Looking 50 years ahead:
a *natural* projection of the populations of the Balkan countries to 2061*

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Abstract
Despite of the uncertainty characterizing the current population structure and dynamic in some Balkan countries, population projections remains a useful tool for the analysis of the impact of alternative demographic developments and related planning and/or policy interventions. Starting from the data available in the EUROSTAT database, population projections are developed for the Balkan countries covering the time horizon until 2061 and taking into account a possible future integration in the European Union. Comparative analyses are made with countries of the region already belonging to the European Union.

Résumé
En dépit de l'incertitude caractérisant la structure et dynamique de la population actuelle dans certains pays des Balkans, les projections de population reste un outil utile pour l'analyse de l'impact d'évolutions démographiques alternatives et de la conséquente planification et / ou interventions politiques. À partir des données disponibles dans la base de données d'Eurostat, les projections démographiques sont élaborées pour les pays des Balkans couvrant l'horizon jusqu'à 2061 et en tenant compte d'une éventuelle intégration future dans l'Union européenne. Des analyses comparatives sont faites avec les pays de la région appartenant déjà à l'Union européenne.

1. Introduction

From the demographic point of view, the Balkans can rightly be considered a fascinating region of the world. Some of the countries belonging to this area have gone through very peculiar conditions, which make of them a kind of virtual demographic laboratory; some others have lived events which have had repercussions on their (still unknown) current demographic structure; others, again, have quickly recovered from a problematic past, and are now in a new socio-economic and political era. A number of studies and research are thus covering this area, especially fostered by the regional scientific association[1], which contribute to the understanding of the demography of the Balkans. In this framework of increasing demographic knowledge, population projections are more and more considered – as in other regions – an important source of information for policy-makers. The acknowledgement of the challenges of ageing societies, already well present in the more economically developed countries of the world, is indeed getting a footing also in the Balkans. Besides, the development of infrastructures or – more generally - any medium- or long-term policy decision may be better grounded if information on the future population structure is available. Projections are thus a way to raise awareness about major demographic trends with large implications on Balkan societies. For instance, projections extended over a long time horizon may represent a major input for the assessment of the long-term sustainability of public finances and related pension systems.

Making projections for a group of countries is something more than producing a set of single national projections. Especially in a well defined geographical area, social, economic and cultural links may exist between countries which contribute to the characterization and explanation of demographic trends. To my knowledge, although other projections exercises are available which deal with the Balkan countries, none considers explicitly their possible interrelations when formulating demographic assumptions. In this paper, I develop a set of projections for nine countries of the Balkans which takes into account a cross-country constraint in the assumption setting process. Considering also that a common methodology is applied to all of them, this ends in highly comparable, internationally consistent projections. However, the recent history of the region and the consequent disruptions in the demographic trends make it particularly difficult the task of formulating assumptions for fertility, mortality and migration. A price has to be paid to the quality of the results, and whether the research assumptions are particularly audacious, intellectual fairness calls for a stop. I have therefore limited myself to the construction of only a part of the assumptions required for a full set of projections; nevertheless, although incomplete, these results can help in shading some light on the demographic future of the Balkan region.

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* **This paper is released to inform interested parties of research and to encourage discussion. The views here expressed are exclusively those of the author and do not necessarily represent those of the European Commission.**
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[1] See the website of DEMOBALK – Demography of the Balkans: www.demobalk.org.

In this paper, I address the issue of long-term demographic developments in the Balkans. In Section 2, I define the countries object of this study and the data sources. Section 3 gives a summary of the methodology for the assumptions setting, while Section 4 reports a brief comparative overview of the results of the projections. Section 5 concludes. It goes without saying that these are projections corresponding to a defined scenario: as such, they should not be taken as forecasts, but only considered informative for the users who share the proposed long-term view.

2. Coverage and data

Considering the events occurred in the region in the Nineties and the socio-economic changes taking place afterwards, I have focussed my attention on the most recent past. The data on population, fertility and mortality by age and sex are taken from Eurobase, the statistical database of Eurostat[2], and I have taken into account only the period from 2000 onwards.
The countries which I considered belonging to the Balkan region are eleven; however, data availability and needs were different across countries. In particular, projections had already been produced for those countries which are Member States of the European Union: Bulgaria (BG), Greece (EL), Romania (RO) and Slovenia (SI). Projections data for these countries are thus taken from the No-Migration variant of EUROPOP2008 (Eurostat Population Projections 2008-based), also available in Eurobase.
For other countries of the region, assumptions and projections had to be developed on purpose. These countries are: Bosnia-Herzegovina (BA), Croatia (HR), the Former Yugoslav Republic (FYR) of Macedonia (MK), Montenegro (ME), Serbia (RS). No sufficient data were available for Albania and Kosovo/UNSCR1244[3], which have thus been excluded from this exercise. Only for Bosnia-Herzegovina, population structure by age and sex has been estimated from the Household Budget Surveys 2004 and 2007, as published by the Agency for Statistics of Bosnia-Herzegovina (BHAS, 2007 and 2009).
The base year of the projections is 2007 for Bosnia-Herzegovina, 2008 for Bulgaria, Greece, Romania and Slovenia, and 2009 for the remaining four countries (Croatia, Montenegro, the FYR of Macedonia and Serbia). Although this hampers the full comparability of the results, it allows a reduction of the volume of calculations paid with minor differences.
The time horizon of the projections is extended up to 2061, which means about five decades of future demographic developments. Although quite long, this time horizon is necessary to see the long-run impact of certain assumptions on population sizes and major population structure indicators, comparable with the results of EUROPOP2008.

