

Central European Forum
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Demographic changes in Europe and worldwide in the 21st century

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1. Introduction

Aims:

- ❑ To give insights into selected demographic changes in Europe and worldwide expected in the 21st century in the light of population and labour force forecasts
- ❑ To highlight the role of migration in demographic processes
- ❑ To identify key areas of policy challenges posed by the forecasted demographic change
- ❑ To evaluate selected policy options aimed at offsetting negative side-effects of population and workforce ageing

Focus:

- ❑ Europe, especially in the first half of the 21st century



2. Recent 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

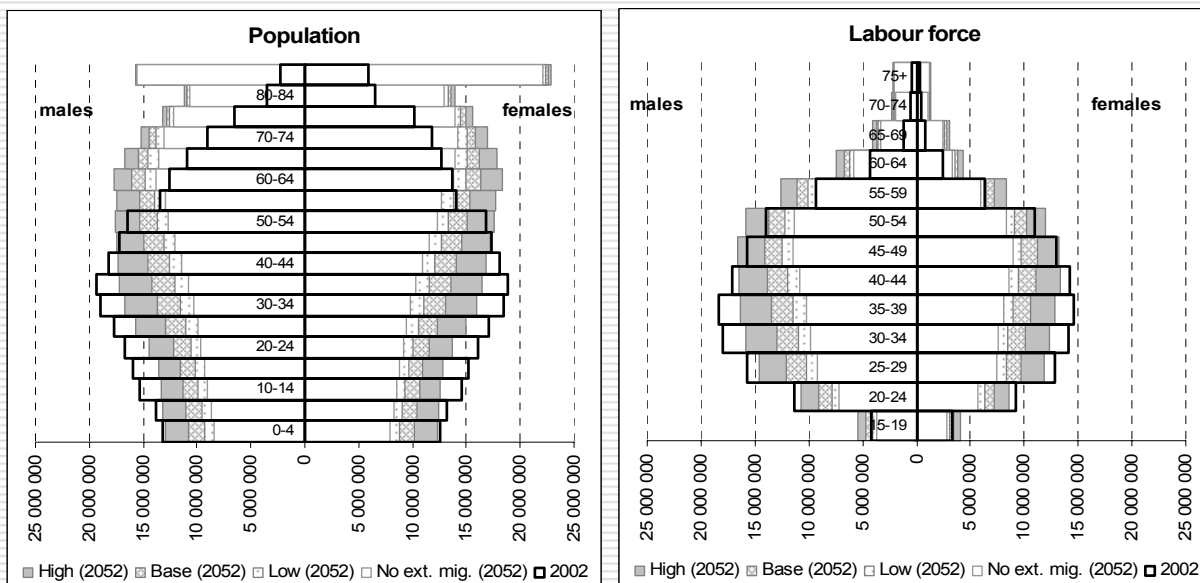
2. Recent population and labour force forecasts

- Population processes are characterised by a large inertia, and the consequences of current demographic patterns can be observed only in a long-time forecast horizon
- Many forecasts envisage that in the second half of the 21st century the overall world population size will **likely** eventually stop growing and begin to decrease, after reaching some **9 billion people** [UN, 2003; Lutz *et al.*, 2004]
- In Europe, which is at the forefront of civilisational changes underlying demographic developments, the turn from growth to decline will take place earlier. For some countries in Central and Eastern Europe, it has already happened
- Developing regions of the world follow the demographic patterns of the developed ones with a delay (globalisation)

2. Recent population and labour force forecasts

The real challenge: changes in the age structures

Forecast 2002–52, 27 European countries, 3 migration scenarios



[CEFRM forecast: Bijak et al., 2006]

2. Recent population and labour force forecasts

Country	Population (x1000)		Labour force resources (x1000)		Population 15-64 / Population 65+		Active Population / Inactive Pop. (15+)	
	2002	2052	2002	2052	2002	2052	2002	2052
Bulgaria	7 869	4 485	3 397	1 865	4.02	1.50	1.03	0.86
France	59 486	70 381	26 719	32 096	4.00	2.15	1.23	1.19
Germany	82 488	77 007	40 673	32 907	3.91	1.72	1.39	0.94
Italy	57 157	54 044	22 983	19 440	3.55	1.48	0.88	0.68
Poland	38 425	31 267	17 329	12 931	5.49	1.65	1.22	0.87
Sweden	8 925	9 993	4 526	4 700	3.77	2.10	1.63	1.19
UK	59 232	65 481	29 738	29 325	4.19	2.19	1.63	1.11
EUR-27	494 179	494 922	232 759	209 710	4.19	1.82	1.30	0.95

