Europe's Looming Pension Divide

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Abstract

There is a significant variation in demographic development between different European Union (EU) member states. Using the UN's Population Prospects, we examine how different retirement ages in selected EU countries would lead to comparable relations between the working-age population and pensioners in the future. In the coming decades it seems that the French would be able to take retirement roughly four years earlier than Germans. There is, therefore, no apparent economic justification for the suggested alignment of retirement ages in accordance with the current German regulation, as is sometimes suggested. Even the EU Commission has prioritised life expectancy in its recommendations for greater sustainability in the pension system, despite the fact that it is an insufficient indicator.

Introduction

The age at which people retire has become an issue affecting the whole of Europe, especially since the 2010 debt crisis in the Eurozone. It was at least implicitly assumed that, thanks to the crisis, the Southern European countries would come under the most pressure to take action in this policy area. From the German perspective, the reforms made to their own pension system in past decade(s) should be held up as an example for the rest of the EU to follow.

But, in coming up with this idea, the demographic structures of the different member states were either ignored or unjustly overlooked. In addition to the general and consistent increase in life expectancy (of current and future pensioners), birth rates also play a primary role in forming the population pyramid (nowadays often onion-shaped). Thanks to this, it is well known that Germany has one of the world's most unfavourable demographic developments. To what extent (or even in which direction) the retirement age needs to move in different EU countries in order to preserve their (contribution-based) pension systems is a somewhat more difficult question to answer quantitatively.

To examine this question, we draw on data from the United Nations (UN). The UN Population Division prepares forecasts of population structures far into the future (the 2013 edition provides data

from 2012 to 2100). [1] We shall examine the most important Eurozone countries in this issue: on the one hand, Germany and France as the two largest economies and, on the other hand, the "GIIPS" countries hardest hit by the Eurozone crisis, Greece, Ireland, Italy, Spain and Portugal. With the exception of Ireland, these countries are sometimes simply known as the 'Southern Countries'. On the basis of these figures, a simplified assertion can be made regarding the sustainability of their pension systems. It is of course possible to leave the retirement age constant and, from that, we can work out what the pensioners' quotient might be (i.e. how many pensioners need to be supported per contributor). To assess the political impact, it might be more sensible, however, to treat the retirement age as an endogenous variable. We shall envisage different scenarios using a constant and equal pensioners' quotient for all countries studied. The appropriate retirement age in each country will then be a product of the age distribution of the population (which will change over time), i.e. the demographic structure.

Clearly, in a contribution-based pension system, the pension benefits (relative to income) and the level of contributions can be adjusted to ensure adequate financing, not only the retirement age. These aspects cannot, however, influence the fundamental effect of demographic structure on the sustainability of the pension system. We operate, therefore, on the simplified assumption that an unchanging pension rate is paid in relation to income. This assumption seems appropriate for our succinct, focussed investigation because it addresses the politically supported principle that pension benefits should not decrease indefinitely. In the long term, it is another sustainability condition.

We shall also disregard differences and long-term changes in employment rates. Firstly, theoretical consideration suggests that a long-term increase (decrease) of employment rates will only lead to medium-term improvement (deterioration) of the support ratio because, in the long-term, each additional contributor will later become an additional pensioner with similar demands, so long as the additional contributor is nationally insured. [2] An ongoing demographic trend can therefore not be offset in the long-term by an adjustment of employment rate levels. Secondly, before the crisis hit, employment rates adjusted for the 'part-time effect' were practically identical in five of the countries examined. Only Italy lagged behind while Portugal found itself at top of the list. [3]

1
United Nations, Department of Economic and Social Affairs, Population Division: *World Population Prospects: The 2012 Revision* (appeared in June 2013).

2
Clearly other social transfers also play a role like, for example, basic subsistence for the elderly which is easier to provide when employment rates are higher. We are consciously limiting ourselves to considering a standardised contribution-based pension system and we are not able to take every tax and transfer system operating in every country into account.

