

Central European Forum  
for Migration Research



Środkowoeuropejskie Forum  
Badań Migracyjnych

# Population and Labour Force Projections for 27 European Countries, 2002–2052: Impact of international migration on population ageing

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# 1. Aim and scope

## Aim of the study:

- To project population and labour force resources for selected European countries for the first half of the 21st century, with focus on the impact of international migration, assessed by applying various migration scenarios, on the advancement of the population ageing process.

## Scope:

- 27 European countries: EU (without Cyprus and Malta), plus Bulgaria, Romania, Norway and Switzerland
- Projection horizon: 2002–2052



## 2. Model and data

### Model:

- Multi-regional model of population dynamics  
“MULTIPOLES” (Kupiszewski & Kupiszewska, 1998)

### Data:

- Demographic data: Eurostat and Council of Europe
- Labour force participation: ILO (Laborsta)
- Migration flows in Europe estimated as higher of the values reported by the sending and receiving countries
- Age schedules of migration assumed to follow German patterns for flows to/from a particular country (exceptions: migration to the Mediterranean, and between the countries of Central and Eastern Europe)



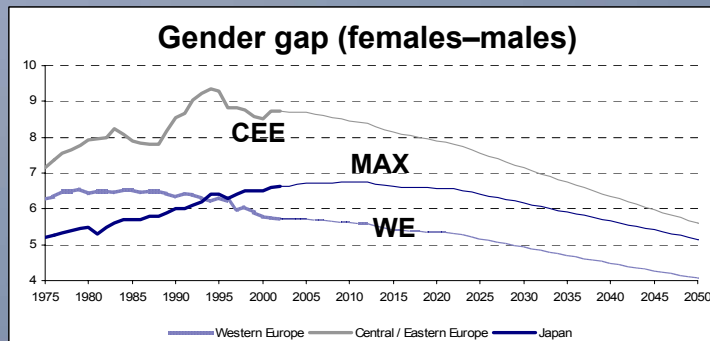
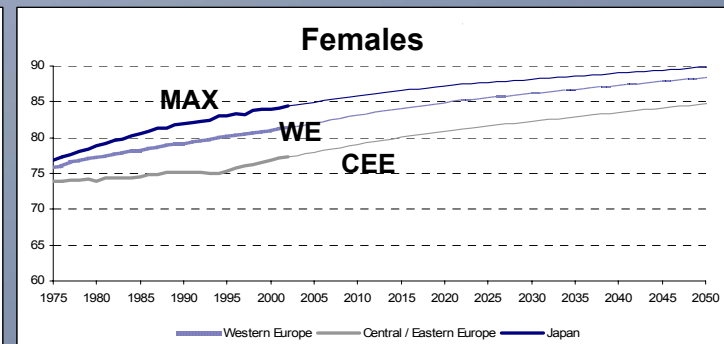
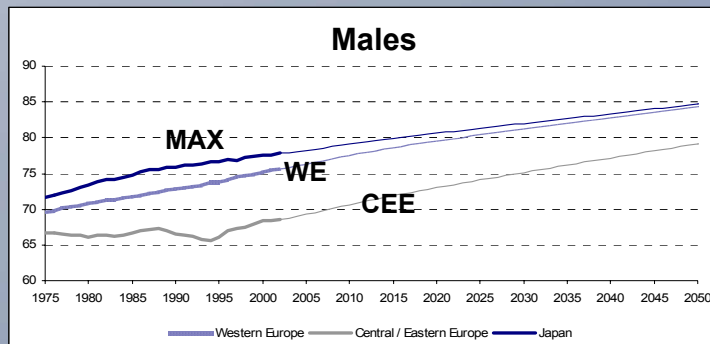
### 3. Projection assumptions

