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**The impact of labour markets on economic dependency ratios
– Presentation of Dependency ratio calculator**

Introduction

There is widespread consensus that the evolution of dependency ratios is a determining element for the long-term sustainability of pension systems.

However, there is a lot of confusion of the term 'dependency ratio'. Even key documents include misleading definitions, misleading data or misleading arguments – mainly because no clear distinction has been made between purely demographic and economic dependency ratios.

A few weeks ago the famous British magazine *The Economist* published a front-page story on pensions under the headline: "70 or bust! Why the retirement age must go up".

The story is mainly based on the argument that dependency ratios will deteriorate dramatically in the coming decades. In the report this deterioration is demonstrated by figures in several charts.

But there is a fundamental difference between what is written in the text and what is shown in the charts.

Text of the report: "... the key figure is the ratio of workers to pensioners, known as the support (or dependency) ratio. This is deteriorating steadily in all rich countries (see chart)."

Definition of support ratio for the charts: "The number of people of working age compared with the number of people beyond retirement age."

The fact that the ratio of workers to pensioners differs substantially from the ratio of people of working age to the number of people beyond retirement age is simply ignored.

It is of crucial importance to clarify what we are talking about: Do we talk about economic or do we talk about purely demographic relations?

In the Austrian Chamber of Labour a so-called 'dependency ratio calculator' was developed to illustrate

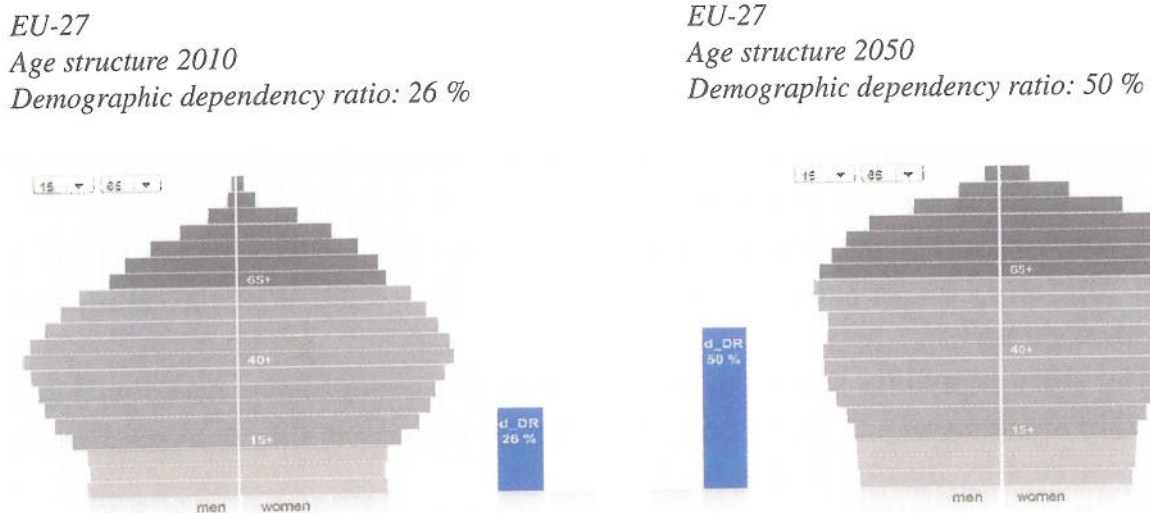
- demographic change
- demographic and economic dependency ratios
- the impact of labour markets on economic dependency ratios

1. Demographic Change

The ageing of populations is one of the key challenges we face throughout Europe. Demographic projections show a major increase of the number of elderly people. Now, there are 87 million in the age group 65+ in EU-27. For 2050, Eurostat demographic projections show 148 million in this age group.

For the same period (2010–2050), these projections show a declining number of people in the age group 15 to 64. Currently, we have about 335 million in this age bracket. In 2050 it will be 294 million.

The “dependency ratio calculator” allows to illustrate demographic change and to calculate demographic dependency ratios.



Source: AK-Wien, *Dependency Ratio Calculator* (database: Eurostat/europop 08)

The blue bars show the demographic dependency ratios as share of people aged 65+ relative to the number of people aged 15-64.¹

According to Eurostat-projections, the demographic dependency ratio in EU-27 will have nearly doubled by 2050. It will increase from the current level of 26 per cent to 50 per cent in 2050.

Attention should be paid to the fact that the European Union average does not reflect the situation in each Member State. There are widely differing current age structures and widely differing predictions of evolution in the forthcoming decades (see table below for some Member States).

¹ This is the most common definition of the (old-age) demographic dependency ratio.

