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Action 1.1.4:

THE SPATIAL EFFECTS OF DEMOGRAPHIC TRENDS AND MIGRATION

Third Interim Report

PART ONE: SUMMARY

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List of Content

Part One

Summary

Points of departure

The point of departure for the structure of this report is the Matera Guidance Paper (MGP). The recommendation in the MGP is that the report should be disposed in three parts – summary, results and annexes.

The points of departure for this third interim report are primarily the tender bid, the Addendum to the Lead Partner contract, the first and second interim reports, the 'draft response' from CU and the Commission with regard to the second interim report, the Matera Guidance Paper and the ESPON "common platform". These instructions and recommendations have also been followed as far as possible – things that still are missing in this report will be handled in the final report.

Compared to the second interim report, both smaller and larger changes and corrections have been made. A chapter of 'general framework' based on the MPG-graph and a special background and typology chapter have been introduced. In WP2 (natural population change) some additions have been done and the methodological part of WP4 (depopulation) has been rewritten in order to make it easier to interpret. The WPs that are more or less new both with regard to content and structure are WP3 (migration) and WP5 (replacement migration). A separate chapter – chapter 9 - about policy implications and policy recommendations (WP6) has also been introduced in the report.

Even if there are no watertight bulkheads between the different Work Packages, the third interim report is - as the second one - written in a way that it shall be possible to read the different chapters and Work Packages separately. This results perhaps in some overlapping and repeated parts but is a necessary evil in this case. The pure theoretical parts are not included in this summary but instead they are included in the relevant chapters.

In this summary the executive and 'scientific' summaries have been integrated. It seems too page consuming to separate them as they must – according to our point of view – be presented together in order to avoid confusion as much as possible and there is a risk otherwise of too many repeatable parts. If this has been good or bad decision can of course be discussed but according to our view it will make the reading more logic and then also the interpretation of the results easier. A short list of the concepts is however presented after the executive and 'scientific' summary.

Executive and 'scientific' summary

Findings, main maps, methods and typologies

Chapter 3 A general framework

The main objective in this ESPON project – both for the third interim report and for the final one - is the description of the variety of demographic situations in Europe differentiated by regions. The study draws the complex demographic landscape of Europe with areas of stagnation and depopulation on the one hand and population growth on the other hand. But the project – especially the final report – will not only describe these landscapes, it will also try to explain the different demographic situations by external economical, political and geographical factors.

These connections are illustrated in a schematic way in Figure 3.1 that is a schematic application of the MGP-graph with regard to demographic development and where economic and social factors are included as explanatory factors as well as dependent factors. It should be noticed that the processes in Figure 3.1 illustrate both vicious and virtuous circles with regard to regional development and natural population change. The figure can also be seen – in a simplistic way - as a point of departure for the analyses in the both the third interim report and the final one according to the recommendations in the Matera Guidance Paper and the draft response from the Commission and the ESPON CU.

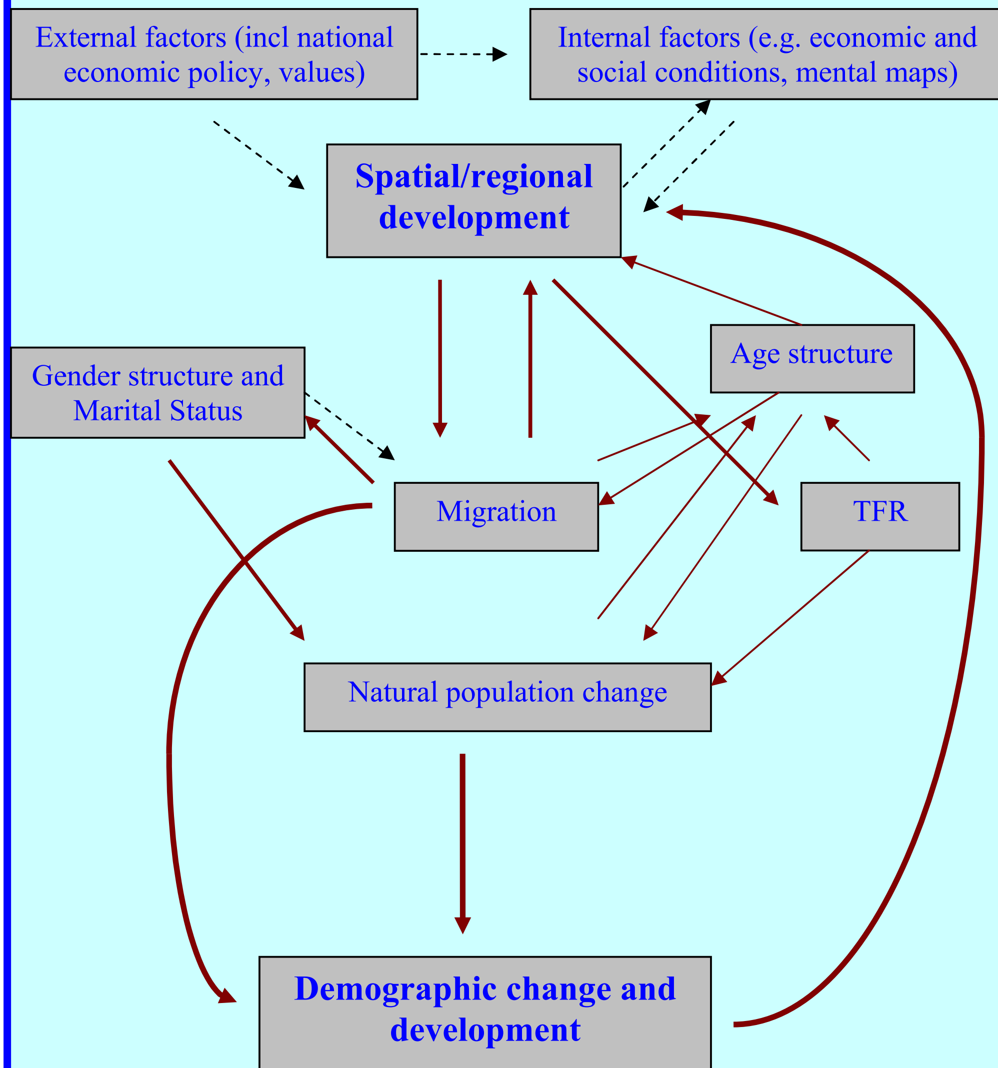


Figure 3.1. Application of the MGP-graph with regard to demographic change and spatial development

Chapter 4 Population change and typologies

In drawing a European demographic landscape it is necessary to start with population change. Map 3.1 shows the areas of demographic growth and decline. One can clearly see the central European growth zones and the areas of declining population at the edges of Europe. This pattern on EU29-level is the consequence of low and decreased fertility rates and migratory movements. From the EU29 point of view there seems to be more indications of population concentration and monocentric development than a polycentric development. Signs of polycentric development are evident within Pentagon, but outside this area there are instead indications of monocentric development with regard to the demographic development. The latter seems to be especially strong in the Northern countries and in Eastern Europe.

European growth zones are affected by a surplus of migration. Population growth can only be explained by migration because the balance of birth and death is negative or - in the best case – very small with regard to the natural population change. This can be observed in Germany, in the Scandinavian countries, in northern Italy and southern England. In these areas the population dynamic is more and more driven by migration and less by the surplus of birth. Some European peripheries are, however, affected by population decline due to a negative migration balance and a surplus of deaths over births (see map 4.2).

A typology with regard to natural population change and migration

In order to classify the regions with respect to total population development, natural population development and migration, six different combinations are constructed. This typology was constructed for the second interim report. The six types are illustrated in Table 4.1 and Map 3.2.

Table 4.1 Six types with regard to total population change, natural population and net migration 1996-1999.

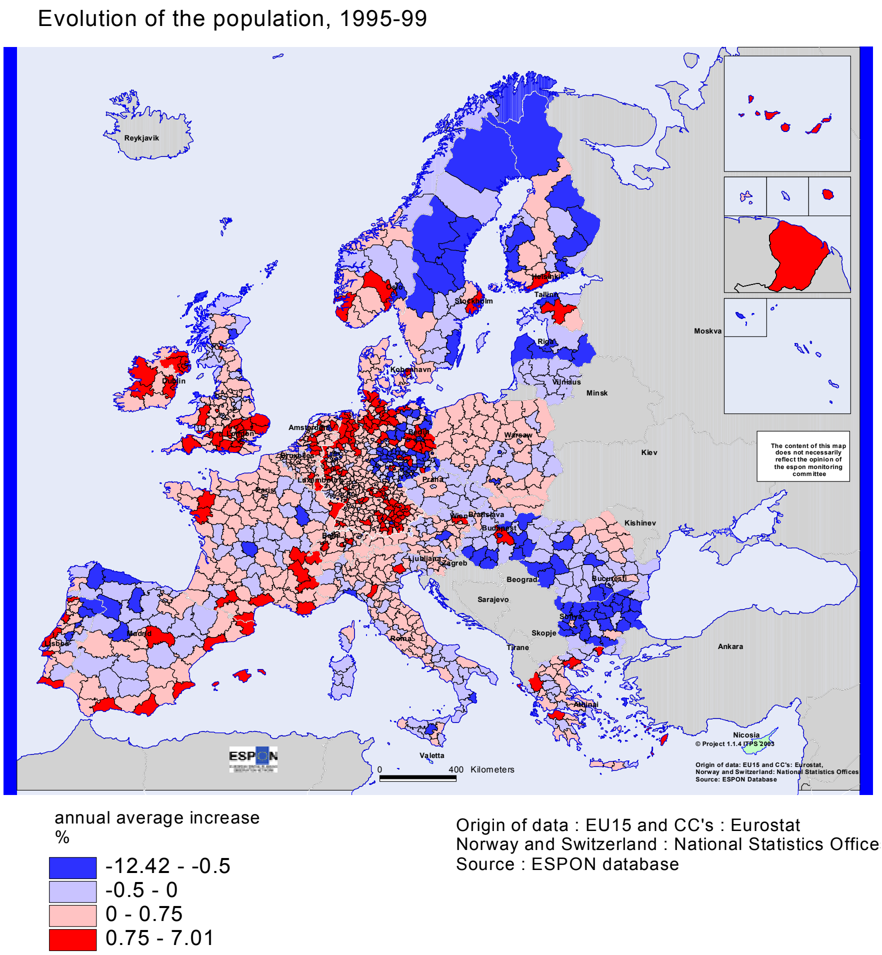
1	PT>0	PM>0	PN>0	In-migration and young population/”high” TFR
2	PT>0	PM>0	PN<0	In-migration but low fertility rate
3	PT>0	PM<0	PN>0	Out-migration but young population/”high” TFR
4	PT<0	PM<0	PN<0	Out-migration and old population/”low” TFR, depopulation?
5	PT<0	PM>0	PN<0	In-migration and old population/”low” TFR
6	PT<0	PM<0	PN>0	Out-migration but still young population/”high” TFR
PT=Total population development PM=Net migration PN=Natural population development				

The majority of the regions – 60 percent – at NUTS1, NUTS2 and NUTS3 level experienced a population increase between 1996 and 1999. Most of the growing regions can be placed in case 1, where both the natural population change and net-migration were positive (28 percent). Type 2 involves 20 percent of the regions and 12 percent are placed in case 3.

Among the retarding regions, most regions are classified in type 4. This is the most unfavourable case and can be characterised as a depopulation case. 17 percent of the regions are classified in this category. 15 percent are in case 5 and the rest – 8 percent – in type 6.

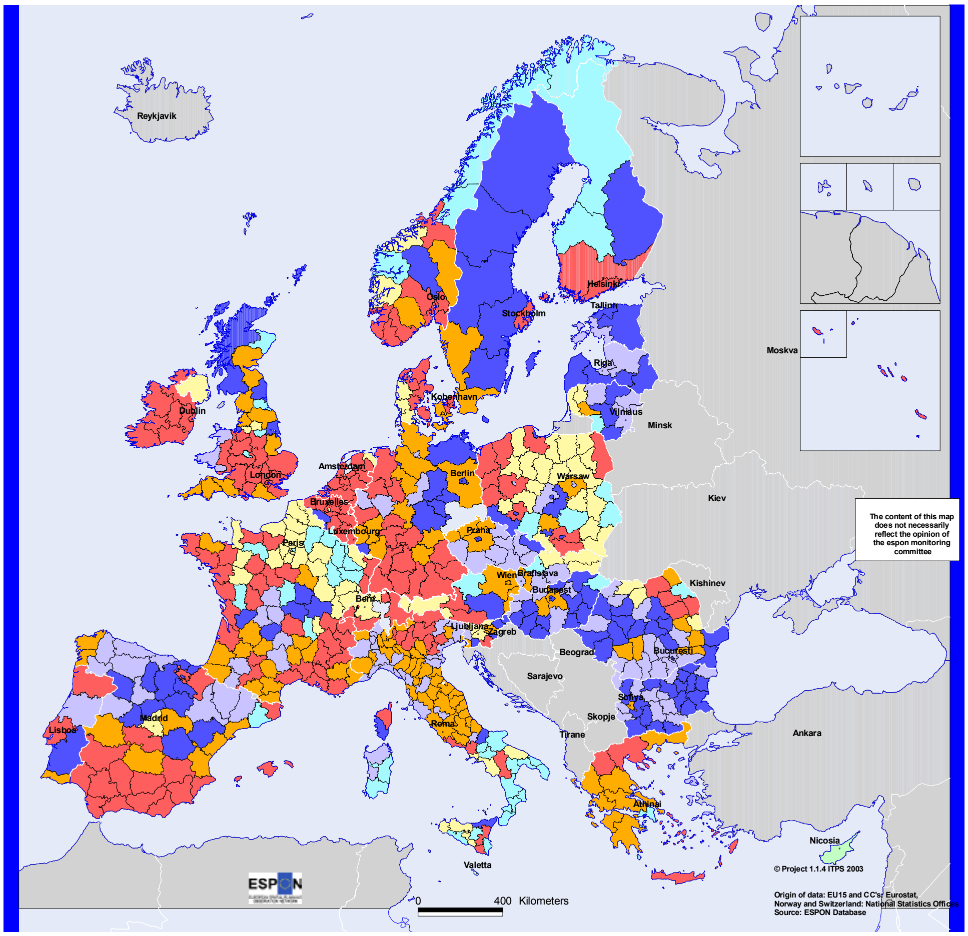
More than half of the regions – 52 percent – had a natural population decrease during the second half of the 1990s. 20 percent of the regions were expansive regions in the sense that they experienced a population increase as a consequence of net in-migration. This means that 32 percent were regions where natural population decrease was also combined with a net out-migration that accentuated the population decrease in these regions. These regions are in a problematic situation and can also be characterised as depopulation areas.

Map 4.1. Population Change 1996-1999. Source. Estimations from New Cronos.



Map 3.2 A typlogy with regard to total population change, natural population and net migration 1996-1999. Source: Estimations from New Cronos.

Components of population increase, 1996-99



form of increase

- Total evolution>0; Migratory B>0; Natural B>0
- Total evolution>0; Migratory B>0; Natural B<0
- Total evolution>0; Migratory B<0; Natural B>0
- Total evolution<0; Migratory B<0; Natural B<0
- Total evolution<0; Migratory B>0; Natural B<0
- Total evolution<0; Migratory B<0; Natural B>0
- no data

Origin of data : EU15 and CC's : Eurostat
Norway and Switzerland : National Statistics Offices
Own estimation for migratory balance

Chapter 5 Natural Population Development, Ageing and Dependency Rates (WP2)

The tendencies of fertility decline and a negative natural population change in many parts of Europe has been accentuated during the 90s. Even if the age and gender structure both have great impact on the natural population development, it is the total fertility rate that has been in focus when the natural population development is discussed. The general background of the "renewed" interest in population decline and depopulation is the recent fertility decline that in most countries took place from the middle of the 1960s to the middle of the 1970s (with some earlier as well as some later starters among the countries of the "different Europe's"). After a major fall in fertility rates, fertility tended to remain stable or to decline more slowly. There are no European examples of enduring upward shifts.

Natural population development often is a cohort phenomenon – large cohorts reproduce large cohorts and vice versa. The strategic variable here is TFR that varies both with regard to time and place. Another lesson to learn from this elementary reasoning is that changes in population size and structure often are connected to long term changes in economic and social conditions but even attitudes and values are of great importance. The problem for this project is, however, that long-term series don't exist at regional level – only the second half of the 90s are in a condition that data can be used for time-series analysis at regional level within EU29. This is not enough to analyse the regional population development from a long wave perspective – instead cross-section analyses with regard to different years must be used to explain what is happening or what has happened.

In order to get a hint if there exits any correlation between TFR and natural population development some regressions have been done. The results must, however, be interpreted with utmost care as some regions within EU29 are missing as a consequence of lack of regional data with regard to both variables and problems with the correspondence between the regions. The results shall thus be interpreted as an indication of connection between the size of TFR and natural population development. Both regional TFR and natural population change have been regionally adjusted to match each other and avoid mismatch as far as possible. After adjustment and exclusion of some countries and regions, the total number of observations is 488.

The results show that there is a positive correlation between the level of TFR and natural population change, even if the age structure of course also has impact on the natural population change. It must however, be considered that the positive correlation also tells us that low TFR results in a slow natural population increase or even a decrease. This phenomenon is probably most pronounced in out-migration and depopulation areas where low TFR and lop-sided age structure reinforce each other.

In order to see if there are any national differences, some estimations have also been done on regional data for selected countries. Denmark, Germany, Spain, France, Italy, Hungary, Poland, Romania and Norway have been tested. The same pattern seems to be valid on national level even if there are some exceptions (see annexes). Denmark and Poland are the two most pronounced exceptions in the sense that the correlation between TFR and natural population growth is more or less absent. The highest correlations among the countries that are investigated are for Spain, Italy and Germany. The latter seems perhaps little surprising but here the low TFR in the Eastern Germany combined with a skewed age structure can be one reason for the high correlation between the variables.

It seems apparent that the national TFRs have been converging during the period after 1960. The patterns are, however, more heterogeneous when we move to sub-national territorial entities. Studies in several countries have documented that the timing, pace and courses of development in fertility change varied substantially between different types of local communities and regions, for instance according to dimensions commonly associated with rural-urban, centre-periphery etc.

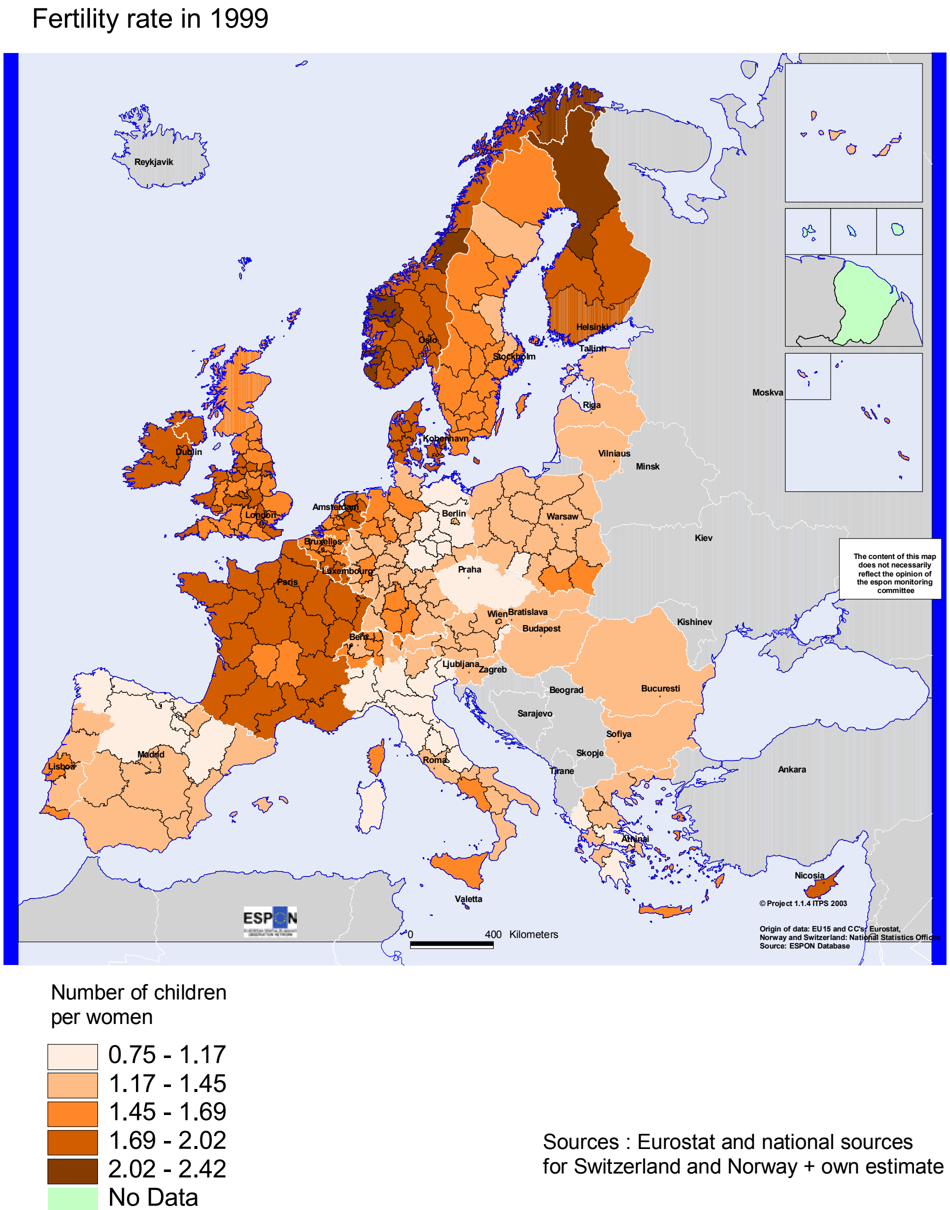
In order to examine the convergence/divergence processes at a more disaggregated level, comparisons between the coefficients of variance have been done for some years between 1960 and 2000. The regional definitions have changed over time, but despite this some hints about the development can be telling.

During the 60s and 70s there are signs of a divergent development even if the TFRs are dropping. This was a period in Europe – at least in the market economies - with both good and bad times. The year of 1960 can be seen as the end of the reconstruction period after the Second World War while 1980 was characterised by oil chocks and slow growth rates in many Western European economies, particularly during the second half of 70s.

During the 80s and 90s there are instead indications of a convergent development and then in combination with a continuous fall in TFR. TFR was below the reproduction rate in the end of the 90s in every country within EU29 and this was also the case for most of the regions – only some regions in Finland and Norway (see map 5.4) that had a TFR that was over the reproduction rate. As the data for most of the new EU members are on national level, there can of course be regions in these countries with TFR over the reproduction level but that seems not to be the fact from the sharp decrease even in these countries during the 90s.

The regional disparities during the 1990s are also shown in Maps 5.2- 5.4. Here the low TFRs especially in the Southern parts of Europe and in some parts of the Eastern Europe are obvious. This phenomenon is even more pronounced in TFR-tables in the statistical annex where it can be seen that there are only few regions that are over or around the reproduction rate (2,1) today. As data are missing at the regional level from most of the new EU countries (forthcoming in the final interim report), there may be some other regions that have TFRs over the reproduction rate. However it is not probable - as mentioned above - that this will change the picture of a Europe that is going to experience a population decline in the future.

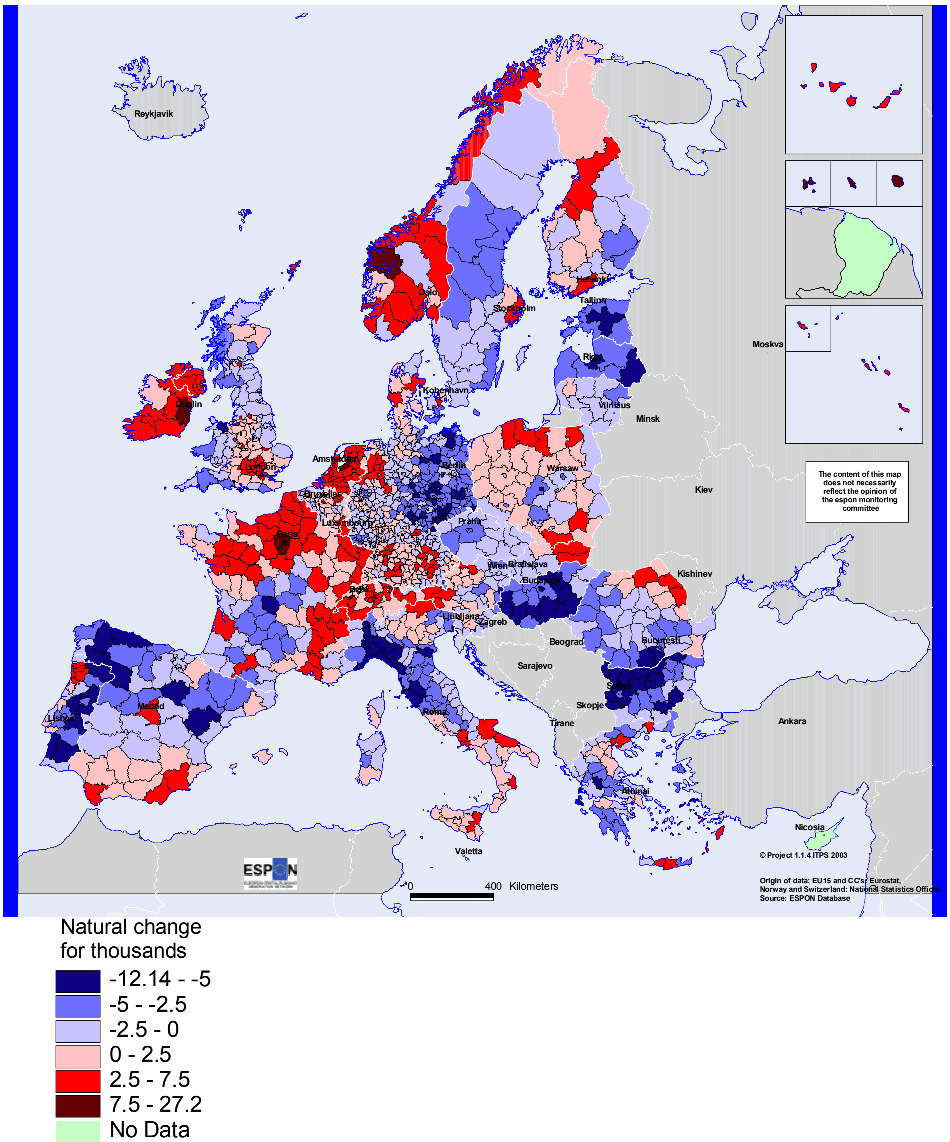
Map 5.4 Total fertility rate in different parts of Europe (NUTS0-NUTS3, not overlapping) 1999



Sources : Eurostat and national sources for Switzerland and Norway + own estimate

5.1 Natural population change/total population per thousand. Year 1999. Source: Estimations from New Cronos.

Natural population development in 1999



Ageing

The ageing process was associated with a continuous population growth during the past century and the at least during the period after WWII. Today and tomorrow the situation seems to be quite different – ageing will happen together with population stagnation and decline of the European population. This is both a function of low fertility rates and longer life expectancies. Ageing will thus be accentuated and the dependency ratio will shift in the sense that a higher share is composed of elderly people and a lower share children and youngsters.[1]

This process is also a cohort phenomenon as the consequence of cohorts moving up through the age pyramid over time. Large cohorts will have more children than small ones and vice versa with the age-specific fertility rates. Ageing in Europe is thus, at least partly, an effect of falling and low TFRs during the past decades and that cohorts in reproductive ages have diminished. The consequences of the 'baby bust' of past decades are more and more pronounced and will be accentuated in the future. Ageing is thus a long term process and without migratory movements it is in such a cohort phenomenon.

The ageing process is thus a consequence of different development patterns that are not only of demographic character. One reason is of course the low fertility rates that in the long run will result in a lopsided age structure with a lot of elderly people in the population structure. This is lopsided age structure is also – in many cases – reinforced by out-migration of young people for reasons that are largely of economic, social and cultural character. This means that regions with a high share of elderly people also are out-migration areas. Lower fertility and higher mobility has thus resulted in a situation where the ageing process in many cases is more of a function of out-migration of young people than of low fertility. Migratory movements affect the age structure and the ageing process more than natural population change - births and deaths – which also increasingly has been a consequence of in- and out-migration of people in younger and fertile ages.

On the other side, many regions with a high share of elderly people are also in-migration areas with regard to this category – many of these regions can be characterised as 'retirement paradises' that attract people who have been pensioners and then move to areas where the climate and other amenities are favourable for elderly people. These areas differ thus a lot from the traditional ageing areas that instead may be characterised as depopulation areas. The ageing Europe is shown in a straightforward way in map 5.5 below. From this map it can be seen that ageing is a phenomenon both in expansive in-migration areas and traditionally out-migration ones.

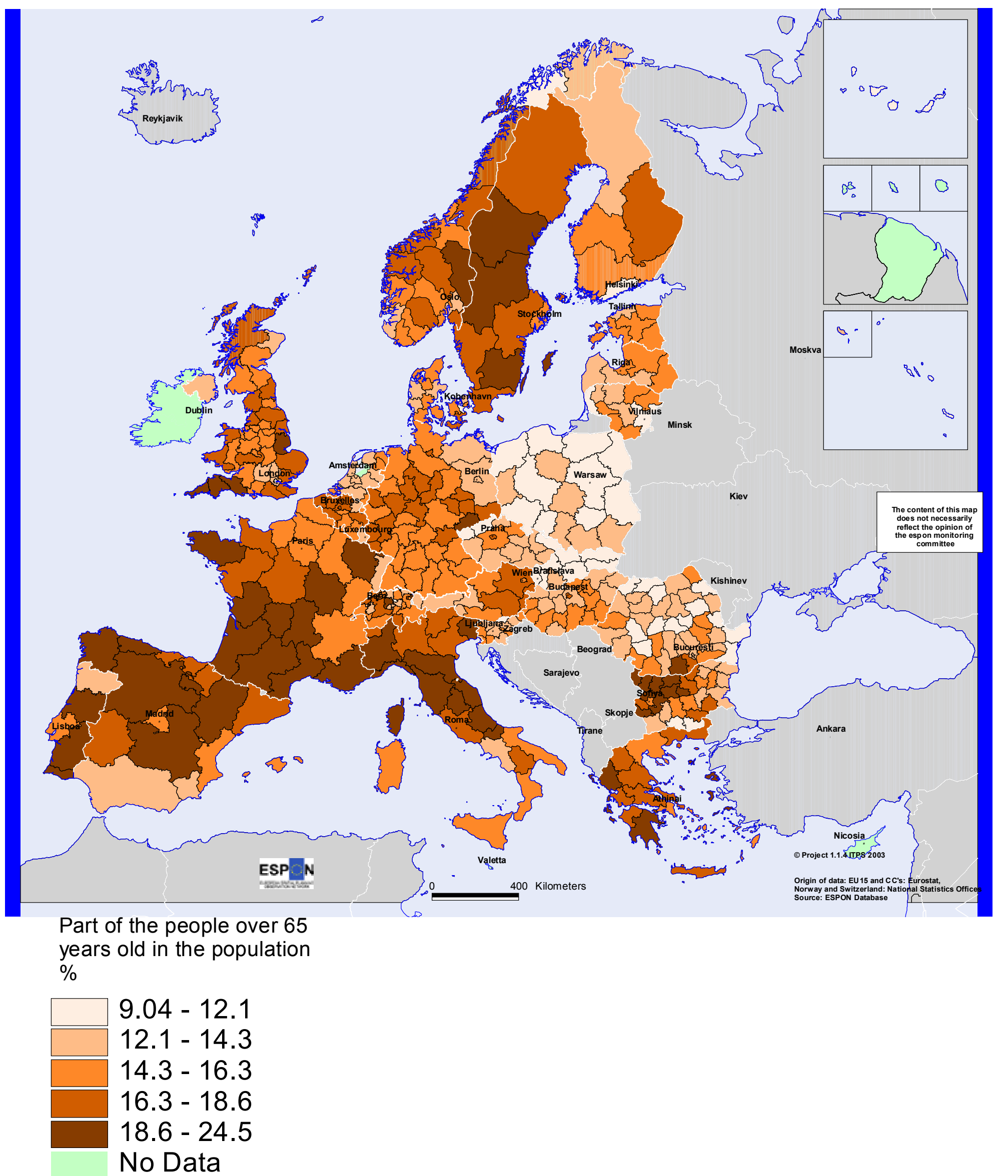
From the regressions that have been done there seems to be no correlation at all between ageing and total population change or between ageing and net-migration. The pattern will, however, be quite different when the regressions are broken up in new regional ones. In the new EU countries and in Northern and Southern Europe the ageing process seems to have impact on total population change, but the impact on the components seems to differ between them. With regard to natural populations change the ageing process seems to be especially significant for the

[1] See e.g. Johnson, 1992.

development in Southern Europe where ageing and low TFR seem to reinforce each other. The impact on net-migration is, however, not so pronounced. It is only in the Nordic countries that there may be a small connection between ageing and net-migration in the sense that ageing regions also are out-migration regions. This is, however, more pronounced if Norway is excluded in the estimations – this is also valid with regard to both total and natural population change.

Map 5.5 Regions in EU29 with different age structures. Year 1999.

Elderly people (>65 years) in 2000



Chapter 6 Migration within and between the European Countries (WP3)

Main preliminary results

Total migratory balances

The migratory balances in the 90's illustrate a pattern similar to that observed in the 80's, or even in the 70's. The main processes of migratory flows have not considerably altered since the middle of the 70's.

Compared to the 1980s', the 1990s' decade however is characterised by a revival of the international migratory movements though differently featured. Even the peripheral countries, such as Portugal, Spain, Greece and Ireland, have become countries of immigration after decades of massive emigration, at least until the seventies.

The main elements that explain the late nineties' migration's map are the border effect, as it is within the national borders that the flows are the most intense and the migration balances contrasts the most significantly, and secondly, the economic and environmental inequalities, as they essentially play a role within national spaces.

The internal migratory balance

Preliminary analysis brings to the fore the two major processes explaining the internal migrations at NUTS2-level. First, the internal migratory flows illustrate the big divisions inside national spaces. They correspond to differences in economic growth and in the environment that are sufficiently strong to induce migratory flows. Second, the some of the big metropolitan areas (e.g. Paris, London, Madrid, Berlin, Rome) are not attractive with regard to internal migration, from which the population leaves for regions with more pleasant surroundings inside the national space. However, there are some differences between metropolises; in Scandinavia for example, the capitals remain very attractive areas for the rest of the country.

The External Migratory Balance

We should first recall that these balances concern extra-national migration, not extra-European migration. Nevertheless, the geographic contrasts arise mostly from immigration from outside the EU inasmuch as the intra-European migrations are globally balanced, at least between the countries.

The results with regard to external migratory movements shows a very different pattern compared to the internal balance (see also annex E). It indicates some important aspects:

- Europe has become globally attractive, even in spaces of traditional emigration, such as Spain, Southern Italy, Greece, …;
- metropolises are the most attractive areas for external immigration. The presence of communities of immigrants and the importance and the diversity of the employment market explain this attractivity;

- in eastern Europe there is a difference between the richest countries that become attractive, especially the Czech Republic, and countries such as Poland or Romania which remain countries of emigration, although in a much more moderate rhythm than in the beginning of the nineties;
- some tourist areas, such as southern France, the Algarve and the Mediterranean coast of Spain increasingly become regions of exterior immigration. Most of this immigration is coming from northern Europe, among others retired people with a high standard of living. However, the global growth of these areas related to their tourist function also attracts immigration of people from poor countries. These international level tourist places can clearly be distinguished from tourist areas of northern Europe, whose influence is mostly national (southern coast of England for example).

Migratory balances by ages - typologies

A statistical analysis permits us to gather together some age classes characterized by the same behaviour: students and young active people (17,5-27,5 years old), middle age classes (32,5-37,5 years old), and old active people and pensioners (52,5-67,5 years old). Two typologies have been constructed to illustrate the migration pattern with regard to different age groups (see also map 6.3 below and 6.4 in chapter 6 where the different types are illustrated). The typology presented in map 6.3 is based on more rigorous statistical methods than the second one. According to the first typology the types are as follows:

1 - types attractive to young people: these are above all the large urban areas and some very attractive central spaces, such as a large part of Germany, northern Italy, Switzerland, etc. Among these, several types stand out:

- *type 1*, which groups urban areas attractive to young people but repulsive for other ages (Brussels, London, Paris, Berlin). In those cities, the administrative space includes essentially the central part of the city, which mainly attracts young people in schooling age. The suburbanisation process that affects them concerns mainly families with active parents;
- *type 9* characterizes the Scandinavian urban areas as well as Zurich and Hamburg. It differs from the previous type in less negative balances with regard to middle age groups;
- *type 7* also corresponds to large urban spaces, but generally including their peripheries (Munich, Frankfurt, Geneva, Randstad Holland): the difference with type 1 is partly due to the larger size of the statistical unit compared with the metropolitan area, which includes the suburbs and consequently the areas active people head for;
- *type 4* (Lisbon, northern Italy, Denmark) is attractive to all the age groups but more particularly to the young. As for type 7, the large size of the unit compared with the urban spaces accounts for the non-negative balances in active age groups, the more so because suburbanisation is sometimes offset by mass external immigration (as is the case in Switzerland, Lombardy, Lisbon…);
- *type 2* (Madrid, Slovenia, Manchester) shows indefinite profiles, only slightly positive regarding the young.

2- types repulsive for the young: large urban suburbs, peripheral and not very dynamic areas… Among these:
- *type 10* is repulsive for the young but neutral in the other age groups (southern Paris basin, 3 Lander of Eastern Germany, southern Italy, north-eastern Hungary). The most negative balances concern rather the 22,5-27,5 years old than earlier ages, and suggest some difficulty in joining the active world ;
- *type 14* presents negative balances for almost all the age groups, even if they are no longer important for the 17,5-27,5 years old (northern Paris basin, northern Scandinavia, Calabria in southern Italy). Those areas are characterized by their economic weakness and their unattractive surroundings;
- *type 8* differs from the previous types in a strong attractiveness to middle and high age groups. Those areas often combine pleasant surroundings and a certain economic revival (western France, northern Portugal, northern Scotland, Frisian area in Holland…);
- *type 12* has a much more neutral profile. It characterizes not very mobile areas, which have negative balances only for the young (industrial areas in the north of France, some areas in eastern Europe).

3- groups with indefinite age profiles. They can be divided between repulsive or neutral types (3 and 5) and attractive types (6 and 13):
- *type 5* is characterized by balances close to nil for all the age groups, and very slightly negative for the 17,5-27,5 age group. This group prevails in Eastern Europe, which is characterized by a very limited internal mobility and some departures of young people toward Western Europe;
- *type 3* presents just as neutral a profile but, unlike type 5, it shows slightly positive balances for the young (northern Spain, Czech Republic, Warsaw…);
- *type 6* is characterized by positive balances in all age groups, although a bit less for the young. Those areas combine pleasant surroundings and economic dynamism. Some of them sometimes take advantage of the relative proximity of very large towns, others are very attractive tourist areas (Languedoc, the Algarve, Southwestern England, Oslo's greater suburbs…);
- *type 13* corresponds to economically dynamic areas of very high immigration, especially for the relatively young active people (such as Tuscany, Flevoland, Luxembourg and the Algarve).

4 - type 11 represents very attractive areas with quite specific profiles (Epirus in Greece, Sussex, Luneburg).

A typology crossing migratory balance and mobility

The objective is to distinguish between attractive regions with many movements or few movements. The *mobility* can be measured as the sum of inflow and the outflow in function of the total population.

However, map 6.5 shows some important aspects :
. the weak mobility in eastern Europe, although to a lesser extent in Hungary. This could be explained among other things by the weak development of the real estate market, which forces people to keep their housing ;
. the weak mobility of Italy and Spain;

. the strong mobility in and around metropolitan areas. These metropolises are characterized by high migratory movement between central towns and suburbs but also between the all metropolitan area, attractive for young people, and the rest of the territory, which receives active and retired people from the metropolises;
. the weak mobility of most of the old industrial regions, marked by the numeric importance of an active or non-active working force, often lowly qualified and not very mobile on a social point of view.

Determination of explanatory factors

Explanatory factors have been introduced that are not pure demographic variables. Instead both economic and social variables are introduced in the analyses. This has been done both with regard to the total migration and for different age groups. Below follows the main results from these estimations.

Correlations between socioeconomic factors and total migratory balance

Table 6.6: Correlation between the 1996-1999 migratory balances and some socioeconomic variables

	Migratory balance	
	nuts3	nuts2
GDP/inhabitant 2000	0,005	0,201*
average annual growth (1995-2000)	0,072	0,235*
Density of population 1999	-0,153*	-0,030
Unemployment 2000	-0,103*	-0,326*
Number of observations	1258	265

* the correlation is significant at 0,01 level

On the whole, correlations between economic situation and migratory balance are not so important. The standard of living, for instance, does not explain the migratory balances at NUTS 3 level while it does, to a small but significant extent, at NUTS 2. Similarly, the economic dynamism accounts relatively improperly, though more significantly, for NUTS 2 migratory balances. Unemployment has a weak but significant negative correlation with the migratory balances, both at NUTS 2 and 3 levels.

Unlike the economic variables, population densities are more correlated at NUTS 3 than at NUTS 2 level. At NUTS 3 level, this is even the highest correlation of the table.

Correlations between socioeconomic factors and migratory balances by age groups

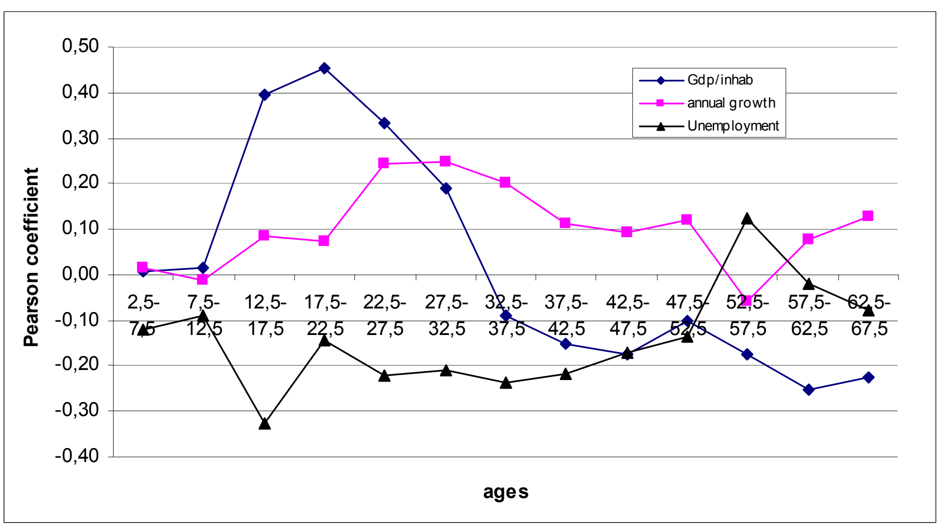
Table 6.8: Correlation between migratory balances by age group and some socioeconomic variables (265 observations)

	Migratory balance 1995-2000			
	total	17,5-22,5 years	32,5-37,5 years	57,5-62,5 years
GDP/inhabitant 2000	*0,20	*0,46	-0,07	*-0,25
Average annual growth (1995-2000)	*0,24	0,07	*0,20	0,08
Density of population 1999	-0,03	*0,53	*-0,33	*-0,29
Unemployment 2000	*-0,33	-0,15	*-0,24	-0,02
Dependency ratio 2000	-0,07	*-0,41	0,13	*0,33

* The correlation is significant at 0,01 level

The strong correlation between young people's migratory balances and standards of living should be interpreted with caution. Young people are attracted by the big cities because of higher education opportunities and flexible insertion in the job market rather than for reasons of higher standards of living. Indeed, a high GDP per inhabitant does not always mean high incomes for the residents insofar as a growing part of qualified and well paid employment is occupied by people residing in the suburbs. On the opposite, the correlation is negative in the case of retired populations, who leave the large cities in search of green surroundings. Such an interpretation is confirmed by the correlations between migratory balances and population densities: negative for the young and positive for middle or high age groups.

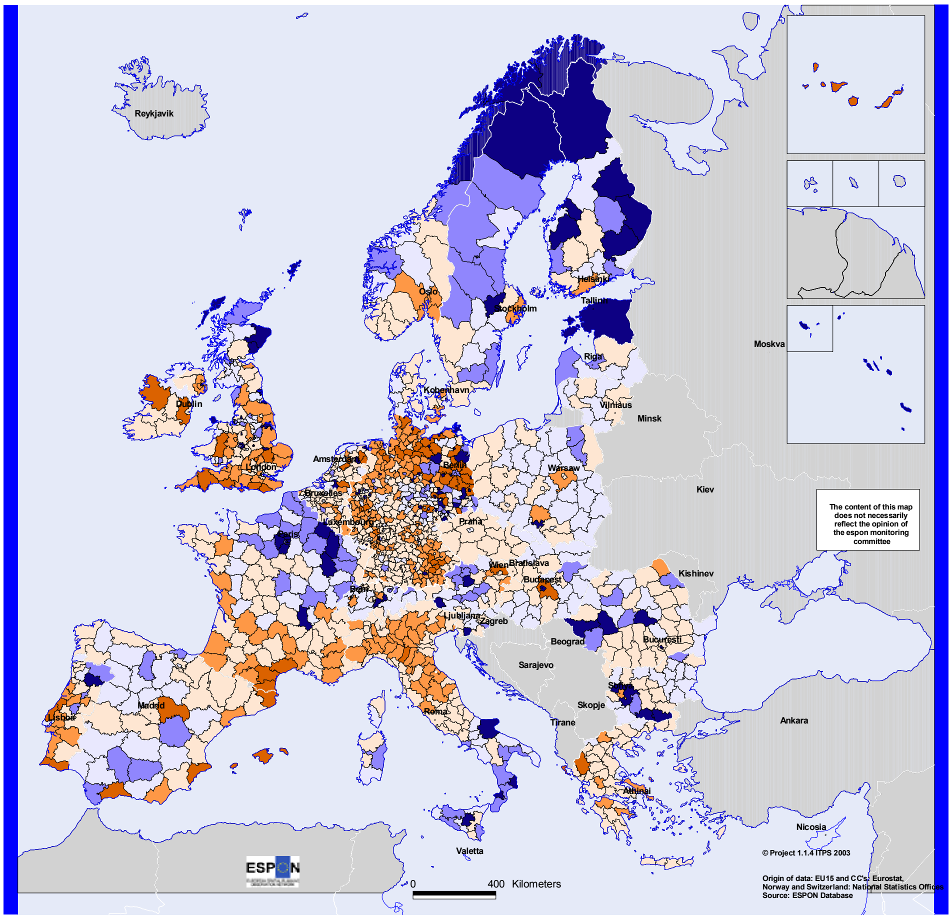
As far as economic dynamism is concerned, it appears to make no difference in most age groups' eyes, except to young active people (22,5 to 37,5 age group), who are obviously attracted by the most dynamic areas.



Graph 6.2: Correlation between migratory balances by age group and economic factors

MAP 6.1

Migratory balance between 1996 and 1999



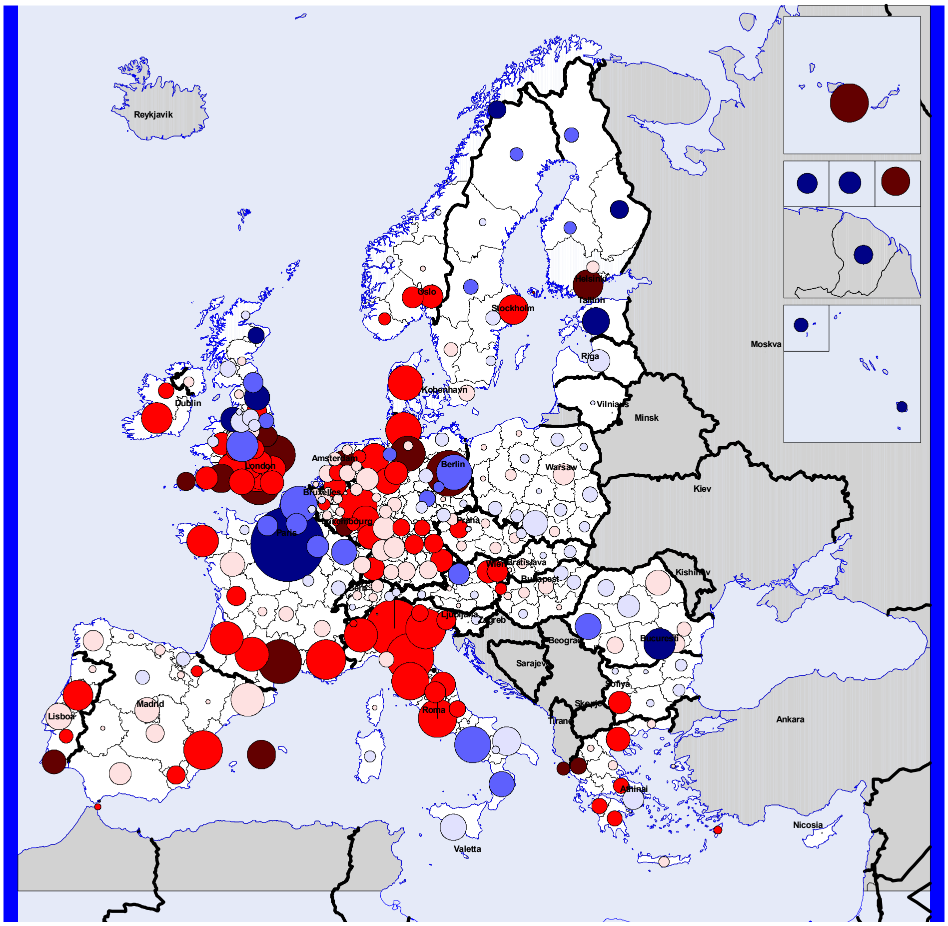
annual average balance
for thousands inhab.

- -46.72 - -5
- -5 - -2.5
- -2.5 - 0
- 0 - 5
- 5 - 10
- 10 - 56

Source of data : evaluation based on Eurostat data and national statistical institute for Switzerland and Norway

MAP 6.2

Migratory balance by regions between 1996 and 1999



Absolute migratory balance

66000

10000

1000

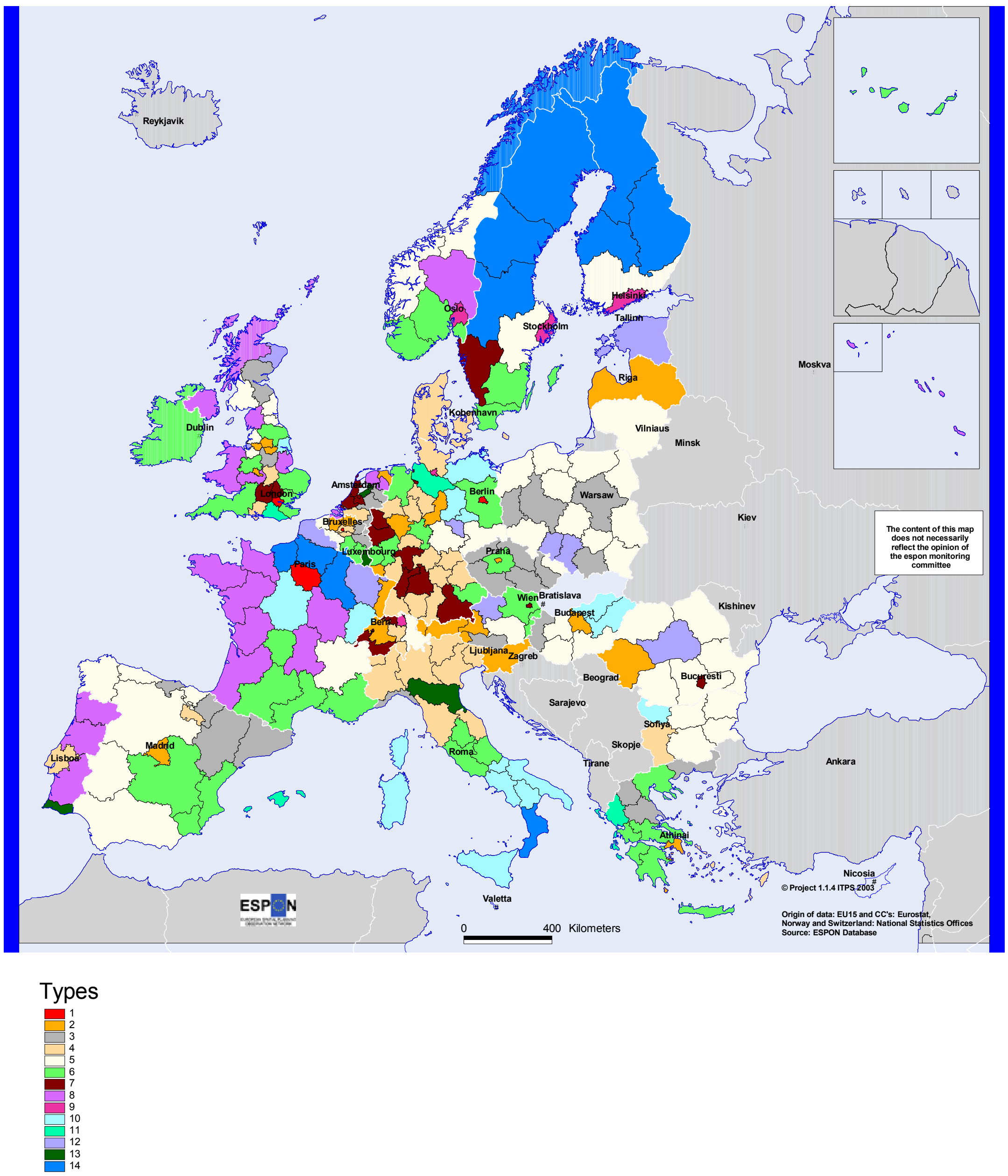
Annual average balance for thousand inhab.

-30--5
-5--2.5
-2.5-0
0 - 2.5
2.5 - 7.5
7.5 - 30

Source : evaluation based on Eurostat data and national statistical institue of Switzerland and Norway

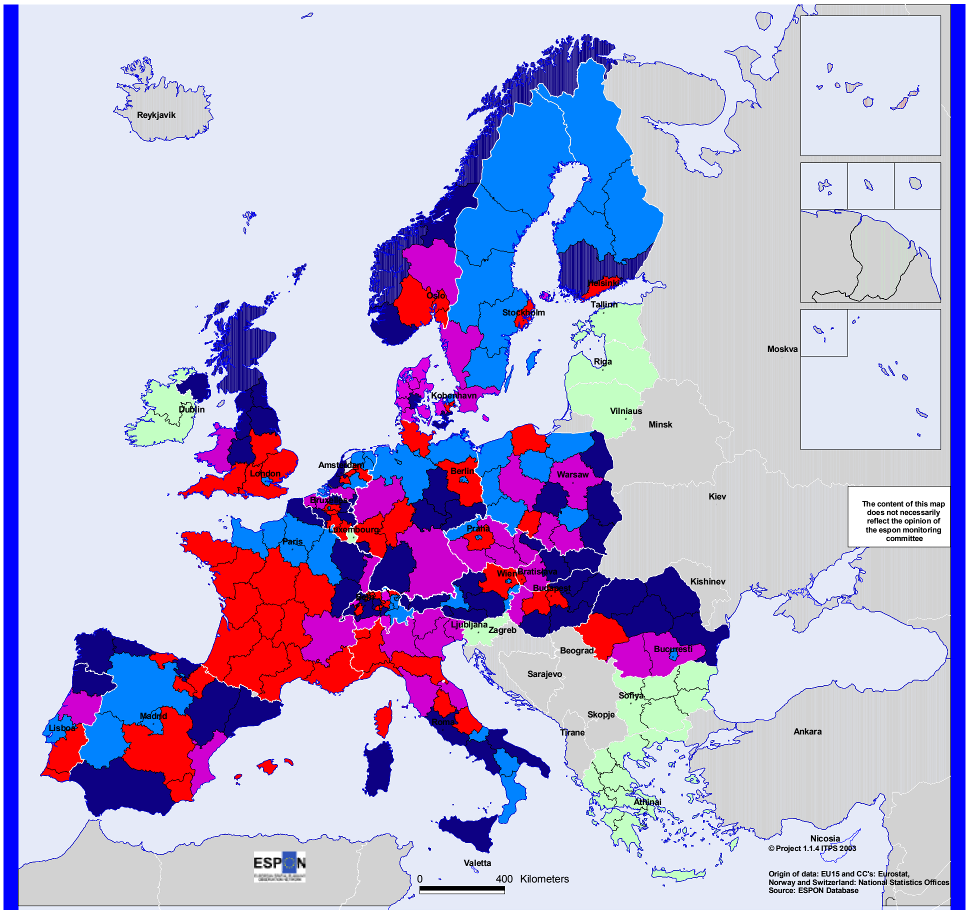
Map 6.3 For definitions, se above

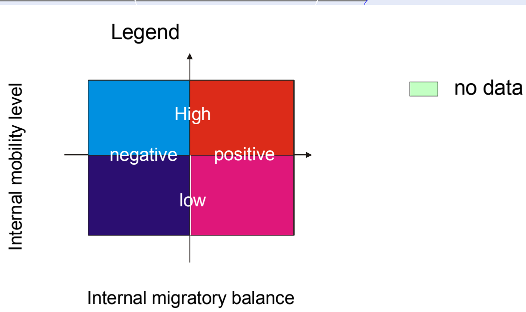
Typology of migratory balances by ages, between 1995 and 2000



Map 6.5

Typology crossing mobility and migratory balances





Chapter 7 Fertility, Migration and Depopulation (WP4)

Concept and phenomenon

The concept of ‘depopulation’ is far from clear. Most often the word is used almost synonymously to population decline, but sometimes it is reserved for population decline of a certain enduring nature, or even more narrowly confined to processes that carry ominous signs of socio-economic impacts. These kinds of concern may relate to socio-economic implications of distortions of the age-pyramid, or of demographical “thinning-out” of already sparsely populated (and often remotely located) areas, or even – as was the case in some peripheral parts of the Nordic area from the 1960s on – complete depopulation in the sense that entire local communities are emptied of population and literally die out.

In this project we take an open and pragmatic view of the concept and phenomenon of depopulation and will come back to a further conceptual elaboration towards the end of the project phase, based on the empirical analysis that the state of European regional data allows us to perform within the frame of available time resources. However, based on the aspects mentioned here and the more immediate background of the current interest in depopulation as a spatial phenomenon at the European level (cf. above), we may keep in mind that depopulation may be associated with certain:

- Levels or degrees of demographic change
- Durations of demographic change
- Dynamics (or relative components) of demographic change
- Population-structure aspects of demographic change
- Implications/potential implications of demographic change
- Territorial contexts of demographic change and of implications of demographic change

A reasonable point of departure seems to be to regard depopulation as population decrease i) of a certain enduring – and potentially territorially comprehensive – nature, ii) which is related to long-term fertility decline, and where iii) the structural demographic implications of which are inadequately counteracted, and sometimes even reinforced, by lasting patterns of net migration. In turn the inherent demographic dynamics imply iv) particular age-pyramid effects, which entail v) a problem potential depending on qualities of the regional context.

Map 4.1 displays the crude rates of total population change (percentage) at the NUTS 3 level 1996-1999.

In the Nordic countries there is a pattern where the less central regions have the most negative development and the most central ones the strongest growth. In Germany the most marked regional differentiation is between the western part, with generally positive development, and the former GDR, where the development is mostly negative, except for the suburban belt around the major cities. In the western part of Germany, in the Be-Ne-Lux countries, Ireland, south England, south and western France and coastal Portugal most of the regions are within the two top quartiles. In Italy the very regions with the most negative tendencies regarding indirect depopulation (cf. below) are to a great extent the ones with the most positive population development in the latter half of the 1990s. The regional population change in east Europe is probably hampered by the lack of a properly functioning housing market, and is perhaps also due to a greater share of migrations not being registered as compared to the rest of "Europe 29". Even so, much of Poland shows a very positive population change, not least the regions around Warsaw and Gdansk and south of Krakow.

The most negative change is found in the least densely populated regions in France, Spain and Portugal, the northern and southern parts of east Europe, and in peripheral regions of Sweden and Finland.

When we rank the regions within "Europe 29" according to their population growth rates from the middle to the end of the 1990s, we find that the German NUTS 3 regions (especially the former eastern German regions) are remarkably well represented at the extremes. Many of the fastest growing and fastest declining regions in "Europe 29" are German. This may have to do with the greater level of territorial detail represented by the German NUTS 3 level compared to the other countries.

The results of WP4 indicates also to what extent regional population growth rates vary among and within countries, and the share of the countries' regions, populations and areas that were affected by population decline from the middle to the end of the 90s. The largest share of declining regions (50-100 percent) and affected populations (40-100 percent) are found in the ten countries Latvia, Bulgaria, Hungary, Sweden, Romania, Czech Republic, Estonia, Finland, Lithuania and the Slovak Republic (in this order).

In the Nordic countries far smaller shares of the populations than of the regions were affected. In many other countries the situation seemed to be reverse. In several countries the major part of the national area and populations were affected by population decline – measured at the territorial scale of the NUTS 3 regions.

It is also obvious from that a large share of the "depopulating" regions may be characterised as relatively rural – in many cases sparsely populated and remote – regions, but even old industrial areas and relatively central towns seem to be affected by population decline. The relative contribution by the two main components of change seems to differentiate between the types of "depopulation" areas according to location, regional context and characteristics.

Typology based on direct indicators at different territorial scales

The logic behind this typology – displayed in one map below – is that the recent demographic development of a smaller territorial unit may have different interpretations according to the demographic development characteristics of the larger region of which it is a part, and even the demographic situation of the nation as a whole. The national Total Fertility Rates (TFR) may indicate dramatically different national demographic scenarios and regional-demographic dynamics, and therefore represent important frame conditions for determining prospective regional demographic change on the basis of the observed development at the NUTS 3 level and its larger regional context (NUTS 2). This indicator has therefore been given some weight in the typological approach.

The typology (or composite indicator) is based on demographic indicators at three hierarchical territorial levels:

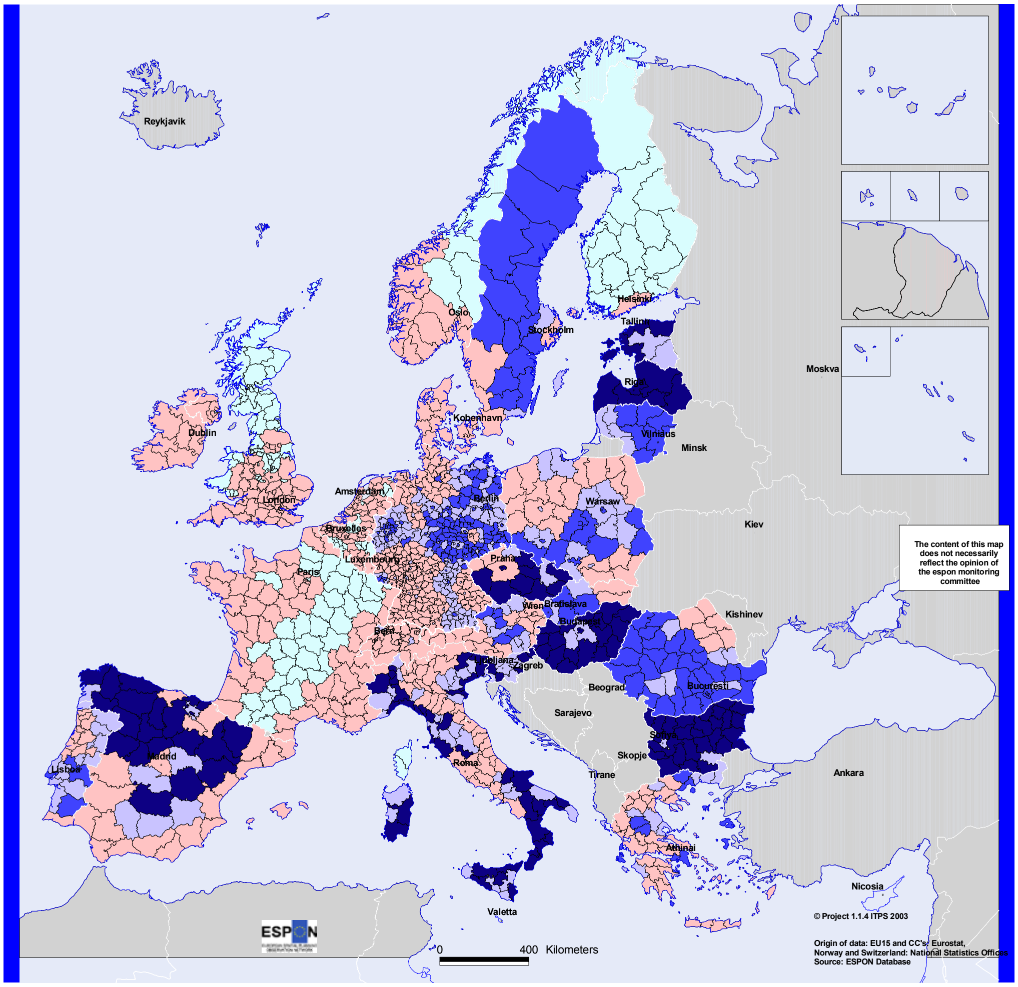
1. The nations are classified into *three classes* according to the level of their current Total Fertility Rate (Extremely low, Very low, Low)
2. The larger regions (NUTS 2) are classified into *two classes* (Declining, Not declining) by whether i) their current total population change rate (1995-1999) are below zero *and/or* ii) the population of declining NUTS 3 regions (1995-1999) within the larger region constitutes more than a fourth of the total population of the larger region (if non of these conditions are met, the NUTS 2 region is classified as "Not declining")
3. The smaller regions (NUTS 3) are classified into *two classes* (Declining, Not declining) by whether their current total population change rate (1995-1999) are below zero or not.

The NUTS 3 regions may be classified according to different combinations of these criteria, the potentially "worst-case" being declining smaller regions (NUTS 3) within the context of declining larger regions (NUTS 2) in nations with extremely low Total Fertility Rates. The approach is hierarchical in the sense that population change in small territorial units is "weighted" by the population change situation of the larger region, and in its turn by the national demographic prospects (assuming no migration), indicated by the Total Fertility Rate. Total Fertility Rates at sub-national territorial levels are very hard to come by, and are also relatively unstable figures, but some elaboration will be made in this direction towards the final report. The depopulation process based on these direct indicators are shown in the map below.

Countries with "Extremely low" Total Fertility Rates in "Europe 29" (except Cyprus and Malta) comprise 239 NUTS 3 units. 708 NUTS 3 units are within countries with "Very low" fertility, and 379 units are located in "Low" fertility countries. The share of NUTS 3 units *with recent population decline within declining larger regions*, range from 51 percent among units in "Extremely Low" fertility countries, via 30 percent in "Very low" fertility countries, to 21 percent in "Low" fertility countries. Regions *with growing smaller units within growing larger regions* range from 27 percent, via 48 percent, to 63 percent, respectively.

The countries with extremely low fertility rates are Spain, Italy, Bulgaria, Slovenia, Hungary, The Czech Republic, Estonia and Latvia. Within these countries wide "depopulation" areas exist according to our indicators, and in a few of them regional polarization seems to be the case, declining and growing areas existing side by side (for instance Spain and Italy).

Direct indicator of depopulation



Direct indicator of depopulation

- very strong depopulation
- strong depopulation
- depopulation
- possible depopulation
- no depopulation

Origin of data : EU15 and CC's : Eurostat
Norway and Switzerland : National Statistics Offices

In the enlargement countries one cannot speak of depopulation in a strict sense, though population decline is a marked process. Actual depopulation might occur in some of the high mountain areas of Romania and Bulgaria, however.

In Hungary the distribution of population (apart from the concentration in the Capital Region) is relatively even, and so is the decrease in the number of inhabitants. Comparison of maps at NUTS2, NUTS3, NUTS4 and NUTS5 area units reveals that the higher the level of analysis, the more even is the observed process of decline. Only a most detailed map (of NUTS5 units) will show variations particularly due to the development of urban regions and the stagnation of rural regions.

In Scandinavia, Swedish territorial units are deviant. At this territorial scale most of the Swedish units will have to be characterized as "depopulation" areas, i.e. they are declining units within declining larger regions in a country with a "Very low" below-replacement fertility level.

According to the map no country with Low Total Fertility Rate (cf. criteria above) has any region with depopulation. In Ireland and Denmark all regions are in the no depopulation category, while in France, the United Kingdom, the Be-Ne-Lux-countries, in Finland and Norway, parts of the countries are also in the possible depopulation category.

All the countries with Very low fertility rate (Sweden, Germany, Switzerland, Austria, Portugal, Slovakia, Greece, Rumania, Poland and Lithuania) have at least some depopulation regions, but no one (per definition) with very strong depopulation. Every region in Lithuania is in the depopulation categories. With the exception of the territories around Leipzig, the whole of the former GDR shows depopulation or strong depopulation, as does the Ruhr area, and territories close to the former GDR border from Lower Saxony to Bavaria.

Parts of northern Italy, parts of northern Spain and parts of Bulgaria are both found to have the highest level of relative depopulation (cf. the section on indirect/structural indicators below) and very strong depopulation according to the direct indicator. For most of east Europe, there is a discrepancy between low degrees of relative depopulation (cf. below) and an often strong or very strong depopulation according to the direct indicator, even though we find a number of regions in Poland and in Romania that combine the lowest degree of relative depopulation and no depopulation according to the direct indicator. Parts of the UK, Germany, Northern Italy and Greece combine the highest degree of relative depopulation (cf. below) with no depopulation according to the direct indicator. These findings will be analysed in greater detail for the final report.