3. Method and assumptions

The methodology adopted for this projections exercise is the well-known deterministic cohort-component approach. This method is based on a set of quantitative assumptions on fertility, mortality and migration, which are the basic input of the projections computations.
Formulating assumptions for the long term requires a vision, as the only extrapolation of recent trends – although informative - may in some cases take to implausible outcomes for the long run. To set a very general framework, first of all I assume that the Balkan countries will join the European Union (EU). At the time of the drafting of this paper, among the countries of the region, Bulgaria, Greece, Romania and Slovenia are already Member States; Croatia (HR) and the FYR of Macedonia (MK) are officially candidate to the EU membership, while Montenegro, Albania and Serbia have already applied for, but no opinion has been given yet by the European Commission; Bosnia-Herzegovina and Kosovo/UNSCR1244 are considered potential candidates, the former having already signed a Stabilization and Association Agreement with the EU. There is therefore a clear move of the Balkan region towards the EU membership, and the assumption I formulated above can thus be easily supported. An open question remains the timing of the membership, but this is not strictly necessary in the model for assumptions setting, as the intention here is to define a general scenario of future developments and not to compute the exact short-term impact on the demographic components of such an accession.
As second crucial hypothesis, in line with the EUROPOP2008 exercise (Lanzieri, 2009), I further assume that the socio-economic differences across Member States of the European Union will fade out in the long run: this brings to a scenario of long-term demographic convergence across the Member States, including those that will join the EU at a later stage. Whether the demographic convergence in the European Union is an acceptable assumption is discussed elsewhere (Lanzieri, 2009 and 2010) and I do not further explore this issue here.
The third assumption is to consider these countries closed to migration. The reason behind this choice is twofold: first of all, the recent past of the region has had repercussions on the data availability, and this has affected

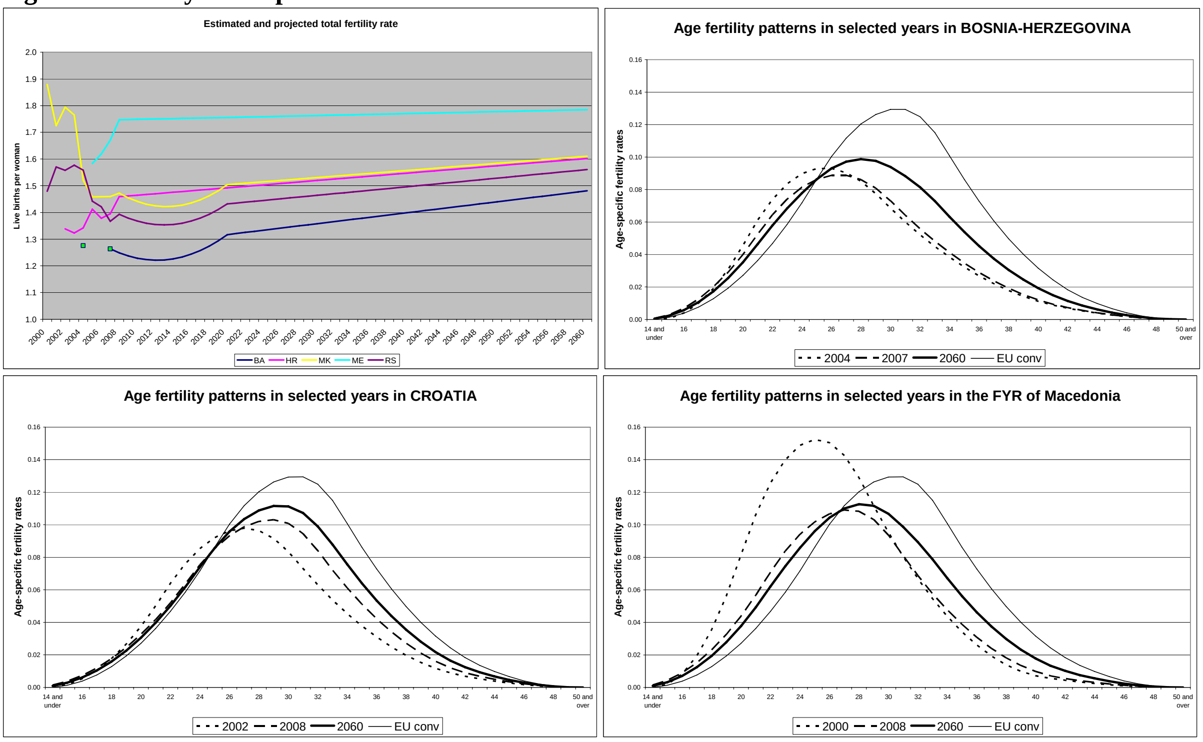
[2] http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database.
[3] Kosovo as defined by the United Nations Security Council Resolution 1244.

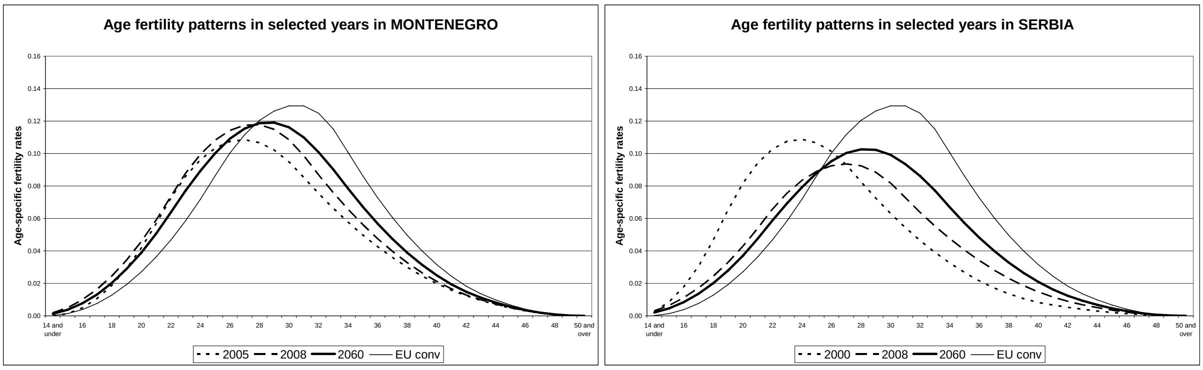
especially the information on migratory flows; secondly, the rapid socio-economic changes some of these countries are going through make it extremely difficult to formulate reasonable quantitative assumptions on future migration. As migration is nowadays the most important component of population growth in the EU, adding such an important element without being (at least partially) confident about its plausibility would only jeopardise the exercise because it would mask the other demographic forces acting behind, without really improving the knowledge about the demographic future. In addition, the theory of population models provides useful conceptual tools that can be used especially (although not strictly necessary) in populations closed to migration. In a few words, this last assumption allows to work on "cleaner" projections results and to draw anyway some conclusions thanks to formal demography.

