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KING

Knowledge for INtegration Governance

Migrations into the EU:
Long Term Demographic Scenarios

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KING Project – Demography Unit
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KING - Knowledge for INtegration Governance

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The KING project's objective is to elaborate a report on the **state of play** of migrant integration in Europe through an interdisciplinary approach and to provide decision- and policy-makers with **evidence-based recommendations** on the design of migrant integration-related policies and on the way they should be articulated between different policy-making levels of governance.

Migrant integration is a truly multi-faceted process. The contribution of the insights offered by different disciplines is thus essential in order better to grasp the various aspects of the presence of migrants in European societies. This is why **multidisciplinarity** is at the core of the KING research project, whose Advisory Board comprises experts of seven different disciplines:
EU Policy – Yves Pascouau
Political Science - Alberto Martinelli
Public Administration – Walter Kindermann
Social Science – Rinus Penninx
Applied Social Studies – Jenny Phillimore
Economics – Martin Kahanec & Alessandra Venturini
Demography – Gian Carlo Blangiardo

The project consists in the conduct of preliminary **desk research** to be followed by an empirical in-depth analysis of specific key topics identified within the desk research. To carry out these two tasks, each Advisory Board member chose and coordinated a **team** of three to four researchers, who have been assigned a range of topics to cover. In the present Overview Paper Gian Carlo Blangiardo summarises and comments the results produced by the research carried out by the Demography unit he directed.

The project is coordinated by the **ISMU Foundation**, based in Milan (Italy).

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Migrations into the EU: Long Term Demographic Scenarios

1. Will migrations be able to stop the demographic decline of EU population?

The population usually resident into EU 28, as a whole, has been estimated in 507 million on 1st January 2014 (Eurostat, October 2014). However, assuming that the annual number of births remain constant - at the average level recorded from 2002 to 2011 (roughly within the last two population censuses in state members) - and that the current mortality probability by age and gender will be unchanged, the corresponding EU stationary population should be only 416 million, 18% less than the current figure[1] . This means that the 5.2 million annual births that occurred in the decade 2002-2011 will be unable to maintain, at the present life expectancy levels, the current EU number of residents.

Only if we take into account also the net contribution of 1.3 million of people from extra EU (usually related to international migrations) that have been added annually (on average) during such decade to EU population, we can rise the corresponding stationary population to 486 million: i.e. only 4% less than the current residents.

Actually migrations could be considered as a fundamental support to contain the EU population fall, but it should be remind that even if a high level of net inflows is maintained – i.e. similar to that at the beginning of the new century - migrations will be not anyway able of stopping the trend towards a reduction of the total of residents living in the whole EU 28. In particular while for EU 15 such net migrations will give globally full compensation to birth frequencies that are inadequate to ensure the stability of the total residents, for the new EU members of enlargements (EU 13) the reductive effects of insufficient births will be aggravated by an overall negative net migration.

More in detail levels of births and net migrations similar to the one recorded in the first decade of this century will direct towards a populations with more residents than nowadays only in a restricted set of EU members: Ireland, Spain, Cyprus, Luxembourg and, albeit to a lesser extent, Belgium, Sweden and The United Kingdom. On the other side, low births jointed to persistent negative net migrations will suggest very substantial reductions of the total of residents (more that 50% less) in Lithuania, Romania, Latvia and Bulgaria. Further considerable reductions (over 20%) would also be contemplated for Slovakia, Poland, Hungary, Estonia and, the sole exception among EU 15, for Germany.

Anyway if we consider the change in the number of residents without taking into account the geographical mobility, it is easy to realize that the assumption of constant births, with a frequency similar to the recent

[1] A stationary population holds two issues: a) “zero grow”, i.e. inflows (births and immigrations) are fully balanced by outflows (deaths and emigrations); b) age and sex distribution not subject to changing. The stationariness is a final condition that can be achieved when, for a long number of years, both the frequency of births and the death probabilities are constant (and also constant net migrations by sex and age could be considered). The model of stationariness could give a benchmark scenario to assess what will be the final effects of the current demographic conditions (as to births, deaths and net migrations) if they will be kept constant over time.

past, leads to the demographic decline virtually all members of the EU 28, with the sole exception of Ireland.