#### Fertility: Target TFR values assumed for 2052

No.	Group	Countries	Target TFR
1	Eastern Balkans	BG, RO	1.4
2	Southern Europe	ES, GR, IT, SI	1.5
3	German-speaking countries	AT, CH, DE	1.5
4	Central Europe	CZ, HU, LT, LV, PL, SK	1.5
5	Estonia	EE	1.6
6	Portugal	PT	1.7
7	Western Europe	BE, LU, UK	1.8
8	Scandinavia	DK, FI, NL, NO, SE	1.9
9	High-fertility countries	FR, IE	1.9

## 3. Projection assumptions

### Mortality: Average life expectancy



#### Abbreviations:

MAX – reference maximum values (Japan)

WE – average for Western Europe

CEE – average for Central and Eastern Europe



### 3. Projection assumptions

#### Migration among the 27 countries under study

- Three scenarios: Base, High and Low, reflecting different pace of economic development, and of convergence of income in Central-Eastern and Western Europe
- Gradual opening of Western labour markets for the CEE citizens (2004–2006–2009–2011)
- Quantization of the assumptions:
  - Trend component: an increase of origin-destination migration rates by 0.5% (Base), 1% (High), or 0% (Low) a year
  - Temporary post-opening deviation component: small and short in the High scenario, large and durable in the Low one, intermediate in the Base scenario



### 3. Projection assumptions

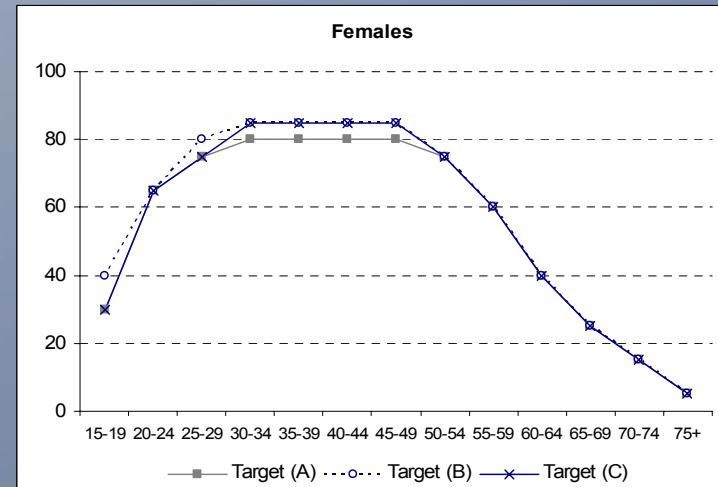
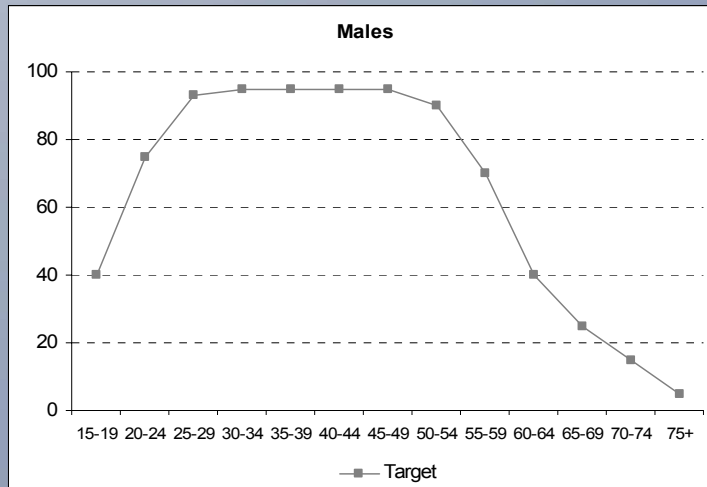
#### Migration from the other countries of the world

- Three scenarios: Base, High and Low, reflecting different size of migration pressure on the European countries under study
- Assumptions based on the recent migration patterns and on a qualitative analysis of push and pull factors
- Quantization of the assumptions:
  - Assumptions made for net migration numbers (not rates)
  - Target values for 2052 set for groups of countries: highest for the Southern Europe, lowest for the Central and Eastern Europe, with Western and Northern Europe in-between
  - Exponential extrapolation from the 2002 to the target values



## 3. Projection assumptions

### Labour force participation patterns for 2052 (%)



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



## 4. Macro-indicators analysed

- Total size of the population
- Overall size of the labour force (labour supply)
- **Potential Support Ratio (PSR)**

Number of persons aged 15–64 to the population aged 65+

- **Economic Elderly Support Ratio (EESR)**

Ratio of the size of the economically active population aged 15-64 to the economically inactive population aged 65+

– measures the economic burden of the retired on the active pop.