Demographic Dependency Ratios (age 65+ relative to age 15-64)

	2010	2030	2050
Germany	31 %	46 %	56 %
Austria	26 %	38 %	48 %
United Kingdom	25 %	33 %	38 %
Hungary	24 %	34 %	51 %
Poland	19 %	36 %	56 %
EU-27	26 %	38 %	50 %

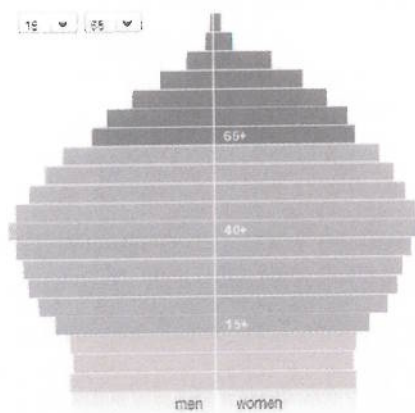
Source: Eurostat (EU-Commission, Ageing Report 2009); own calculations

At 31 per cent, this rate is currently already very high in Germany. In contrast, in Poland the current rate is only 19 per cent. The predicted evolution also varies greatly. Poland will experience a very high increase, as her Eurostat-projections show that the demographic dependency ratio will be 3 times as high in 2050 as it is at present (increase from 19 % in 2010 to 56 % in 2050). A much lower increase is predicted for UK, where the ratio rises from 25 per cent to 38 per cent.

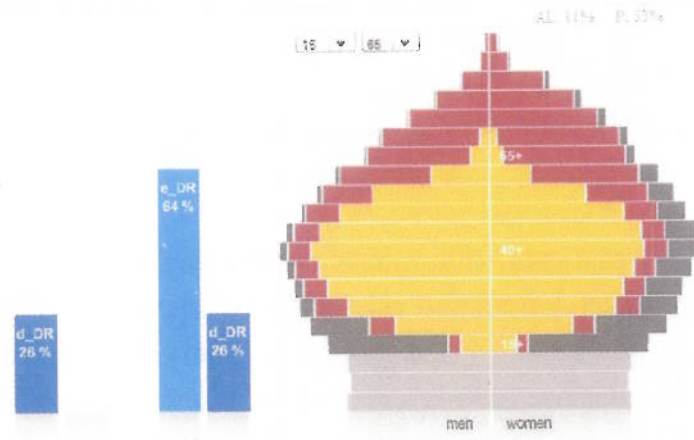
2. Economic dependency ratio

Only to look at demographic figures falls short of basic economic realities. To get a more precise picture in the “dependency ratio calculator”, the population beyond the age of 14 can be divided according to the economic status of the individuals.

EU-27
Age Structure 2010
Demographic dependency ratio: 26 %



EU-27
Age structure/Economic status 2010
Demographic dependency ratio: 26%
Economic dependency ratio: 64 %



Source: AK-Wien, Dependency Ratio Calculator (database: Eurostat - europop 08 / Labour Force Survey 2010; EU-Commission - Ageing Report 2009; own calculations)

The picture on the right contains three categories:

- | | |
|---|--|
| 1 st category (yellow fields) | People in employment |
| 2 nd category (red fields) | Pensioners ² and unemployed |
| 3 rd category (dark grey fields) | Others (in education, housewives/-men, etc.) |

The economic dependency ratio is calculated on the basis of these categories, showing 64 % in the light blue bar.³ This is miles away from the 26 per cent demographic dependency ratio.

It has to be added that this calculation of the economic dependency ratio is based on Eurostat definitions of employment, according to which even people with mini-jobs have the status “employed”. If people in mini-jobs are not included in the employment figure, the current economic dependency ratio in EU-27 is even higher than 64 per cent!

² Old-age pensions, early retirement pensions, disability/invalidity pensions.

³ The economic dependency ratio is defined here as share of the number of pensioners and unemployed relative to the number of people in employment.

a. Impact of labour markets on the economic dependency ratio

Concerning the sustainability of pension systems it is evident that it is the economic and not the demographic dependency ratio that finally matters.

The crucial questions therefore are:

- How will the economic dependency ratio evolve in the forthcoming decades?
- By which means can we influence this evolution?

Obviously, there are several factors, which determine the development of the economic dependency ratio. Of course, the changing age structure is one of these factors. However, it is not the only one. Another key factor is the employment rate. In simple words: the higher the employment rate, the smaller the economic dependency ratio.

The “dependency ratio calculator” allows calculating the impact of different labour market scenarios on the economic dependency ratio.

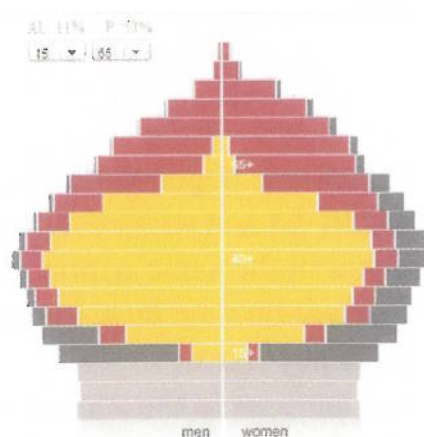
The pictures below show the current situation (left) and the situation in 2050 (right) in the “Standard-Scenario”. The “**Standard Scenario**” is based on Eurostat projections.⁴ The main labour market assumption is that employment rate rises from 64.1 % in 2010 to 69.7 % in 2050.