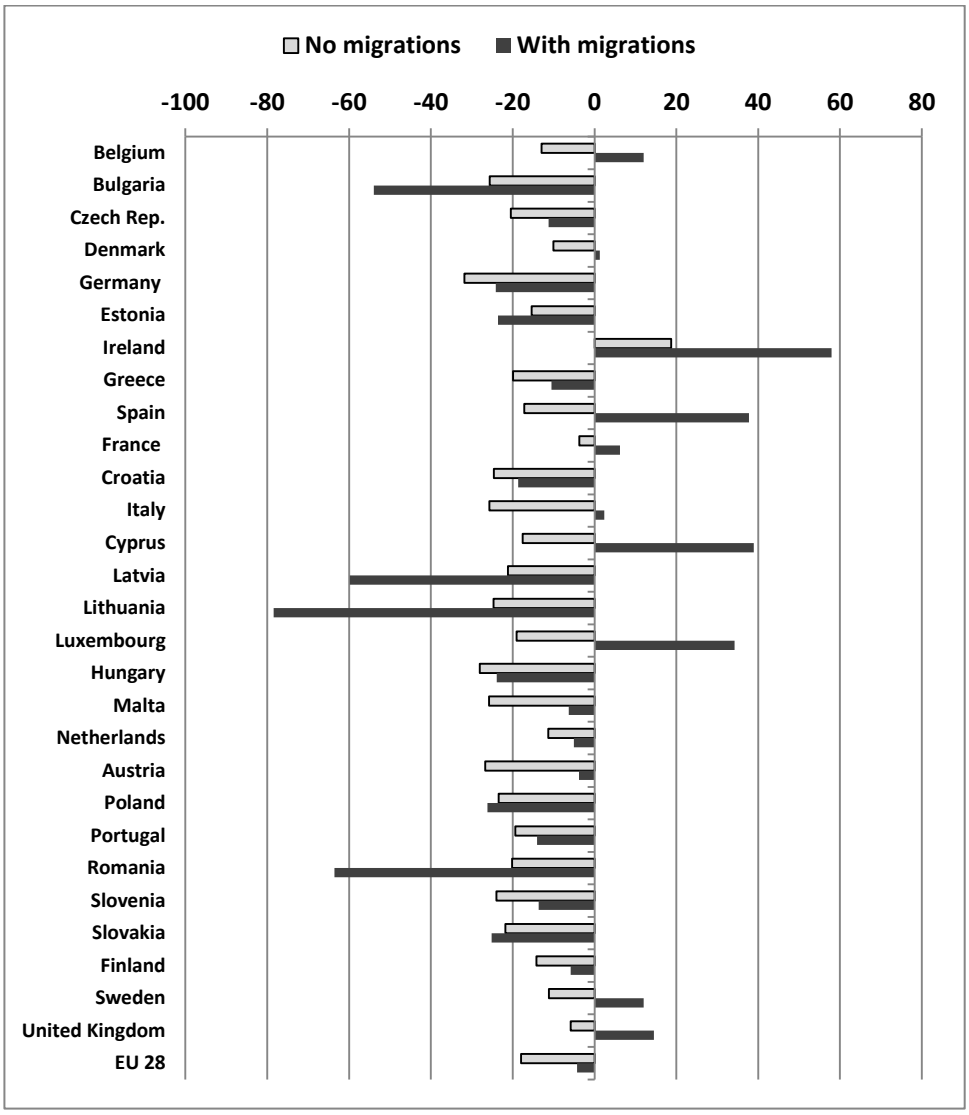
Table 1 – Actual EU population and its expected changes towards the model of stationarity according to recent natural and migratory demographic dynamics

	EU 28	***EU 15***	***EU 13***
UR- Usually residents on 1st January 2014 (millions)	507	402	105
Annual births on average 2002-2011 (millions)	5,2	4,1	1,1
SP1- Corresponding stationary population [a] (millions)	416	335	81
Annual Additional/lost population 2002-2011 (millions)	1,3	1,5	-0,2
SP2- Corresponding stationary population [b] (millions)	486	417	69
Change SP1 vs. UR	-18%	-17%	-23%
Change SP2 v. UR	-4%	+4%	-34%

(a) According to a constant annual total of births (average 2002-2011) and no change of 2012 mortality probability by age and gender.
(b) According to: a constant annual total of births (average 2002-2011 level), no change of 2012 mortality rates by age and gender and a constant annual addition (or loss) of population by age and gender equivalent to the average 2002-2011.