- **Labour Market Support Ratio (LMSR)**

Ratio of the size of the economically active population aged 15+ to the economically inactive one (also 15+)

– measures the overall economic burden on the labour market



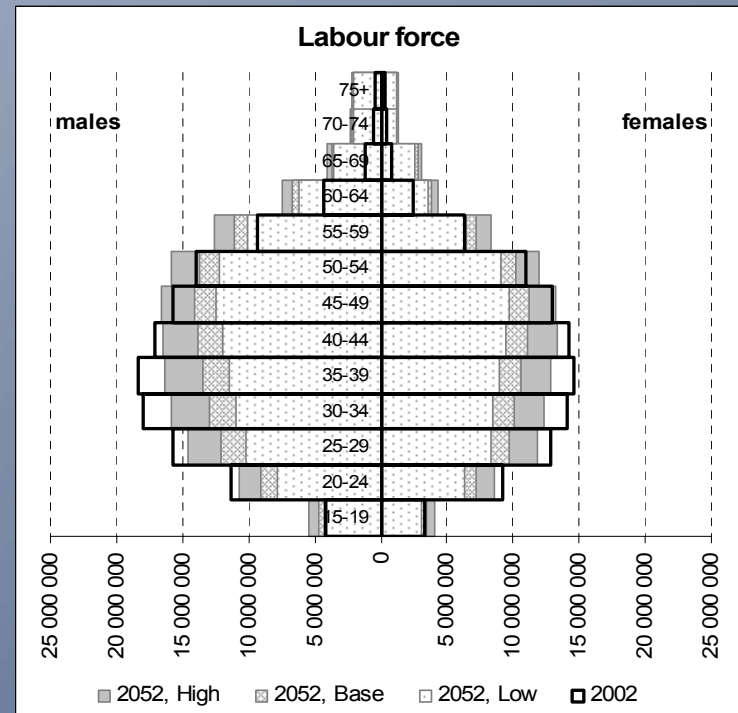
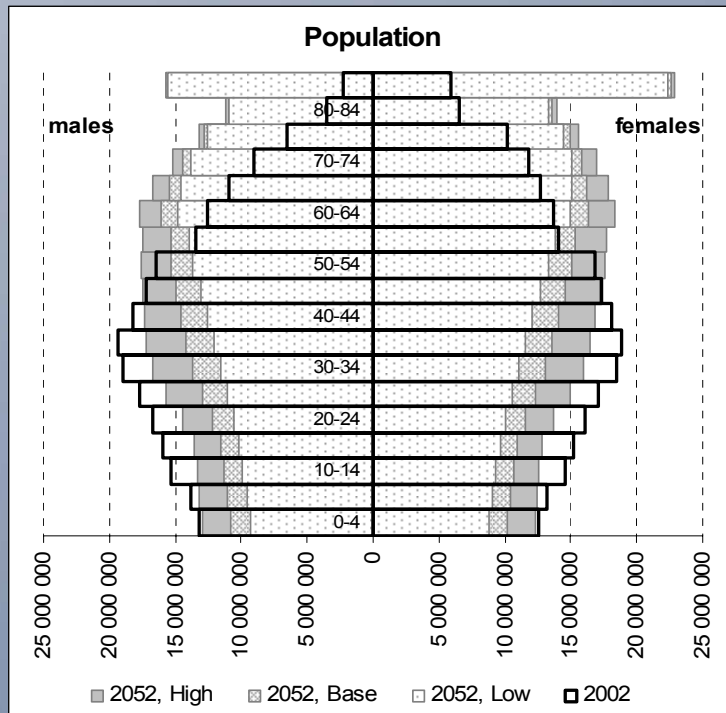
## 5. Results