[CEFMR forecast: Bijak *et al.*, 2006]

1. Introduction

2. Recent population and labour force forecasts

3. Role of international migration

4. Impact of population ageing

5. Evaluation of selected population policy options

6. Summary and conclusions



2. Recent population and labour force forecasts

- ❑ Visible population decrease is forecasted for some countries, and also has a strong regional and local dimensions
- ❑ On the other hand: preventing the population size from declining is **not** the most important future policy challenge
- ❑ In turn, changes of the age structures (population ageing) are forecasted for a vast majority of countries, not only in Europe, but also in the developing regions of the world
- ❑ The resulting increase of burden on pension systems and labour markets **is** a crucial policy concern
- ❑ Although future depopulation affects a majority of European countries, it is possible to stop. On the other hand, population ageing is **universal and irreversible!**



3. Role of international migration

21st century – The Age of Migration

- Many authors argue that migration is increasingly important in the modern era, which becomes „the age of migration“ [Castles and Miller, 2003]
- Official statistics (despite all their faults) support this claim: [UN, 2004; IOM, 2005]
 - In **2000**, there were about **175 million** migrants worldwide (about **2.9%** of the world population), of which:
 - **110 million** in the developed countries, constituting about **8.7%** of their populations (in Europe – **33 million, 6.4%**)
 - **65 million** in the developing countries (**1.3%**, respectively)
 - In **1970**, the global number of migrants totalled **81.5 million**



3. Role of international migration

21st century – The Age of Migration

- ❑ Migration is a key issue affecting the spatial redistribution of the world's population and of human capital
- ❑ Two alternative 'mobility transition' scenarios: [Zelinsky, 1979]
 - Significant mobility increase due to the new technological developments and decrease in travel costs, or:
 - Substitution of migration by technological developments in the field of IT and communication.
- ❑ Migratory processes in a globalising world are becoming more and more dynamic and complex [Koryś & Okólski, 2004]
- ❑ Global changes in the 21st century will make migration a central demographic, economic, political and social issue

