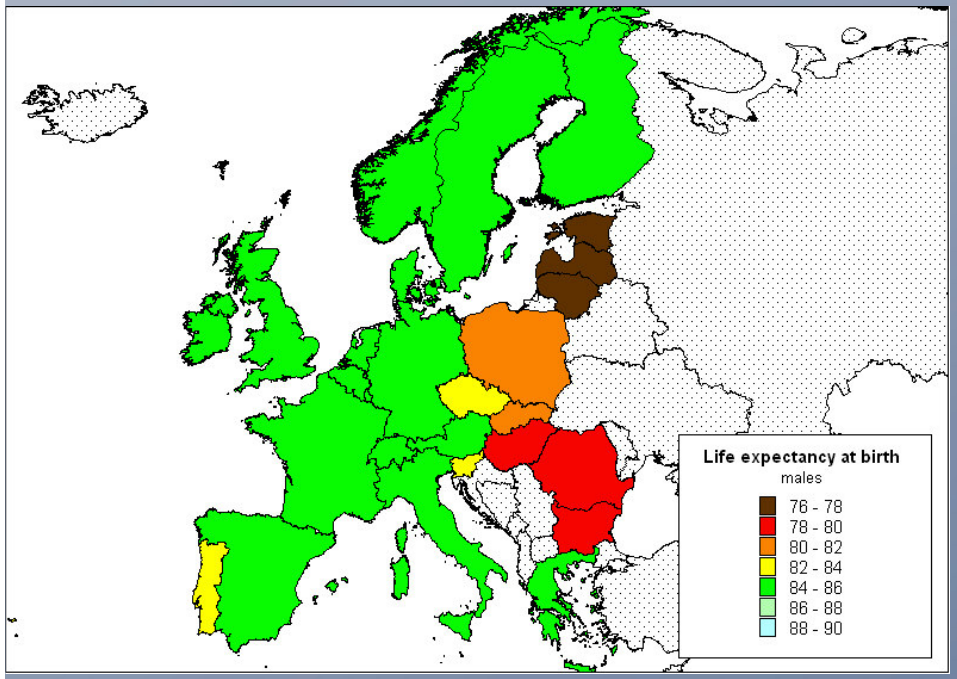
Fertility: Target TFR values assumed for 2052