### Selected results for 2002 and 2052 – Base scenario

Country	Population (x1000)		Labour force (x1000)		PSR		LMSR	
	2002	2052	2002	2052	2002	2052	2002	2052
Austria	8 053	7 853	3 929	3 267	4.4	1.7	1.4	0.9
Bulgaria	7 869	4 485	3 397	1 865	4.0	1.5	1.0	0.9
France	59 486	70 381	26 719	32 096	4.0	2.2	1.2	1.2
Germany	82 488	77 007	40 673	32 907	3.9	1.7	1.4	0.9
Italy	57 157	54 044	22 983	19 440	3.6	1.5	0.9	0.7
Poland	38 425	31 267	17 329	12 931	5.5	1.7	1.2	0.9
Sweden	8 925	9 993	4 526	4 700	3.8	2.1	1.6	1.3
UK	59 232	65 481	29 738	29 325	4.2	2.2	1.6	1.1
<b>All 27</b>	<b>494 179</b>	<b>494 922</b>	<b>232 759</b>	<b>209 710</b>	<b>4.2</b>	<b>1.8</b>	<b>1.3</b>	<b>1.0</b>

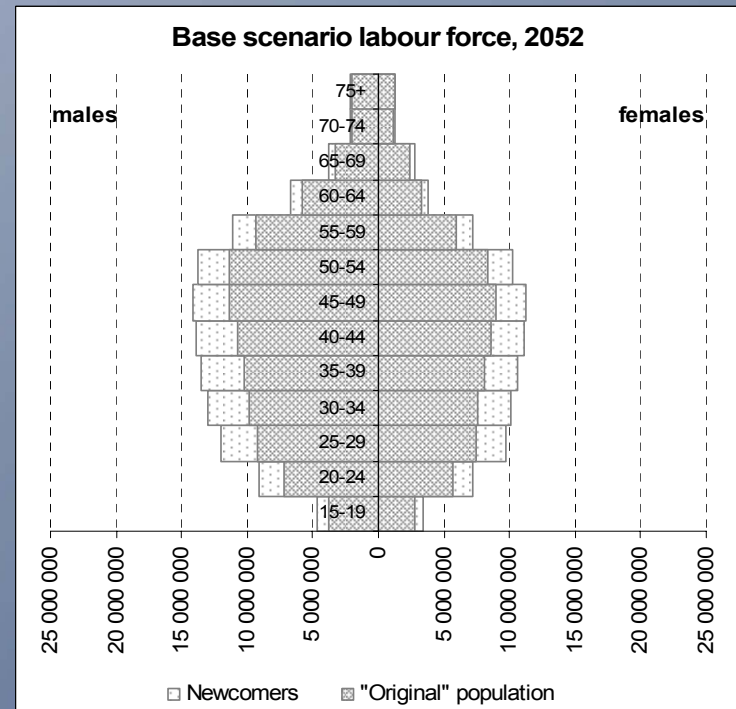
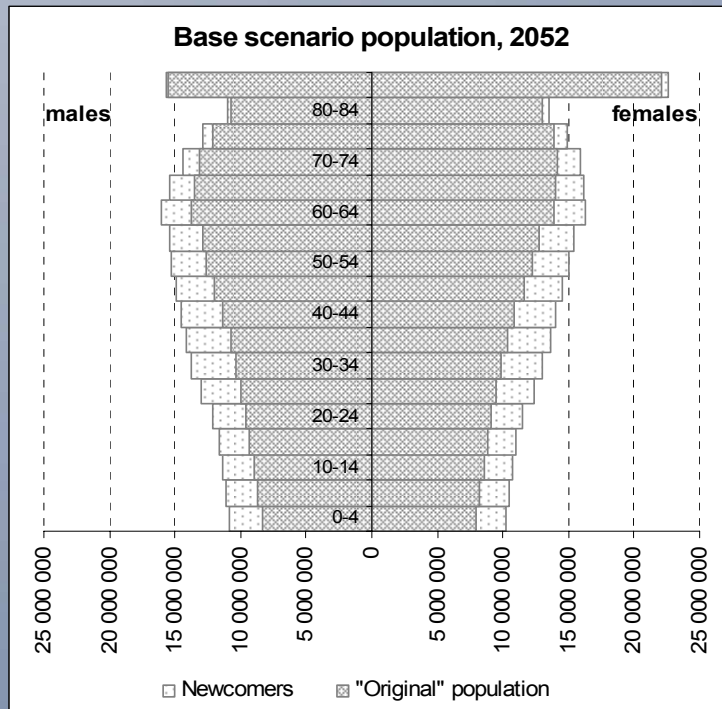
## 5. Results