Source: Own elaboration on Eurostat data

Figure 1 – EU 28 members: expected % change in the total residents towards the model of stationariness according to recent natural and migratory demographic dynamics



Source: Own elaboration on Eurostat data

2. What about the shortage of the population in active age?

The regressive scenario for the whole EU 28 residents is still valid, with even greater severity, when considering the active age population dynamics. Indeed according to the stationary model without migrations, reproducing the current levels of births and mortality rates, the EU 28 population aged 20-64 will fall from 307 million (as recorded on 1st January 2013) to 178 million (-42%) when stationariness is reached. Actually only including into the model a constant support through migrations, equivalent to the annual additional net contribution recorded in 2002-2011, the active age population decline will be less severe: from the current 307 million to the expected 224 million at reaching of the stationariness (-27%).

Again the presence of migrations acts differently in EU 15 countries compared to EU 13. While migratory flows slow down the fall of the working age population in EU 15, they often increase the fall in the new members of EU post enlargements. Actually for some of the latter the lack of migrations would even result in an increase of active age population. This is the case of Lithuania, Romania and Latvia, where just nowadays the active age population stock is affected by past losses due to out migrations.

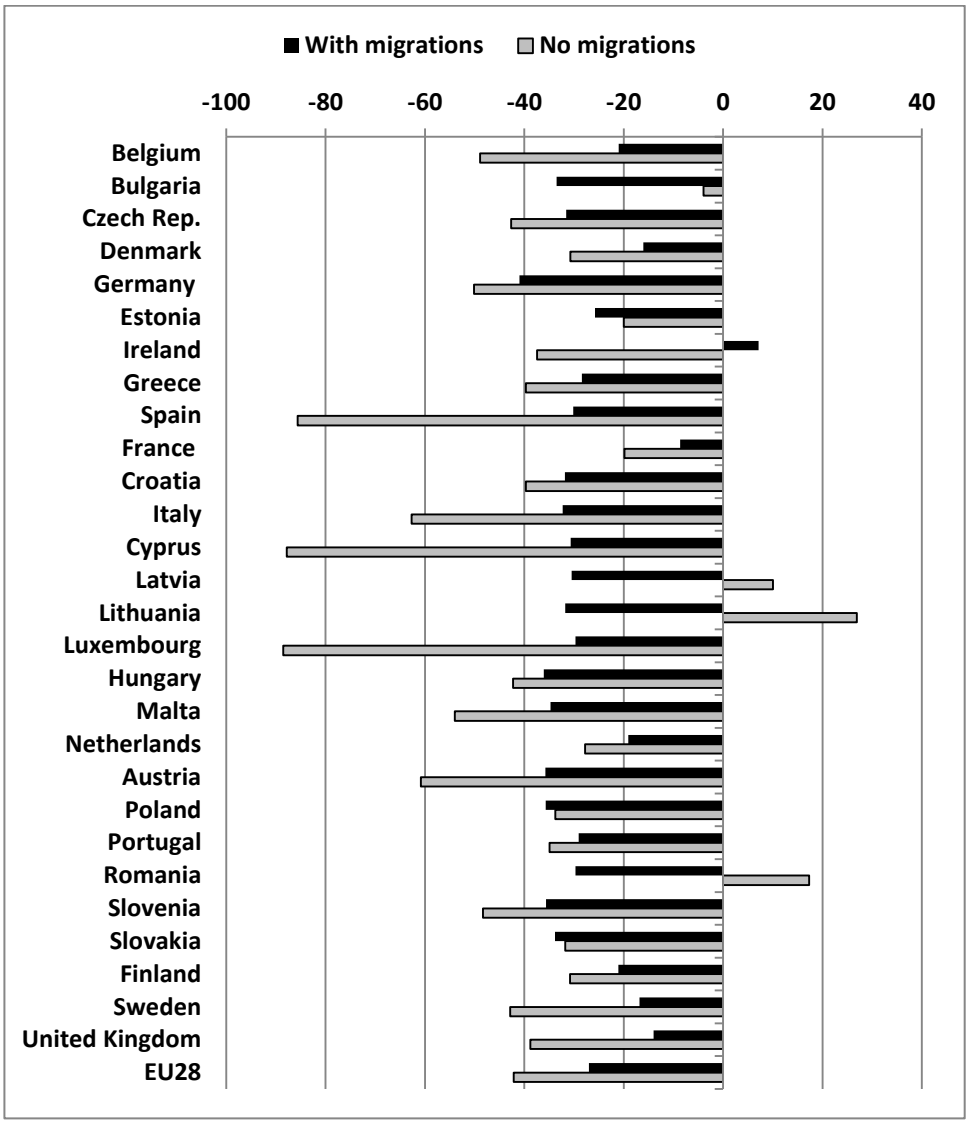
Table 2 – Actual EU population aged 20-64 and its expected changes towards the model of stationarity according to recent natural and migratory demographic dynamics