EU-27

Age Structure/Economic status 2010

Demographic dependency ratio: 26%

Economic dependency ratio: 64%

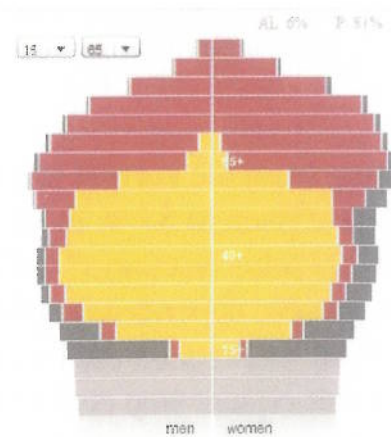


EU-27 (“Standard-Scenario”)

Age Structure/Economic status 2050

Demographic dependency ratio: 50%

Economic dependency ratio: 87%



Source: AK-Wien, Dependency Ratio Calculator (database: Eurostat - europop 08 / Labour Force Survey / EU-Commission – Ageing Report 2009; own calculations)

⁴ Ageing Report 2009. The projections are based on the assumption of “no policy change”.

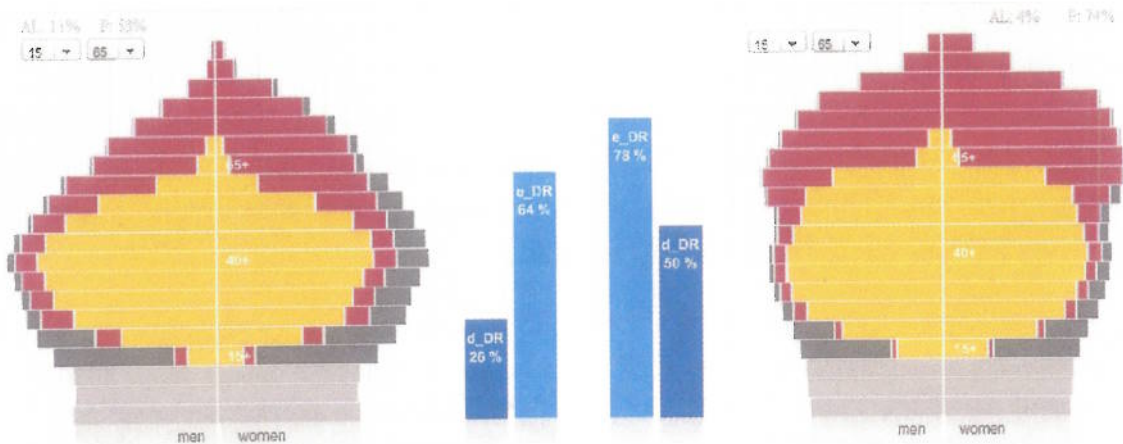
The “EU-2020plus-Scenario” is based on the EU-2020 strategy. The first assumption is that the employment goal of 75 % in the age group 20 to 64 has been reached in 2020 and further progress (at a lower level) will be made in the period 2020–2050. The assumption is that in the 30 years from 2020 to 2050, the same employment rate increase is achieved as in the 10 years between 2010 and 2020. In this scenario, the employment rate goes up from 64.1 % in 2010 to 76.1 % in 2050.⁵

EU-27

Age Structure/Economic status 2010
Demographic dependency ratio: 26%
Economic dependency ratio: 64%

EU-27 (“EU 2020plus-Scenario”)

Age Structure/Economic status 2050
Demographic dependency ratio: 50%
Economic dependency ratio: 78%



Source: AK-Wien, Dependency Ratio Calculator (database: Eurostat – europop 08 / Labour Force Survey; own calculations)

Starting from the current level of 64 %, by 2050 the economic dependency ratio will have risen to 87 % in the “Standard-Scenario” (+ 36 %) and to 78 % in the “EU-2020plus-Scenario” (+22 %). Keeping in mind that in the same period the demographic dependency ratio nearly doubles, this clearly shows the huge impact of labour markets on the evolution of economic dependency ratios.

A subsequent step could be to ask to what extent an increase in the economic dependency ratio translates into transfer payments. Productivity growth and the evolution of earnings (quality of jobs) and benefits (replacement level) are the relevant key determinants. The “dependency ratio calculator” also permits such calculations (not included in this presentation).

⁵ In 2008, an employment rate at this level was reached in the three best performing countries in the European Union (Denmark, Sweden, Netherlands)

Conclusion

It is of key importance for the sustainability of pensions to focus attention not only on pension provision or on statutory retirement age (as it is the case in many political discussions) but also on labour market issues. The “dependency ratio calculator” demonstrates the huge impact of employment levels on the evolution of economic dependency ratios. To raise employment levels and to improve employment opportunities in particular for young people, women and older men and women must be a key priority in the context of a predicted shrinking working age population. Training, health protection, reconciliation of employment and family life etc. are crucial elements of such a strategy.

In the Demography Report 2008 of the European Commission, this point is expressed very clearly: “... raising employment levels ... is arguably the most effective strategy with which countries can prepare for population ageing.” (p 144)