

Central European Forum
for Migration Research



Środkowoeuropejskie Forum
Badań Migracyjnych

Replacement Migration Revisited: Migratory Flows, Population and Labour Force in Europe, 2002–2052

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1. Aim and scope

Aim of the study:

- To project population and labour force resources for selected European countries for 2002–2052
- To analyse relations between international migration, population ageing and labour force dynamics with the ‘replacement migration’ concept
- To evaluate on that basis various policy options regarding population, migration, and labour force

Scope:

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



2. Background

- ‘Replacement migration’ report of the UN (2000) and its critique (Espenshade, 2001; Coleman, 2002)
- Other similar studies (Lesthaeghe *et al.*, 1988; Wattelaar & Roumans, 1991; Gesano, 1994; Feld, 2000; McDonald & Kippen, 2000)
- What this study adds:
 - It focuses on a wide selection of European countries, including Central and Eastern Europe
 - It partially addresses the critique of the UN report by including scenarios of economic activity and produce ‘replacement’ simulations for targets of various aggregate demo-economic indicators



3. 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)



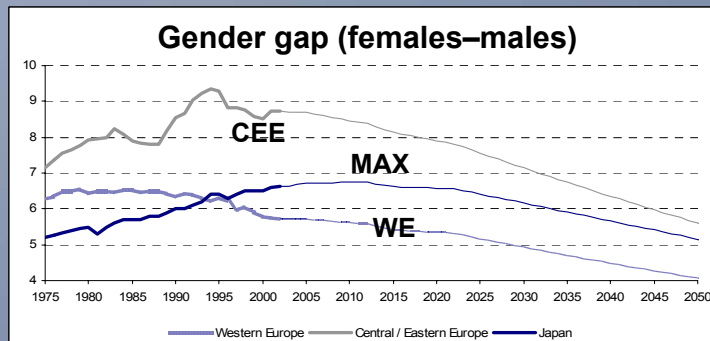
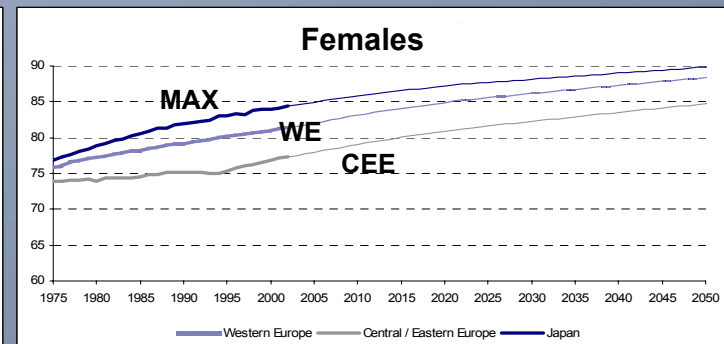
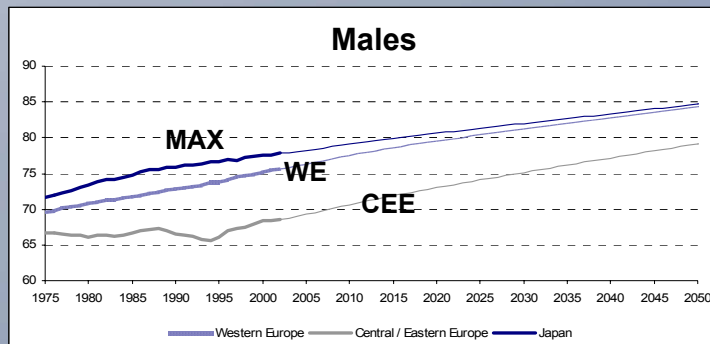
4. Projection and simulation assumptions

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

4. Projection and simulation assumptions

Mortality: Average life expectancy



Abbreviations:

MAX – reference maximum values (Japan)