Typologies based on indirect/structural indicators on state of "depopulation"

Indirect indicators may serve the purpose of mapping some important *structural aspects* of the type of enduring population stabilisation and decline frequently associated with depopulation. They indicate structural demographic effects of depopulation, as well as the demographic dynamics at work and probable policy

relevant implications and the future demographic potential (for a more detailed methodological description, see chapter 7, WP4). These indirect indicators are:
Ageing population
Ageing labour force
Labour force replacement rate
Post-active dependency rate
Aged vs young persons
Share of children
National growth potential

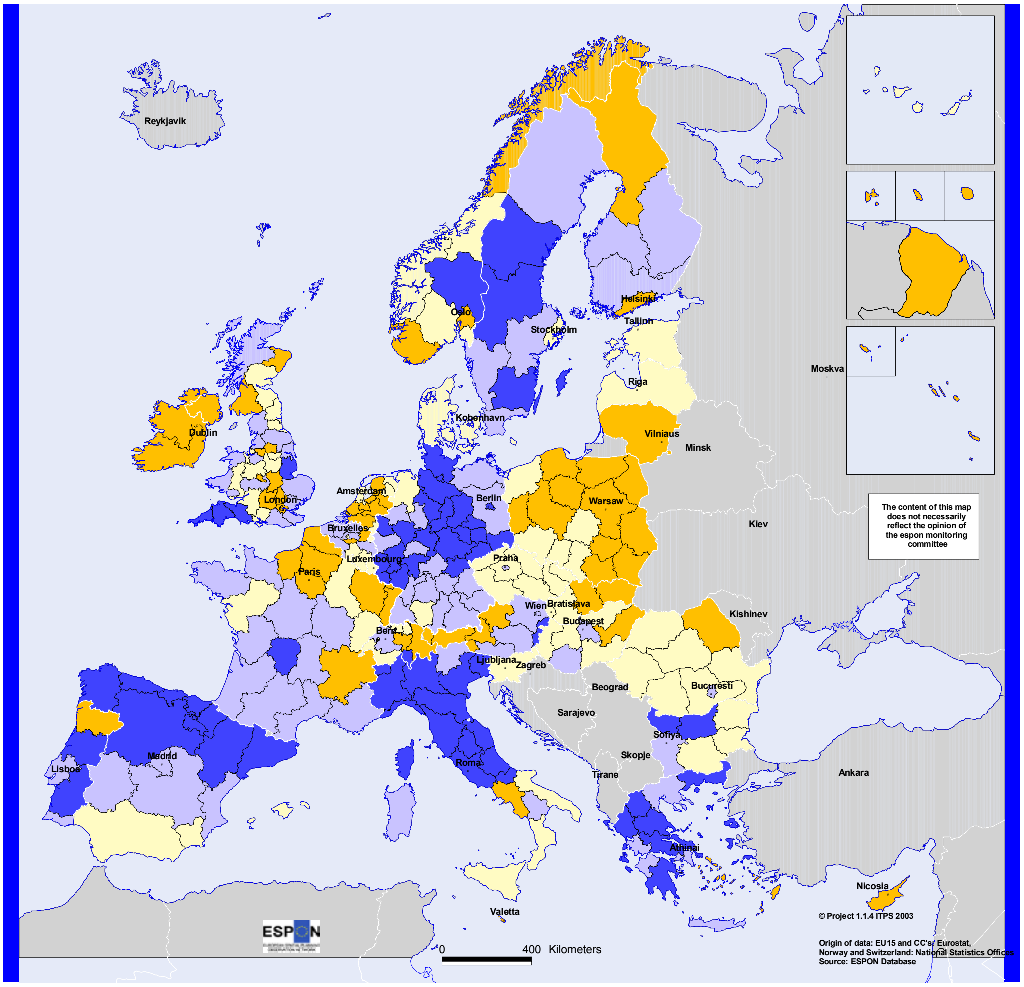
What these indicators and the following map demonstrate is basically that demographic scores at any given time are highly influenced by former demographic occurrences. Behind these figures are national and regional changes in fertility over almost a century, migration patterns and their changes within each country, international migration and its regional distribution in the countries, and implications of wars.

The preliminary results from the analysis show that in the Nordic countries there is a pattern where the less central regions have the most negative development and the most central ones the strongest growth. In Germany the most marked regional differentiation is between the western part, with generally positive development, and the former GDR, where the development is mostly negative, except for in the suburban belt around the major cities. In the western part of Germany, in the BeNeLux-countries, Ireland, South England, South and Western France and coastal Portugal most of the regions are within the two top quartiles. In Italy the very regions with the most negative tendencies regarding indirect depopulation are to a great extent the ones with the most positive population development in the latter half of the 1990s. The regional population change in Eastern Europe is probably hampered by the lack of a properly functioning housing market, and perhaps also due to a greater share of migrations not being registered than in the rest of EU29. Even so, much of Poland shows a very positive population change, not least the regions around Warsaw and Gdansk and south of Krakow.

The most negative change is found in the least densely populated regions in France, Spain and Portugal, the northern and southern parts of east Europe, and in peripheral regions of Sweden and Finland.

Among the ten percent most declining NUTS 3 regions in the last half of the 1990s the regions of 18 counties are represented. Of the 133 “most declining regions” as many as 64 regions are German, 18 regions are Bulgarian, 8 regions are part of United Kingdom, 6 regions are Romanian and 5 regions are Portuguese. The rest of the 18 countries are represented with 1-4 regions (Austria, Switzerland, Estonia, Spain, Finland, Greece, Hungary, Italy, Latvia, Netherlands, Norway, Poland, and Sweden).

Average score on indirect depopulation indicators in 2000



Average score on indirect depopulation indicators in 2000

- very low relative depopulation
- low relative depopulation
- high relative depopulation
- very high relative depopulation

Origin of data : EU15 and CC's : Eurostat
Norway and Switzerland : National Statistics Office
Source : ESPON database

Very strong depopulation is generally found in territories in the countries with extremely low total fertility rate, Spain, Italy, Slovenia, Bulgaria, Hungary, the Czech Republic, Latvia and Estonia. In the Baltic states, Hungary and Bulgaria, all regions are in one of the three depopulation categories. In Latvia, all the regions have very strong depopulation.

Depopulation is often a function of low fertility rates and natural population change and net out-migration. For many depopulation regions this result in vicious circles that result in eroding preconditions for endogenous growth end development. From a *policy point of view* this is problematic as many of these regions have since long time been out-migration regions and the policy means have not been succeeded to change this negative spiral. These development paths are, however, undesirable from a cohesion point of view even if there can be conflicts with regard to the growth perspective.

Chapter 8 Ageing, Labour Shortage and 'Replacement Migration' (WP5)

Much of the results – scenarios - in WP5 are based on four different models. The results refer to 29 European countries, the current fifteen of the EU, the ten of the enlargement of first May 2004, Bulgaria, Romania, Norway and Switzerland, and for the 276 respective NUT 2 regions, as well as for the totals of EU29, EU25 and EU15.

The four scenarios mentioned above are:

Scenario A – Without migration

This is the closed model based on the extrapolation of the regional values of the specific demographic rates and without any migration. It is an indicator of the demographic potential of each region. The difference with regard to the current population is a good indicator of the tendency towards depopulation and the changes in the age structure are also a good indicator of the ageing process.

Scenarios B – With migration

Scenario B1 – This scenario calculates and assumes the migration flows needed (in each five year period) to maintain the same total regional population (i.e. the same population as in base line - year 2000). It shows the sustained effort needed to maintain the current level of population.

Scenario B2 – This scenario computes and assumes the migration flows needed (in each five year period) to maintain the same active age regional population (i.e. the same population between 15 to and 64 years of age as in base line - year 2000). It shows the effort needed to maintain the current level of regional labour force.

It is a good indicator of the "potential" labour shortage, assuming "potential" as the ability to maintain the same level of production and productivity. It could provide some initial information about the "labour shortage" that will happen, all other things kept constant. It illustrates the regional differences between the natural labour force supply under the assumption of constant demand. High positive values of immigration are then an indicator of the "natural" incapacity to fulfil the production needs and a good estimate of the labour replacement migration.

Scenario B3 – This scenario calculates and assumes the migration required (in each five years period) to maintain the ratio of the working age population to the retired age (regional population 15-64 divided by regional population 65 and more) that exist in the base year of 2000. It is an "impossible" scenario because of the very high level of immigration required, but it is a good indicator of the dimension of the problem of financing retired people.

Scenarios C – These will be scenarios of replacement migration related to the regional economic performance assumptions (based on active population, GDP and productivity long term average variations), to be developed for the final report.

All the models made projections of the total resident population and migratory flows by five years age groups at the end of each five years period from 2000 until 2050. The calibration period of 1995-2000 gives also an estimate of the migration figures in that period, to be checked against the real flows.

The number of survivors in each five-year group is a result of the application of the average mortality rate of each group to the people existing in the previous group (five years before). In a similar way, the number of people in the first age group (between 0 – 4 years old) is the result of applying the specific fertility rates by five-year group to all the groups of age involved, minus the average number of deaths for that age group. The migrants appear in the model as the difference between the regional populations needed to fulfil each model assumption and the "natural" (demographic) balance between deaths and births.

To perform the projections it is necessary to know the age structure of migrants, quite different from the resident population. As they have different sex and age structures, depending, at least, on the development of the migratory flow between each origin and each destination we chose an average age structure, following the UN projections for replacement migration[2] as an average of the flows coming to modern developed countries, such as Canada, US, Australia.

For all the models, the values of the specific fertility and mortality are assumed to be kept constant at the level of the middle of the 1995-2000 period (as mentioned before).

Each model was run in two different ways, one for the 29 countries and another for the 276 NUT 2 regions. With the second way, it was also possible to obtain national results, adding up the regions in each country. Some differences appear between those two ways, due to the aggregation errors, well known to statisticians, of consider homogenous behaviour within each elementary territorial unit, in one case the country and in the other their regions. The small dimension of the differences found is a good indicator of the robustness of the results.

The future demographic trends are determinated mainly by the low level of specific fertility rates existing in almost all the countries and regions in Europe. And

[2] United Nations (2002), p.16 and table III, 1, p.17

although the United Nation Population Projections assume that they will rise in future, very strong institutional efforts will be needed to reach that target successfully and the final results obtained will not reverse the main trends.

The low values of specific fertility rates result in even lower broad fertility rates because of the ongoing ageing process of European population. The fall of fertility behaviour is not a new phenomena, but until recent years this was hidden by a lot of factors, from which we distinguish the inter-European migration flows and the return of European emigrants mainly from old colonies, the non-European immigrants that had came to Europe, and mainly the fact that the populations of younger cohorts that reach the work and reproduction age are very small.

Another important factor will be, for some time, the predicable population longer life, an old process in the most developed central and western countries, but only now reaching the more peripheral regions. The ageing of European population seems to be an inevitable process, and the relation between active population and retired people will diminish to alarming levels.

Results and findings

A strong ageing increase, and even larger decreases in the potential support ratio (PSR) are the main conclusions. With *which* intensity levels in *what* regions, are the main questions to be answered. The main conclusion for WP5 in TIR is that the European immigration need is more urgent in the 'Candidate Countries' (EU12) than in the present 15 member states. This fact will sooner or later put the problem of the destination of the needed immigration on the political agenda.

It is important to note that the crude birth rates for the ten enlargement countries are clearly smaller than those of the present European Union 15 countries. As occurs in relation to fertility, all the models assume the same specific regional mortality rates during the analysed period, and again, the small differences in the scenarios are the result of initial regional differences and differentiated age structure evolution. As with fertility, the small differences that appear are indicators of much stronger trends in the regional demographic evolution.

The evolution of regional ageing between 2000 and 2050 is far from regular. However, the negative correlation between regional ageing and the depopulation/attraction balance is strong (R^2=0,5643).

The estimations of the immigration need to cover a long-term shortage of labour are impressive. To maintain the actual population level, the EU15 will need initially 700 000 migrants each year, in the middle of the analysed period this amount will double (about one and a half million) and by 2050 2,2 million immigrants will be needed each year. A different situation occurs to maintain the labour force, with many more immigrants in the next future and less at the end. In the final model the number of immigrants needed to maintain the PSR shows that almost ten million immigrants are needed each year.

It is important to note is once more, that when going from the present countries of the European Union (EU15) to the future European Union, the situation became worst with higher immigrants rates needed to supply the population needs of the enlargement countries.

The observations of the needed immigrant flows also show that the migration movements tend to be cyclical, as induced by conjuncture needs of labour force (or any other restriction), and that the arrival of migrants in one period will diminish the need for them in the subsequent periods. However, it must be stressed, that the migrant flows are quite distinct either by the set of countries taken into account (i.e., EU15, EU25 or EU29), or according to the current model, as expected.

It is important to say that the migrant flows will be one of the most important results of our work, and in that sense, the comparison between the capacities of the EU15 and the countries of the enlargement, including Romania and Bulgaria, will be crucial in the understanding of the process and in the effort to look for suitable solutions.

Tables and maps

Model A

In the following only results from model A are presented. For scenarios according to the three B-models, see the Part Two.

The prognosis shows that maintaining the present demographic trends without migration (Model A), Europe will experience in the next future a strong depopulation process (Table 8.3 and Figure 8.2 in part two). At the middle of 21st century the fifteen countries now in the European Union lose 80 million inhabitants, the ten countries of the enlargement about 20 millions and the 29 countries analysed here a little more than 111 millions.

Broadly, in the next fifty years the EU15 countries will lose about one fifth of their present population (-21,4%), the ten enlargement countries will lose even more, almost a forth (-25,8%), and all EU29 countries will decrease 22,5%. That population losing process will be more intense after 2025 than in the period between 2000 and 2025.

The population in Europe within fifty years from now will be less than in the decade of the sixties, fifty years before, as shown in the figure below. At the regional level (cf. Table 8.4, Figure 8.2 in part two and map 8.1), there are significant differences between countries.

In more detail, map 8.1 illustrates those demographic trends at regional NUT 2 level. The areas where the depopulation trends are stronger are the East Germany regions, the Baltic States, all the Balkans, north of Italy, north of Spain and south and central Portugal, and Scotland. On other hand, Ireland, most of Norway, Sweden and Finland, as well as urban Poland, France and south of Italy and of Spain are the less depopulated regions.

Evolution of the Potential Support Ratio

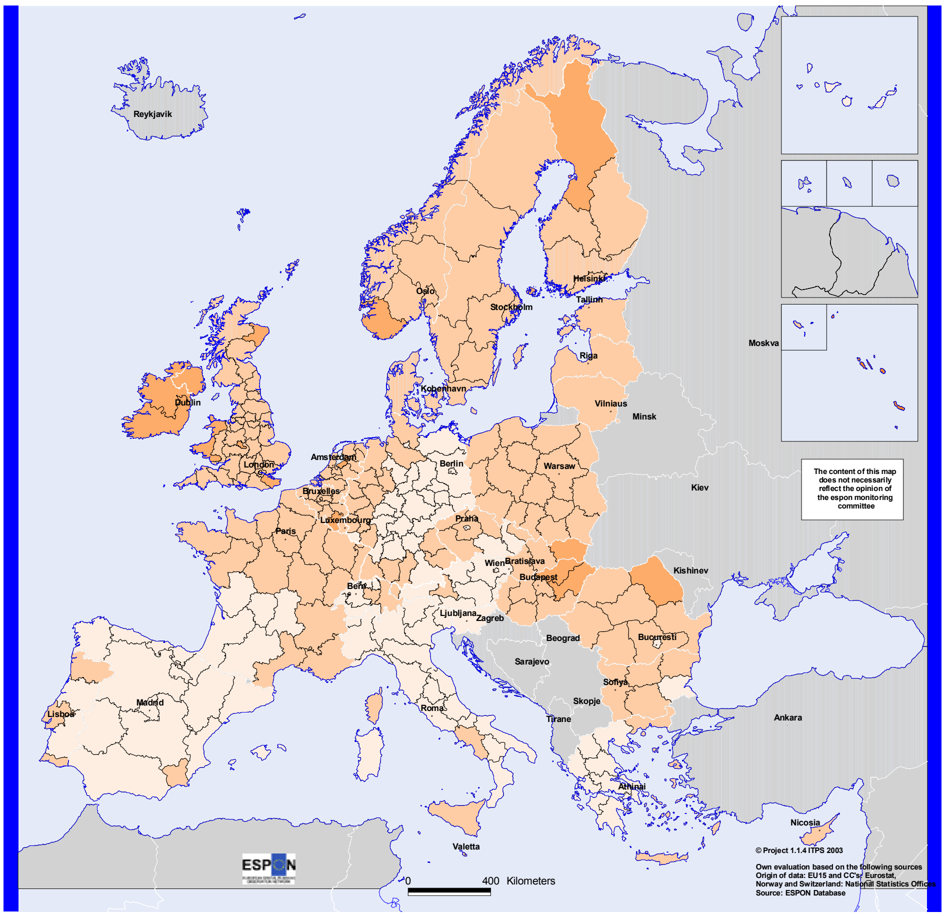
The Potential Support Ratio (PSR) compares the number of individuals of active age (14-64 years old) in each region with the total amount of those of retirement age (65 and more years old). It is an indicator of the regional capacity to feed the social security retirement schemes.

According to present demographic trends, the PSR will strongly decline in the near future throughout Europe to a greater extent than the processes of depopulation and ageing. For the current European Union countries (EU15) we have in average 4,1 workers for each retiree. Of the ten countries of the enlargement (EU10) the ratio is much better, of 5,35 persons of active age per one person of retirement age. (Table 8.6). The overall European (EU29) value in 2000 is therefore approximately 4,3.

At the end of the period in question, by 2050, the figures will be nearly half of what they are today, close to 2,1 for the countries of the EU15, and slightly smaller than 2,5 for the others. In total the number of persons of working age for each retiree hovers around 2,2.

Map 8.7

Potential support ratio in 2050, Model A



people 15-64/
people over 65

- 1.1 - 2.1
- 2.1 - 3
- 3 - 3.9
- 3.9 - 4.8
- 4.8 - 5.8
- 5.8 - 6.8
- 6.8 - 7.6

Chapter 9 Policy implications and policy recommendations

It is important the keep in mind that with regard to demographic development it is easier to see the policy implications than to make policy recommendations. Demographic processes are not analogous with other social and economic processes that more easily can be handled by political and economic means. Especially with regard to migratory movements and international migration, rules and regulations can have an immediate effect on the future demographic development.

Natural population development is, however, a more complex phenomenon. If wars, famines and other catastrophes are excluded, death rates will probably not be changed in a way that has impact on natural population development in the long run even if life expectancy increases. Instead it is the total fertility rate that is the crucial and central variable here, but the effects of changed TFRs are of long term character.

Different parts of Europe have also differing attitudes to family policy and welfare state interventions in the private space and with regard to female labour force participation. The consequence of this reasoning is that it is easier to get a hint of the implications of the demographic development than to make any policy recommendations that will have any immediate impact. Despite these reservations with regard to the direct effects of different political means, we sketch some of them below. This means also that many of the recommendations are much the same as the ones presented at various chapters in the second interim report last August.

Natural Population Development, Aging and Dependency Rates (WP2)

One of the central aspects of demographic changes is that it has consequences on regional and spatial development that are central for sustainability, competitiveness, cohesion and polycentrism. Regions characterised by depopulation are often associated with stagnation and retardation, while regions that experience a positive population development are regarded as expansive and dynamic. In this way, demographic development with population redistribution as a consequence of natural population decrease and low TFRs, ageing and out-migration accentuates the polarisation process between various regions.

The primary policy implications with regard to the ESDP/ESPON intentions are that these processes also hamper the development towards a polycentric development in Europe and reinforce the mono-centric tendencies at the macro level. From an ESDP/ESPON point of view where a polycentric and balanced development is desirable and the population redistribution will result in a regional polarisation instead of a balanced and sustainable development. A natural population increase is thus very important in order to create a positive atmosphere and to change vicious circles to virtuous ones.

This means that the both the EU regional development policy as well as national policies must prioritise an economic and social policy (family policy) in order to stimulate a rise of the TFRs. This will be of utmost importance even in order to stimulate the preconditions for endogenous growth that probably will result in higher TFRs. From a cohesion point of view this is of great importance if the risk for future concentration and social exclusion shall be avoided. As much of the social policy – including family policy - still is of national character, it is of utmost importance to coordinate these means within the EU in order to increase the TFRs. This means also that politicians and policy makers must be aware of the effects of ‘demographic cycles’ and their impacts on regional and spatial development and see these processes in a long wave perspective in order to separate short and long term effects.

Migration within and between the European Countries (WP3)

Different levels in income and education are strong push and pull factors for migratory movement. This is a well known fact, both theoretically and empirically. With regard to young people the urban lifestyle and education possibilities in the metropolitan areas are also pull-factors of great importance. The metropolitan regions are also in-migration areas with regard to foreigners and immigrants. Here there are a lot of signs of ghetto living and segregation that also results in social conflicts and problems.

By reducing the regional and national differences regarding income and education, more balanced migratory movements will take place, promoting a more symmetrical economic development in the EU29-area. Furthermore, reducing the regional and national differences in income and education will be an effective means to promote a polycentric development and even stimulate symmetrical migration flows even within different age groups and social categories. Regional enlargement with larger local labour markets and functional urban areas will also stimulate a polycentric development where perhaps the infrastructure and accessibility will be even more important and a precondition for, and a “driving force” in this development.

To close the gap in living standard and income levels is thus of utmost importance to create a polycentric development on EU29-level. The gap between the new EU-members and the old ones are much more pronounced than the gap within the various countries. Temporary rules and regulations are perhaps in some cases necessary in order to hamper a short term large drain from east to west – the fear of mass migration are probably overvalued - but this is not a solution in the long run. Instead a policy that stimulates symmetrical migratory movements should be of great importance and prioritised on the political and social agenda.

Fertility, Migration and Depopulation (WP4)

Depopulation is often a function of low fertility rates, natural population decrease and net out-migration. For many depopulation regions this results in vicious circles that erode the preconditions for endogenous growth end development. From a policy point of view this is problematic as many of these regions have long been out-migration regions and the policy means have not been succeeded to change this negative spiral. These development paths, however, are undesirable from a cohesion point of view even if there can be conflicts with regard to the growth perspective. This dilemma is of great importance with regard to the EU cohesion policy. The concept of territorial cohesion is a central ingredient in ESDP/ESPON and a policy that reduces the eventual goal conflict between growth and territorial cohesion where lagging and depopulation regions are stimulate – but not on the cost of economic growth and competitiveness – must be discussed explicitly among politicians and policy-makers and not be a topic only for ‘regional economists’. Otherwise, the depopulation of many areas will continue and if this is the case, the welfare state must intervene in the sense that it will be a ‘civilised depopulation’.

Ageing, Labour Shortage and ‘Replacement Migration’ (WP5)

An increased immigration would certainly have an immediate impact on the working-age population. However, in the long-term, migration is not a solution to the population ageing, because immigrants themselves age, and need be replaced. Furthermore, although the fertility rates of immigrant women are higher compared to native women, the fertility level tends to converge in the long term.

The European immigration need is more urgent in the Candidate Countries (EU12) than in the present 15 member states. The destination of the immigrants will soon be on the political agenda. The EU12 do, however, have large possibilities of improving the labour productivity and labour force participation rates, which will lower the need of immigration.

In general, governments should respond to demographic change and to potential labour shortage with a variety of policies and instruments, depending on the specificities of each particular country or region. Five broad categories of interventions are available:

1. Encouraging higher workforce participation through retraining of the unemployed, discouraging early retirement, increase female activity rate, by making it easier for women to combine work with childcare;
2. Postponing retirement ages, a process facilitated by longer active lives;
3. Improve labour productivity levels, by increasing capital investment and promoting the development innovation both in technology and organization capacity;
4. Immigration policies;
5. Encouraging increase in fertility

It is also important to distinguish between short-term from long-term policy responses to a labour shortage. Immigration can only offer a short-term solution to the consequences of ageing. Long-term solutions, such as higher labour force participation rates or a higher retirement age, stimulate an increased fertility rate and improve the labour productivity, which is necessary to deal with the consequences of ageing.

Short presentation of concepts

Crude Birth Rate. The Crude Birth Rate is the number of births per thousand people in the population in a given year. This measure ignores the age and sex structure of the population.

Dependency Ratio. The total population divided by the number of persons in the ages 20-64. A high dependency ratio shows that the share of population ages 20-64 is relatively low.

Depopulation. Depopulation is a population decrease (i) of a certain enduring – and potentially territorially comprehensive – nature, (ii) which is related to long-term fertility decline, and where (iii) the structural demographic implications of which are inadequately counteracted, and sometimes even reinforced, by lasting patterns of net migration. In its turn the inherent demographic dynamics imply (iv) particular age-pyramid effects, which entail (v) a problem potential depending on qualities of the regional context.

Emigration. The process of leaving one country to take up permanent or semi-permanent residence in another

Immigration. The process of entering one country from another to take up permanent or semi-permanent residence.

Income effect: The income effect leads the parents to have more or less children as a consequence of income changes. Thus, a rise in incomes, *ceteris paribus*, shall thus result in higher birth rates and vice versa.

In-migration The process of entering one region from another to take up permanent or semi-permanent residence. Often associated with internal migration.

Labour Shortage. The amount of labour by which quantity supplied is less than quantity demanded at the existing price at a short run perspective. A labour shortage will lead to a rise in the wage ratio. The amount of labour by which quantity supplied is less than quantity demanded at the existing price at a long run perspective *does not* indicate a labour shortage, but a lacking ability of structural adjustment, i.e. to substitute the expensive factor of production labour for, another the factor of production, capital.

Migration. Migration is the change of the place of living by crossing national or international borders and with the intention to stay for a minimum time period.

Migratory balances: Migratory balance is a measure for a territorial unit of the difference between arrivals and departures (immigration – emigration). It is an indirect indicator for measuring of how attractive a region is.

Migration flows: Migration flows are exchanges of population between different territories.

Mobility: Mobility is a general term to describe the intensity of migration.

Natural Population Development: The natural population development is defined as the number of births minus the number of deaths.

Net Migration. The net effect of in-migration and out-migration on an area's population in a given time period, expressed as an increase or decrease.

Out-migration: The process of leaving one area or region to take up permanent or semi-permanent residence in another. Often used with regard to internal migration.

Potential Support Ratio. The potential support ratio is the ratio of the population aged 15-64 to the population aged 65 and older. A low ratio indicates that many people depend on a fewer supporters. A high ratio indicates that there are many to support each and every person over the age of 65.

Replacement Migration. Replacement migration can be defined as the needed immigration to compensate for (i) an ageing society and the rise in the number of pensioners, (ii) the consequences of depopulation, or, (iii) a low number of persons in active age.

Substitution Effect. The substitution effect results in a shift from high to low price products, ceteris paribus. If children are going to be more expansive compared to other products this will have a negative effect on the birth rates.

Total Fertility Rate. The total fertility rate TFR is the sum of the age-specific birth rates of women in the ages of 15-49.

Total Population Development. The total population development is defined as the natural population change plus net migration for a given area at a given time.

Networking with other TPGs

Most frequent contacts and cooperation has been undertaken with ESPON 1.1.3 “Particular effects of enlargement and beyond for the polycentric spatial tissue”. In this project ITPS is participating as ECP. In the middle of January 2004, ESPON 1.1.3 and 1.1.4 had a joint meeting in Budapest where both projects had seminars and project meetings. A joint meeting has also been organised with ESPON 1.1.1 and ESPON 1.1.3 in the autumn of 2003. Otherwise most contacts have been taken via e-mails. Inputs from 1.1.1, 1.1.2 and 3.1 have been taken from their second and third interim reports.

Further research issues

More research and analyses will be focused on economic, social and cultural variables as explanatory factors to different demographic processes. The economic and social affects of the demographic development will also be analysed. For a better understanding the long term approach will be upgraded in the final report, as demographic processes in general are of long term character. More regressions will be made and there are still more maps and graphs to produce. Missing indicators and data will be complemented and developed during the spring and autumn of year 2004.

March 31, 2004

Action 1.1.4:

THE SPATIAL EFFECTS OF DEMOGRAPHIC TRENDS AND MIGRATION

Third Interim Report

PART TWO: RESULTS OF THE PROJECT

Lead partner and coordinator:
Swedish Institute for Growth Policy Studies (ITPS), Stockholm, Sweden

Partners:
Centre for Geographical Studies (CEG), University of Lisbon Foundation (FUL), Lisbon

University of Vienna, Institute for Geography and Regional Research, Vienna

Universite Libre de Bruxelles (ULB), Departement de Geographie, Bruxelles

University G.d'Annunzio, Department of Economy and History of the Territory, Pescara

Norwegian Institute for Urban and Regional Reseach (NIBR), Oslo

VÁTI, Hungarian Public Non Profit Company for Regional Development and Town Planning, Budapest

List of Content

Chapter 1 Introduction

The points of departure for this third interim report are primarily the tender bid, the first and second interim reports, the instructions in the addendum, the 'draft response' from CU and the Commission with regard to the second interim report, the Matera Guidance Paper and the ESPON 'common platform'. These instructions and recommendations have also been followed as far as possible – things that still are missing in this report will be handled in the final report.

Even if there are no watertight bulkheads between the different Work Packages, even the third interim report is written in a way that it shall be possible to read the different chapters and Work Packages separately. This results perhaps in some overlapping and repeated parts but is a necessary evil in this case. The pure theoretical parts are not included in this summary but instead they are included in the relevant chapters.

1.1 A Brief Overview of the Work Packages

Below follows a short description of the content in the different work packages that shall be carried out and analyses in the study "The spatial effects of demographic trends and migration". Some of these topics have been analysed and dealt with in this third interim report. The missing points will be integrated in the Final Report.

WP1 Data, indicators and concepts

1. Specification and agreement of relevant definitions and indicators (common demographic data, explanatory variables)
2. Agreement on methods, sources and timing of data collection
3. Develop/employ map-making procedures
4. European wide typologies of regions and cities according to demographic development

WP2 Natural population development and ageing

1. Demographic processes behind ageing and regional demographic transition (especially components explaining natural population development)
2. The impact of economic and social factors on natural population development
3. Fluctuations (and correlations of fluctuations) in birth/fertility rates
4. Impacts of point 3 on spatial demographic development
5. Impacts of ageing on reproductive and economic development of regions
6. Relevance of gender and age structures
7. Relevance of demographic cycles/waves
8. Scenarios of special development

WP3 Migration within and between different European regions

1. Determinant factors, especially economic and social push and pull factors
2. Internal migration and spatial development/relations
3. Age, skills, education: Accentuated polarisation?
4. Effects of EU enlargement (East-West migration)
5. Immigration from outside EU
6. Implications of growing regions for policy/planning
7. Marginalisation/ghetto formation
8. Scenarios based on changing migration patterns

WP4 Fertility, migration and Depopulation

1. The concept of "depopulation" – dimensions, dynamics, implications
2. Crude picture of the geography and principal features of "depopulation" processes in EU+
3. Identify and evaluate different demographic determinants and dynamics of "de-population", and their implications
4. Typology approach to analysis of variation in determinants, context/vulnerability, effects/implications, possible policy responses
5. Economic, social and cultural (including value changes) as explanatory factors
6. Scenarios based on a few selected type-areas

WP5 Ageing, labour shortage and replacement migration

1. Ageing trends in EU regional populations (cf. WP2, WP3, WP4)
2. Needs and actual/potential imbalances in the labour market
3. Geography of/regional disparities in development of labour market needs and ageing
4. Migration of skilled persons from East to West
5. Regional effects of "replacement" (peripheral regions, modifying aging process)
6. Economic effects of replacement migration
7. Scenarios and policy issues

WP6 Policy recommendations and policy implications

Point of departure: the ESDP document will be in focus when the policy implications and policy recommendations will be written. This is valid not only for WP6 – the policy orientations of ESDP will have a high priority also in the other WPs.

1.2 Labour division within project 1.1.4

Below is a schematic representation of the analytical project organisation or the Work Packages. It should be kept in mind that there are no watertight bulkheads between the six Work Packages. Instead, all Work Packages are designed to provide specific feed-back to one another throughout the whole project in order to guarantee a successful fulfilment. The organisation of the different Work Packages is shown in the table below.

Table 1.1 The organisation of the different Work Packages

WP0: Management and administration	WP leader: ITPS
WP1: Data gathering, indicators and conceptualisation	WP leader: ITPS Central role: IGEAT/ULB Inputs: all partners
WP2: Natural population development and conceptualisation	WP leader: ITPS Central role: NIBR Inputs: all partners
WP3: Migration within and between European countries	WP leader: IGEAT/ULB Central role: University d'Annunzio, University of Vienna, VATI Inputs: all partners
WP4: Fertility, migration and depopulation	WP leader: NIBR Central role: CEG Inputs: all partners
WP5: Ageing, labour shortage and 'replacement' migration	WP leader: CEG Central role: University d'Annunzio Inputs: all partners
WP6: Population, migration and spatial development – policy recommendations. Final report	WP leader: ITPS Inputs: all partners

Chapter 2 Indicators and Data (WP1)

2.1 Objectives

The aim of WP1 is to identify and gather existing indicators, propose new indicators, collect data and develop map-making methods to measure and display the state, trends and impacts of the developments referred above.

2.2 List of Indicators and Indicator Area

The work done here so far is based mainly on data prepared and collected for and by ESPON Projects, the BBR and the NewCronos REGIO-database. Unfortunately, the NewCronos REGIO-database contains no data for Norway and Switzerland. A lot of data for Cyprus and Malta is missing. To deal with the data containing errors and gaps, data from other sources are needed to fulfil the matrices needed for the territorial demographic modelling[1], the most important sources are the National Statistics Offices and, for WP5, the United Nations, through published material, internet sites and also direct contact. To create a relevant data set for this project is quite time consuming, and still missing data will be appearing in the final report.

Each partner has informed WP1 and the TPG whether it is possible to obtain the group of variables listed in the First Interim Report – all of them or just some – for the countries of its area of influence. This means that we have created an inventory of the available variables, indicating the level of disaggregation and the years (or time periods) for which the data is available.

Especially in the area of "causal and effect processes" and "territorial characteristics/regional contexts" a further assessment and elaboration of the indicators and data availability etc. is necessary. In these indicator areas different sources should also be considered, e.g. the OECD Territorial Data Base.

It will, in some cases, be necessary to adjust the requirements somewhat with regard to temporal scope and territorial level. For the stated time periods (temporal scope), the selection of a few "representative" years may prove necessary and satisfactory in relation to the overall purpose. This will have to be determined following a more comprehensive evaluation of data availability and some initial analysis of selected country data.

A simple scheme for the indicators, regional level and temporal scope was presented in the First Interim Report. Since the First Interim Report we have started to work after this scheme. Table 1 summarises the work on indicators, scale and temporal scope at time being. However, we are well aware of the fact that further adjustments, assessments and elaborations are needed.

[1] The use of other sources raises the problem of data compatibility, but since there was no alternative, it is better to have non-perfectly compatible data that to have nothing at all.

Table 2.1: Indicators, Scale and Temporal Scope

	Territorial level*	**Temporal scope**
Basic indicators (depopulation process):		
Total population	NUTS 3 (2)	1980/90-1999 (latest)
Area	NUTS 3 (2)	---
Population density	NUTS 3 (2)	1990-1999(latest)
Total area of urban settlements	NUTS 3 (2)	1999 (latest)
Population in urban settlements	NUTS 3 (2)	1990-1999 (latest)
Indicators on degree of urbanisation	NUTS 3 (2)	1990-1999 (latest)
In-migration	NUTS 2	1990-1999 (latest)
Out-migration	NUTS 2	1990-1999 (latest)
Net migration	NUTS 2	1990-1999 (latest)
Number of births	NUTS 3	1990-1999 (latest)
Number of deaths	NUTS 3	1990-1999 (latest)
Natural population growth	NUTS 3	1990-1999 (latest)
Population in "functional"/"strategic" age groups	NUTS 3	1990-1999 (latest)
Total Fertility Rate	NUTS 3 or 2	1960,1980,1988,1990-1999/2000
Indicators on relations to spatial structures and change, from activity 1.1.1 and 1.1.2 (polycentrism, FUA, urban/rural types, urban-rural relations; typologies)	Cf. Terms of Reference. General cross-activity indicators and typologies	
Indicators of territorial characteristics/regional context (vulnerability):		
Population density (cf. above)	NUTS 3	1980/1990-2001
Indicators on relative remoteness, central/peripheral location (natural geography, travelling distances)**	NUTS 3 (2)	2000 (latest)
Indicators on degree of rural-urban structure**	NUTS 3 (2)	2000 (latest)
Indicators on causal and effect processes:		
Demographic change rates, components of demographic change, recruitment (net migration/natural growth), population potential/fertility (see above)	NUTS 3	1990-1999 (latest)
Socio-demographic performance ratios (ageing, dependency, sex composition, labour market pressure), educational level**	NUTS 3	1990-1999 (latest)
Indicators on economic and socioeconomic performance (participation rate/employment, unemployment, GDP, labour productivity, sector mix/restructuring)	NUTS 3	1980/1990-2001

* EU27+2

** To be assessed and elaborated further

2.3 Results

WP1 has focussed on the data collection of indicators regarding demography as well as socio-economic indicators.

2.3.1 Population and Area

The data for population and area in the NewCronos REGIO-database contain information about the population by sex and age on 1 January each year. For the present 15 EU member countries the NewCronos REGIO-database claims to have data at NUTS2-level for the period 1980-2001, and for the candidate countries (all except Cyprus and Malta) the NewCronos REGIO-database claims to have data at NUTS2- and NUTS3-level for the period 1990-2001. In reality there is a lot of missing data for different entities and years for the present member countries as well as for the candidate countries. Complementary data from other sources are needed to create an appropriate set of data. It will not be possible for us to create a data set for all EU29 countries at the NUTS3-level. This is has also been a huge and time-consuming problem in the data gathering process with regard to this interim report – a problem that will persist during the whole problem but must be solved in order to the challenges in Table 2.1.

The missing data for different age-groups result in difficulties to calculate *the share of the population over the age of 80*. We find it especially troublesome that the REGIO-database as well as most of the national statistics offices in the candidate countries only publish an age-group of 70+ years: it is impossible for us to calculate the share of the total population that is over the age of 80 due to this.

The collected data enables us to calculate indicators such as the *share of children* (0-14 years/total population), *ageing population* (65+ years/total population), *ageing labour force* (55-64 years/20-64 years), *labour force replacement ratio* (10-19 years/55-64 years), *post-active dependency ratio* (65+ years/20-64 years), *dependency ratio* (total population/20-64 years), and *aged vs. youth* (65+ years/15-24 years) at the NUTS2 level. It is also possible to calculate the *active population* (15-64 years old) at NUTS3-level.

The *population density* at the NUTS3 level is available for the EU15 countries from 1980 to 2001[2], and for the candidate countries from 1990 to 2001[3]. No data for Cyprus, Malta, Norway and Switzerland yet.

2.3.2 Population Change

The data for population change contain information on births, deaths, and deaths by age. For the present 15 EU member countries the NewCronos REGIO-database claims to have data at NUTS2- and NUTS3-level for the period 1977-2000, and for the 12 candidate countries at NUTS2- and NUTS3-level for the period 1989-2000. In reality there is a lot of missing data for different entities and years. Complementary data from other sources are needed to create an appropriate set of data.

[2] Some entities are missing in the UK before 1993, and some entities are missing in Germany for areas in the former DDR for the period before 1991.

[3] Data for Hungary, Latvia, Romania and Slovenia cover the period 1990-2001, Lithuania 1991-2001, Czech Republic 1993-2001, and, finally, Bulgaria, Estonia, Poland and Slovakia 1995-2001.

Calculations for the *natural population change* (births and deaths) have been made at NUTS3-level 1990, 1995 and 1999 for most countries in the EU29 area.[4] For the natural population development 1996-1999 the data for NUTS3 regions is complete.

Calculations for the *total population change* have been made at NUTS3-level 1990, 1995 and 1999 for most countries in the EU29 area.[5] For the total population development 1996-1999 the data for NUTS3 regions is complete.

A structural indicator as the *changes in natural growth potential* (20-29 years old in 2020 [born 1991-2000]/ 20-29 years old in 2000 [born 1971-1980]) at the NUTS2-level is possible to calculate.

In the case of *total fertility rate* (TFR) there is no data at all on the TFR in the NewCronos REGIO-database. Some national statistics offices have calculated the TFR at NUTS2- and NUTS3-levels, others have not. For most of the present 15 EU members, data on the number of births by the age of the mother at NUTS2 and NUTS3 is available in the NewCronos REGIO-database, as well as the number of females by age at NUTS2 and NUTS3. This enables us to calculate the TFR for these countries. Only a few of the national statistics offices in the candidate countries have calculated TFR at NUTS2- or NUTS3-levels. For many of the candidate countries (except Cyprus and Malta) relevant data from the national statistics offices is missing to enable us to calculate the TFR.[6] For Germany, the national statistics office has no calculations on the TFR at NUTS2- or NUTS3-level, neither any data on the number of births by the age of the mother at NUTS2 and NUTS3 or the number of females by age at NUTS2 and NUTS3.

If only the one year is missing on NUT2 orNUT3 level TFR is estimated by using the national change rate between e.g. 1995 and 1999. This deviation to the real value will, however, not be especially large if there have not been any exceptional changes in some of the regions.

2.3.3 Migration

2.3.3.1 Domestic Migration

The migration statistics are troublesome. The NewCronos REGIO-database contain information on internal migration for 11 present EU member countries (France, Greece, Ireland and Luxembourg excluded) and 7 candidate countries (Bulgaria, Cyprus, Latvia, Lithuania and Malta excluded) at NUTS2-level by age and sex for the period 1990-1999. This data enables us to detect the internal migration flows between NUTS2-regions. As a consequence of the huge amounts of flows any matrices between regions have not been estimated in this report.

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[4] Missing data for entities and years for Norway, Switzerland, Germany, Ireland, Italy and Slovakia on births and deaths.

[5] Missing data for entities and years for Norway, Switzerland, Germany, Ireland, Italy and Slovakia on births and deaths.

[6] We have only data on TFR at the national level for Estonia, Latvia, Lithuania, Slovakia and Slovenia. It is possibly to buy data on the TFR at NUTS2 and NUTS3 levels from the national statistics office of Bulgaria.

At the moment we have complete data for domestic migration, with no data missing for entities or years, for 6 present EU member[7] countries and 3 candidate countries[8] at NUTS2-level for the 1990's. We have data with no missing entities, but missing years, for 3 present member countries[9], and 3 candidate countries at NUTS2-level.[10] Three countries contain incomplete data (data is missing for both entities and years)[11], and 11 countries have no available information at all in the REGIO-database.

However, there is a lot of missing data for different entities and years. Furthermore, the NUTS2-scale is too large: we are convinced that large migration flows take place below the NUTS2-level, but, unfortunately, it is impossible for us to detect all of them. Data at NUTS3-level from some national statistics offices confirm this.

2.3.3.2 International Migration

The migration statistics on international migration contain data for 13 present EU member countries (France and Luxembourg excluded) and 8 candidate countries (Bulgaria, Cyprus, Latvia, Malta, Poland and Slovenia) at NUTS2-level by age and sex for the period 1990-2000.

Beside missing data for different entities and years, this data do not contain any information from which NUTS2-region of another EU29 country an immigrant comes from or if it is immigrant from outside the EU29 area. The same problem is present for emigrants: we know how many people at NUTS2-level who emigrated during the year, but not the place of destination. This is a restriction especially in estimating changed flows and then also with regard to analyses of the convergence/divergence processes within EU29. This is a problem that also has been discussed with the members in the "enlargement project", ESPON action 1.1.3.

At the moment we have complete data for international migration, with no data missing for entities or years, for 5 present EU member[12] countries and 2 candidate countries[13] at NUTS2-level for the 1990's. We have data with no missing entities, but missing years, for 5 present member countries[14], and 4 candidate countries at NUTS2-level.[15] One country contains incomplete data (data is missing for both entities and years)[16], and 12 countries have no available information at all in the REGIO-database.

Without any data on the place of origin and the place of destination it is very difficult to distinguish an intra-EU29 migrant from an extra-EU29 migrant, and if the migratory movements are caused by labour migration between the countries of EU29 area or by refugees and return migration by refugees. Without information on the place of origin and the place of destination it will be impossible to analyse the international migration flows. At present we investigate the possibilities of doing case-studies: if we can find a

[7] Belgium, Spain, Netherlands, Finland and Sweden at NUTS2-level, and Denmark at NUTS3.
[8] Estonia, Hungary and Poland.
[9] Italy, Austria (NUTS3) and Portugal.
[10] Czech Republic, Slovakia (2000) and Romania (2000).
[11] Germany, United Kingdom and Slovenia.
[12] Denmark (NUTS3), Greece, Spain, Netherlands, and Finland.
[13] Estonia (NUTS3) and Hungary.
[14] Belgium, Germany, Italy, Austria (NUTS3) and Portugal.
[15] Czech Republic, Latvia, Slovakia (2000) and Romania (2000).
[16] Sweden.

few NUTS2 areas where data on the place of origin and the place of destination is available we can calculate the intra-EU29 migratory movements for these regions.

2.3.3.3 Net Migration Rate

Without the net migration rate for all entities and years it is difficult to calculate the total population change. However, there is a way to estimate the net migration. The methodology used to make an assessment of the migration balances at the regional level (NUTS2 and/or NUTS3) is the natural movement method. The principle is simple: one calculates the difference between, on the one hand, population at the end and at the beginning of a period, and the natural population development (births minus deaths) during that very period, on the other hand. This method provides us with the *net migration rate* on NUTS2 and NUTS3-levels, and this method is relatively safe as the statistics on these three indicators are globally reliable.

So far, we have calculated the net migration rate for all NUTS3-regions in the EU29 area during 1996-1999.

2.3.4 Socio-economic indicators

Some socio-economic indicators will be used in the Third Interim Report and especially in the Final Report. The indicators for *GDP/capita* and *annual economic growth* contain information at the NUTS3 level for the period 1981-2001 for EU15 countries and Norway.[17] For the candidate countries the data is more meagre, but exist, in general from 1995/1999 to 2001 for most countries.[18] No data for Switzerland so far.

Data for *unemployment* at the NUTS2 and NUTS3 levels for the period 1998-2001 has been collected. Data for Portugal and Greece is missing and data for Switzerland is missing at NUTS2 and NUTS3 levels.

Data for the absolute number of *employed persons* at NUTS2 and NUTS3 has been collected for the EU15 countries and Norway, data starting in the 1980's to 2001.[19] The data for the candidate countries cover the period 1999-2001 at the national level and at NUTS2 level.[20] No data for Malta and Switzerland. Using the population data (see the section on Population and Area above) it is also possible to calculate the relative number of employed persons at the NUTS2 and NUTS3 levels.

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[17] Data for Belgium and Spain cover the period 1981-2001, France 1982-2001, United Kingdom 1983-2001, Italy and Sweden 1985-2001, the Netherlands 1988-2001, Denmark, Austria, Finland and Portugal 1989-2001, Luxembourg 1990-2001, and Germany, Greece, Ireland and Norway 1992-2001.

[18] Data for Bulgaria, Cyprus, Hungary, Latvia, Lithuania, Slovenia and Slovakia cover the period 1995 to 2001, for Estonia 1996-2001, and for Czech Republic, Malta, Poland, and Romania 1999-2001.

[19] Data for Belgium, Spain and Luxembourg cover the period 1980-2001, France 1981-2001, the United Kingdom 1982-2001, Italy and Sweden 1985-2001, the Netherlands 1987-2001, Denmark, Austria, Portugal and Finland 1988-2001, and Germany, Greece, Ireland and Norway 1991-2001.

[20] Data for Slovakia, Romania, Poland, Hungary and Czech Republic exist at NUTS2 level 1999-2001, data for Bulgaria exists at NUTS2 level 2000-2001, and data for Slovenia, Estonia, Latvia, Lithuania and Cyprus exist at the national level 1999-2001.

2.4 Outlook and further work

At present we try to collect data for the missing entities and years from the national statistics offices, OECD data, BBR, other ESPON projects etc. This is a time consuming work. Hopefully, we will be able to present a complete data set in the Final Report.[21]

The collection of data for the specified indicators, regional level and temporal scope will continue. We expect that further adjustments, assessments and elaborations are needed before we can fill Table 2.1 with complete data. In the Final Report we aim to include indicators for the *educational level*, *sector mix/sector restructuring*, *female labour force participation rate* and *productivity changes in the economy* at NUTS3 level.

Furthermore, the NUTS2 division by the REGIO database for some countries (e.g. Norway and Switzerland) differ from the NUTS2 division of the national statistics offices. In some countries data at the national statistics offices are only available at NUTS5-level (e.g. Estonia). Since we do not know what NUTS5 areas which belong to every NUTS3, the data is of limited use at the moment.

[21] However, some data will be difficult to collect, see Annex C.

Chapter 3 A General Framework

The main objective in this ESPON project is the description of the variety of demographic situations in Europe differentiated by regions. The study draws the complex demographic landscape of Europe with areas of stagnation and depopulation on the one hand and population growth on the other hand. But the project – especially the final report – will not only describe these landscapes, it will also try to explain the different demographic situations by external economical, political and geographical factors.

The pure and general demographic changes have consequences on regional development in various ways. Regions characterised by depopulation are often associated with stagnation and retardation, while regions that experience a positive population development are regarded as expansive and dynamic. These differing processes have effects on investment and location patterns, as well as on renewal and expansion of the local or regional economy. The labour force – and especially the highly educated part – has increasingly been a location factor in the post-industrial society with respect to mobile capital and the `new´ economy. Regional labour markets diverge and new 'mental maps' are created. This could be a hampering factor with regard to localisation of new firms and in-migration in depopulation and ageing areas, but also a reinforcing factor for in-migration areas that are considered dynamic and expansive with young inhabitants and many possibilities. In this way, demographic development with population redistribution as one result accentuates the polarisation process between various regions and then hampers a development towards polycentricism and territorial cohesion.

The fact that population development affects economic development is well confirmed by many studies and theories.[22] As mentioned above, large cohorts have stronger effects on the development than smaller ones and this phenomenon has a tendency to follow the cohorts over the life cycle. Large cohorts give rise to spin-off effects on the economy from birth to death – from childcare to elderly care and other things in between, e.g. the building and construction cycles. Large cohorts in the ages of 20-30 act also as a reinforcing factor with regard to mobility and migration and then also as fuel and lubricant in the economic machinery. People in the upper middle ages and active pensioners are consumers with high purchasing power and have in this sense positive effects on both the regional and national economic development. This approach also has similarities with the 'long wave' theories that put demography in focus with regard to long-term economic development. Population growth is in general related to expansion and economic growth, and population decrease with stagnation and retardation. The problems of population growth has often been discussed as a Third World problem in line with Malthus' reasoning, while problems with population decline instead have been seen as problems for the well-developed world. The problem with population decline is also often discussed with the fear of an ageing population and an eroding reproduction potential. The problem with an ageing population is not so much related to their incomes or purchasing power, which instead can have positive effects in line with the above reasoning, but rather with medical and health care and higher dependency rates. These negative aspects have also increasingly been an issue on the European development agenda.

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[22] See e.g. Hansen, 1939; Myrdal, 1940, Kuznets, 1958, Easterlin 1968, 1980.

The developments in different regions regarding economic and labour market performance, education possibilities and values have impacts on geographic mobility and birth rates – crude birth rates (CBR) as well as total fertility rates (TFR).[23] The impact on migratory movements is most pronounced in younger ages. Moreover, many of the internal migrants today seem to move for other reasons than labour market ones. These reasons are primarily higher education and changed ‘mental maps’ among younger people. The consequence is that many regions are drained of younger people. On the other hand, some other regions – metro areas and university towns – gain with regard to these ages where the migration propensities are highest. This also has impacts on the gender distribution, since younger women have higher migration intensities than men, especially in traditional out-migration and depopulation areas. The shortage of women will moreover have impacts on the marital status in these regions, as a higher share of the women includes those married or living in cohabiting relation. From a demographic point of view, the effects of these inter-regional processes are thus that the gender, marital and age structure are changed in both the out- and in-migration areas. The reasoning above is also a good illustration to the necessity of integrating economic, social and cultural factors in analyses of demographic trends and changes.

Traditionally, rural and sparsely populated areas have had higher birth rates than metropolitan areas, university towns and regional centres. Many of the first type of regions and municipalities have also gone through a structural crisis, causing high unemployment, a shortage of jobs and low female labour force participation rates. It is not uncommonly suggested that these factors have positive effects on fertility and the number of births. During the past decades (see chapter 5), the TFR gap between different types of regions was, however, diminished.[24]

These migratory factors have also impact on the natural population increase. Even if TFR still is somewhat higher in out-migration areas compared to in-migration ones, the number of women of childbearing age is so small that it is difficult to maintain the lead of births over deaths. The effects of ageing and lop-sided age structure in these areas have also been reinforced by the decline of TFR during the past decades. These factors have also a negative effect on the image of these regions as out-migration and ageing areas create an image of unattractiveness for young people, which reinforces out-migration, depopulation and then the ageing process. The age structure is thus a central ingredient in analyses of both migratory movements and natural population development.

Factors that have contributed to a decrease in TFR are changed values and new family patterns. Women consciously avoid more and more childbearing and children-dependency in order to improve their career possibilities, enable them to invest in higher education and follow a more independent life-style even if this differs greatly among regions and nations. This new family pattern seems to be more frequent in metro areas and university towns than in rural and sparsely populated areas, where the rural or industrial family patterns are still more predominant. In pre-industrial society, child-

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[23] The total fertility rate is a theoretical measure and is defined as the number of birth related to the number of women in the child-bearing ages and is standardised for variances in cohort sizes. TFR is in most cases defined in the following way: $TFR_t = \sum_{x=16}^{49} f_x$ where t = year and x = age. This measure differs thus from the crude birth rate (CBR) that is defined as the number of births per thousands of total population.

[24] This is at least very obvious in Sweden. For an analysis of the Swedish case´´, see Johansson, 2000.

lessness was more a consequence of infertility or a low degree of marriages. Women had very few career possibilities and the homemaker-wife ideology was at its peak at that time. The fact that the new family pattern is more observable in metro and university areas as compared to old industrial or rural ones thus has implications for the demographic development in differing regions.

Even if TFR is below the reproduction rate, there remain regions, towns and municipalities that experience a natural population increase – especially in the metropolitan and big city areas. The reason is not a high TFR – this rather is very low in many of these areas - but rather the fact that the proportion of women of childbearing age is over-represented compared to the other regions as a consequence of in-migration of young people. The beneficial age structure in these areas is, as mentioned above, hampered by the fact that relatively many of the women of childbearing age are living as 'singles'. Despite this, as mentioned above, there has been a natural population increase in many of these expanding and fast growing regions.

The connections discussed above are illustrated in a schematic way in Figure 3.1 where the impact of migration on age structure and gender distribution is explicitly mentioned, as well as the consequences for natural population development. Figures 3.1 and 3.2 are schematic applications of the MGP-graph with regard to demographic development and where economic and social factors also are included as explanatory factors as well as dependent factors. It should be noticed that the processes in Figure 3.1 illustrate both vicious and virtuous circles with regard to regional development and natural population change. Figure ?.1 can also be seen – in a simplistic way - as a point of departure for the analyses in the both the third interim report and the final one according to the recommendations in the Matera Guidance Paper and the draft response from the Commission and the ESPON CU.

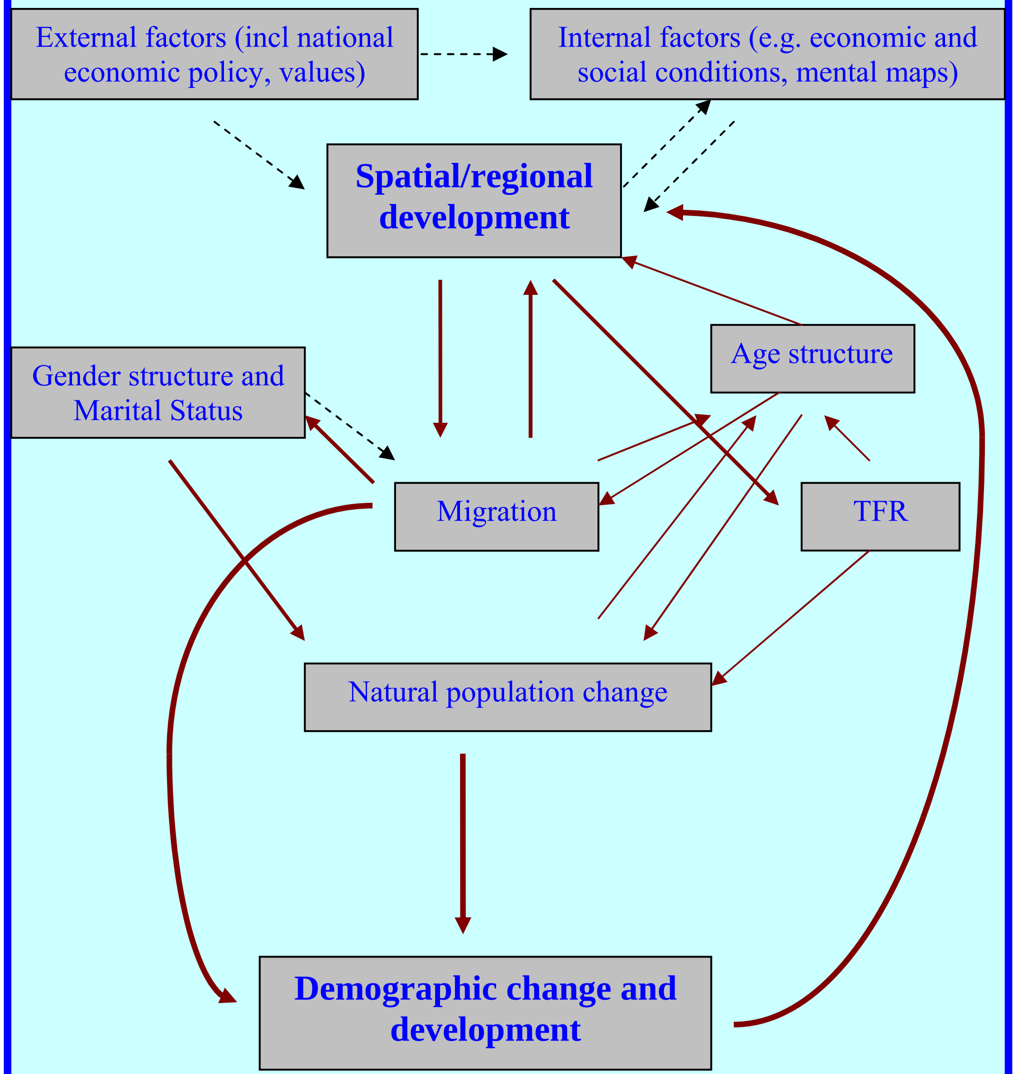


Figure 3.1. Application of the MGP-graph with regard to demographic change and spatial development

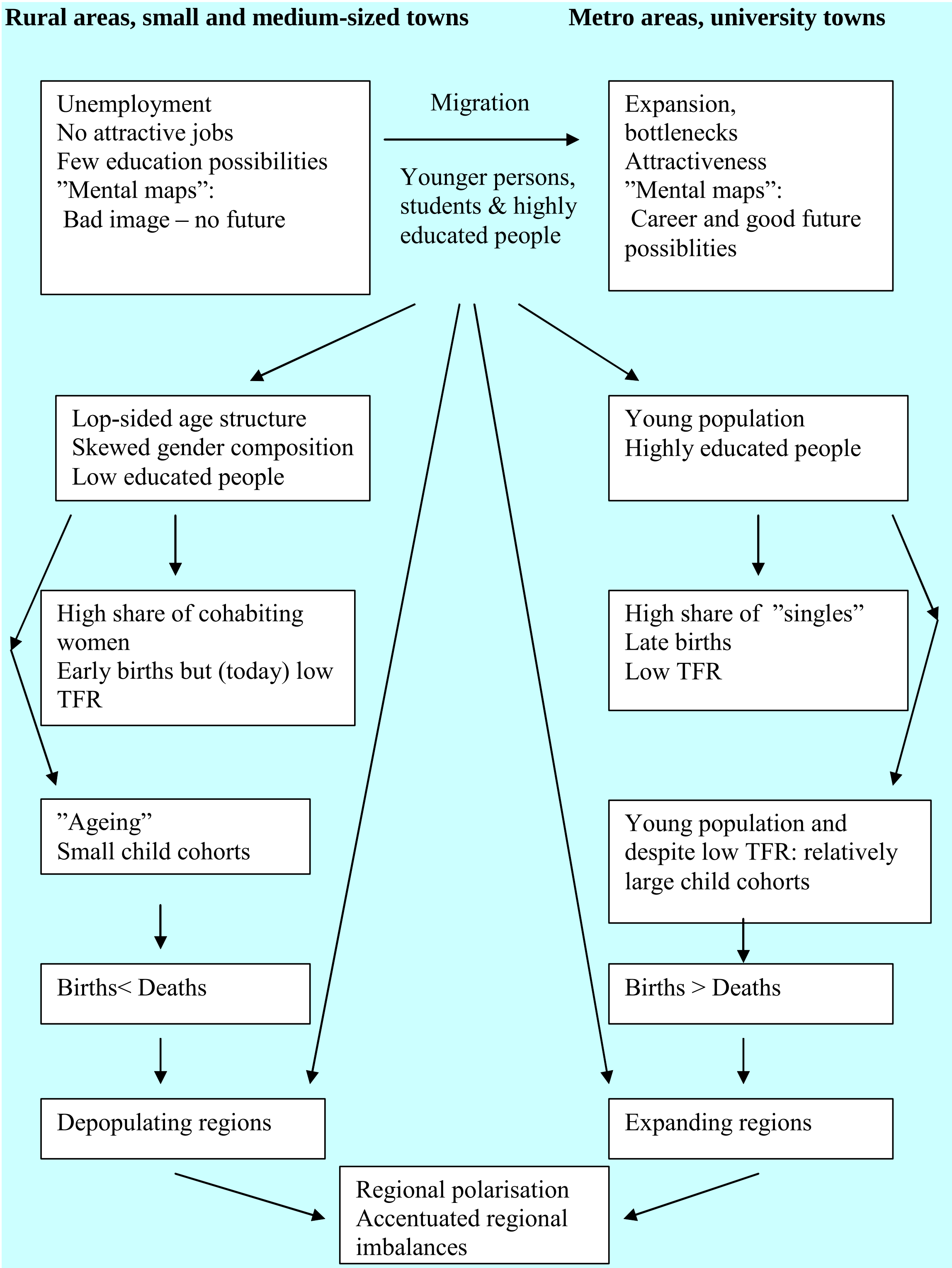
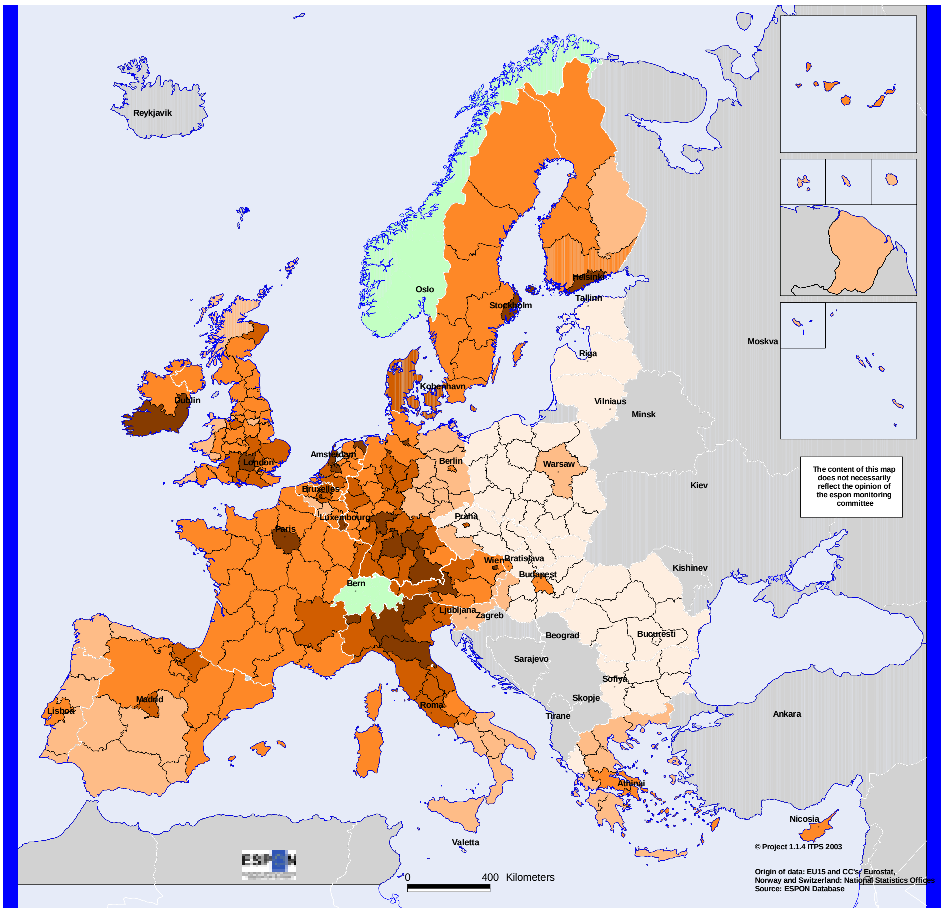


Figure 3.2. A schematic view of the regional problems with regard to economic development, values, and population changes – an application of the MPG-graph development towards monocentrism and imbalances.

Map 3.1. GDP per capita 2000

Gross domestic product per inhabitant in 2000



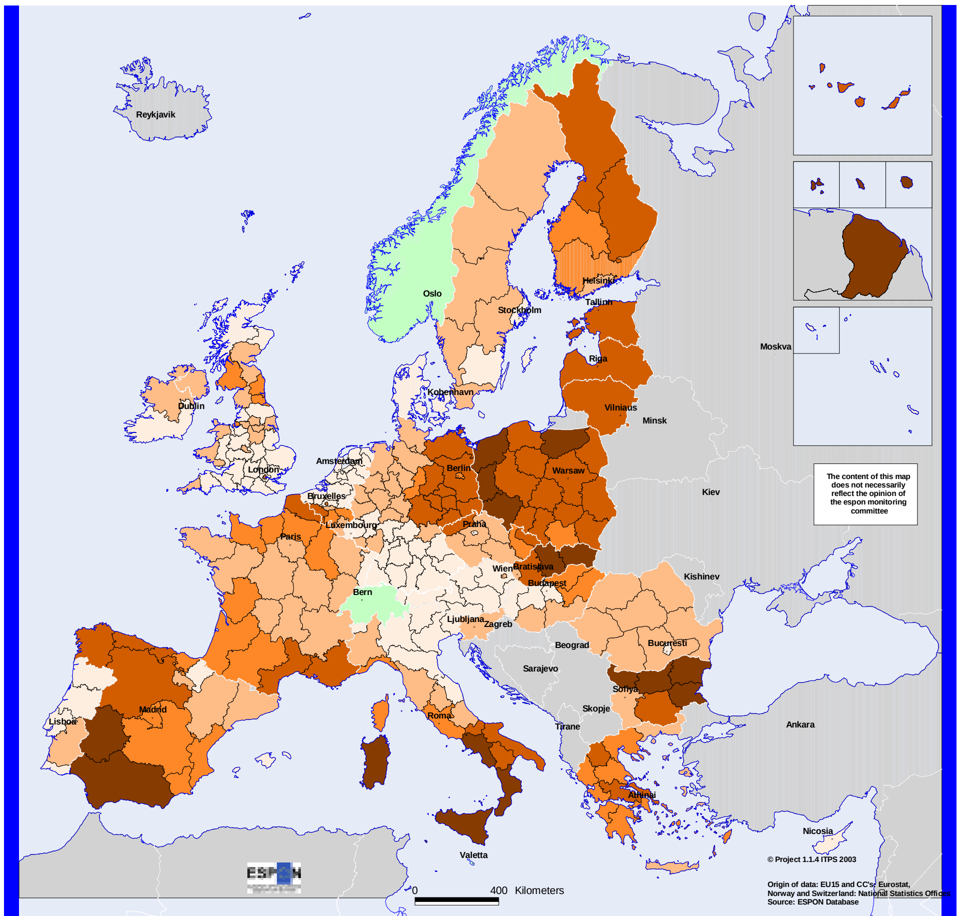
level of gdp/inhab
compared to EU25 average (=100)

- 0 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 239.9
- No Data

Origin of data : EU15 and CC's : Eurostat
Norway and Switzerland : National Statistics Office
Source : ESPON database

Map 3.2 Unemployment in 2000

Unemployement in 2000



Share of unemployed
in the active population
%

1.5 - 5.4
5.4 - 9
9 - 12.8
12.8 - 19.4
19.4 - 33.1
No Data

Origin of data : EU15 and CC's : Eurostat
Norway and Switzerland : National Statistics Office
Source : ESPON database

Chapter 4 Population Change and Typologies

In drawing a European demographic landscape it is necessary to start with population change. Map 3.1 shows the areas of demographic growth and decline. One can clearly see the central European growth zones and the areas of declining population at the edges of Europe. This pattern on EU29-level is the consequence of low and decreased fertility rates and migratory movements. From the EU29 point of view there seems to be more indications of population concentration and monocentric development than a polycentric development. Signs of polycentric development are evident within Pentagon, but outside this area there are instead indications of monocentric development with regard to the demographic development. This phenomenon is especially strong in the Northern countries and in Eastern Europe. From a functional urban areas´ point of view there are, however, instead some signs of periurbanisation – only indicated in this study but known from other studies - as well as signs of a more polycentric urban development in differing parts of Europe, but on a lower regional level (see also WP3 and for a more thorough discussion and description in ESPON project 1.1.1). This periurbanisation process can, however, also be seen as a monocentric development as it is dependent on the economic and social development in the centre. This will also be discussed more in detail in the final report.