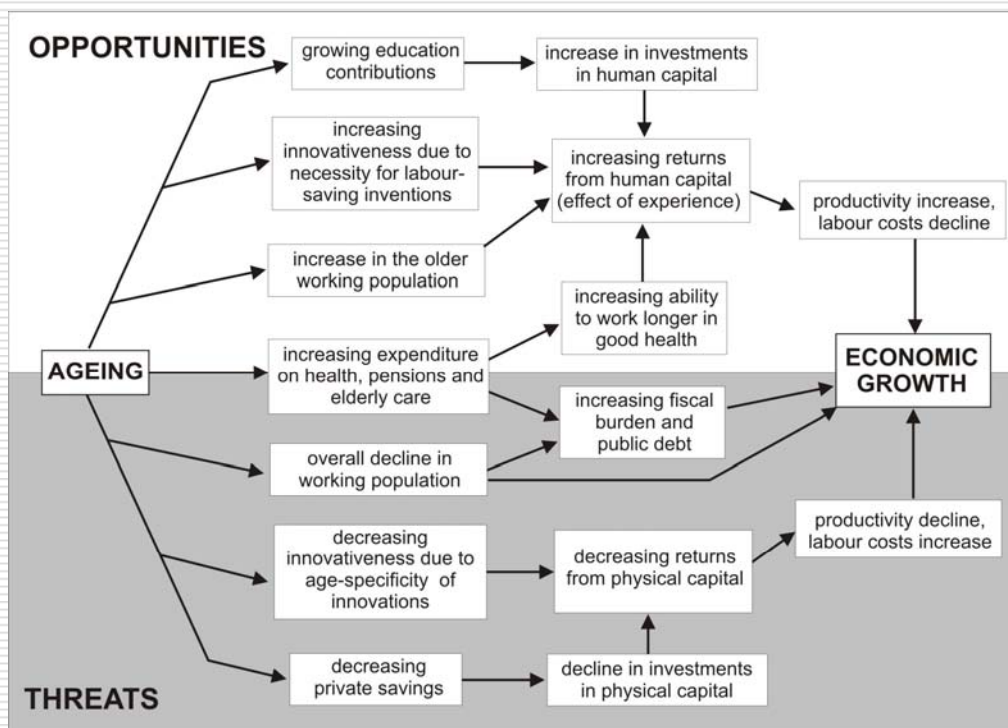


3. Role of international migration

Migration and demographic change

- Given decreasing fertility and mortality, and population ageing, migration is becoming an increasingly important element of population dynamics, especially in developed countries (hence, in Europe) [van der Gaag & van Wissen, 1999]
- Although the worldwide balance of migration needs hold, population flows also influence demographic patterns on the global scale: migrants adjust their mortality (health), but also fertility patterns to their host societies – more sources support the ‘adaptation hypothesis’, as opposed to the ‘socialisation hypothesis’ [Courgeau, 1989; Kulu, 2005]

4. Potential impact of population ageing: economy



[Kupiszewski et al., 2005, Figure 5.1]

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2. Recent population and labour force forecasts

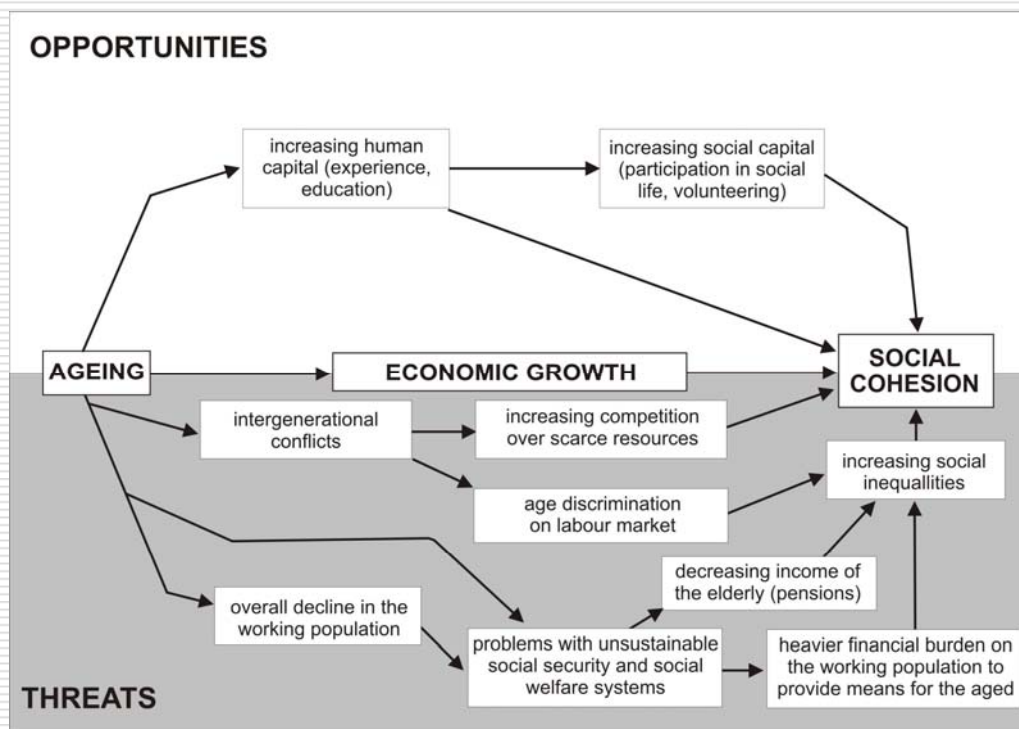
3. Role of international migration

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5. Evaluation of selected population policy options

6. Summary and conclusions

4. Potential impact of population ageing: social cohesion



[Kupiszewski et al., 2005, Figure 5.2]

4. Potential impact of population ageing

Health care systems

- The potential impact of ageing is largely uncertain:
Some researchers argue that the demand for medical services is determined not by the person's age, but rather by the numbers of years remaining to death [Fuchs, 1984]
- This implies that the impact of ageing on health care systems can be limited and kept under control by a reasonable GDP growth
- Expenses of health care systems are to a large extent driven by the growing costs of pharmaceuticals and diagnostic services