WE – average for Western Europe

CEE – average for Central and Eastern Europe



4. Projection and simulation 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



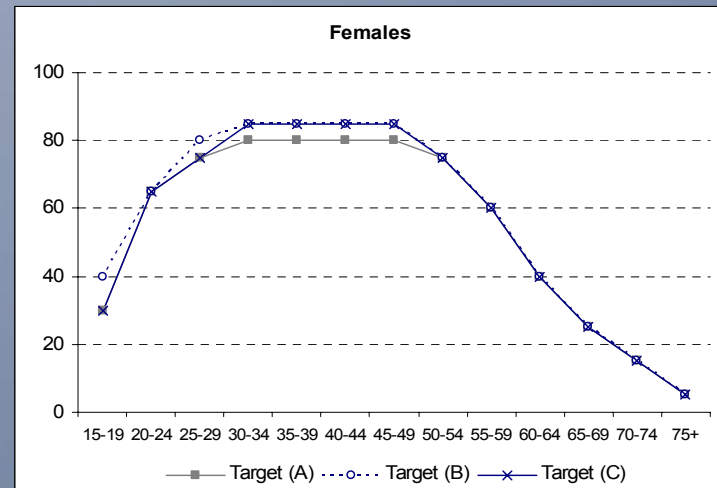
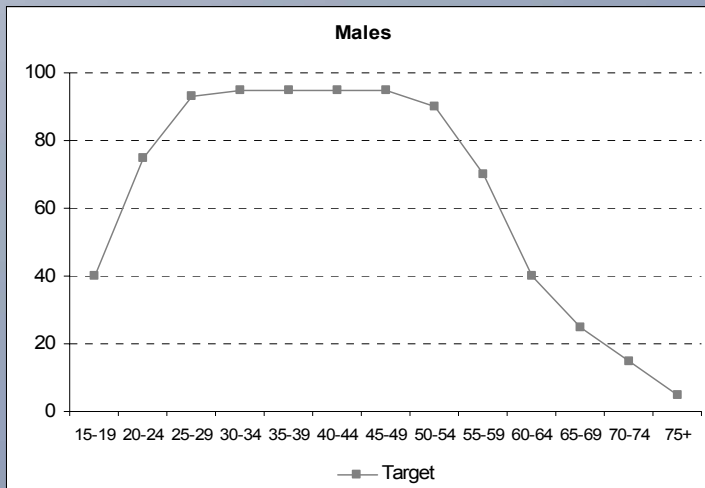
4. Projection and simulation assumptions

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

4. Projection and simulation 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



5. 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



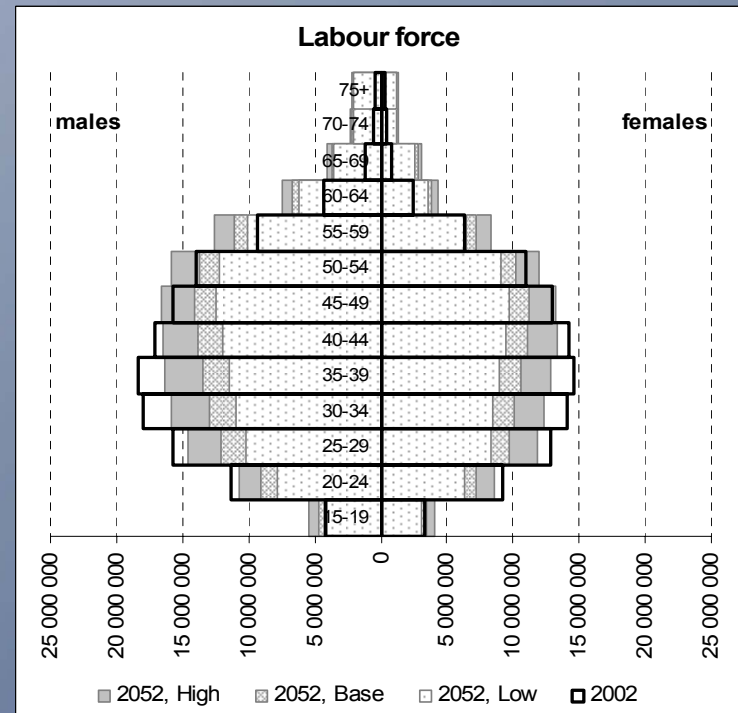
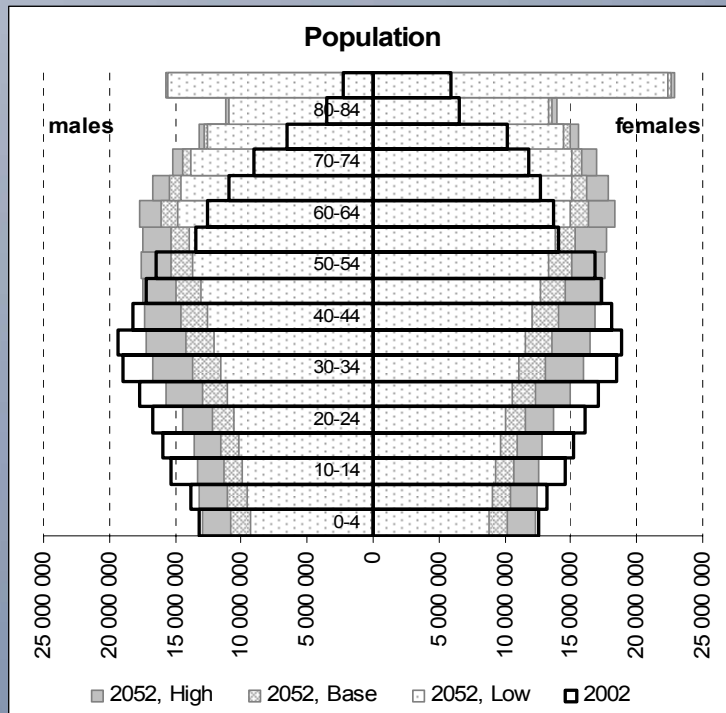
6. Results: population and labour force forecasts