	EU 28	***EU 15***	***EU 13***
R- Residents on 1st January 2013 (millions)	307	240	67
SP1- Stationary population without migrations[a] (millions)	178	126	52
SP2- Stationary population with migrations[b] (millions)	224	179	45
Change SP1 vs. R	-42%	-48%	-22%
Change SP2 v. R	-27%	-25%	-33%

(a) According to a constant annual total of births (average 2002-2011) and no change of 2012 mortality probability by age and gender.
(b) According to: a constant annual total of births (average 2002-2011 level), no change of 2012 mortality rates by age and gender and a constant annual addition (or loss) of population by age and gender equivalent to the average 2002-2011.

Source: Own elaboration on Eurostat data

Figure 2 – EU 28 members: expected % change in the 20-64 aged residents towards the model of stationariness according to recent natural and migratory demographic dynamics



Source: Own elaboration on Eurostat data

3. Could the migration flows offset the birth rate fall, slow the population ageing and reduce the expected rise of age related expenditure in the future scenarios?

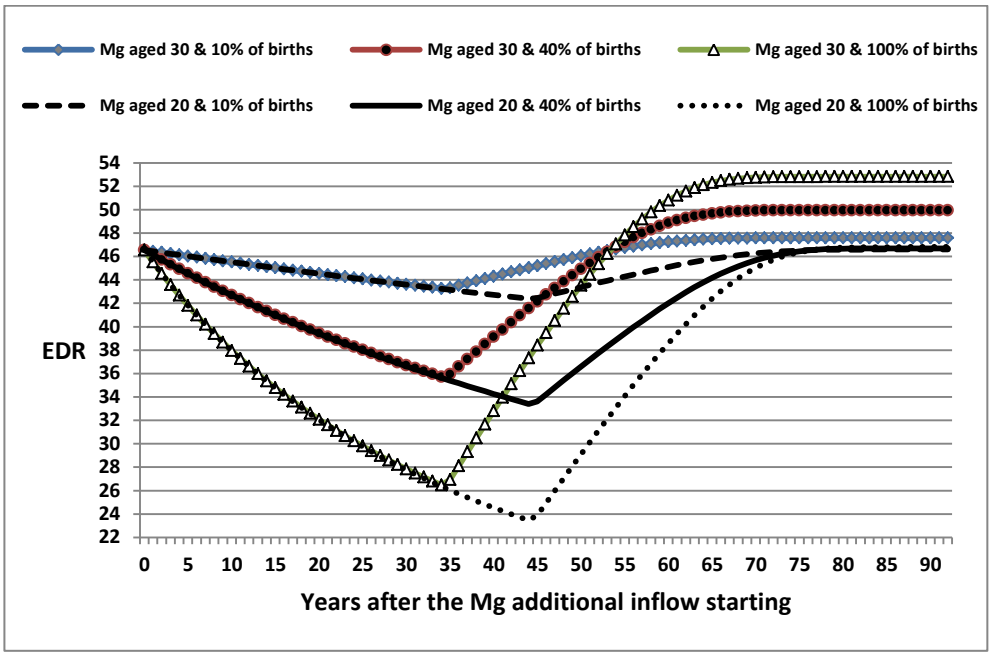
Immigrations are frequently view as a potential manageable solutions to the consequences of low fertility and ageing. Statements like "immigrants fill the empty cradles", "save our pensions", "straighten the accounts of welfare", emphasizing the temporary effects of positive net migrations are likely to favor the beliefs that the contribution of external "young" population flows would be self-sufficient and makes less urgent any action to support fertility in order to maintain (often to recover) the balance in the age structure of the population. But to what extent is it realistic giving credit to the supporters of a sort of compensation between falling birth rates, and external contribution of migrants? The issue is not a new one. By the late '80s there were scholars who, referring to the same matter in France, pointed out that "*(...) a single one year old child carries out a rejuvenation equivalent to that of 11 immigrants of 31 years, if the mean age of the total population is 34. In addition, he will provide its contribution for 33 years, while the 11 immigrants only for 3. The latter will pass beyond the average age at the end of three years and thereafter they will age the population while for the child, whose rejuvenation effect is more intense and longer lasting, this will not occur until after 33 years.* ".