4. Potential impact of population ageing

Pay-as-you-go pension systems

Simple model:

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

Given a constant *contribution rate* (an average pension contribution to an average wage/salary), increasing demographic burden can be compensated by an activity increase, or a relative decline of pensions

4. Potential impact of population ageing

Pay-as-you-go pension systems

A stylised example: Italy

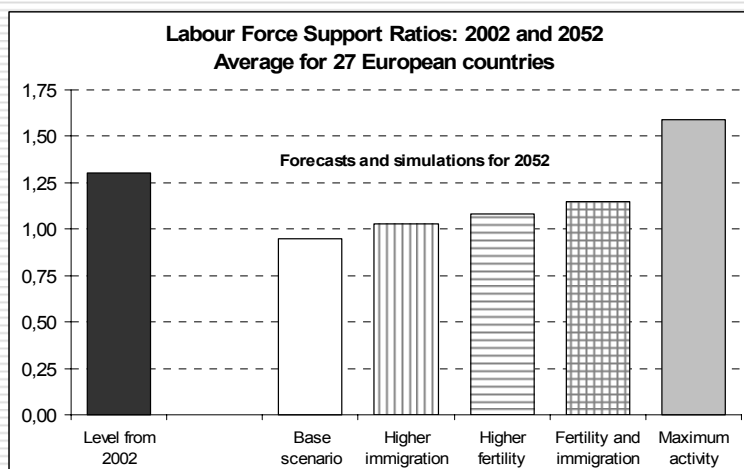
- In **2005**, each 100 persons in the age of economic activity (15-64), support 30 pensioners. If an average contribution equals, say, € 200, then the average pension would be $100 \times 200 / 30 = \mathbf{€ 667}$
- In **2050**, each 100 persons in the age of economic activity would support 70 pensioners. Other things equal, an average contribution of € 200 would imply an average pension of $100 \times 300 / 70 = \mathbf{€ 286}$

5. Evaluation of selected population policy options

- ❑ Pro-natalist policies will give effects only after several decades, due to population inertia [Lutz *et al.*, 2003]
- ❑ Any effects thereof can be achieved only by a combination of various **rational** policy instruments [Grant *et al.*, 2004]
- ❑ Migration policies (pro-immigration and anti-emigration) may be efficient in a short term to cover labour shortages in selected sectors and areas. In long term, **immigration does not stop population ageing!**
 - Contrary to 'common knowledge', migrants fairly quickly adopt fertility patterns of the host society
 - Migrants age – the idea of replacing younger generations with migrants is similar to 'financial pyramid' schemes

5. Evaluation of selected population policy options

Results of simulations for 27 European countries



Results for particular countries vary:

❑ Northern Europe, France and the Benelux have larger potential left for increasing economic activity than fertility

❑ Central-Eastern and Southern Europe should focus both on fertility and labour force participation

$$\text{LFSR} = \frac{\text{Active population 15+}}{\text{Inactive population 15+}}$$

5. Evaluation of selected population policy options

- ❑ Increase in the labour force participation is **necessary** in the coming decades, before any pro-natalist policies can ultimately give effects
- ❑ The same applies to raising the retirement age (ideally, equal for men and women) and shifting from repartition (*pay-as-you-go*) to capital-based pension schemes
- ❑ A combination of various policy measures would be optimal, although fertility increase should not take place at the expense of economic activity, especially of women
- ❑ Europe should enhance research on consequences of ageing
- ❑ After all, population ageing is an **optimistic** feature of the demographic change – people live longer and healthier lives!

6. Summary and conclusions

□ **Implications of forecasts**

- 21st century is expected to mark the end of population growth worldwide, combined with an advancement of population ageing and an increasing role of migration
- In Europe, population and labour force ageing is universal, but its tempo differs very much between the countries

□ **Policy recommendations**

- Population and labour force policies should be complex and combine measures aimed at increasing fertility (long-term), economic activity (mid-term), and migration (short-term)
- As indicated by numerous other studies, an increase in the retirement age would be also necessary in a long run
- Partial reforms and policy solutions are doomed to fail



Thank you for your attention!

Merci pour votre attention! Danke für Ihre Aufmerksamkeit!

Dziękuję za uwagę!

Results of our research can be found on:

www.cefmr.pan.pl

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