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
All 27	494 179	494 922	232 759	209 710	4.2	1.8	1.3	1.0

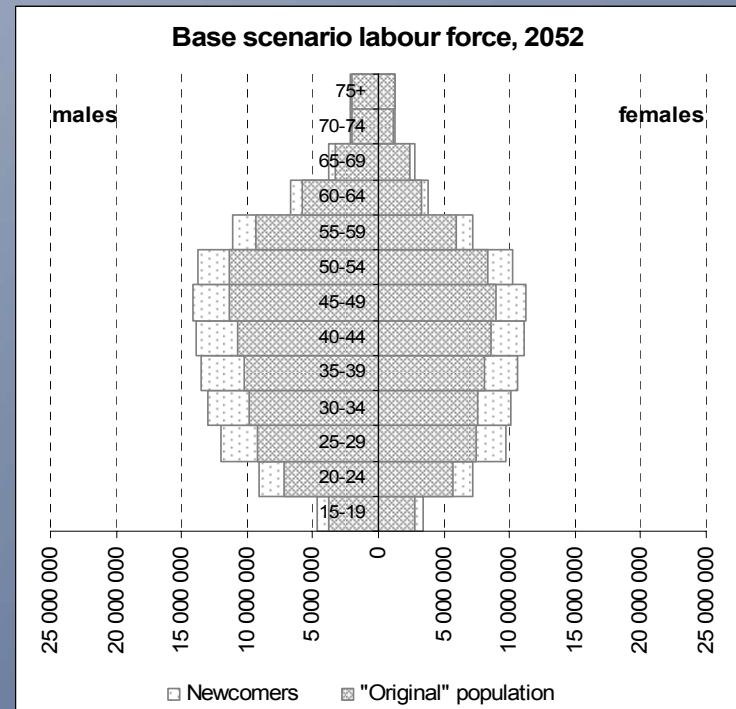
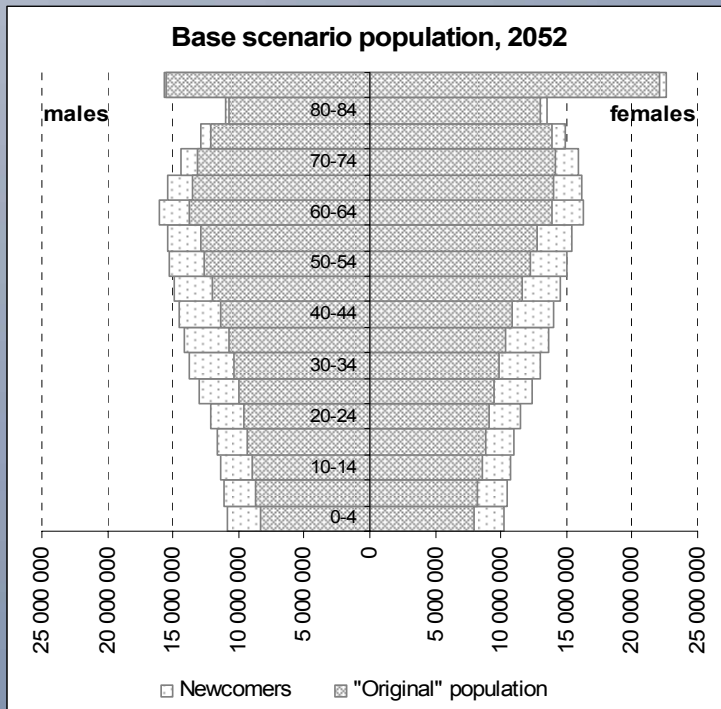
6. Results: population and labour force forecasts