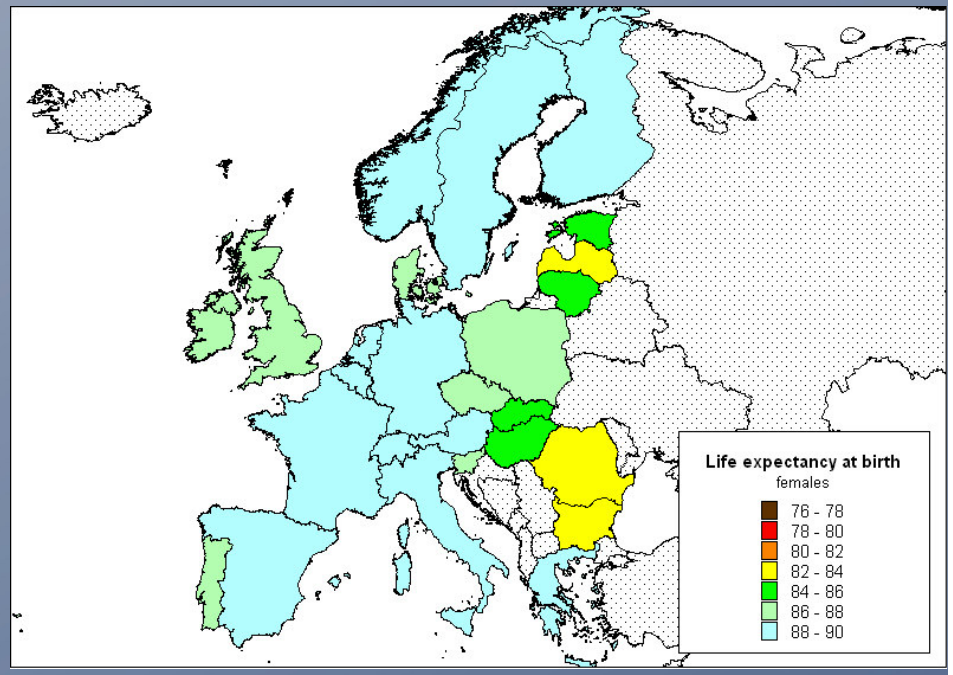
Assumptions: Demographic scenarios

Mortality: Average life expectancy assumed for 2052

males

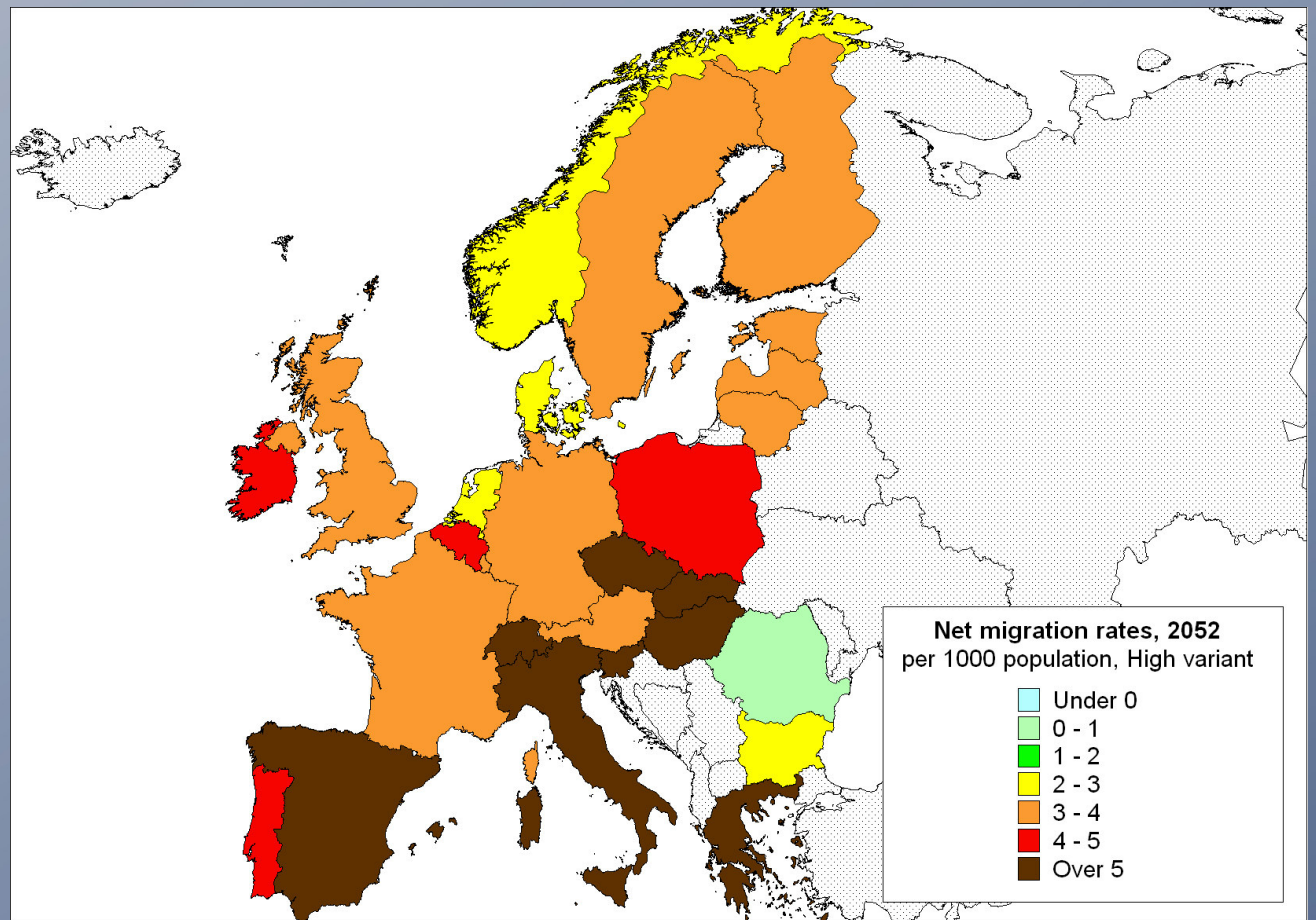


females