On the basis of the three basic general assumptions described above, the quantitative assumptions for five countries (Bosnia-Herzegovina, Croatia, the FYR of Macedonia, Montenegro and Serbia) have been computed as follows. On fertility, the latest age-specific fertility patterns have been modelled by means of quadratic splines using the method proposed by Schmertmann (2003). If a country was still observing a reduction of the total fertility rate (TFR) in the latest years, then this trend was assumed to continue still for a while and eventually turning upwards to higher levels of fertility. To obtain these paths, the most recent fertility trends have been extrapolated; however, these extrapolated trends have been gradually merged with the long-term convergence trends towards the common EU values. If instead the country was already in a fertility upturn, then it was assumed to enter immediately the mainstream of long-term convergence in the EU.

In Figure 1, the top-left panel shows the observed and assumed trends of the TFR, from 2000 to 2060. It can there be noted that Croatia and Montenegro follow immediately the convergence assumptions, while the TFR in Bosnia-Herzegovina, the FYR of Macedonia and Serbia continue a downward trend, followed by a recovery within this decade to join the common tendency to convergence. The assumed fertility trends converge indeed in time: in 2007, the coefficient of variation is 0.095, while in 2060 it is reduced of about one third, to 0.063.
In the other panels are shown the first (from 2000) available age pattern, the last observed (2008 for all but Bosnia-Herzegovina), the one assumed in 2060 and the EU convergence age pattern, equal for all countries. The vertical axis has the same scale for all these five graphs and therefore they are immediately comparable. It can there be noted how the age patterns shrink and then expand shifting rightwards, expressing childbearing postponement and recuperation at older ages. For Croatia and Montenegro, already on fertility upturn, the shrinking does not take place.

Figure 1: fertility assumptions

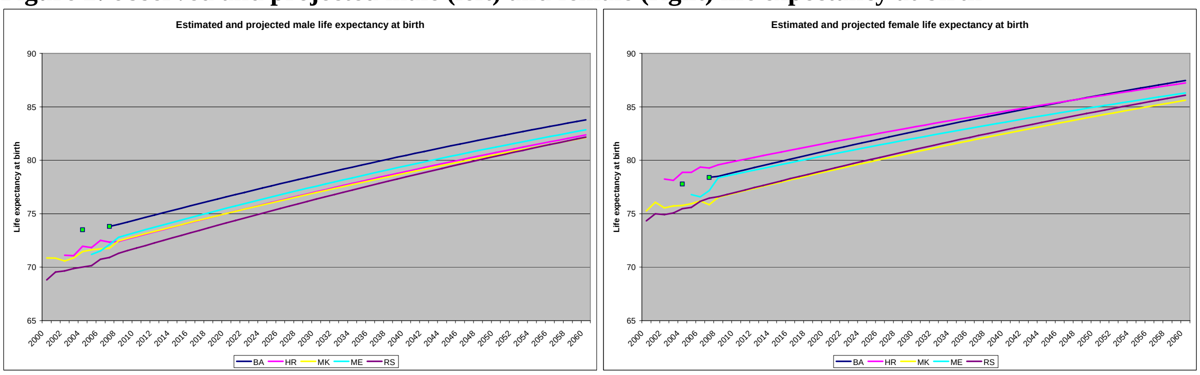




On mortality, the most recent age- and sex-specific mortality patterns for Bosnia-Herzegovina, Croatia, the FYR of Macedonia, Montenegro and Serbia have been modelled using the Heligman-Pollard law of mortality, which is considered to be one of the best parametric models (Hartmann, 1987). However, as the life expectancies corresponding to the Heligman-Pollard models were sometimes rather different from the ones estimated from the empirical data, a further algorithm of approximation has been applied. In the left panels of Figure 3 are shown, in the form of logarithms of mortality rates, the modified Heligman-Pollard models estimated for the year 2008 (Bosnia-Herzegovina: 2007), separately for men and women. All the left panels have the same scale and they can thus be directly compared.