Population and labour force in 27 countries: 3 scenarios



6. Results: population and labour force forecasts

Population and labour force in 2052: Base scenario





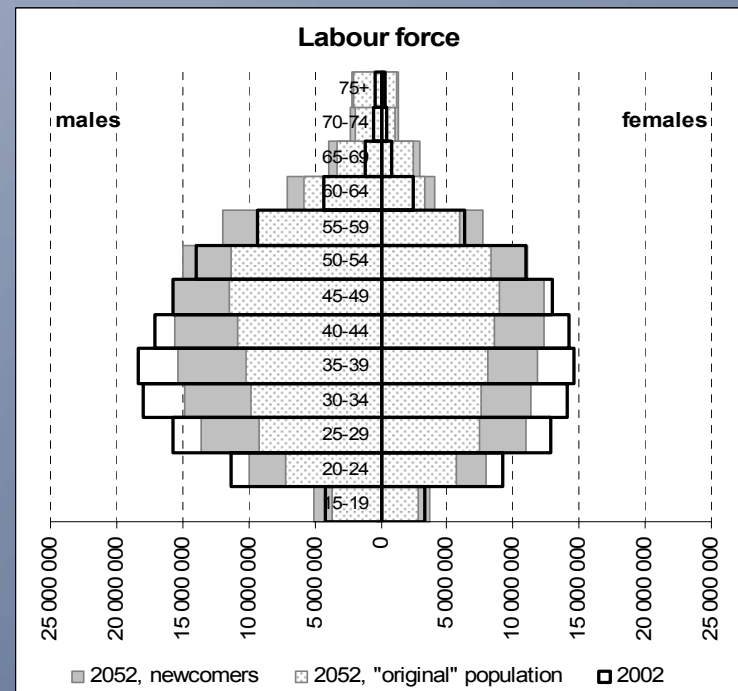
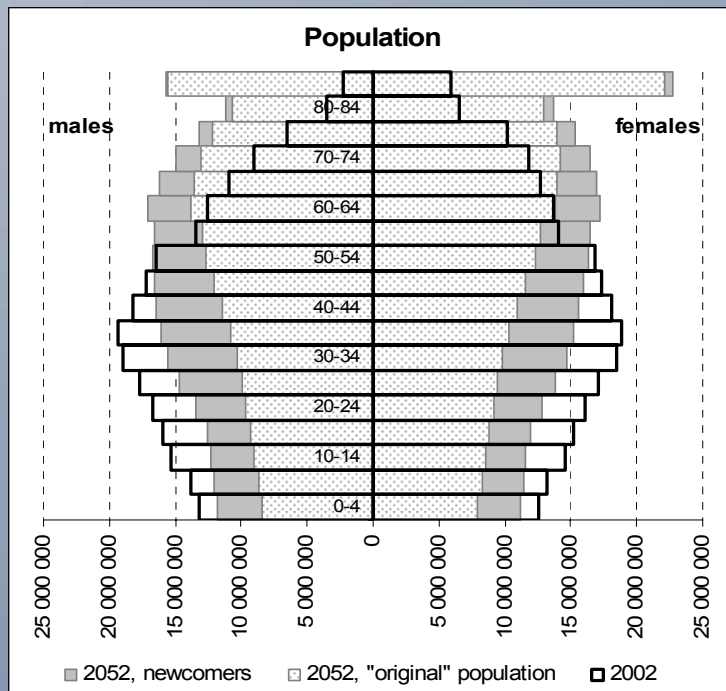
7. Results: 'replacement migration' simulations

Four 'replacement' scenarios, with non-decreasing:

- Total size of the population
- Potential Support Ratio (PSR)
- Economic Elderly Support Ratio (EESR)
- Labour Market Support Ratio (LMSR)