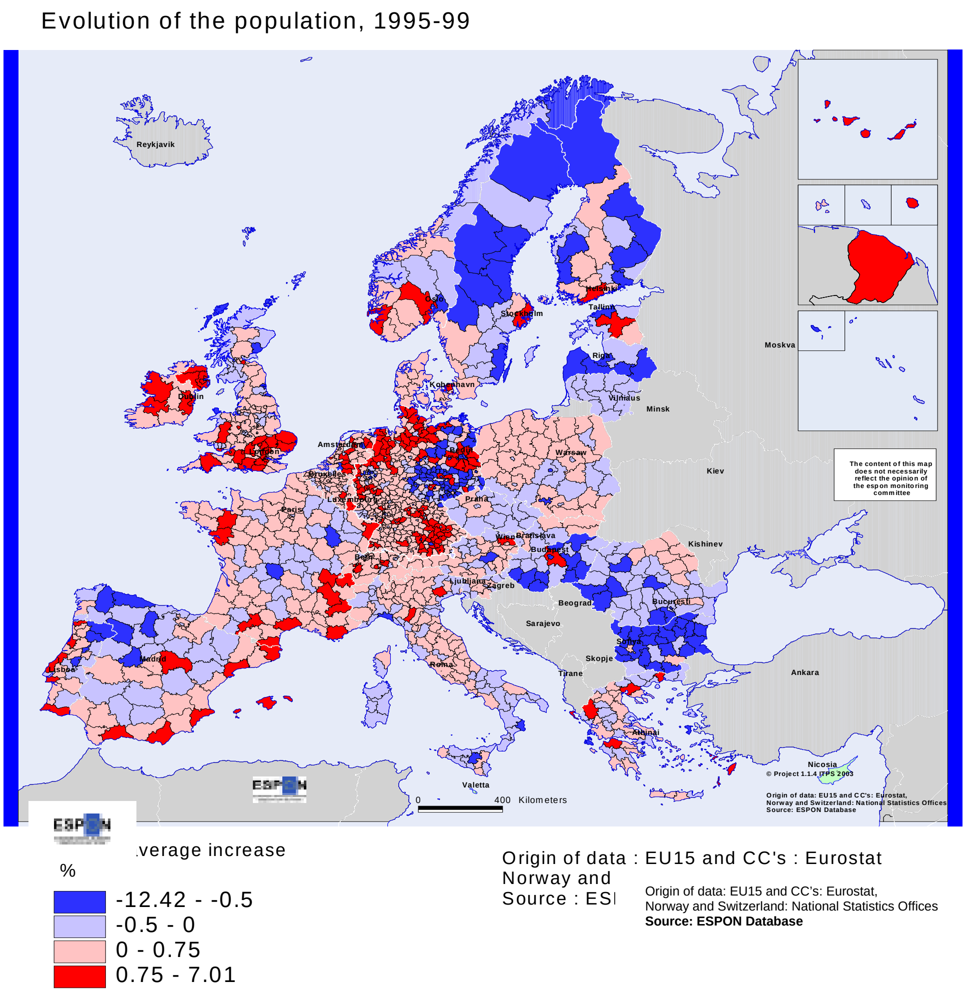
European growth zones are affected by a surplus of migration. Population growth can only be explained by migration because the balance of birth and death is negative or - in the best case – very small with regard to the natural population change. This can be observed in Germany, in the Scandinavian countries, in northern Italy and southern England. In these areas the population dynamic is more and more driven by migration and less by the surplus of birth. These areas are attractive for migrants in great numbers, which fills out all gaps. For the connections between total population change, natural population change and net-migration, see Figure 4.1 – 4.3 below.

Some European peripheries are affected by population decline due to a negative migration balance and a surplus of deaths over births (see also chapter 7). These peripheries are not attractive enough for migrants and therefore the population change is dramatic in some parts: In Bulgaria, for example, the overlay of a negative migration balance and a significant drop in fertility produce a sharp decline in the population number. The same is true for the Baltic regions, for regions in Hungary but also for the northern part of Spain and some peripheral areas in Greece.

In contrast to this situation the response to economic decline in some European peripheries is a surprising increase in births. The crises regions seem thus to be more sensitive to changing labour market conditions than the metro areas less. In the first mentioned regions, the image of apathy and resignation is often a central ingredient. As a consequence of this reasoning, higher unemployment results in higher fertility since one solution for many younger women seems to be marriage or non-marital cohabitation as well as motherhood. This phenomenon can, however, be hampered by the "income effect" – a reduction in incomes and wages and subsequently the standard of living may result in more hesitation to childbearing and more children. With regard to this it can be supposed that the different traditions and family networks in various parts of Europe have impact on the fertility development.

It can also be assumed that short-term unemployed persons have another approach to childbirth than long-term unemployed. If childbearing and children are hampering factors with regard to a ‘come-back’ on the labour market it can be presumed that women in this category are more hesitating to give birth than others. For many of the short-term unemployed it is very important to get a foothold on the labour market as soon as possible in order to avoid stigmatisation and the problems of returning to work that often are consequences of long-term unemployment. This also means that long-term unemployed is not so sensitive to changing labour market conditions, since these potential parents have already given up re-entering the labour market and – as a result – also are more disposed to childbirth.

Map 4.1. Population Change 1996-1999. Source. Estimations from New Cronos.



A typology with regard to natural population change and migration

In order to classify the regions with respect to total population development, natural population development and migration, six different combinations are constructed. In the right column an attempt to characterise the different cases has been done and in Appendix, Table A3. different NUTS2 and NUTS3 are characterised according to this scheme. The six cases are illustrated in Table 4.1 and Map 4.2.

Table 4.1 Six types with regard to total population change, natural population and net migration 1996-1999.

1	PT>0	PM>0	PN>0	In-migration and young population/"high" TFR
2	PT>0	PM>0	PN<0	In-migration but low fertility rate
3	PT>0	PM<0	PN>0	Out-migration but young population/"high" TFR
4	PT<0	PM<0	PN<0	Out-migration and old population/"low" TFR, depopulation?
5	PT<0	PM>0	PN<0	In-migration and old population/"low" TFR
6	PT<0	PM<0	PN>0	Out-migration but still young population/"high" TFR
PT=Total population development PM=Net migration PN=Natural population development				

The first three categories have experienced a positive population development in the sense that the population has increased between 1996 and 1999. The most favourable type is the first one where both the natural population change and the net-migration were positive and reinforced each other with the result that population increased. This does not, however, automatically lead to the conclusion that the regions in type 1 have the sharpest population increase – instead this is naturally a function of the relation between natural population change and net-migration. In the second type the in-migration effect neutralised the negative effect of natural population change and in the third type the opposite was true. In all three types there has thus been population growth, even if the combinations of the "driving forces" differ.

The same reasoning is valid with respect to the next three types – any conclusions about the strongest population decline cannot be drawn. Instead, only the preconditions about population development differ. The least favourable type with regard to development and dynamics is type 4 where the natural population decrease is reinforced by out-migration, which can result in a viscous circle and a negative spiral process. The regions in type 4 can be characterised as depopulation areas as both natural population change and net-migration are negative (for a more thorough discussion about depopulation, see WP4). Even type 5 and type 6 can perhaps be seen as depopulation areas, but here the preconditions are different to some degree as type 5 is an in-migration area despite that the natural population change is negative and type 6 a positive natural population change. In the latter case there is, however, an obvious risk that this phenomenon will change in the future as a consequence of out-migration of young people and the preconditions for a future natural population increase will then be eroded. The total typology is presented in the statistical appendix.

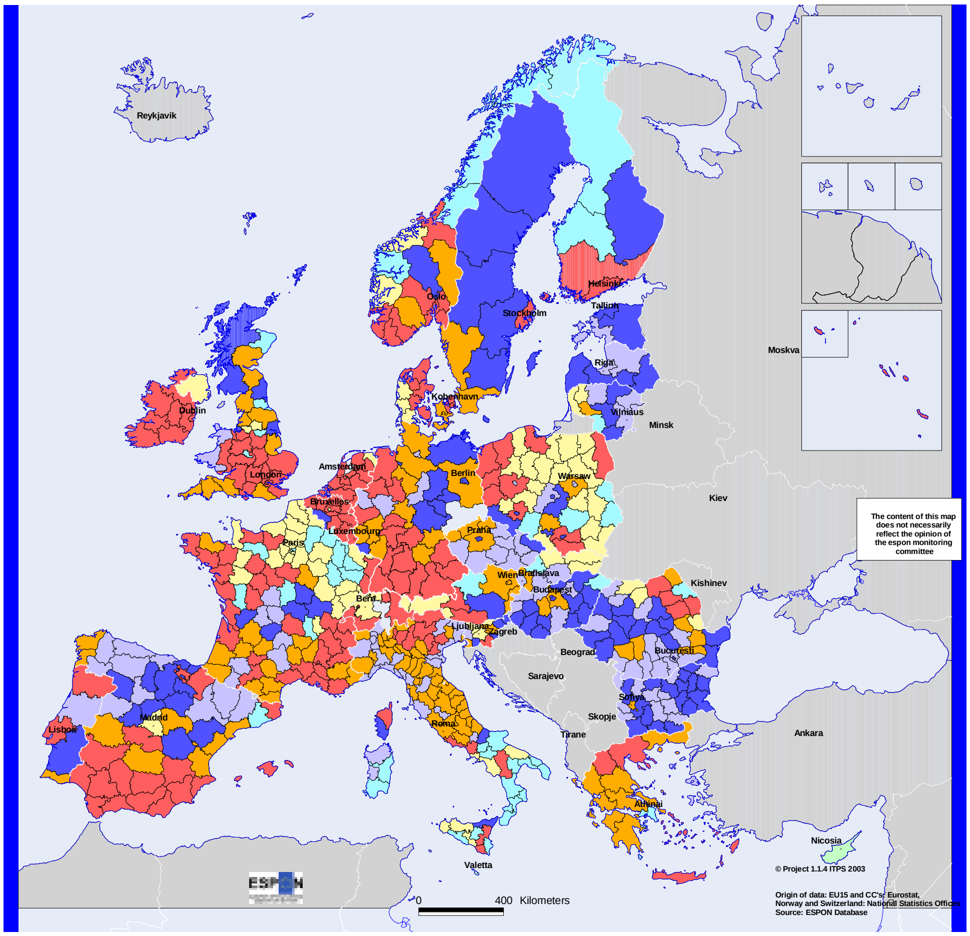
The majority of the regions – 60 percent – at NUTS1, NUTS2 and NUTS3 level experienced a population increase between 1996 and 1999. Most of the growing regions can be placed in type 1, where both the natural population change and net-migration were positive (28 percent). Type 2 involves 20 percent of the regions and 12 percent are placed in type 3.

Among the retarding regions, most regions are classified in type 4 . This is the most unfavourable type and can be characterised as a depopulation type. 17 percent of the regions are classified in this category. 15 percent are in type 5 and the rest – 8 percent – in type 6.

More than half of the regions – 52 percent – had a natural population decrease during the second half of the 1990s. 20 percent of the regions were expansive regions in the sense that they experienced a population increase as a consequence of net in-migration. This means that 32 percent were regions where natural population decrease was also combined with a net out-migration that accentuated the population decrease in these regions. These regions are in a problematic situation and can also be characterised as depopulation areas.

Map 4.2 A typlogy with regard to total population change, natural population and net migration 1996-1999. Source: Estimations from New Cronos.

Components of population increase, 1996-99



form of increase

- Total evolution>0; Migratory B>0; Natural B>0
- Total evolution>0; Migratory B>0; Natural B<0
- Total evolution>0; Migratory B<0; Natural B>0
- Total evolution<0; Migratory B<0; Natural B<0
- Total evolution<0; Migratory B>0; Natural B<0
- Total evolution<0; Migratory B<0; Natural B>0
- no data

Origin of data : EU15 and CC's : Eurostat
Norway and Switzerland : National Statistics Offices
Own estimation for migratory balance

Population change – natural population development or migration?

In order to get a hint of the "explanatory power' of migration and natural population development, some straightforward regressions have been done including only two factors and based on cross-section data at NUTS 1-3 level. These correlations are presented in Figure 4.1 – 4.2 between total population change, migratory movements and natural population development. As can be seen, the strongest correlation is between net migration and total population change. This is not especially surprising as in-migration areas are supposed to be dynamic and expansive while out-migration areas stagnating and retarding. It must, however, be kept in mind that these estimations are no indications of the income level or standard of living in the different regions, as most of the migratory movements are domestic and not international. This means that there are large differences in GDP/cap between different regions in EU27+2 depending of the localisation of the regions. Instead the correlation between net migration and total population change is rather an illustration of differences in living conditions within the countries than between them. Anyhow, it is obvious that regions that have experienced a population increase are also in-migration areas and vice versa, even if there are large differences in income and standard of living.

Even the correlation between total population and natural population development must be handled with utmost care. As mentioned before it is not only the TFR that are of importance for the natural population development. Even age and gender structure influence the natural population development. A lop-sided age structure and a skewed gender structure with a small share of women in fertile ages may result in a natural population decrease even if TFR is high. The same is of course valid in the opposite direction – even if TFR is low the age and gender structure can have a positive impact on the natural population development and consequently on the total population change.

The correlation between natural population change and migration seems to be negative – even if the R^2 is small and almost negligible. It is not the size of the R2 that is of interest in this case - instead it is the negative slope of the 'trend line'. This is, however, not as surprising as in-migration areas consist of both ageing areas and more dynamic and expansive ones and in both cases the impact on the natural population development is negative. In ageing regions this is a consequence of the lop-sided age structure and in the 'dynamic case' a result of the low TFRs, even if the age structure here is positive from a reproduction point of view. Many expansive in-migration areas in Europe are also characterised by very low reproduction potential. This is one of the consequences of earlier in-migration as many of the in-movers had very small families and the regions then became more and more characterised as regions with low TFRs. Even out-migration areas are in many cases ageing regions with negative consequences for the natural population change.

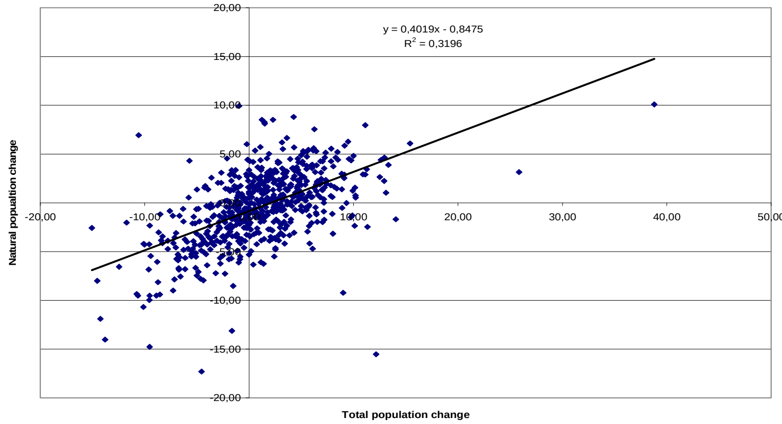


Figure 4.1. The correlation between total population change (x) and natural population change (y) 1996-1999. NUTS1-3, not overlapping. N=638. Per mille. Source: Estimations from New Cronos

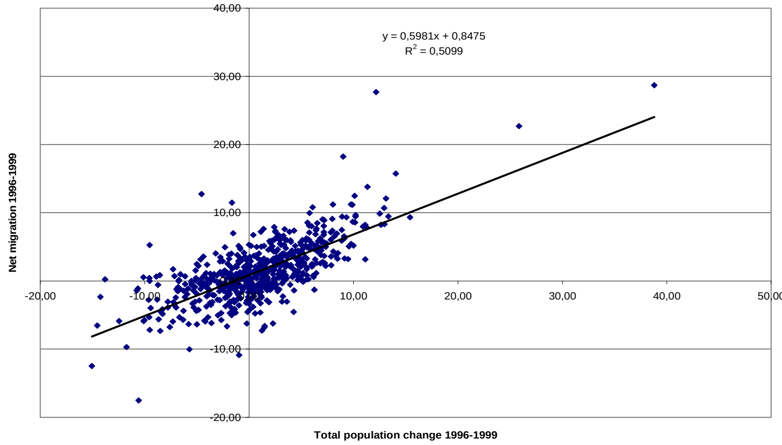


Figure 4.2 The correlation between total population change (x) and net migration (y) 1996-1999. NUTS1-3, not overlapping. N=638. Per mille. Source: Estimations from New Cronos

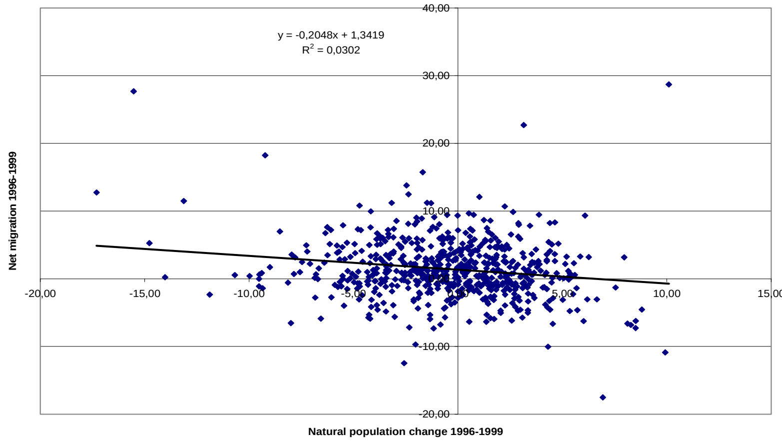


Figure 4.3 The correlation between natural population change (x) and net migration (y) 1996-1999. NUTS 1-3, not overlapping. N=638. Per mille. Source: Estimations from New Cronos.

Chapter 5 Natural Population Development, Ageing and Dependency Ratios (WP2)

5.1 Theoretical Approach Revisited

Births, deaths and migration are analysed in demography by differing theories and models. This implies that a unified and general theory of these demographic processes does not exist. Although the theoretical approaches to births, deaths and migration are quite different in terms of explanatory power and nomothetic value, all of them are important to select indicators and to argue for certain analyses. In the pre-industrial society with small migratory movements the population increase was predominantly a function of the natural population increase. Today, with higher mobility, low fertility rates, and in many cases natural population decreases, the population development with regard to size and structure have increasingly been dependent on external migratory movements.

From a natural population development point of view the "demographic transition" has been a central ingredient in analysing the population development from the agricultural society through the industrial society and up to the post-industrial society of today. The relations between the crude birth and death rates are here of utmost importance in explaining the various stages – especially with regard to the European development – in the development and transformation of the population in differing countries and regions. In the earlier stages both birth and death rates were high and the population increase/decrease was greatly dependent on variations in the death rates. The development of birth is the central explanandum in the model of fertility decline and this is thus essential in the model of the demographic transition.[25] It argues that with the change of the economic structure from an agrarian to an industrial and post-industrial society, the value of having many children has fundamentally changed. In the pre-industrial period children were useful and welcome additions to the work force. The "population explosion" occurred when the death rates started to decrease but the birth rates still were at a high level. In the next phase even the birth rates began to drop and the population increase slowed down and thus both birth and death rates were stabilised at a lower level. This is a well-known story but the interesting part for this study is the variations in the birth rates that are the dominant factor with regard to the natural population development. In the industrial and post-industrial societies children are cost factors in a twofold way: there are direct costs for schooling and maintaining children up to the time when they leave the common household and there are indirect costs when the mother (in rare cases the father) has to give up their employment to stay at home and to take care of the child. With the ongoing rationalisation process in the modern society, the changing function and societal value of children has become apparent and reduction of births the consequence. Modern contraceptives are instruments not the cause for the reduction of the birth that is of more economic and social character.[26]

Death rates are today thus relatively stable but the birth rates fluctuate in many parts of Europe and are so low that the result will be a natural population decline. The strategic variable in the post-industrial society is thus fluctuations in birth rates and not in the death rates in analyses of natural population variations. At regional levels the age structure has of course much influence on these variations and it is of utmost importance to

[25] See e.g. Leibenstein, 1954, 1957, 1974; Becker, 1960, 1965, 1993; Schultz, 1974; Woods 1982, Schmid 1984, Birg 1996.
[26] See Van de Kaa 1987.

differ between the crude birth rate and the total fertility rate (TFR) and consequently also between the crude death rates and the age-specific death rates. Population increase/decrease is thus not only dependent on the TFR but also on the age structure of women – a precondition for natural population growth is also dependent on the number of women in childbearing ages.

The ongoing rationalisation process does not lead to the reduction of fertility only, but also to postpone the first birth. The average age of women having their first baby has increased trendily during the past decades. Women consciously avoid childbearing and 'children-dependency' in young ages in order to improve career possibilities, investment in higher education and a more independent life-style. The rise of the female labour force participation and investment in higher education has resulted in higher family incomes and also has two contradictory effects with regard to childbearing – an income effect and a price or substitution effect. According to the Noble Prize winner Gary Becker, the income effect should result in higher fertility as households with higher incomes have more money to spend on children than households with lower incomes. The price or substitution effect, however, implies that higher incomes also result in an increase in the relative price of children. This, in its turn, reduces the demand for children and increases the demand for other commodities.[27]

Becker discusses also - in line with the income and substitution effects - the difference between the quality and quantity elasticity. Higher incomes result in an increased demand for children but also in an increased demand for children of 'better quality'. This means also higher expenditures to raising children and this has a negative effect on the fertility development and hampers the quantity effect.[28] This can explain the variations between different types of households and in various types of societies. According to this reasoning, the impact of the quality and quantity elasticity is different in regions characterised by different economic structure – the quantity elasticity is higher in agricultural regions than in urban and more post-industrial ones with higher income levels. This is also in line with the theory of demographic transition that is sketched above.

In reality the substitution effect seems to have had a greater impact on childbirth than the income effect, at least during the past decades. Investment in higher education also has a decreasing effect of its own: having invested in a higher education, you are more oriented to capitalise your investment in human capital, even if the return is not as high, *ex post*, as it was supposed to be, *ex ante*. Education and working life should consequently also be included in the utility functions that differ between various categories on the labour market. This also means that the same income increase/decrease or the same income levels have different effects on TFR depending on the satisfaction with the working life.

Another trend factor is the increase of "singles" or one-person households.[29] The proportion of 'singles' or one-person households is significantly higher in the post-industrial than in the industrial and agrarian one – the share of one-person households has increased during the past decades in most parts of Europe. The life-long marriage

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[27] Becker, 1960, 1965, 1993. A central ingredient in Becker´s theory is that demand for children is treated in the same way as the demand for consumer durables.

[28] For a discussion of these effects, see also Overbeck 1974.

[29] The rise in the share of 'singles' is, however, not only an effect of changed values, urbanisation and higher female labour force participation. Instead, much of the rise in the share of 'singles' is a function of the ageing process with its implication on the household structure – there has been a long-term rise especially in the share of widows. This has, however, no consequences for migration and fertility.

has dropped during the past decades as a consequence of the rise in divorces. On the other hand, there has been a sharp rise in non-marital cohabitation. This looser relation results also in a rise in the share of ‘singles’ since many of these relations are not as long-lived as the traditional marital cohabitation. For this category the substitution effect seems to be higher than for married or cohabited people. The obvious significant negative correlation between the share of singles and childbirth is according to this reasoning not surprising.[30]

Following these theoretical thoughts it is essential to include several indicators in the analyses of WP2 to measure the number of births in a valid manner and to explain it in a theoretically satisfying way. It is necessary to use age-standardised indicators – e.g. TFR – for the level of birth. Other indicators like a CBR (Crude Birth Rate) are sensitive concerning the age structure of mothers. For the number of birth it is essential if the potential mothers are relatively young or old. Therefore CBR could be more affected by the age structure than by fertility. The theoretical construct of a total fertility rate expressing how many children a female will bear in her life is therefore a very useful indicator and will be preferably used in WP2.

In addition to the indicators of fertility it is also necessary to measure the social environment to explain regional differences in fertility. The possibility to combine work with maternity is an important factor in lowering the indirect costs of a child. Therefore indicators dealing with childcare infrastructure, the quality of maternity leave or with the possibilities of having a part time job are valid and will – as far as possible - be incorporated in the final report and data base.

The development of death is conceptualised in the model of epidemiological transition, which can be also seen as a part of the model of demographic transition.[31] It explains the very characteristic decline of several diseases (like infectious diseases), the increase of other diseases (like cancer, heart diseases) and the overall decline of mortality. Better nutrition and the improvement of the public infrastructure (water, waste and sewage) were the main factors in the fight against epidemics. The progress in medicine leads to a significant expansion of the life expectancy. In particular, the decline of the infant mortality and death in the first year of a child’s life, were essential to explain the increasing life expectancy.

Similar to birth, it is important to define a death rate that eliminates the effect of the age structure. If not, age structure will be measured rather than different mortality in the regions. A crude death rate is therefore not the proper measurement, but the given life expectancy at birth or at a specific age can be used for regional disparities in mortality. To integrate mortality into an explanatory model following the theoretical ideas it is necessary to use relevant indicators like nutrition, lifestyle habits, medical infrastructure and the healthcare system. (If possible, WP2 will in the following reports invest some efforts to prove which variables could be useful and are available in the European statistics).

[30] This is at least very obvious in Sweden but ought to be valid even in other parts of Europe. In the Swedish case, there are differences between various regions. In metropolitan areas and university regions, the share of “singles” is higher than in industrial or rural areas especially in childbearing ages. The ‘single’ gap has, however, also diminished during the recent decades as a consequence of the societal transformation in all regions. The fact that rural families always have been larger than urban ones is partly a consequence of a higher share of “singles” in urban areas, especially the metropolitan ones (see e.g. Johansson, 1999).
[31] See: Phillips 1994, Rockett 1999

The third demographic event with regard to regional and national natural population development is migration as it has consequences for age and gender structure in various regions. Theories of migration will not be presented in this section as it is a central ingredient in WP3. It is, however, necessary to be aware of its implications on the natural population development as migration has impact both on TFR and the age and gender structure (see e.g. chapter 3 and 4)

The differences in the population structure are thus not only a function of the differences in fertility rates. It is rather the migratory movements that cause the regional differences in age structure. Migration intensities are highest in ages 20-30, which have differing impacts on in- or out-migration regions. This also means that the "population crisis" can take quite different shapes in various parts of a country or within the EU. In some regions, low fertility rates have traditionally dominated, while in other parts the problems have been connected with out-migration and lopsided age structures – out-migration of especially younger women. During the 1990s, declining TFR and out-migration have, however, reinforced each other in many European regions and communities resulting in an accentuated population decrease. The opposite however, is also valid – traditional in-migration areas have low TFRs as a consequence of a high share of singles and a high female labour force participation rate. This results in a situation where the reproduction potential is eroded and the population growth is dependent on a continuous in-migration. This is an obvious fact in many expansive in-migration areas in Europe where the future reproduction potential is weak (see chapter 7 and 8). There is thus a connection between natural population development and migration – a fact that often is neglected or downgraded in the analyses of the 'population crisis'.

5.2 Natural population development

In the entire Europe – even outside EU29 – the recent rapid drop in the rate of population growth is remarkable. In the period 1950-1975 the average annual rate of growth was 8,3 per 1000 population. In the most recent quarter-century this index had fallen to 2,9 per 1000. Around the turn of the century negative natural population growth rates appeared in 17 European countries (the number of deaths exceeded the number of births). These countries were Byelorussia, Bulgaria, Croatia, the Czeck Republic, Estonia, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Moldova, Romania, Russia, Slovenia, Sweden and Ukraine. In addition the following countries had close to zero natural growth: Austria, Poland, Slovakia and Spain[32].

Among the 29 ESPON-countries as many as 17 countries were within the span of TFRs by the end of the former century, which – according to the short-hand description by the French demographer Jean-Claude Chesnais – may have the following implications: "Heavy and structural contradiction, which digs a deep hole at the basis of the age pyramid and consequently compromises the future of the society at large. Limited chance to get a return to equilibrium; evaporation of population number"[33].As mentioned above changes in the number of births are a consequence of the development of the birth rates and of the size of the cohorts of childbearing age. Standardised for changes in age-specific fertility rates, large cohorts of childbearing age result in large new cohorts and vice versa. Consequently, the number of births fluctuates as a function of the size of the cohorts in cycles of 20/25 years. From a regional perspective, age

[32] This paragraph is based on Demeny (2003).
[33] Chesnais (2000).

structure and the size of the cohorts are of great importance for natural population development – the difference between births and deaths – since the age structure varies in different regions. Depopulation areas have e.g. much larger proportions of elderly compared to metropolitan areas or university towns, where the proportion of persons aged 20-30 years is much larger.

This means also that natural population development often is a cohort phenomenon – large cohorts reproduce large cohorts and vice versa. The strategic variable here is then TFR that varies both with regard to time and place. Another lesson to learn from this elementary reasoning is that changes in population size and structure often are connected to long term changes in economic and social conditions but even attitudes and values are of great importance (see also the discussion in chapter 3). The problem for this project is, however, that long-term series don't exist at regional level – only the second half of the 90s are in a condition that data can be used for time-series analysis at regional level within EU29. This is not enough to analyse the regional population development from a long wave perspective – instead cross-section analyses must be used to get a hint about what is happening or what has happened.

In order to get a hint about the correlation between TFR and natural population development two regressions have been done. These results must be interpreted with utmost care as some regions within EU29 are missing as a consequence of lack of regional data with regard to both variables and problems with the correspondence between the regions. The R^2-coefficients and the slope of the trend line shall thus be interpreted as an indication of connection between the size of TFR and natural population development. The natural population development is calculated as the average change rate between 1996 and 1999 and is presented in the statistical appendix. Both regional TFR and natural population change have been regionally adjusted to match each other and avoid mismatch as far as possible. After adjustment and exclusion of some countries and regions, the total number of observations is 488.[34]

As can be seen from the figures there is a positive correlation between the size of TFR and natural population change, even if the age structure of course also has impact on the natural population change (this connection will also be elaborated more in detail in the final report and then especially with regard to depopulation areas and expanding ones). It must however, be considered that the positive correlation also tells us that low TFR results in a slow natural population increase or even a decrease. This phenomenon is probably most pronounced in out-migration and depopulation areas where low TFR and lop-sided age structure reinforce each other.

In order to see if there are any national differences, some estimations have also been done on regional data for selected countries. Denmark, Germany, Spain, France, Italy, Hungary, Poland, Romania and Norway have been tested. The same pattern also seems to be valid on national level even if there are some exceptions (see annexes). Denmark and Poland are the two most pronounced exceptions in the sense that the correlation between TFR and natural population growth is more or less absent. The highest correlations among the countries that are investigated are for Spain, Italy and Germany. The latter seems perhaps surprising but here the low TFR in the Eastern Germany combined with a skewed age structure can be one reason for the high correlation between the variables. The two extremes – Spain and Poland – is shown in Figure 5.1 – 5.4 below.

[34] The countries that are excluded are UK, EE, Lt, Lv, Cz, Sl, Si, Cy, Ma, Bg.

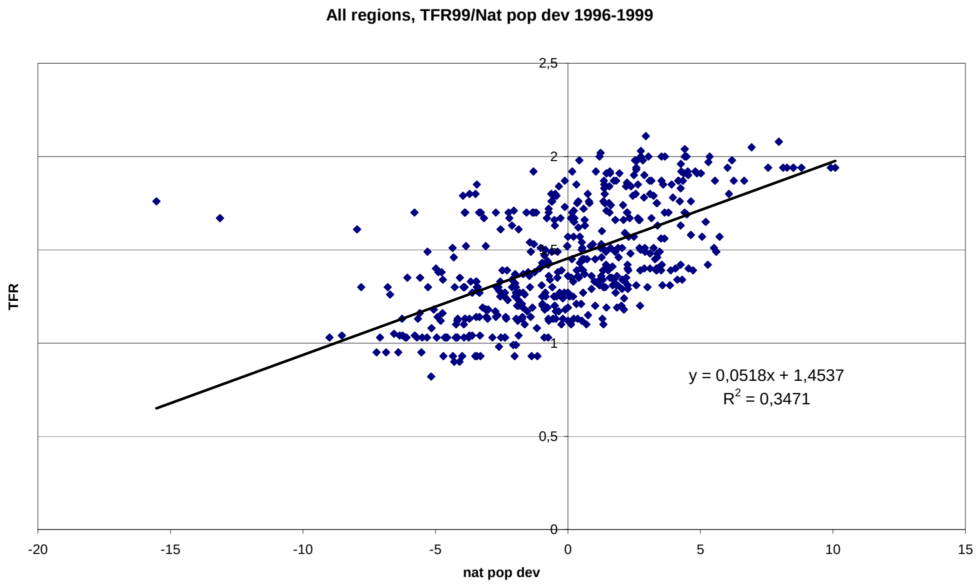


Figure 5.1. The correlation between TFR 1995 and natural population change 1996-1999. Source: Estimations based on data in the statistical annex.

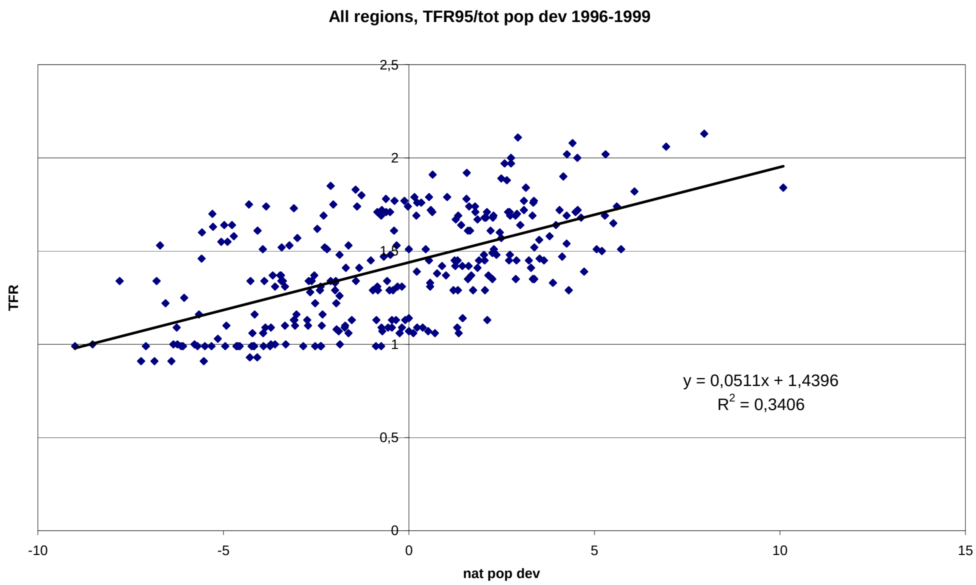


Figure 5.2. The correlation between TFR 1999 and natural population change 1996-1999. Source: Estimations based on data in the statistical annex.

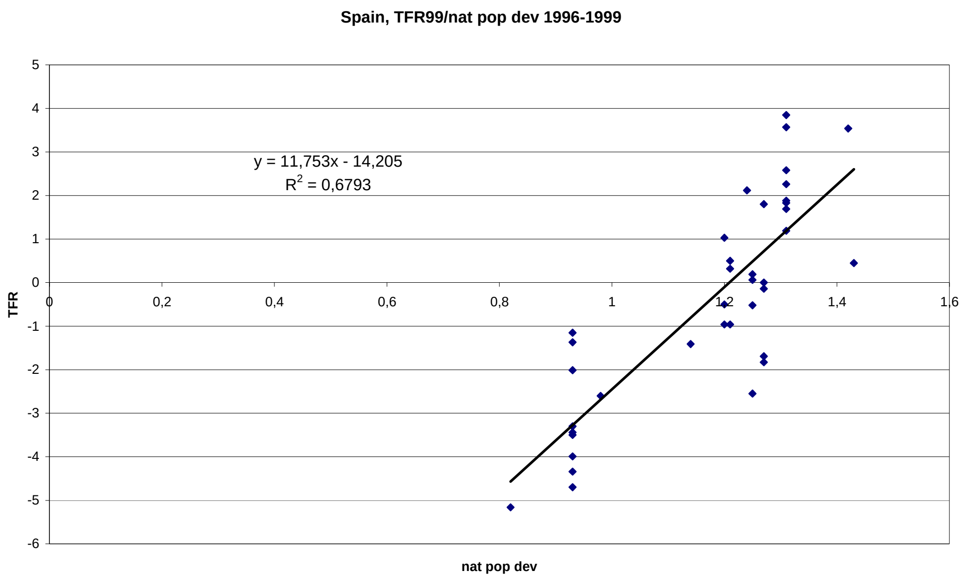


Figure 5.3. The correlation between TFR 1999 and natural population change in Spain 1996-1999. Source: Estimations based on data in the statistical annex.

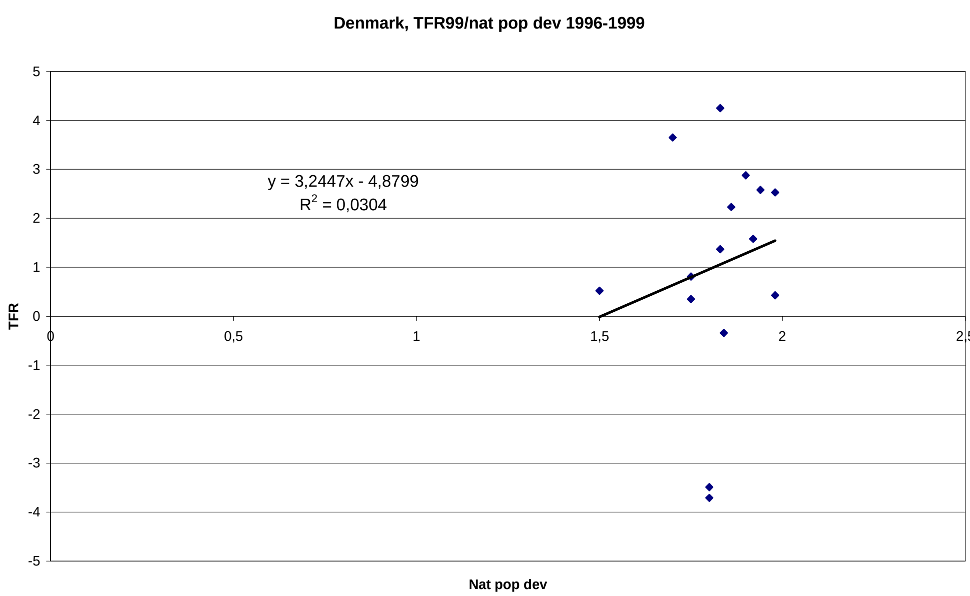
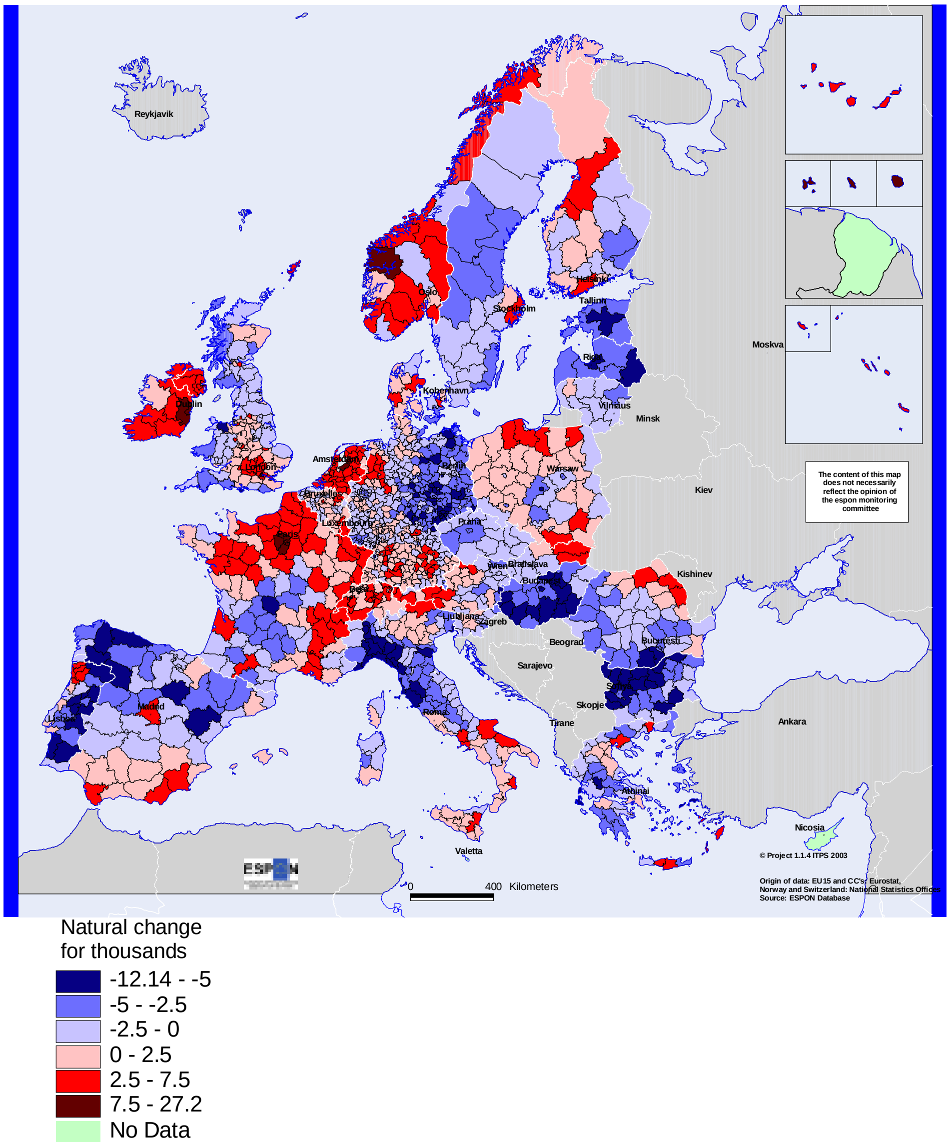


Figure 5.4. The correlation between TFR 1999 and natural population change in Denmark 1996-1999. Source: Estimations based on data in the statistical annex.

5.1 Natural population change/total population per thousand. Year 1999. Source: Estimations from New Cronos.

Natural population development in 1999



5.3 TFR and population change – trends and processes

The tendencies of fertility decline and the growing negative population change started in Europe during the 60s and 70s and low TFRs were established at a low level during the 80s and 90s. Even if the age and gender structure both have great impact on the natural population development, it is the total fertility rate that has been in focus when the natural population development is discussed. The general background of the "renewed" interest in population decline and depopulation is the recent fertility decline that in most countries took place from the middle of the 1960s to the middle of the 1970s (with some earlier as well as some later starters among the countries of the "different Europe's"). After a major fall in fertility rates, fertility tended to remain stable or to decline more slowly. There are not yet any European examples of enduring upward shifts – instead the TFR changes seem to be of short term and temporary character (see Figure 5.5-5.8).

The recent events may be linked to long-term demographic development, dating back at least a couple of centuries. This period includes what is known as 'the demographic transition' (as is presented above); a major and lasting shift from high to low mortality and fertility that was most pronounced in the nations of Europe, North America, Japan, Australia and New Zealand. Increments in human longevity culminated in an unparalleled rise in life expectancy during the first sixty years of the twentieth century. Fertility declined dramatically in the countries of transition; on the order of 50 percent between 1870 and 1940.

The former century as a whole by and large saw a continuation of this tendency, although significant fluctuations occurred with the world economic crises in the 1930s and the World War II. The development since the middle of the 1960s in many countries brought an end to almost two decades of post-war «baby-boom» and took fertility levels back to the long-term downward trend.

Even if many common national demographic trends among the European countries are well documented, it should be remembered that the extent to which the various countries experienced these trends is not always the same, and that the outcomes may differ in important ways. During the period from the late 1960s to the early 1980s fertility fell well below replacement level (ca. 2,1) in most European countries. However, the courses of decline differed and the fertility levels varied substantially among the countries in the decades following the steepest decline, pointing towards very differentiated demographic prospects in the years to come.

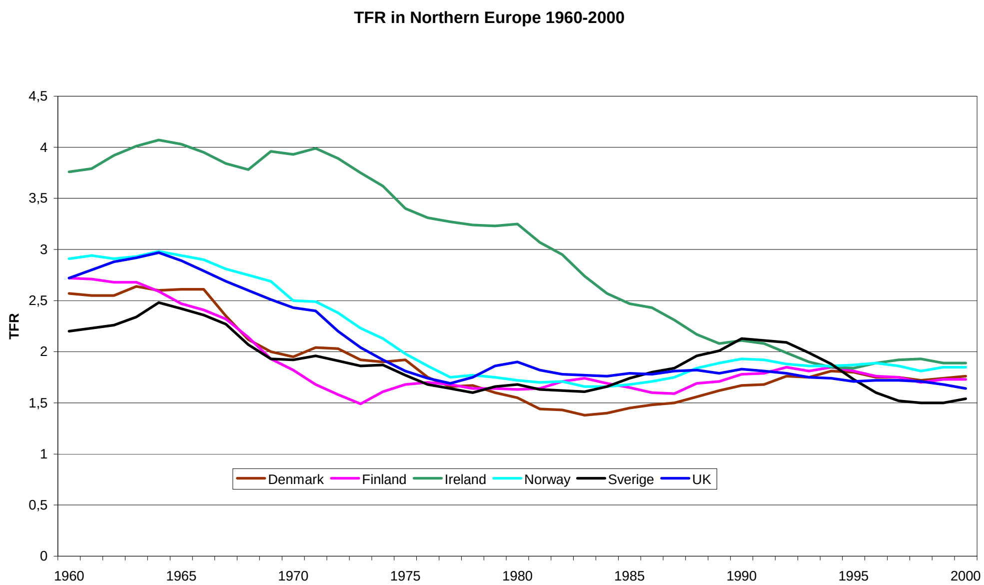


Figure 5.5. Total fertility rates (TFR) for Northern Europe 1960-2000. Source: UNs Population Division, Population Database.

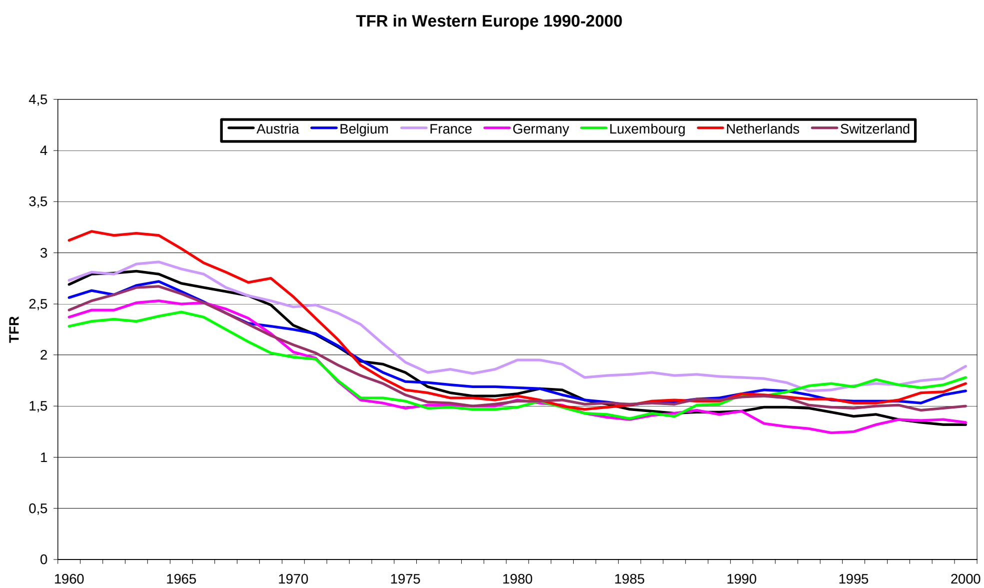


Figure 5.6. Total fertility rates (TFR) for Western Europe 1960-2000. Source: UNs Population Division, Population Database

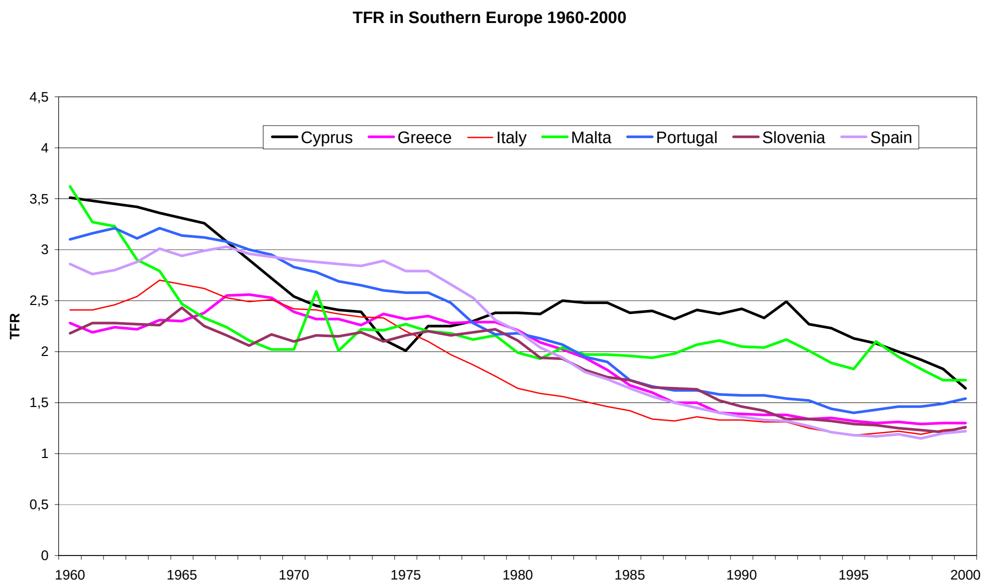


Figure 5.7. Total fertility rates (TFR) for Southern Europe 1960-2000. Source: UNs Population Division, Population Database

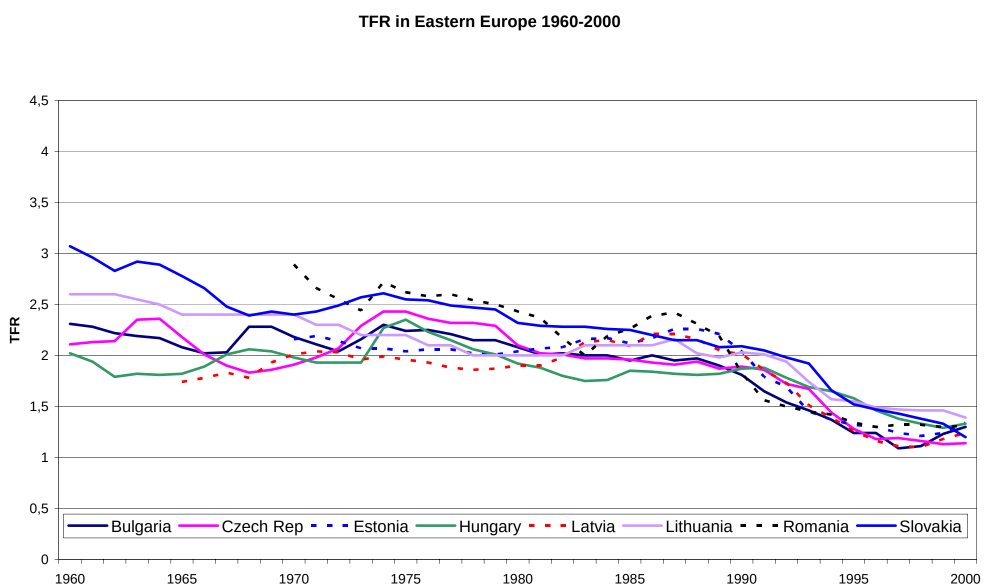


Figure 5.8. Total fertility rates (TFR) for the Northern Europe 1960-2000. Source: UNs Population Division, Population Database

From figure 5.5-5.8 it seems that the national TFRs have been converging during the period after 1960. The patterns are, however, more heterogeneous when we move to sub-national territorial entities (with regard to the development during the 90s, see Map 5.2-5.4. For the period 1960-1999, see also the statistical annex. Studies in several countries have documented that the timing, pace and courses of development in fertility change varied substantially between different types of local communities and regions, for instance according to dimensions commonly associated with rural-urban, centre-periphery etc. At sub-national levels the mechanisms of regional-demographic change – especially the phenomenon and role of migration – in many places were strongly influenced by the emergence of a regional-demographic zero-sum, or even minus-sum, game.

Another aspect is the transition of the family patterns in Europe. It is a well known fact that marriage is more frequent in Southern Europe than in the Nordic countries. Even in this sense there seems, however, be indications of a convergent process in the sense that families over all Europe seem to live more and more in cohabiting relations or as singles. The process behind the convergence of the total fertility rates following three "development paths" - marriage without children and children even without marriage and singles with or without children has obvious consequences with regard to the TFR. Table 5.1 differentiates among 16 countries in Europe with regard to extramarital births and TFR by 1990. During the 90s the table has probably been developed in a converging direction.[35]

Table 5.1. Sixteen European countries by 1990 shares (%) of extramarital births and TFR. Source: Micheli, 2000.

	% extramarital births		
TFR	Less than 10%	10% - 30%	30% – 50%
1,25-1,50	Greece, Italy, Spain	Austria, (West)Germany	
1,50-1,75	Belgium, Switzerland	Netherlands, Portugal, Scotland	Denmark
Over 1,75		England, Finland, France	Norway, Sweden

In order to examine the convergence/divergence processes at a more disaggregated level, comparisons between the coefficients of variance have been done for some years between 1960 and 2000. The coefficient of variance is a better measurement than the standard deviation as the mean value is changing over time and is independent of the size of the mean value. The regional definitions have changed over time, but despite this some hints about the development can be telling. The results are presented in Table 5.2.

During the 60s and 70s there are signs of a divergent development even if the TFRs are dropping. This was a period in Europe – at least in the market economies - with both good and bad times. The year of 1960 can be seen as the end of the reconstruction period after the second world war while 1980 was characterised by oil chocks and slow growth rates in many Western European economies, particularly during the second half of 70s.

During the 80s and 90s there are instead indications of a convergent development – with the exception of 1995 - and then in combination with a continuous fall in TFR. TFR was below the reproduction rate in the end of the 90s in every country within EU29 and this was also the case for most of the regions – only some regions in Finland and Norway (see map 5.4) that had a TFR that was over the reproduction rate. As the data for most of the new EU members are on national level there can of course be regions in these countries with TFR over the reproduction level but it seems not to be the fact from the sharp decrease even in these countries during the 90s.

[35] Micheli, 2000.

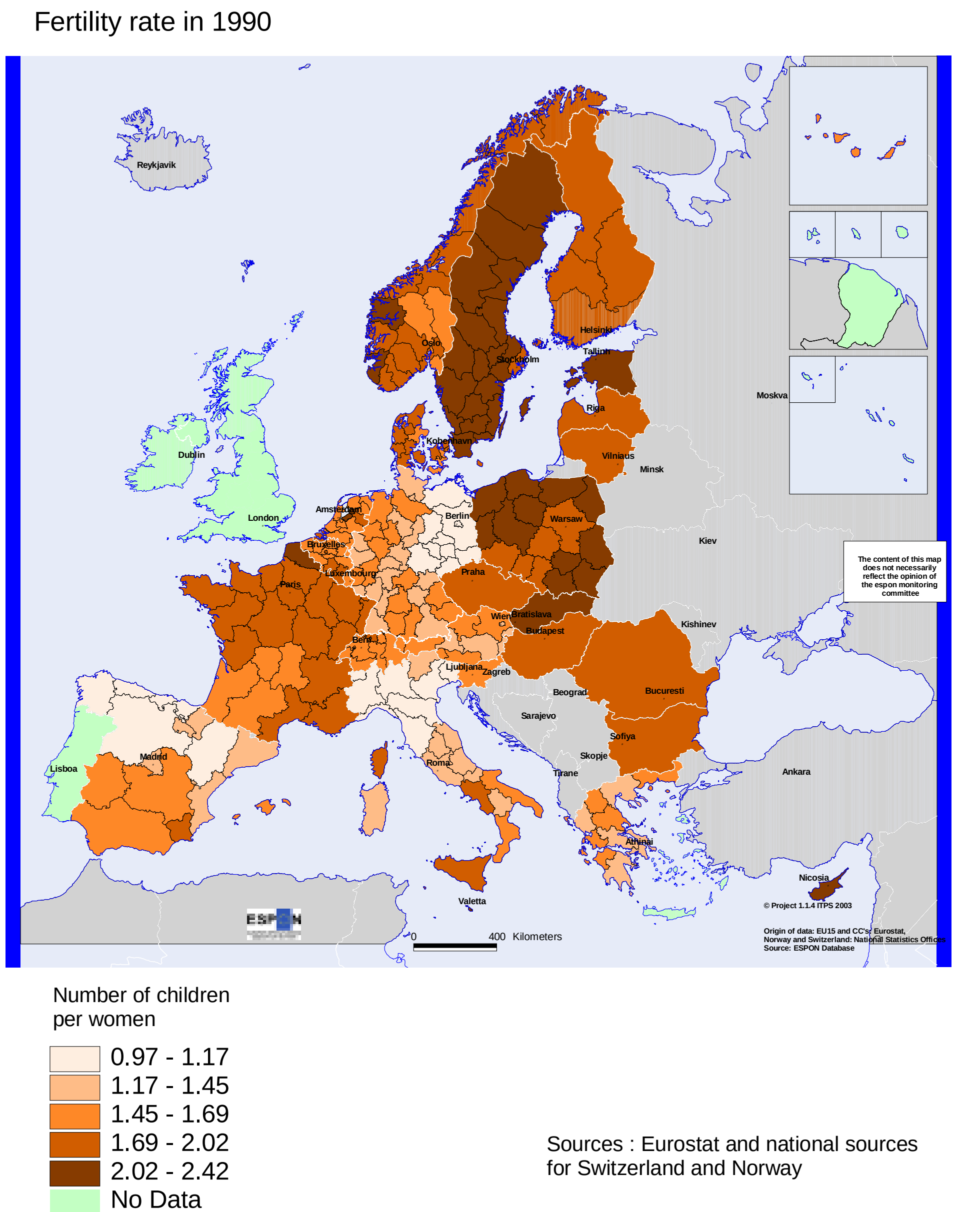
The regional disparities during the 1990s are also shown in Maps 5.2- 5.4. Here the low TFRs especially in the Southern parts of Europe and in some parts of the Eastern Europe are obvious. This phenomenon is perhaps even more pronounced in TFR-tables in the statistical annex where it can be seen that there are only few regions that are over or around the reproduction rate (2,1) today. As data are missing at the regional level from most of the new EU countries (forthcoming in the final interim report), there may be some other regions that have TFRs over the reproduction rate. However it is not probable - as mentioned above - that this will change the picture of a Europe that is going to experience a population decline in the future. A more thorough discussion of this phenomenon will be presented in chapter 8 and WP5.

Table 5.2. Some measures with regard to convergence/divergence in the TFR development 1960-2000. Different regional definitions, not overlapping. Sorurce: Estimation based on data in the statistical appendix.

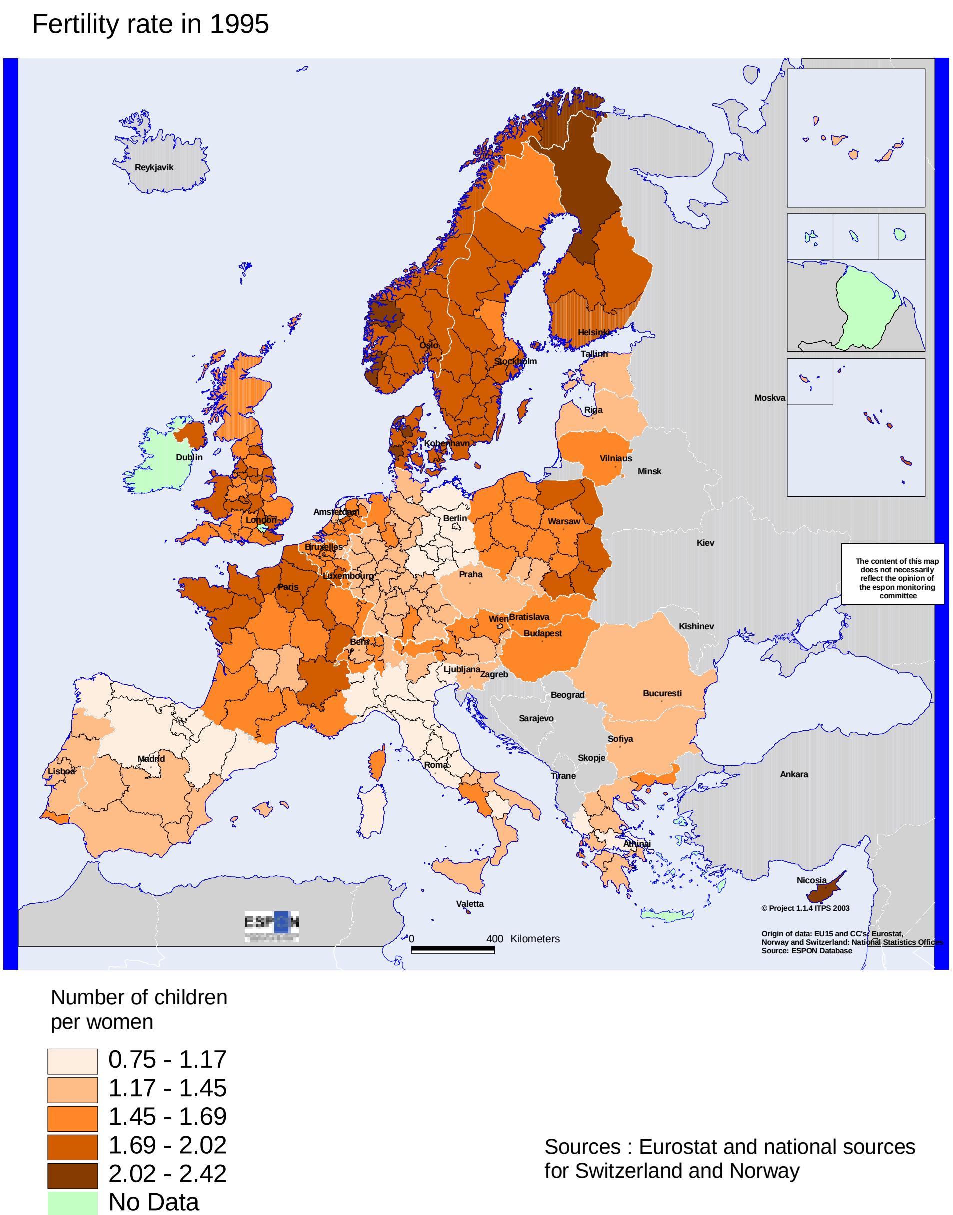
Year	N	Min	Max	Mean	Std	Coef. of var.
1960	564	1,20	4,71	2,69	0,335	0,215
1980	571	1,00	4,13	1,92	0,493	0,256
1980	832	1,00	4,46	2,04	0,500	0,246
1988	832	0,81	3.95	1.81	0,414	0,229
1990	297	0,97	2,42	1,68	0,310	0,185
1995	297	0,77	2,13	1,52	0,292	0,192
1999	300	0,82	2,11	1,50	0,274	0,182

Eurostat compiled regional population scenarios (projections) at NUTS 2 level in 1997, covering the period 1995-2025. According to the so-called base-line scenario, described as a continuation of current trends, the EU-15 population as a whole will continue to grow at a very low rate, and start declining around 2020. While around thirty NUTS 2 regions faced a declining population in the latter half of the 1990s, mostly concentrated to the former eastern Germany and southern Europe, the number of regions with a negative rate of population change is expected to have tripled by the year 2025. Regions experiencing population decline will be widely spread across the EU territory, comprising around half of the EU population. The scenario clearly illustrates the implications of uneven regional-demographic processes and the growing sensitivity to migration balances that also have impacts on the natural population development.

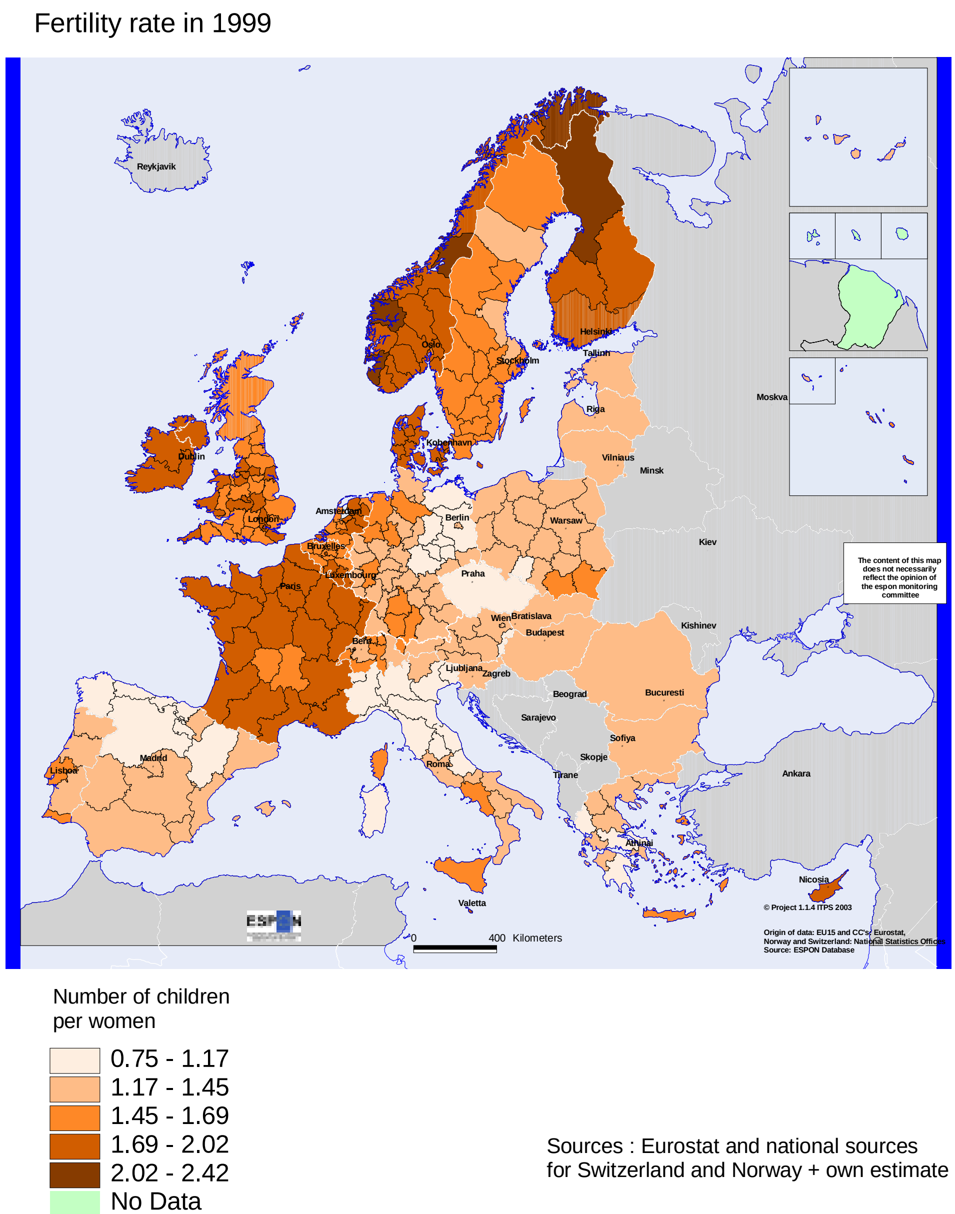
Map 5.2 Total fertility rate in different parts of Europe (NUTS0-NUTS3, not overlapping) 1990



Map 5.3 Total fertility rate in different parts of Europe (NUTS0-NUTS3, not overlapping) 1995



Map 5.4 Total fertility rate in different parts of Europe (NUTS0-NUTS3, not overlapping) 1999



5.4 Ageing, natural population change and migration

As mentioned above, birth rates are so low today that they result in a population decrease within the European territory - the number of deaths is larger than the number of births. This is, however, not only a result of the low birth rates – instead it is in many cases a consequence of the lopsided age structure that hampers the natural population increase. Even if ageing is a more or less a general ingredient in the population development in Europe, this process has progressed to various stages in different regions and nations. Ageing and its relation to the labour force is also one of the most discussed topics today with respect to labour market problems of today and in the future.