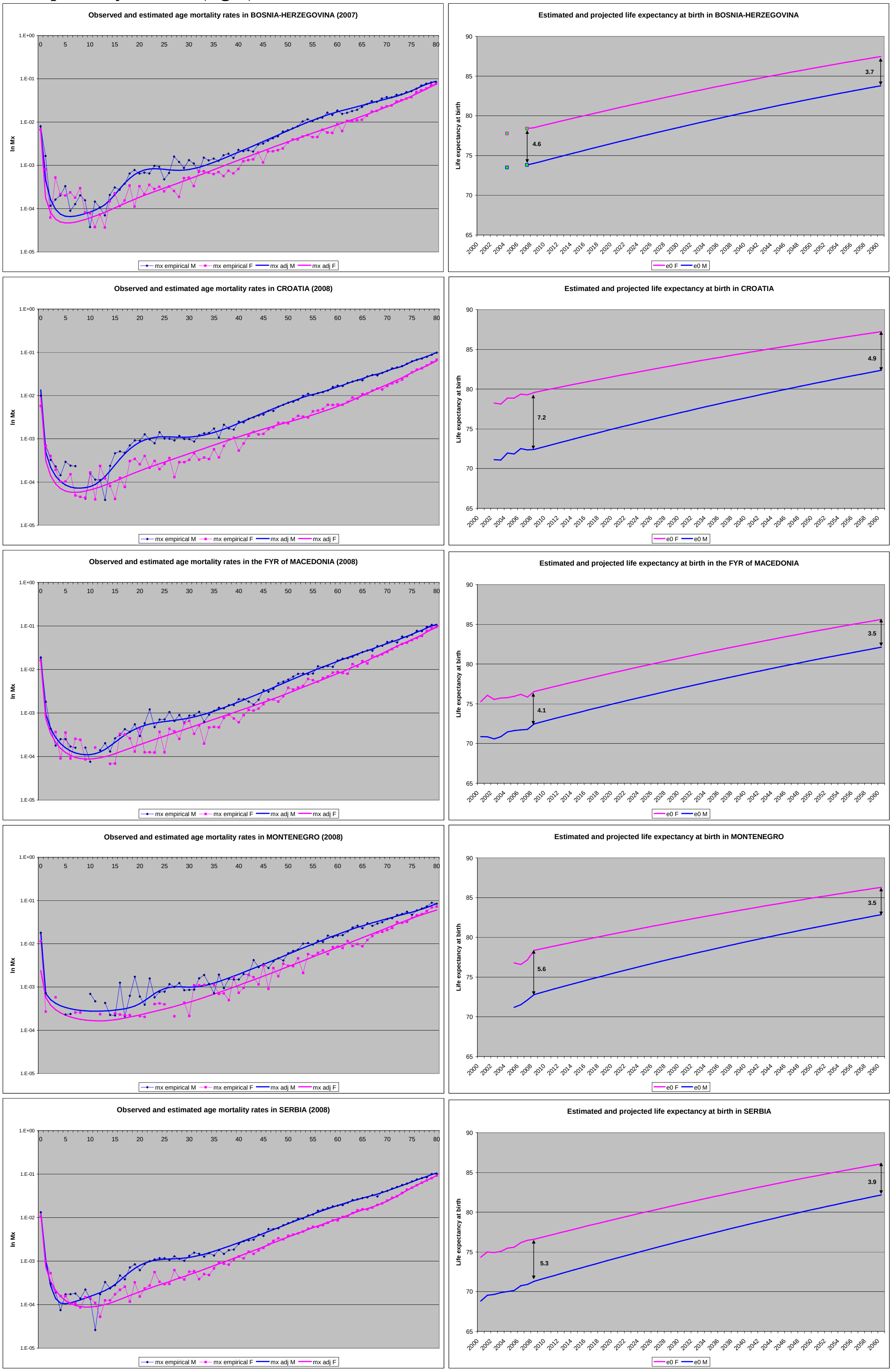
The mortality trends are assumed to follow the general tendency of improvements at slowing paces assumed for the Member States of the EU (see Lanzieri, 2009). The resulting models have then been linked with the corresponding mortality patterns assumed for the EU in the long term. This has ensured both the convergence of the trends of life expectancy at birth and the narrowing of the sex differentials. In the Figure 2 are shown the trends assumed for the five countries for the life expectancy at birth, starting from the last observed year (2008 for all but Bosnia-Herzegovina). It can there be noted how these trends are converging: in fact, from 2007 to 2060 the coefficient of variation of the set of life expectancies at birth halves for women (from 0.016 to 0.008) and it is reduced from 0.013 to 0.008 for men.

Figure 2: observed and projected male (left) and female (right) life expectancy at birth



A further characteristic of these quantitative mortality assumptions is the narrowing of the sex differentials. As it can be noted in the right panels of Figure 3, for all five countries the male life expectancy at birth tends to catch up with the female one, reducing the gap observed on the last available year. All these right panels have the same scale as well.

Figure 3: observed and estimated mortality patterns (left) and observed and projected sex differentials in life expectancy at birth (right)



Therefore, for both fertility and mortality, the quantitative assumptions are built upon the idea of convergence to common EU values in the very long term. The modelling of the age patterns in the latest available years was indeed necessary to avoid that observed empirical irregularities would be projected into the future. Comparable assumptions had been developed along the same lines for the Balkan countries already enclosed in EUROPOP2008 (Bulgaria, Greece, Romania and Slovenia). In summary, the major quantitative assumptions over a time window of 50 years are reported in Table 1 for all the nine Balkan countries covered by this study.

Table 1: assumptions for fertility and mortality in selected years

Country	TFR		Female e^0		Male e^0	
	2010	*2060*	*2010*	*2060*	*2010*	*2060*
BA	1.23	1.48	78.9	87.5	74.4	83.8
HR	1.46	1.60	79.9	87.2	72.8	82.4
MK	1.44	1.61	77.0	85.6	72.9	82.1
ME	1.75	1.78	78.7	86.3	73.3	82.8
RS	1.37	1.56	77.0	86.1	71.8	82.2
BG	1.39	1.55	77.1	86.5	70.2	81.6
EL	1.41	1.57	82.8	88.7	77.8	84.8
RO	1.33	1.52	77.1	86.6	70.3	81.9
SI	1.33	1.52	82.2	88.8	75.1	83.7

Based on these assumptions, and given the age and sex structure of the populations, projections can be computed with the cohort-component approach. In order to assess the impact of each of these elements on the results, I have computed several projections variants. Following the approach of Bongaarts and Bulatao (1999), I call *standard* projection the one where all demographic components (fertility, mortality and migration) are taken into account: as clarified before, this case is not considered here, as the populations are assumed to be closed to migration. The projections computed with the above-described fertility and mortality assumptions are the *natural* variant. At this point, I set the fertility at the replacement level: the projections obtained from this level of fertility, improving mortality and no migration is called *replacement* variant. Finally, in addition I freeze also mortality at the last observed age and sex pattern and I obtain the *momentum* variant of the projections.