7. Results: 'replacement migration' simulations

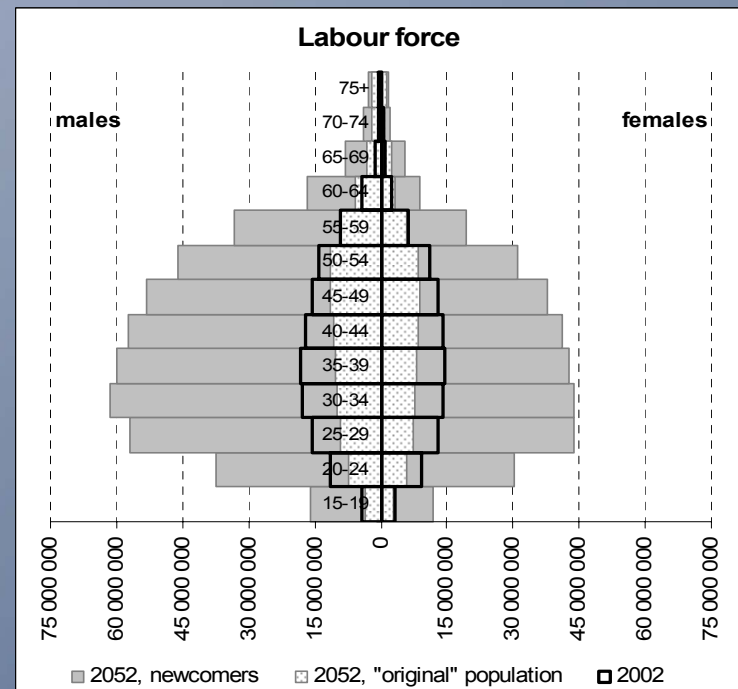
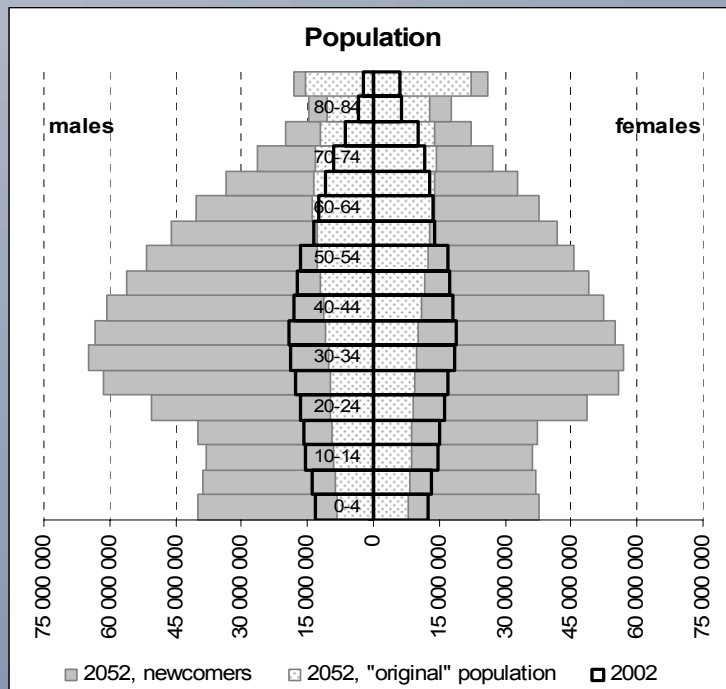
'Replacement' in 27 countries: non-decreasing population