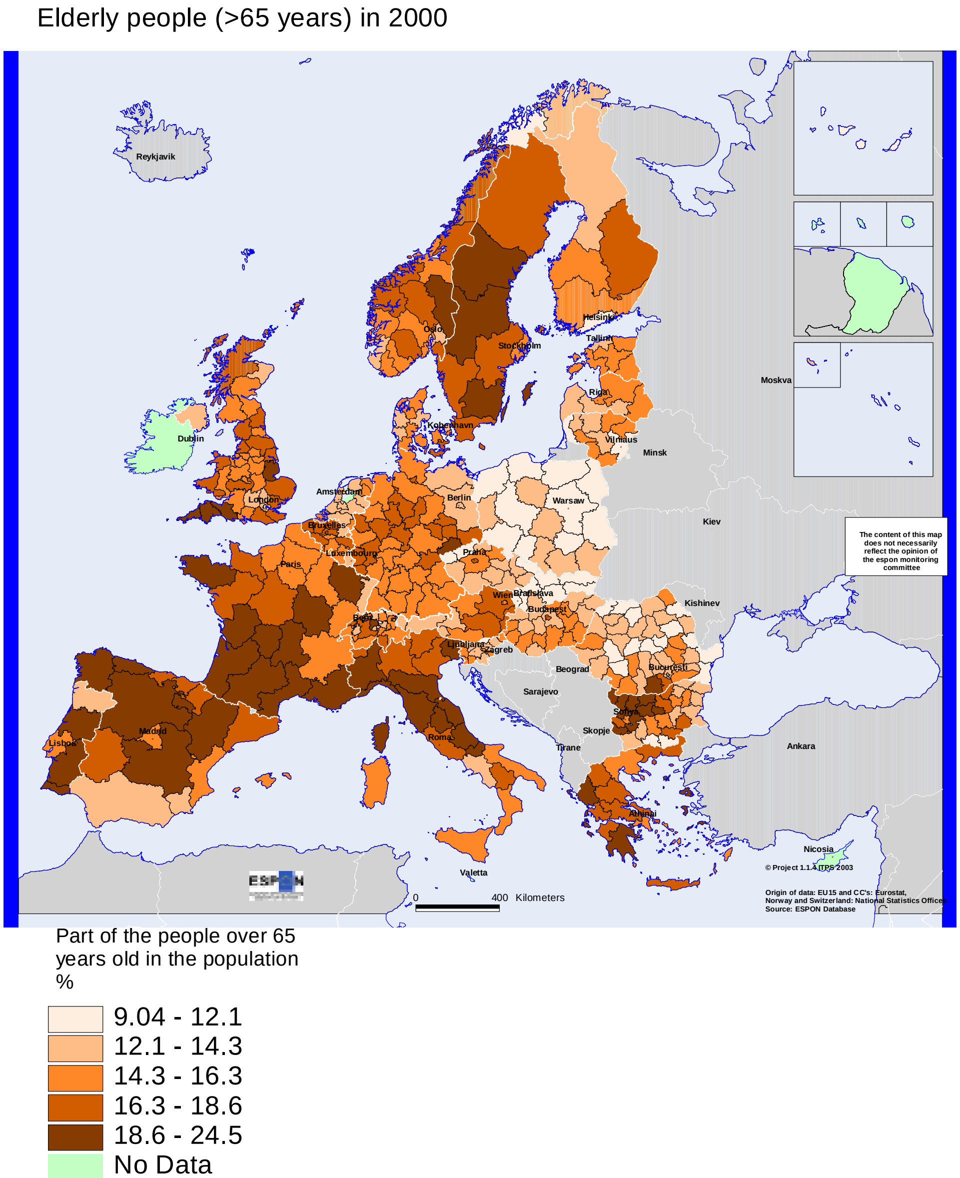
The ageing process was associated with a continuous population growth during the past century and the at least during the period after WWII. Today and tomorrow the situation seems to be quite different – ageing will happen together with population stagnation and decline of the European population. This is both a function of low fertility rates and longer life expectancies. Ageing will thus be accentuated and the dependency ratio will shift in the sense that a higher share is composed of elderly people and a lower share children and youngsters.[36]

This process is also a cohort phenomenon as the consequence of cohorts moving up through the age pyramid over time. Large cohorts will have more children than small ones and vice versa with the age-specific fertility rates. Aging in Europe is thus, at least partly, an effect of falling and low TFRs during the past decades and that cohorts in reproductive ages have diminished. The consequences of the 'baby bust' of past decades are more and more pronounced and will be accentuated in the future. Ageing is thus a long term process and without migratory movements it is in such a cohort phenomenon. In order to analyse the ageing process over time it is thus necessary to have long time series over both cohort sizes, birth rates and migratory movements and this is very difficult to get on regional level within EU29. Despite this, analyses based on longer time series will be more frequent in the final report.

The ageing process is thus a consequence of different development patterns that are not only of demographic character. One reason is of course the low fertility rates that in the long run will result in a lopsided age structure with a lot of elderly people in the population structure. This is lopsided age structure is also – in many cases – reinforced by out-migration of young people for reasons that are largely of economic, social and cultural character. This means that regions with a high share of elderly people also are out-migration areas. Lower fertility and higher mobility has thus resulted in a situation where the ageing process in many cases is more of a function of out-migration of young people than of low fertility. Migratory movements affect, as mentioned already in chapter 3, the age structure and the ageing process more than natural population change - births and deaths – which also increasingly has been a consequence of in- and out-migration of people in younger and fertile ages.

[36] See e.g. Johnson, 1992.

Map 5.5 Regions in EU29 with different age structures. Year 1999.



On the other side, many regions with a high share of elderly people are also in-migration areas with regard to this category – many of these regions can be characterised as ‘retirement paradises’ that attract people who have been pensioners and then move to areas where the climate and other amenities are favourable for elderly people. These areas differ thus a lot from the traditional ageing areas that instead may be characterised as depopulation areas. From this map 5.5 it can be seen that ageing is a phenomenon both in expansive in-migration areas and traditionally out-migration ones.

Connections between ageing and population change

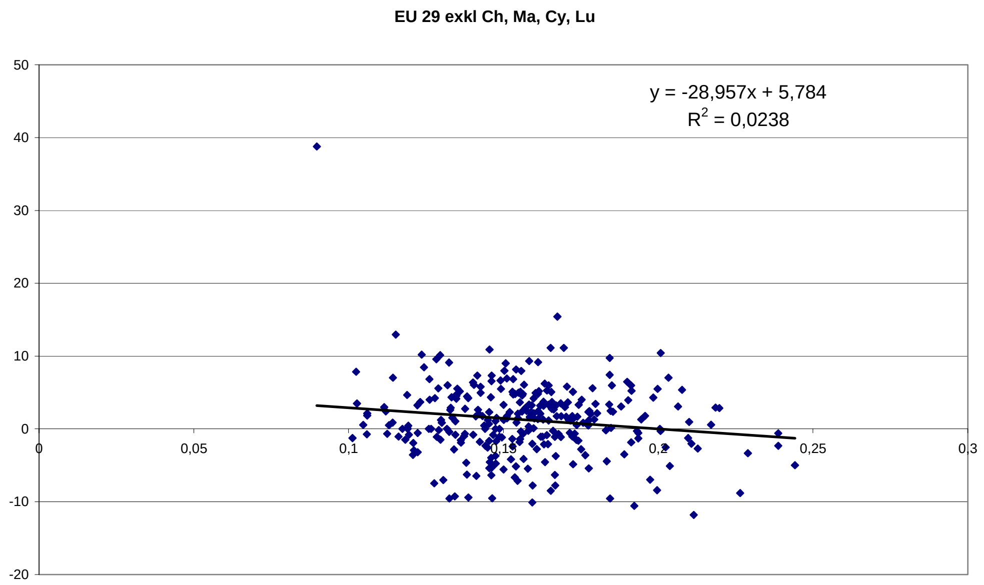


Figure 5.9. The connection between ageing (percent 65+ in population) 1999/2000 and total population change 1996-1999 (y). NUTS 1-3, not overlapping. N=277. Per mille. Source: Estimations from New Cronos and estimations from various national statistic bureaus.

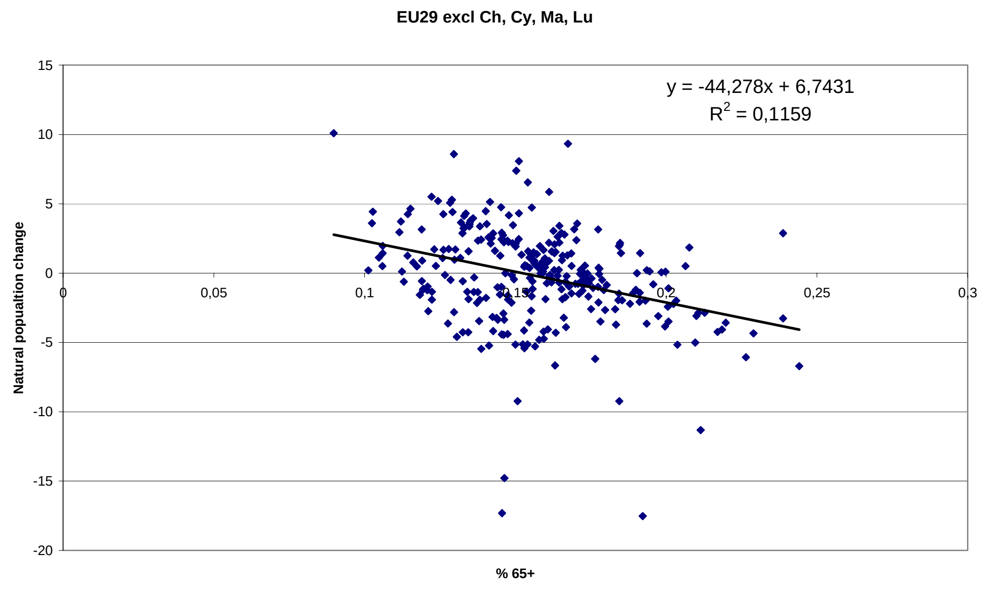


Figure 5.10. The connection between ageing (percent 65+ in population) 1999/2000 and natural population change 1996-1999 (y). NUTS 1-3, not overlapping. N=277. Per mille. Source: Estimations from New Cronos and estimations from various national statistic bureaus.

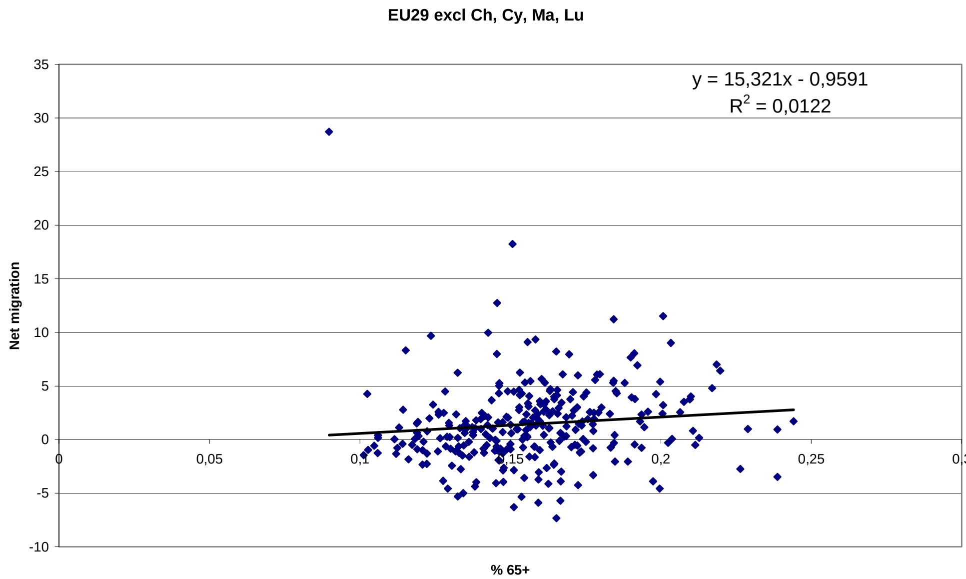


Figure 5.11. The connection between ageing (percent 65+ in population) 1999/2000 and net migration 1996-1999 (y). NUTS 1-3, not overlapping. N=277. Per mille. Source: Estimations from New Cronos and estimations from various national statistic bureaus.

As can be seen from Figure 5.9 - 5.11 there seems to be no correlation at all between ageing and total population change and also between ageing and net-migration. Besides this unexpected result and even if there is no significant correlation between ageing and net-migration, the β-sign is "wrong" – the slope of the trend line is positive. Between ageing and natural population change there may be some tendency to a correlation even if it is very weak. Here the β-sign is also "right" in the sense that the slope is negative. It should, however, be kept in mind that these regressions cover the whole EU29 with the exception of Cyprus, Malta, Luxemburg, Ireland, Switzerland and some parts of United Kingdom. In order to check if the pattern changes with a split in other regional categories, other regressions have been done.

The above regressions have been split up with regard to four other regional levels. These are the Northern Europe, Central Europe, southern Europe and the Eastern Europe. The latter group have also been estimated with regard to the Northern, Central European and the Balkan countries. The results are shown on in Appendix A.8 but here the equations and R2-coeffeficients are presented below (Table 3.2).

As can be seen from Table 5.3, the pattern will be quite different when the above estimations are broken up in new regional ones. In the new EU countries, and in Northern and Southern Europe the ageing process seems to have impact on total population change, but the impact on the components seems to differ between them. With regard to natural populations change the ageing process seems to be especially significant for the development in Southern Europe where ageing and low TFR seem to reinforce each other. The impact on net-migration is, however, not so pronounced. It is only in the Nordic countries that there may be a small connection between ageing and net-migration in the sense that ageing regions also are out-migration regions. This is, however, more pronounced if Norway is excluded in the estimations – this is also valid with regard to both total and natural population change.

With a split of Eastern Europe it is obvious that the Baltic States are more like Central Europe than Northern Europe. There seems not be any connection at all between ageing on the one hand and total and natural population on the other. The same is valid with regard to net-migration. Instead the central East-European countries remind of the development pattern in Southern Europe and the same is also applicable to the Balkan countries. In both cases it is especially the impact on natural population change that is of importance for the total population development in the ageing regions.

Table 5.3. The correlation between ageing (% 65+) 1999 (x) and total population change, natural population change and net migration (y). 1996-1999. Source: Estimations from New Cronos and estimations from various national statistic bureaus.

Regions	Ageing vs.	Constant	β-coefficient	R^2	N
EU27+2	Total population	5,78	-28,96	0,024	296
Excl Ch, Cy, Ma, Lu	Natural population	6,74	-44,28	0,116	296
	Net migration	-1,15	15,88	0,013	296
Northern Europe	Total population	29,38	-170,59	0,435	48
	Natural population	18,35	-112,68	0,327	48
	Net migration	11,03	-57,91	0,124	48
Central Europe	Total population	7,43	-31,76	0,034	90
	Natural population	8,61	-47,44	0,166	90
	Net migration	-1,18	15,68	0,011	90
Southern Europe	Total population	11,77	-58,84	0,259	54
	Natural population	14,26	-84,35	0,849	54
	Net migration	-2,49	25,51	0,069	54
Eastern Europe	Total population	12,78	-111,46	0,304	72
	Natural population	15,00	-127,46	0,417	72
	Net migration	-2,22	16,00	0,009	72
Balticum: Ee, Lt, Lv	Total population	-2,66	-9,44	0,001	15
	Natural population	8,36	-93,20	0,057	15
	Net migration	-11,02	83,76	0,027	15
Central: Cz, Hu, Pl, Sk	Total population	10,48	-87,35	0,344	35
	Natural population	12,80	-105,31	0,466	35
	Net migration	-2,33	17,96	0,065	35
Balkan: Bg, Ro, Si	Total population	12,50	-114,29	0,406	21
	Natural population	14,28	-120,55	0,665	21
	Net migration	-1,78	6,26	0,004	21

Shown below are six different types of regions that illustrate the ageing process within EU27+2 1999 where the share (%) of people of 65+ are combined with total population change, net-migration and natural population change (Table 3.3, see also Table A8 - A9). The ageing process is illustrated by the percentage of the ages 65+. This results, thus, in six different types where the ageing regions are defined as regions where the share of people of 65+ is 18 percent or more. In Table 3.3 these six types of ageing regions are shown with regard to the year 1999.

Table 5.4. A typology with regard to total population change, natural population and net migration 1996-1999 for regions with a high share of elderly people (at least 20 percent of the population 65+). Source: Estimations from New Cronos. See also the statistical annex.

Type	Total	Mig	Natural	% (N=49)
1	PT>0	PM>0	PN>0	20,5
2	PT>0	PM>0	PN<0	32,6
3	PT>0	PM<0	PN>0	0,0
4	PT<0	PM<0	PN<0	18,4
5	PT<0	PM>0	PN<0	22,4
6	PT<0	PM<0	PN>0	6,1

PT=Total population development
PM=Net migration
PN=Natural population development

As can be seen from Table 3.3 about half the ageing regions experience population increase and half the opposite between 1996 and 1999. A third of the regions are in the category 2; population increase, negative natural population change and in-migration. The opposite is true for the combination of total population increase, positive natural population change and out-migration (no observation)**.** The latter demonstrates the fact that ageing has a negative impact on the natural population development partly as a consequence of low fertility rates, partly of the lop-sided age structure that many cases is an effect of out-migration since long time.

Among the regions with population decrease the most observations are found in type 5 – population decrease, in-migration and natural population decrease. This type is probably regions that attract elderly people as a consequence of climate and other amenities that are pull-factors for elderly people. This can probably be explained by the fact that the age structure hampers the natural increase.

Type 4 seems on the other hand to be typically depopulation areas. Almost one fifth of the ageing regions are localised in this category. Here a combination of out-migration and natural decrease reinforce the negative population development.

5.6 Dependency rates

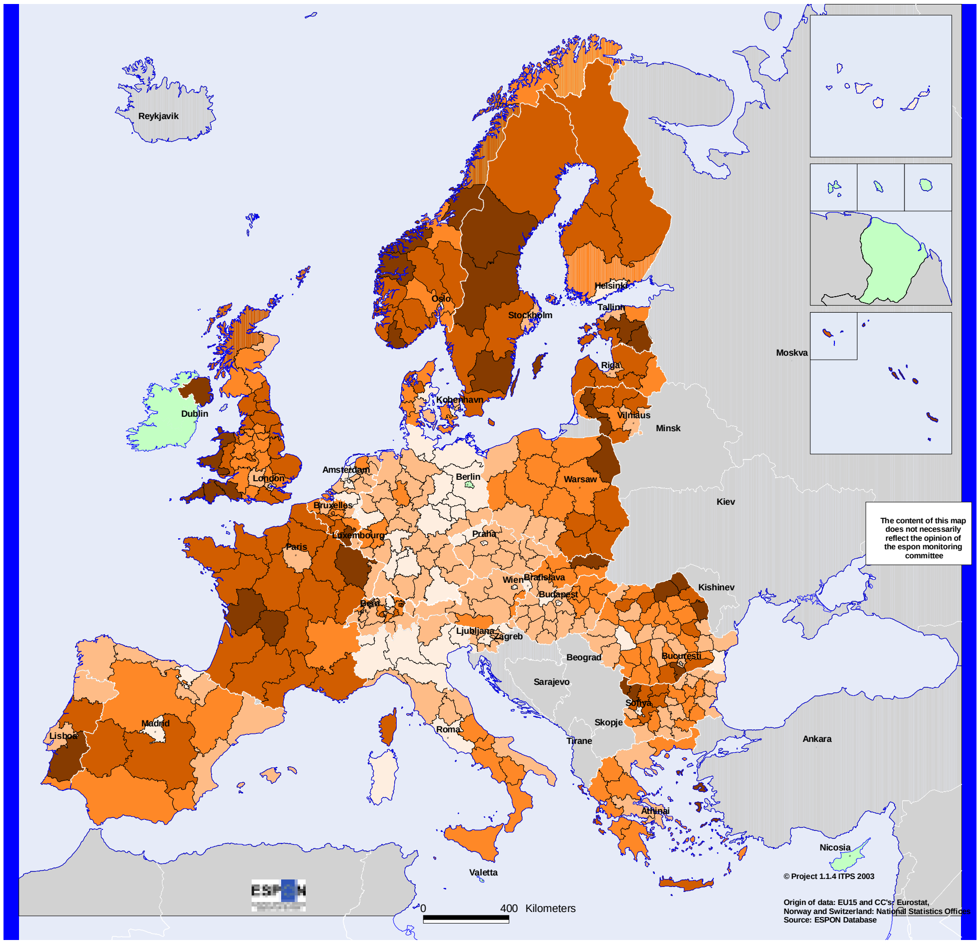
The dependency rate– here defined as total population in relation to the population in the ages 20-64 – are is a function of the size of the young age groups (0-19) and the older age groups (65+). This means that the effect of ageing can be neutralised by low fertility rates in the estimation of dependency rates. With regard to estimations and scenarios of future population development this is an important thing to keep in mind – the same dependency rates can be a function of different demographic processes.

A high dependency rate often implies that the precondition for economic growth is weaker than a low dependency rate. One reason is that the part of population that is in productive ages is low and this means also that the economic "burden" is higher. This must be compensated by a larger labour supply and/or higher productivity. The dependency rates have also consequences for e.g. taxes, social welfare, care and schooling. High dependency rates imply that fewer people take care of more people compared to the opposite situation. From a regional point of view this means, *ceteris paribus*, that regions with high dependency rates are in an economically more problematic situation than regions with low dependency rates. It can also be shown that there seems to be a connection between regions with high dependency rates and stagnating or depopulation areas (see also WP4). One explanation to this is the fact that these areas have a lopsided age structure with a high share of elderly people, out-migration of younger people in active ages (18-30 years) and, today, low TFRs. These processes reinforce each other and accentuate the ageing process and thus also the dependency rates in the out-migration regions.

High dependency rates are also associated with the need for replacement migration. The labour demand will rise, ceteris paribus, with higher dependency rates. The shortage of labour as a consequence of population stagnation or decline and of a lopsided age structure is a question that more and more has coming up on the political agenda in Europe and the need of 'replacement migration' will be discussed more in detail in chapter 8 (WP5).

Map 5.6 Dependency rates 1999. Defined as total population / population aged 20-64 years. Source: Estimations from New Cronos and some national statistical bureaus.

Dependancy ratio in 1999



Total population/
population aged 20 to 64 years

- 1.51 - 1.59
- 1.59 - 1.65
- 1.65 - 1.7
- 1.7 - 1.75
- 1.75 - 1.85
- No Data

Source : Eurostat, national sources for Switzerland and Norway

Chapter 6 Migration within and between European regions (WP3)

The work presented in this chapter builds on the material presented in the second interim report. Nevertheless, an effort has been made to integrate the remarks on the preceding report, in particular in the cartography. Above all, we introduce new material :
- we synthesize as clearly as possible the availability of the data according to the different political topics related to migrations (table 6.1);
- the evaluation of migratory balance by ages has been improved and completed. This allowed us to produce two typologies on this theme;
- we differentiated between the internal and external migratory balance for each region;
- we evaluated the level of mobility at the regional level.

Most of all, we further reflect on the comprehension over the migratory processes and their explanatory factors, among others by using analysis of the variant and correlations.

6.1 Principles and aims

The aim of this part of the research is to study migratory movements concerning Europe, on the international level as well as inside the European Union. The specificity of this study is to look at migratory movements at a relatively fine scale (nuts 3 and nuts 2 level), and not limit ourselves to this sole scale but to use bigger as well as smaller scales in function of the problems that we are studying.

Migratory flows are seldom studied on a regional level if one considers the whole of the EU countries. However, this relatively fine scale is the one on which it is most relevant to examine the evolution of migratory flows in relation to the regional economic structures and their positioning within the major socio-economic trends. One such scale is not sufficient to understand a wide range of essential migratory processes (international migrations, intra-urban migrations…). This is why this study will not be limited to a single scale but will look into migrations from the finest to the largest scales available.

6.2 Theories on migration

The *neoclassical macro-economic* theory on migration focuses on labour markets and wage differentials in the country of origin and in destination countries, and the process of economic development can explain the development of labour migration[37]. Wage differentials induce persons, especially workers, to move from low wage countries to high wage countries, resulting in a decreased wage differential between the two countries.[38]

In the *neoclassical micro-economic* theory individuals are assumed to undertake cost-benefit calculations, not only about deciding whether to move or not, but also where to move. The decision on when and where to move include variables such as wage differentials, unemployment rates, travel costs, efforts in adapting to a new country, psychological aspects of leaving friends and family etc.[39] Individual characteristics (education,

[37] E.g. Lewis (1954), Ranis & Fei (1961), Harris & Todaro (1970), Todaro (1976).
[38] Massey et al. (1993).
[39] Sjaastad (1962), Todaro (1969, 1976, 1989), Burda (1993).

experience, training, language skills etc) produce different outcomes regarding the decisions to migrate and where to migrate[40]

According to the *new economics of migration*, families and household, rather than individuals induce migration.[41] The aim with migrating is not only to maximise the income, but also to minimise risks.[42] In the absence of collective and social insurances, as well as inefficient markets, a diversification of household resources through migration will create a diversification of risks. The family members abroad will bring in remittances to the family or household. Economic development will not necessarily reduce the pressure on international migration, since a second distinguished characteristic of migration, according to the new economics of migration theory, is relative deprivation. The need of risk diversification and minimisation is dependent on the perceived functioning of markets and the perceived relative deprivation.[43]

The *dual labour market theory* stresses the intrinsic demand of labour in modern industrial societies that creates a constant need for workers at the bottom of the social hierarchy.[44] The labour market is divided in two sectors, one with formal and secure high-skilled jobs, and a second with informal low-status, insecure and low-skilled jobs as well as wages, work conditions etc.[45] When natives leave the bottom of social hierarchy, and thereby leave the low paid, low status jobs without social mobility perspectives, somebody must fill the vacancies. Only immigrants are willing to accept these jobs since they want to improve their social status in their country of origin rather than at destination.[46] The need of labour at the bottom of the social hierarchy induces migration, international as well as national and regional.[47]

So far only voluntary migration, in the form of an economically motivated movement of workers, has been discussed. The politically induced *movement of refugees* is usually seen as an involuntarily migration. In most cases the classification of economic and political migrants is an oversimplification, since political and economic causes of migration often stem from the same factors. Besides this, the freedom of choice has many gradations, which makes it difficult to fix how voluntary a voluntary movement is and how involuntary an involuntary move is.[48] Underlying predisposing factors (e.g. extreme inequalities between countries and political instability) and structural constraints (e.g. border controls) influence reactive migration, as well as immediate precipitating events (e.g. war, ethnical conflicts, and violations of human rights) and enabling circumstances (e.g. individual resources) will influence the volume and destination of migration.[49]

The factors initiating migration can be quite different from those that perpetuate migration over time and space. Schoorl points out that the direction of migration is a rela-

[40] Schoorl (1995).
[41] Lauby & Stark (1988).
[42] Stark (1984, 1991), Katz & Stark (1986), Taylor (1986).
[43] Stark & Levhari (1982), Stark & Taylor (1989, 1991), Stark & Yitzhaki (1988), Stark, Taylor & Yitzhaki (1986).
[44] E.g. Piore (1979).
[45] Doeringer & Piore (1971).
[46] Piore (1979).
[47] Massey et al. (1993).
[48] E.g. Kunz (1981), Zolberg et al. (1989).
[49] Richmond (1993).

tively neglected research field.[50] Former colonial bonds, family reunion, migrant networks and former migration usually trigger continued migration.[51]

In the *network theory*, migrant networks are usually defined as sets of interpersonal ties that connect migrants, former migrants and non-migrants in areas of origin and destination through kinship, friendship and shared community origin.[52] Network connections can be regarded as a form of social capital that people can use to gain access to foreign employment. When the number of migrants reaches a critical threshold, the expansion of the network will reduce the costs and risks of migration, which causes the likelihood of migration to rise. This will cause additional migration, which further expands the networks and so on.[53]

The *institutional theory* points out that the flows of immigrants become more institutionalised and independent of the factors that originally induced it when private institutions, entrepreneurs and voluntary organisations develop to satisfy the demand of moving to certain countries. The process of institutionalisation of migration is difficult for governments to regulate since a part of the immigration is illegal.[54]

Once started, the migration process alters circumstances both at origin and destination, which often increases the probability of future migration. This phenomenon is termed *cumulative causation*.[55] There are six major socio-economic factors potentially affected by migration in a cumulative fashion: the distribution of income, the distribution of land, the organisation of agriculture, culture, the regional distribution of human capital, and the social meaning of work.[56]

The network theory, institutional theory and the theory of cumulative causation suggest that migration flows need stability and a structure over space and time to enable an identification of international migration systems. According to the *migration systems theory*, these systems are characterised by a relatively intense exchange of goods, capital and people between some countries and less intense exchanges between others. The migration systems are characterised by a core receiving region (one country or a group of countries) and a set of countries linked to it by unusually large flows of immigrants.[57] Multi-polar systems are possible and when economic and political conditions change, systems will evolve. Countries will drop out or join a migration system as a response to social, economic or political change.[58]

6.3 Data, methods and sources

The following table synthesizes the problems related to indicators and data concerning migrations at regional level in Europe. It deals with the most important political aspects, the availability of data and the evaluations realized to obtain complete sets of data about some aspects related to migrations. The detailed methodology of these evaluations are described in chapter 6.1. and 6.2.

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[50] Schoorl (1995)
[51] E.g. Castles & Miller 1993.
[52] Boyd (1989), Massey et al (1993).
[53] Hugo (1981), Taylor (1986), Massey & García España (1987), Massey (1990), Gurak & Caces (1992).
[54] Massey et al. (1993).
[55] Massey (1990b).
[56] Stark, Taylor & Yitzhaki (1986), Taylor (1992).
[57] Fawcett (1989), Zlotnik (1992).
[58] Massey et al. (1993).

Table 6.1 List of indicators on Migration at a Regional Level

Political important aspects related to migrations	**ideal indicators**	**existing indicators at regional level (eurostat)***	**Data used and own evaluation***
depopulation of rural-peripherial regions	1Total migratory balance 2 population evolution 3 ageing	- Interior immigration and emigration is available at nuts 2 level for most of the countries - exterior immigration is available for some countries but is generally underestimated - external emigration is very incomplete and for most of the countries underestimated	our evaluation of migratory balance has been done with the natural movement method : it allows us to have a complete matrix at nuts 2 and nuts 3 level (see 3.1.1.).
depopulation of young and intellectual for old industrial regions	Miagratory balance of young and active people	- Internal arrival and departures by ages are rather incomplete but less than external arrival and departure	We evaluate the migratory balance by age classes level by the “age structure method”: it allows us to get a complete matrix at nuts 2 level (see 3.1.2.)
socio-professional insertion of foreigners immigrants	1 proportion of population originate from poor countries 2 external migratory balance	- external immigration is available for some countries but is generally underestimated - external emigration is very incomplete and for most of the countries underestimated	- external migratory balance has been evaluated at nuts 2 level (see 3.1.3.) - no data is available at regional level considering the origin of the migrants
depopulation and change of social structure of centre towns	metropolitan and intrametropolitan migratory balance segmented by ages and social classes	No data are available about this topic because nuts 2 and even nuts 3 level are inadequate to apprehend this problem	- the geographic level (nuts 2, nuts 3) used in this study is in most cases not relevant to measure systematically this issue even if in many cases suburbanisation processes can be observed in the maps. The scale should be the metropolitan areas and these areas would have to be divided into core cities and suburbs with homogeneous criterion.
suburbanisation and space "spending"	metropolitan and intrametropolitan migratory balance segmented by ages and social classes	No data are available about this topic because nuts 2 and even nuts 3 level are inadequate to apprehend this problem	- the geographic level (nuts 2, nuts 3) used in this study is in most cases not relevant to measure systematically this issue even if in many cases suburbanisation processes can be observed in the maps. The scale should be the metropolitan areas and these areas would have to be divided into core cities and suburbs with homogeneous criterion.
East west migration	Rate of immigration from eastern Europe	- exterior immigration at nuts 2 level is incomplete and not available by country of origin	no data is available at regional lelevel nsidering the origin of ththe migrants
mobility (temporary) of qualified person	1. proportion of population originate from rich countries 2- migratory balance of qualified people	There is no data of migration segmented in function of the social status	- no data is available about migration segmented in function of social status
Touristical mobility retreat migration	1 migratory balance of aged people 2 part of second	- Interior arrival and departures by ages are rather incomplete but less than exterior arrival and departure	We evaluate the migratory balance by age classes level by the “age structure method” : it allows us to get a complete matrix at nuts 2 level

	residence owned by foreigners		

* We consider here only indicators directly related to migrations

6.3.1 Migratory balances

6.3.1.1. Global migratory balances at nuts-3 or nuts 2 level

The migratory analysis is confronted by various difficulties, both on conceptual points and on a statistical basis. The conceptual difficulties are increasing:
- Western Europe has increasingly experienced more clandestine immigration;
- Since the start of the 90s, a large number of nationals from Central and Eastern Europe work and live during most of the year in the European Union, covered by tourist visas, and even now as "tourists" without any need of a visa;
- The increasing mobility of the European population and the development of second residences, both in their country and abroad, can weaken the pertinence of population count based on the so-called main residence, which moreover can be chosen not in function of main residence but for fiscal reasons.

The correct taking into account of migrations and their quality of follow-up varies according to whether countries work uniquely by census or, on the contrary, keep a population register. In the latter case, the entries from foreign countries are in general well registered, as long as they are of legal origin, but on the other hand those leaving for abroad are often under-stated; those leaving often omitting to notify the local authorities. In addition, the assessment methods, very different from country to country, can make international comparisons uneasy.

The methodology adopted here to make up an assessment of the migration balances at the regional level is the natural movement method. The principle is simple: one calculates the difference between, on the one hand, population at the end and at the beginning of a period, and the natural balance (births less deaths) during that very period, on the other hand. This method is relatively safe as the statistics on these three indicators are globally reliable. Nevertheless "some relatively small errors relating to the population at the beginning and the end of the period, above all in the countries with no population register, can bring about a much bigger error on the assessment of the final balance, especially if they are of opposite mathematical signs[59]"

A general matrix of migratory balances at nuts-3 level and for the all Europe has been made for the second half of the 90s. Before this date, the matrix includes only Western Europe. We also dispose of a matrix of the previous decades, which permits us to describe the evolution in a long term perspective. Eurostat is the main source of the data but when necessary, we complete the files with data from national institutes.

For this indicator as for the others, the territorial division is very important and may change if not the result, at least its interpretation. For example, in some countries or some towns of a country, the central towns are separated from their suburbs while for most towns this is not the case. Most of these centers have negative migratory balances

[59] Decroly & Vanlaer (1991)

and therefore can give the impression that the metropolitan area is not attractive. There is no simple solution to the heterogeneity of the geographic divisions but we have to be very careful in the interpretation of the data and the maps.

Following the same method, we realized a matrix and maps concerning the first half of the nineties and the eighties. For these maps, we only used the data from Eurostat and it appears very incomplete. In particular, all Eastern Europe, including East Germany, is excluded. Moreover, the modifications in the administrative divisions of United Kingdom and Italy force us to use different NUTS levels (NUTS 1 and 2 for United Kingdom, NUTS 2 and 3 for Italy). For some regions in Sweden and Finland, the evaluation of migratory balances was not feasible. For Norway and Switzerland, the data come from other sources.

We also produced a map showing absolute migratory balances. It gives another perception because it shows the quantitative importance of the movements. It brings to the fore the importance of the big towns that the others maps hide because of the small area they represent.

6.3.1.2. Internal and external migratory balances

6.3.1.2.1. Internal migratory balance and intra-national flows

The internal migratory balance of each region was calculated from the data of migratory flows between regions within each country. It therefore evaluates the migratory balance of a region with all the other regions of the country.

These data are furnished in an incomplete way by Eurostat. We had to complete it by national sources for Germany, United Kingdom, France, Norway and Switzerland. Moreover, these data concern different periods and different spatial levels. This is particularly problematic for some countries: Romania and Slovakia, where data are only available for the year 2000; in France the evaluation can only be done between two censuses, that is to say on the 1990-99 period (instead of 1996 to 1999). The data for Greece, Bulgaria, Ireland and Switzerland are still not available (see table below).

Table 6.2 Availability of data for internal and external migration flows

	Internal flows at nuts2 level		External Emigration	External Immigration
	availability	remarks	availability	availability
Belgium	OK	only 1998-99	OK only 1998-99	OK only 1998-99
Denmark	OK		OK	OK
Germany	OK	Only nuts1 (lander) by national sources	NO	NO
Greece	NO		NO	NO
Spain	OK		OK	NO
France	OK	all period 1990-99	NO	NO
Ireland	NO		OK	national level
Italy	OK	only 1996, 1999	OK	OK
Luxemburg	-		OK	OK
Netherland	OK		OK	OK
Austria	OK		OK	OK
Portugal	NO		OK	OK
Finland	OK		OK	OK
Sweden	OK		OK	OK
United Kingdom	OK	only nuts 1 by national sources	Ok but only nuts 1 by national sources	Ok but only nuts 1 by national sources
Norway	OK	national sources	NO	NO
Bulgaria	NO		NO	NO
Tchec republic	OK	only 1996, 1999	OK only 1996, 1999	OK only 1996, 1999
Estonia	OK	only 1996, 1999	OK only 1996, 1999	OK only 1996, 1999
Hungaria	OK	only 1996, 1999	OK only 1996, 1999	OK only 1996, 1999
Lithuania	-		-	
Lettonia	-		-	
Poland	OK	only 1996, 1999	OK only 1996, 1999	OK only 1996, 1999
Romania		only 2000	only 2000	only 2000
Slovenia	OK		OK	
Switzerland	NO		OK	
Slovak Republic		only 2000	only 2000	only 2000

6.3.1.2.2. The External Migratory Balance

Data on the external migratory balance are very poor and not reliable. We therefore made an indirect evaluation based on a very simple equation :
Total migratory balance = external migratory balance + internal migratory balance.
The external migratory balance can be evaluated by the difference between the total and the internal balance, which are much more reliable data.

6.3.1.3. Migratory Balances by Age Groups at NUTS2 level

We have assessed the migratory balances from the age structures (by groups of 5 years) and the mortality data by age. The principle consists in following an age group on a 5-year interval and deducting the deaths from the final population: the comparison between real and assessed final population represents the migratory balance by age. Nevertheless, the balance does not relate to the initial or final age group but to the average of both.

This estimation can be formalised as follows:

Migratory balance of the n age group = population (n+1,a+1) – population (n,a) + (deaths (n+1) + deaths (n))/2

n = age group
a = year

Example
Migratory balance of the 2,5-7,5-year-old for the 1995-2000 period = (5-9-year-old, 2000) population – (0-4-year-old, 1995) population + (deaths among the 0-4-year-old + deaths among the 5-year-old)/2

The statistical problems mentioned above, especially second homes and clandestine immigration, gain significance as the populations concerned are concentrated in some age groups: clandestine immigrants are mainly young, while the owners of second homes are above all active older people or pensioners. The matrix of migratory balances by age groups at NUTS-2 level is completed for the 1995-2000 period and for the whole of Europe.

This method is quite indirect but the results are very coherent and the image provided is comparable with other, more direct, sources available in some countries. However, certain problems remain when going into detail, especially in Slovakia and in Slovenia where the data on elderly mortality lack coherence, so that migration data are uncertain for those age categories.

6.3.2. The level of mobility

Migratory balances could be the same for regions with many arrivals and departures and for regions with very few movements and the implications could be very different. The mobility of the population of a region is measured by dividing arrival and departures by the total population. So, we know the part of the population that is moving at a given scale.

Mobility = (immigration + emigration)/ total population

The mobility at a given scale does not consider the internal mobility of each region. Moreover, given that the data on external flows are poor, we will only measure the interregional mobility in a systematic way. Thus the mobility will be reduced to all the movements between a region and all the other regions of the country.

Unfortunately, the level of mobility is also very dependent on the scale and the administrative divisions, which is very important to keep in mind. This is why we made a standardization that allows us to eliminate the influence of the size of the units. We chose to keep the most simple indicator because it appears that the results and the image are quite similar, except for the big towns included in a administrative unit of a small size.

We also made a third indicator of mobility, which evaluates the mobility in comparison to the national average. The reasons are that we only take into account the internal mobility and that the national administrative divisions are more homogeneous. Nevertheless, the divisions are still very unequal and the mobility is highly overestimated when towns and suburbs are included in different territorial units.

6.3.3. International flows

The data concerning international migrations are relatively poor at regional level (see table 2). In the Eurostat database, immigration data exist only for some countries but are not available for the most populated ones (UK, Germany, France). These data do not distinguish the immigrants in function of their origins, even only from inside or outside the EU.

The data of out-migration are also incomplete but also much less sure and reliable. They are in most of the cases based on the declaration of the emigrants before they leave the countries! For example, for all Spain, the out-migration does not exceed 400 persons in 1999. The evaluation of the external migratory balance (see maps 6.1 and 6.2.) is a first approach of this question of international migrations at regional level. It gives an idea of how attractive the regions are at the international level and allows us to show the huge difference with the internal attractivity.

Nevertheless, it is still very insufficient and we will have to use more sources and indicators in order to complete our reflection:
- data at national levels which give also the country of origin of the migrants;
- data from national sources: for example, Spain has very good regional data on immigration from foreign countries ;
- case studies which focus on important aspects: pensioners, skilled workforce, regional impacts of international migrations,…

6.4. Main preliminary results

6.4.1. Total migratory balances

The map of migratory balances in the 90’s illustrates a geography similar to that observed in the 80’s, or even in the 70’s. The main processes of migratory flows have not considerably altered since the middle of the 70’s: the intra-European flows are balanced since that period; the flows between rich and poor regions inside each country are still provoking big contrasts in the migratory balances; suburbanisation, started since the sixties in north-western Europe, continues in all Europe; the rural exodus, still very perceptible in the sixties, has weakened in peripheral Europe (with the exception of northern regions of Scandinavia) and is even reversed in North-western Europe (counter-urbanisation).

Compared to the 1980s’, the 1990s’ decade however is characterised by a revival of the international migratory movements, though differently featured (immigration from Eastern Europe, sometimes temporary; strengthening of the immigration from Third World countries, bound to a de facto “expulsion” from the country of origin, for economic and/or political reasons, and no longer bound to a concerted call from European countries, etc.). These new immigration forms are in search of metropolitan locations, damaged central neighbourhoods or large peripheral housing estates according to the countries, where they can live on informal economic resources, sometimes on an ethnic basis, and find insertion niches. These areas crystallize the urban problems. Even the peripheral countries, such as Portugal, Spain, Greece and Ireland, have become countries of immigration after decades of massive emigration, at least until the seventies.

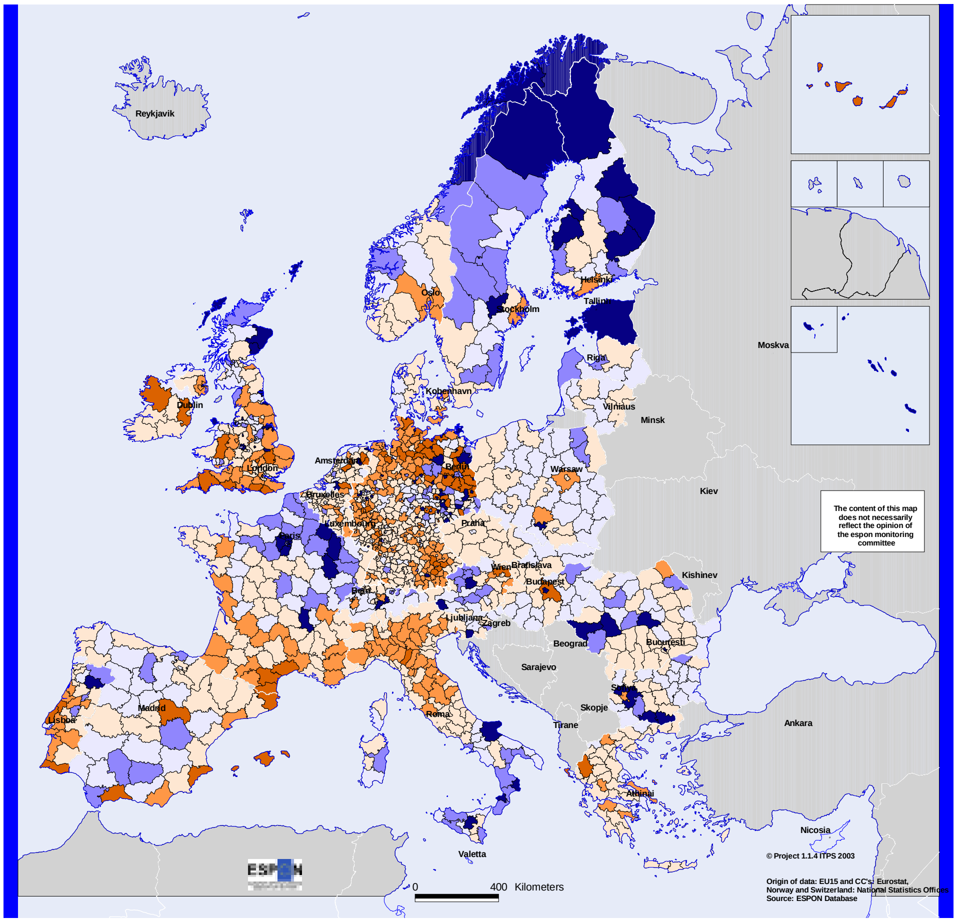
So, the main elements that explain the late nineties' migration's map are the border effect, as it is within the national borders that the flows are the most intense and the migration balances contrasts the most significantly, and secondly, the economic and environmental inequalities, as they essentially play a role within national spaces. Such a reality can be expressed through some examples.

In Germany with regard to the East – West migrations and in the U.K., the North – South balance can be attributed to the huge economic gap between these regions. The older industrial regions of the North, including certain parts of Scotland, are still undergoing a structural crisis, whereas the service sector economies of the South, in particular that of the greater London region, is visibly more dynamic. This results in a relatively important migration from the North to the South. The importance of the economic factor is confirmed by the weight of the young people in these movements (more 90% of the north-south flow in England[60]).

[60] Van Hamme G.et al. (2004).

MAP 6.1

Migratory balance between 1996 and 1999



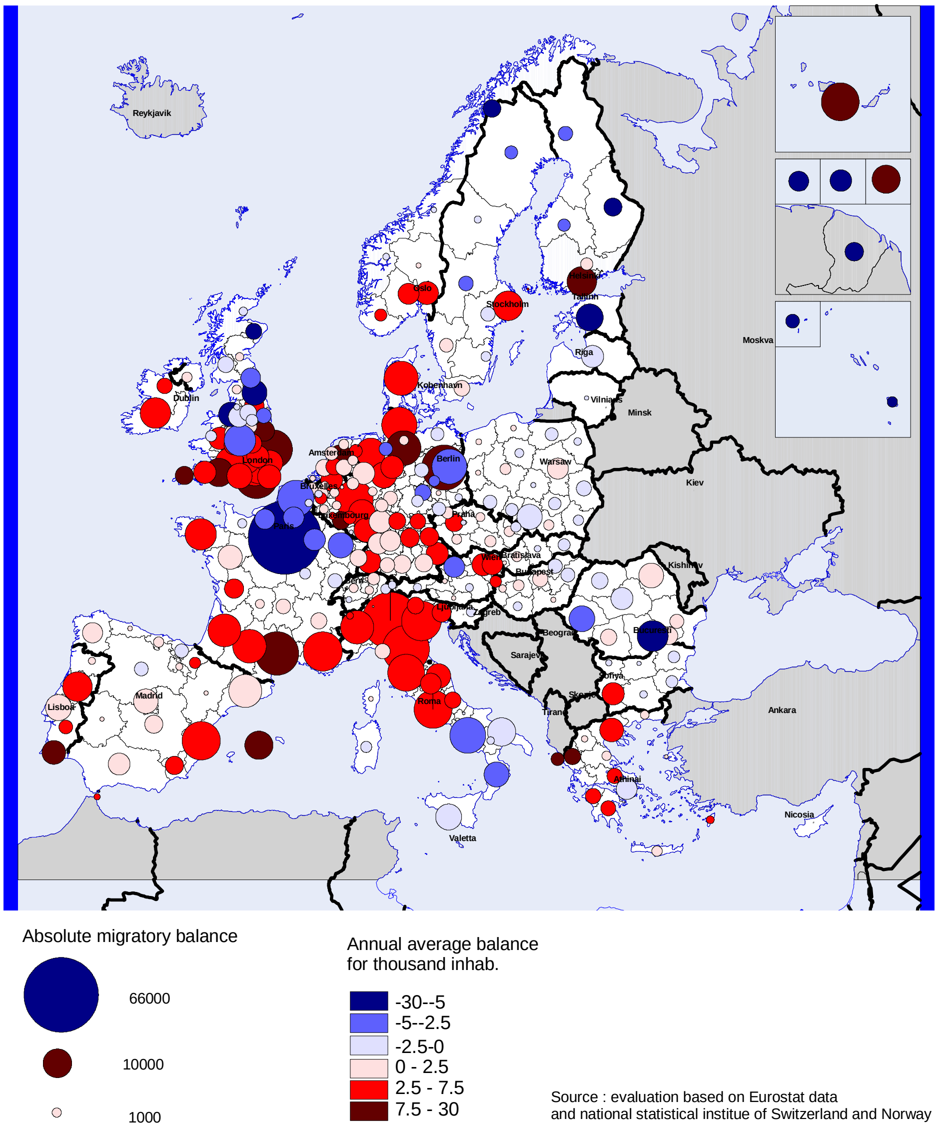
annual average balance
for thousands inhab.

- -46.72 - -5
- -5 - -2.5
- -2.5 - 0
- 0 - 5
- 5 - 10
- 10 - 56

Source of data : evaluation based on Eurostat data and national statistical institute for Switzerland and Norway

MAP 6.2

Migratory balance by regions between 1996 and 1999



Source : evaluation based on Eurostat data
and national statistical institue of Switzerland and Norway

The Italian case is quite similar, the gaps between the development in the North – one of the richest regions in the European Union – and the South, explain the persisting net migration in favour of the North. The development policies installed in favour of the Mezzogiorno could not reduce those gaps in development.

The case of France can be closely compared: the crisis in the old industrial regions of the North, as in the Nord-Pas-de-Calais or the Lorraine, can explain a net migratory balance there, whereas the middle South has positive balances. But these migrations appear to be less direct in the case where residents of the old industrial regions migrate toward the Paris regions whereas the inhabitants of the latter tend to migrate to the South or to the West. In France, the southern regions (with of course sub-regional nuances) benefit at the same time from a good image in terms of quality of life and of a relative economic dynamism.

This is true especially in comparison with the old industrial regions of the North. They attract all age classes, in particular young pensioners, but also young families with children; they are only less attractive, and sometimes repulsive for the youth between 20 and 30 years, because they offer little possibilities of higher education and insertion in the job market. The South of West Germany, the South of England or coastal Spain equally combines both favourable factors. In Italy, there is more of a contradiction between the environmental and economic factors, the standard of living which is lower and the unemployment rate which is higher in the South explain a very negative balance there for the active ages; the quality of life which is sometime better in the South (environment, climate) does not bring about important North-South movements, apart from the return of pensioners with origins in the South.

Another process can be observed in some cases: when the administrative division separates central towns and their peripheries, we can observe that the migratory balance is negative in the center and positive in the periphery. This process of suburbanisation is active in all Europe but can only be observed where the administrative division permits it.

With regard to the macro-regional flows, the Scandinavian countries set out an original model, which looks like the one generally known in the 60s to most of the European countries. Indeed, migrations remain dominated by the movements between peripheral regions, in particular the Great North, towards metropolitan zones. These flows have rather been reinforced in the 90s; they have become more massive in the second half of this decade.

In Eastern Europe also the model is very simple: the metropolitan region (in all cases mostly the capital) is the attractive region whereas rural isolated regions (eastern Poland for example) and industrial regions (such as Silesia) have negative migratory balances. But inside metropolitan areas, all centres have a rapid suburbanisation process.

6.4.2 Internal and External migratory balance

6.4.2.1 The internal migratory balance

The preliminary results bring to the fore the two major processes explaining the internal migrations at this scale (NUTS 2). First, the internal migratory flows illustrate the big divisions inside national spaces that we already described (see 6.4.1). They correspond to differences in economic growth and in the environment that are sufficiently strong to induce migratory flows. Second, the preliminary results bring to the fore that some of the big metropolitan areas (e.g. Paris and Berlin) are not attractive, from which the population leaves for the suburbs or to regions with more pleasant surroundings inside the national space. However, there are some differences between metropolises; in Scandinavia for example, the capitals remain very attractive areas for the rest of the country.

6.4.2.2 The External Migratory Balance

We should first recall that these balances concern extra-national migration, not extra-European migration. Nevertheless, the geographic contrasts arise mostly from immigration from outside the EU inasmuch as the intra-European migrations are globally balanced, at least between the countries (see also Annex E).

The preliminary results show a very different pattern compared to the map of internal balance. It brings to the fore some important aspects:

- Europe has become globally attractive, even in spaces of traditional emigration, such as Spain, Southern Italy, Greece, …;
- metropolises are the most attractive areas for external immigration. The presence of communities of immigrants and the importance and the diversity of the employment market explain this attractivity;
- in eastern Europe there is a difference between the richest countries that become attractive, especially the Czech Republic, and countries such as Poland or Romania which remain countries of emigration, although in a much more moderate rhythm than in the beginning of the nineties;
- some tourist areas, such as southern France, the Algarve and the Mediterranean coast of Spain increasingly become regions of exterior immigration. Most of this immigration is coming from northern Europe, among others retired people with a high standard of living. However, the global growth of these areas related to their tourist function also attracts immigration of people from poor countries. These international level tourist places can clearly be distinguished from tourist areas of northern Europe, whose influence is mostly national (southern coast of England for example).

6.4.3 Migratory balances by ages

A statistical analysis (see graph 6.1) permits us to gather together some age classes characterized by the same behaviour: students and young active people (17,5-27,5 years old), middle age classes (32,5-37,5 years old), and old active people and pensioners (52,5-67,5 years old).

6.4.3.1 Migratory balances of the young (17,5-27,5 years old)

This age group is characterized by a very high mobility and the spatial pattern of their migratory balances is therefore characterized by very important contrasts, especially inside countries. This age group thus has a very different behaviour from the others in terms of the region they are attracted to. In fact, most of the young people are attracted to towns, in particular big university metropolitan areas. This age group is the one that best illustrates intra-national economic contrasts, for example between the North and South of Italy, between the East and West of Germany, or between the North and South of England (the young represent 90 % of the migratory deficit of the North with the South at the end of the nineties). The spatial pattern is also heavily influenced by exterior migrations, which mostly concern young population. Young foreigners are attracted to big metropolitan areas because they can find a large range of jobs, higher education opportunities and often the presence of fellow countrymen who can facilitate their integration.

6.4.3.2 Migratory balances of middle age groups (32,5-42,5 years old)

The weaker mobility of this age group (in comparison to the younger age group) is illustrated by lower geographical contrasts. The geography of migratory balances of this age group is also very different; in fact, it is more similar to the geographic pattern of the total migratory balance: the migrations of this age group are much related to those of their children, and have some correlation with older age groups attracted to the same kind of environment. Urban areas are very repulsive to these age categories that are looking for less expensive space and a more pleasant environment. However, this age group, contrary to the young pensioners, is still constrained by the labour market: they settle in the peripheries of the towns, keeping their jobs in the centres or in regions which are economically dynamic and offer high environmental quality (south of France and England, Mediterranean coast of Spain…). In Eastern Europe and Scandinavia, the metropolitan areas are the only attractive regions for this age group, even if centres are indeed avoided.

6.4.3.3 Migratory balances of old active people and young pensioners (52,5-67,5 years old)

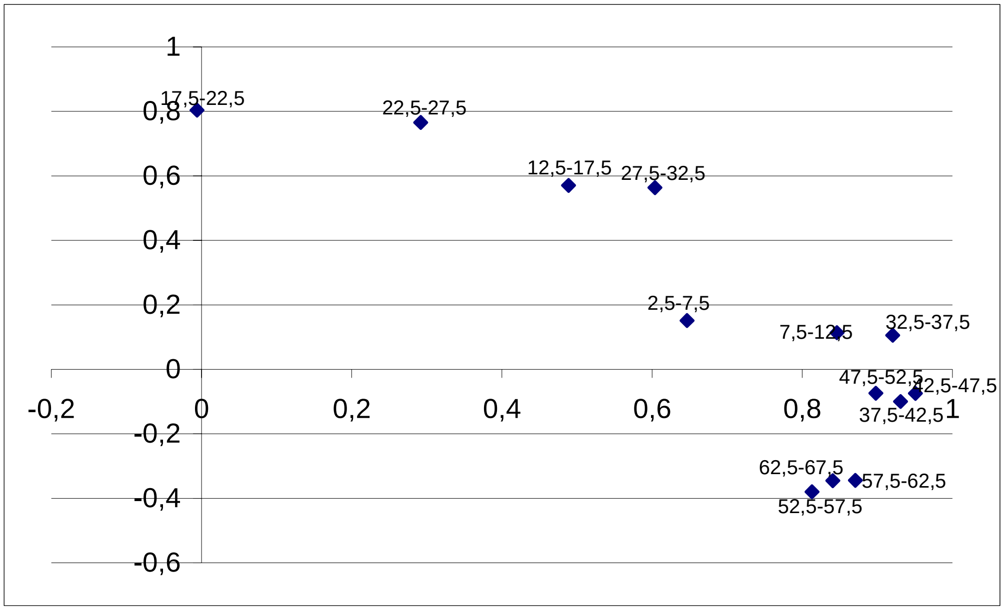
This model is relatively simple. Pensioners, or people close to retirement, to a great extent tend to leave large cities. The larger the city, the higher this trend[61].
These age groups favour areas with pleasant surroundings in terms of climatic conditions, landscape, sea proximity… such as, typically, the southern coasts of England and France, the Mediterranean coast of Spain. In many cases they do not move too far away from urban areas and favour remote and green peripheries close to their original urban area (Belgian Ardenne, Niederbayern, Brandeburg…). In some cases, the positive balances correspond to return migrations to the country of origin after a working life in national or foreign urban areas (the most obvious example being Portugal).

6.4.3.4 Typology of migratory balances by age

6.4.3.4.1 Typology based on statistical methods

The first step consists in carrying out a principal component analysis based upon migratory balances by age. Only the first two components have been used as they account for 75% of the information: in the first component (57% of the information) young peoples' behaviour (17,5-27,5 age group) is opposed to all the other age groups; in the second (18% of the information), the score is all the more negative as the age group is high (see the graph).

[61] Cribier & Kych (1993).



Graph 6.1: Age groups position on the first two components of the PCA

The regions have been grouped together according to their proximity on the two components (see graph) by means of an ascending cluster analysis, from which the 20 group typology was selected. Certain groups containing one or two units have then been merged on the basis of their age profile, so as to make the reading of the document easier. Finally we had 14 different groups.

Map 6.3 presents the 14 types and the profile of the migratory balances by age group has been calculated for each group, as shown in the graphs in appendix.

The different types can be briefly described as follows:

1 - types attractive to young people: these are above all the large urban areas and some very attractive central spaces, such as a large part of Germany, northern Italy, Switzerland, etc. Among these, several types stand out:

- *type 1*, which groups urban areas attractive to young people but repulsive for other ages (Brussels, London, Paris, Berlin). In those cities, the administrative space includes essentially the central part of the city, which mainly attracts young people in schooling age. The suburbanisation process that affects them concerns mainly families with active parents;
- *type 9* characterizes the Scandinavian urban areas as well as Zurich and Hamburg. It differs from the previous type in less negative balances with regard to middle age groups;
- *type 7* also corresponds to large urban spaces, but generally including their peripheries (Munich, Frankfurt, Geneva, Randstad Holland): the difference with type 1 is partly due to the larger size of the statistical unit compared with the metropolitan area, which includes the suburbs and consequently the areas active people head for;

- *type 4* (Lisbon, northern Italy, Denmark) is attractive to all the age groups but more particularly to the young. As for type 7, the large size of the unit compared with the urban spaces accounts for the non-negative balances in active age groups, the more so because suburbanisation is sometimes offset by mass external immigration (as is the case in Switzerland, Lombardy, Lisbon…);
- *type 2* (Madrid, Slovenia, Manchester) shows indefinite profiles, only slightly positive regarding the young.

2- types repulsive for the young: large urban suburbs, peripheral and not very dynamic areas… Among these:
- *type 10* is repulsive for the young but neutral in the other age groups (southern Paris basin, 3 Lander of Eastern Germany, southern Italy, north-eastern Hungary). The most negative balances concern rather the 22,5-27,5 years old than earlier ages, and suggest some difficulty in joining the active world ;
- *type 14* presents negative balances for almost all the age groups, even if they are no longer important for the 17,5-27,5 years old (northern Paris basin, northern Scandinavia, Calabria in southern Italy). Those areas are characterized by their economic weakness and their unattractive surroundings;
- *type 8* differs from the previous types in a strong attractiveness to middle and high age groups. Those areas often combine pleasant surroundings and a certain economic revival (western France, northern Portugal, northern Scotland, Frisian area in Holland…);
- *type 12* has a much more neutral profile. It characterizes not very mobile areas, which have negative balances only for the young (industrial areas in the north of France, some areas in eastern Europe).

3- groups with indefinite age profiles. They can be divided between repulsive or neutral types (3 and 5) and attractive types (6 and 13):
- *type 5* is characterized by balances close to nil for all the age groups, and very slightly negative for the 17,5-27,5 age group. This group prevails in Eastern Europe, which is characterized by a very limited internal mobility and some departures of young people toward Western Europe;
- *type 3* presents just as neutral a profile but, unlike type 5, it shows slightly positive balances for the young (northern Spain, Czech Republic, Warsaw…);
- *type 6* is characterized by positive balances in all age groups, although a bit less for the young. Those areas combine pleasant surroundings and economic dynamism. Some of them sometimes take advantage of the relative proximity of very large towns, others are very attractive tourist areas (Languedoc, the Algarve, Southwestern England, Oslo's greater suburbs…);
- *type 13* corresponds to economically dynamic areas of very high immigration, especially for the relatively young active people (such as Tuscany, Flevoland, Luxembourg and the Algarve).

4 - type 11 represents very attractive areas with quite specific profiles (Epirus in Greece, Sussex, Luneburg).

6.4.3.4.2 A typology based on the profile of the main age groups

This typology is about the same topic but, unlike the previous one, is not based upon rigorous statistical methods (Map 6.4). The share of relatively arbitrary choices is higher here. Yet its advantage, by comparison with the first typology, lies in the fact that it is more easily understandable as it is based upon obvious criteria rather than on unclear statistical methods. In addition, it is more satisfying from a visual point of view as it provides a large choice of colours and screens.

It is based on the most significant ages in terms of migratory balances: young people (17,5-27,5 years old), middle age people (32,5-42,5 years old) and old active people and pensioners (52,5-67,5 years old). These age groups have been defined on the basis of a factor analysis (see graph 1), which clearly opposes the young (17,5-22,5) and all the other age groups in the first component, and the young, middle-age and their children (27,5-47,5; 2,5-17,5) to the old in the second component.

For each age-group, the balance can be positive (more than 1.5 for thousands for middle and old people, and more than 2 for young people), negative (less than –1.5 for thousands for middle and old, or less than –2 for thousands for the young) or neutral.

If we combine those data, there are 27 possible types (see table 6.3) but two of them don't exist (type 5 and 25).

The warm tints reflecting attractiveness to the young are dominant in the central spaces (Germany, Northern and central Italy, South-western England), the large cities of more peripheral areas (Stockholm, Lisbon, Warsaw…) the quasi-totality of Greece, the Mediterranean coast of Spain and the Basque Country. The yellow tint is mainly present in the large cities attracting young people but repulsive for the other age groups (Brussels, London, Paris, Randstad in Holland, Munich, Hamburg, Berlin,…), whereas the areas in red are central dynamic areas attracting simultaneously young and active populations from other parts of the country (Eastern Germans in West Germany, Southern Italians in Northern Italy, Northern English people in the south of England), or from outside the European Union. The capitals of peripheral Europe often belong to that category: Scandinavian capitals, Lisbon, Eastern Europe's capitals.

Blue and cyan tints are characteristic of the areas repulsive for the young: some peripheral areas on European or national scale, and old industrial areas.

Other tints characterize the areas with indefinite age profiles: the areas in green attract all age groups (areas combining pleasant surroundings and a certain economic dynamism: Southern France, South-western England, Ireland…); cream-coloured areas are characterized by balances close to nil for the 3 age groups.

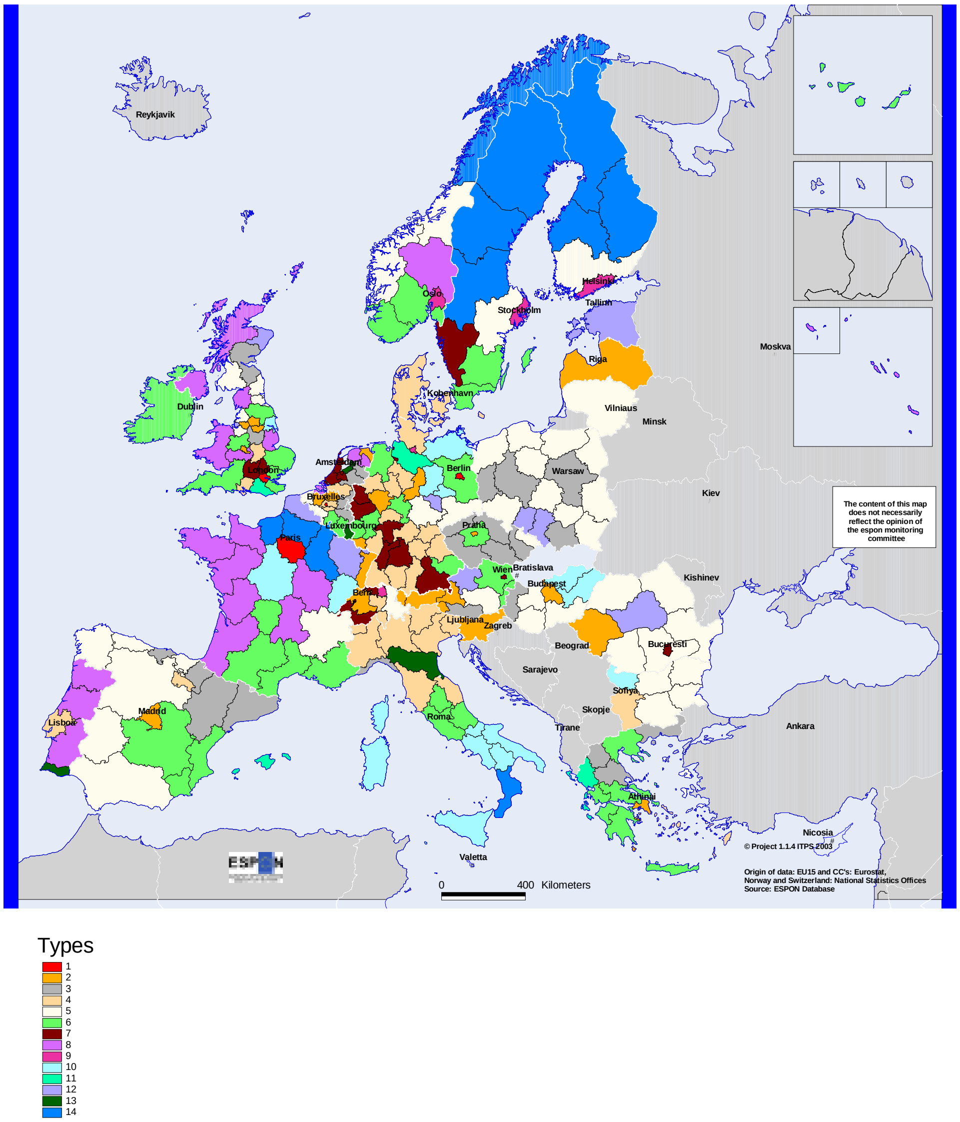
Table 6.3 Description of the 27 types

Ages Types	17,5-27,5	32,5-42,5	52,5-67,5
1	+	-	-
2	+	0	-
3	+	+	-
4	+	+	+
5	+	0	+
6	+	+	0
7	+	0	0
20	+	-	0
25	+	-	+
8	-	0	-
9	-	-	0
10	-	+	+
11	-	0	+
12	-	+	0
13	-	0	0
21	-	-	-
24	-	-	+
26	-	+	-
14	0	-	-
15	0	+	-
16	0	+	+
17	0	0	+
18	0	+	0
22	0	-	0
23	0	-	+
19	0	0	0
27	0	0	-

+ = balance >1.5 or 2 for thousand (on annual base)
- *= balance < -1.5 or –2 for thousand (on annual base)*
0 = balance between –1.5 (or 2) and 1.5 (or 2) for thousand (on annual base)

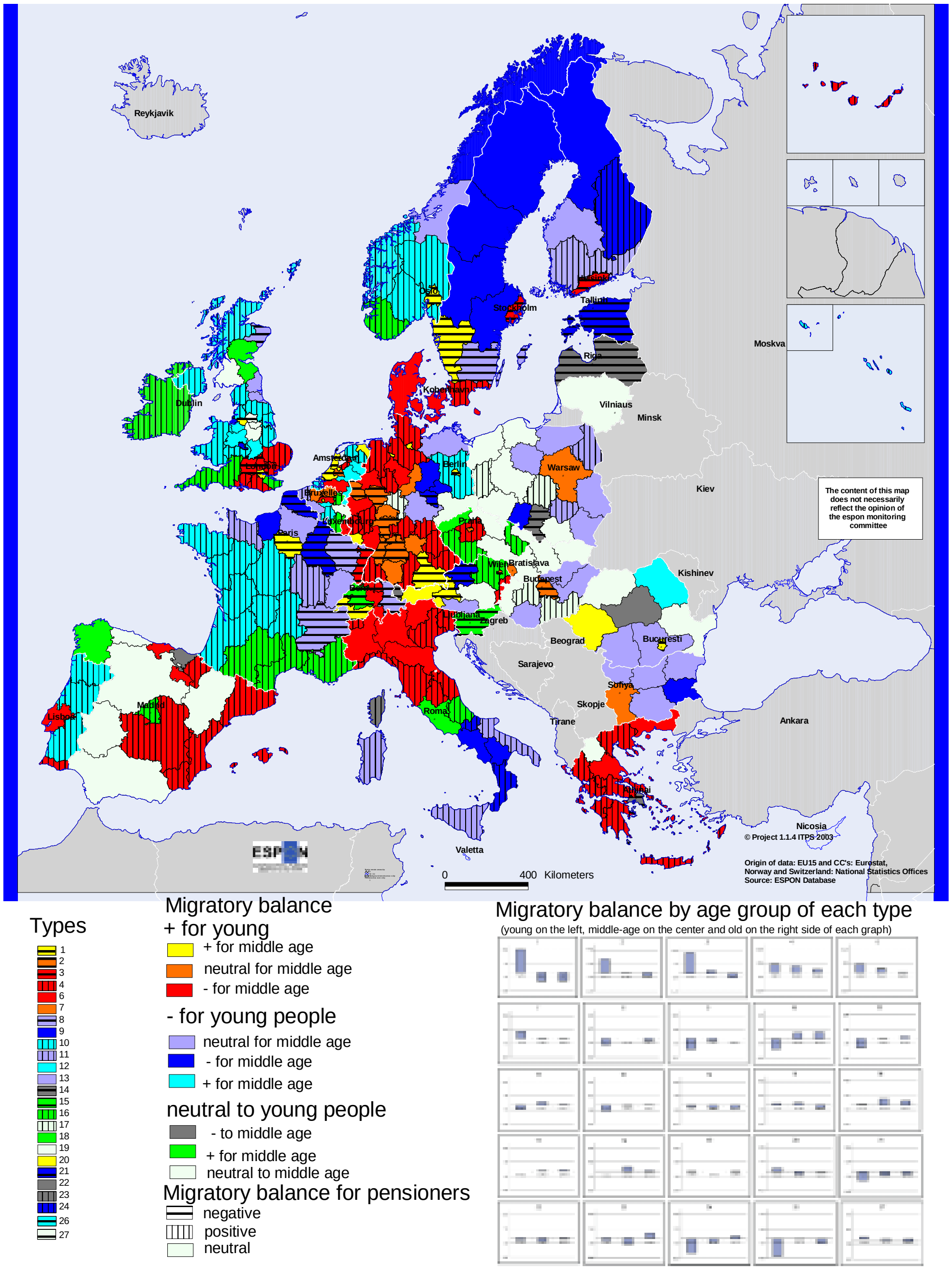
Map 6.3

Typology of migratory balances by ages, between 1995 and 2000



Map 6.4

Typology of migration by main age groups



6.4.4 Mobility

6.4.4.1 Analysis of internal mobility at regional level (NUTS 2)

We already emphasized the fact that the size of the territorial units has a big influence on the level of mobility.