An objective assessment as regard the hypothetical contribution of immigrations in slowing ageing can be acquired by checking if and how much they foster a lower growth in the elderly dependency rate (EDR) - people over 65 for every 100 persons of working age- i.e. the parameter connected to the share of age-related spending on gross domestic product (GDP) of a country. In fact, while a new-born provides a potential cover for the entire range of working age (conventionally 20-64 years), every additional immigrant aged over the threshold of beginning of activity will offer a much smaller potential contribution to labor force and, if definitely established in the host country, an identical burden as regard quiescence.

A simulation exercise through the model of stationariness can help to better understand the role of immigration in the scenarios of population aging in the countries of EU 28 considering a population with a given profile of probability of death[2], that remain constant over time, and assuming that, from a certain year onwards, it has constant inflows of migrants all aged x and oriented to stay definitively into the host population. The figure 3 shows that if the age x of the additional net migrants is higher than the threshold of entry into labor market (herewith assumed at 20) the long term stationariness scenario is characterized by an increase of the elderly dependency rate (EDR). Such increase will be more intense, the more the net contribution of migrations will be higher, compared to the annual frequency of constant births, and anyhow it will be achieved after a period of fall of the EDR, due to the initial migrant inputs into the working age population without corresponding passages into the elderly ages. Once that changing due to migrations will be "in place" the example of Figure 3 highlights the raising of the EDR from the starting value of at 46.6, before the beginning of additional flows, to a new value of stationariness at 46.6, 49.9 or 52.8 considering annual flow of migrants aged thirty that are, respectively, 10%, 40%, or 100% of the corresponding amount of annual births.

[2] In this simulation exercise were adopted the probability of death from the life table for the Italian female population, year 2013.

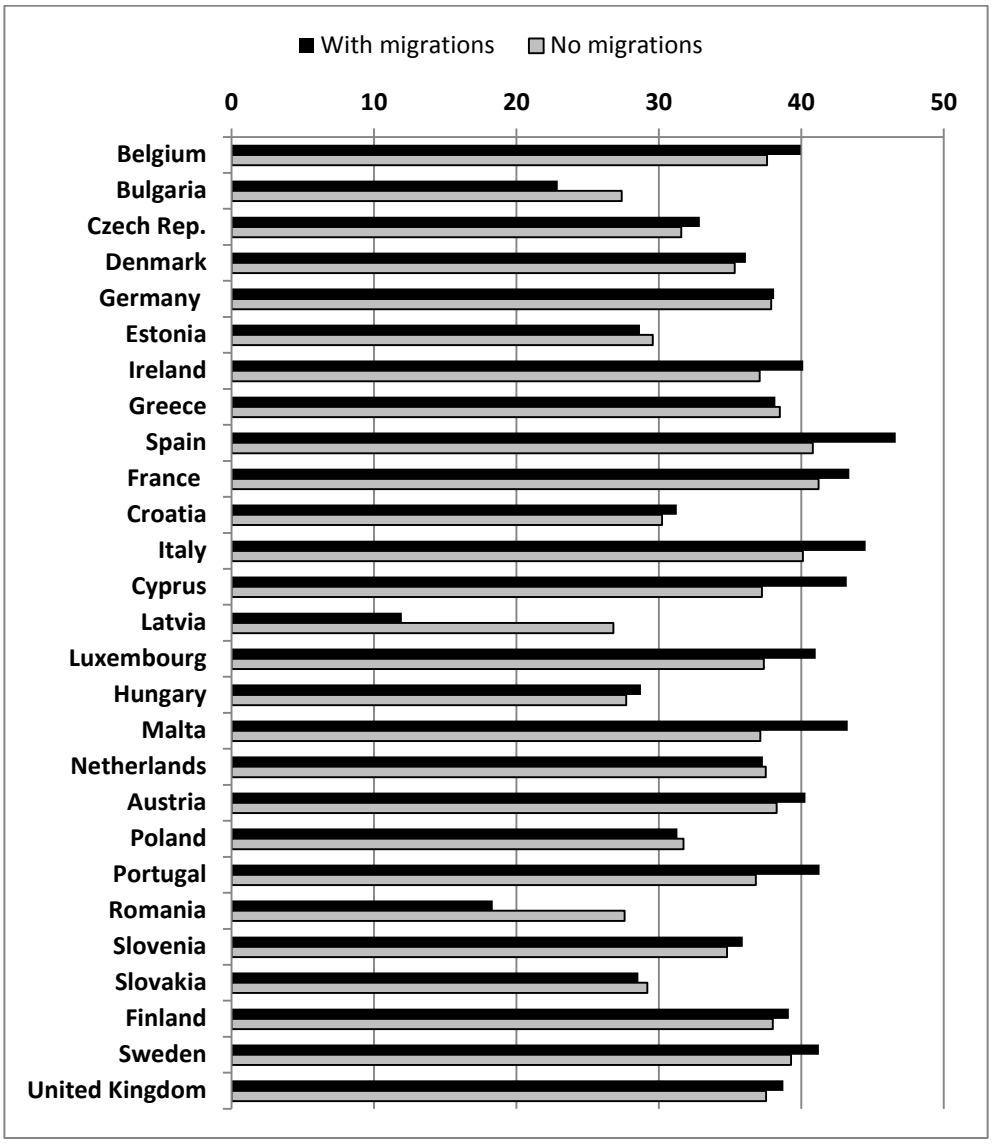
Figure 3 – Elderly dependency Rate (EDR) trend in a long term scenario starting from the addition of constant migration inflows to a stationary population