Cumulated 'replacement' volume 2002–2052: **32.8 million**

7. Results: 'replacement migration' simulations

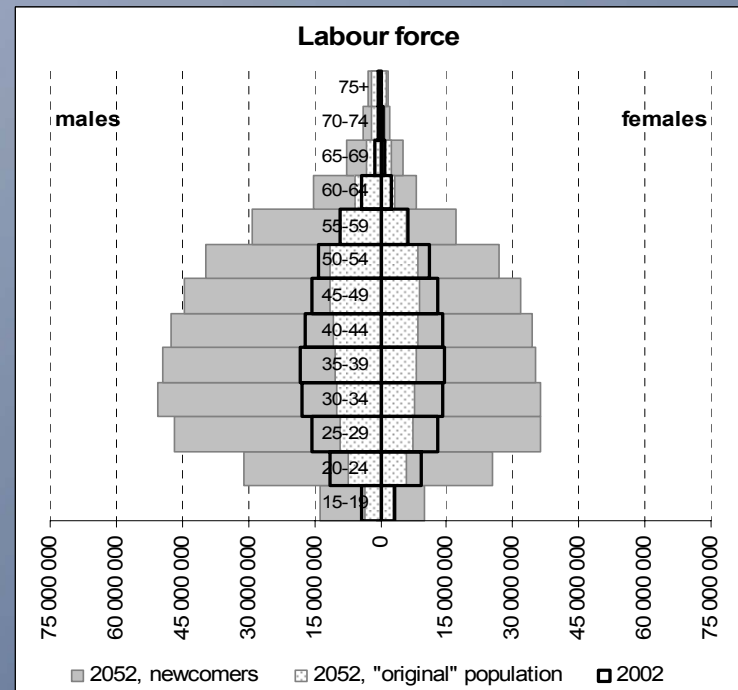
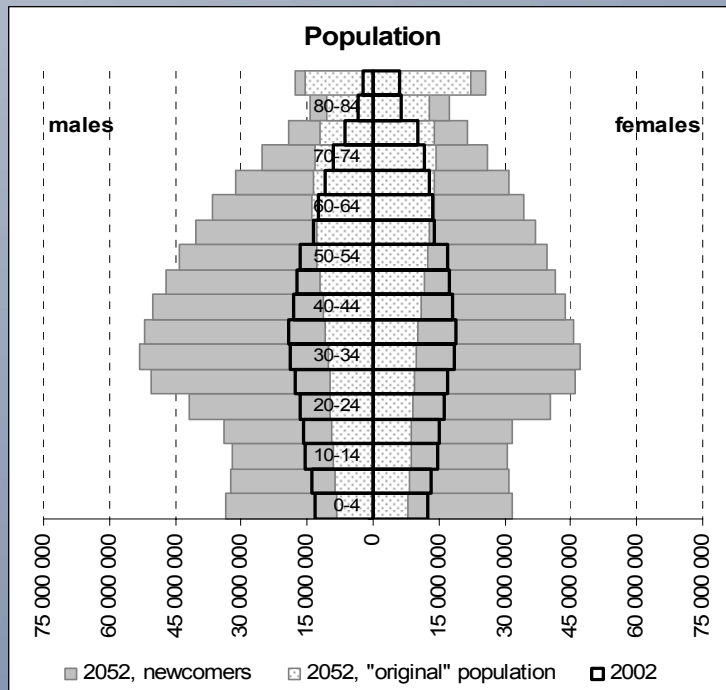
'Replacement' in 27 countries: non-decreasing PSR