However, this map brings to the fore some important aspects :
- the weak mobility in eastern Europe, although to a lesser extent in Hungary. This could be explained among other things by the weak development of the real estate market, which forces people to keep their housing ;
- the weak mobility of Italy and Spain;
- the strong mobility in and around metropolitan areas. These metropolises are characterized by high migratory movement between central towns and suburbs but also between the all metropolitan area, attractive for young people, and the rest of the territory, which receives active and retired people from the metropolises;
- the weak mobility of most of the old industrial regions, marked by the numeric importance of an active or non-active working force, often lowly qualified and not very mobile on a social point of view.

6.4.4.2 A typology crossing migratory balance and mobility

The objective is to distinguish between attractive regions with many movements or few movements. The mobility can be measured as the sum of inflow and the outflow in function of the total population.

Some types can be distinguished as shown in the following table :

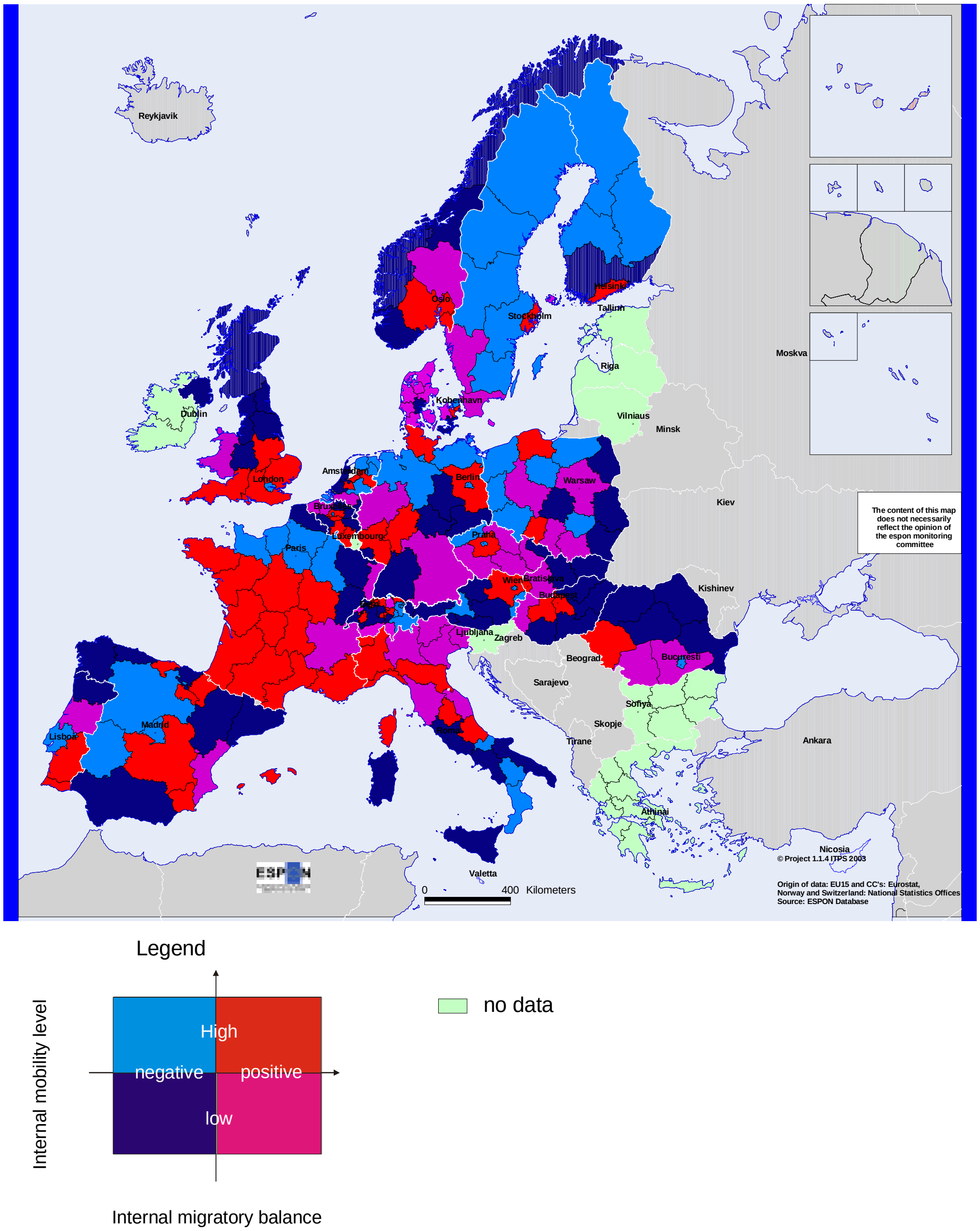
Table 6.4 : Migratory balances and level of mobility

Migratory balances/ Level of mobility	**Negative**	**Positive**
High	Some metropolitan areas (Paris, Berlin), Northern England, Northern Scandinavia	Periurban zones (Brandenburg), Western and Southern France, Southern England,...
Low	Old industrial regions, rural regions of Eastern Europe,…	Northern Italia, Bavaria, …

Some of the most significant examples are written in the cases

Map 6.5

Typology crossing mobility and migratory balances



6.4.5 Determination of a relevant scale: analysis of the variant on a territorial unit scale

It is useful to examine which have been the most pertinent geographical scales to establish the explanation of migratory movements, in other words what is the spatial level where the migratory process is determined and characterized at best. An analysis of the variant[62] will enable us to answer this question. This analysis should be seen as helping the comprehension of migratory processes: it is important to realize that any change in the divisions will affect the results.

Following the principle of association, the total variance between the migratory balances of all region at NUTS 3 level thus corresponds to the sum of variances within the groups of NUTS 2 level, NUTS 1[63], of countries and finally of countries amongst themselves, being: (NUTS 3 - Europe) = (NUTS 3 - NUTS 2) + (NUTS 2 – NUTS 1) + (NUTS 1 – NUTS 0) + (NUTS 0 - Europe)

Table 6.5 Analysis of variances of migratory balances between the regions of the European Union, 1996 – 1999.

	1996-99
Part of the variance NUTS 3 - NUTS 2 (%)	56,65
Part of the variance NUTS 2 - NUTS 1 (%)	14,64
Part of the variance NUTS A - NUTS 0 (%)	23,41
Part of the variance NUTS 0 - Europe (%)	5,31
NUTS 3 - Europe (total variance)	100,00

One should pay attention to the fact that the most discriminating 2 levels (NUTS 1 and NUTS 3) are not necessarily those between which flows are the most intense, but the flows at NUTS 1 and NUTS 3 levels are those which result in the most differentiated migratory balances.

The most discriminating scale, NUTS 3, accounts for more than half of the variance of the migratory balances in Europe. To interpret this figure, it is first necessary to stress the fact that the NUTS levels correspond to units of different sizes according to the countries: the German *kreise* or the Belgian *arrondissements* have much less population than the French *départements* or the Spanish provinces. In the case of very fine divisions, intra-urban migrations are quite visible because the urban centres and their suburbs often make part of units, whereas in rougher divisions, such flows remain within the administrative units and therefore do not result in differentiated migratory balances, except as far as large cities such as Paris or Madrid are concerned. Consequently, it is the intra-urban flows that account for the big part of the variance resulting from the fin-

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[62] The analysis of variance underscores the part of variation of a quantitative variance (here the rate of migration which will be called Y) in function of the sets compared and of which this variant has issued. The total variance of the grouping of the statistical population is defined as VAR =…
Or p(i) is the coefficient of weighting (the population) for the place i, y(i) the value of the viable for the place i. If we divide this variable up between different groups, for example here into the different geographical levels "NUTS" of the analysis, the total variance (YG) can be decomposed into two parts: that which corresponds to the variations within each group, that is to say the intra-group variance, and that which corresponds to the variations amongst the groups, the inter-group variance.
Following the principle of associability, the total variation can thus be broken down as follows: (formula), that is to say total variance (Vtot) = intra-group variance (Vi) + inter-group variance (Ve).
When the intergroup variation (Ve/Vtot) is strongly greater than the intra-group variation (Vi/Vtot), we can conclude that the variation of Y can be explained in principle by the spatial logics that differentiate the groups amongst each other. On the contrary, if the intra-group variation is greater, the migratory logics have to be interpreted at a finer detail and the major aggregates do not provide a level sufficiently pertinent to conduct investigations on migratory logics.
[63] To achieve this analysis, we have created a nuts1 level for Eastern Europe.

est division level. In a former analysis[64] limited to Western Europe, we had excluded too fine levels of division, and this level appears as definitely less decisive when explaining the variance.

The second most discriminating scale is that of NUTS 1 level, the one with a high number of macro-geographic entities, in the determination of the big migratory contrasts in the European Union territory. This scale in itself takes up almost a quarter of the total variance. This main macro-geographic level corresponds to the dominant structuring flows within the major European states, perceptible at least as early as the 1970s and often long before (except, of course, the East-West movements in Germany), in spite of the economic fluctuations: for example the migrations from the South to the North of Italy, from the North and the North-East of France to the Eastern and Southern parts of the country, in particularly the coastal areas, from the new German *länder* to the West (and in general in the FGR from the North to the South), from the North to the South of the U.K.; from the interior to the coastal areas in Spain. It often expresses major contrasts in economic dynamism, sometimes combined with differences in environment quality.

These major migratory trends do remain within the essential internal logics of the countries within which they occur, as underlined by the weak part of the international level in the global variance (only 6%). The borders are still determining as regards migration flows, for it is inside the national space that the economic or environmental differences still account for contrasted migration balances between regions, while inequalities between two countries, though often more important, do not generate such intense flows.

6.4.6 Determination of explanatory factors

6.4.6.1 Correlations between socioeconomic factors and global migratory balance

Table 6.6: Correlation between the 1996-1999 migratory balances and some socioeconomic variables

	Migratory balance	
	nuts3	nuts2
GDP/inhabitant 2000	0,005	0,201*
average annual growth (1995-2000)	0,072	0,235*
Density of population 1999	-0,153*	-0,030
Unemployment 2000	-0,103*	-0,326*
Number of observations	1258	265

* the correlation is significant at 0,01 level

On the whole, correlations between economic situation and migratory balance are not so important. The standard of living, for instance, does not explain the migratory balances at NUTS 3 level while it does, to a small but significant extent, at NUTS 2. Similarly, the economic dynamism accounts relatively improperly, though more significantly, for NUTS 2 migratory balances. Unemployment has a weak but significant negative correlation with the migratory balances, both at NUTS 2 and 3 levels.

64 Van Hamme et al. (2004).

Unlike the economic variables, population densities are more correlated at NUTS 3 than at NUTS 2 level. At NUTS 3 level, this is even the highest correlation of the table.

How can these results be interpreted?

First of all, the weakness of the links between attractiveness of an area and economic reality should be highlighted. This statement questions the classic models linking migratory flows to the different economic potentials of the territories and to the imbalances of the labour market migrations are supposed to offset. Moreover, it has been demonstrated that this model had much more significance in the 1960s[65] (see table 6.7), when both on national and European scale, dominant flows were oriented from poor peripheral toward wealthy central places. In each country, metropoles were the most attractive poles that absorbed the workforce from the less developed parts of the country. The evolution of the relation between the migratory balances and the GNP/inhabitant is the most significant given: inside the Western Europe regions, whereas there clearly was a relation in the 60s, it becomes negligible as from the 80s. After the 60s, the simple relation between the migratory process and the economic realities, in particular the standard of living and the job market, have the tendency to smoothen out. In the 1990s however, the flows have turned definitely more complex and contradictory.

Table 6.7 Correlation coefficients between the migratory balance and the socio-economic variables at "NUTS" C level in Western Europe (UE15+Norway and Switzerland)

Socio-economic variable	60s	70s	80s	90s	1997-99
Density	-0.098	-0.418	-0.126	-0.123	-0.314
GNP/inhab.	0.255	-0.174	-0.061	0.108	0.041

In the 1990s, the strongest (negative) correlation shows up with the unemployment rate. But it is strongly determined by very specific local factors, which are the high unemployment level in regions of mass emigration such as the former GDR and the South of Italy. It would be hazardous to generalize this conclusion for all of Europe. It is not surprising that this correlation is stronger at the scale of units NUTS 2, given the strong macro-geographic character of the unemployment levels and the migratory balance.

The negative correlation between the migratory balance of 1996-99 and the density measured at NUTS 3 level should be noted: it indicates amongst other things the relative deficit of most of the central cities to the benefit of their peripheries. As those flows only produce effects at fine spatial levels, the only correlation is to be found at NUTS 3 level. At higher levels, there is no link between population density and area attractiveness. We can equally find this phenomenon very marked in the 1970s (see table 6.7), which was the start of the massive phase of sub-urbanization, before a certain slow down of this phenomena, more due to economic fluctuations than to structural, during the 1980s. It shows that ppopulation movements between cities and countryside are another major evolution of the last decades: while the dense metropolitan areas would still be the most attractive in the 60s, today, at least in the European centre, the relationship has reversed itself between population density and migration balance. In other words, in the dense areas of the European centre, all other

[65] Van Hamme G. et al. (2004).

things being equal, territories are all the more attractive as they are less dense (suburbanisation and counter-urbanisation process). Environmental factors (sea, sun, and mountains seen as positive factors, industrial landscapes as a repulsive one for instance), along with the lower cost of land, explain this reversed movement.

But these environmental factors are more and more intrinsically related to economic factors in order to explain the big macro-geographic tendencies of the interior migratory flows. More and more activities are implanted in function of qualitative environmental considerations, when it is not the case where they directly live off them, as is the case for tourism. Migrants privilege environmental factors before looking for employment or favour regions with a good, agreeable reputation in case of equal economic conditions. To this we have to add the increasingly more numerous migrations of young pensioners.

Yet the old mechanisms of rural exodus are still a reality in some peripheral parts of Europe such as the centre of Spain, the inner part of Portugal, the North of Scandinavia or a large part of Eastern Europe. In those low density areas, the opposite flows are too weak to make up for the departure of young active people to the dense active areas of the country. This opposite flow weakens the global correlation between densities and migratory balances.

It would be wrong however to deduce from the above that the economic factors have lost all their explicative values of those big structuring waves which are the principal components of the intra-European migratory flows at a macro-geographic scale. They rather come more and more within the scope of a complexity that includes the determinants of standard of living, environment, etc. But the differences of standard of living and the gaps between the unemployment levels remain important explicative factors of the major intra-national flows at the macro-geographic level. To confirm this assertion, we will calculate the correlations by age group rather than on the basis of global migratory balances, which will be possible at NUTS 2 level only. Indeed, a globally nil correlation can turn out to be the result of correct but contradictory correlations, for instance between young and old people.

6.4.6.2 Correlations between socioeconomic factors and migratory balances by age group

Table 6.8: Correlation between migratory balances by age group and some socioeconomic variables (265 observations)

	Migratory balance 1995-2000			
	total	17,5-22,5 years	32,5-37,5 years	57,5-62,5 years
GDP/inhabitant 2000	*0,20	*0,46	-0,07	*-0,25
Average annual growth (1995-2000)	*0,24	0,07	*0,20	0,08
Density of population 1999	-0,03	*0,53	*-0,33	*-0,29
Unemployment 2000	*-0,33	-0,15	*-0,24	-0,02
Dependency ratio 2000	-0,07	*-0,41	0,13	*0,33

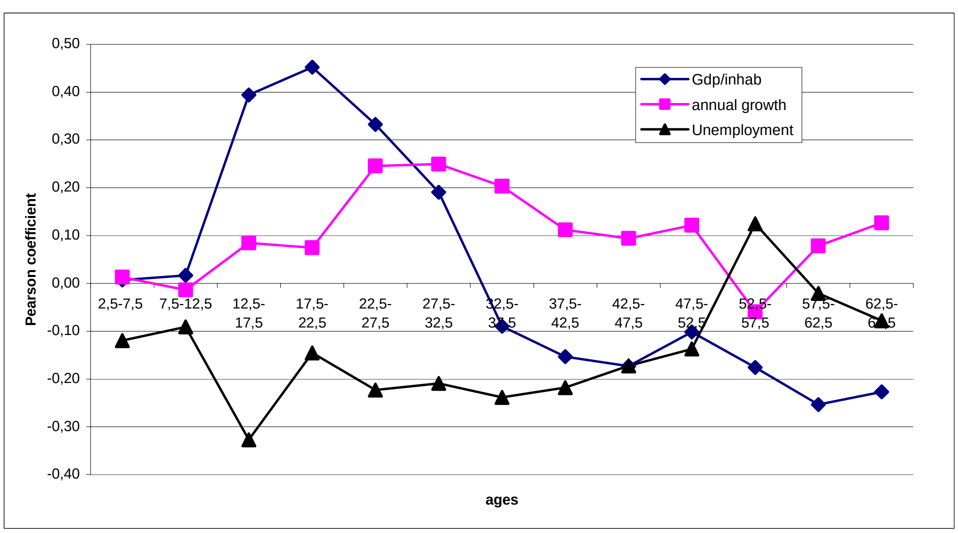
* The correlation is significant at 0,01 level

The strong correlation between young people's migratory balances and standards of living should be interpreted with caution. Young people are attracted by the big cities because of higher education opportunities and flexible insertion in the job market rather than for reasons of higher standards of living. Indeed, a high GDP per inhabitant does not always mean high incomes for the residents insofar as a growing part of qualified and well paid employment is occupied by people residing in the suburbs. In the central town, which still concentrates a big part of the metropolitan employment, remains only a population with low incomes (poor immigrants, students,…). On the opposite, the correlation is negative in the case of retired populations, who leave the large cities in search of green surroundings.

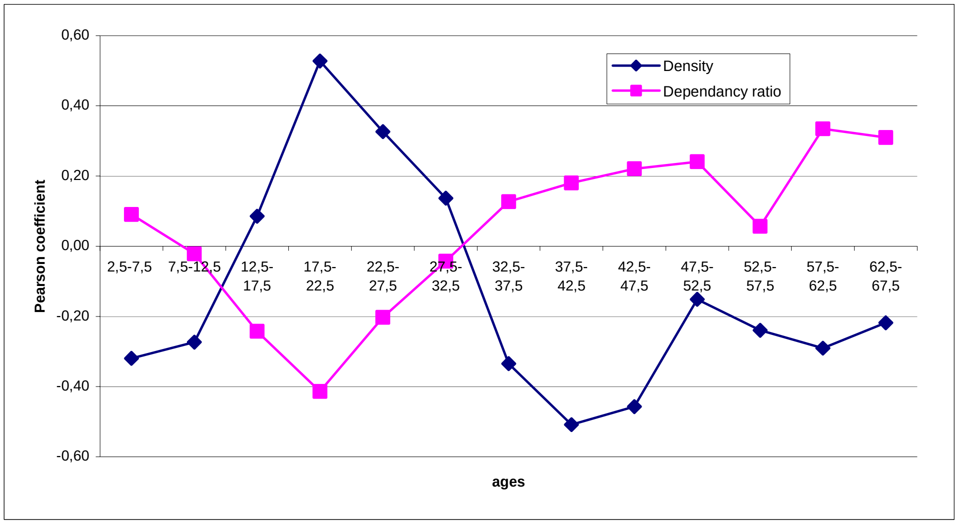
Such an interpretation is confirmed by the correlations between migratory balances and population densities: negative for the young and positive for middle or high age groups.

As far as economic dynamism is concerned, it appears to make no difference in most age groups' eyes, except to young active people (22,5 to 37,5 age group), who are obviously attracted by the most dynamic areas.

These calculations highlight above all the fact that the weak global link between migratory flows and economic realities should be greatly relativized when considering migratory balances by age groups. Indeed, the age groups that are most affected by socio-economic disparities, such as young active people, definitely seem attracted by the wealthiest or most dynamic areas. In older age groups (late active age groups or young pensioners), the living environment seems to be clearly more decisive (corresponding here to low population densities).



Graph 6.2: Correlation between migratory balances by age group and economic factors



Graph 6.3: Correlation between migratory balances by age group and demographic factors

6.5 Further research

6.5.1 International migrations

As we already said, it will be impossible to provide a homogeneous and reliable cartography of international migratory flows at regional level. A first approach is that of the external migratory balance which has been explained in point 6.1.2.2.. We will also use other sources and methods that have been detailed in point 6.3.

6.5.2 A systematic bibliographic research in order to better apprehend migratory flows

This approach aims at a better qualitative comprehension of geographic imbalances observed on the maps.

Chapter 7 Fertility, migration and depopulation (WP 4).

7. 1 Background and principle aims

The principle objectives of WP4 “Fertility, migration and depopulation” are to

1. detect the areas within the boundaries of “Europe 29” which are facing the reality or prospect of demographic ‘depopulation’, and
2. contribute to the description and understanding of the phenomenon and the processes involved.

To be able to fulfil these objectives the Work Package will have to deal with

a) alternative conceptualizations of an empirical phenomenon of “depopulation”,
b) establishment of a satisfactory set of relevant demographical data for the description and analysis of “depopulation”,
c) establishment of an overview of the main features and geographical patterns of population decline and possible “depopulation” within the territory of “Europe 29”, and
d) identification of the main demographic dynamics and determinant factors related to “depopulation” (analysis).

The empirical approach will be twofold, namely i) a statistical description and analysis at the territorial scales corresponding to NUTS 2, and in some cases NUTS 3, covering the entire “Europe 29” territory, and ii) for the final report some statistical analysis at finer territorial scales – including more detailed descriptions of demographic components of change and a longer time period – in very few (2-3) carefully selected example regions (“cases”).

The important descriptive and analytical tools (and “products”) involved in the approach is a set of indicators and typologies on certain aspects – and corresponding thematic maps – to be developed in the relevant stages of the work programme. Typological approaches refer to processes as well as areas of depopulation. Some new maps, linking demographic depopulation to other territorial aspects – based on other ESPON projects – will be included in the final report.

7.2 Concepts and definitions

7.2.1 The concept and phenomenon

The concept of ‘depopulation’ is far from clear. Most often the word is used almost synonymously to population decline, but sometimes it is reserved for population decline of a certain enduring nature, or even more narrowly confined to processes that carry ominous signs of socio-economic impacts. These kinds of concern may relate to socio-economic implications of distortions of the age-pyramid, or of demographical “thinning-out” of already sparsely populated (and often remotely located) areas, or even – as was the case in some peripheral parts of the Nordic area from the 1960s on – complete depopulation in the sense that entire local communities are emptied of population and literally die out.

In one or more of these senses of the concept, ‘depopulation’ was discussed from time to time during most of the former century – in national and European terms as well as with reference to sub-national uneven territorial development.

Depopulation may be regarded as a special course of development in the process of population change, often indicated by certain probable demographic implications or impacts *with a problem potential* (for instance so-called ageing of the population and the labour force, increasing dependency ratios, labour shortage, decreasing demographic vitality and natural growth potential etc.) and associated with long-term demographic process (notably the “modern” fertility decline and sometimes – and even combined with – enduring territorial patterns of uneven selective migration). To be able to indicate the presence of processes with depopulation potential, we need a relevant territorial scale and a reasonable temporal perspective.

In this project we take an open and pragmatic view of the concept and phenomenon of depopulation and will come back to a further conceptual elaboration towards the end of the project phase, based on the empirical analysis that the state of European regional data allows us to perform within the frame of available time resources. However, based on the aspects mentioned here and the more immediate background of the current interest in depopulation as a spatial phenomenon at the European level (cf. above), we may keep in mind that depopulation may be associated with certain:

- Levels or degrees of demographic change
- Durations of demographic change
- Dynamics (or relative components) of demographic change
- Population-structure aspects of demographic change
- Implications/potential implications of demographic change
- Territorial contexts of demographic change and of implications of demographic change

A reasonable point of departure seems to be to regard depopulation as population decrease i) of a certain enduring – and potentially territorially comprehensive – nature, ii) which is related to long-term fertility decline, and where iii) the structural demographic implications of which are inadequately counteracted, and sometimes even reinforced, by lasting patterns of net migration. In turn the inherent demographic dynamics imply iv) particular age-pyramid effects, which entail v) a problem potential depending on qualities of the regional context. However, in order to determine whether observable (negative) demographic trends imply depopulation or potential depopulation in this sense of the term, a comprehensive empirical analysis *far beyond the frames of this project* is necessary.

7.2.2 Territorial scale

The picture of the geography of “depopulating” Europe is of course highly sensitive to territorial scale. The NUTS 2 level is far from appropriate for the task of identifying and explaining depopulation processes. A Norwegian example is illustrated in figure 3. Norway is among the countries that came out with the highest fertility levels “at the end of” the recent phase of fertility decline, but every year since the late 1980s around half of the Norwegian municipalities (“NUTS 5”-level) experienced population decline. In more than one third of the municipalities the population declined in more than ten of the fifteen years covered; in two thirds the population declined in more than five years of the period.

At the NUTS 3 compatible level in Norway (counties) only two regions would display a declining population during the 1980s as a total, and only one region during the 1990s. At a NUTS 2 compatible level the statistics show no sign of population decline in Norway.

Analysis of demographic depopulation at the European level will have to focus on the territorial scales that are functional in an operational sense, which are not always the scientifically adequate scales. This may be compensated to some degree by looking closer into a few carefully selected geographical areas, chosen with reference to the outcome of prior typological and analytical effort (cf. above).

Figure 7.1 Norway: Municipalities (435 NUTS 5 regions) with declining population numbers from one year to the next 1980-1996. Their percentage of all municipalities (-----) and their share of the national population (- - - -).

Historical occurrences of population decline with a possible depopulation potential have probably been most typically a small area phenomenon in Europe (cf. for instance the example of Norway above), although some of the implications as well as some causes may be related to larger regions and even entire nations. The Eurostat scenarios seem to indicate that ever-larger contiguous territories will be affected, but a hypothesis of increasing disparities in demographic development *within* the larger regions may still be plausible.

The arguments pro and con different choices of territorial scale for focussing on demographic depopulation in a European perspective are not easy to evaluate. However, practical questions on data availability, stability of territorial grids over time, comparability across national borders etc. may anyway be the most determinate factors.

7.2.3 Indicators – Preliminary approach

7.2.3.1 Indicators for direct measurement of depopulation

We take as a rather obvious point of departure that regional population change in a particular period is the sum of the regions' natural population change (excess of births) and net migration in that period. The long term general trend in Europe is that the natural change component gradually turns from being a positive to being a negative contributor to regional population change as a consequence of fertility decline and population ageing (cf. above), altering the "rules" of regional-demographic distributive games – especially the role of migration. The Eurostat baseline scenario mentioned above, projects that this trend will continue and leave the EU with a negative average contribution from the natural change component as early as 2010. Below we have displayed some preliminary results (preliminary typological approach and two maps displaying a combination of NUTS 2 and NUTS 3 regions for the purpose of comparability) based on data on the main components of regional population change established in WP3 (see the section on data under the presentation of WP3 in this report).

A special illustration is given in a selection of figures exemplifying regional demographic change dynamics using French and Spanish NUTS 3 regions, the two countries representing the "high" and "low" end of the range of national fertility levels following the period of the most pronounced fertility decline (cf. above). These figures are based on the OECD Territorial Data Base.

In *principle* the different types of regional population change may be described like this:

Total population *decline* (Tneg) due to:
- negative natural change *and* negative net migration (NnegMneg)
- negative natural change alone (NnegMpos)
- negative net migration alone (NposMneg)

Total population *growth* (Tpos) due to:
- positive net migration alone (NnegMpos)
- positive natural change alone (NposMneg)
- positive natural change *and* positive net migration (NposMpos)

The potential for depopulation processes may be expected among the regions where processes of long-term weakening of the natural growth potential are at work, indicated in a direct but insufficient way by the "negative natural change" indicator (Nneg). However, certain regions may be able to permanently compensate – and possibly in the long run even remedy – the loss of natural growth potential by attracting migrants, potentially at the cost of other regions which are becoming increasingly sensitive to negative migration balances (Mneg).

Below we have briefly summarized our more pragmatic suggestions of a selection of some basic direct indicators of depopulation at a territorial level. The proposed indicators are based mainly on the official statement on data coverage and availability in the *Eurostat Regional Statistics Reference Guide (2003)*, and presume only a limited effort of possible supplements from other sources. They may be successively operationalised to the degree that data is actually made available.

Table 7.1 Proposed indicators (statement of present realistic temporal scope and territorial scale based on actual data coverage, cf. below. More ideal temporal scope is indicated in parenthesis):

Indicator	**Temporal scope**	**Territorial scale**
1. Crude rate of total population change	(1980-2000) ca. 1990/1995-2000 (latest); intervals to be decided	NUTS 3 and NUTS 2
2. Crude rate of natural population change (excess of births)	(1980-2000) ca. 1990/1995-2000 (latest); intervals to be decided	NUTS 3 and NUTS 2
3. Crude birth rate (ideally TFR at regional level)	(1980-2000) ca. 1990/1995-2000 (latest); primo, medio, ultimo period	NUTS 3 and NUTS 2
4. Crude rate of change in strategic age groups (0-14, 20-64, 64+, women 20-34)	(1980-2000) ca. 1990/1995-2000 (latest); whole period	NUTS 2
5. Periods of occurrence of negative rates (1, 2)	During (1980-1990) 1990-2000 (latest)	NUTS 3 and NUTS 2

In a later sub-chapter some examples, based on readily available data, of indicator and typology approaches to the direct measurement and description of (aspects of) depopulation over geographical space, are illustrated.

7.2.3.2 Indicators for indirect measurement of depopulation

The long-term tendencies towards stable and declining populations – and their inherent demographic dynamics – affect population structures in characteristic ways, *and these structural changes are frequently the main focus of concern rather than the drop in total population numbers* (cf. above on the concept of depopulation). An indirect way to indicate *relative degree of "depopulation" or "depopulation-related structural problems"* is to employ some common indicators on demographic structure, like for instance the "dependency ratio".

The most obvious consequence of the general shift from high to low mortality and the fall of fertility rates, are changes in the age structure of populations, and particularly the rather recent phenomenon of *ageing.* The main cause of ageing is the change in fertility. While improved mortality generally operates at all ages, fertility changes initially affect the size of one age group only, the very young. Depopulation and ageing are interconnected by definition.

By the time the decline in fertility rates started to level off in most countries (usually around mid-1980s) the most aged populations were found in North and West Europe. In some countries, like Sweden and France, rapid ageing actually started as early as the mid-nineteenth century. The remaining countries did not display such patterns until the present century, however. Demographers often speak of «young», «mature» and «aged» populations by whether the share of persons aged 65 or over is less than 4 percent, 4-7 per cent, or over 7 percent, respectively. By this measure all "Europe 29" countries and all but two NUTS 2 regions in these countries are rather "aged". In most of the regions the share of elderly people is more than the double of this "aged" threshold.

Ageing is not a uniform trend within ageing national populations. This is due to territorial differences in fertility levels and timing of fertility trends, modified in different ways by age-selective rural-urban migration patterns. The phenomena and territorial patterns of ageing and related changes in age structures associated with population decline, concern i.a. the regions' reproduction potential and the mechanisms of territorial population re-distribution, and the labour supply and composition of the labour force.

Below we have briefly summarised some suggestions of potential indirect indicators of depopulation (or rather: "stage of depopulation") at a territorial level. *The indicators are all intended to be measured against the "Europe 29" average in order to express the relative state-of-affairs of the different regions, rather than their absolute state of depopulation* (indexes: "Europe 29" = 100). *They are also grouped into four categories by degree of "negative" deviation from the "Europe 29" average* (half standard deviations are used). Some maps are presented in a later sub-chapter together with a table displaying for each indicator the weighted and un-weighted mean values, the median values, the standard deviations and the regional coefficients of variation, to help in the interpretation of the information.

The indicators have a relevant interpretation even when measured at only one point in time, but may also be used to indicate the process. The individual indicator as well as the fruitfulness of the exact definition of each indicator may vary among countries and between different purposes, and are of course subject to discussion. *The indicator values that are displayed in a series of maps in the results section below are measured at the NUTS 2 level in all the "Europe 29" countries and mostly for the year 2000.* Like the direct indicators of depopulation (cf. above) the indicators proposed here are mainly based on the statement on data availability in the *Eurostat Regional Statistics Reference Guide (2003)*, and presume only a limited effort of possible supplements.

Table 7.2 Proposed indicators (statement of present realistic temporal scope and territorial scale based on actual data coverage, cf. below. Question mark indicates "to be considered").

Indicator	**Temporal scope**	**Territorial scale**
Structural indicators:		
1. Share of children: 0-14/Tot.pop	1990?, 2000	NUTS 2
2. Ageing Population: 65+/Tot.Pop	1990?, 2000	NUTS 2
3. Ageing "Labour Force": 55-64/20-64	1990?, 2000	NUTS 2
4. "Labour Force" Replacement Ratio: 10-19/55-64	1990?, 2000	NUTS 2
5. Post-Active Dependency Ratio: 65+/20-64	1990?, 2000	NUTS 2
6. Aged People vs. Youth: 65+/15-24	1990?, 2000	NUTS 2
7. Changes in Natural Growth Potential: 20-29 years in 2020 (born 1991-2000)/20-29 years in 2000 (born 1971-1980)	1990?, 2000	NUTS 2

Indicator 4 tells us if the ten-years cohort potentially entering the labour force from the bottom of the age pyramid during the next ten years, is smaller or larger than the ten years cohort potentially leaving the labour force from the top of the age pyramid during the same period – assuming no deaths and migrations in the period. With the same assumptions indicator 7 tells us if the cohort constituting the 20-29 years olds in 2020 (born 1991-2000) is smaller or larger than the cohort constituting the 20-29 years olds in 2000 (born 1971-1980). In most countries this age-span contains the most reproductive ages. Per 1980 this age group was constituted by one of the wider post-war baby-boom cohorts (born 1951-1960).

7.3 Some preliminary results

7.3.1 The geography of recent population decline in “Europe 29”

Among 1326 regions at NUTS 3 level in the 29 ESPON-countries (”Europe 29”)[66] as many as 531 regions experienced a total fall in population numbers from the middle to the end of the 1990s. The median growth rate was 0,5 percent and one fourth of the regions had a total population decline of more than one percent. The growth rates varied from -13 to +31 percent among the 1326 regions (regional coefficient of variation[67] = 520).

It is important to notice that the NUTS 3 division represents very different levels of territorial detail in the different countries and a tremendous range of sizes (population and area) and other characteristics between as well as within the particular countries. Among the more than 440 German NUTS 3 regions the population numbers range from around 36.000 to well above 2.000.000 inhabitants in 1999 (standard deviation 182.349 around an average number of 186.229). In half of the regions the population size is higher than 135.000. Only ten percent of the regions have less than 75.000 inhabitants. The areas range from around 36 square kilometres to more than 3058 square kilometres (mean = 810, standard deviation = 596).

Map 4.1 displays the crude rates of total population change (percentage) at the NUTS 3 level 1995-1999. In the Nordic countries there is a pattern where the less central regions have the most negative development and the most central ones the strongest growth. In Germany the most marked regional differentiation is between the western part, with generally positive development, and the former GDR, where the development is mostly negative, except for the suburban belt around the major cities. In the western part of Germany, in the Be-Ne-Lux countries, Ireland, south England, south and western France and coastal Portugal most of the regions are within the two top quartiles. In Italy the very regions with the most negative tendencies regarding indirect depopulation (cf. below) are to a great extent the ones with the most positive population development in the latter half of the 1990s. The regional population change in east Europe is probably hampered by the lack of a properly functioning housing market, and is perhaps also due to a greater share of migrations not being registered as compared to the rest of “Europe 29”. Even so, much of Poland shows a very positive population change, not least the regions around Warsaw and Gdansk and south of Krakow.

The most negative change is found in the least densely populated regions in France, Spain and Portugal, the northern and southern parts of east Europe, and in peripheral regions of Sweden and Finland.

When we rank the regions within “Europe 29” according to their population growth rates from the middle to the end of the 1990s, we find that the German NUTS 3 regions (especially the former eastern German regions) are remarkably well represented at the

[66] Cyprus and Malta are not included due to insufficient data
[67] RCV = Standard deviation as a percentage of the mean growth rate

extremes. Many of the fastest growing and fastest declining regions in "Europe 29" are German. This may have to do with the greater level of territorial detail represented by the German NUTS 3 level compared to the other countries. Within all the three neighbouring "declining" NUTS 2 regions of Chemnitz, Dresden and Leipzig we find NUTS 3 regions that rank among the ten percent fastest *growing* as well as among the ten percent fastest *declining* regions among the total number of 1326 "Europe 29"-regions[68].

Table 7.3 Regions with population change below zero 1995-1999. Median change rate (percent) and regional variation in change rates. NUTS 3 regions. "Europe29" minus Cyprus and Malta.

Country Code	Number of NUTS 3 regions	Regions with population decline 1995-1999			Median population growth-rate	Regional coefficient of variation
		Percent of all regions	Percent of national population	Percent of national area		
AT	35	28,6	23,3	30,7	0,6	229,5
BE	43	18,6	27,0	14,4	0,8	118,4
BG	28	92,9	81,7	93,8	-3,0	159,6
CH	26	26,9	8,8	9,6	1,2	210,6
CZ	14	64,3	67,8	66,0	-0,3	242,1
DE	441	38,5	40,4	24,8	0,9	546,5
DK	15	6,7	0,8	1,4	1,0	87,2
EE	5	60,0	63,2	43,1	-0,5	1406,6
ES	52	42,3	26,2	48,7	0,2	338,3
FI	20	60,0	40,5	70,2	-0,9	906,1
FR	100	23,0	13,9	20,8	1,1	157,4
GR	51	45,1	51,9	40,6	0,4	326,2
HU	20	90,0	85,6	88,4	-2,0	219,6
IE	8	0,0	0,0	0,0	2,9	73,8
IT	103	43,7	34,1	44,5	0,2	345,7
LT	10	60,0	74,9	71,8	-0,3	220,3
LU	1	0,0	0,0	0,0	(5,5)	-
LV	5	100,0	100,0	100,0	(-3,5)	126,8
NL	40	10,0	5,4	6,0	1,8	184,2
NO	19	36,8	24,0	63,8	1,5	168,2
PL	44	31,8	36,0	21,7	0,5	405,5
PT	30	43,3	37,8	52,0	0,7	579,0
RO	42	71,4	71,8	71,7	-1,0	257,7
SE	21	76,2	43,9	86,9	-1,1	286,2
SI	12	41,7	34,5	40,3	0,0	332,0
SK	8	50,0	48,3	45,6	0,2	193,8
UK	133	36,1	26,3	30,4	0,8	255,8

Tables 7.3 and 7.4 give a rough overview of the regional population development situation in "Europe 29" in the latter half of the 1990s. Table .3 indicates to what extent regional population growth rates vary among and within countries, and the share of the countries' regions, populations and areas that were affected by population decline from the middle to the end of the decade. The largest share of declining regions (50-100 percent) and affected populations (40-100 percent) are found in the ten countries Latvia, Bulgaria, Hungary, Sweden, Romania, Czech Republic, Estonia, Finland, Lithuania and the Slovak Republic (in this order).

[68] Cyprus and Malta not represented

Table 7.4 NUTS 3 regions and their average population numbers in 1999 by population change category 1995-1999 (according to cutting points for four equal groups of regions among all regions within "Europe 29" (minus Cyprus and Malta)). Percent of all regions and of the average total population in the regions in 1999, respectively, in each country.

Country code	Growth category according to percentage change in average population 1995-1999:								Total	Number of regions
	Lowest fourth (<-1 percent)		Next to lowest fourth (-1 - 0,5 percent)		Next to highest fourth (0,5-2 percent)		Highest fourth (>2 percent)			
	Regions	Population 1999	Regions	Population 1999	Regions	Population 1999	Regions	Population 1999		
AT	6	4	37	32	46	55	11	9	100	35
BE	5	5	28	29	49	53	19	13	100	43
BG	89	73	7	12	4	15	0	0	100	28
CH	15	5	27	25	35	60	23	11	100	26
CZ	7	12	93	88	0	0	0	0	100	14
DE	32	31	13	15	21	20	35	34	100	441
DK	7	1	7	5	53	54	33	41	100	15
EE	40	50	40	39	0	0	20	11	100	5
ES	27	13	33	41	17	25	23	20	100	52
FI	50	33	15	10	10	12	25	44	100	20
FR	13	6	23	26	36	37	28	30	100	100
GR	20	6	33	51	25	17	22	26	100	51
HU	75	73	20	17	0	0	5	10	100	20
IE	0	0	0	0	25	26	75	74	100	8
IT	12	6	43	39	32	41	14	14	100	103
LT	10	5	90	95	0	0	0	0	100	10
LU	0	0	0	0	0	0	100	100	100	1
LV	100	100	0	0	0	0	0	0	100	5
NL	8	4	10	8	38	42	45	46	100	40
NO	11	7	26	17	21	17	42	59	100	19
PL	7	12	43	41	43	39	7	9	100	44
PT	30	15	17	24	23	17	30	44	100	30
RO	50	51	36	32	14	17	0	0	100	42
SE	62	36	19	24	14	19	5	20	100	21
SI	25	12	58	71	17	17	0	0	100	12
SK	0	0	63	58	38	42	0	0	100	8
UK	23	14	24	24	19	17	35	46	100	133
"Europe 29" minus Cyprus and Malta	25	18	25	29	25	27	25	25	100	1326

In the Nordic countries far smaller shares of the populations than of the regions were affected. In many other countries the situation seemed to be reverse. In several countries the major part of the national area and populations were affected by population decline – measured at the territorial scale of the NUTS 3 regions.

In table 7.4 the 1326 NUTS 3 regions are ranked by their population growth rates in the second half of the 1990s and the cutting points for dividing them into four equal groups according to their level of growth, are established. The table shows the distribution of the regions and populations of each country in 1999 by “Europe 29” growth category.

The ranks of Latvia, Bulgaria, Hungary and Sweden are confirmed. They all have very large shares of regions and populations in the category comprising the fourth of the regions with the lowest growth rates. The table even indicates that seven countries have one third or more of their regions in the category comprising the fourth of the regions with the highest growth rates, viz. Luxembourg, Ireland, Netherlands, Norway, Germany, United Kingdom and Denmark. Some of these countries also have substantial declining areas within their borders.

Among the ten percent *most declining* NUTS 3 regions in the last half of the 1990s the regions of 18 counties are represented. Of the 133 "most declining regions" as many as 64 regions are *German*, 18 regions are *Bulgarian,* 8 regions are part of *United Kingdom*, 6 regions are *Romanian* and 5 regions are *Portuguese*. The rest of the 18 countries are represented with 1-4 regions (Austria, Switzerland, Estonia, Spain, Finland, Greece, Hungary, Italy, Latvia, Netherlands, Norway, Poland and Sweden).

7.3.2 Recent population decline and "depopulation" – direct indicators

A series of maps may be produced in order to illustrate the geographical pattern of some aspects of relative demographic change and "depopulation potential" among "Europe 29" regions at NUTS 3 level (direct indicators, cf. above). A composite typology of the (potential) depopulation process should ideally integrate indicators on the degree or level of population decline (direct indicator 1 above), the components of change (direct indicator 2 above) and the timing (direct indicator 5 above). Based on available data we present two preliminary typologies of the "geography of depopulation" based on direct indicators and observations for a rather short period, with the intension of refinement (incl. a somewhat extended period) towards the final report;

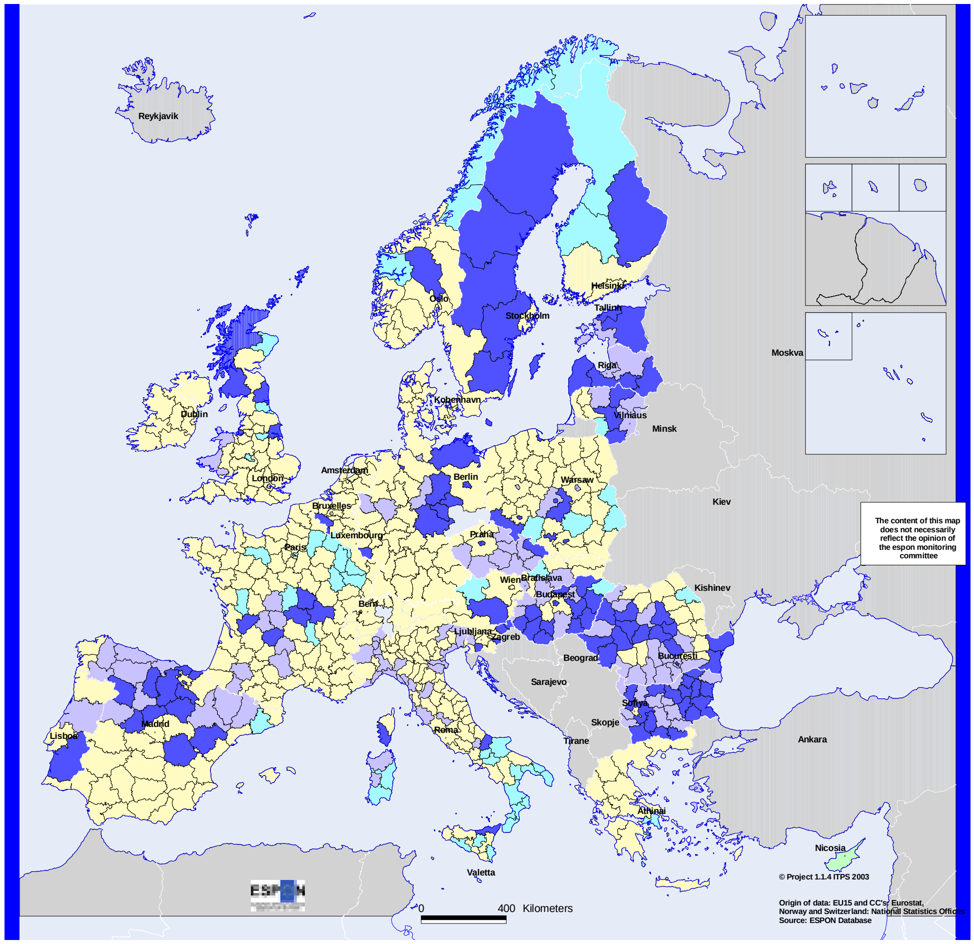
i) based on the main components of change (natural population change/excess of births and migratory balance/net migration) and
ii) based on a combination of indicators on aspects of depopulation at three different levels of territorial scale (nation, NUTS 2, NUTS 3).

7.3.2.1 Typology based on the main components of population change

The two maps discussed here display the same phenomena in slightly different ways. The typological approaches are explained in the legend. The maps are based on data on migratory balances/1000 inhabitants, natural population change/1000 inhabitants and total population change/1000 inhabitants. Data covers demographic change for the period 1996-1999 (annual averages). The territorial scale is a combination of NUTS 3 and NUTS 4 levels, based on an evaluation of national territorial grids in a comparability perspective.

MAP 7.1

typology of depopulation, 1996-99



form of depopulation

- population increase
- Total evolution<0; Migratory B<0; Natural B<0
- Total evolution<0; Migratory B>0; Natural B<0
- Total evolution<0; Migratory B<0; Natural B>0
- no data

Origin of data : EU15 and CC's : Eurostat
Norway and Switzerland : National Statistics Offices
Own estimation for migratory balance

Map 4.2 displays all combinations of total change and the contributions (negative or positive) by the two main components of change (migratory balance and natural population change). Total population *growth* is displayed in red tones, separated in three shades according to the components of growth (natural, migration or both). Total population *decline* is represented by blue tones, and similarly differentiated into three types according to the "demographic dynamics". Map 7.1 accentuates the *declining* regions and their combinations of components of change, while showing all *increasing* regions in a light yellow tone. This may be regarded as a first sketch or idea of a typology of depopulation areas, to be elaborated in a later stage of the project.

It is obvious from the maps that a large share of the "depopulating" regions may be characterised as relatively rural – in many cases sparsely populated and remote – regions, but even old industrial areas and relatively central towns seem to be affected by population decline. The relative contribution by the two main components of change seems to differentiate between the types of "depopulation" areas according to location, regional context and characteristics. This will have to be looked into in a later stage of the project, supported by territorial typology inputs from other ESPON-activities.

In six diagrams below (figure 7.2-7.7) we have used demographic change rates for the *NUTS 3 regions of France and Spain* to illustrate i) the distribution of regions according to rates of change in the total population and in the two main components of change (natural change and net migration), ii) the relationships between the regions' positions in the pattern of distribution in two consecutive periods (1980-1990, 1990-2000), and iii) the regions' position according to the relative contributions to total population change by the two main components of change (both periods). Figure 7.7 shows the relative contribution of the two main components of change to population development in each of the NUTS 3 regions of *Spain* 1990-2000. The figure illustrates how net migration "operates" across the regional pattern of natural population change, exemplified by the Spanish NUTS 3 regions, displayed as a reminder for the interpretation of the relative influence and status of the two components of change in a "depopulation" perspective.

France and Spain are selected to represent cases at the high and low end of the range of national fertility levels following the main period of fertility decline[69]. Only a few points indicated by the figures are to be mentioned here:

a) Figures 7.5 and 7.6 show that the two components of change were only slightly negatively correlated in the 1980s, a bit stronger in Spain than in France, however. The pattern changes from one decade to the next. In the 1990s the Spanish regions display a negative correlation, while no correlation exists for France. However, the overall pattern of regional-demographic change became far more dispersed from one decade to the next, and many more regions entered the phase of negative natural growth.
b) Figures 7.2-7.4 indicate that regional-demographic trends seem to persist from the first to the second decade. This is more pronounced among French than among Spanish regions. The regional *pattern* of natural population change was almost the same during the 1990s as during the 1980s, but – especially in Spain – many more regions entered the negative natural change phase in the course of these decades. The picture is more ambiguous with regard to net migration even if there is a visible tendency of repeating patterns, especially in France.

The French and Spanish NUTS 3 regions may be classified according to the actual results of the different types of regional-demographic dynamics during the two decades described above[70], cf. the scheme below. A map of the results of the 1980s and 1990s

[69] The source is the OECD Territorial Data Base (TDB), covering the OECD "Territorial Level 3" (TL3) for European (and other) member countries. The territorial scales for TL3 are carefully chosen for each country to enhance comparability at sub-national level across the entire OECD territory. It is not always identical to NUTS 3. However, for France and Spain the NUTS 3 level is chosen as OECD TL3 (with a slight adjustment for France)
[70] Cf. the section on "Indicators for direct measurement of depopulation" above.

regional-demographic processes according to this classification would show for instance that 11 new regions in Spain had entered the TnegNnegMneg category and one region had changed from that category to another from the first to the second decade.

In France 10 regions declined due to negative net migration alone during the 1990s (11 in the 1980s), while 8 regions (5 in the 1980s) declined due to negative natural change, and 4 (5) due to a combination of negative components of change. In Spain 13 (3) regions declined as result of a combination of negative factors and only 4 (8) due to net migration alone.

All together the number of regions with negative natural population change increased in both countries from the 1980s to the 1990s. In Spain the number of regions increased from 7 to 28 (from ca. 13 to ca 52 percent of all regions), and in France the increase was from 26 (27 percent of all regions) to 28 (29 percent).

Table 7.5 Typology Matrix

	Regional population prosesses 1990-2000:						
Regional population processes 1980-1990:	**Tneg Nneg Mneg**	**Tneg Nneg Mpos**	**Tneg Npos Mneg**	Tpos Nneg Mpos	Tpos Npos Mneg	Tpos Npos Mpos	TOTAL
SPAIN:							
TnegNnegMneg	**2**	**1**					**3**
TnegNnegMpos	**2**	**1**					**3**
TnegNposMneg	**3**	**2**	**1**	**2**			**8**
TposNnegMpos	**1**						1
TposNposMneg	**3**		**2**	4	4	11	24
TposNposMpos	**2**		**1**	4		6	13
TOTAL	**13**	**4**	**4**	10	4	17	52
FRANCE:							
TnegNnegMneg	**1**	**4**		**1**			**6**
TnegNnegMpos		**3**		**2**			**5**
TnegNposMneg	**1**		**6**		**3**	**1**	**11**
TposNnegMpos	**1**	**1**		12		1	15
TposNposMneg	**1**		**3**		15	4	23
TposNposMpos			**1**	1	7	27	36
TOTAL	**4**	**8**	**10**	16	25	33	96

Figure 7.2 Percent total population change 1980-1990 and1990-2000. NUTS 3 level.
France and Spain

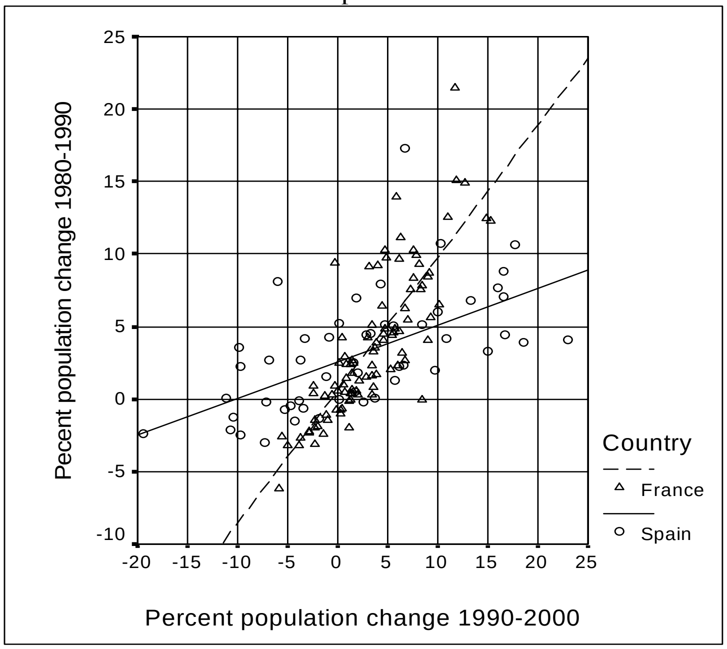


Figure 7.3 Percent natural population change 1980-1990 and1990-2000. NUTS 3 level.
France and Spain

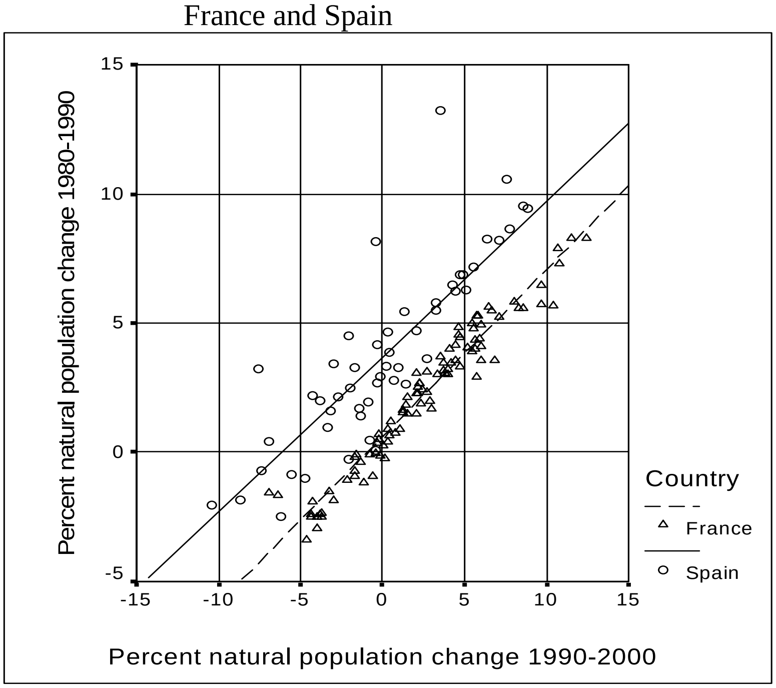


Figure 7.4 Percent net migration 1980-1990 & 1990-2000. NUTS 3 level. France & Spain

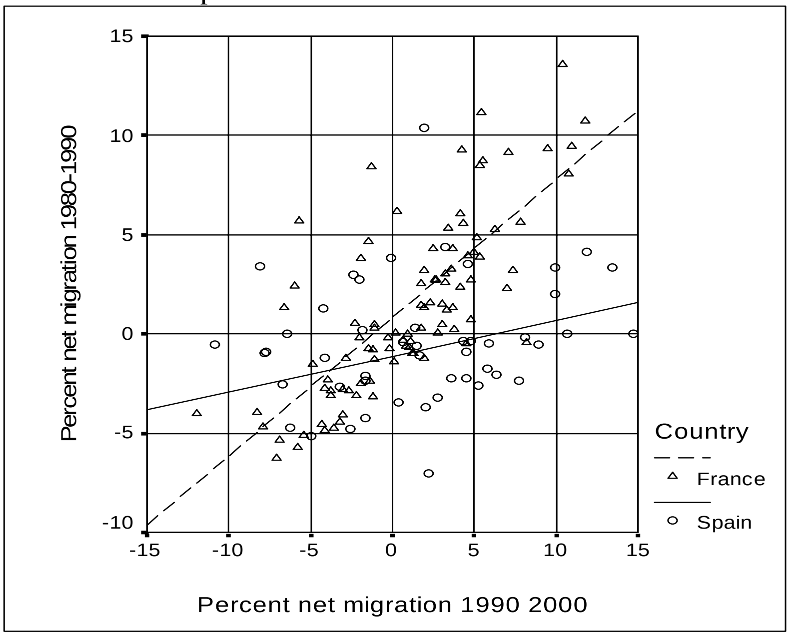


Figure 7.5 Percent natural population change and percent net migration 1980-1990. NUTS 3 level. France and Spain

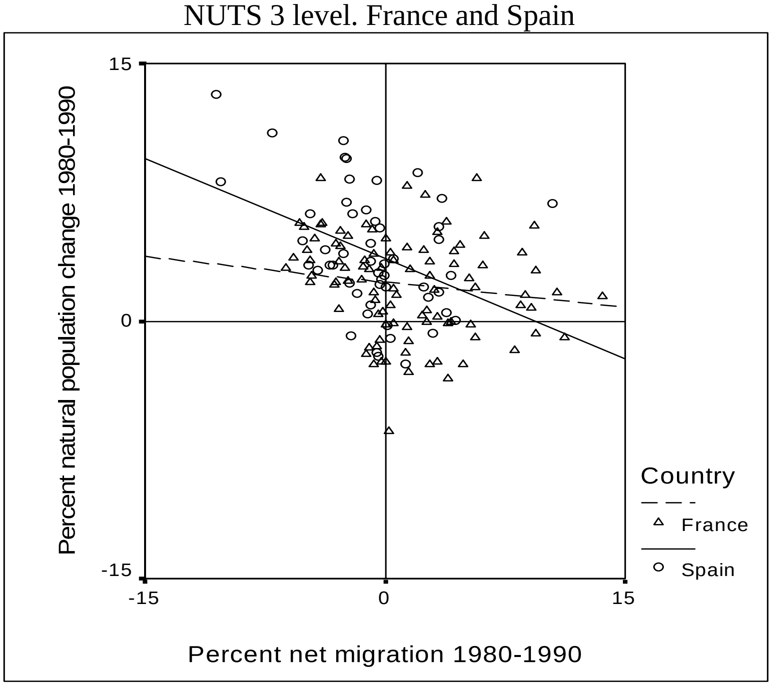


Figure 7.6 Percent natural population change and percent net migration 1990-2000. NUTS 3 level. France and Spain

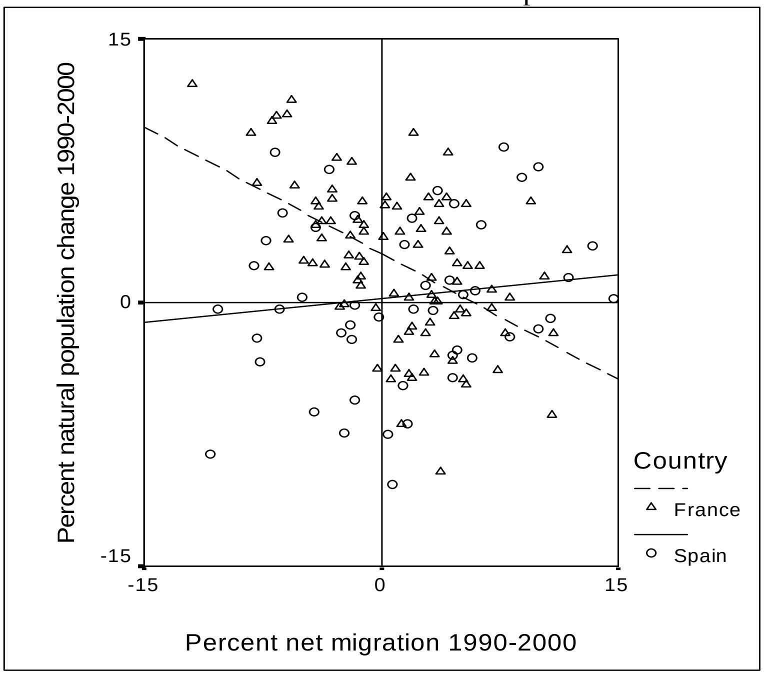
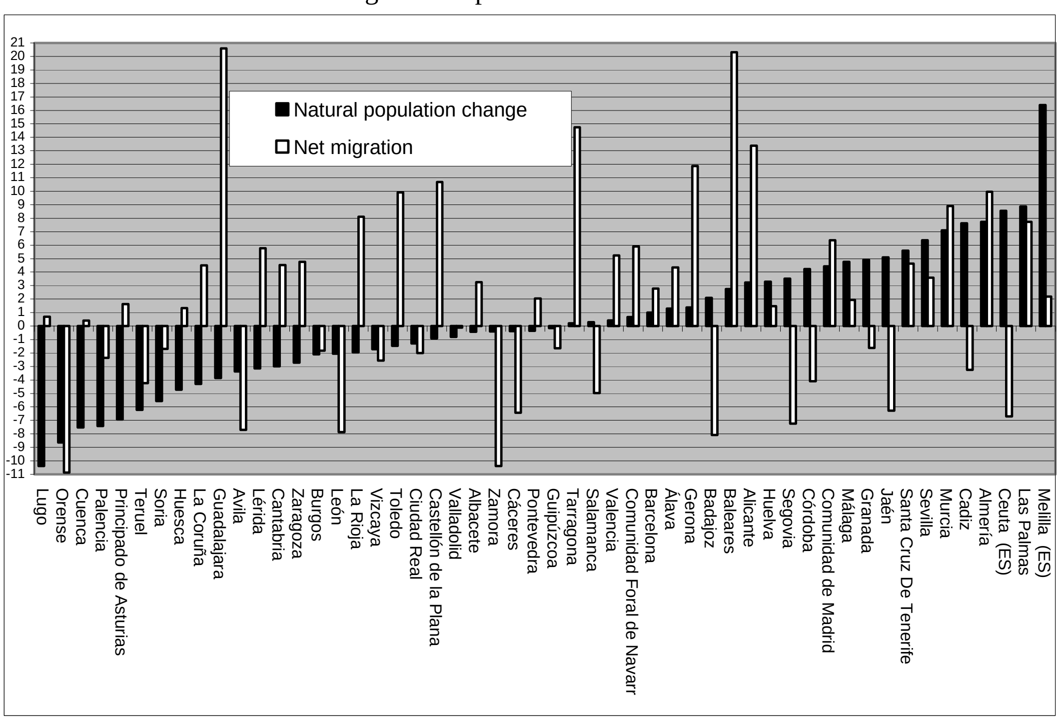


Figure 7.7 Natural population change and net migration 1990-2000. Percent of total population 1990. NUTS 3 regions in Spain.



7.3.2.2 Typology based on indicators at different territorial scales

The logic behind this typology – displayed in one map below – is that the recent demographic development of a smaller territorial unit may have different interpretations according to the demographic development characteristics of the larger region of which it is a part, and even the demographic situation of the nation as a whole. In our approach the NUTS 3 level represents the smaller territorial units and the NUTS 2 level represents the larger regions. The national Total Fertility Rates (TFR) may indicate dramatically different national demographic scenarios (cf. Chesnais 2000, op.cit.) and regional-demographic dynamics, and therefore represent important frame conditions for determining prospective regional demographic change on the basis of the observed development at the NUTS 3 level and its larger regional context (NUTS 2). This indicator has therefore been given some weight in the typological approach.

The typology (or composite indicator) is based on demographic indicators at three hierarchical territorial levels:

1. The nations are classified into *three classes* according to the level of their current Total Fertility Rate (Extremely low, Very low, Low)
2. The larger regions (NUTS 2) are classified into *two classes* (Declining, Not declining) by whether i) their current total population change rate (1995-1999) are below zero *and/or* ii) the population of declining NUTS 3 regions (1995-1999) within the larger region constitutes more than a fourth of the total population of the larger region (if non of these conditions are met, the NUTS 2 region is classified as “Not declining”)
3. The smaller regions (NUTS 3) are classified into *two classes* (Declining, Not declining) by whether their current total population change rate (1995-1999) are below zero or not.

The NUTS 3 regions may be classified according to different combinations of these criteria, the potentially “worst-case” being declining smaller regions (NUTS 3) within the context of declining larger regions (NUTS 2) in nations with extremely low Total Fertility Rates. The approach is hierarchical in the sense that population change in small territorial units is “weighted” by the population change situation of the larger region, and in its turn by the national demographic prospects (assuming no migration), indicated by the Total Fertility Rate. Total Fertility Rates at sub-national territorial levels are very hard to come by, and are also relatively unstable figures, but some elaboration will be made in this direction towards the final report.

The table below displays the total property space of the chosen indicators, by which the typology may be built. The next figure is a tentative combination of properties into one (of several possible examples of) typologies, which is illustrated in the following map.