### Population and labour force in 27 countries: 3 scenarios



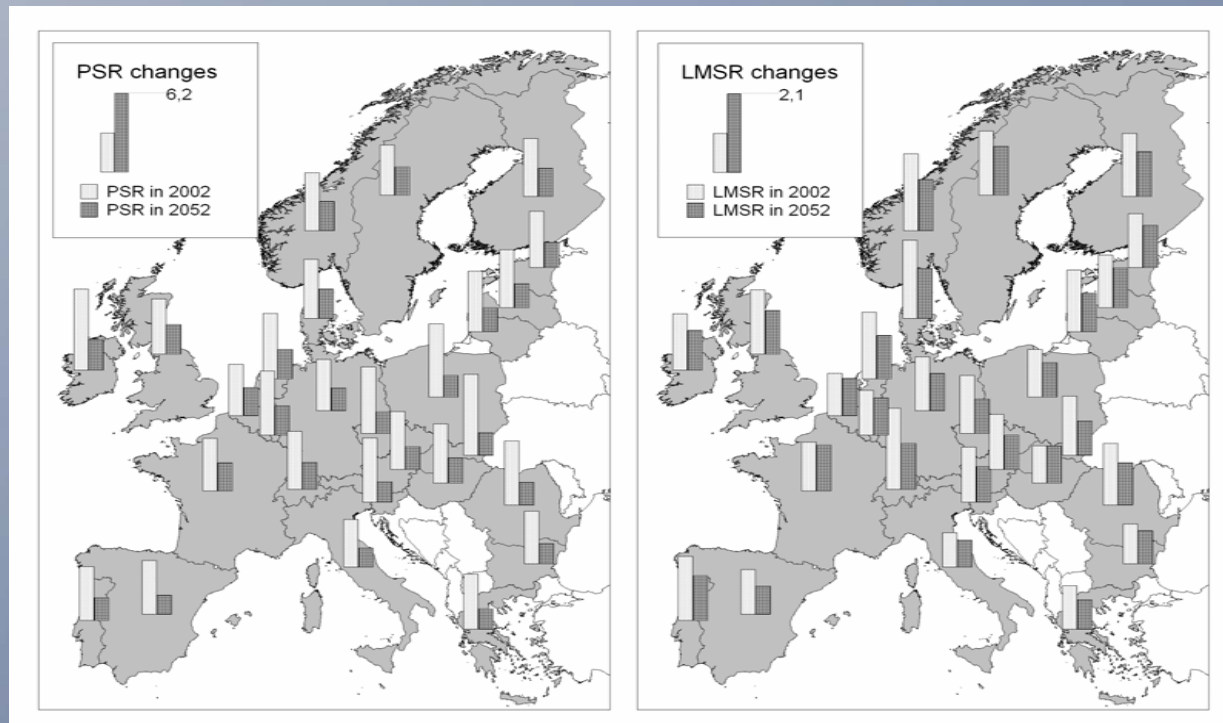
## 5. Results

### Population and labour force in 2052: Base scenario



## 5. Results

### Changes of PSR and LMSR in Europe, 2002–2052



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**The topic will be continued  
tomorrow, in the session on  
international migration...**