3
In 2nd Quarter 2008: Germany 59.6%, France 60.2%, Greece 60.5%, Ireland 61.5%, Spain 60.8%; clearly on top was

Our calculations show that, in these conditions, the state retirement age in all EU countries that we have studied will rise – albeit at very different rates. Additionally, in order for Germany to preserve a sustainable pension system in the coming decades, the state retirement age must be increased considerably compared to other Eurozone countries, especially France (but not including Italy). The state retirement age shall continue to increase, broadly speaking, up until 2040, after which it will either decrease or remain constant. The need for countries in the South and West to act, posited by numerous international institutions, is therefore at least exaggerated as it cannot be assessed only in comparison with the German retirement age. The fact remains that any reform to the contribution-based system need not necessarily start with the retirement age; in principal, all parameters come into play.

Operationalisation and Scenarios

We shall define the pensioners' quotient r as the ratio of pensioners R to (potential) contributors in the working-age population A so that r = R/W. A value of r = 0.5 means that one pensioner is supported by two people of working age and that the share of pensioners as a proportion of the entire population is R/(R+W) = 1/(1+(1/r)). We shall assume ideal conditions, disregarding those of working age who do not work (i.e. the unemployed and 'hidden reserves') and pensioners who are still working. We shall also assume that all those over the age of 15 are active. Furthermore, we shall ignore alternatives such as private pension provision and will not make a distinction between men and women. Waves of migration are more or less automatically taken into account as they are reflected in the UN predictions.

These assumptions are obviously unrealistic to a certain extent but they do not undermine our argument. It would have been possible, in principle, to take average values for unemployment and employment rates but, in order to focus on the demographic aspects, it is useful to take differing labour market structures out of the equation. Generally, in long-term economic policy analysis and recommendations in Europe, it is not assumed that (if the recommendations are followed) the long-term performance between countries will be systemically distinguishable. Demography is, on the other hand, not considered unalterable, but only slowly modifiable and to a very limited extent.

Against this background, we are looking, for a given age distribution of the population (as predicted by the UN) at a particular period in time, at the age threshold which splits the entire population R+W, i.e. pensioners and working age contributors, such that a given value of the support ratio r would be reached. Statistically speaking, we are therefore looking for the 1/(1+(1/r)) quantile of the age

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Portugal with 65.4%, Italy at the bottom with 55.0%. (Source: Our own calculations using Eurostat Data (Labour Force Survey) population between 15-64 years old.)

distribution. We shall then compare this retirement age by country and over time.

Our scenarios will examine 4 values for these pre-defined pensioners' quotients where r is between 0.3 and 0.6. Outside this spectrum, rather improbable retirement age results are produced. That is not to say that values outside of this spectrum are unimaginable, just that they are improbable (also from a political standpoint). In actual fact, the current pensioners' quotient in Germany is already at almost 0.31.[4]

These pensioners' quotients, with an endogenous retirement age, could be seen as an indicator of 'generosity' in the pension system. A society with a high r value 'affords' many pensioners and would thus have a comparably low retirement age. A low r creates a pension system with a higher retirement age despite an identical demographic structure.

The aforementioned UN population predictions relate to five year increments until the year 2050. They are also not birth-year specific and lump five year cohorts together including, for example, lumping people 30-34 together. The age distribution for any particular point in time is thus, to some extent, represented on a relatively crude histogram. Given the obvious uncertainties associated with predictions, a more precise breakdown might not be ultimately practicable.

In our calculations of the resulting retirement ages, we shall simply assume that there is uniform distribution of the aggregated cohorts. Expressed otherwise, we are using, in the absence of further information, the step function of the histogram as an adequate approximation of the density function.

Results

The most pronounced result was the influence of different demographic structures on the relation between Germany and Ireland: A target support ratio of r = 0.5 resulted in an almost 8 year gap between the respective retirement ages in each country by 2030 (almost 65 to 57), though the gap narrows to 5 years by 2050.