Table 2: characteristics of the projections variants

Variant	Fertility	Mortality	Migration
Standard	Changing	Improving	Yes
Natural	Changing	Improving	None
Replacement	At replacement level	Improving	None
Momentum	At replacement level	Fixed at last observed	None

Table 2 summarises the characteristics of the variants I consider here. In fact, passing from the standard to the momentum variant, in each of them one element of variability is progressively removed. By doing so, it is possible to analyse the contribution of various components to the projections output: for instance, the difference between the population size from the standard variant and from the natural variant can be attributed to migration.
When the fertility is set at replacement level in a stable population, the corresponding intrinsic growth rate is zero. In fact, as the net reproduction rate NRR in the Lotka's equation is given by:

$$NRR = e^{r \cdot T} \quad (1)$$

where r is the intrinsic growth rate and T is the mean length of generation, setting NRR=1 is satisfied by r=0. A population which has age-specific fertility and mortality rates constant over time, migration rates zero at all ages and growth rate equal to zero is a stationary population. Therefore, imposing these conditions for a sufficiently long period of time on any closed population will result in a stationary population of fixed size. The difference between the population size at the beginning of the period P_b and the size of the corresponding stationary population P_m can be considered an estimate of the momentum of population growth, which is the effect due to the age structure of the population. Therefore, the quantity:

$$M_m = P_m / P_b \quad (2)$$

is the momentum multiplier, expressing the change attributable to the current age structure of the population; values of M_m greater than unity mean positive momentum, and vice versa.
Starting from the momentum variant and letting the mortality assumptions to vary, as described for the so-called replacement variant, produces a different population size P_r at the end of the projections horizon. The impact of the mortality factor (in this case the rising life expectancy) on population growth can thus be assessed by means of the following mortality multiplier:

$$M_d = P_r / P_m \quad (3)$$

Following the same logic, indicating by P_n the population size at the end of the projections horizon from the natural variant, the contribution of the changing (below replacement level) fertility to the population growth can be estimated with the following fertility multiplier:

$$M_f = P_n / P_r \tag{4}$$

The overall population growth from the base year to the end of the projections period can thus be expressed as combined effect of the above multipliers:

$$P_n / P_b = M_f \cdot M_d \cdot M_m \tag{5}$$

It should be noted that the succession by which the various factors (fertility and mortality) are progressively removed has an influence on the multipliers; I follow here the order proposed by Bongaarts and Bulatao (1999).

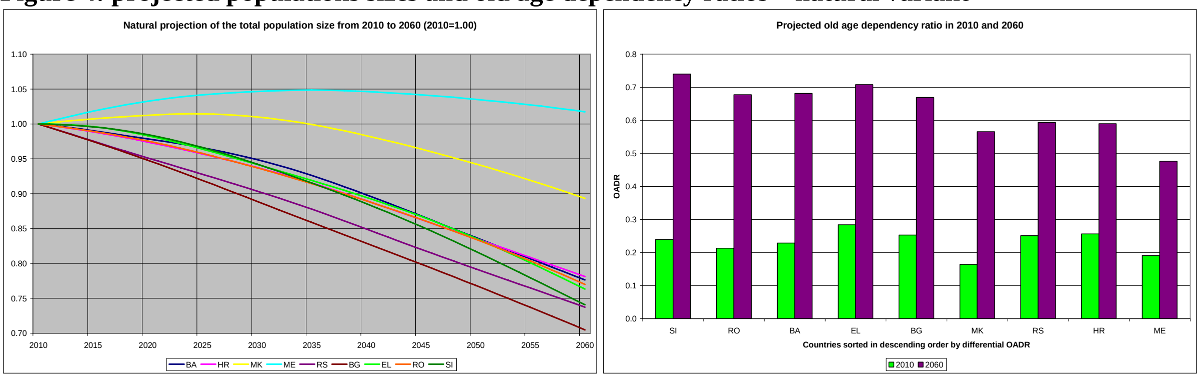
4. Results

Before proceeding with the analysis of the results, it is worthy to remember that they are purely illustrative of a long-term *what-if* scenario and are affected by the data quality and availability: therefore, these results should not be interpreted as forecasts.

In order to visually compare the projected closed population sizes for all the nine Balkan countries, I normalize these quantities on the respective value projected for 2010. The normalised populations' sizes are displayed in the left panel of Figure 4, where the starting value in 2010 is thus equal to one. It can there be noted how for the bulk of these countries, under the assumptions of the natural variant, the populations are projected to be in natural decline already in the first decade (2010-2020). After five decades, their natural demographic change would bring the respective population sizes to shrink between 20% and 30%. Only two countries do not follow this general pattern: the FYR of Macedonia and Montenegro. The former starts the natural decline in 2024 and it ends in 2060 with a projected shrinkage of the population size of about 11%; the latter, although projected to begin the natural decline in 2035, after half a century would still have a population size greater than in 2010.