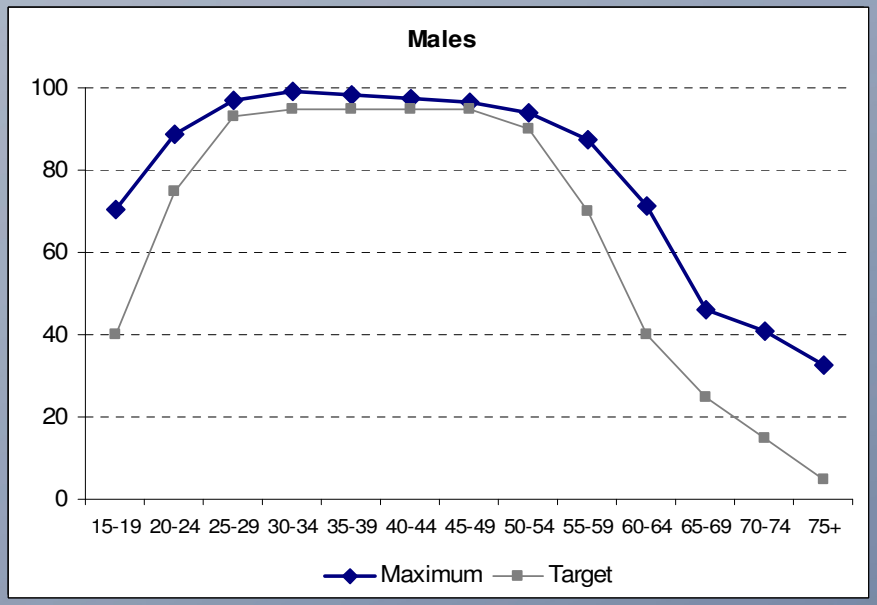
Assumptions: Demographic scenarios

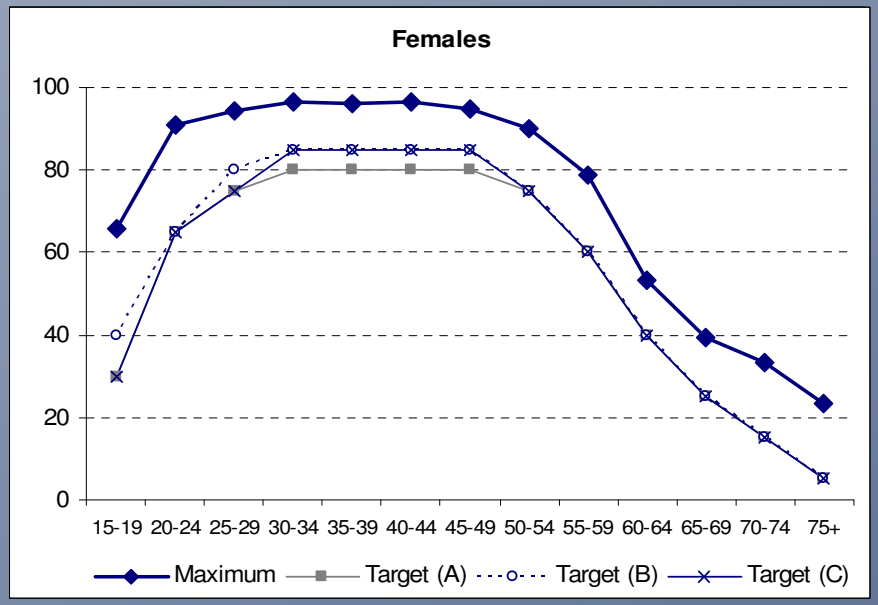
Migration: Net migration rates estimated for 2052 (per 1,000)