Greece and France are the other countries whose necessary retirement age remains below that of Germany, irrespective of the scenario. Of the other countries examined in this study, Italy would be the first to overtake Germany in every scenario (thanks to a very similar current situation). How Spain and Portugal fare in relation to Germany in the same time period (up to 2050) depends on the target ratio.

What is interesting about the implied retirement age in Germany is the noticeable flattening of the

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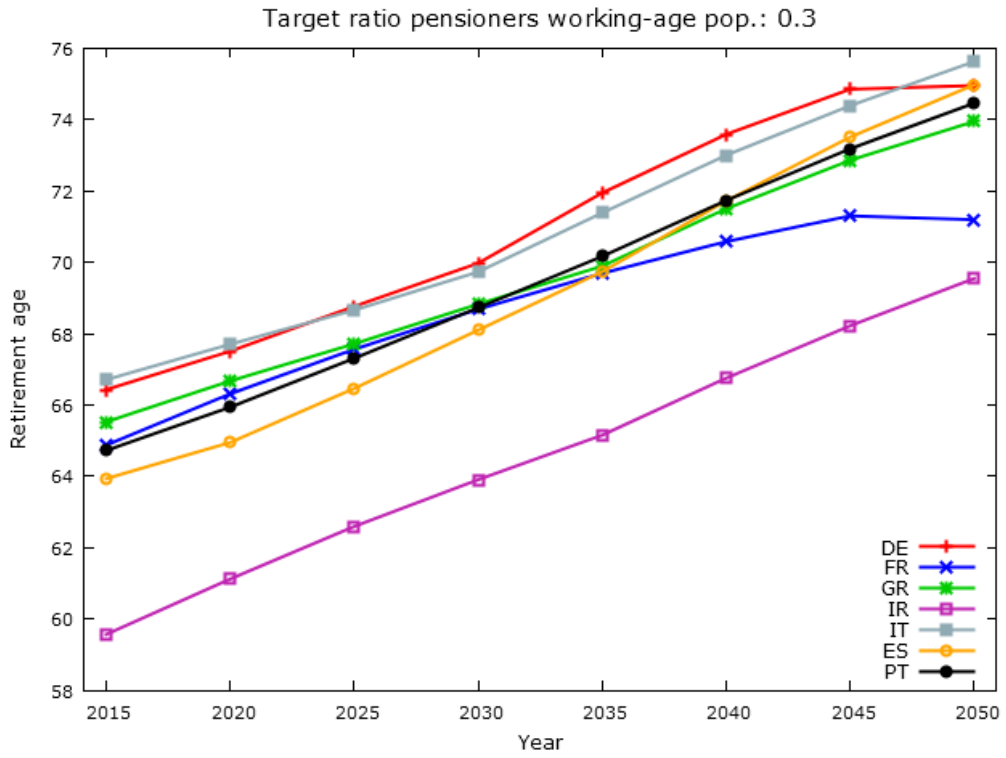
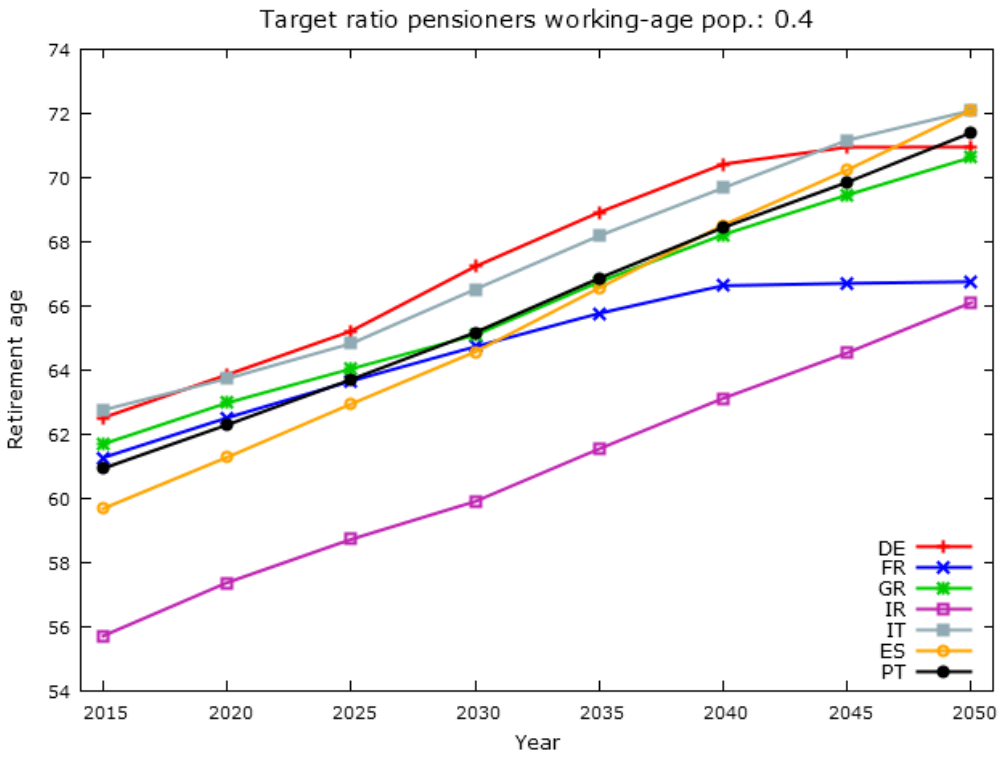
According to OECD Labour Force Statistics, in 2012 there were roughly 53.9 Million 15- 64 year old inhabitants in Germany of which roughly 16.7 Million were over 65.