Besides the total sizes, the age structure of the projected populations can provide interesting insights. A common feature of the Member States of the EU is their ageing population. An indicator often used to make a first, raw assessment of the impact of the ageing process over the economic system of a country is the old age dependency ratio (OADR), defined as the ratio of the population aged 65 years and over on the population aged 15-64 years (working-age population). The right panel of Figure 4 shows the OADR of the nine countries projected in 2010 and in 2060, with the countries sorted in descending order according to the difference of the OADR between these two years. In 50 years, Slovenia is the country projected to have the highest increase of the OADR: its increase of 0.5 means that in 2060 there will be 3 persons aged 65+ every 4 persons in working age, while in 2010 this ratio is projected to be one elderly person every 4 working-age persons. On the other side of this classification is Montenegro, which is projected to increase its OADR of about 150%. Therefore, all these Balkan countries, considering only their natural demographic development, will be concerned by the ageing process of their population to a remarkable extent. In these closed populations, Slovenia is the country where the speed of ageing is projected to be the highest.

Figure 4: projected populations sizes and old age dependency ratios – natural variant



Which factor between fertility assumptions, mortality assumptions, and current population age structure contributes most to these results? To answer this question I use the variants and deriving multipliers defined in the previous section, with the warning that projections have not been extended over a period sufficient to complete the transition to stationarity of the populations and therefore the assessment of the momentum of the population is incomplete. All the results refer to the situation projected in 2061; for the countries already member of the EU, data are from EUROPOP2008 No-Migration variant.

In the Figure 5 are shown the populations' sizes (left panels) and the OADRs (right panels) obtained from the various variant for the nine Balkan countries (sorted by alphabetical order); the right panels have always the same scale and are thus immediately comparable.
From a glance to the left panels of these graphs it is evident that in all cases the populations' sizes from the natural variant are smaller than those from the replacement variant, and these latter are bigger than the populations' sizes from the momentum variant. It is immediate to grasp that the fertility assumptions shrink the populations' sizes and that, on the opposite, the mortality assumptions raise them. Further, the population size in 2061 from the momentum variant is in some countries above the level at the beginning of the projections, while in other is below, meaning respectively a positive and negative population momentum. To assess the relative contribution of the factors, I use the multipliers defined in the previous section. From the Table 3 it can be seen that the largest impact is due to the below-replacement fertility assumptions, which compress the population size of 25% on average in comparison to the replacement variant, with the two extremes being Bosnia-Herzegovina (-31%) and Montenegro (-14%). On the opposite, mortality assumptions, being based on increasing life expectancy, have a positive effect on the total population size, which is raised on average by 11% in comparison to the momentum variant. Finally, the age structure plays a negative role on average (-5%), but this assessment is based on an incomplete transition to stationary populations. In particular, Bulgaria is projected to have a relatively rather negative population momentum, combined with the highest multiplier for mortality.

Table 3: population multipliers in 2061

Country	M_f	M_d	M_m
BA	0.69	1.10	1.01
BG	0.73	1.14	0.83
HR	0.77	1.10	0.92
EL	0.76	1.08	0.92
MK	0.76	1.10	1.05
ME	0.86	1.09	1.08
RS	0.74	1.12	0.88
RO	0.72	1.14	0.93
SI	0.73	1.10	0.92

A view of the impact of the factors on the age structure of the projected populations can be observed in the right panels of the Figure 5. In all countries, looking at the momentum variant results, the current population age structures would increase the OADR even if mortality would not improve and fertility was set at replacement level. Therefore, considering only the natural demographic developments, the ageing (as represented by the OADR) is unavoidable in the five decades to come. The extent of the ageing increases with the projected raise of life expectancy (results from the replacement variant) and it grows further when fertility is assumed to continue on below-replacement levels (as from the natural variant). The impact of mortality on the ageing is due to the fact that the major improvements are expected in the older ages. An analysis of the age pyramids would show that the structure of the Balkan populations is expected to change, according to these natural projections, from a (roughly) diamond-like shape to a vase shape, where the younger cohorts are proportionally smaller and smaller. All conditions being equal, smaller generations of women reaching reproductive age will indeed result in fewer births than in the past.

5. Conclusions

Considering only the natural components of demographic change, the projected dynamics of the populations in the Balkan countries show that natural decline may be characterising the next half century. In addition, alongside with other Member States of the EU, the Balkan region is likely to face the challenges of an ageing society.
An analysis based on multipliers highlights the role of the fertility assumptions: besides the logical impact on the populations' sizes, the below-replacement levels bring a further increase of ageing indicators like the old age dependency ratio. The future high levels of the OADR may signal the need of policies ensuring the long-term sustainability of the public finances. In fact, the projected demographic future is quite similar in the Balkan countries, regardless of their membership to the EU.

Although migration is formally excluded from this analysis, some speculation can be made about its role in the future. It has been shown that the natural component is not sufficient, in absence of net immigration, to ensure population growth in the long run in most of the region. The projected population profiles depend very much on the migratory flows which will take place in the future, especially after the (assumed) membership to the EU. If, as it is likely, the membership will increase the emigration (at least on a first stage), both population size and ageing will be affected, as the migrants have usually an age profile with a peak around young ages (which are also the childbearing ages). Therefore, continued net emigration flows would increase the speed and level of ageing, and the natural projections reported above would then only be the upper limit for the population decline and the lower limit for the OADR. Although restrictions on the labour markets of the other Member States can be set for the first years following the accession to the EU, as it has been the case for the latest enlargements, this may only partially be effective against the risk of brain drain and further demographic decline. On the other side, shrinking populations and improving economies may open much more occasions to the inhabitants and therefore they may reduce the push factors to migrate.

Whatever is the direction of the migratory flows (in or out), it should not be forgotten that the time horizon of these projections is “only” 50 years, thus not enough stretched to see the whole impact of migrants on mortality and ageing. Indeed, assuming an average age of 25 years for the migrants and considering positive net migration, only the first flows of immigrants would appear in the elderly persons at the end of the projections, while the births they generate would be included all along the projections period. Over 50 years, the natural change would then be “inflated” by the additional births from the immigrants while relatively few deaths would be added, as mortality in the middle ages is not very high. This highlights the added value of projections which look only at the natural components of the demographic change.