Table 7.6 Total Fertility Rate and Recent Population Decline

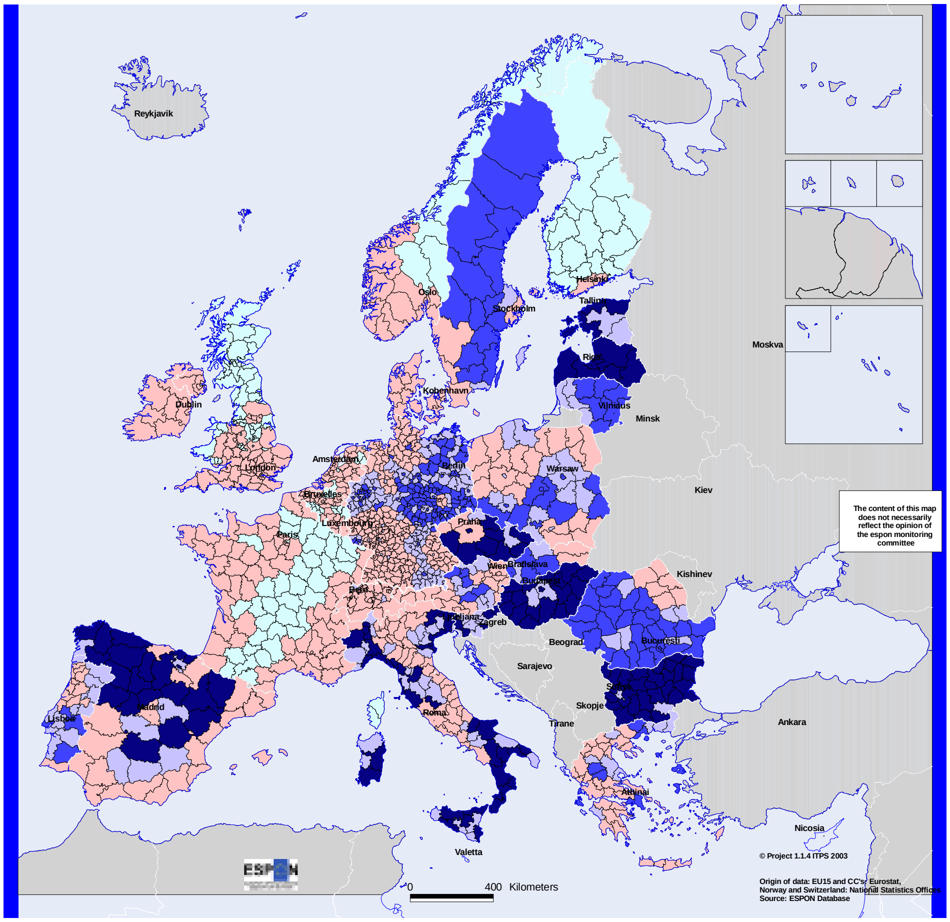
NATIONAL	**NUTS 2-regions**	**NUTS 3-units**	**NUMBER OF NUTS 3-units**	**Code**
Total Fertility Rate	Recent population decline	Recent population decline	1995-1999 ”Europe 29” (excl. CY & MT)	
<1,3 (Extremely low)	Change rate <0 or share of pop. in declining units >25%	Change rate <0	**122**	111
		ELSE	46	112
	ELSE	Change rate <0	**6**	121
		ELSE	65	122
1,3 – 1,5 (Very low)	Change rate <0 or share of pop. in declining units >25%	Change rate <0	**213**	211
		ELSE	155	212
	ELSE	Change rate <0	**45**	221
		ELSE	295	222
>1,5 (<1,9) (Low)	Change rate <0 or share of pop. in declining units >25%	Change rate <0	**78**	311
		ELSE	61	312
	ELSE	Change rate <0	**15**	321
		ELSE	255	322

Table 7.7 Typology based on direct indicators of ”depopulation”:

CODE, composit indicator (”typology”) of ”depopulation”	TERRITORIAL LEVEL/Indicator			Code, cf. scheme above
	NATION Total Fertility Rate 1999	NUTS 2 Recent population change/share of population in declining NUTS 3 units >25% of population in NUTS 2 region (1995-1999)	NUTS 3 Recent population change (1995-1999)	
1 (Very strong depopulation)	Extremely low	Decline	Decline	111
2 (Strong depopulation)	Very low	Decline	Decline	211
3 (Depopulation)	Extremely low	Decline	Not decline	112
	Extremely low	Not decline	Decline	121
	Very low	Decline	Not decline	212
	Very low	Not decline	Decline	221
4 (Possible depopulation	Low	Decline	Decline	311
	Low	Decline	Not decline	312
	Low	Not decline	Decline	321
5 (No depopulation)	Extremely low	Not decline	Not decline	122
	Very low	Not decline	Not decline	222
	Low	Not decline	Not decline	322

MAP 7.2

Direct indicator of depopulation



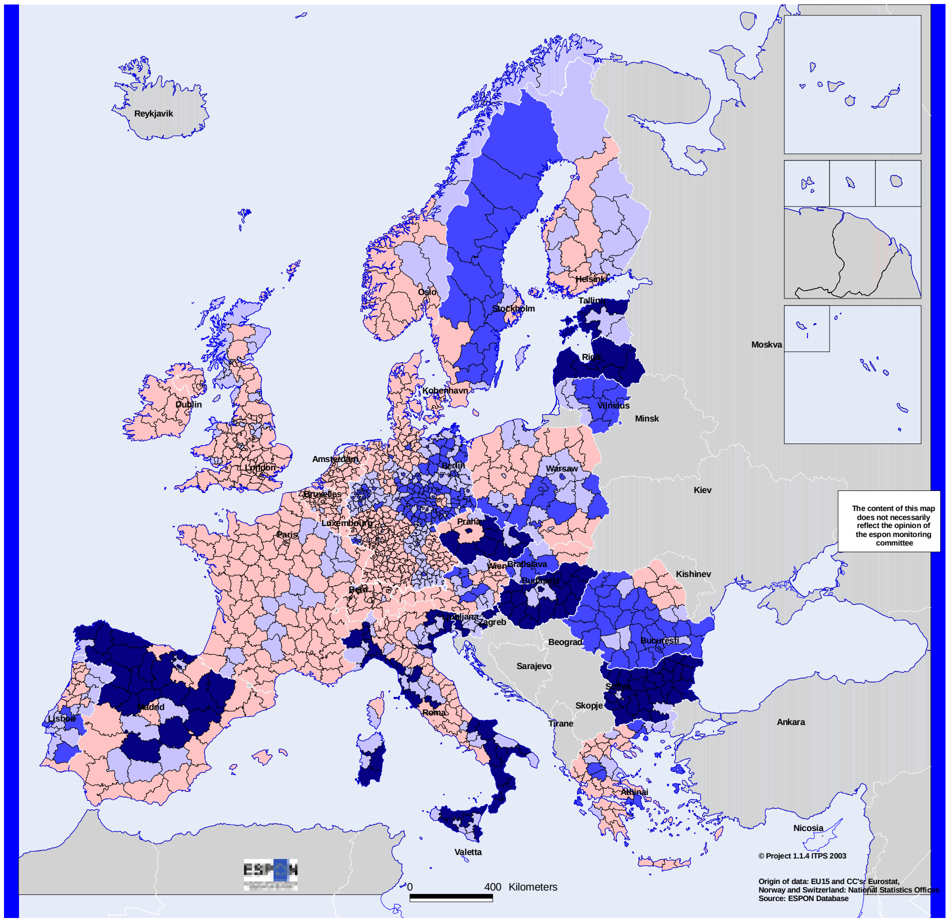
Direct indicator of depopulation

- very strong depopulation
- strong depopulation
- depopulation
- possible depopulation
- no depopulation

Origin of data : EU15 and CC's : Eurostat
Norway and Switzerland : National Statistics Offices

MAP 7.3

Direct indicator of "depopulation" - Alternative



Direct indicator of depopulation

- Depopulation 1
- Depopulation 2
- Depopulation 3
- No depopulation

Origin of data : EU15 and CC's : Eurostat
Norway and Switzerland : National Statistics Offices

Countries with “Extremely low” Total Fertility Rates in “Europe 29” (except Cyprus and Malta) comprise 239 NUTS 3 units. 708 NUTS 3 units are within countries with “Very low” fertility, and 379 units are located in “Low” fertility countries. The share of NUTS 3 units *with recent population decline within declining larger regions*, range from 51 percent among units in “Extremely Low” fertility countries, via 30 percent in “Very low” fertility countries, to 21 percent in “Low” fertility countries. Regions *with growing smaller units within growing larger regions* range from 27 percent, via 48 percent, to 63 percent, respectively.

The countries with extremely low fertility rates are Spain, Italy, Bulgaria, Slovenia, Hungary, The Czech Republic, Estonia and Latvia. Within these countries wide "depopulation" areas exist according to our indicators, and in a few of them regional polarization seems to be the case, declining and growing areas existing side by side (for instance Spain and Italy).

In the accession countries one cannot speak of depopulation in a strict sense, though population decline is a marked process. Actual depopulation might occur in some of the high mountain areas of Romania and Bulgaria, however.

In Hungary the distribution of population (apart from the concentration in the Capital Region) is relatively even, and so is the decrease in the number of inhabitants. Comparison of maps at NUTS2, NUTS3, NUTS4 and NUTS5 area units reveals that the higher the level of analysis, the more even is the observed process of decline. Only a most detailed map (of NUTS5 units) will show variations particularly due to the development of urban regions and the stagnation of rural regions.

In Scandinavia, Swedish territorial units are deviant. At this territorial scale most of the Swedish units will have to be characterized as "depopulation" areas, i.e. they are declining units within declining larger regions in a country with a "Very low" below-replacement fertility level.

According to the map no country with Low Total Fertility Rate (cf. criteria above) has any region with depopulation. In Ireland and Denmark all regions are in the no depopulation category, while in France, the United Kingdom, the Be-Ne-Lux-countries, in Finland and Norway, parts of the countries are also in the possible depopulation category.

All the countries with Very low fertility rate (Sweden, Germany, Switzerland, Austria, Portugal, Slovakia, Greece, Rumania, Poland and Lithuania) have at least some depopulation regions, but no one (per definition) with very strong depopulation. Every region in Lithuania is in the depopulation categories. With the exception of the territories around Leipzig, the whole of the former GDR shows depopulation or strong depopulation, as does the Ruhr area, and territories close to the former GDR border from Lower Saxony to Bavaria.

Very strong depopulation is generally found in territories in the countries with Extremely low Total Fertility Rate; Spain, Italy, Slovenia, Bulgaria, Hungary, the Czech republic, Latvia and Estonia. In the Baltic states, Hungary and Bulgaria, all regions are in one of the three depopulation categories. In Latvia, all the regions have very strong depopulation.

Parts of northern Italy, parts of northern Spain and parts of Bulgaria are both found to have the highest level of relative depopulation (cf. the section on indirect/structural indicators below) and very strong depopulation according to the direct indicator. For most of east Europe, there is a discrepancy between low degrees of relative depopulation (cf. below) and an often strong or very strong depopulation according to the direct indicator, even though we find a number of regions in Poland and in Rumania that combine the lowest degree of relative depopulation and no depopulation according to the direct indicator. Parts of the UK, Germany, Northern Italy and Greece combine the highest degree of relative depopulation (cf. below) with no depopulation according to the direct indicator. These findings will be analysed in greater detail for the final report.

7.4.3 Indirect/structural indicators on degree/state of "depopulation"

Indirect indicators 1-7[71] may serve the purpose of mapping some important *structural aspects* of the type of enduring population stabilisation and decline frequently associated with depopulation. They indicate structural demographic effects of depopulation, as well as the demographic dynamics at work and probable policy relevant implications and the future demographic potential.

The most evident indicators of depopulation in the sense mentioned above are the (shrinking respective expanding) share of children and elderly people in the population (*cf. the first two maps below*). Similar indicators of relative depopulation – and highly policy-relevant, although controversial with regard to interpretation – are the so-called post-active dependency ratio and the ratio of young people to elderly people, and the indicator of an ageing "labour force" (cf. *the next three maps*). The maps are showing four categories, from "Europe 29" average or "better" (for instance a lower share of elderly people, a higher share of children, a lower dependency ratio etc., are characterised as "better"), to one standard deviation (STD) or more "worse" than the "Europe 29" average. *The sixth map* is based on the average score on these five (relatively highly correlated) indicators, intended as a rough general relative-state-of-depopulation indicator – and as another preliminary typological basis for a map of "the geography of depopulation" within the "Europe 29". The indicators are categorized in quartiles. *All the indicators and maps in this section are at territorial level NUTS 2.*

Eventually (*the last two maps*) two indirect indicators at NUTS 2 level (indicators 4 and 7)[72] may serve as supplementary pointers to future depopulation geography. The *first* of the last two maps indicates the potential for growth in an important demographic basis for natural population change (the age-group 20-29 years) inherent in the present regional demography (the size of the cohort that will be 20-29 years in 2020 in relation to the size of the cohort that was 20-29 years in 2000). The *second* of the last two maps indicates to what degree the potential loss of "labour power" due to retirement in the course of the next ten years, will be compensated by the entering into the labour market of the cohort leaving the educational system and reaching the economically active ages during the same period. Both indicators are blind to migration and mortality. They are related to "depopulation" as indicators on demographic-structural effects of depopulation dynamics, as well as on potential prospective depopulation process.

The table displays the mean values, the median values, the standard deviations (STD) and the regional coefficient of variation for each indicator, to assist the interpretation of the maps:

[71] Cf. section on "Indicators for indirect measurement of depopulation" above.
[72] Cf. the section "Indicators for indirect measurement of depopulation".

Table 7.8 Indirect Indicators on Depopulation

	Ageing population	Ageing labour force	Labour force replace-ment	Post-Active dependency	Aged vs. youth	Share of children	Natural Growth potential
Un-weighted mean	15,6	17,7	1,2	0,3	1,2	17,2	0,8
Weighted mean	15,8	17,7	1,2	0,3	1,3	17,4	0,8
Median value	15,9	17,6	1,2	0,3	1,3	17,6	0,9
Standard deviation	**2,9**	**2,5**	**0,4**	**0,1**	**0,4**	**2,7**	**0,2**
Regional coefficient of varia-tion	18,4	14,0	32,1	23,8	29,0	15,5	21,4

The first six maps – based on indirect/structural indicators (the sixth being the average score indicator) – are briefly and preliminary commented upon as follows:

1. The regions with the most negative deviations regarding *the share of children* ("Europe 29" average = 17,2 percent) are mostly located in northern and central Italy, northern Spain, east Germany and in Greece. On The British Isles and in the Nordic and the Baltic countries, all regions are on the European average or "better", as are most of Poland, Slovakia, Rumania, Belgium and the Netherlands. The east German case is related to a rapid fertility decline after the reunification of Germany and migration to former West Germany. For both the Italian and Greek regions with a particularly difficult position according to this indicator we must probably seek the explanations in previous demographic occurrences, as these regions generally have a strongly positive migratory balance, which greatly influences the population distribution by age groups. To some extent, this is also true for Northern Spain.

2. The regions with highest *share of persons above 65 years of age* are Spanish and Portuguese regions with low population density, much of northern and central Italy, and some parts of Greece, the United Kingdom and Sweden. The Italian regions are generally more densely populated than the other regions, and include many of that country's most important cities. Only tree regions within the former east European countries are not included among regions on the "Europe 29" average or better ("Europe 29" average = 15,6 percent). There is little reason to assume that the same explanatory processes are at work in all these regions. This pattern is basically a result of changes in fertility levels and migration levels.

3. Very much the same picture is presented by the *post-active dependency ratio* ("Europe 29" average = 0,3) as for the population ageing. This should not be taken as an indication that the distribution of children is close to being the same as for the population 20-64 years of age. It rather means that this difference is not big enough to contribute significantly to changing the regional pattern when using a rather crude ratio. This is partly a result of the one group consisting of 20 cohorts, the other of 45.

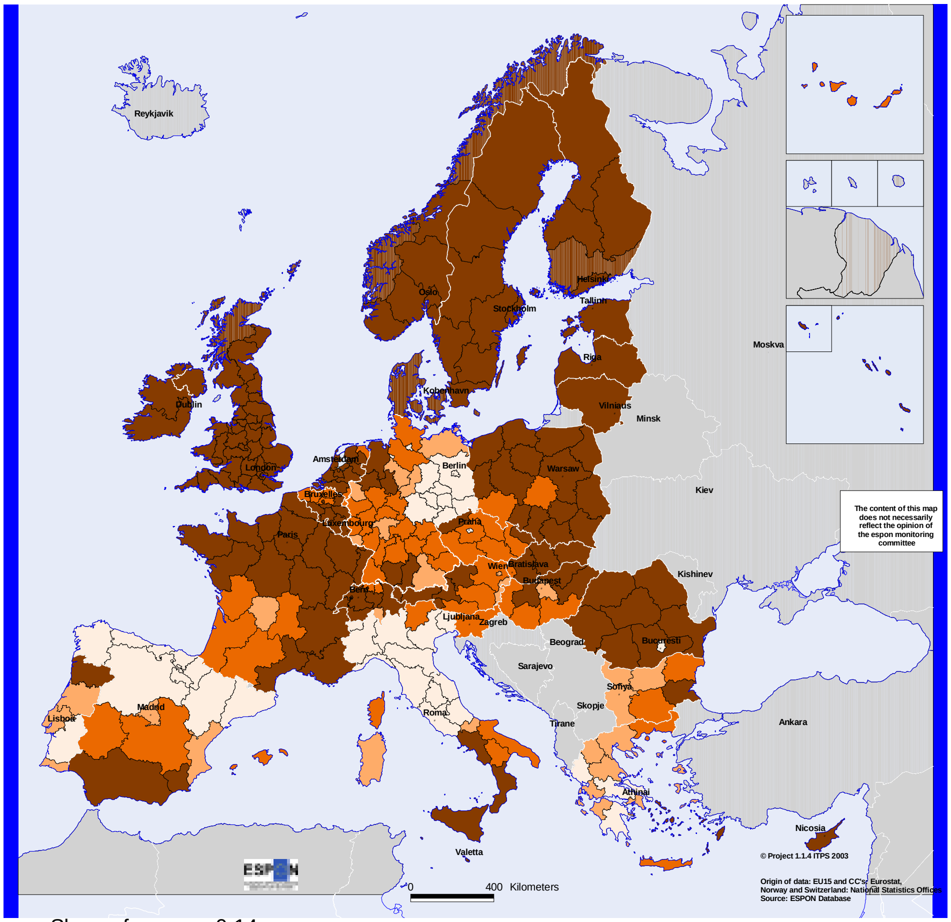
4. When it comes *to the aging of the labour force* ("Europe 29" average = 17,7 percent), the northern Italian regions, most of Greece and most of Sweden are included in the two groups with at least ½ STD (standard deviation) "negative" deviations. All the German regions falls within these two groups as well. This means that the early reduction in fertility in Germany will be very marked in the age structure of the labour force by this time, opening a potential for migration from the candidate countries, where most regions have a lower share of the cohort near retirement age than the "Europe 29" average. France, with its very early reduction in fertility, has not an ageing labour force by this measure; neither has the Be-Ne-Lux countries, Spain, Ireland or Norway.

5. When looking at *average scores*, Ireland is the only country with a national subdivision that is completely within *the lowest degree of relative depopulation*. No regions in Germany, the Czech Republic, Bulgaria and Spain are within this category. When looking at the regional picture, a big discrepancy with the migratory balances of adults in the reproductive age groups is shown (cf. also WP 3). This means that for example the very same northern and central Italian regions that for decades have had a migratory surplus is in the category of *highest degree of relative depopulation*, we find no north-south dimension in the United Kingdom, and the regions of France with the most positive migratory balance are also among those with high degree of relative depopulation.

What these results demonstrate is basically that demographic scores at any given time are highly influenced by former demographic occurrences. Behind these figures are national and regional changes in fertility over almost a century, migration patterns and their changes within each country, international migration and its regional distribution in the countries, and implications of wars.

MAP 7.4

The share of children 0-14 years in 2000



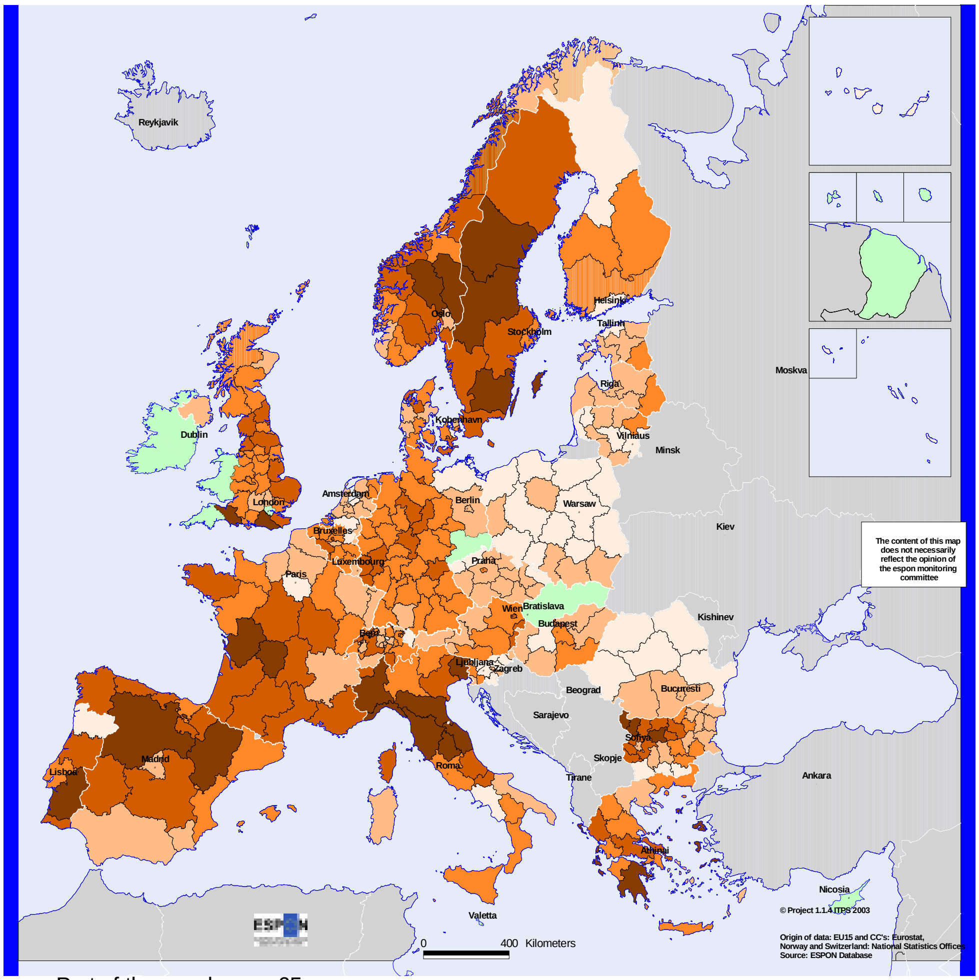
Share of persons 0-14 years
in the total population
%

- 10.4 - 14.4
- 14.4 - 15.8
- 15.8 - 17.2
- 17.2 - 34.2

Origin of data : EU15 and CC's : Eurostat
Norway and Switzerland : National Statistics Office
Source : ESPON database

Map 7.5

The Share of Persons 65+ Years

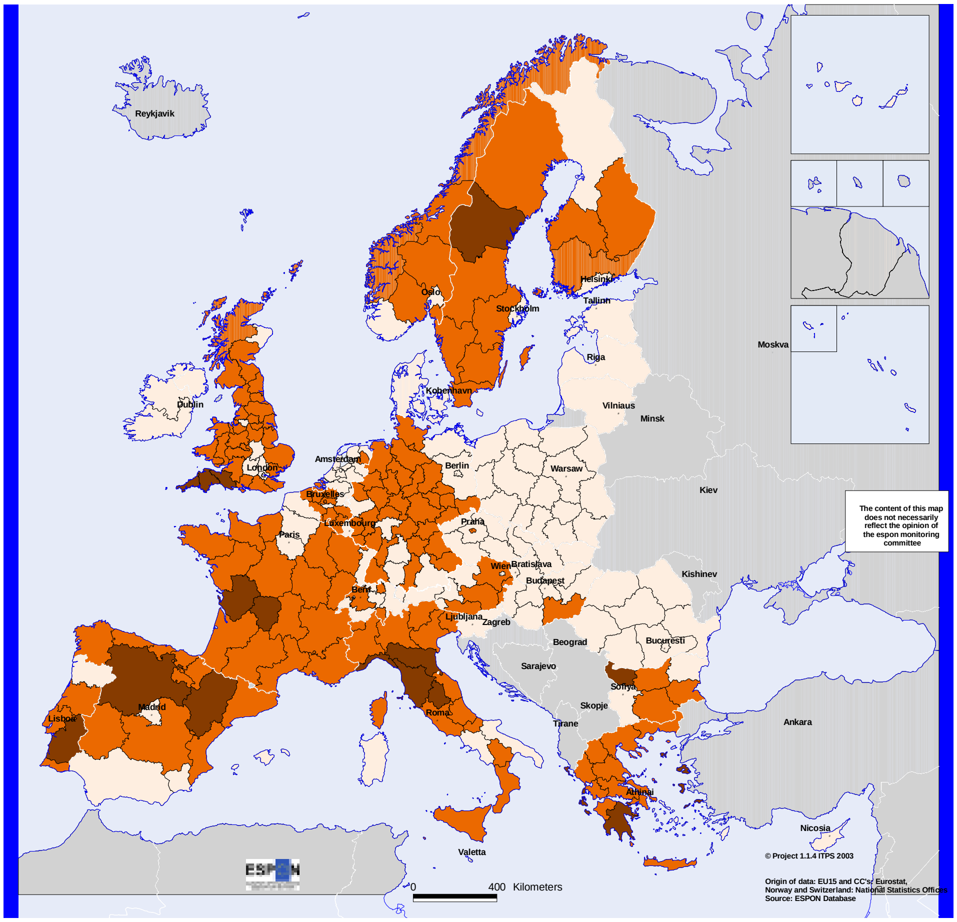


Part of the people over 65 years old in the population %

- 9.04 - 12.1
- 12.1 - 14.3
- 14.3 - 16.3
- 16.3 - 18.6
- 18.6 - 22.9
- No Data

MAP 7.6

Post active dependancy ratio in 2000



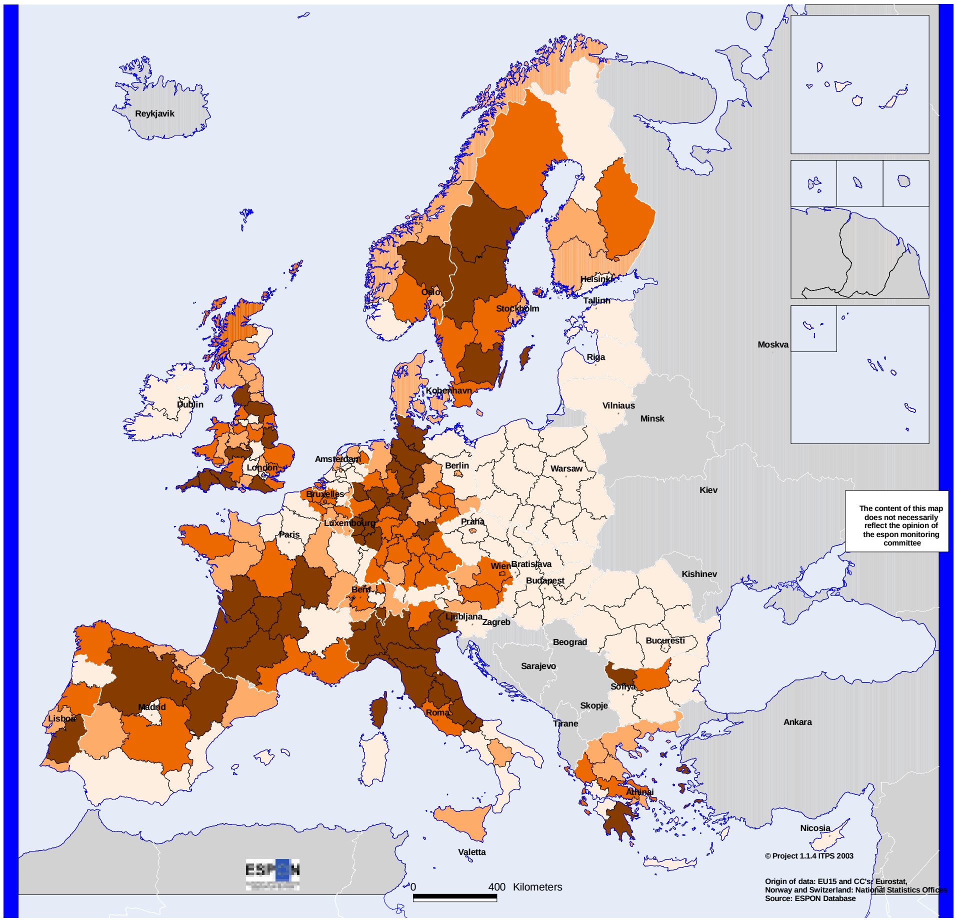
People over 65 years /
People between 20 and 64

- 0 - 0.256
- 0.256 - 0.28
- 0.28 - 0.307
- 0.307 - 0.4

Origin of data : EU15 and CC's : Eurostat
Norway and Switzerland : National Statistics Office
Source : ESPON database

MAP 7.7

Aged people versus youth in 2000



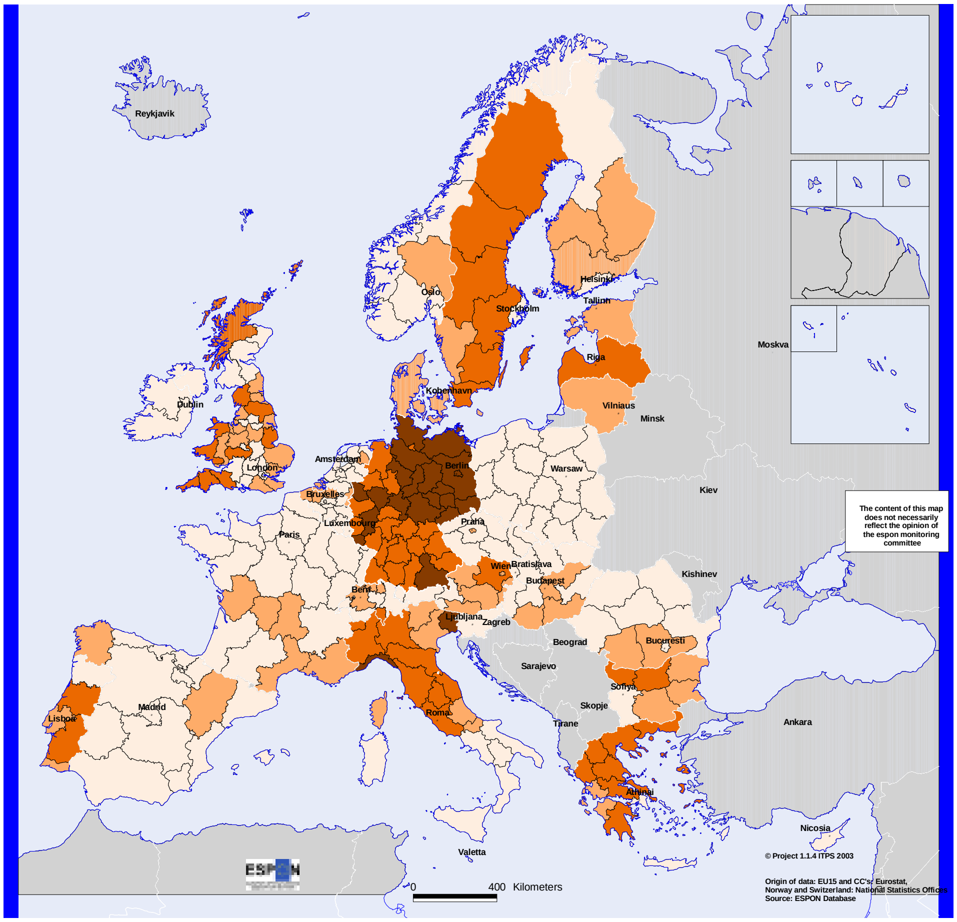
People over 65 years /
people between 15 and 24

- 0 - 1.18
- 1.18 - 1.359
- 1.359 - 1.545
- 1.545 - 2.9

Origin of data : EU15 and CC's : Eurostat
Norway and Switzerland : National Statistics Office
Source : ESPON database

MAP 7.8

Ageing labour force in 2000



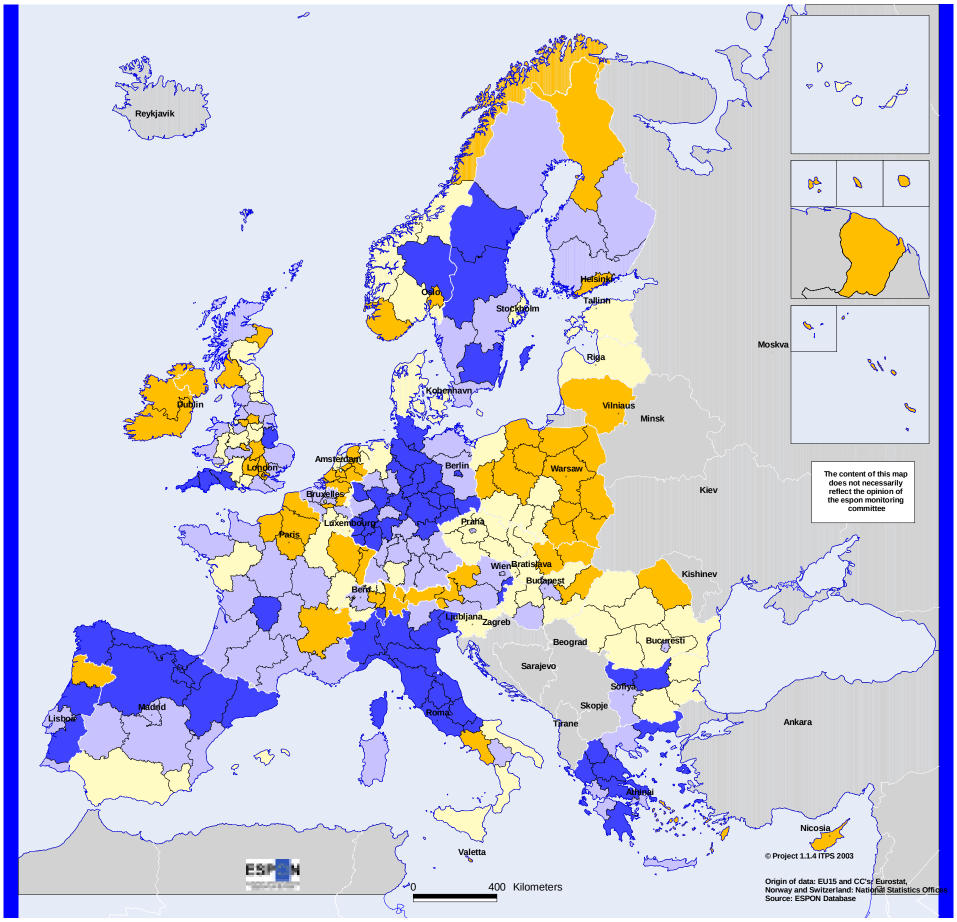
Share of population 55-64 years
in the population 20-64

- 8.7 - 17.5
- 17.5 - 19
- 19 - 21
- 21 - 24.1

Origin of data : EU15 and CC's : Eurostat
Norway and Switzerland : National Statistics Offices
Source : ESPON database

MAP 7.9

Average score on indirect depopulation indicators in 2000



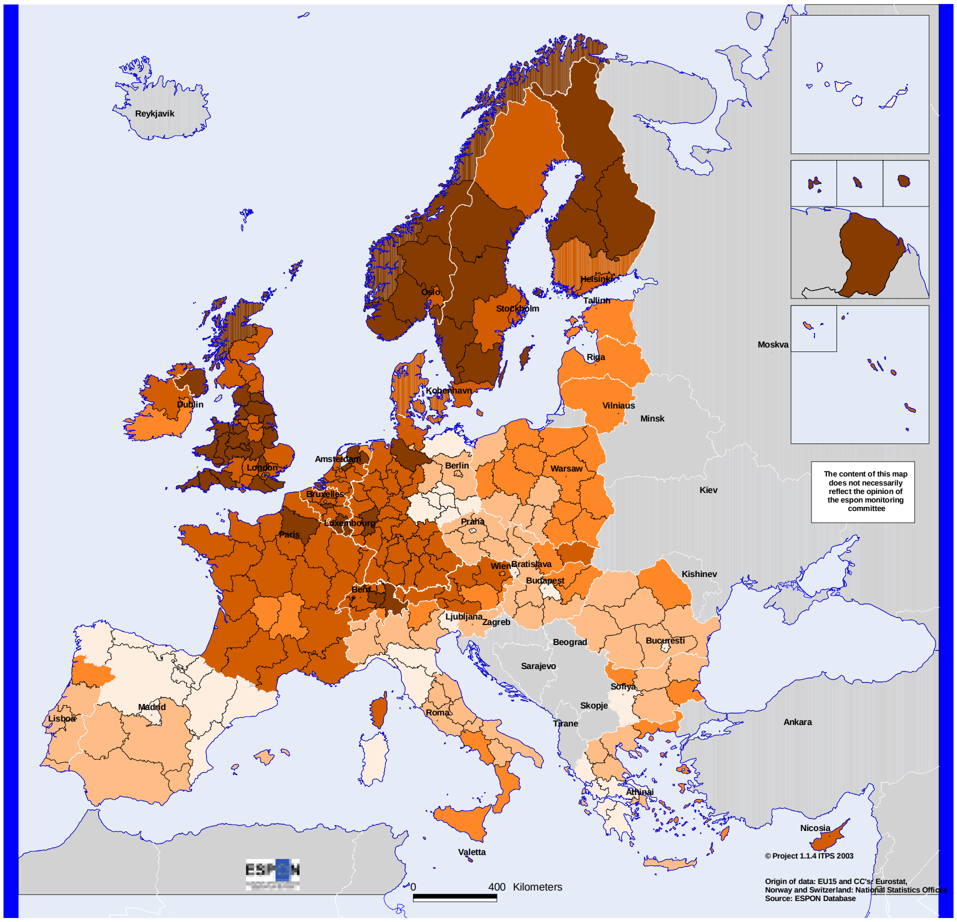
Average score on indirect depopulation indicators in 2000

- very low relative depopulation
- low relative depopulation
- high relative depopulation
- very high relative depopulation

Origin of data : EU15 and CC's : Eurostat
Norway and Switzerland : National Statistics Office
Source : ESPON database

MAP 7.10

Natural growth potential 2000 (2020)

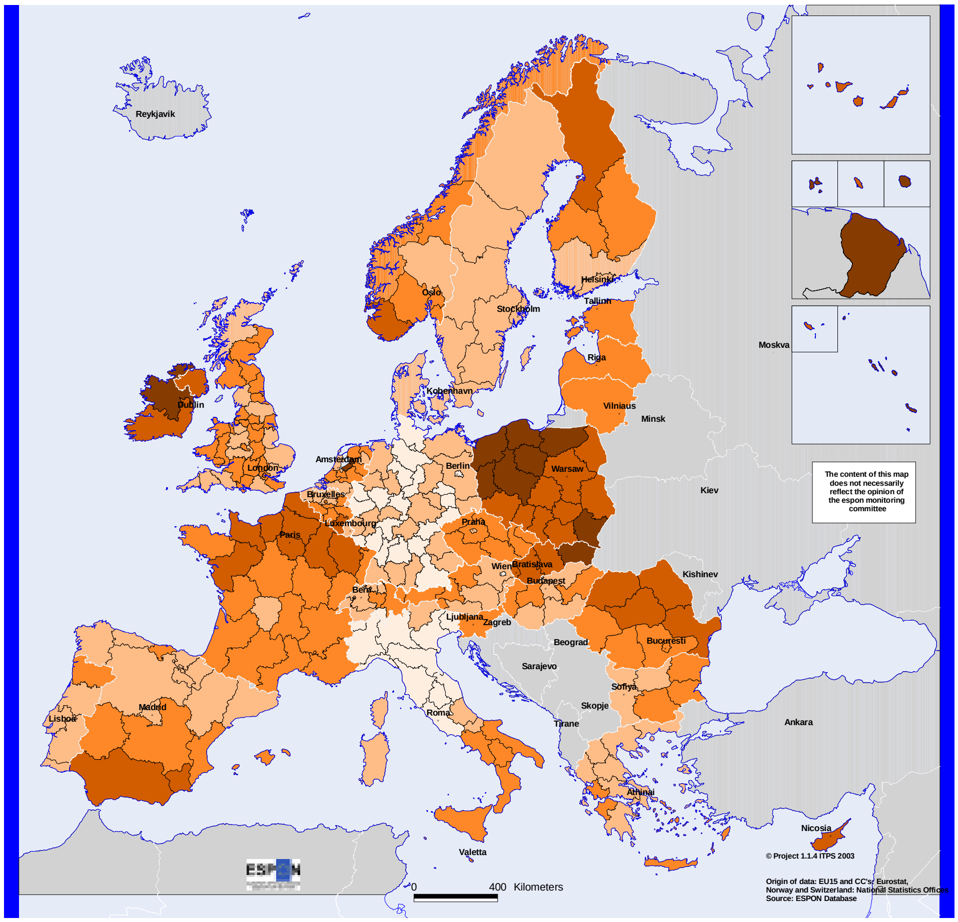


population 20-29 in 2020/population 20-29 in 2000
Cohort 1991-2000/cohort 1971-80

0.42 - 0.6
0.6 - 0.7
0.7 - 0.84
0.84 - 0.98
0.98 - 1.58

MAP 7.11

Labour force replacement ratio in 2000



population 10-19/
Population 55-64

- 0.51 - 0.89
- 0.89 - 1.16
- 1.16 - 1.48
- 1.48 - 1.99
- 1.99 - 4.37

The last two maps based on indirect/structural indicator are briefly and preliminary commented upon as follows:

1. The first map demonstrates to a great extent the difference between the countries that since the 1970s have bettered their fertility rates, and those that have not. For the former east European countries, it shows the reductions in fertility during the 1990s, which make the situation of east Europe generally somewhat negative with regard to prospective change in the core age group of its “natural growth potential” (“Europe 29” average

= 0,8). With the exception of the metropolitan regions of some of the east European countries, however, the regions with the most "negative" deviation from the average are almost exclusively within the present EU, and in countries with very low or extremely low total fertility rate. As expected, much of northern Italy, the northern half of Spain, and parts of Greece falls within this group, as does much of east Germany. For the northern Italian regions and for the Greek ones, these deviations will probably be modified by migration. Almost all European regions within the former west bloc north of the Alps and the Pyrenees are on the average or better.

2. There are comparatively few regions with a strong negative deviation for the "labour force" replacement ratio (10-19/55-64 years, "Europe 29" average = 1,2). More than one STD (standard deviation) "negative" deviations are only found in regions of northern Italy and scattered German regions. All regions of Germany and Sweden have a negative deviation. When most regions with a strong negative deviation on ageing labour force (cf. above) does not have a strong negative deviation for labour force replacement, this means that most of the regions with a large share of people in the 55-64 age group also have a relatively large group of 10-19 year old people.

Chapter 8 Ageing, Labour Shortage and Replacement Migration (WP5)

As indicated in the title, the main goal of this WP is to find out more about the phenomenon of ageing in Europe and the related processes of "labour shortage" and "replacement migration". To know the actual magnitude of these processes in the various countries and regions of Europe and to identify the main future trends in an integrated perspective should be the basis for better policies in the areas of migration flow management and regional development, especially in those areas where the problem of depopulation is present.

The ageing trend in Europe is a much more present and intense fact than is commonly acknowledged, even among academics and policy-makers that do not work directly with demographic matters. Despite its common general shape and strong intensity, it assumes different spatial expressions a) within the space of the European Union (15 countries); b) in the ten countries of the enlargement; c) in Romania and Bulgaria; and d) in Norway and Switzerland.

It must be pointed that the reasons for the current and future ageing of the European population lie in the demographic behaviour of the last decades, as well as in the fact that many of the policy measures taken now will only be effective, in terms of beginning to change the demographic characteristics of the European population, in a few decades' time.

There are two main reasons for this process of demographic ageing. The most important is the general and strong decline in fertility that Europe, like other regions in the world, has experienced since the 1960s. However, another important factor in explaining the current ageing process is the increase in the life expectancy of the population, due to medical progresses and to better social support and care for the elderly. The association of these two effects has sped up the pace and increased the intensity of this process in the present.

Alongside the increase in the number of elderly people (over 65 years of age), came the decrease in the number of people within the working-age cohorts (24-65 years old), both in absolute (less people in those strata) and in relative terms (lesser weight in the total population).

As a consequence of this, Europe is, and will increasingly in the future, be one of the major destinations of world migration, and a continent subject to strong migration pressures as a result of the sequential process of ageing and labour shortage. Immigration appears, for experts as well as for many policy-makers, as an answer to the twin problems of lacking population and lacking labour force in many regions of the world.

The question became widely discussed after the publication by the United Nations in 2000, of a report on immigration as a solution to the problem of ageing and labour shortage[73]. In that report, the U.N. Population Division considers their own previous

[73] UN (2000).

demographic projections[74] and five different demographic scenarios in order to forecast the total population and the amount of immigration needed in a number of individual countries and groups of countries: in the case of Europe, information is provided with regard to the European Union (EU15), United Kingdom, Italy, Germany and France, as well as Russian Federation and the whole of Europe.

In this kind of forecast, it is in fact usual to deal with very large territories (e.g., NUT 0), in order to avoid the errors that arise from the lack of information at larger scales (e.g., NUT 4 or smaller) and from the contingency of what can happen in small and open spaces. In fact, the larger the territories under study, the more stable and significant the forecasts will be.

Since the main goal of this paper is not to forecast, or guess, the future population (like the UN report does), but rather to identify and typify areas that have similar demographic trends and problems, it is very important to carry out some calculations at larger scales, i.e., for smaller territories.

The analysis of the current and future demographic trends and behaviours presented here refers to the European Union in its present form (as EU15), the post-enlargement European Union (EU25), and, finally, EU25 plus Romania and Bulgaria (two countries that will soon enter the EU), as well as Switzerland and Norway (who have for long maintained strong links with the European Union). This latter unit of analysis shall be referred to as EU29.

The methods adopted here shall allow us to have similar information and to reach similar results for each of the 29 countries – Eurostat's NUT 0 – and for each of the 276 NUT 2 territorial units.

By way of standard population projections techniques, we have calculated the number of persons in each region up until the year 2050, as well as the age structure under different scenarios and assumptions, and we have thus identified the main trends in terms of ageing, labour shortage and replacement migration in the aforementioned areas.

At this stage of the work, we have considered only demographic assumptions, despite knowing that some of those assumptions rest on implicit economic assumptions. Therefore, for the time being, only four scenarios were considered. The first one, referred to as scenario or model "A", is exclusively demographic and does not include any migratory flows; as for the other three "B" scenarios, they have been designed in order to make it possible to find out the amount of replacement migration (whether positive or negative) required to maintain the level of the year of reference (2000): a) the total population (model B1); b) the population inside the working age (model B2) and c) the population needed to maintain the same PSR - Potential Support Ratio - i.e., the same ratio of working to old age population (model B3).

In these four different population projection exercises, we assume that both the specific mortality rates and the specific fertility rates will be the same during the entire period. Naturally, things will not be exactly like that in reality, but since, for the time being, the base time period (1995-2000) is the only one for which complete data sets are available for all the 276 NUT 2 units, and since that same assumption is made for each and every

[74] cf., as an example, UN (2001).

region, the comparability of the results is maintained. On the other hand, since the base time period seems to be the one in which the demographic prospects are the less favourable, scenario A will be close to the worst possible demographic situation.

Generally speaking, the results of these projections have not been surprising. However, the magnitude and importance of the results are, in some cases, quite surprising. The magnitude of the phenomenon of ageing in Europe is already very significant, but it will continue to increase substantially and in non-reversible fashion (*cf*. the extraordinary figures for the population and required migration under scenario B3, that in which the PSR is kept constant). The evolution of the spatial pattern of the ageing processes shows that it will be intense not only in the more developed countries of Central Western Europe, but also in the Southern countries (where these processes have traditionally been hidden by ideological and social perspectives) and in the countries of the enlargement. Only a handful of regions will be free from the pressures of strong population ageing processes.

Although with variable patterns, depending on the characteristics of each country, the most critical period in most of the scenarios, in terms of the ratio of "elderly to working aged people" will be between 2015 and 2030, followed just after by a more stabilised variation.

Of course, the system itself will provide solutions to this problem, both by formal or by informal ways[75], but two important aspects remain that are worthy of notice: one is the intensity of the main current demographic trends; the other is the time-lag that in European societies mediates between an individual's date of birth and his entrance in the active life (of labour and reproduction), which usually takes place some 25 or more years later. This means that the period between the emergence of the problems, the appropriate measures being taken and their effects being felt, is not immediate and can take more than 30 years.

Another important result, although not completely visible due to the non-explicit integration of the regional economic behaviour in our models (to be included at a later stage), is the unequal regional capacity to attract / repulse population. Based only in the current demographic characteristics and assumptions, it is possible to detect areas with strong trends of depopulation. It must be pointed out that, at same time, in those areas where the ageing and depopulation process are in an advanced stage, there will be a strong probability of excess manpower, because the very weak local development will not be able to absorb those few that look for jobs.

If we look at the regional and local reality and at the various possible futures, it will be very important to answer some important questions. The real importance of ageing and depopulation trends in the regions of Europe, the social economic consequences of those trends and how they affect regional and local development process, the dimension of the migratory movements involved and what formal and informal policy mechanisms will be more suitable in their control are some of them.

[75] That is why the reality will not be foreseen by the experts, but rather will be built by all the people involved.

8.1 Regional Ageing Trends Analysis

Demographics changes have an important social and economic regional impact and vice versa. The ageing and depopulation process affects several European regions, changing the characteristics of resident population, changing deeply not only the demographic dynamics (fertility and mortality rates and population growth), but also the economic and social conditions, namely the ageing of workforce and the reduction in labour capacity.

The first aspect of demographic changes has to do with population variation over time. This is a result of migration flows and the natural population development. Fertility and mortality evolution explains the natural population development, but also contributes to changes in the demographic age structure, more or less accelerated by migration flows. Changes in demographic age structure have resulted in an ageing process, due to the expansion of life expectancy and, at the same time, the reduction in the younger population. Therefore, we can say that the ageing process results from an increase at the top and a reduction at the bottom of the age structure.

The ageing process leads to a labour shortage and a reduction in the potential support ratio (ratio between the 15-64 years old and the 65 and more years old population).

Below we will briefly express the main highlights of the research of other work packages related to ageing, labour shortage and replacement migration.

8.1.1 Population variation

At the end of the 1990's, the decrease in population affected a large number of European regions. In the study area (EU29), the growth of population was less than 1% in the second half of the decade, and a large number of regions saw their populations decline (531 out of 1326 NUT 3). The factors that help to explain this situation have to do with the decline in the fertility rate and the migration flows.

The pattern of population variation shows a central-periphery differentiation, not only at the European level, but also at the national level. The most negative variations could be found in the northern and southern countries of Eastern Europe, in the less dense areas of Portugal, France and Spain, and the north of Sweden and Finland (cf. SIR, Ch. 5). On the other hand, the most positive variations are related to the economic centre of Europe and particularly its major cities.

The main reason is that migration flows help some regions to have a positive balance, even when the natural population development is negative or zero. However, in some other regions, we can observe a drastic population reduction due to the out-migration flows and a negative or null natural population development. In this stage we can find some regions in northern Spain, Greece, but also in Hungary, Bulgaria and in the Baltic. In general, even in the future member states of the Union, Europe observe a small population growth, due to the decrease in fertility rates and a high level of out-migration flows. So, the integration of new states does not change the trends of the last years in the European Union.

8.1.2 Migration trends

Due to the decline in fertility and to the ageing of the population, the EU will face a demographic challenge in the near future. The ageing process affects the bases of regional economies, mainly due to the labour shortage. The migration system could answer to that in two different ways. One is related with the rejuvenating of demographic structure and the other is related with the fulfilment the needs of the labour market, through replacement migration.

The recent trends that can be identified in the EU29 (cf. SIR, Ch.4), confirm the fact that internal migrations flows are more intense than the flows between countries. Therefore, international barriers still play an important role in the decision to migrate. On the other hand, the more economically dynamic areas still attract migrants. Economic reasons still play an important role in explaining migrations flows. Different unemployment rates and different job opportunities remain important in explaining migration. We can observe this in the more dynamic areas, where the centres attract work force population, both skilled and non-skilled, but we can also see that it is starting to be important in the more depressed regions as well, where the lack of workers, specially more skilled ones, could mean job opportunities.

8.1.3 Mortality and fertility

The quick decrease in mortality rates and the increase in life expectancy are major trends in the demographic pattern in Europe. On the other hand, the decline of fertility rates, very abrupt from the mid 1960's to the mid 70's in the northern and western countries, and from the 70's to the 90's in the southern countries, began to stabilize but at a very low rate, below the replacement level. Eastern European countries show similar trends, but from the mid 80's onwards. Generally speaking, we can say that the behaviour of fertility in the EU29 points towards the same outcome: low fertility rates, below replacement level, but with a time gap and a process of varying intensity.

The consequences of these effects are the shift in the age structure of the populations and the ageing process. However, the gap between the beginning of the decline, and its intensity, will lead to different results in the near future. The northern and western countries will experience drastic ageing processes, whereas in the southern and eastern countries, that process will take place at a latter time, albeit in more drastic fashion.

8.1.4 Ageing evolution

As we shave seen, the European population is getting older. Nevertheless, the rate of this ageing process varies, not only at the national level, but also, more markedly, at the regional level.

The decline in fertility and the expansion of life expectancy are not the only main issues in understanding the ageing process. The most pronouncedly ageing regions are also the main out-migrations regions, and the departure of younger people contributes to accelerating the ageing process. Therefore, the demographic declines are one result of this pattern.

On the other hand, we can identify some regions that are in-migration areas and have an older population age structure. Some of those regions are retirement areas, for international or national pensioners. Naturally, they have different characteristics, and could be more or less attractive to younger people, depending on the needs and consumption capacity of the elderly people.

8.1.5 Potential Support Ratio evolution

As elderly people increase their weight in the population structure, the less young and active age population there is. The potential support ratio (PSR) shows how many persons, in active age, exist for each person over 65 years of age. As the ratio decreases, more people depend on fewer ones. In a way, it represents the dependency of elderly people upon the active ones. In the past, it was the youngest that depended on the actives, now it is the other way around. The main difference is that in the past, the younger, sooner or later, would join the labour force, whereas that is not the case with the elderly.

The reduction of dependency of elderly people is reachable by way of an increase in the labour force, in-migration or an extension of the labour age. All these would increase the ratio. On the other hand, an increase an economic productivity could compensate the reduction of PSR.

8.2 Regional Economic Analysis

Regional economics performance analysis is crucial to understand the future need of labour force and the capacity of generate value. The evolution of GDP, productivity rates and active population will be fundamental to generate C models. Therefore, we must identify main trends on NUT 0 and NUT 2 levels. This work is running and is being done based on information taken from other ESPON project groups, and other sources. For now we have collected information and present the first highlights below.

8.2.1 Gross Domestic Product

Since 1973, the EU economy has grown on average by 2,0%-2,5% per year, slightly less than in the United States economy. For 10 years, from 1986 to 1996, GDP in the EU grew, on average, by just over 2% a year. In the first half, 1986 to 1991, the GDP growth averaged over 3% a year; and in the second half, 1991 to 1996 just 1,5% a year, with a deep fall in 1993. From 1997, the EU economy had grown above 2,5% per year, until 2000, when fell into 1,6%, 1,0% and 0,7%, per year, from 2001 to 2003. The acceding countries have grown on average by 3,0% per year, showing a convergent behaviour.

Relative position of the GDP by country, with the exception of Greece and Portugal, show a clear distinction between the countries of the EU15 and the enlargement countries. When considering the European average (EU15) we see, by one hand, that the enlargement countries are far below of this level and, on the other hand, countries such as Belgium or France are still located below the Eu15 average. Also important is the fact of when even considering the average of the EU27, three countries appear below of this line: Spain, Greece and Portugal.

Table 8.1 Gross Domestic Product per head, 1995 and 2000

Country		GDP per head (2000)	GDP per head (1995)	Variation 1995-2000	
LUXEMBOURG	LU	46.401	33.495	LT	175
DANMARK	DK	32.576	26.387	LV	144
SVERIGE	SE	28.010	20.800	EE	114
IRELAND	IE	27.323	14.132	IE	93
UNITED KINGDOM	UK	26.096	14.806	UK	76
FINLAND	FI	25.337	19.361	PL	76
OESTERREICH	AT	25.258	22.349	HU	51
NEDERLAND	NL	25.191	20.526	MT	51
DEUTSCHLAND	DE	24.698	23.025	RO	50
BELGIQUE	BE	24.237	20.885	SK	45
FRANCE	FR	23.385	19.992	BG	41
ITALIA	IT	20.165	14.643	CZ	41
ESPANIA	ES	15.248	11.393	LU	39
KIBRIS	CY	14.290	10.549	PT	38
GREECE	GR	11.639	8.599	IT	38
PORTUGAL	PT	11.494	8.333	SI	36
MALTA	MT	9.913	6.568	CY	36
SLOVENIJA	SI	9.815	7.215	GR	35
CZECH REPUBLIC	CZ	5.428	3.854	SE	35
MAGYARORSZAG	HU	5.045	3.336	ES	34
POLSKA	PL	4.422	2.518	FI	31
EESTI	EE	4.070	1.899	DK	24
SLOVENSKA REPUBLICA	SK	3.950	2.729	NL	23
LITHUANIA	LT	3.485	1.268	FR	17
LATVIJA	LV	3.277	1.343	BE	16
ROMANIA	RO	1.791	1.195	AT	13
BALGARIJA	BG	1.681	1.192	DE	7
Average EU15		**24.471**	18.582		32
Average CEE+2		**5.597**	3.639		54
Average EU27		**16.082**	11.940		35

Source: ESPON database

The Candidate Countries had in the period 1995 to 2000, a significant growth of the GDP per head. Also Ireland and the United Kingdom have a continued economic grow above the EU average in that period. At a regional level we can see that regional economic performance tends to real convergence if we assume some indicators, but it is not clear if we consider other ones. However, in the last ten years the GDP per head increased from 41% to 50% of the EU average in the 10 more poorest regions and the from 52% to 59% in the 25 poorest. On the other hand, Greece, Spain, Ireland and Portugal went up from 65% of EU average to 76,5%.

The accession countries are far behind the EU average. Between 1995 and 2000, there is some slight improvement in the Baltic States, in Poland, and in Hungary. No significant developments can be discovered in Slovakia, Slovenia or Cyprus. According to the Eurostat data, the situation is getting slightly worse in the Czech Republic. More significant is the widening of the gap between the EU average and the regions of Bulgaria and Romania.

In the member states of the EU15, the most expressive improvement can be found in Ireland. This corresponds with the high rate of economic growth in Ireland in those years. Some regions in Austria, Finland, Greece and Spain also appear to have had a GDP growth between 1995 and 2000 above EU average. The same can be said about the South of the UK, while the North developed the opposite way, resulting in a widening of the traditional gap between the North and the South of the UK.

Such a traditional gap also exists in Italy. In Germany, there have not been significant changes either, which means that the East is still clearly behind the West. In the Benelux countries, as well as in Portugal, no significant changes between EU development and national development can be traced. Finally, GDP per head in Sweden seems to have grown at a lower rate than on average in the EU.

8.2.2 Productivity levels

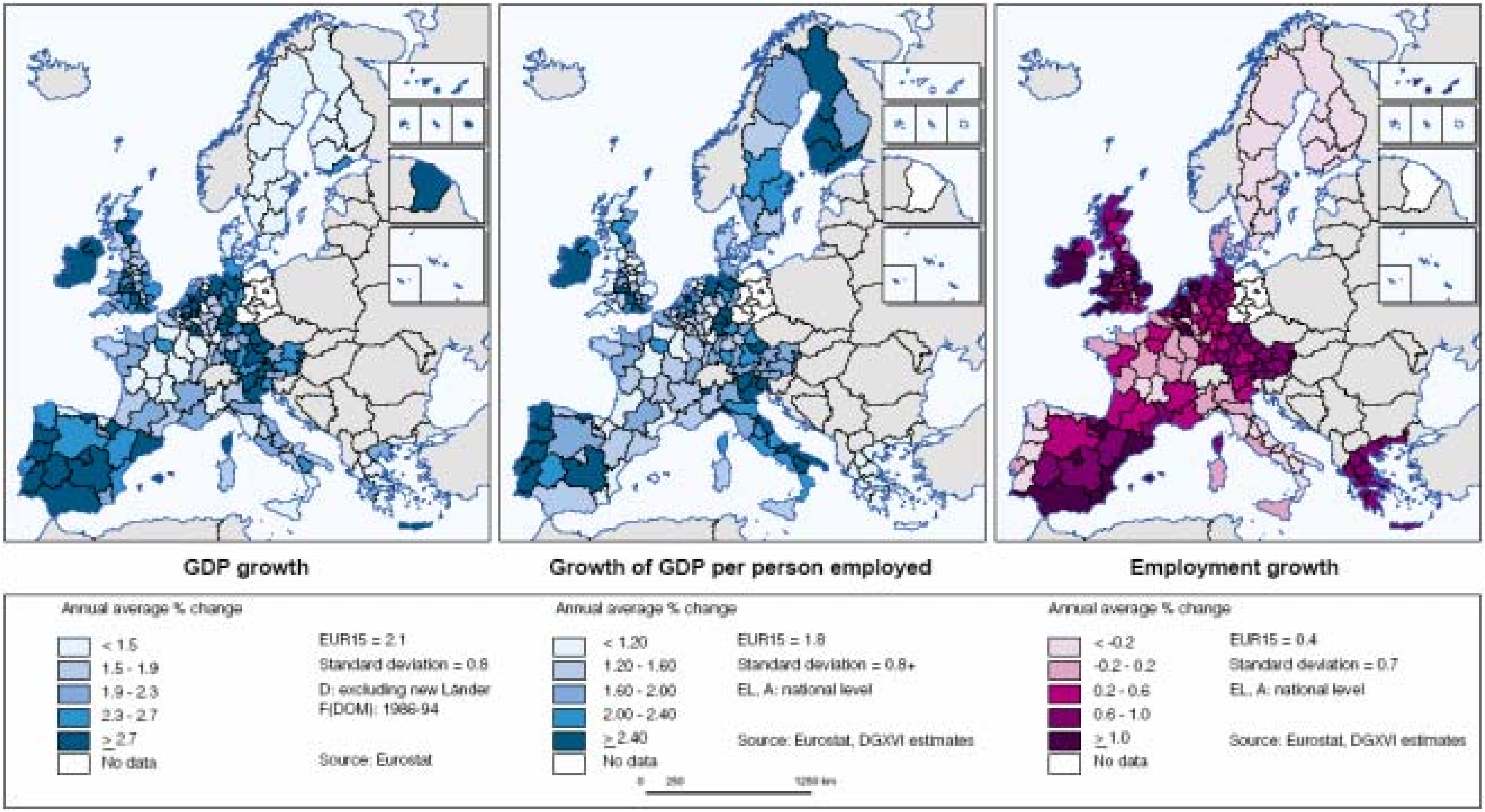
Growth in the EU, certainly since the war, has largely been achieved by raising the average output of each person employed rather than by increasing the number of people in work. Of the growth in GDP of 2,2% a year over the 10 years 1986 to 1996, growth in output per person employed contributed 1,8% a year and growth in the number employed only 0,4% (see figure 1). The low employment content of growth compares unfavourably with the Unite States where, over the same period, the greater part of the growth in GDP of 2,5% a year stemmed from an increase in employment of 1,5% a year, output per person only rising by 1% a year.

Regional differentiations can be pointed out. While the regions in Portugal have a level of GDP per head, which is similar to that in Spanish regions (apart from the North-East), the level of productivity is much lower (typically only around 60% of the EU average as compared with around 90% of the average in Spain). Conversely, employment is some 68% of working-age population in Portugal, whereas in Spain, it is only around 45%, and only 40% in Andalusia, among the lowest rates in the EU and well below the EU average of just over 60%. Therefore, while the level of productivity in Spain has largely converged on the EU average, the relative number in work is still substantially below and increasing employment is the main economic challenge. In Portugal, on the other hand, where the level of employment as well above the EU average, the greater need is to raise productivity (giving room for real wage level rise).

For regions in Greece, the picture is less favourable. Both productivity and employment levels are low and there is little evidence of catching up to the EU average in either case. The level of productivity in the rural and mountainous interior is typically only around 60% of the EU average — the lowest in the EU along with some regions in Portugal. Unlike in Portugal, however, productivity growth has also been low — 1% a year between 1986 and 1996, almost half the EU average rate, and so the gap has widened rather than closed.

In Ireland, both components of GDP per head have performed strongly. High growth in productivity (over 4% a year between 1986 and 1996, by far the highest rate in the EU, except in a few Portuguese regions), along with even higher growth in output, has begun to be translated into significant rates of net job creation (which averaged 2% a year over the period and 3% a year over the last 5 years).

Figure 8.1: GDP, productivity and employment growth, 1986-96



Source: EC (1999)

As a result, GDP per person employed in Ireland has increased to above the EU average and the gap in the employment rate is narrowing rapidly (in 1997, employment was 58% of the working-age population, only slightly less than the EU average).

Southern Italy is similar to Spain, in the sense that low GDP per head is mainly attributable to a low level of employment. GDP per person employed is typically around 90% of the EU average (although in Calabria's, it is exceptionally low at just over 80%) while employment is generally only around 40% of working-age population, lower than anywhere else in the Union.

The low level of GDP per head in the new German Lander is entirely due to low productivity. While employment rates are a little above the EU average in most regions (typically around 62–63%), output per person employed is in most cases only some 60% or less of the EU average. Although there are no data for the period 1986 to 1996 as a whole, the recent trend seems to be for the initially strong productivity growth after unification to weaken and for employment rates to stabilise.

Employment rates in regions in the North and East of Finland have traditionally been high. However, the slump in the early '90s largely fell on employment, leaving productivity growth unaffected or even a little higher as industry restructured. In the worst affected region, Itä-Suomi, productivity growth (at 2% a year over the period 1986 to 1996) has been similar to the EU average, but employment has fallen by 2% a year. It is now only around 55% of working-age population, less than the EU average and more typical of a Mediterranean than a Nordic region.

This main information will be deeply analysed in order to generate a more accurate data to incorporate in model C's.

8.2.3. Active population, labour market and employment levels

Between 1973 and 1985, unemployment in the 15 Member States taken together increased every year, from an average of only 2% to over 10,5%. Economic recovery in the second half of the 1980's temporarily reversed the trend but failed to reduce the rate to below 7,5%. The level of unemployment in 1985 was higher than at any time since the great depression of the 1930's, but worse was to come, as the recession of the early 1990's pushed up unemployment to 11,2% in 1994. Recovery since then has reduced unemployment to just fewer than 10% in late 1998. Unemployment not only affects the individuals concerned: it also means loss of potential production and income for the Union as a whole. (European Commission, 1999)

In the recent past we must point out two main aspects: 1) unemployment has risen rapidly during cyclical downturns in the economy, but has fallen slowly during upturns, reflecting a failure to sustain employment growth for long enough during recovery periods, and 2) the increase in unemployment has been accompanied by widening disparities between regions. The less favoured regions have been hit disproportionately by the rise of unemployment.

In the other hand, despite the unemployment rates, the labour market is not only affected by the overall development of the economy, but also by the demographic shift. Over the next future, the dynamics of population ageing will have important implications on the workforce, particularly on its composition. So, the increase on active rates could develop a major role on labour shortage.

8.3 Theoretical Considerations on Migration

Related to the discussion of replacement migration, and its social and economic consequences, is the use of traditional and new theories on migration movements relevant. The neoclassical macro-economics and micro-economics approaches, as the new economics of migrations or the dual labour market theory will be fundamental to this discussion. These theories have been discussed in WP3 above, and will not be discussed here.

8.3.1 Theories on the Economic Benefits of Migration

There is no general consensus regarding the economic benefits of migration. Different theories, based on different assumptions, reach different conclusions on the impact of international migration on economic growth, unemployment, labour force participation, wages, taxes, and transfers.

According to *neoclassical macroeconomics* immigration will promote economic growth.[76] Immigrants will constitute substitutive labour. Given than the number of jobs is constant, the wages will be lowered and the native workforce will have difficulties competing with cheep immigrant labour.[77] If the number of jobs is constant, adding more workers on the labour market will lead to a competition of the jobs. The equilibrium on the market will be changed, resulting in lower wages.[78] Low-income earners are the ones who will be hit most severely.[79] The capital owners in the country of destination will gain from immigration[80] as well as the well educated.[81] If the immigrant is young, well educated, has no dependents and get a job immediately at arrival, the country of destination will gain of immigration: the tax contributions of this immigrant will exceed the transfers from the public.[82] This kind of immigration ought to be encouraged. If the transfers to immigrants exceed their tax contributions, filters are needed in the immigration policy to only accept the most profitable immigrants be allowed to immigrate.[83]

According to neoclassical macroeconomics a completely different scenario of the economic benefits of immigration is also possible: immigration can slow down a structural change in the economy. Economically stagnating sectors can survive by employing cheaper immigrants, preserving and maintaining the existing economic

[76] Simon (1999), Friedberg & Hunt (1995). See also Borjas (1995).
[77] Fassmann & Münz (1995).
[78] Fassmann & Münz (1995). See also Zimmermann (1995) and OECD (2002).
[79] Johnson (1980).
[80] Layard et al. (1994)
[81] Johnson (1980).
[82] Layard et al. (1994).
[83] Borjas (1995).

structure.[84] An access to immigrant labour may also lead to labour intensive investment, keeping productivity down.[85]

According to the *dual labour market theory* we are accustomed to thinking of industrialization and economic growth as a process that in some basic way involves increasingly sophisticated technologies and progressively more highly educated and well-trained labour force. At the same time unskilled and cheap labour is needed to do hard work under bad working conditions and low salaries, a kind of work the native labour do not want to do. According to this theory, immigrant labour constitutes a complementary work force. If labour at the lower segment of the labour market is missing, economic growth will slow down. Substituting labour with capital is one solution, but since it is not possible to substitute labour with capital in labour intensive sectors hiring immigrants is another solution. Immigrant labour can keep up the economic growth on a short-term basis; on a long-term basis changes in society is needed. Since the immigrants work in the low-paid sectors their tax contributions will be lower than the tax contributions of the natives. A physically hard and monotonous job will affect the health, resulting in a need for public transfers. Since the immigrants usually end up in hard and monotonous jobs, their need for public transfers will be bigger than for the natives.[86]

According to the *new economics of migration* a continued immigration will lead to a lower economic growth, depending on that the amount of low productive work increases and that the immigrants send home remittances to the family.[87] Immigrants will take jobs in sectors with many immigrants, which usually means sectors in which the natives do not want to work.[88] If the salary in the country of destination is much higher than in the country of origin, *low-quality migrants* are the ones who are most willing to migrate.[89] Since these immigrants usually are low educated and low skilled workers they will "experience higher unemployment rate and have fewer hours of work per year".[90] The employers have asymmetric information of the productivity of the immigrant workers, and, together with the fact that immigrants in general do low qualified jobs, this is the reason why the immigrants receive lower salaries until the employers have improved the knowledge about their workers. As a result of having a low salary, or working in the informal sector, the tax contribution of the immigrants will be lower than the natives'. If the immigrants work in the informal sector they are not entitled to any public transfers. If they work in the formal sector they have low salaries, and they will receive less in public transfers than the natives.[91]

8.3.2 Empirical Evidence

The gains of immigration are difficult to calculate, and results depend very much on the used method[92] and in the spatial context. In general, immigration confers small net gains, in terms of per capita output, to the host country. However, the

[84] Maillat (1974).
[85] Wadensjö (1981), Elliott (1991).
[86] Piore (1979). See also Schoorl (1995).
[87] Stark & Yitzhaki (1982).
[88] Stark (1991).
[89] Stark & Katz (1989).
[90] Stark (1991, p. 393).
[91] Stark (1991).
[92] See Kelly, A.C. & Schmidt, R.M. (1994).

distribution of the benefits is not even and depends, to a large extent, on the qualifications structure of the immigrants and the native workforce. So far the net impact at national levels on government expenditures and revenues seems to have been negligible for most countries.[93]

Only a limited number of studies have been made on the income transfers from immigrants to natives for Western countries or on the impact on economic growth by immigration. During the period 1950-1980 the income transfers from immigrants to natives in *Sweden* reached approximately 1 per cent of the GDP annually.[94] They peaked around 1970, when the transfers barely reached 2 per cent of the GDP (Ekberg 2002)[95]. The income transfers were even 1980-1985, i.e. the immigrants paid as much in tax as they received in transfers.[96] During the 1990's the income transfers have changed direction: the immigrants are now net receivers and the natives are net payers. The transfer of incomes to the immigrants was about 0,9 per cent of the Swedish GDP in 1991, and in 1994 the transfers to the immigrants reached 2 per cent of the GDP. The income transfers from natives to immigrants have remained at that level throughout the 1990's.[97]

A simulation study on the long-term gains on economic growth by immigration to Sweden concluded that the plausible economic gains were insignificant.[98]. An estimation on the economic surplus of immigration to Sweden shows that it has been negligible.[99]

Two studies on the income transfers have been made for *Denmark*, and they show that the income transfers from natives to immigrants was close to 1 per cent of the GDP in the 1990's.[100] In one study on *Norway* for 1993 showed that the refugees received income transfers close to 0,9 per cent of the GDP.[101] In another Norwegian study concluded that the annual income transfers from natives to immigrants were approximately 1 per cent of the GDP in the mid 1990's.[102]

In *Canada* a positive net income transfer from the immigrants to the natives has been found[103], which is also the case for *Australia*[104] and *Switzerland*.[105] One study on *Germany* shows net income transfers from immigrants to natives[106], but another shows the opposite result.[107] The changed direction of the income transfers can be explained by the changed employment patterns for the immigrants since the 1960's, as well as the changed age structure among the immigrants.[108]

[93] For an overview, see Rauhut & Blomberg (2003).
[94] Ekberg (1999).
[95] In Ekberg (1999) the income transfers from the immigrants to the natives are estimated to about 1 per cent of the GDP.
[96] Gustafsson (1990). See also Gustafsson et al. (1990).
[97] Ekberg (1999). See also Gustafsson & Österberg (2001).
[98] Ekberg (1977).
[99] Ekberg (1998).
[100] Christensen (1998), Økonomiministeriet (1997).
[101] Larsen & Bruce (1996).
[102] Larsen (1996).
[103] Akbari (1989).
[104] Kakwani (1986).
[105] Straubhaar & Weber (1994).
[106] Miegel (1984).
[107] Ulrich (1994).
[108] Ibidum.