curve over time which occurs between 2035 and 2045 depending on the scenario. After that, due to the particular age distribution in Germany, a further retirement age increase would no longer be necessary, albeit at significantly different levels depending on the scenario. The case of r = 0.5 should be highlighted because, in this scenario, the maximum state retirement age of almost 67 corresponds roughly with the development of the current legal situation in Germany. We observe a similar flattening only in France, whose demographic situation is well-known to be better than Germany's. This implies that the possible state retirement age might be up to more than 4 years lower than that of Germany.



(Source for all diagrams: our own calculations using UN population projections)


Target ratio pensioners working-age pop.: 0.4
Retirement age
Year
74
72
70
68
66
64
62
60
58
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2015
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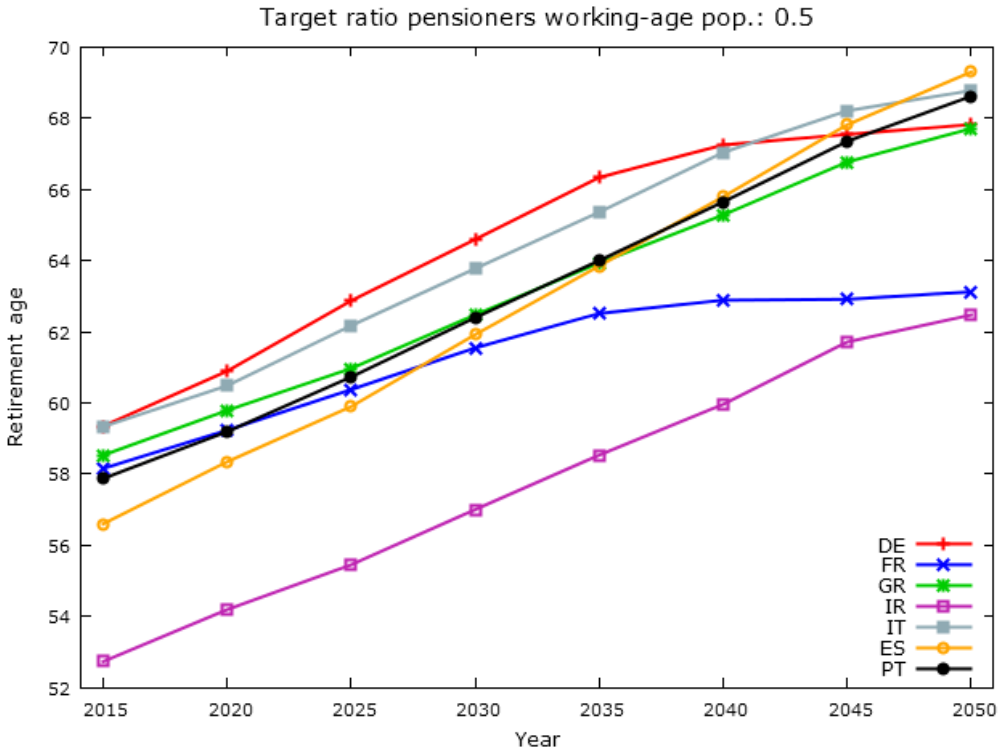
Target ratio pensioners working-age pop.: 0.5
Retirement age
Year
70
68
66
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2015
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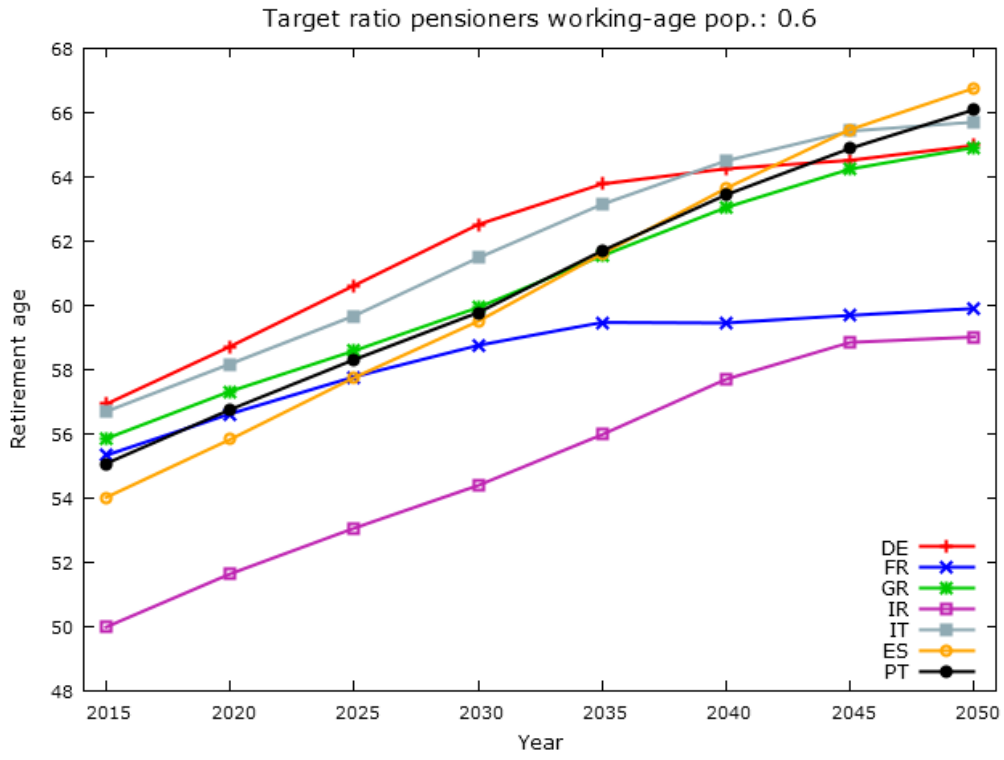
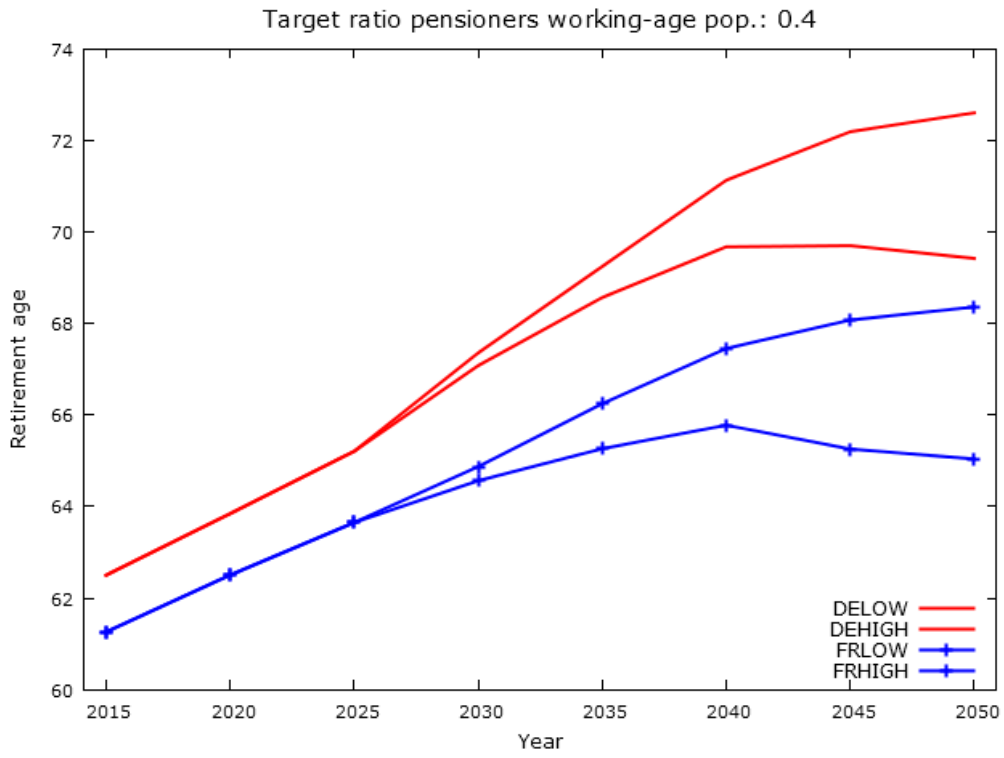