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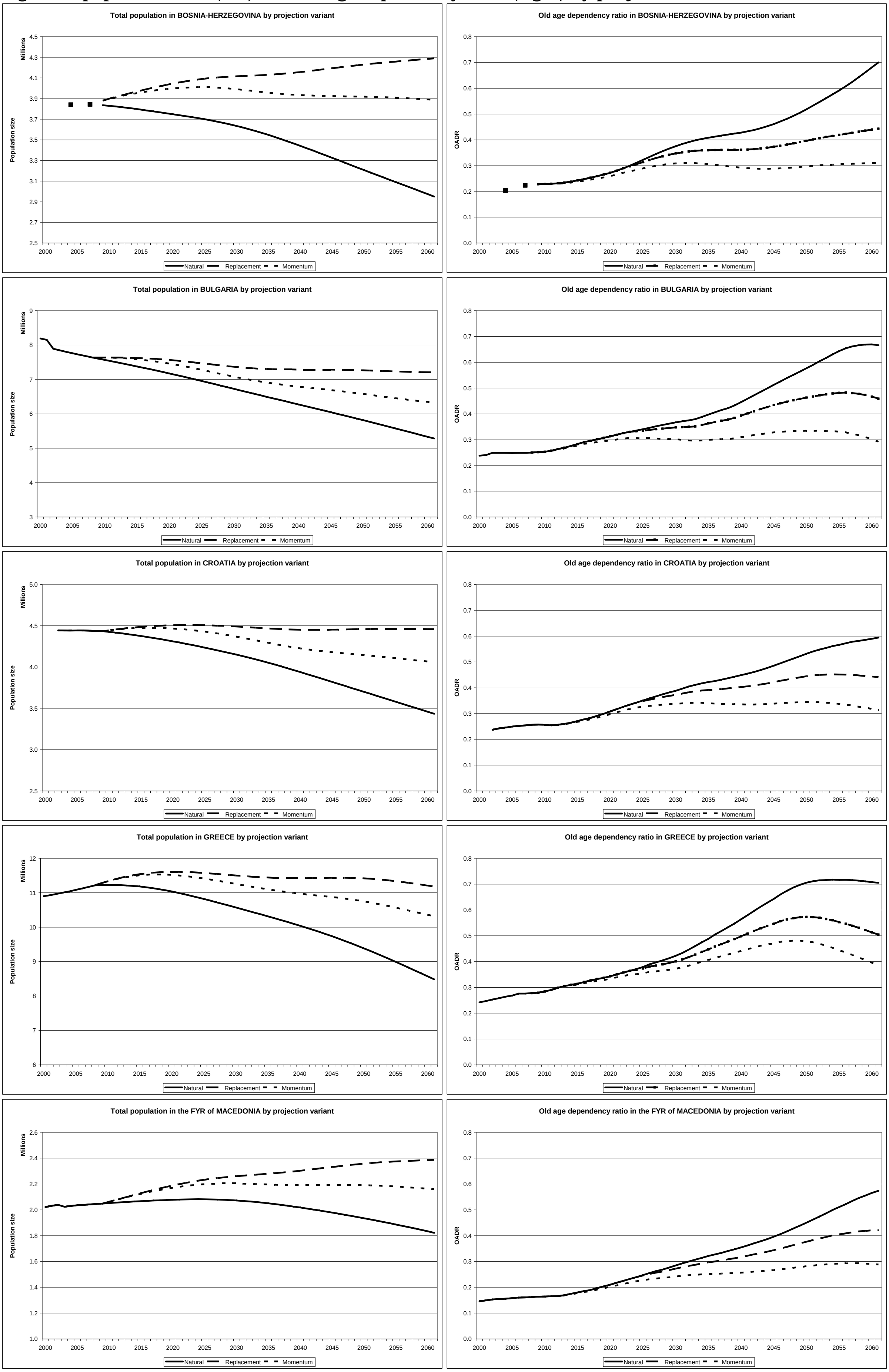
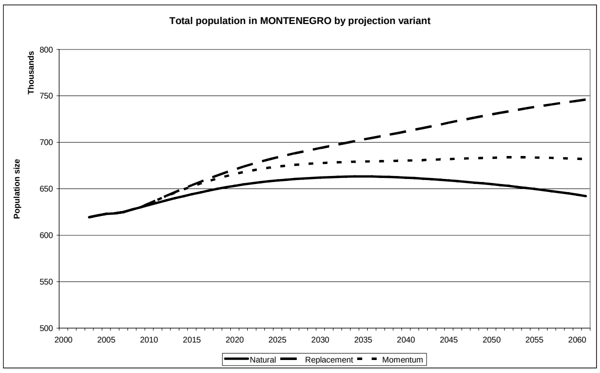
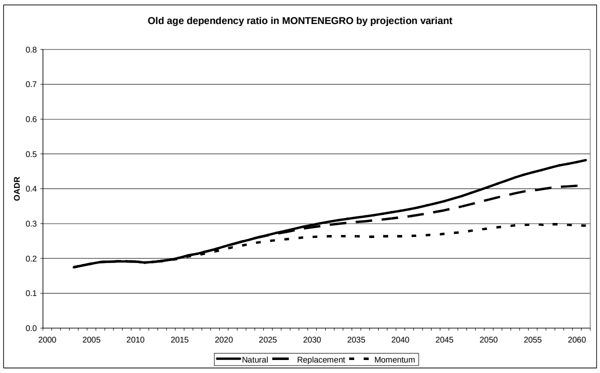
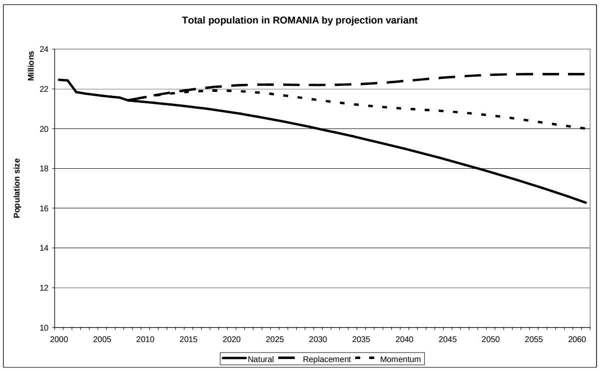
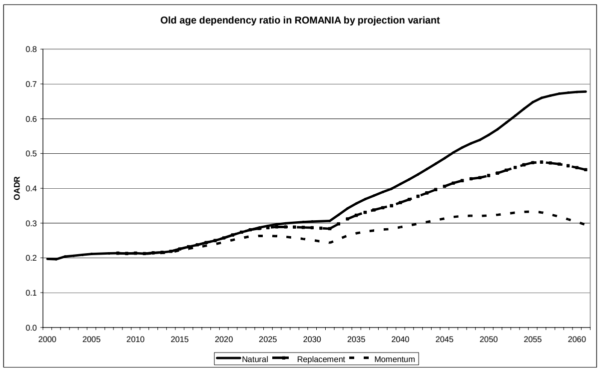
Figure 5: population size (left) and old age dependency ratio (right) by projections variant