Some studies for the *USA* show a positive correlation between immigration and economic growth. The most well-known study is made by Julian Simon, and he argues that immigration has a significant positive impact on economic growth.[109] Other studies on how immigration affects the American economy shows that the economic impact of immigration depends on the human capital of the immigrants, their geographic and social mobility. Estimations show that a 1 per cent increase of the immigration to the USA leads to a 0,1 per cent increase of the economic growth.[110]

The estimations of the size and direction of the income transfers between immigrants and natives in the USA show divergent results. Some studies find net income transfers from immigrants to natives, and in 1998 the income transfer to the natives was about 0,1 per cent of the GDP or USD 30 per native person.[111] A newly made study concluded that the income transfer from immigrants to natives in 1996 was USD 166-226 per native household (Hanson et al. 2002). Other studies find negative income transfers from the immigrants to the natives in the USA (Blau 1984, and Weintraub 1984). A study for 1990 finds that the income transfers from natives to immigrants reached USD 16 billion, which is close to 0,3 per cent of the American GDP (Borjas 1994).

8.3.3 Concluding Remarks

In brief, we came to the conclusion that migration is and should be considered an important ingredient in a diversified approach to respond to demographic trends in Europe. However, a long-term and integrated view is indispensable here, both because population policy deals with long time periods (at list one generation) and because uncertainty and lack of planning for the future lead to fear among European citizens[112].

The local or regional impact of an immigration responding to declines in the population in working ages can differ from the impact on aggregate level. Regions with a very labour intensive sector and population decline need labour to reduce the bottle-necks in the production. Some actors can replace labour for capital, but this is difficult in several labour intensive agriculture tasks, many personal services (e.g. domestic activities, elderly care, etc.) and other unskilled and low-paid jobs which are refused by the native population, who have increasing skills and expectancies.[113]

It must be taken into consideration that despite the high number of skilled Eastern Europeans that came into Western and Southern Europe during the last decade, most of them have been incorporated in low skilled activity branches (e.g. Construction, agriculture, labour intensive manufacturing, industrial and domestic cleaning and the horeca[114] sector). That is why, an analysis of the employability features of immigrants (human capital + social capital) and also of the conditions

[109] Simon (1999).
[110] Friedberg & Hunt (1995).
[111] Borjas (2001).
[112] Niessen &Schibel (2002).
[113] Rauhut (2002a).
[114] Horeca stands for hotels, restaurants and cafés.

that may lead to an upgrading process of these people in the regional labour ladders (transition from unskilled tasks to semi and high skilled ones) is required.

However, despite the lack of appropriate statistical data it is our belief that is possible to estimate the need of an immigration responding to declines in the population in working ages at the NUTS 2 level, by building up a model that could integrate the ageing process in elementary scenarios of social and economic evolution.

The framework that will sustain the research aiming to estimate the immigration needs to respond to labour shortages, points to the following central concepts of the project: ageing, regional development, regional labour markets and labour migrations. The incorporation of case-studies in the research aims to illustrate some aspects of the migration phenomenon that are not yet visible or still do not have much expression in the treatment of information at the macro-scale of country or NUTS 2 level.

8.4 Forecast Model in Demographic Evolution and Replacement Migration

8.4.1. Model Formal Description

8.4.1.1. The Data

The work done here so far is based mainly on data prepared and collected for and by ESPON Projects and Working Groups, namely the Newcronos Eurostat database. As that data had some errors and gaps, data from other sources was needed to fulfil the matrices needed for the territorial demographic modelling[115], the most important of which was the United Nations and the National Statistics Offices, through published material, internet sites and also direct contact. The data used are regional population, fertility and mortality, migration flows and basic regional economic indicators.

As the models are based on the cohort survival technique (also designated as the specific age strata), all the population information needed, like the number of residents and deaths must be known by age. For that, we adopt sixteen age groups, the first fifteen with population grouped by five years, from 0-4 to 65-69 and a final group of people with 70 and more years of age. It will be very important to have more age groups for elderly people, because ageing is the main process to be studied here, but the necessary data is simply not available. For the births, we have taken into account the age of the mothers, also using the same age groups of five years.

The calibration period should be the closest possible one to the present, i.e., 1995-2000, and that period is one of the few available on Eurostat data sources. The easiest information to obtain was the regional resident population for the years of 1995 and 2000 by five years age groups. The number of deaths by age group was more difficult and, in many cases, available only for one year (1999 or another year near the middle of the period) The most difficult to obtain was the regional number of births by the age of the mothers, since for some countries that was almost impossible, and there were very few years available. Still, we did manage to get, for

[115] - The use of other sources raises the problem of data compatibility, but since there was no alternative, it is better to have non-perfectly compatible data that to have nothing at all.

all the regions, reliable information for some year in the period 1995-2000; in most cases, 1995.

We are aware that the quality of the data used, while far from optimal, is a compromise between the needed and the available, and carries some instability to the results. However, this will not heavily affect the main trends and the broad results, and if and when better information is available, we will integrate it and correct the models.
In the future, with heavy work and relying more on national data (in a international and expansive network context), it will be possible to have similar data for 1990, 1985 and 1980 and, through that, to try to improve the results (including long and medium term trends for fertility and mortality) and at same time check for the sensibility and robustness of the results and models.

Table 8.2 Synthesis of Mistakes on data

Synthesis of Mistakes

Country	Population 2000			Population 1995			Deaths			Births		
	Source	**Year**	**Errors**	**Source**	**Year**	**Errors**	**Source**	**Year**	**Errors**	**Source**	**Year**	**Errors**
AT	OK	OK	No	OK	OK	No	OK	OK	**Yes**	OK	OK	No
BE	OK	OK	No	OK	OK	**Yes**	OK	OK	**Yes**	OK	**Other**	**Yes**
BG	OK	OK	**Yes**	OK	OK	**Yes**	OK	OK	**Yes**	OK	**Other**	**Yes**
CH	**Other**	**Other**	No	OK	**Other**	**Yes**	**Other**	**Other**	**Yes**	**Other**	**Other**	**Yes**
CY	OK	OK	No	OK	OK	No	**Other**	OK	No	**Other**	**Other**	**Yes**
CZ	OK	OK	No	OK	OK	No	OK	OK	No	OK	**Other**	**Yes**
DE	OK	OK	No	OK	**Other**	No	**Other**	OK	No	**Other**	OK	**Yes**
DK	OK	OK	No	OK	OK	No	OK	OK	No	OK	OK	No
EE	OK	OK	No	OK	OK	No	OK	OK	No	OK	OK	No
ES	OK	OK	No	OK	OK	No	OK	OK	**Yes**	OK	OK	**Yes**
FI	OK	OK	No	OK	OK	No	OK	OK	**Yes**	OK	OK	No
FR	OK	OK	No	OK	OK	No	OK	**Other**	**Yes**	OK	OK	**Yes**
GR	OK	OK	No	OK	OK	No	OK	OK	**Yes**	OK	OK	No
HU	OK	OK	No	OK	OK	No	OK	OK	**Yes**	OK	**Other**	**Yes**
IE	OK	OK	No	OK	**Other**	No	OK	OK	**Yes**	OK	**Other**	**Yes**
IT	OK	OK	No	OK	OK	No	OK	**Other**	**Yes**	OK	OK	No
LT	OK	OK	No	OK	OK	No	OK	OK	No	OK	**Other**	No
LU	OK	OK	No	OK	OK	No	OK	OK	No	OK	OK	No
LV	OK	OK	No	OK	OK	No	OK	OK	No	OK	**Other**	No
MT	OK	OK	No	**Other**	OK	No	**Other**	OK	No	**Other**	**Other**	No
NL	OK	OK	No	OK	OK	No	OK	OK	**Yes**	OK	OK	No
NO	OK	OK	**Yes**	OK	OK	**Yes**	**Other**	**Other**	**Yes**	**Other**	**Other**	**Yes**
PL	OK	OK	No	OK	OK	No	OK	OK	No	OK	**Other**	**Yes**
PT	**Other**	OK	**Yes**	OK	OK	No	OK	OK	**Yes**	OK	OK	No
RO	OK	OK	No	OK	OK	No	OK	OK	No	OK	**Other**	**Yes**
SE	OK	OK	No	OK	**Other**	No	OK	OK	**Yes**	OK	OK	No
SI	OK	OK	No	OK	OK	No	OK	OK	No	**Other**	**Other**	No
SK	OK	OK	No	OK	**Other**	No	OK	OK	No	**Other**	**Other**	**Yes**
UK	OK	OK	No	**Other**	**Other**	No	OK	OK	**Yes**	OK	**Other**	No

We have found a large number of errors and imperfections in the databases. The frequent and random character of these errors makes it hard for us to organise them in a systematic way for each unit of analysis:

- Typing errors, such as cells in which digits lack or should not be there: e.g., 11,346 instead of 111, 346;
- Mismatches between the totals and the subtotals: e.g., the figures for the various age groups often do not add up to the figure for the total population;
- The official statistic information made available online by the various countries – which we have accessed in order to overcome some of the aforementioned difficulties and imperfections – is often quite different from that contained in the ESPON_ACCESS_Database databases.

The mistakes that we could find during the data management could be synthesized in the table 8.2. We have tried to correct the mistakes found in the databases, by comparing with other sources, and when the data were missing, we have collected the data from other sources, mainly the national statistics offices of each state.

The results of the models presented and analysed here, came from the application of regional specific rates of fertility and mortality to the age cohorts of the resident population in each region, assuming four different scenarios – the models A, B1, B2 and B3.

Later, in the final report, we will integrate the basic variables of the regional economy in the model, obtaining results for the models Ci. The collection of data for the

C models has also been difficult, due to the lack of data on employment and unemployment, active population for NUT 2 level. As we did with demographic statistic information, we used the national and international statistics offices to collect missing information.

8.4.1.2 The Models

Based on the resident population and on the current specific rates of fertility and mortality in each region, we consider four different scenarios, from which we calculate the migration flows needed to achieve particular population objectives.

Although our own work is quite close to that of the United Nations reference analytical work[116], there are two main differences between the two. The first one is that the United Nations considers only ten countries or group of countries – France, Germany, Italy, Japan, Korea, Russia, United Kingdom, USA, Europe and EU15 -, while we consider 276 NUT 2 regions of 29 European countries and its aggregations. The second difference has to do with the fact that in the UN work, the bases of forecast are the national projections (which have incorporated in a non-explicit way distinctive assumptions about the demographic rates of birth, death and migration, as well as about the economic performance). Perhaps closer to the reality the UN forecasts do not allow us to isolate the effects that arise from each source of demographic variation. But that is not our goal. We want to show what would happen to the regional population if the actual situation were to continue or if it changed, according to some simple assumptions regarding regional demography (for now) and the regional economy (later), because the models we made only allow to change one element at each time.

Our results refer to 29 European countries, the current fifteen of the EU, the ten of the enlargement of first May 2004, Bulgaria, Romania, Norway and Switzerland, and for the 276 respective NUT 2 regions, as well as for the totals of EU29, EU25 and EU15.

The four scenarios mentioned above are:

<u>Scenario A – Without migration</u>

This is the closed model based on the extrapolation of the regional values of the specific demographic rates and without any migration.
It is an indicator of the demographic potential of each region. The difference with regard to the current population is a good indicator of the tendency towards depopulation and the changes in the age structure are also a good indicator of the ageing process.

Scenarios B – With migration

<u>Scenario B1</u> – This scenario calculates and assumes the migration flows needed (in each five year period) to maintain the same total regional population (i.e. the same population as in base line - year 2000). It shows the sustained effort needed to maintain the current level of population.

[116] United Nations (2000)

The total and final amount of each five year migration flows have a similar meaning to the final difference in population of Model A, but the B1 results do not wait until the end of the analysed period; rather, they incorporate in the resident population the migrants in each period as well as their future demographic behaviour. It is a different way to show and improve model A results. These two models together show the limits of the ageing values expected for each region and model A also provides some information about the attractive/repulsive nature of each region.

Scenario B2 – This scenario computes and assumes the migration flows needed (in each five year period) to maintain the same active age regional population (i.e. the same population between 15 to and 64 years of age as in base line - year 2000). It shows the effort needed to maintain the current level of regional labour force.

It is a good indicator of the "potential" labour shortage, assuming "potential" as the ability to maintain the same level of production and productivity. It could provide some initial information about the "labour shortage" that will happen, all other things kept constant. It illustrates the regional differences between the natural labour force supply under the assumption of constant demand. High positive values of immigration are then an indicator of the "natural" incapacity to fulfil the production needs and a good estimate of the labour replacement migration.

Scenario B3 – This scenario calculates and assumes the migration required (in each five years period) to maintain the ratio of the working age population to the retired age (regional population 15-64 divided by regional population 65 and more) that exist in the base year of 2000.

It is an "impossible" scenario because of the very high level of immigration required, but it is a good indicator of the dimension of the problem of financing retired people.

Scenarios C – These will be scenarios of replacement migration related to the regional economic performance assumptions (based on active population, GDP and productivity long term average variations), to be developed for the next report.

All the models made projections of the total resident population and migratory flows by five years age groups at the end of each five years period from 2000 until 2050. The calibration period of 1995-2000 gives also an estimate of the migration figures in that period, to be checked against the real flows.

The number of survivors in each five-year group is a result of the application of the average mortality rate of each group to the people existing in the previous group (five years before). In a similar way, the number of people in the first age group (between 0 – 4 years old) is the result of applying the specific fertility rates by five-year group to all the groups of age involved, minus the average number of deaths for that age group. The migrants appear in the model as the difference between the regional populations needed to fulfil each model assumption and the "natural" (demographic) balance between deaths and births.

To perform the projections it is necessary to know the age structure of migrants, quite different from the resident population. As they have different sex and age structures, depending, at least, on the development of the migratory flow between each origin and each destination we chose an average age structure, following the UN projections for replacement migration[117] as an average of the flows coming to modern developed countries, such as Canada, US, Australia.

For all the models, the values of the specific fertility and mortality are assumed to be kept constant at the level of the middle of the 1995-2000 period (as mentioned before).

Each model was run in two different ways, one for the 29 countries and another for the 276 NUT 2 regions. With the second way, it was also possible to obtain national results, adding up the regions in each country. Some differences appear between those two ways, due to the aggregation errors, well known to statisticians, of consider homogenous behaviour within each elementary territorial unit, in one case the country and in the other their regions. The small dimension of the differences found is a good indicator of the robustness of the results.

The future demographic trends are determinate mainly by the low level of specific fertility rates existing in almost all the countries and regions in Europe. And although the United Nation Population Projections assume that they will rise in future, very strong institutional efforts will be needed to reach that target successfully and the final results obtained will not reverse the main trends.

The low values of specific fertility rates result in even lower broad fertility rates because of the ongoing ageing process of European population. The fall of fertility behaviour is not a new phenomena, but until recent years this was hidden by a lot of factors, from which we distinguish the inter-European migration flows and the return of European emigrants mainly from old colonies, the non-European immigrants that had came to Europe, and mainly the fact that the populations of younger cohorts that reach the work and reproduction age are very small.

Another important factor will be, for some time, the predicable population longer life, an old process in the most developed central and western countries, but only now reaching the more peripheral regions. The ageing of European population seems to be an inevitable process, and the relation between active population and retired people will diminish to alarming levels.

8.4.2. Analysis of Results
8.4.2.1. Results from model A
8.4.2.1.1. Population

Maintaining the present demographic trends without migration (Model A), Europe will experience in the next future a strong depopulation process (Table 8.3 and Figure 8.2). At the middle of 21st century the fifteen countries now in the European Union lose 80 million inhabitants (80.590 thousand), the ten countries of the enlargement about 20 millions (19.387 thousands) and the 29 countries analysed here a little more than 111 millions.

[117] United Nations (2002), p.16 and table III, 1, p.17

Broadly, in the next fifty years the EU15 countries will lose about one fifth of their present population (-21,4%), the ten enlargement countries will lose even more, almost a forth (-25,8%), and all EU29 countries will decrease 22,5%. That population losing process will be more intense after 2025 than in the period between 2000 and 2025. The population in Europe within fifty years from now will be less than in the decade of the sixties, fifty years before, as shown in the figure below. At the regional level (cf. Table 8.4, Figure 8.2 and map 8.1), there are significant differences between countries.

Table 8.3 Model A- Without migrations - Population projections (in thousands)

Region	Population			Annual average change (%)
	2000	2025	2050	
EU 15	376.539	356.074	295.949	-0,48
EU 25	451.629	425.925	351.652	-0,50
EU 29	493.878	464.781	382.839	-0,51

Source: Eurostat, model

Table 8.4 - Population projections (thousands), 2000 – 2050, by country (Model A)

Country	Population			Annual average change (%)
	2000	2025	2050	
AT	8.103	7.500	5.879	-0,64
BE	10.239	9.705	8.202	-0,44
BG	8.191	6.850	4.983	-0,99
CH	7.124	6.902	5.750	-0,43
CY	786	844	776	-0,02
CZ	10.278	9.244	6.996	-0,77
DE	82.164	72.919	55.502	-0,78
DK	5.330	5.166	4.640	-0,28
EE	1.439	1.233	909	-0,92
ES	39.731	37.156	29.003	-0,63
FI	5.171	5.001	4.366	-0,34
FR	58.749	59.463	54.197	-0,16
GR	10.554	9.705	7.711	-0,63
HU	10.043	8.640	6.659	-0,82
IE	3.777	4.288	4.332	0,27
IT	57.680	51.564	38.997	-0,78
LT	3.699	3.367	2.624	-0,68
LU	436	433	385	-0,25
LV	2.424	1.996	1.401	-1,09
MT	391	412	390	-0,01
NL	15.864	15.629	13.388	-0,34
NO	4.479	4.610	4.353	-0,06
PL	38.644	37.053	30.282	-0,49
PT	10.257	9.650	8.014	-0,49
RO	22.456	20.493	16.101	-0,66
SE	8.862	8.371	7.154	-0,43
SI	1.988	1.790	1.328	-0,80
SK	5.398	5.272	4.339	-0,44
UK	59.624	59.525	54.178	-0,19

Source: Eurostat, model

Ireland is the only country that shows a positive demographic trend, with an expected population growing of more than 10% in the period (0,27% / year). All other countries appear with negative values. Three main groups emerge. The first one, with low and very low population loses, includes Cyprus (CY), Malta (MT), Norway (NO), France (FR), Luxembourg (LU) and United Kingdom (UK). Another group of countries, with the biggest population loses, is constituted by Latvia (LV), Bulgaria (BG), Estonia (EE), Hungary (HU), Slovenia (SI), Italy (IT) and Germany (DE). The remainder show an average behaviour, with population loses between 12,8% and 32%.

Surprisingly, the worst situations will appear in the south and east border of EU29, and the best in the North and especially in Ireland.

Figure 8.2- Population Evolution & Projection 1960-2050, Model A

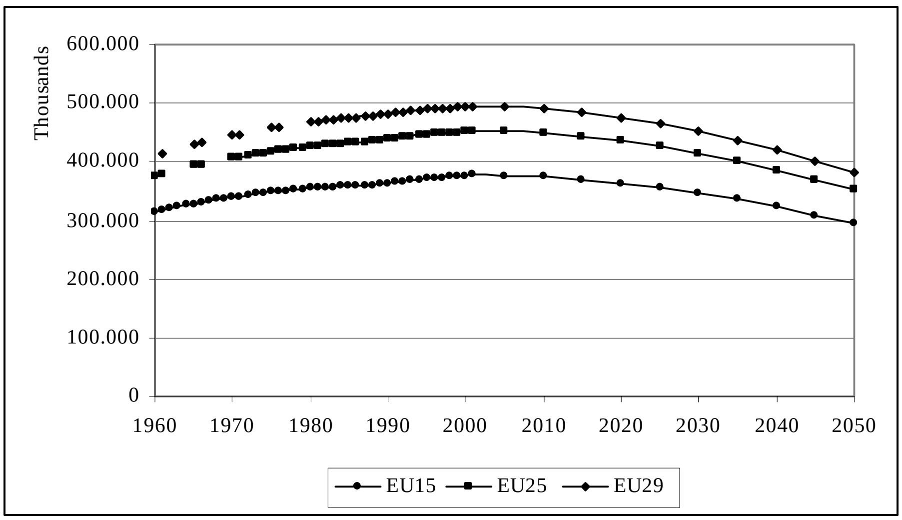
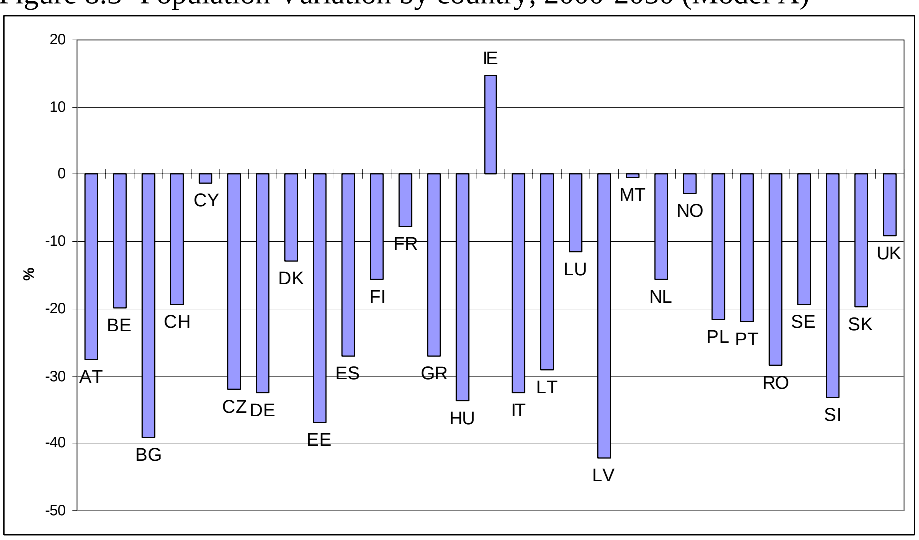
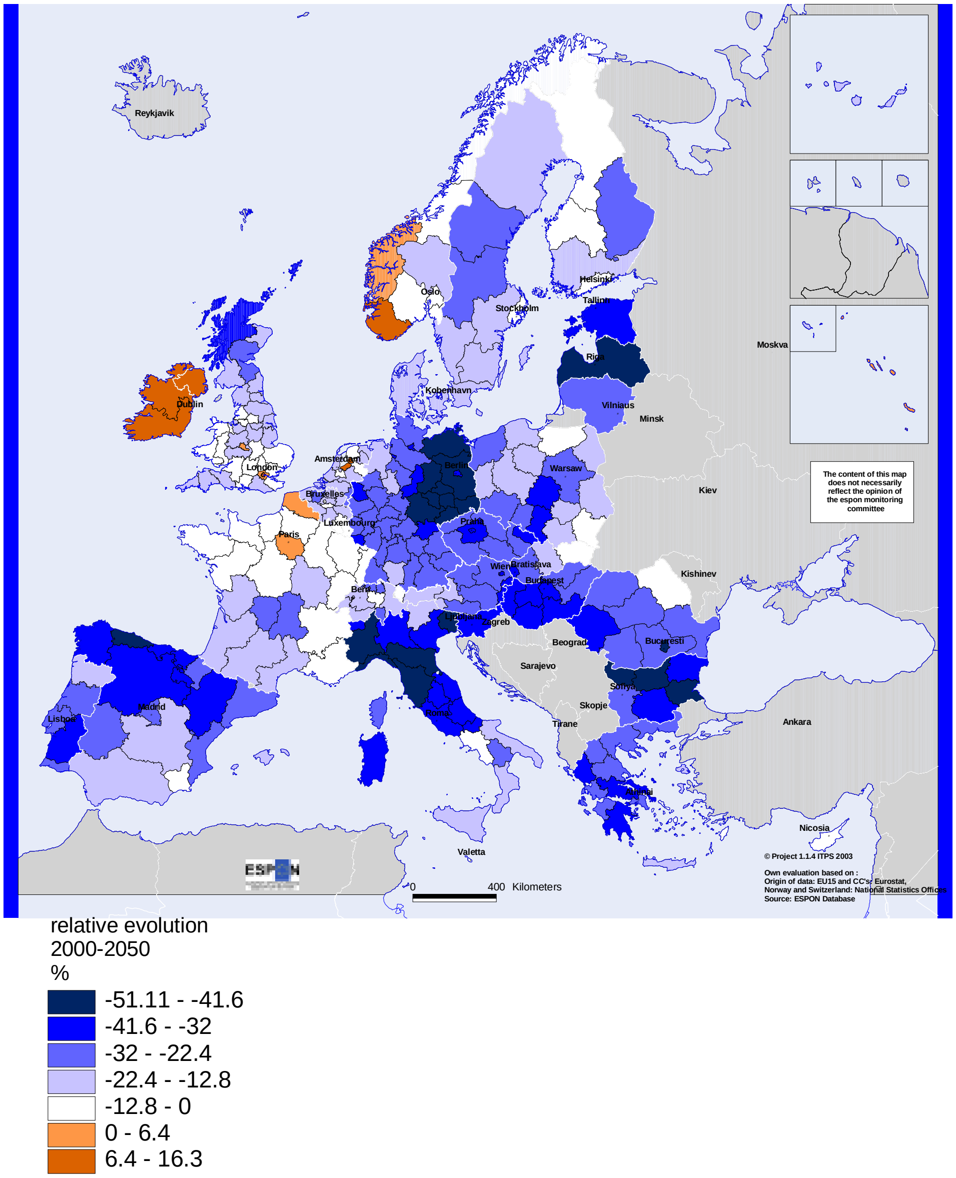


Figure 8.3- Population Variation by country, 2000-2050 (Model A)



Map 8.1

Population variation 2000-2050, Model A



With more detail, the map 8.1 illustrated those demographic trends at regional NUT 2 level. The areas where the depopulation trends are stronger are the East Germany regions, the Baltic States, all the Balkans, north of Italy, north of Spain and south and central Portugal, and Scotland. On other hand, Ireland, most of Norway, Sweden and Finland, as well as urban Poland, France and south of Italy and of Spain are the less depopulated regions.

Table 8.5: Percentage of people with 65 or more years of age in Europe (Model A)

Year	EU15	EU25	EU29
2000	16,3	15,7	15,6
2025	22,2	21,6	21,3
2050	27,6	27,1	27,0

3.2.1.2. Ageing

The age structure of the European space will change dramatically. The trend of the increasing the weight of elderly people is irreversible. If nothing is done in order to avoid this, the extrapolation of the actual trend will double the actual percentage of people with 65 or more years old (Table 8.5).

Big regional differences exist between countries with respect to the aged people weight, either in the initial level, in the final weight, or in the intensity of ageing process.

Table 8.6 - Percentage of people with 65 or more years of age in Europe, 2000 and 2050, by country (Model A)

Country	People with 65 and more years of age		
	2000 (%)	**2050 (%)**	2000/2050
AT	15,5	29,9	51,8
BE	16,8	25,7	65,1
BG	16,2	26,7	60,6
CH	15,2	28,9	52,4
CY	11,6	27,2	42,8
CZ	13,8	28,2	49,0
DE	16,2	29,6	54,8
DK	14,8	21,0	70,7
EE	14,5	25,8	56,1
ES	16,8	33,5	50,0
FI	14,8	23,8	62,2
FR	16,0	25,1	63,9
GR	17,3	30,7	56,4
HU	14,6	22,4	65,3
IE	11,2	19,3	58,1
IT	18,0	34,4	52,3
LT	13,4	24,8	54,0
LU	14,3	22,1	64,5
LV	14,7	26,5	55,3
MT	12,3	21,1	58,4
NL	13,6	24,4	55,6
NO	15,3	21,6	70,5
PL	12,3	24,4	50,3
PT	16,4	26,5	61,7
RO	13,2	23,6	56,0
SE	17,3	26,0	66,4
SI	13,9	30,2	45,9
SK	11,4	23,5	48,5
UK	15,6	22,2	70,2

Source: Eurostat, model

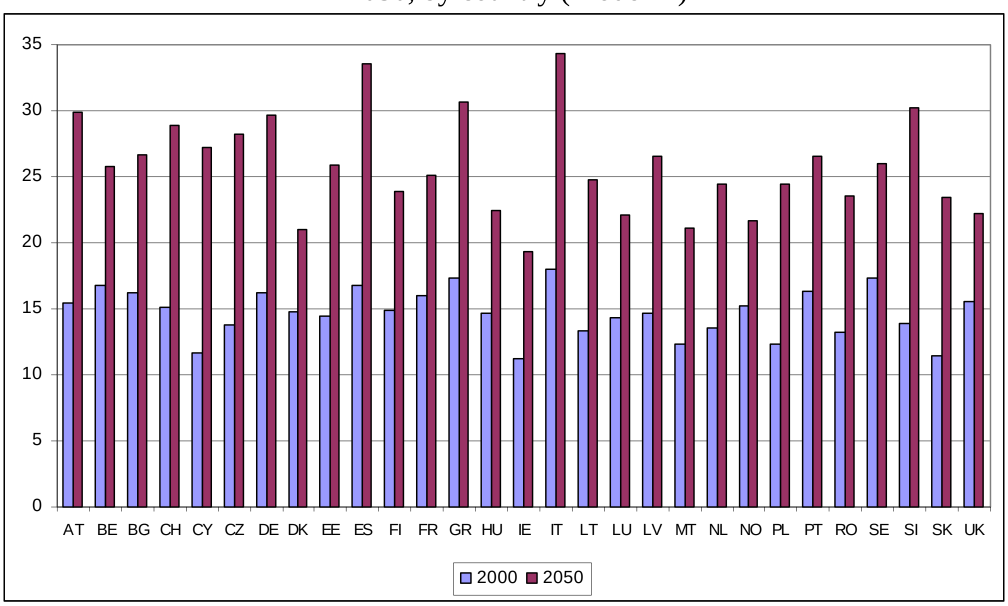
Nowadays the most aged population countries are Italy (IT 18,0%), Greece and Sweden (GR and SE 17,3%), Belgium and Spain (BE and ES 16,8%), Portugal (PT 16,4%), Germany and Bulgaria (DE and BG 16,2 %) and France (FR 16,0%), and the countries with younger population are Cyprus (CY 11,6%), Slovakia (SK 11,4%) and Ireland (IE 11,2%).

Assuming the "natural" population evolution (implicit in Model A) by the horizon of year 2050 all the countries will have more elderly people than the present maximum. Some of the countries maintained their position in terms of the elder population, while others did not. The reason remains in the fact that ageing is a process that deals, at least, with fertility rates and increased life expectancy, based on age cohorts of different size, in a quasi sinusoidal way – due to the distinctive time-lag involved.

The countries with more old age people in the population are then Italy (IT with 34,4%[118]), Spain (ES 33,5%), Greece (GR 30,7%), Slovenia (SI 30,2%), Austria (AT 29,9%), Germany (DE 29,6%) and Switzerland (CH, 28,9%).

With regard to the ageing process we can distinguish between a group more stable (Cyprus, Slovakia, Slovenia, Czech Republic and Poland), beginning now the ageing process, with low figures, and two groups of quick ageing, one at the end of a cycle with countries like Hungary and Belgian, and others in the beginning of a second ageing cycle, as is the case of the United Kingdom and some Nordic countries such as Norway, Sweden and Denmark.

Figure 8.4 - Percentage of people of 65 or more years of age in Europe in 2000 and in 2050, by country (Model A)



[118] We must point out here again what is the basic meaning of the model A – simply the extrapolation of present values – and so it indicates the ageing pressures acting now in each country/region/society, the future being of course quite different either by the measures taken or by the informal answers to the problem.

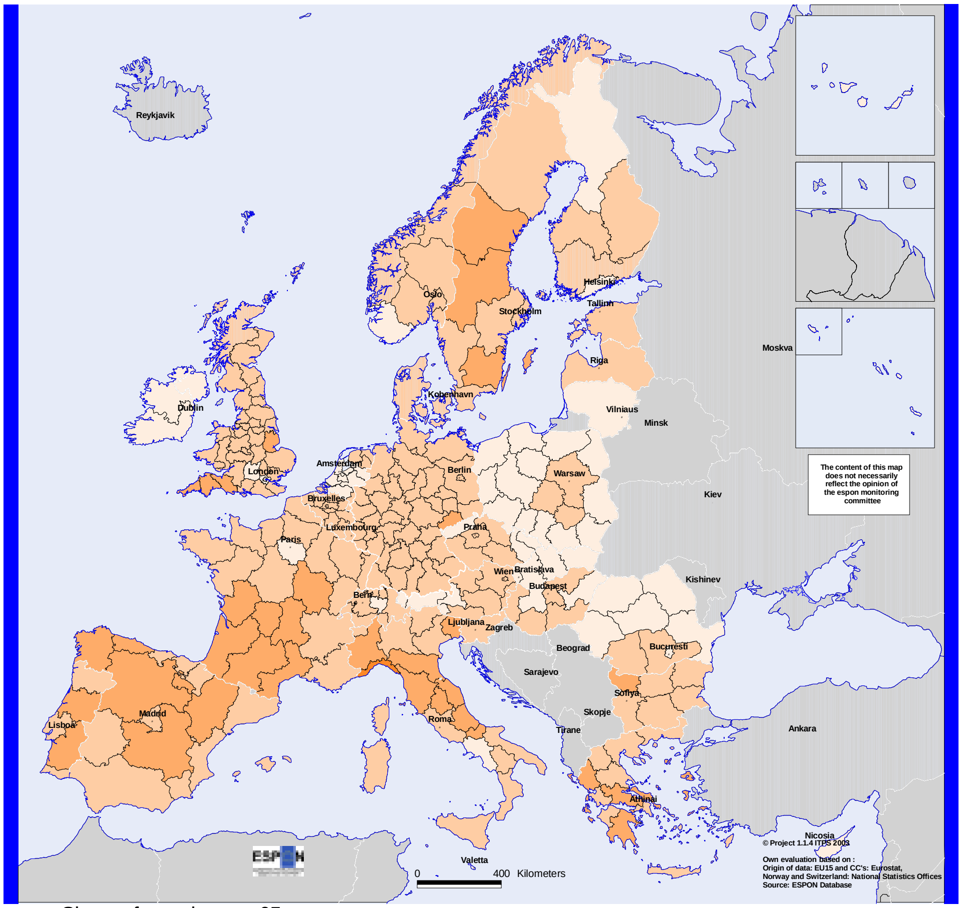
The regional ageing process has a strong distinctive spatial pattern (see maps 8.2-8.4). The higher values in 2050 will happen in central and northern Italy, in the German regions of the old DDR, in Greece and in the north of Spain. High values will also appear in central Spain, Sweden, Baltic States, the centre of France and some parts of Switzerland and Slovenia.

The ageing processes have another component, the weight of young people (generally less than 15 years) in the total population. This is called “bottom ageing” as an opposite to the weight of old ones, called “top ageing”. It will be analysed later.

It will be necessary to develop a method to distinguish regions with respect to the different stages of ageing cycles, beginning with the decrease of fertility, followed or not by the increase of the life expectancy, the “first” ageing process, death of a lot of elderly people, followed by strong losses in the broad fertility (due to the small cohorts arriving to reproduction age, new ageing, and so on).

Map 8.2

Elderly people in 2000

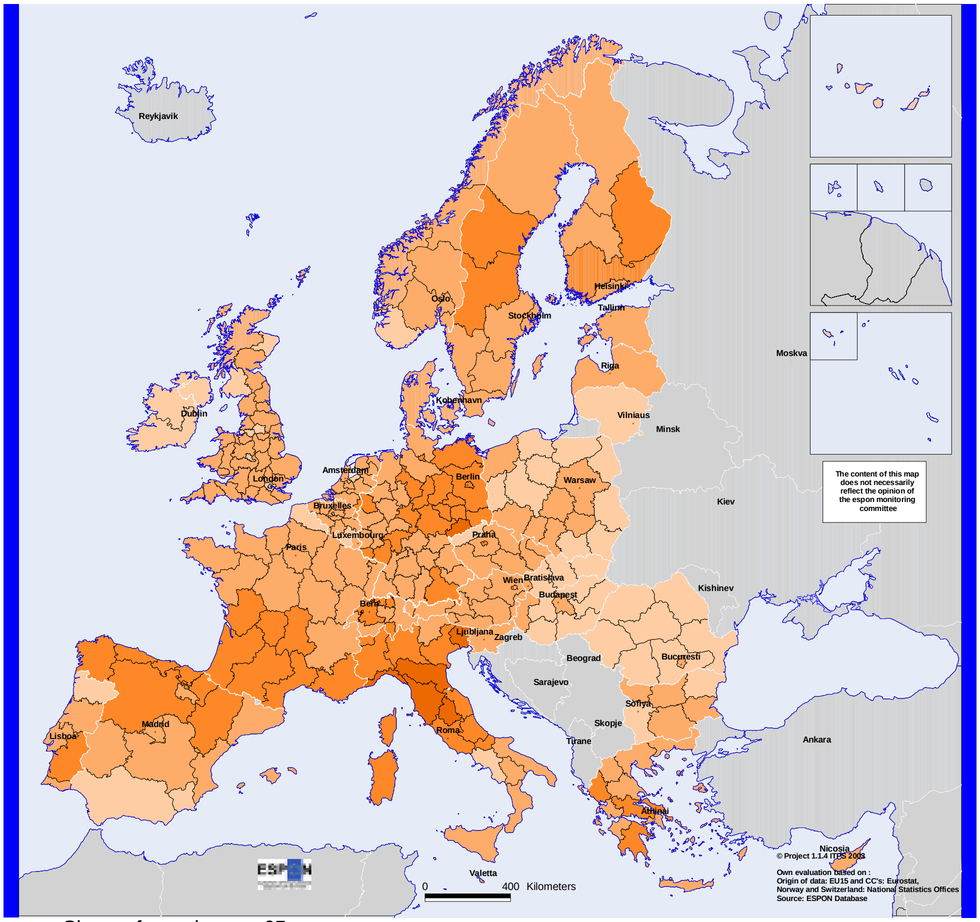


Share of people over 65 years
in the total population
%

8.86 - 13.8
13.8 - 18.8
18.8 - 23.7
23.7 - 28.7
28.7 - 33.7
33.7 - 38.9
38.9 - 43.6

Map 8.3

Elderly people in 2025, Model A

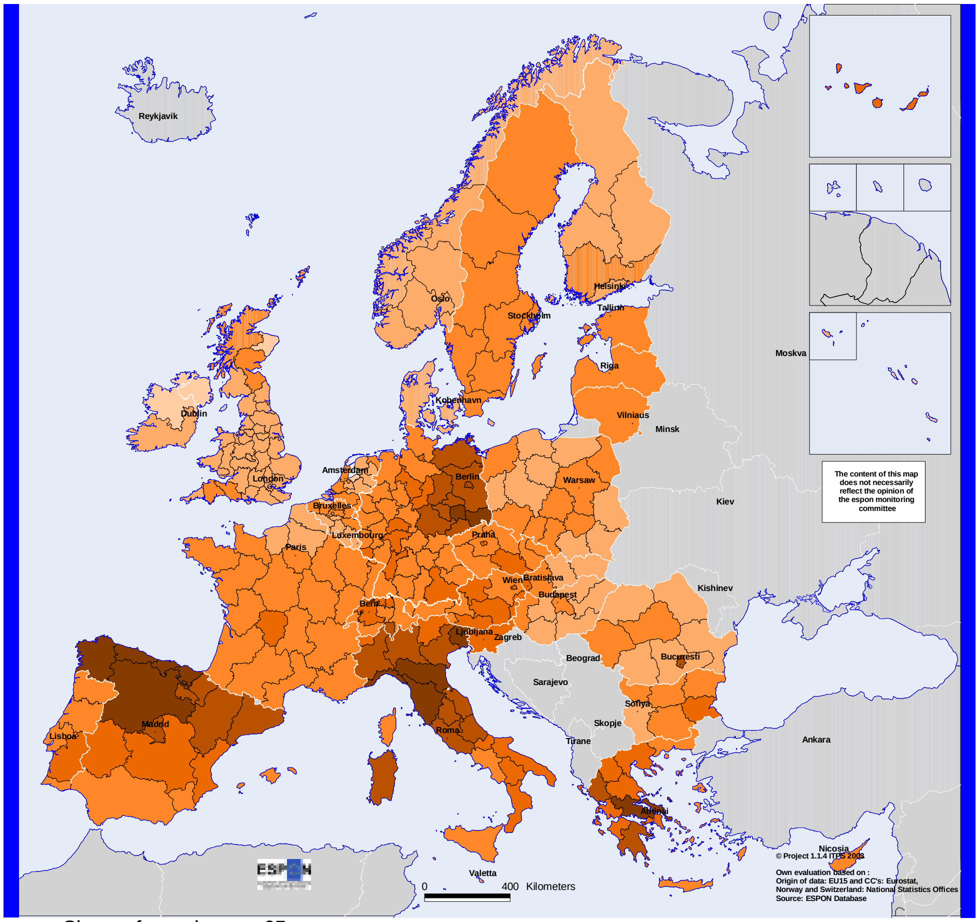


Share of people over 65 years
in the total population
%

- 8.86 - 13.8
- 13.8 - 18.8
- 18.8 - 23.7
- 23.7 - 28.7
- 28.7 - 33.7
- 33.7 - 38.9
- 38.9 - 43.6

Map 8.4

Elderly people in 2050, Model A



Share of people over 65 years
in the total population
%

- 8.86 - 13.8
- 13.8 - 18.8
- 18.8 - 23.7
- 23.7 - 28.7
- 28.7 - 33.7
- 33.7 - 38.9
- 38.9 - 43.6

8.4.2.1.3 Evolution of the Potential Support Ratio

The Potential Support Ratio (PSR) compares the number of individuals of active age (14-64 years old) in each region with the total amount of those of retirement age (65 and more years old). It is an indicator of the regional capacity to feed the social security retirement schemes.

According to present demographic trends, the PSR will strongly decline in the near future throughout Europe to a greater extent than the processes of depopulation and ageing.

Table 8.7 – Projection of the PSR evolution 2000-2025-2050 (Model A)

Region	Potential Support Ratio		
	2000	**2025**	**2050**
EU 15	**4,108**	**2,885**	**2,134**
EU 10	**5,350**	**3,531**	**2,498**
EU 4	**4,727**	**3,574**	**2,498**
EU 29	**4,308**	**3,020**	**2,210**

Source: Eurostat, model

For the current European Union countries (EU15) we have in average 4,1 workers for each retiree. Of the ten countries of the enlargement (EU10) the ratio is much better, of 5,35 persons of active age per one person of retirement age. (Table 8.7). The overall European (EU29) value in 2000 is therefore approximately 4,3.

At the end of the period in question, by 2050, the figures will be nearly half of what they are today, close to 2,1 for the countries of the EU15, and slightly smaller than 2,5 for the others. In total the number of persons of working age for each retiree hovers around 2,2.

As shown in Table 8.8, the biggest PSR in the year 2000 takes place in countries with younger population, such as Slovakia (6,04), Ireland (5,97), Cyprus (5,74), Malta (5,52) and Poland (6,61) and the lowest in those with population undergoing the ageing process such as Sweden (3,71), and others in central and southern parts of Europe as Greece (3,90), Italy (3,76), Belgium (3,92), Spain (4,07) and France (4,06).

In the year 2050, the projections of demographic trends show that all the countries will have much lower PSR values, the best value in 2050 being lower than the worst of 2000. Countries with relative high values continue to be those with young populations such as Ireland (3,22), Malta (2,92) and Romania (2,68), but also those in which the ageing process has reach an end and another demographic cycle is emerging, such as Germany (1,99), Austria (1,96), Spain (1,62), Greece (1,86), Italy (1,60) Slovenia (1,95).

The most important changes seem to be in Cyprus (where the weight in 2050 will be only 38% of the weight in 2000), Slovenia (with 39%), Spain (41%), Czech Republic (42%) and Italy (43%). On the other hand, the more stable are Norway (67%), United Kingdom and Denmark (66%), and Sweden (63%).

Table 8.8: Projection of the PSR evolution 2000-2025-2050, by country (Model A)

Country	Potential Support Ratio		
	2000	2025	2050
AT	4,370	2,919	1,959
BE	3,918	2,860	2,341
BG	4,200	3,397	2,318
CH	4,442	2,692	2,013
CY	5,739	3,111	2,176
CZ	5,044	3,251	2,144
DE	4,188	2,697	1,986
DK	4,502	3,235	2,962
EE	4,660	3,550	2,425
ES	4,074	3,003	1,652
FI	4,511	2,713	2,553
FR	4,064	2,870	2,368
GR	3,905	2,895	1,863
HU	4,672	3,655	2,854
IE	5,968	4,487	3,218
IT	3,761	2,527	1,604
LT	5,007	3,869	2,546
LU	4,677	3,189	2,781
LV	4,605	3,581	2,380
MT	5,517	3,237	2,919
NL	5,002	3,099	2,496
NO	4,244	3,243	2,836
PL	5,610	3,525	2,534
PT	4,137	3,189	2,230
RO	5,178	4,158	2,689
SE	3,712	2,737	2,330
SI	5,054	3,013	1,952
SK	6,038	4,044	2,677
UK	4,188	3,308	2,767

Source: Eurostat, model

The evolution from 2000 to 2050 is neither proportional nor with any other linear relation (Figure 8.5 and 8.7). The best linear relation adjustable to the data have a Pearson correlation coefficient of r = 0,31 for the 29 countries and r = 0,21 for the 276 regions, which means that the linear regression explains respectively 9,6% and 4,5% of the variation.

The figures show a very disperse relation between the PSR values in each year. For countries we can see that the general trend in 2050 will be about half of the value in 2000 (0,5112), and a little higher in NUT2, (0,5213).

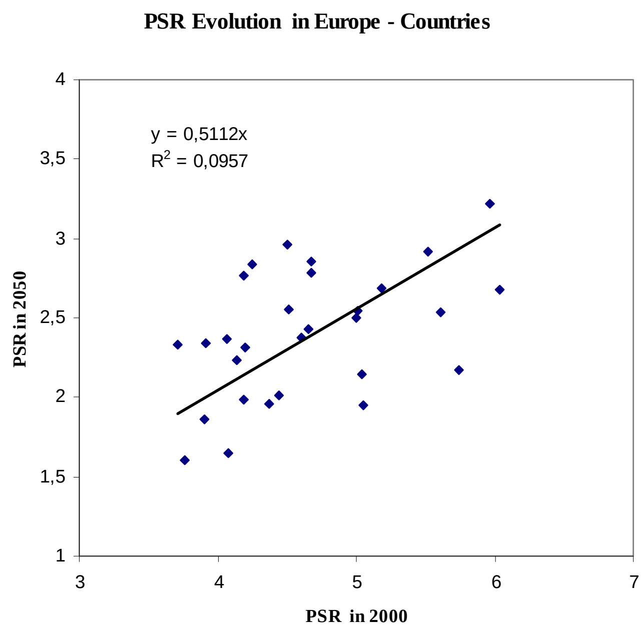


Figure 8.5 – Relation of PSR 2000 with PSR, by country (Model A)

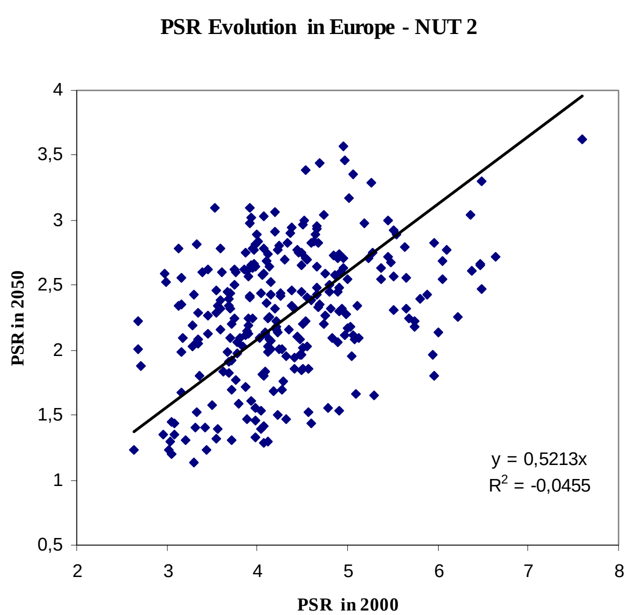
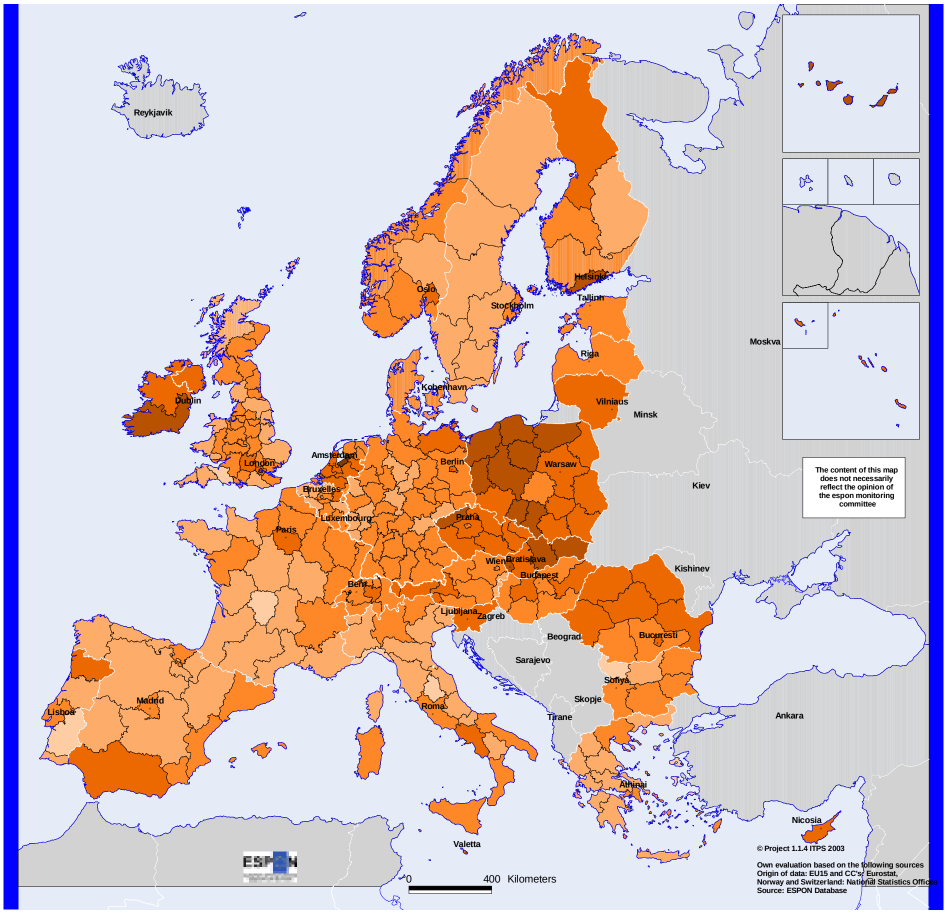


Figure 8.6 – Relation of PSR 2000 with PSR, by NUT 2 (Model A)

Regionally (by NUT2, see maps 5.5-5.7), the general decline is quite visible. However, at the same time, different spatial patterns with high values in the peripheral regions of Ireland and Scotland, Southern Norway, countries of the enlargement, along with Greece, Southern Italy and some regions of South-western NUT 2 in the Iberian Peninsula, can be discerned. That pattern generally continues until 2025, changing afterwards to another pattern where central and northern Europe has relatively higher values.

Map 8.5

Potential support ratio in 2000, Model A

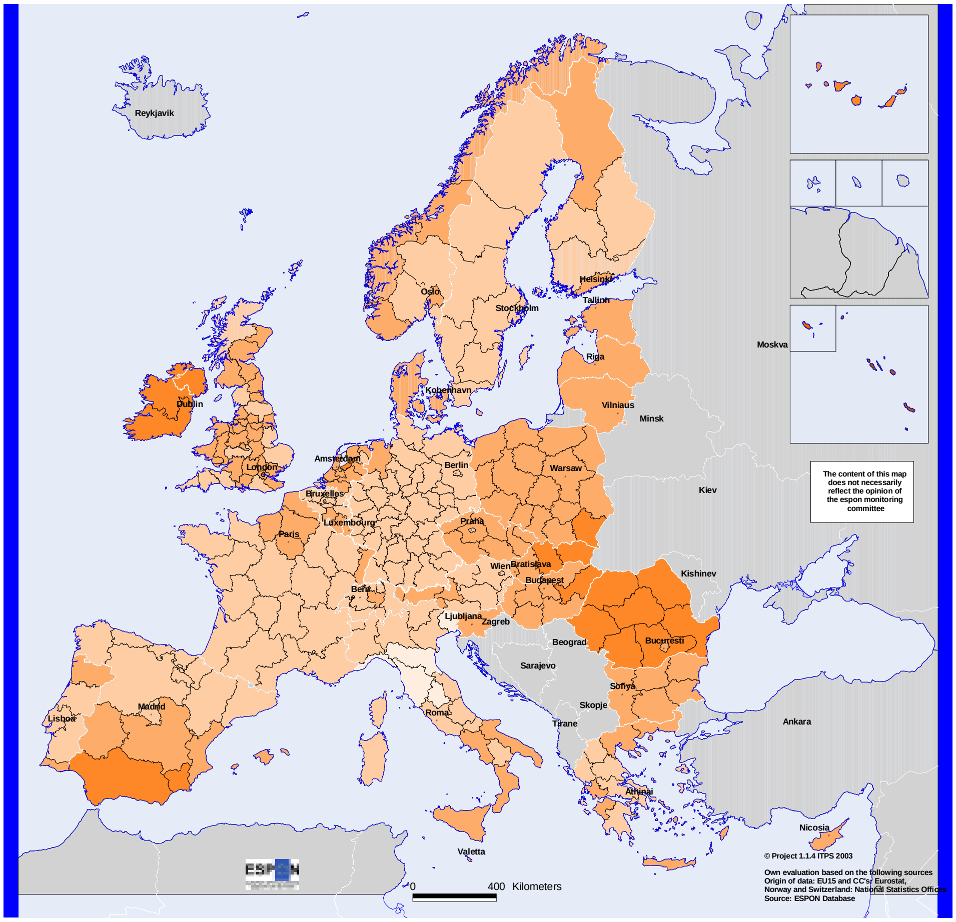


People 15-64 years/
people over 65

- 1.1 - 2.1
- 2.1 - 3
- 3 - 3.9
- 3.9 - 4.8
- 4.8 - 5.8
- 5.8 - 6.8
- 6.8 - 7.6

Map 8.6

Potential support ratio in 2025, Model A

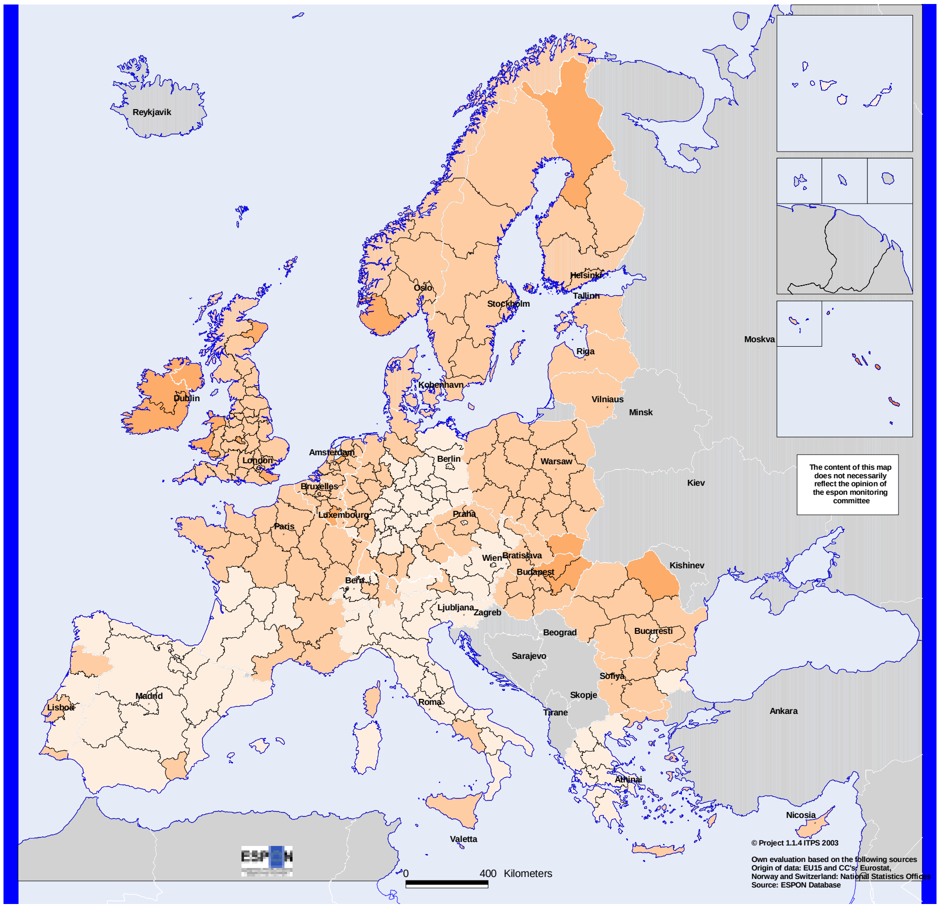


People 15-64 years/
people over 65

- 1.1 - 2.1
- 2.1 - 3
- 3 - 3.9
- 3.9 - 4.8
- 4.8 - 5.8
- 5.8 - 6.8
- 6.8 - 7.6

Map 8.7

Potential support ratio in 2050, Model A



people 15-64/
people over 65

- 1.1 - 2.1
- 2.1 - 3
- 3 - 3.9
- 3.9 - 4.8
- 4.8 - 5.8
- 5.8 - 6.8
- 6.8 - 7.6

In spite of the specific fertility and mortality rates by cohort age being the same in each region for all the models, the crude birth and mortality rates will change in time and from model to model due to the changes in the age structure of the regional population, different for each case. For comparative purposes the results of fertility and mortality in the four models will be analysed together at a later stage, followed by the migratory flows analysis, which do not apply in the ‘no migration’ model.

8.4.2.2 Preliminary results from B Models

The Type B models provide an estimate of the migratory flows needed to perform different demographic assumptions. In addition, correlative variations will tend to occur in the regional demographic structures.

8.4.2.2.1 Population

The B1 model assumes a constant total population in each country and region. Model B2 considers an equal labour force and Model B3 maintains the regional ratios of Potential Support Ratio (PSR) as a constant.

Region	Population			Annual average change (%)
	2000	2025	2050	
EU 15	376.539	389.372	401.700	0,13
EU 25	451.629	466.844	480.284	0,12
EU 29	493.878	509.327	523.973	0,12

Source: Eurostat, model

Table 8.9 - Population projections, in thousands (Model B2- constant labour force)

Region	Population			Annual average change (%)
	2000	2025	2050	
EU 15	376.539	533.836	774.822	1,45
EU 25	451.629	649.965	940.146	1,48
EU 29	493.878	704.184	1.015.428	1,45

Source: Eurostat, model

Table 8.10 - Population projections, in thousands (Model B3 - constant PSR)

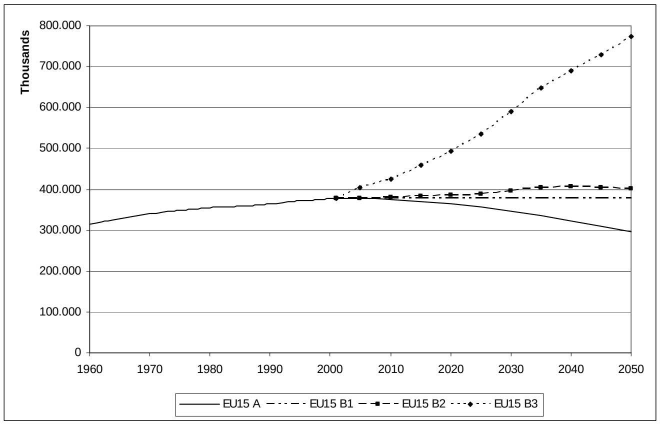
The comparison between the different forecasts provides a good deal of information. With the present demographic characteristics and without intervention of any kind (Model A) the population in the EU15 in 2050 will decline by 80 million (-21,4%); it will decline by almost 20 million (-25,8%) in the enlargement countries; and by 11 million (-26,2%) in the remaining four countries.

The B1 model assumes that each region always has the same population.

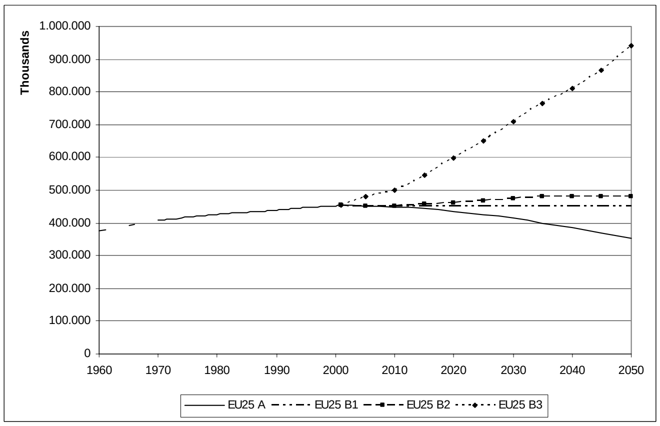
In Model B2, maintaining the same labour force in each region, the changes in total population only reflects the changes in age structure, implying a small increase of 25 million in the EU15 (6,7%), 3,5 million in the enlargement countries (4,7%), and a little less than 1,5 in the remaining four (3,4%) as illustrated in Figure 8.7.

Figure 8.7 - Population Evolution & Projection 1960-2050 (Models A, B1, B2, B3)

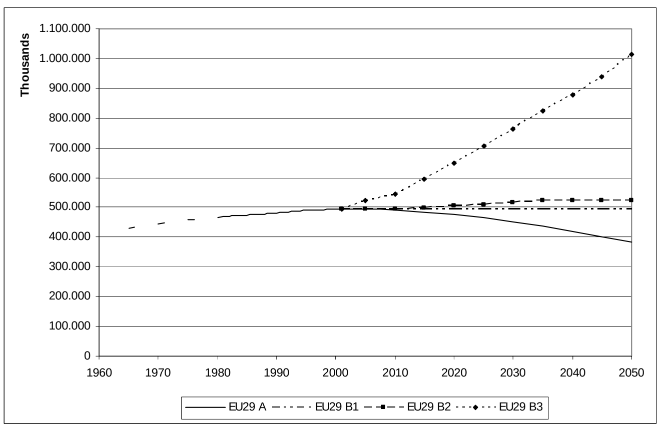
EU15



EU25



EU29



Source: Eurostat, Model

Although maintaining the present labour force levels[119] may appear somewhat realistic, given the ageing process underway in many regions of Europe, it will be impossible to maintain the Potential Support Ratio between individuals of working age and those of retirement age. Almost 400 million people will be required for the EU15 (i.e., a population increasing by more than 105% in the next 50 years); the enlargement countries (EU25-15) – will need 90 million (120 %); and the EU4 (NO, CH, RO, BG) 33 million in order to grow by 78%). Figure 8.8 presents a comparison between the results of Models A, B2 and B3, with B1 as a constant.

Table 8.11 Population projections, 1000's by countries (Model B2)

Country	Population (thousands)			Annual average change (%)
	2000	2025	2050	
AT	8.103	8.314	8.623	0,12
BE	10.239	10.511	10.626	0,07
BG	8.191	8.142	8.330	0,03
CH	7.124	7.493	7.717	0,16
CY	786	833	854	0,17
CZ	10.278	10.640	10.943	0,13
DE	82.164	85.291	87.424	0,12
DK	5.330	5.499	5.591	0,10
EE	1.439	1.430	1.448	0,01
ES	39.731	41.019	44.016	0,21
FI	5.171	5.538	5.477	0,12
FR	58.749	61.299	62.302	0,12
GR	10.554	10.893	11.467	0,17
HU	10.043	10.125	10.210	0,03
IE	3.777	3.921	4.055	0,14
IT	57.680	59.943	62.968	0,18
LT	3.699	3.635	3.709	0,01
LU	436	449	459	0,10
LV	2.424	2.377	2.400	-0,02
MT	391	425	423	0,16
NL	15.864	16.527	16.904	0,13
NO	4.479	4.562	4.639	0,07
PL	38.644	40.412	40.814	0,11
PT	10.257	10.598	11.079	0,15
RO	22.456	22.286	23.002	0,05
SE	8.862	8.986	8.978	0,03
SI	1.988	2.088	2.145	0,15
SK	5.398	5.508	5.637	0,09
UK	59.624	60.583	61.730	0,07

Source: Eurostat, model

As for national and regional values, Model B2 illustrates the future difficulties posed by age structure in relation to weight in the labour force. The pattern is evident (cf. Table 8.11). The greater difficulties will take place mainly in Southern Europe - in Spain, Italy, Cyprus, Greece, Switzerland, Malta and Portugal (between 8-10%), and Greece. The lowest values are located in Latvia, Lithuania, and Esto-

[119] One could even pose a question as to the origin of the migrants, as will be discussed later in the text.

nia (values from –1,0 to 0,6%), in Sweden (1,3%) and in Hungary, Bulgaria and Romania (1,5 to 2,5%).