Uncertainty in Predictions

The UN population predictions, as with all predictions, will always remain subject to uncertainties. The UN provides, in addition to the most likely course of development (which we have used consistently up until this point), a ‘high’ and ‘low’ alternative prediction for population development. (Quantitative information regarding the likelihood of these predictions is not available.) In order to illustrate the resulting changes, we have repeated our calculations for Germany and France using these two alternative forecasts in which we limited ourselves, for the sake of brevity, to a target support ratio of r = 0.4.



It is not surprising that, for predictions further into the future, i.e. from about 2035, we see a large gap between the high and low forecasts. The difference, however, between the implied retirement ages in France and Germany is so great that even a more favourable population development in Germany, combined with a less favourable development in France would still produce a noticeably higher retirement age in Germany.

Consideration of the Pension Reform Objectives given the Demographic Background

That sustainability is the ultimate goal of pension policy is beyond doubt. As already discussed, many factors, in addition to retirement age, play a role in this: of particular significance is the amount paid to pensioners, which is generally linked to final income (the ”replacement rate”). A lower retirement age can theoretically be achieved with lower pension payments and, if necessary, proportionally higher pension contributions. In practice, however, complete substitutability is restricted both politically and in terms of welfare economics, which is revealed in the tense debate about the so-called pension income gap. In our approach, we simply assume that the prevailing (relative) retirement ages and contributions will not change over the course of time and, in so far as sustainability is concerned, it is contingent only on the age threshold. This assumption allows us to focus on the demographic differences between the countries, but it also seems justified in the long-term to regard life expectancy as the only developing variable. Other variables such as contributions (in %) and the relationship between income and pensions should neither grow nor shrink arbitrarily.