Cumulated 'replacement' volume 2002–2052: **839.6 million**

7. Results: 'replacement migration' simulations

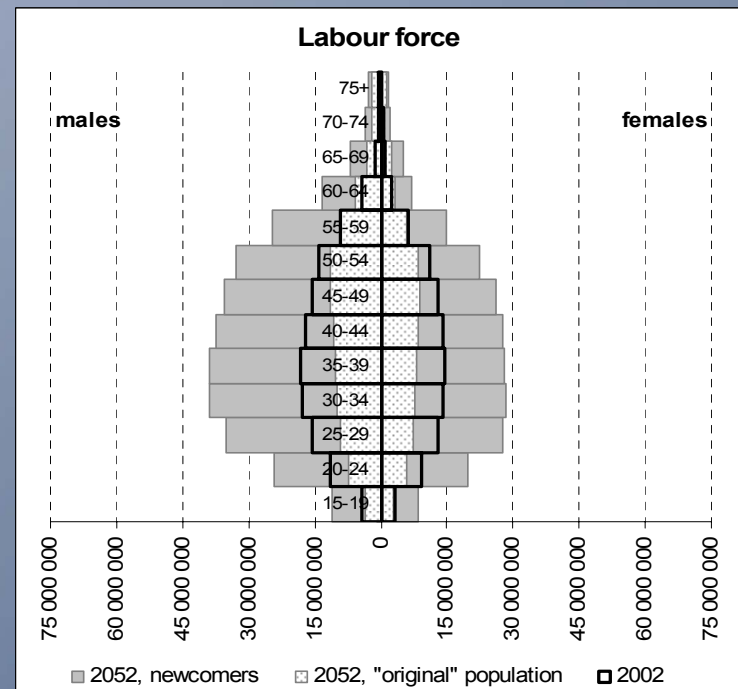
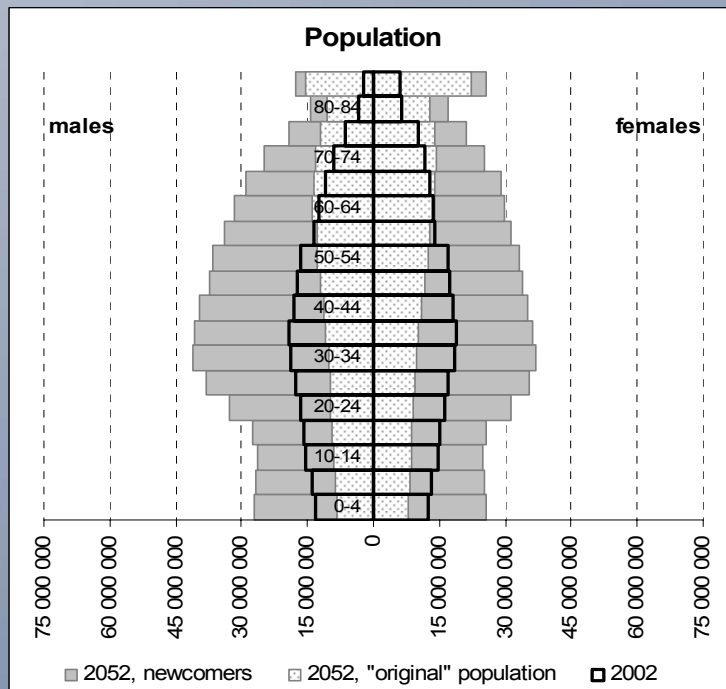
'Replacement' in 27 countries: non-decreasing EESR



Cumulated 'replacement' volume 2002–2052: **653.1 million**

7. Results: 'replacement migration' simulations

'Replacement' in 27 countries: non-decreasing LMSR

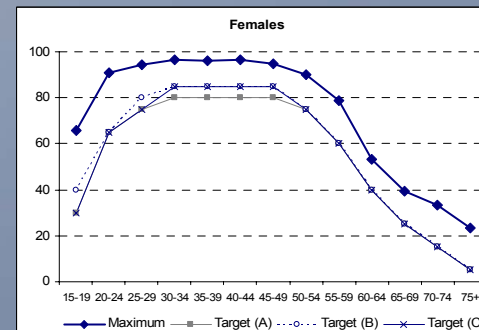
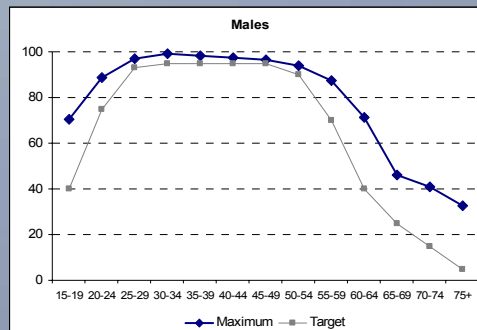


Cumulated 'replacement' volume 2002–2052: **470.7 million**

7. Results: ‘replacement migration’ simulations

Buying Time: ‘Maximum labour participation’ scenario

- Historical (1985–2002) cross-country maximum patterns of economic activity projected for the whole simulation period



- Results – no decline of LMSRs below its 2002 levels until:
 - the end of the simulation period (2052) for 21 countries,
 - 2047–2052 for four countries (CZ, ES, NL, SK),
 - 2042–2047 for Portugal,
 - 2022–2027 for Switzerland.



8. Conclusions

- **Most of the simulations (again!) yielded implausible magnitudes of the ‘replacement migration’**
- **Plausible policy options:**
 - Increase fertility – the long-term solution (Lesthaeghe, 2000). Problems: how to do it, and when it will start to work given the negative population momentum (Lutz *et al.*, 2003)?
 - Increase labour force participation (Coleman, 2002) – a good option in the mid-term (< 50 years), ameliorating negative outcomes of ageing before any fertility policies give results.
 - Immigration – not a ‘solution against the negative outcomes of population ageing’, rather an instrument to cover labour shortages in certain sectors (Korcelli, 2003)
 - Rising the retirement age (*not covered by the current study*)
 - Raising the awareness of the ageing problems in the society

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Thank you!

Further details of the study are to be found at:

www.cefmr.pan.pl