Assumptions: Economic activity scenarios

Economic activity patterns assumed for 2052 (per cent)





Females: (A) "Low-participation countries" – BE, ES, CH, FR, GR, IE, IT, LU, PT, UK
(B) "High-participation countries" – AT, DE, DK, FI, NL, NO, SE
(C) "Central-Eastern Europe" – BG, CZ, EE, HU, LT, LV, PL, RO, SI, SK

Policy option: maximum cross-country levels from 1985-2002

Population and labour force forecast, 2002–2052

Selected results for **B**ase, **H**igh and **L**ow migration assumptions

Country	Population (x1000)				Labour force resources (x1000)			
	2002	2052 **B**	2052 **H**	2052 **L**	2002	2052 **B**	2052 **H**	2052 **L**
Austria	8 053	7 853	8 739	7 277	3 929	3 267	3 777	2 925
Bulgaria	7 869	4 485	5 210	3 769	3 397	1 865	2 259	1 490
France	**59 486**	**70 381**	**79 189**	**64 230**	**26 719**	**32 096**	**37 108**	**28 594**
Germany	82 488	77 007	86 093	71 096	40 673	32 907	38 161	29 374
Poland	**38 425**	**31 267**	**35 988**	**27 277**	**17 329**	**12 931**	**15 459**	**10 857**
Sweden	8 925	9 993	11 111	9 173	4 526	4 700	5 335	4 234
UK	59 232	65 481	74 353	59 292	29 738	29 325	34 217	25 907
Italy	57 157	54 044	62 813	48 280	22 983	19 440	23 688	16 629
EUR-27	**494 179**	**494 922**	**562 967**	**446 928**	**232 759**	**209 710**	**246 600**	**183 608**

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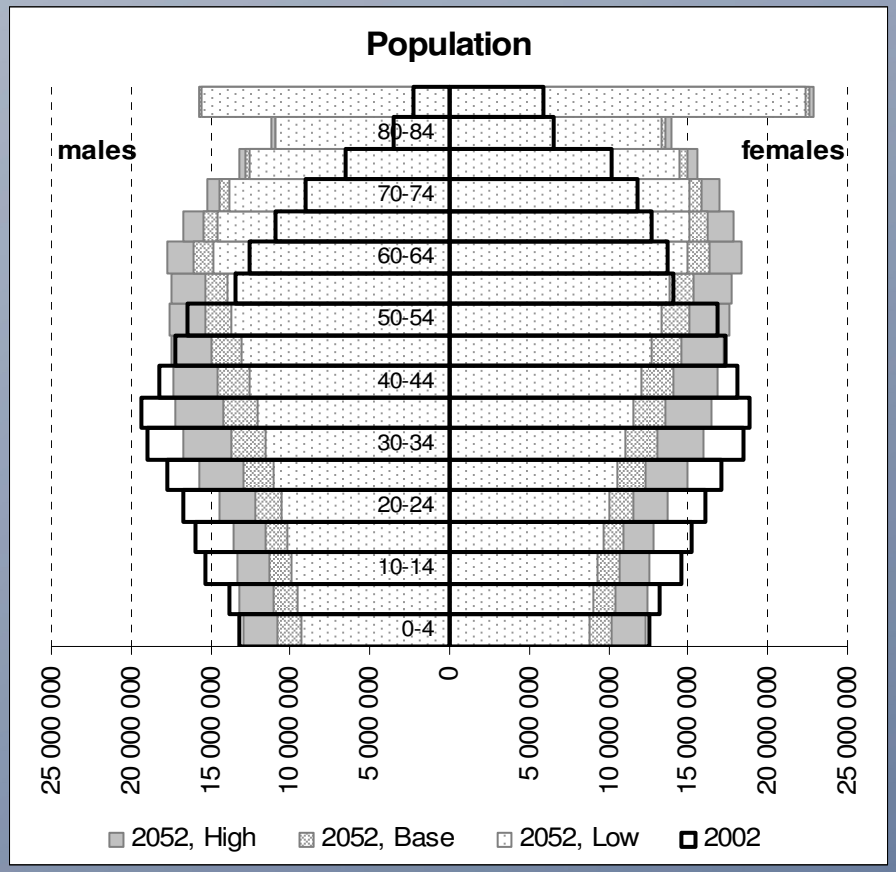
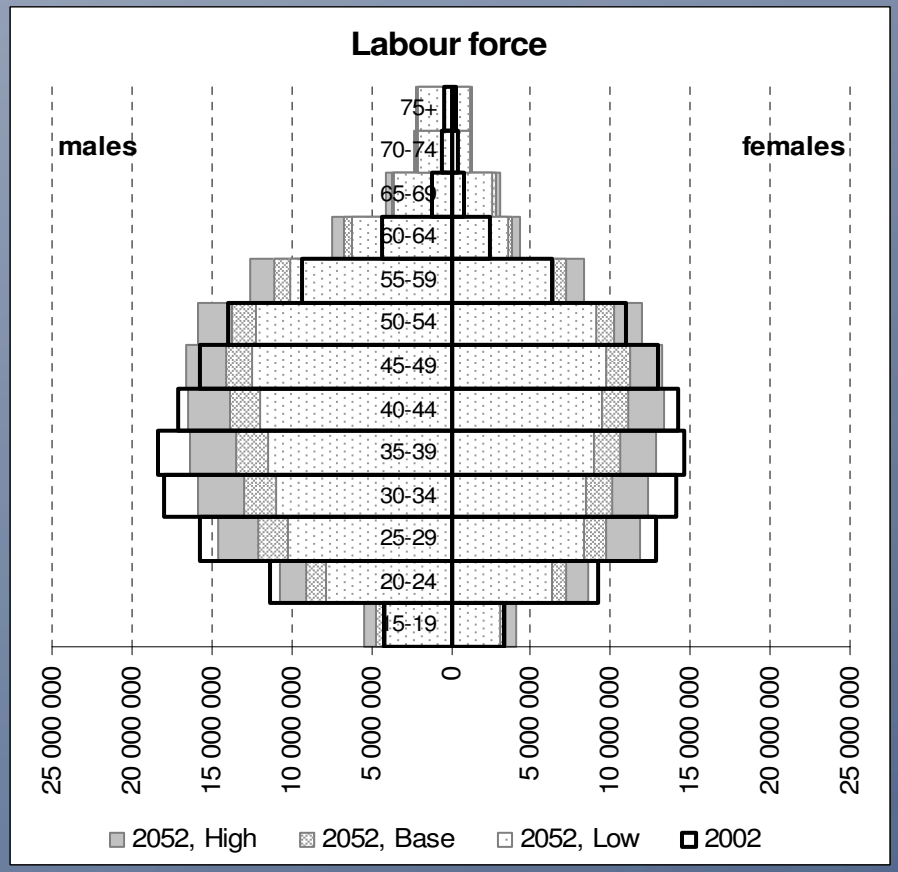
Population and labour force forecast, 2002–2052