For example, although the German government introduced the so-called ‘sustainability factor’ as part of the pension adjustment formula of 2004, it seems likely to us that this reform will eventually be repealed if it leads to a too-low pension-salary ratio.

There is already a retirement age gap of a few years between different EU countries. This is true both for the legal and actual retirement age. The EU institutions have, in the meantime, come to an agreement that the age of retirement should be aligned with the demographic landscape in different countries.

Due to the subsidiarity principle, and the task-sharing it implies, pension policy is not a traditional topic for the EU. However, it has been brought into focus thanks to the Eurozone crisis. The situation of Greek pensioners and the French pension reform of summer 2012 were the subject of public debate in Germany. (Greece’s public creditors, the so-called Troika, somewhat blatantly made increasing the retirement age to 67 a condition of further credit in 2012.[5])

A ream of official documentation from the EU Commission refers to the need to reform pensions and consistently calls for pensions to be aligned with life expectancy. In this context, it is important to mention the Euro-Plus Pact of March 2011 which has committed the 17 Eurozone countries, and 6 further countries, to specific economic and socio-political reforms. This pact recommends adjusting the pension system (and labour markets) in accordance with the relevant demographic landscapes, “for example by aligning the effective retirement age with life expectancy or by increasing participation rates.”[6] The following year, the Commission repeated its demand: “Linking the pensionable age to life expectancy could then help stabilise the balance between working years and years in retirement. This is of key importance for future sustainability.”[7]

The EU institutions have therefore indicated that life expectancy is a useful indicator in determining the sustainability of the pension system. We would dispute this however, because life expectancies in Europe actually tend to be quite similar to one another. According to the UN Population Division, life expectancy for men in both France and Germany is almost the same and stands at 78. Women

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Source: Agency Reports (Reuters, dpa) on 21/9/2012, for example in the ‘Handelsblatt’ newspaper.

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Source: http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/120296.pdf (p. 18). Something quite alarming emerged in relation to this text, an obvious mistake is made in the translation of the English contract text into German. The term "increasing participation rates" was translated as "Erhöhung der Beitragssätze" (meaning an increase of contribution rates, instead of “Erhöhung der Erwerbsquote”), which is the exact opposite of what the German government intended. For the economic role of “participation rates” see our discussion on the role of employment rates above.

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Source: European Commission, “An Agenda for Adequate, Safe and Sustainable Pensions” (WHITE PAPER), 16 February 2012, Brussels, Page 10.

live 2 years longer in France than in Germany, 85 and 83 respectively, and UN predictions forecast that this difference will remain constant as life expectancy increases in both countries. Should France therefore raise its retirement age more quickly than Germany, or perhaps fix it at a higher age? This move would totally contradict our findings. The EU Commission gives the misleading impression that France is faced with a far more urgent requirement to reform than Germany.

By focusing on life expectancy, the EU Commission has selected only one of many possible demographic parameters. If one looks at the divergent development of younger cohorts, as this study has done, one comes to partially opposite conclusions. Life expectancy alone is relatively useless as a measure of sustainability in the pension system because it does not reveal anything about the amount of necessary and (potentially) available cash flows. Taking the example of France: the French will indeed be slightly older than the Germans, but they have more children, which is far more important for the sustainability of the pension system.

Chancellor Angela Merkel's statements are unfortunately also quite misleading, for example in May 2011 she said: "It is also important that people in countries like Greece, Spain and Portugal are not able to retire earlier than in Germany - that everyone exerts themselves more or less equally. That is important."[8] Our findings, however, show that Greece and Germany are not comparable in this respect at all, while a comparison with Spain and Portugal could only be made after the year 2040. Until then, older people in Germany would need to take their retirement much later because the demographic data for Germany is much worse than that of most other EU countries.

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Quoted from a dpa press agency report on 'Spiegel-online', 18/5/2011 (our translation of the German original).