Total population in MONTENEGRO by projection variant
Thousands
Population size
800
750
700
650
600
550
500
2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060
Natural
Replacement
Momentum


Old age dependency ratio in MONTENEGRO by projection variant
OADR
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060
Natural
Replacement
Momentum


Total population in ROMANIA by projection variant
Millions
Population size
24
22
20
18
16
14
12
10
2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060
Natural
Replacement
Momentum


Old age dependency ratio in ROMANIA by projection variant
OADR
0.8
0.7
0.6
0.5
0.4
0.3
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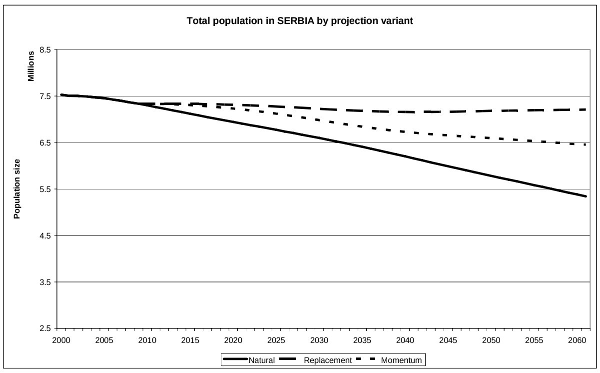
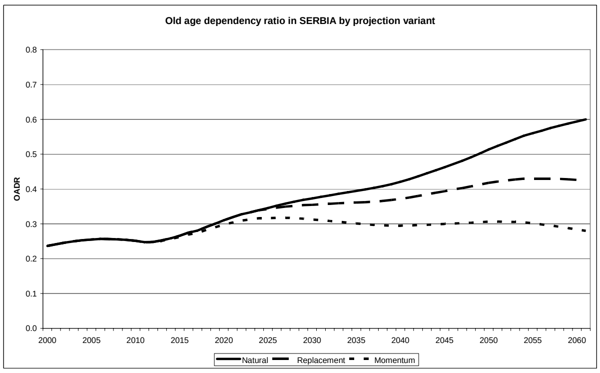
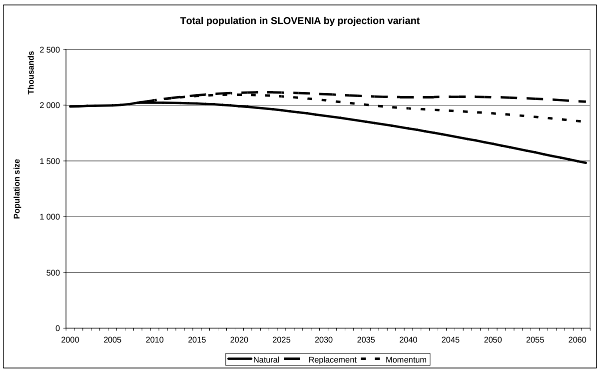
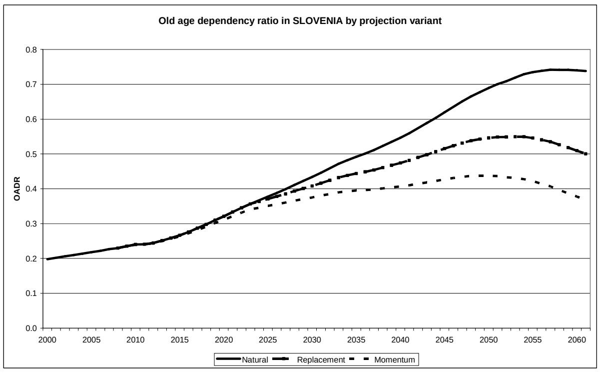
0.0
2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060
Natural
Replacement
Momentum


Total population in SERBIA by projection variant
Millions
Population size
8.5
7.5
6.5
5.5
4.5
3.5
2.5
2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060
Natural
Replacement
Momentum


Old age dependency ratio in SERBIA by projection variant
OADR
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060
Natural
Replacement
Momentum


Total population in SLOVENIA by projection variant
Thousands
Population size
2 500
2 000
1 500
1 000
500
0
2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060
Natural
Replacement
Momentum


Old age dependency ratio in SLOVENIA by projection variant
OADR
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060
Natural
Replacement
Momentum