Age structure of population and labour force in 27 countries: Forecast for 2052 – Base, High and Low migration scenarios

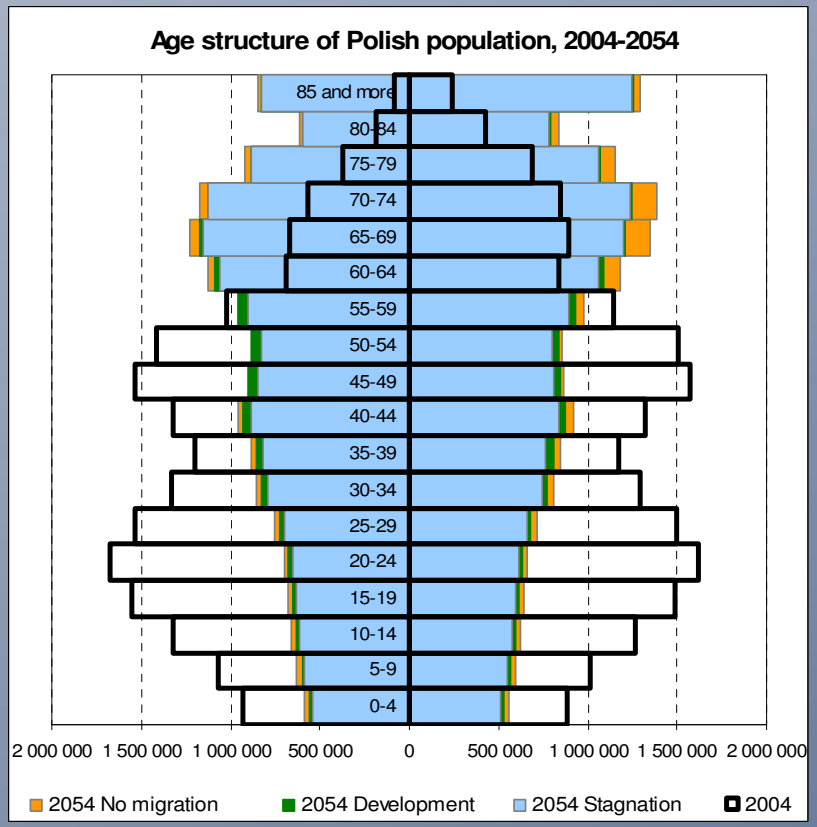


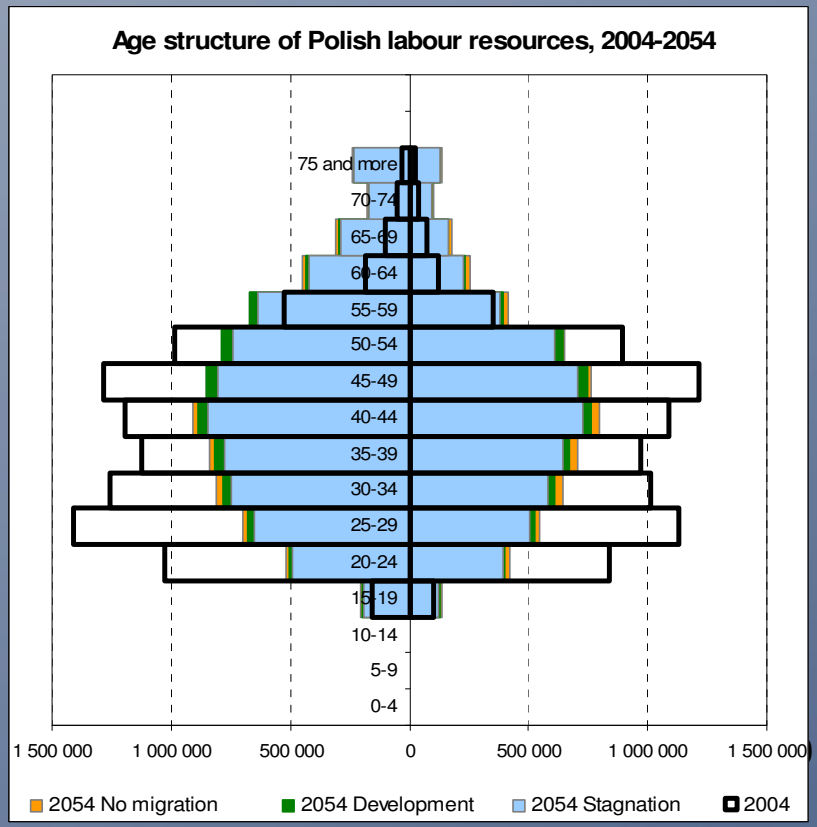


Results of the forecasts

The real challenge: changes in the age structures

Example: Population and labour force in Poland, 2004 and 2054
Scenarios: Development, Stagnation and No migration



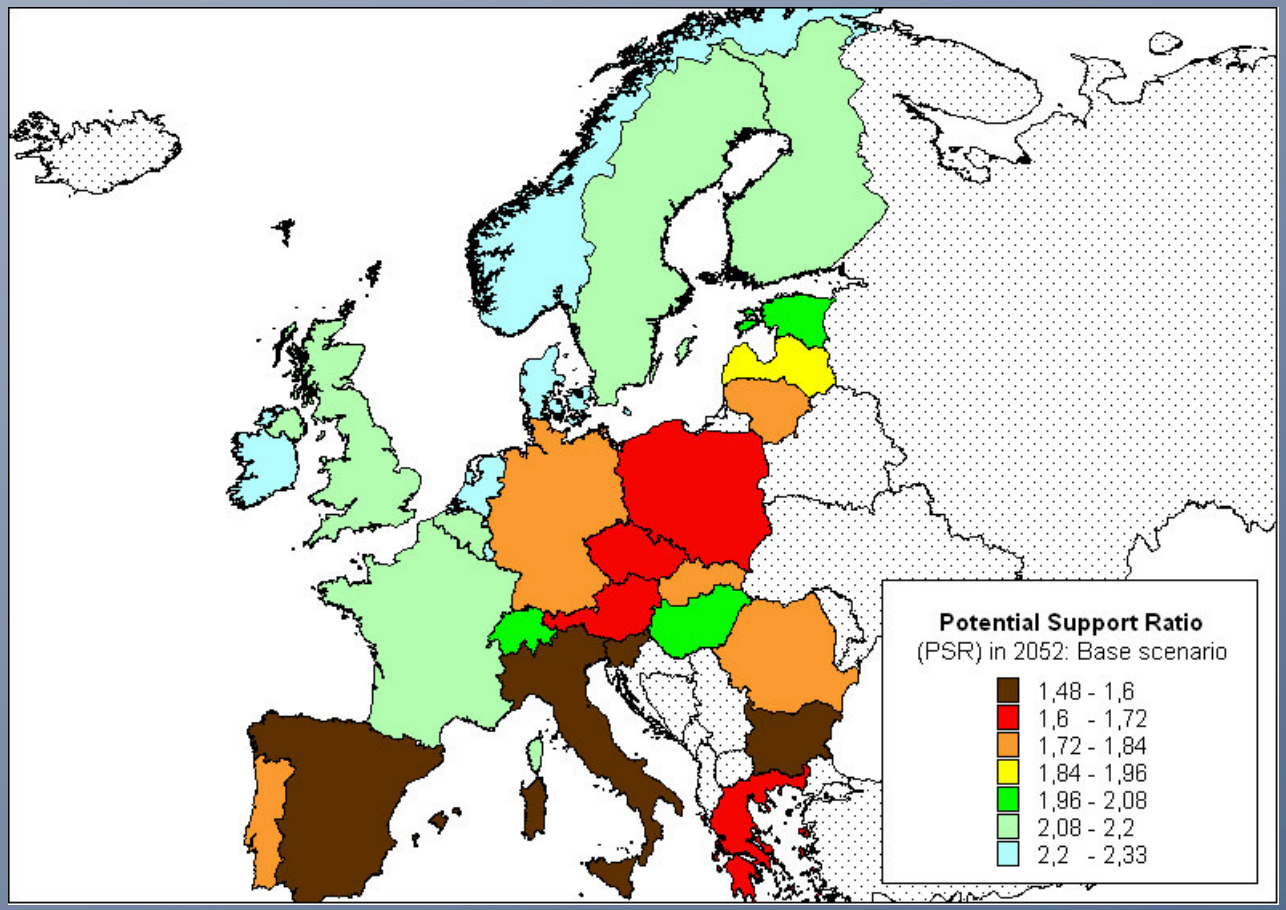


Population and labour force forecast, 2002–2052

Potential Support Ratio (PSR) in 2052: Base scenario

$$PSR = \frac{\text{Pop. 15-64}}{\text{Pop. 65+}}$$

Pop. - Population



Average PSR:

in 2002: **4.18**

in 2052: **1.82**

Population and labour force forecast, 2002–2052

Elderly Support Ratio (ESR) in 2052: Base scenario

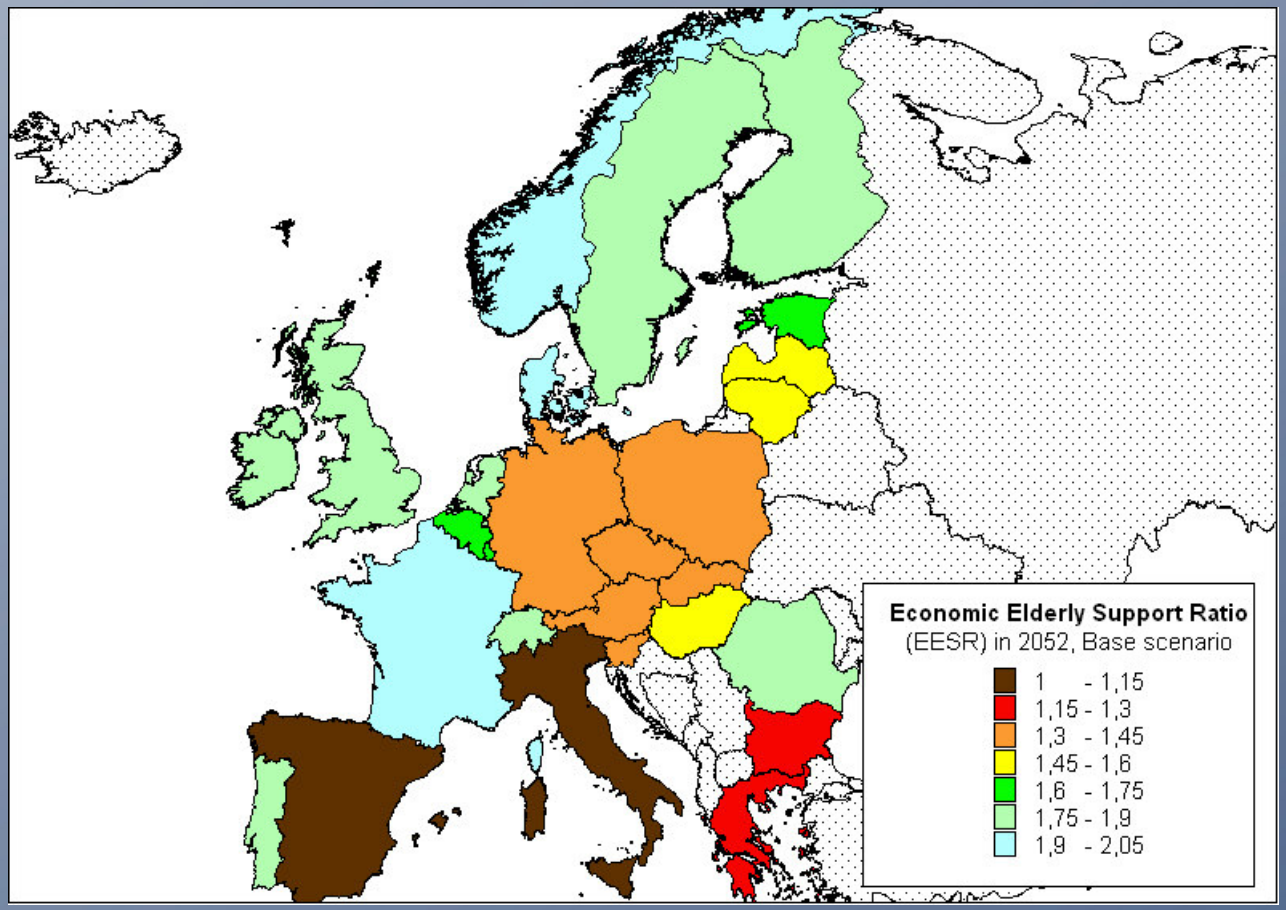
$$ESR = \frac{\text{Act. 15-64}}{\text{Inact. 65+}}$$

Act. – economically active population;
Inact. – inactive

<u>Average ESR:</u>

in 2002: **3.09**

in 2052: **1.51**



Population and labour force forecast, 2002–2052

Labour Market Support Ratio (LMSR) in 2052: Base scenario

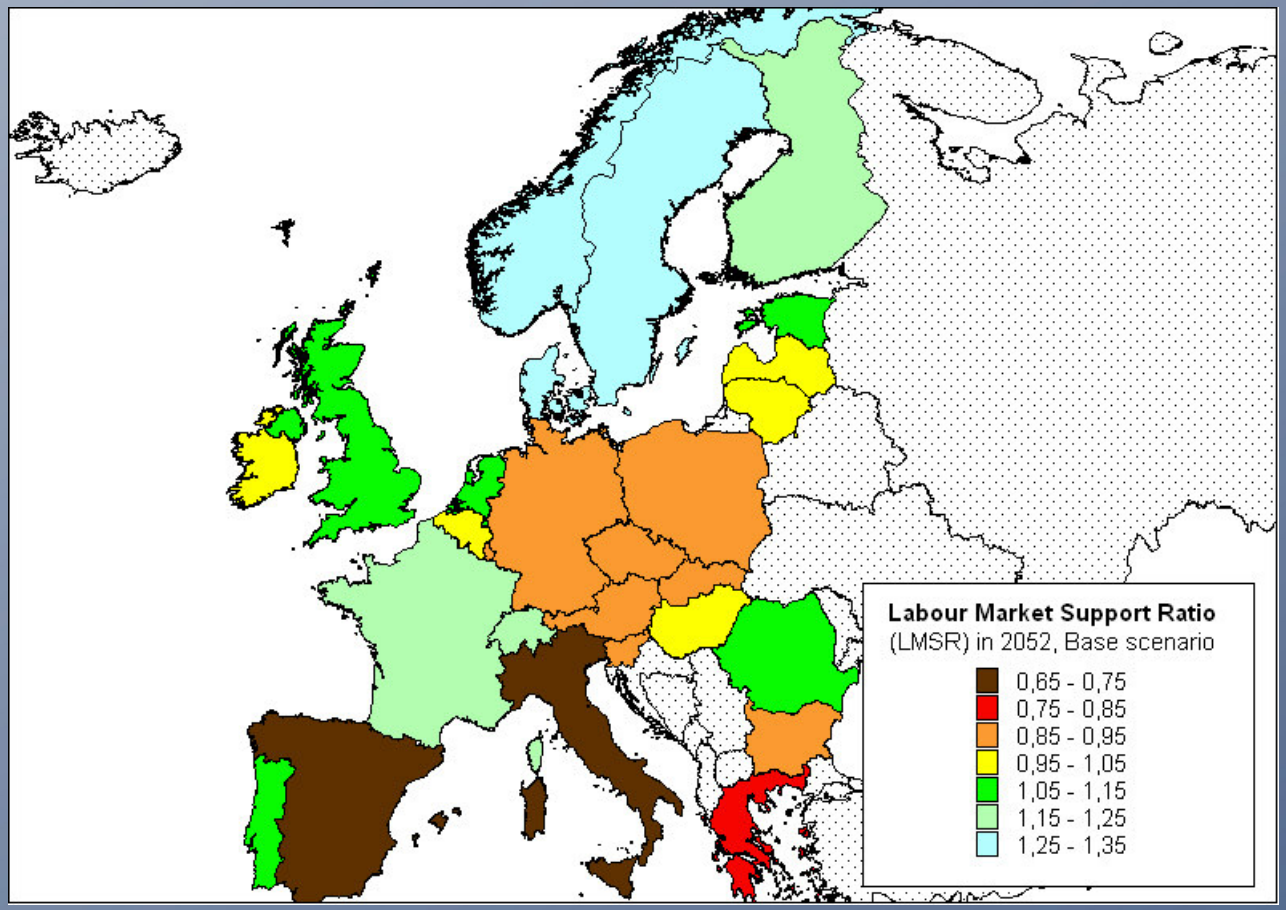
$$\text{LMSR} = \frac{\text{Act. 15+}}{\text{Inact. 15+}}$$