Source: Own elaboration on Istat data

For EU 28 as a whole the EDR related to stationariness, according to 2002-2011 births and mortality rates, is 36.1 but it rises to 38.3 if the additional 2002-2011 migrant contributions are considered. In particular, for EU 15 migrations grow the EDR value from 37.9 to 40.1 while for EU 13 they decrease the corresponding EDR from 29.6 to 26.3. More in detail it can be shown that positive net migration flows, similar to that occurring in the first decade of the century, will increase the elderly dependency rate in 19 EU countries, adding more than 5 points to EDR in Spain, Cyprus and Malta and nearly 4 in Portugal and Italy. On the other side, if the past negative net migration flows will last, EDR related to stationariness will be reduced mainly in Lithuania and Latvia and to lesser extent in Romania and Bulgaria.

Figure 4 – Elderly dependency Rate (over 65 per 100 aged 20-64) in EU members after achieving stationariness according to the presence of migrations (*)



(*) Lithuania not available

Source: Own elaboration on Eurostat data

4. Conclusive remarks

The long terms scenarios that can be drawn through the model of stationary population highlight some issues that should be considered both in the debate on the demographic and socio-economic effects of migrations within EU, and in the setting up of the political actions aimed to a management of the migration of the next decades based on realism and awareness. The outcomes that the model makes available can be read as warnings that can't be ignored when the horizon goes over a limited vision day by day.

Actually we have realized not only that the current level of births will not able to ensure the demographic dimension to EU as a whole and to almost all its members, but also that either the continuation of positive net migrations very substantial, as in the first decade of the century, will do it. No doubt that without a strong rise of fertility EU will be voted to a numerical decline of residents.

The same conclusion is highlighted when considering the change in population of working age (20-64 years). Again the presence of migrations could slow the shrink of active age residents but will not be able to stop it. A possible decrease of 42% for the EU as a whole could be reduced to 27% as a result of the constant presence of migratory flows similar to those of the decade from 2002 to 2011, but the final scenario would be anyway about 80 million potential workers less.

A further warning that comes from the above analysis refers to the action of contrast that positive net migrations would have towards the aging of population and the correspondent social spending on welfare. It can be shown that the long term stationariness scenario is usually characterized by an increase of the elderly dependency rate (over 65 year old per 100 aged 20-64). Such final increase will be more intense the more the net contribution of migrations will be higher but it will be achieved after a temporary fall of the elderly dependency rate, which could give the false illusion that migration should be the antidote to ageing produced by the low birth rates.