Act. – economically active population;
Inact. – inactive

<u>Average LMSR:</u>

in 2002: **1.30**

in 2052: **0.95**



Policy challenges – impact on pension systems

Simple model:

$$\textit{Contribution rate} = \frac{\text{Retirement-age population size} \times \text{Economic Inactivity rate} \times \text{Average pension}}{\text{Working-age population size} \times \text{Economic activity rate} \times \text{Average wages / salary}}$$

Given a constant *contribution rate*, increasing demographic burden can be compensated by an activity increase, or a relative decline of pensions. *Caeteris paribus* demographic change will decrease average 2054 pension in Poland to 30.4% of 2004 level

A note on pension systems

- Bismarck introduced scheme with retirement at 65 (reduced later to 60)
- Life expectancy in Germany between 45 and 50 years
- Gap between e(0) and retirement age between 20 and 10 years (say 15 on the average)
- Take it to current demographies: retirement age should be at 85 for males and 90 for females (with e(0)= 70 for males and 75 for females)

Is “replacement migration” a remedy?

The forecasts show that population ageing is expected to be significantly advanced by 2052.

↓

Is the option of increasing immigration, to prevent the support ratios from declining, realistic in the long run?

↓

Many studies, including this one, show that NO : migration would have to increase without end, similarly to the *financial pyramid* schemes.

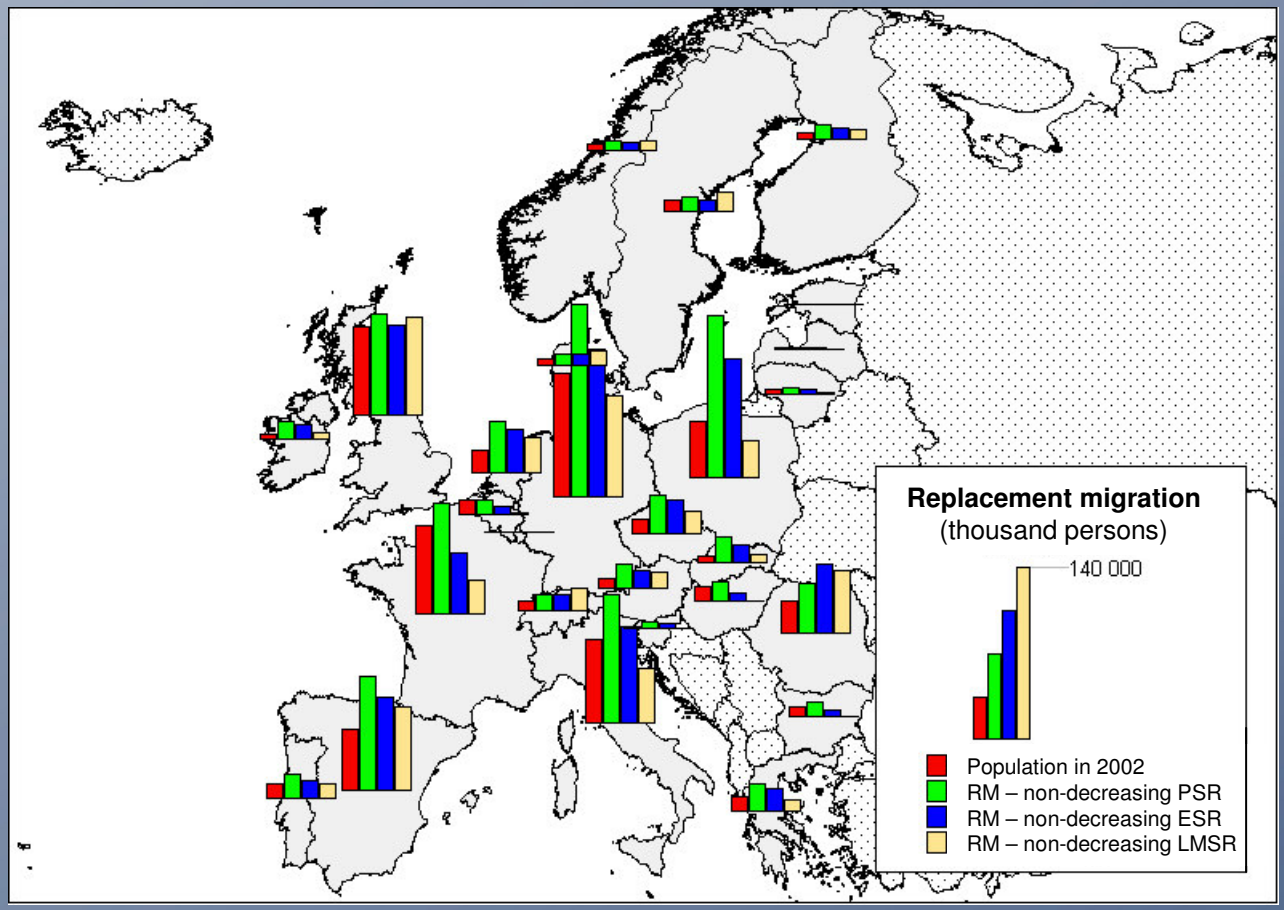
Is “replacement migration” a remedy?

“Replacement migration” simulations for 2002–2052

3 variants, with non-decreasing:

- PSR
- ESR
  Elderly Support Ratio
- LMSR
  Labour Market Support Ratio

Pop. in 2002



Elderly Support Ratio

Alternative policy options

(a) Increase fertility

- In the long run, it is the only way to slow down the ageing of population and labour force resources,

<u>but:</u>

- No singe policy instrument can do it – a combination of various policies is needed [Grant et al., 2004]
- Such (serious) policies are usually very expensive
- As population processes have large inertia, the results of such policies would be observed with a time delay [Lutz et al., 2003]

Alternative policy options

(b) Increase economic activity

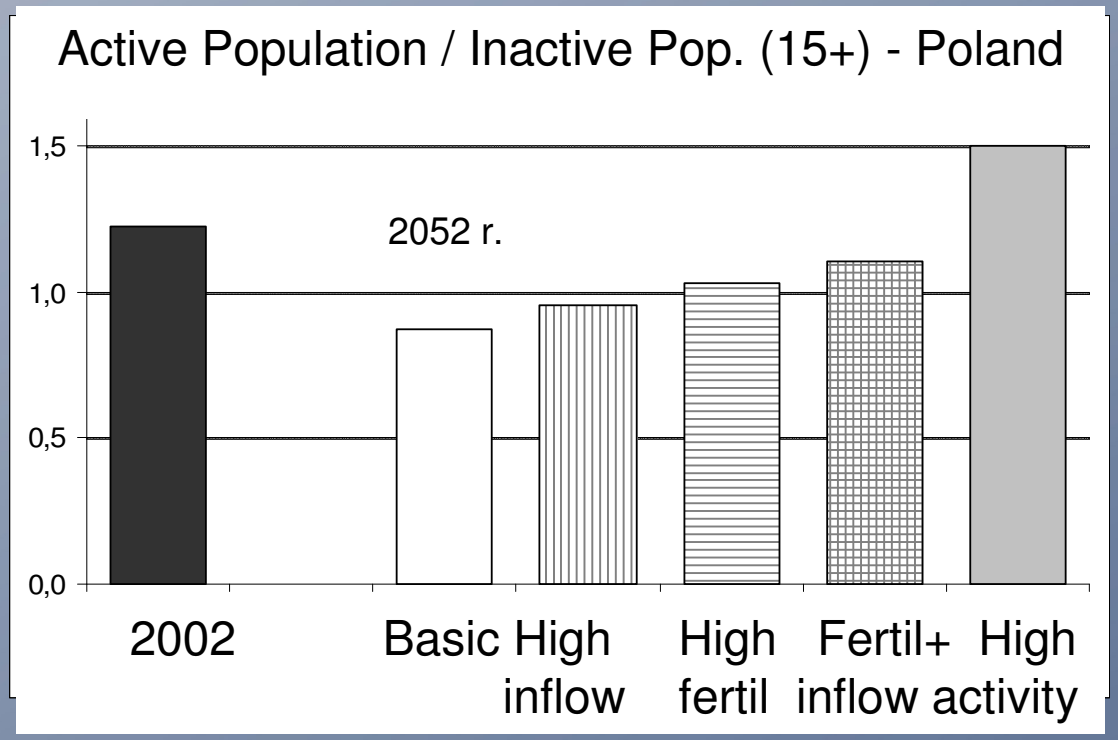
- For Europe, this is a good mid-term (40–50 years) option, until fertility policies begin to work
- There still is an unused labour force potential in Europe, especially as compared with the US, especially with respect to the activity of women and the elderly
- Problem acknowledged at the EU level (Lisbon Strategy)

<u>but:</u>

- Policy instruments should be consistent with the ones aimed at increasing fertility, and enable to reconcile work (career) with family life

Migration, demography and labour market

Efectiveness of various policy options in 50 years perspective - Poland



Concluding remarks

- Europe is diverse with respect to demographic and labour market perspectives of particular countries
- Increasing migration alone is either insufficient, or impossible (→ 'replacement migration' studies)
- The TFR increase alone, even as high as by 0.5, would not solve the ageing-related problems by 2052, but is necessary to stabilise the population structure in the longer run
- In most of the countries, there is still high potential left in increasing labour force participation
- Ideally, various policies should be combined in a coherent manner (e.g., with respect to reconciling increasing female labour participation and fertility)
- Increasing the retirement age is certainly another option (not explicitly discussed here, covered by other studies)

Thank you for your attention

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