Table 8.12 - Population projections, in 1000's by countries (Model B3 – constant PSR)

Country	Population (thousands)			Annual average change (%)
	2000	2025	2050	
AT	8.103	11.968	18.773	1,69
BE	10.239	13.759	16.809	1,00
BG	8.191	8.766	10.436	0,49
CH	7.124	12.288	19.740	2,06
CY	786	1.813	3.903	3,26
CZ	10.278	15.679	24.205	1,73
DE	82.164	120.036	182.690	1,61
DK	5.330	7.673	10.200	1,31
EE	1.439	1.700	2.204	0,86
ES	39.731	52.606	85.293	1,54
FI	5.171	8.925	12.096	1,71
FR	58.749	87.758	117.219	1,39
GR	10.554	13.607	20.405	1,33
HU	10.043	11.564	13.023	0,52
IE	3.777	6.200	10.845	2,13
IT	57.680	79.859	122.583	1,52
LT	3.699	4.618	6.795	1,22
LU	436	681	935	1,54
LV	2.424	2.682	3.418	0,69
MT	391	791	1.287	2,41
NL	15.864	27.741	42.942	2,01
NO	4.479	6.284	7.829	1,12
PL	38.644	65.201	91.804	1,75
PT	10.257	13.019	18.381	1,17
RO	22.456	26.882	37.277	1,02
SE	8.862	11.716	14.656	1,01
SI	1.988	3.293	5.227	1,95
SK	5.398	8.788	13.459	1,84
UK	59.624	78.288	100.997	1,06

Source: Eurostat, model

As for Model B3, Table 8.12 illustrates the difficulty in compensating for the PSR in the medium and long-term by the integration of immigrants into the regional population. The figures speak for themselves; the lower ones are, on one hand, Bulgaria, Hungary, Latvia, Estonia and Romania and, on the other, Belgium, Sweden and the United Kingdom. The higher ones are Cyprus, Malta, Ireland, Switzerland, the Netherlands and Slovenia. On one end of the spectrum, we have countries with younger populations that came together with those that, by 2050, will have already come to an end with the ageing process and, on the other end, we have countries with, at same time, a low elderly population and very low birth rates (i.e., the Baltic states, Bulgaria, Romania and Hungary) and countries in different stages (i.e., Belgium, Sweden, the United Kingdom and others where the relative dimension of the two cohorts will be balanced for different reasons). (table 8.11 and 8.12, and maps 8.8 and 8.9)

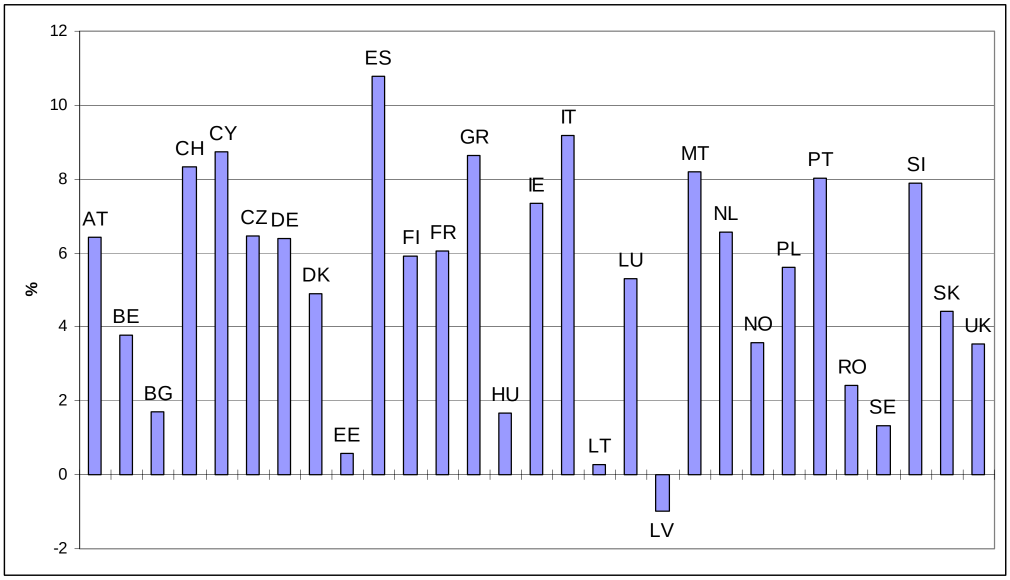


Figure 8.8 - Population Variation, 2000-2050 – Model B2

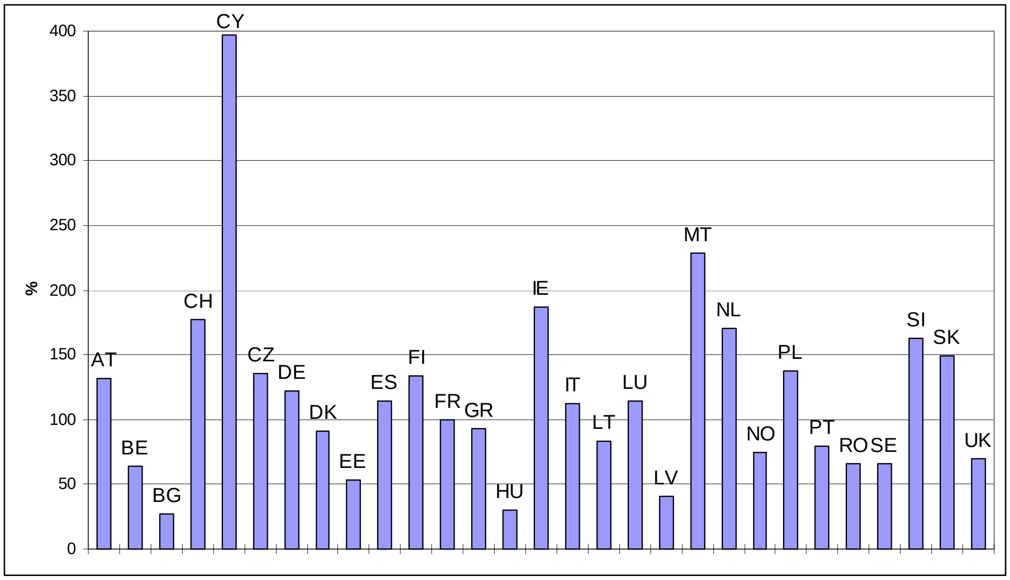
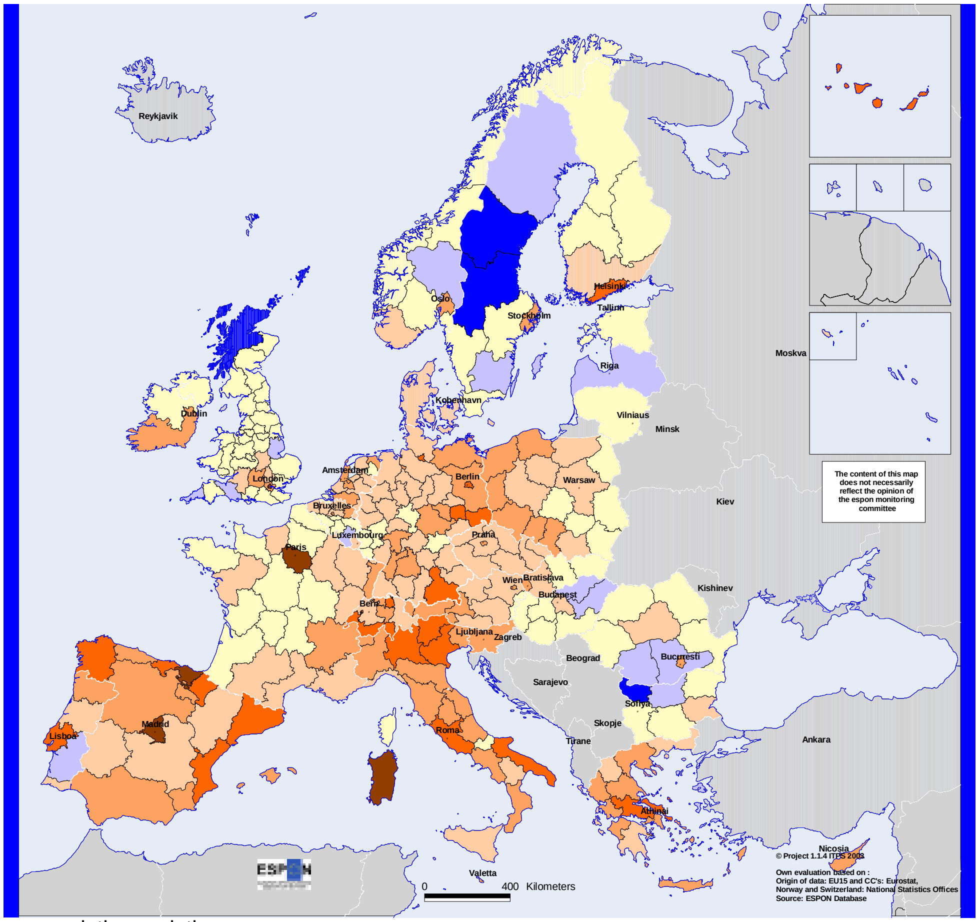


Figure 8.9 - Population Variation, 2000-2050 – Model B3

Map 8.8

Population variation, 2000-2050, Model B2

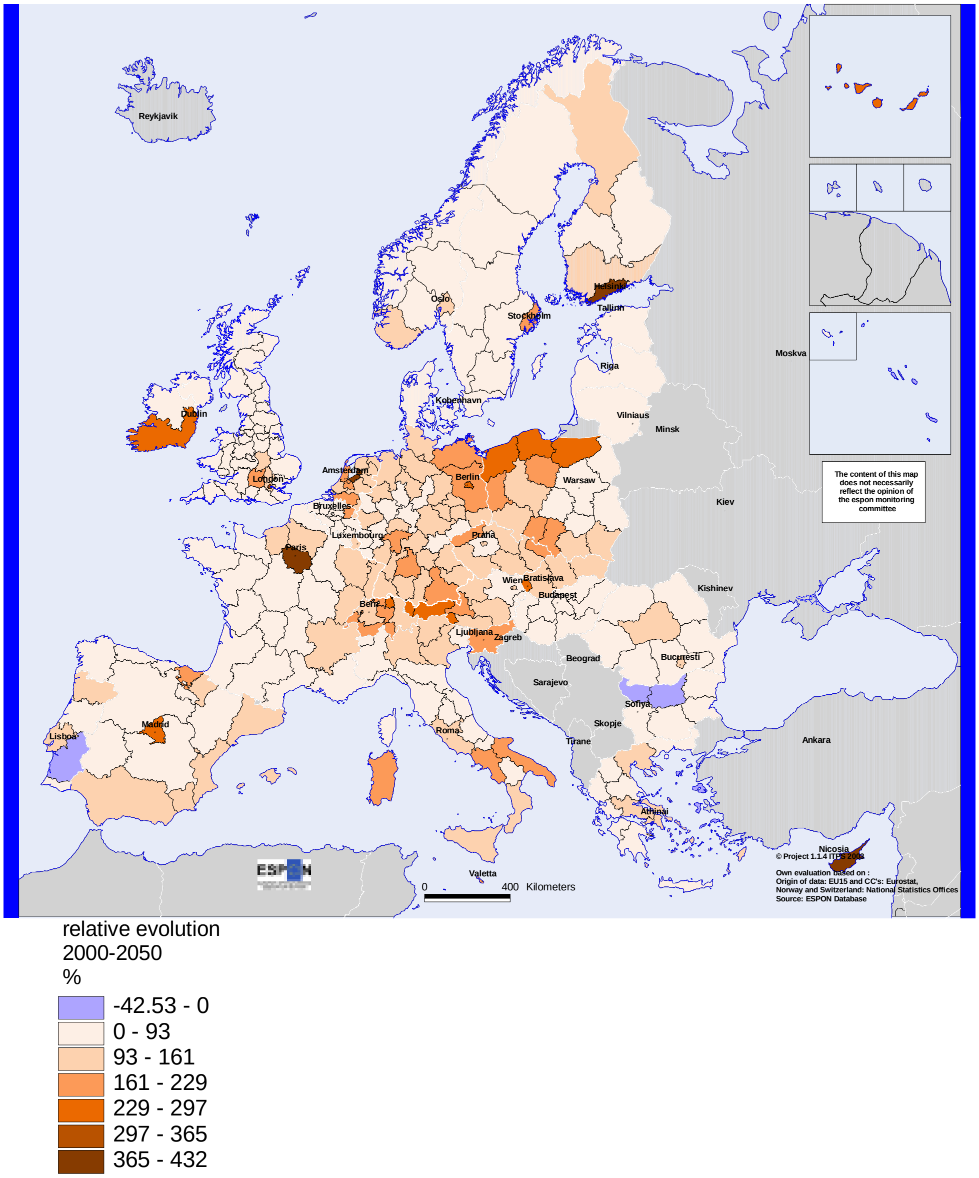


relative evolution
2000-2050
%

- -5.44 - -2.4
- -2.4 - 0
- 0 - 3.8
- 3.8 - 6.9
- 6.9 - 10
- 10 - 13.1
- 13.1 - 16.2

Map 8.9

Population variation, 2000-2050, Model B3



The variation of population implicit in Model B2 shows the changes needed to maintain the same level of labour force. Then the higher growth rates should happen in the great metropolitan areas, and in Central south Europe, especially in Iberian Peninsula (except Alentejo), Mediterranean arch of south Spain, Catalonia, south France, Italy and Greece, and also Switzerland, Germany, and western parts of the enlargement countries (map 8.8).

For Model B3, the areas with higher growth are in general those more urbanised, mainly in central Eastern Europe. In the very eldest regions, with very high rates of people in retirement rates today (like Alentejo and interior Bulgaria) will suffer from a deep depopulation process, and will have a relative decline of persons in working age (map 8.9).

8.4.2.2.2 Ageing

The ageing process will be one of the more important phenomena in the next future in Europe. As shown in the tables of Figure KL 6, the population with 65 and more years will increase, and at a very significant rate, in all the scenarios (except in the B3, which as it is based on the maintenance of the PSR ratio, keeping their weight in the population), either for the actual European Union (EU15), as well as for the EU25 and EU29.

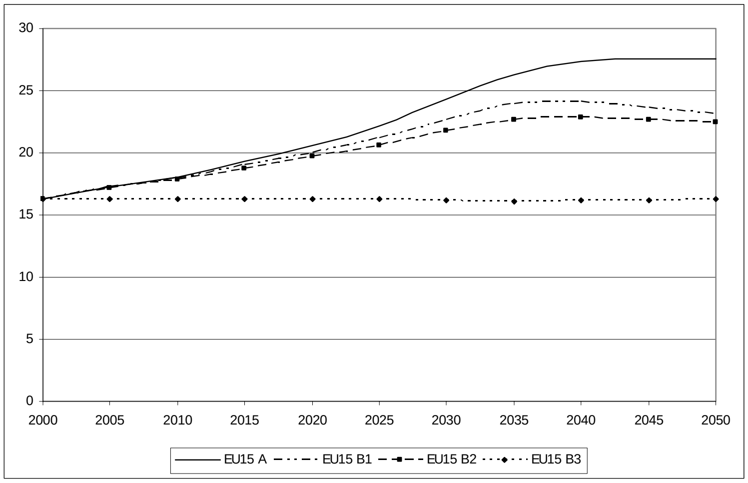
The more expansive scenario is the Model A, without migration, because the youth effect of the immigrant flows does not exist.

But even in the scenarios with more immigration, as in the case of the impressive volumes of Model B3, the ageing will be a constant. It is interesting to see the time behaviour of the ageing process that in general tends to slow down or even to stabilize by the beginning of 2040.

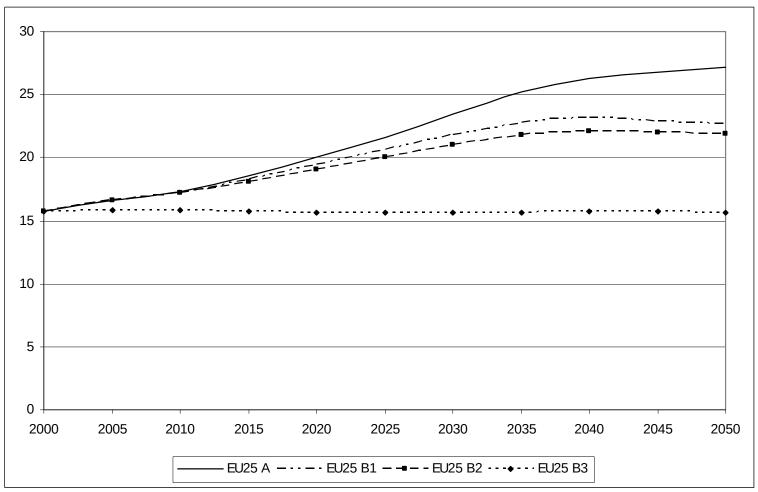
The reason for the stabilisation in the models B2 and B3 and for a slower increase of aged in Model A is based mainly on the fact that the increase of the life-expectancy, strongly present since 2000, will reach an end by the end of the thirties of the present century, and by then, the average individual lifetime will tend to be constant (of course in our models assumptions, because in reality we do not know much about the progress of the medicine in the geriatric field).

Model B1 gives always a little less aged population than the Model B2, simply because the effort needed to maintain the labour force volume is lower than that to retain the amount of total population, due to the fact of the general ageing trend, always present in the European societies at present, and in all the model forecasts.

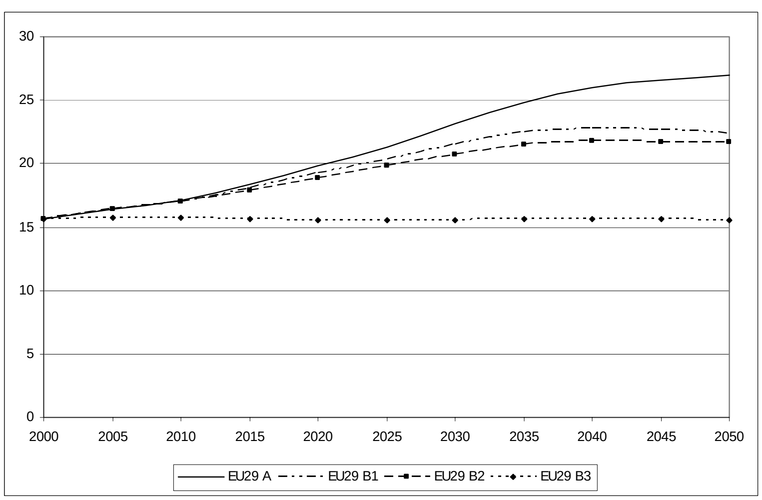
Figure 8.10 - Population with 65 and more years 2000-2050



EU15



EU25



EU29

Looking to the national results for each of the models, confirmations arrive of the main global results. Inevitably, without immigration, the ageing will be much more intense, mainly in Italy, Spain, Slovenia and Austria.

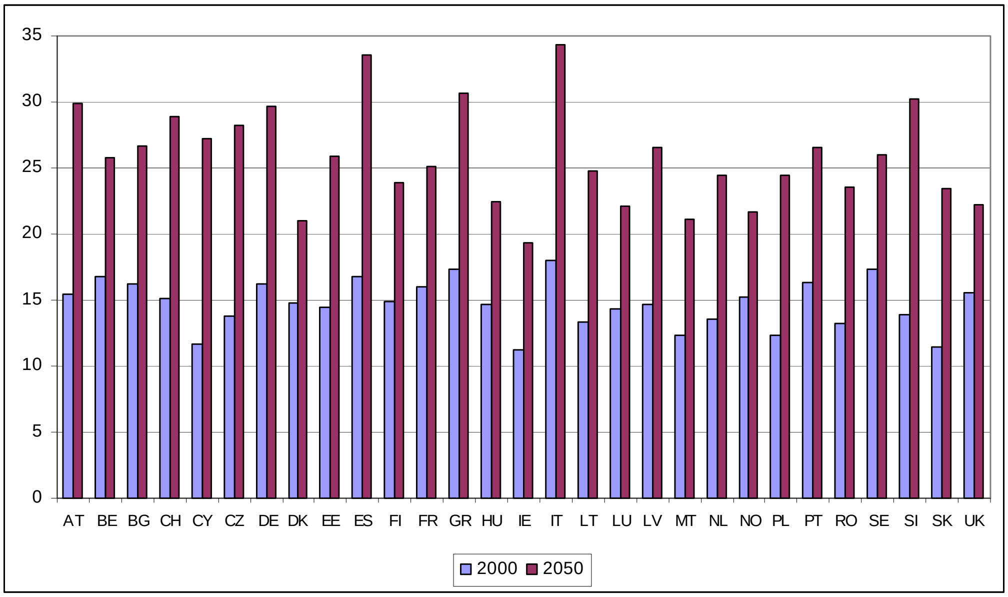


Figure 8.11 – Population with 65 and more years old (%), Model A

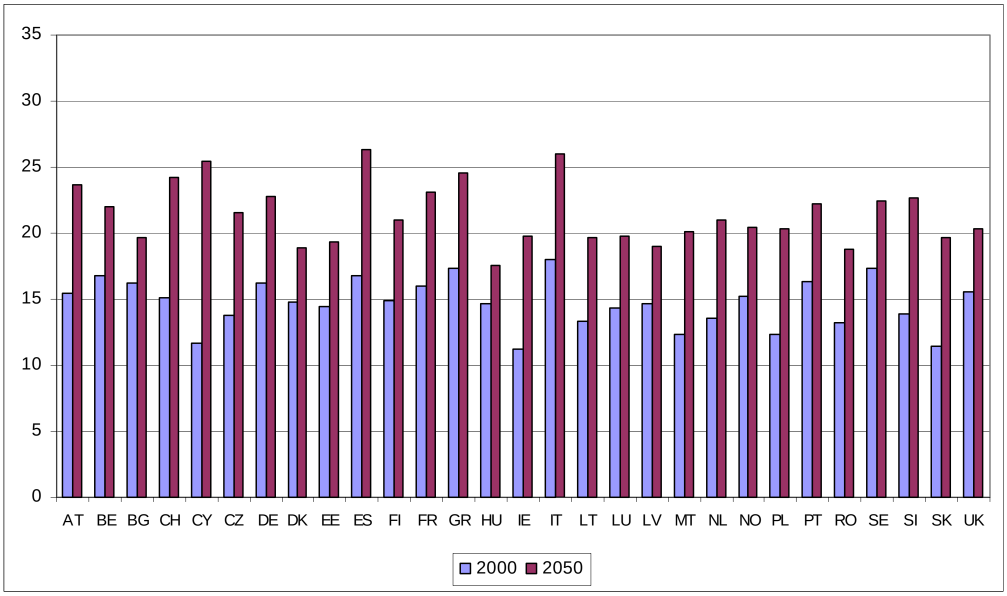


Figure 8.12 – Population with 65 and more years old (%), Model B1

The countries where the ageing trend is more intense (indicated by the results of the Model A) are Cyprus, Slovenia, Slovakia, Czech Republic, Spain, Poland, Austria and Italy. The least intense are the Nordic countries of Denmark, Norway, Sweden and United Kingdom.

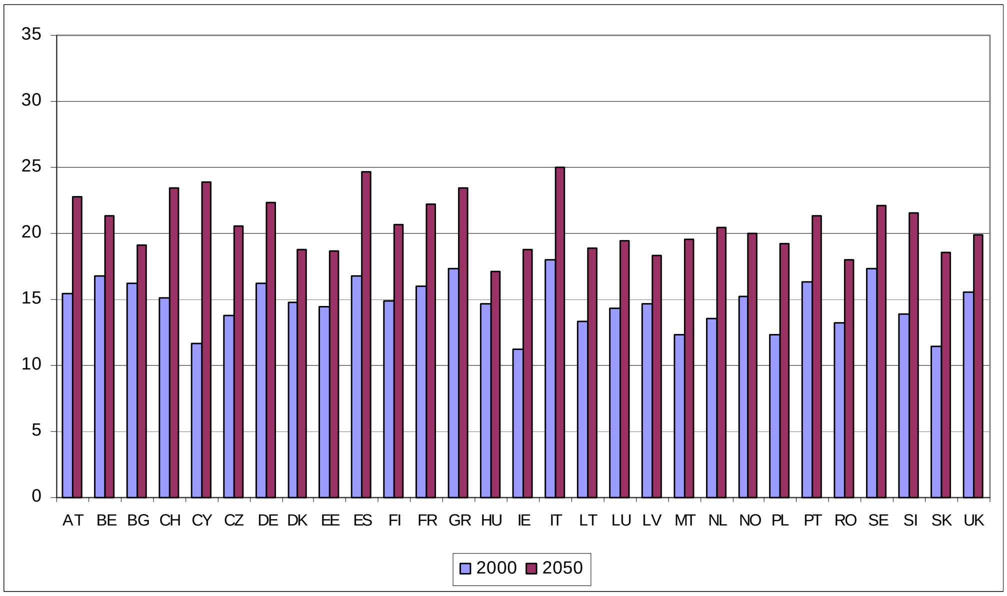


Figure 8.13 – Population with 65 and more years old (%), Model B2

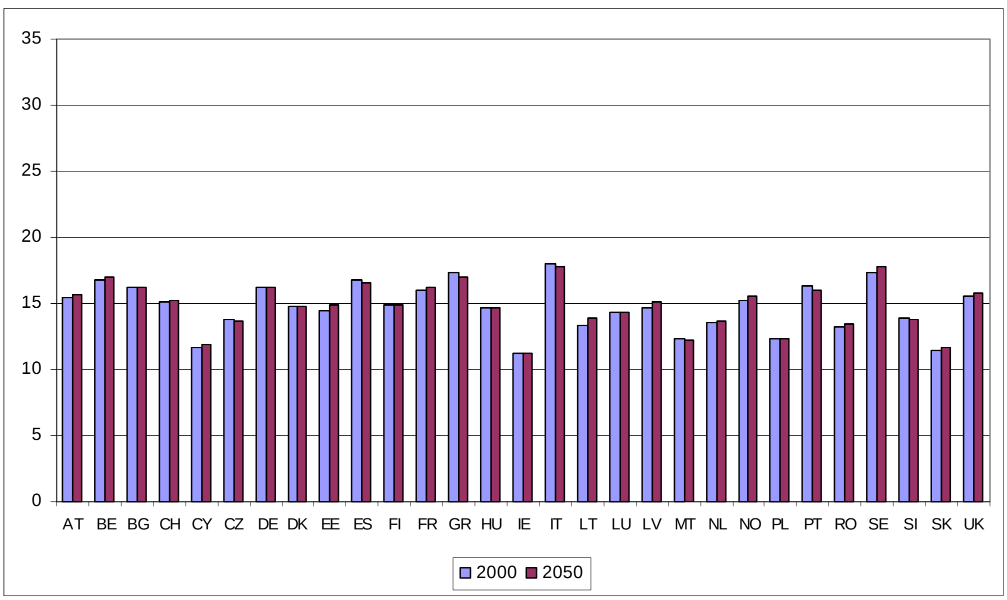
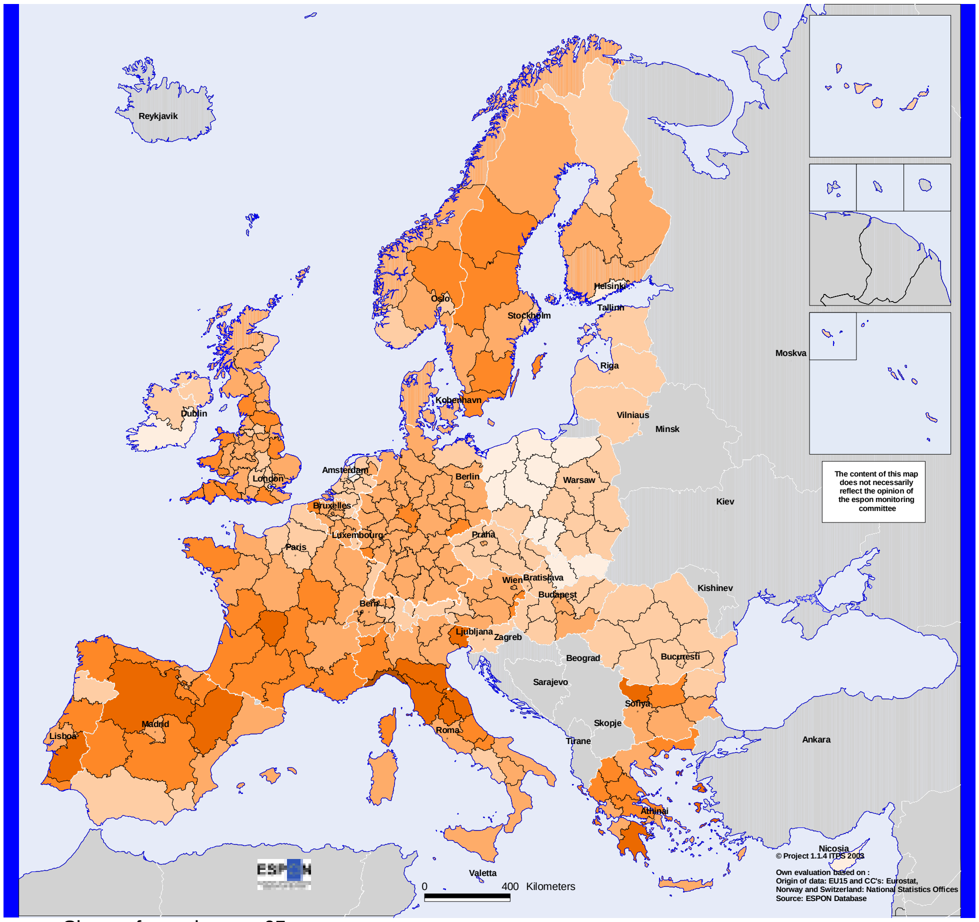


Figure 8.14 – Population with 65 and more years old (%), Model B3

Model B3 is based on the assumption of a constant PSR, Potential Support Ratio, and by that the values should be equal in 2000 and in 2050. The small differences that occur in our results came from the fact that, as a matter of accuracy, we used the aggregated regional values of NUT 2 to obtain the national ones as a result of the different trajectories that each region performs within each country.

Map 8.10

Elderly people in 2000, Model B1

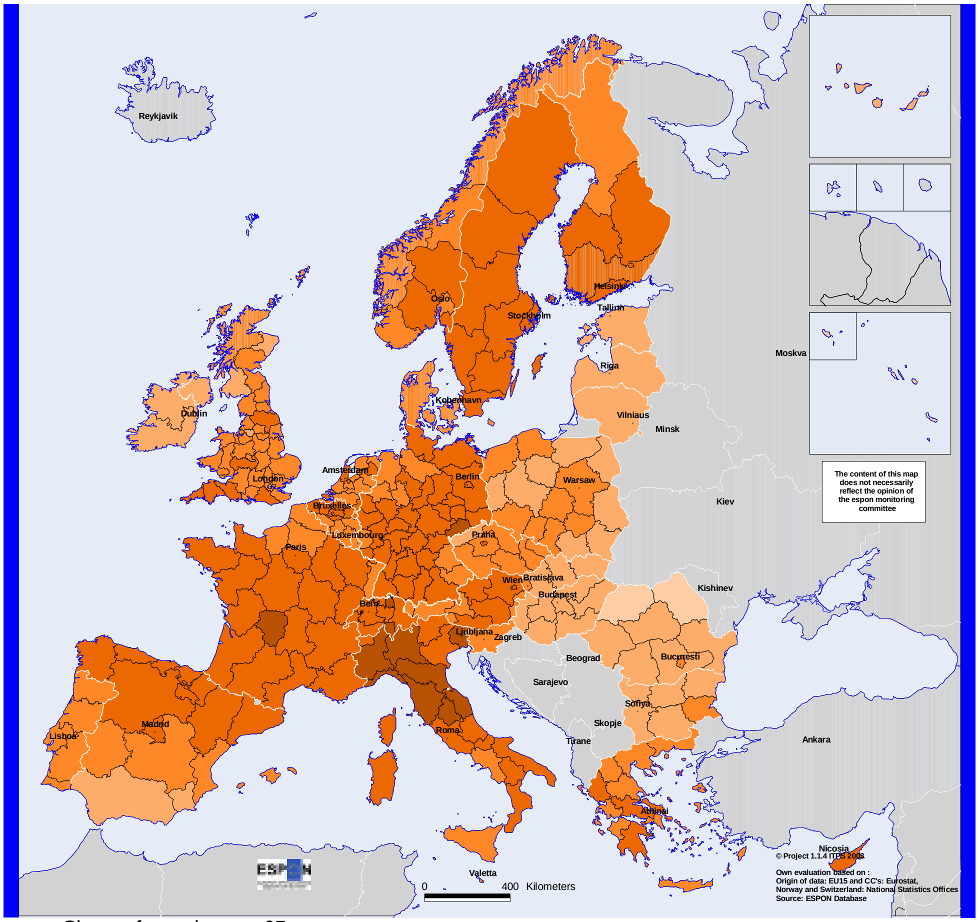


Share of people over 65 years
in the total population
%

- 8.86 - 11.8
- 11.8 - 14.8
- 14.8 - 17.8
- 17.8 - 20.8
- 20.8 - 23.8
- 23.8 - 26.8
- 26.8 - 29.8

Map 8.11

Elderly people in 2025, Model B1

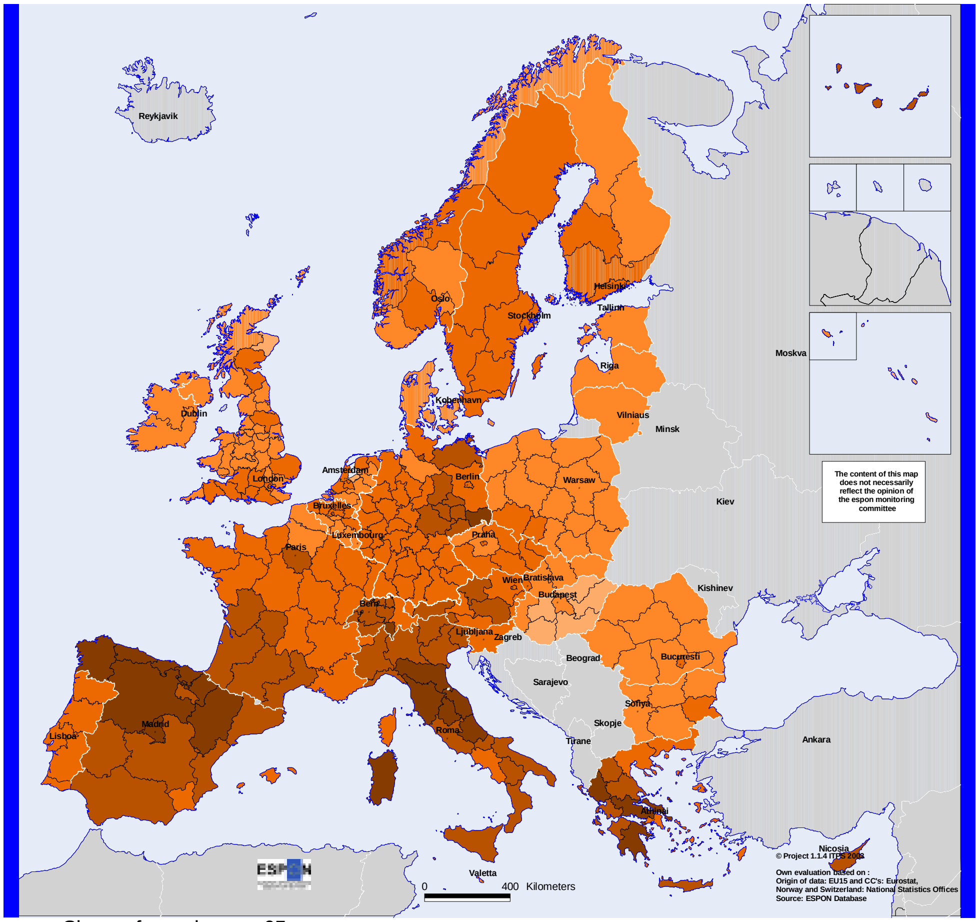


Share of people over 65 years
in the total population
%

- 8.86 - 11.8
- 11.8 - 14.8
- 14.8 - 17.8
- 17.8 - 20.8
- 20.8 - 23.8
- 23.8 - 26.8
- 26.8 - 29.8

Map 8.12

Elderly people in 2050, Model B1



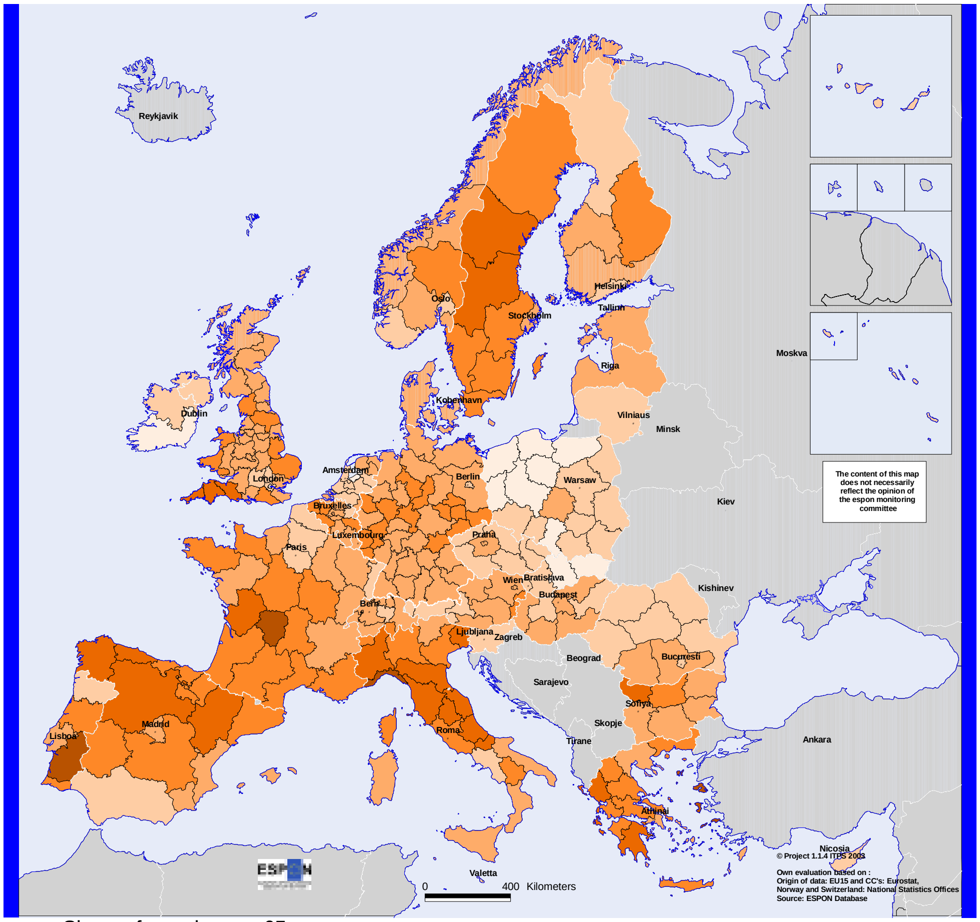
Share of people over 65 years
in the total population
%

- 8.86 - 11.8
- 11.8 - 14.8
- 14.8 - 17.8
- 17.8 - 20.8
- 20.8 - 23.8
- 23.8 - 26.8
- 26.8 - 29.8

In a preliminary analysis of NUT 2 results, we can say that the models B1 and B2 show a intense general ageing process everywhere in Europe, despite those scenarios that imply strong immigration flows, in order to complete the total population (B1) and the labour force (B2) missing in Europe, as can be compared with the Model A results.

Map 8.13

Elderly people in 2000, Model B2



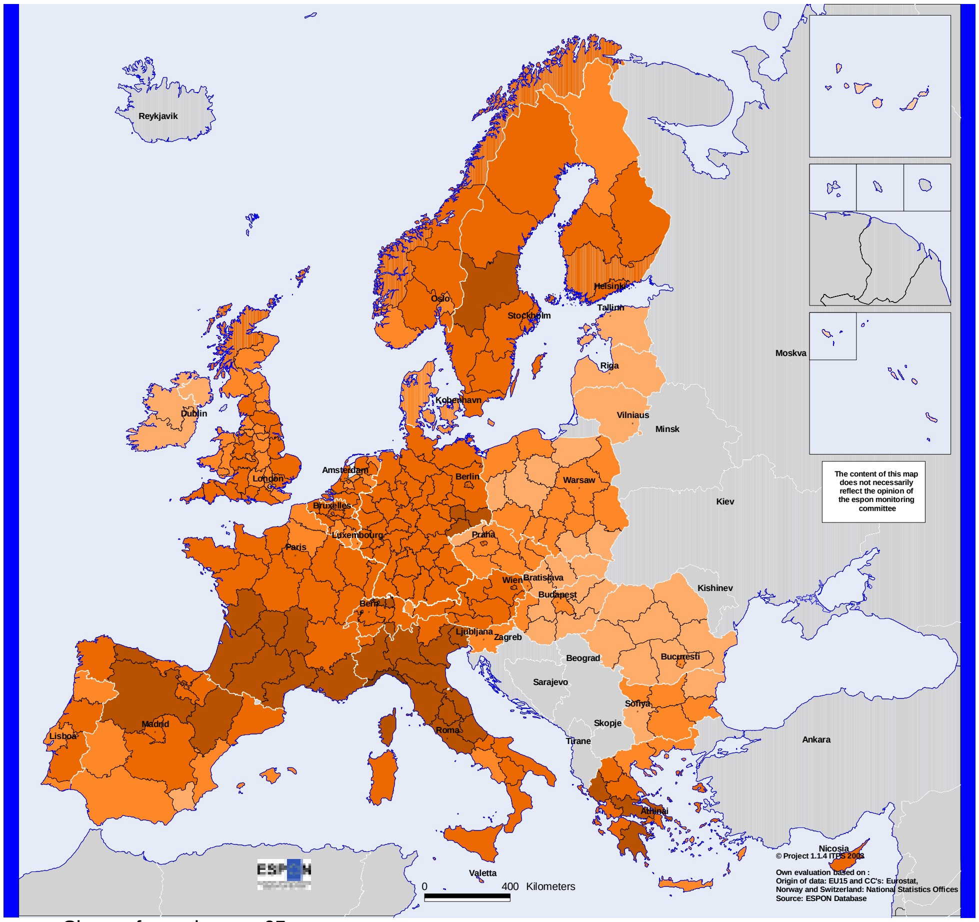
Share of people over 65 years
in the total population
%

- 8.86 - 11.5
- 11.5 - 14.2
- 14.2 - 16.9
- 16.9 - 19.6
- 19.6 - 22.3
- 22.3 - 25
- 25 - 27.8

Both model B1 and B2 show an accelerating ageing process in the south and central Europe, more evident in Greece, Italy and Spain, and in Austria, Germany /the new eastern Lander) and Switzerland. The slower regions happen to be located in Ireland, Hungary, United Kingdom, Rumania and Bulgaria (maps 5.10-5.16).

Map 8.14

Elderly people in 2025, Model B2



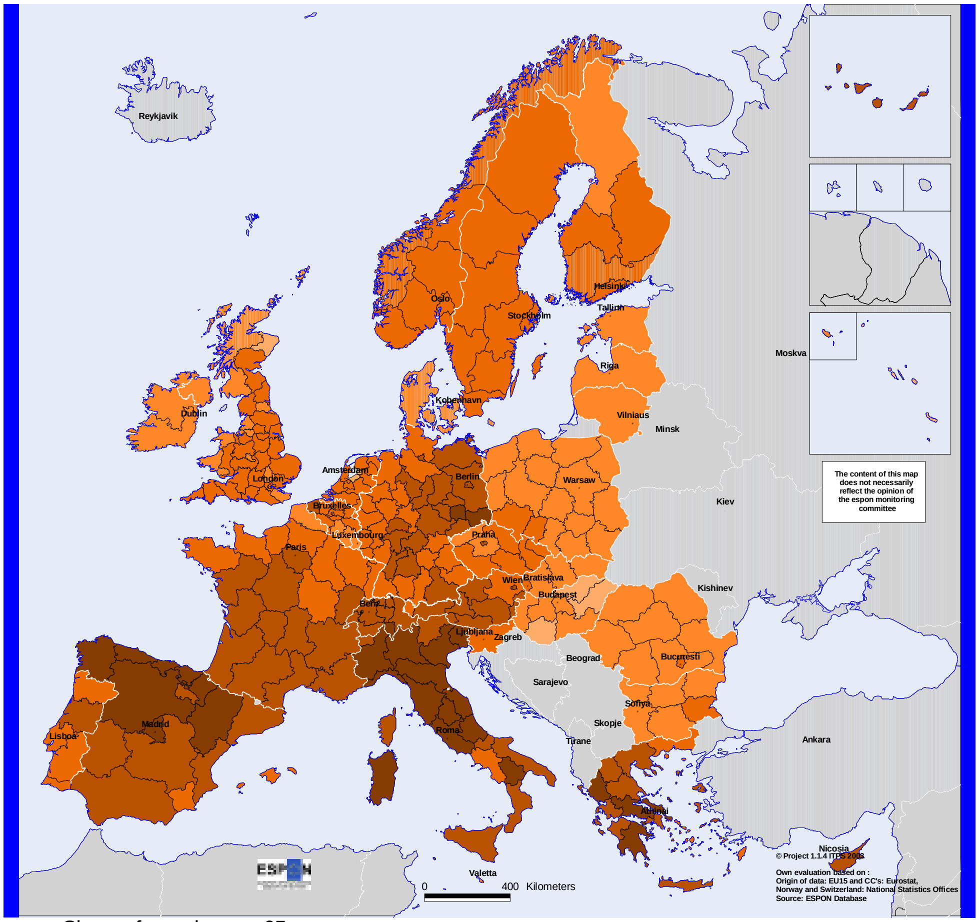
Share of people over 65 years
in the total population
%

8.86 - 11.5
11.5 - 14.2
14.2 - 16.9
16.9 - 19.6
19.6 - 22.3
22.3 - 25
25 - 27.8

The most evident distinction between the model B1 and B2 (constant population *versus* constant labour force) is that the intensity of ageing process is slightly greater in the model B1 and a change happens in the most aged NUT 2, which are Spanish in the B1 model and Italians in the B2.

Map 8.15

Elderly people in 2050, Model B2

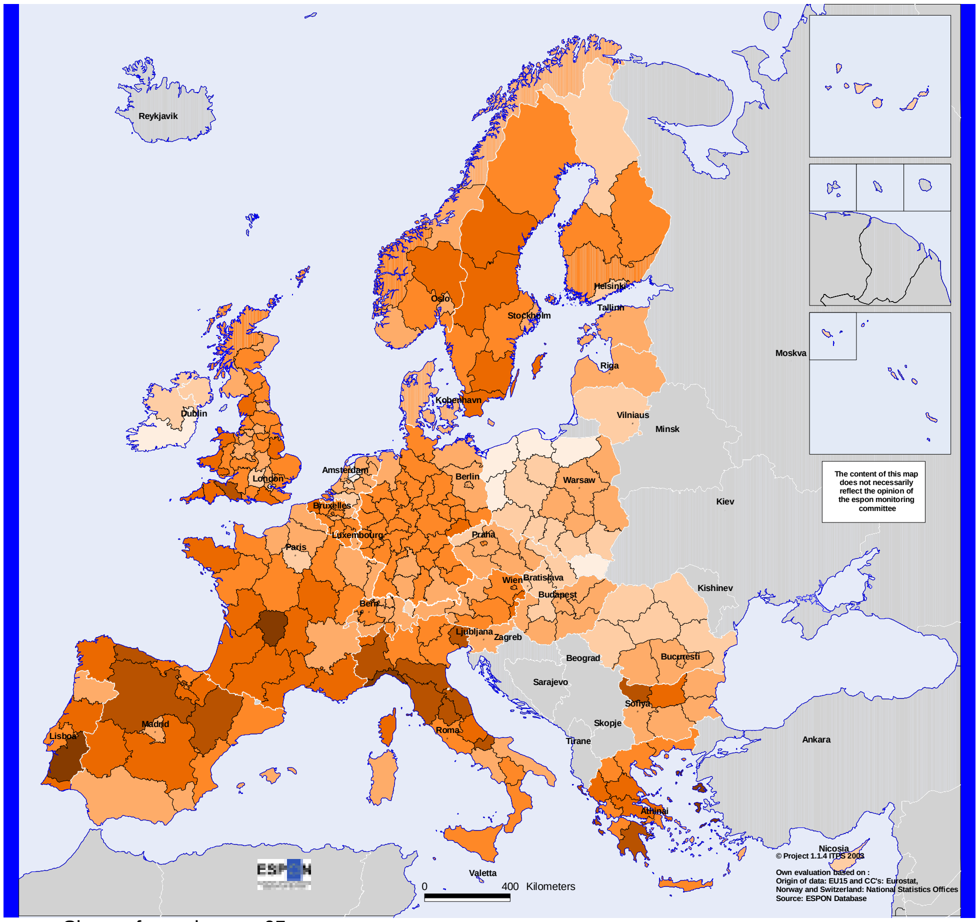


Share of people over 65 years
in the total population
%

8.86 - 11.5
11.5 - 14.2
14.2 - 16.9
16.9 - 19.6
19.6 - 22.3
22.3 - 25
25 - 27.8

Map 8.16

Elderly people in 2000, Model B3

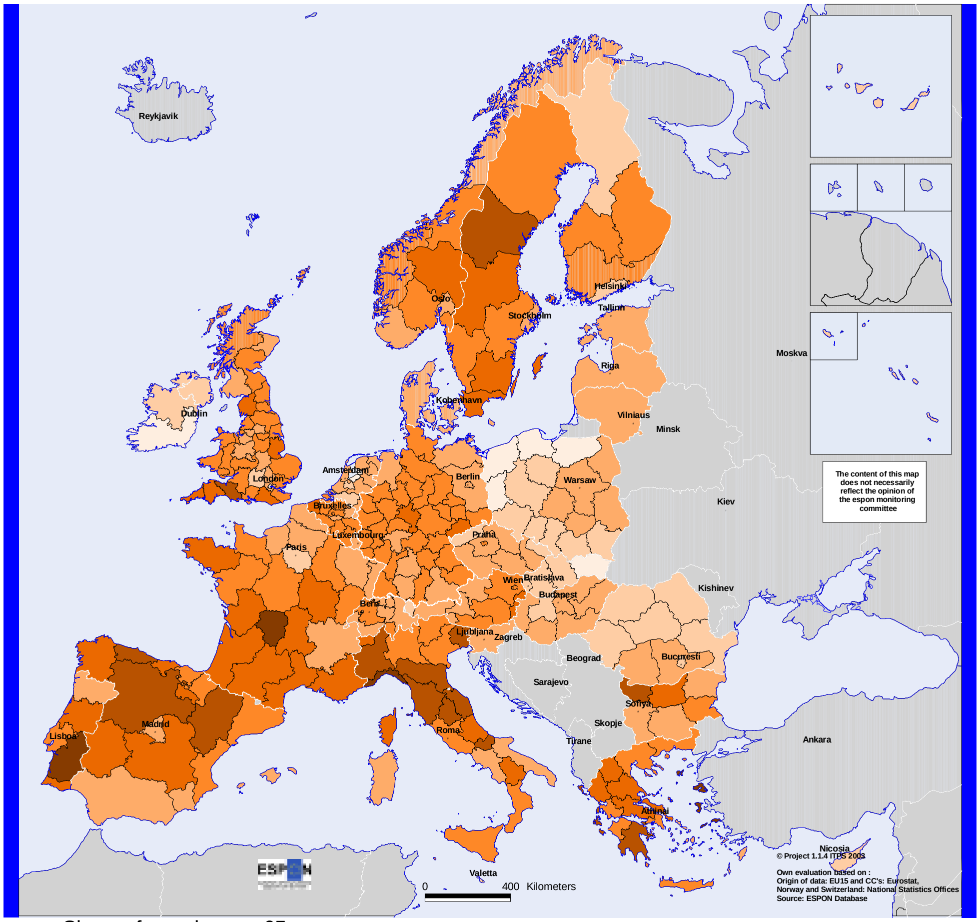


Share of people over 65 years in the total population
%

- 8.86 - 11.1
- 11.1 - 13.4
- 13.4 - 15.6
- 15.6 - 17.9
- 17.9 - 20.2
- 20.2 - 22.4
- 22.4 - 24.7

Map 8.17

Elderly people in 2025, Model B3

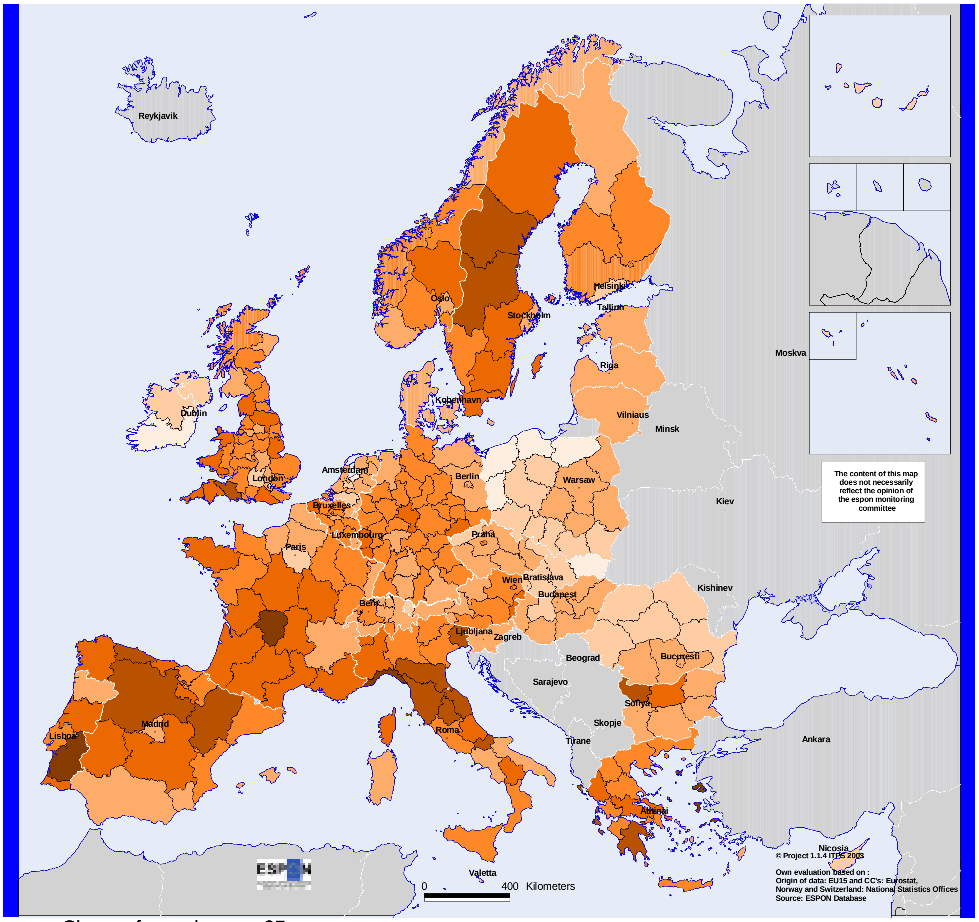


Share of people over 65 years
in the total population
%

- 8.86 - 11.1
- 11.1 - 13.4
- 13.4 - 15.6
- 15.6 - 17.9
- 17.9 - 20.2
- 20.2 - 22.4
- 22.4 - 24.7

Map 8.18

Elderly people in 2050, Model B3



Share of people over 65 years
in the total population
%

8.86 - 11.1
11.1 - 13.4
13.4 - 15.6
15.6 - 17.9
17.9 - 20.2
20.2 - 22.4
22.4 - 24.7

8.4.2.2.3 Evolution of the Potential Support Ratio (PSR)

The PSR will also decrease in a very intense way. The main trend, illustrated by the results of model A, shows that the number of working age individuals for each one in retirement age will fall almost to half of what it is today. The models B1 and B2 show a less intense fall, because of the benefice effect of the new comers, which meanwhile arrived in Europe, but the figures continue to reveal a very worrying situation. In the Europe of 29, the ratio goes from 4,31 in 2000 to 2,80 and 2,93 in 2050.

Table 8.13 – Evolution of the Potential Support Ratio (PSR) in Europe

EU15	**Scenarios**			
	A	**B1**	**B2**	**B3**
2000	**4,11**	**4,11**	**4,11**	**4,11**
2025	**2,88**	**3,04**	**3,14**	**4,12**
2050	**2,13**	**2,68**	**2,80**	**4,13**

EU25	**Scenarios**			
	A	**B1**	**B2**	**B3**
2000	**4,27**	**4,27**	**4,27**	**4,27**
2025	**2,98**	**3,15**	**3,24**	**4,30**
2050	**2,19**	**2,76**	**2,89**	**4,31**

EU29	**Scenarios**			
	A	**B1**	**B2**	**B3**
2000	**4,31**	**4,31**	**4,31**	**4,31**
2025	**3,02**	**3,20**	**3,29**	**4,33**
2050	**2,21**	**2,80**	**2,93**	**4,34**

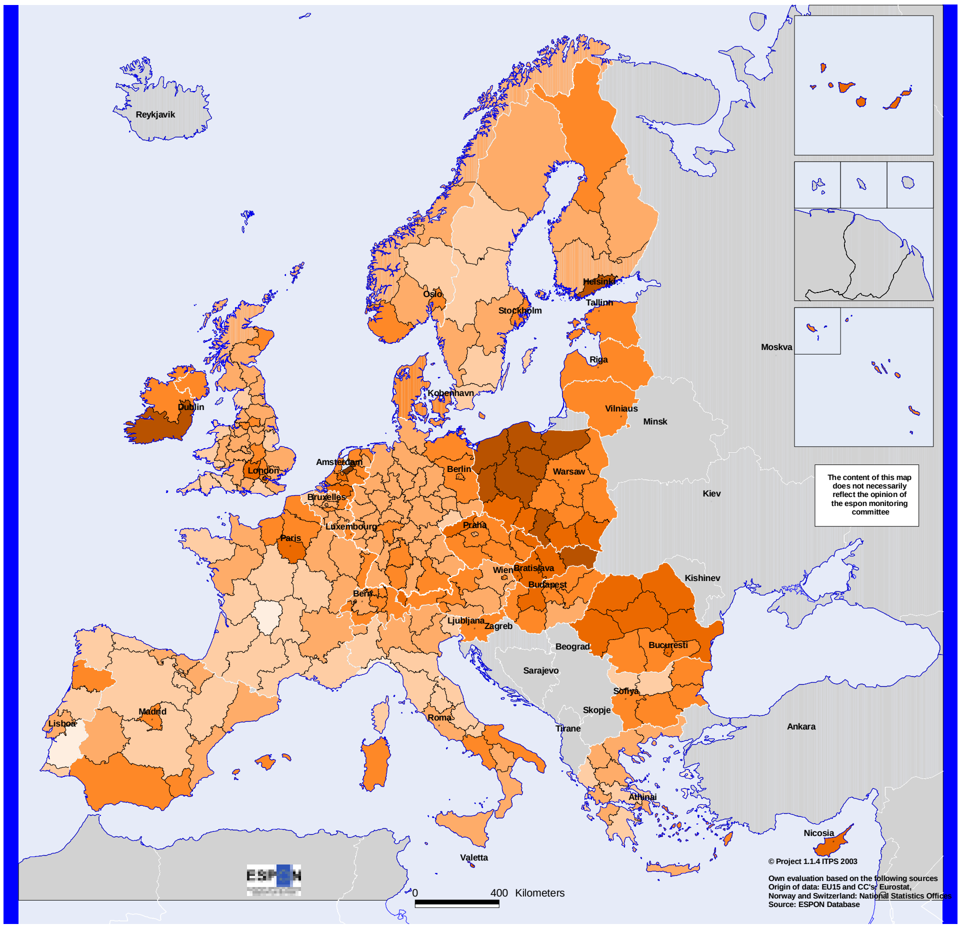
In all those models, the evolution from 2000 to 2050 is neither proportional nor with any other linear relation, as already shown with the Model A results.

The two models B1 and B2 give similar results to 2025 and 2050. Geographically, strong differences exist between countries and regions (maps 8.19-8.24). At starting time of 2000, the best values of PSR are located in Ireland and southeast Spain, and in the eastern border of EU29, in Poland, north of Rumania, the Baltic countries and South Finland. In 2050 all the values decrease greatly, and at same time, the relative positions of the regions change as well. The best PSR will be by then in the Hungarian regions and the western part of Romania and Latvia.

Regional estimations for model B3 have been made. The results are so remarkable that we have chosen not to publish them in this interim report. We will calculate the regional estimations again to control if the results really are possible, and the results will be published in the Final Report.

Map 8.19

Potential support ratio in 2000, Model B1

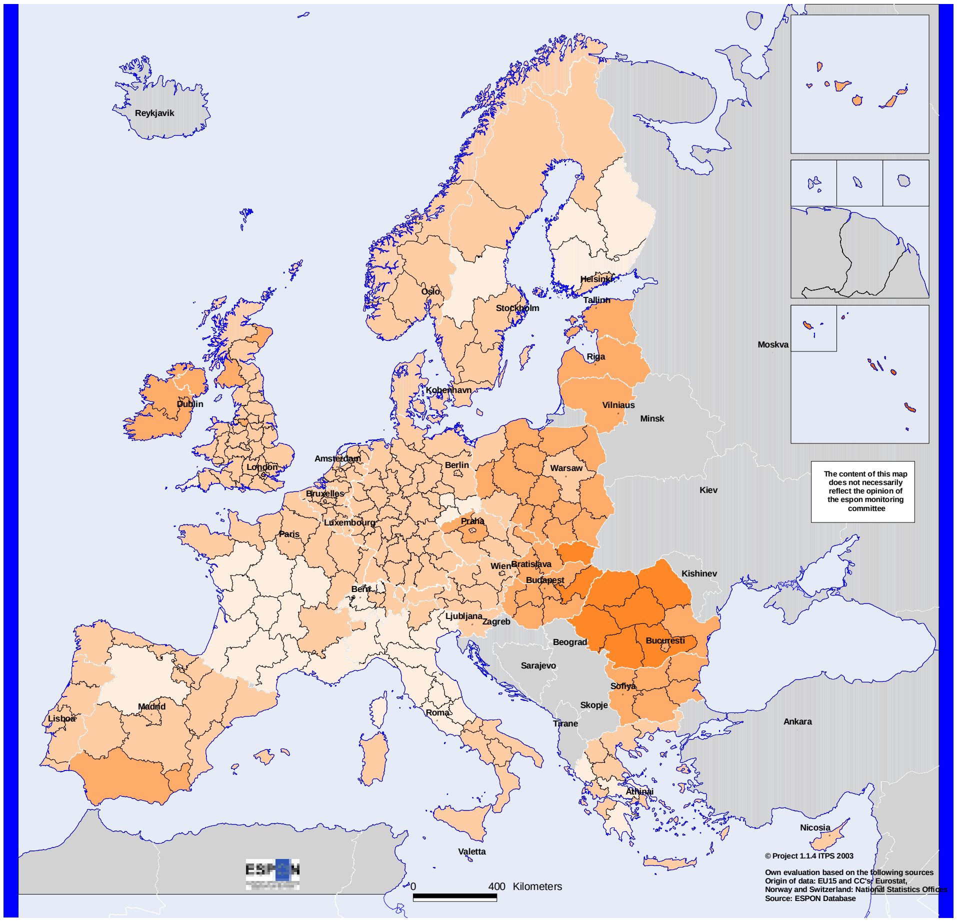


people 15-64/
people over 65

- 1.9 - 2.8
- 2.8 - 3.6
- 3.6 - 4.4
- 4.4 - 5.2
- 5.2 - 6
- 6 - 6.8
- 6.8 - 7.6

Map 8.20

Potential support ratio in 2025, Model B1

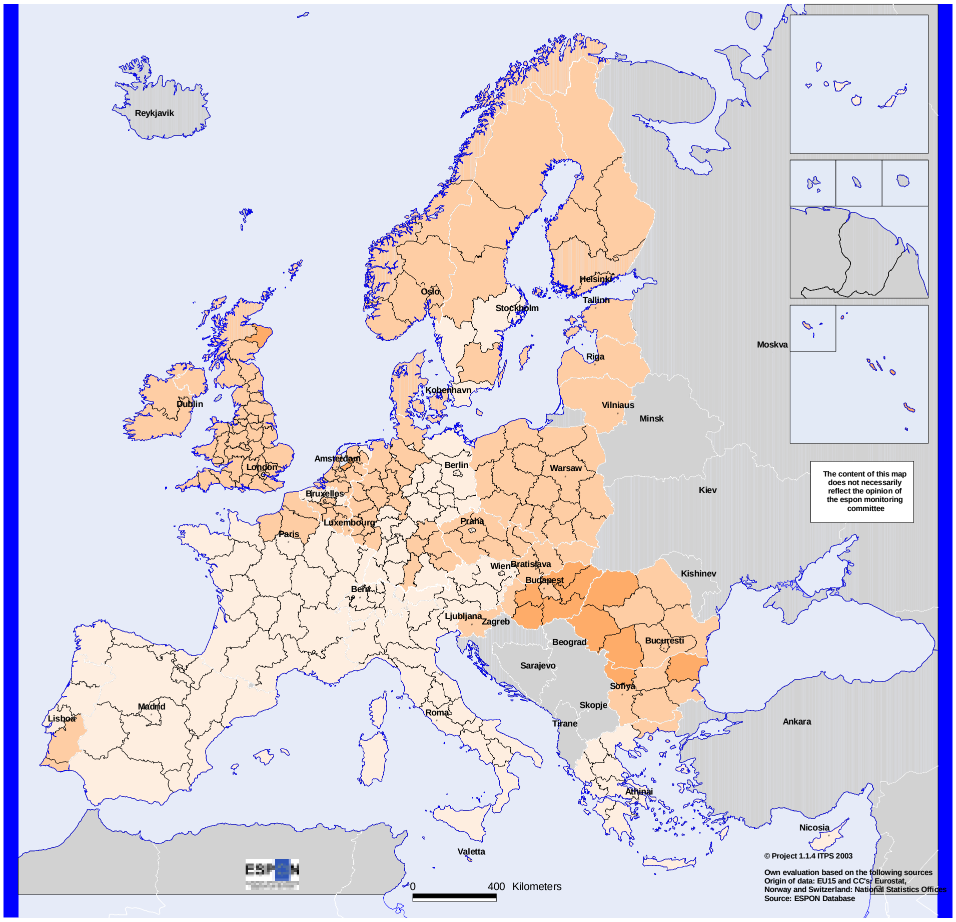


people 15-64/
people over 65

- 1.9 - 2.8
- 2.8 - 3.6
- 3.6 - 4.4
- 4.4 - 5.2
- 5.2 - 6
- 6 - 6.8
- 6.8 - 7.6

Map 8.21

Potential support ratio in 2050, Model B1

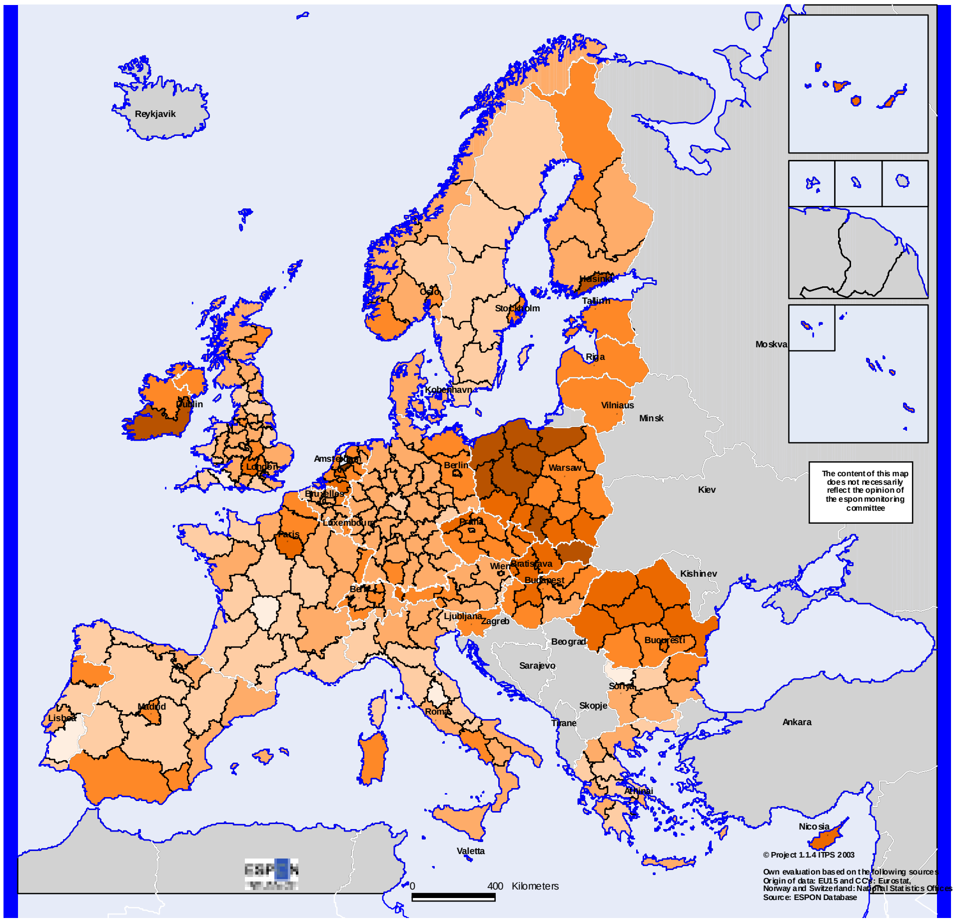


people 15-64/
people over 65

- 1.9 - 2.8
- 2.8 - 3.6
- 3.6 - 4.4
- 4.4 - 5.2
- 5.2 - 6
- 6 - 6.8
- 6.8 - 7.6

Map 8.22

Potential support ratio in 2000, Model B2

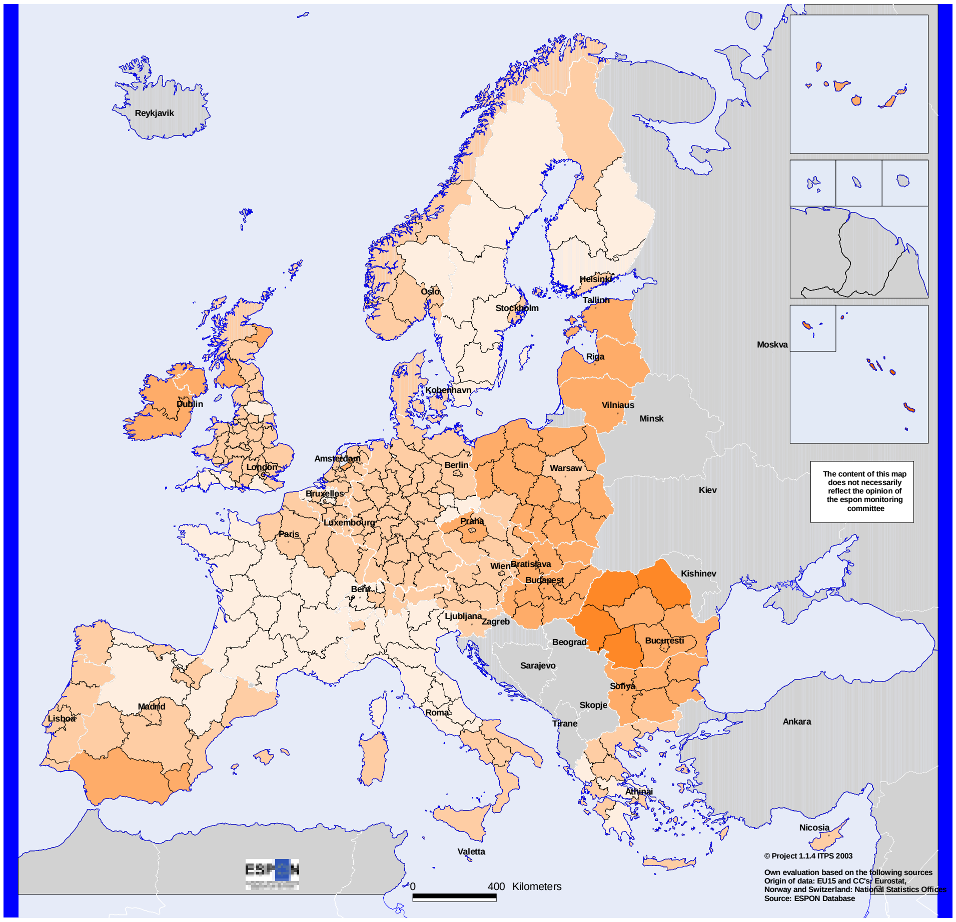


People 15-64 years/
people over 65

- 2.1 - 3
- 3 - 3.7
- 3.7 - 4.5
- 4.5 - 5.2
- 5.2 - 6
- 6 - 6.8
- 6.8 - 7.6

Map 8.23

Potential support ratio in 2025, Model B2

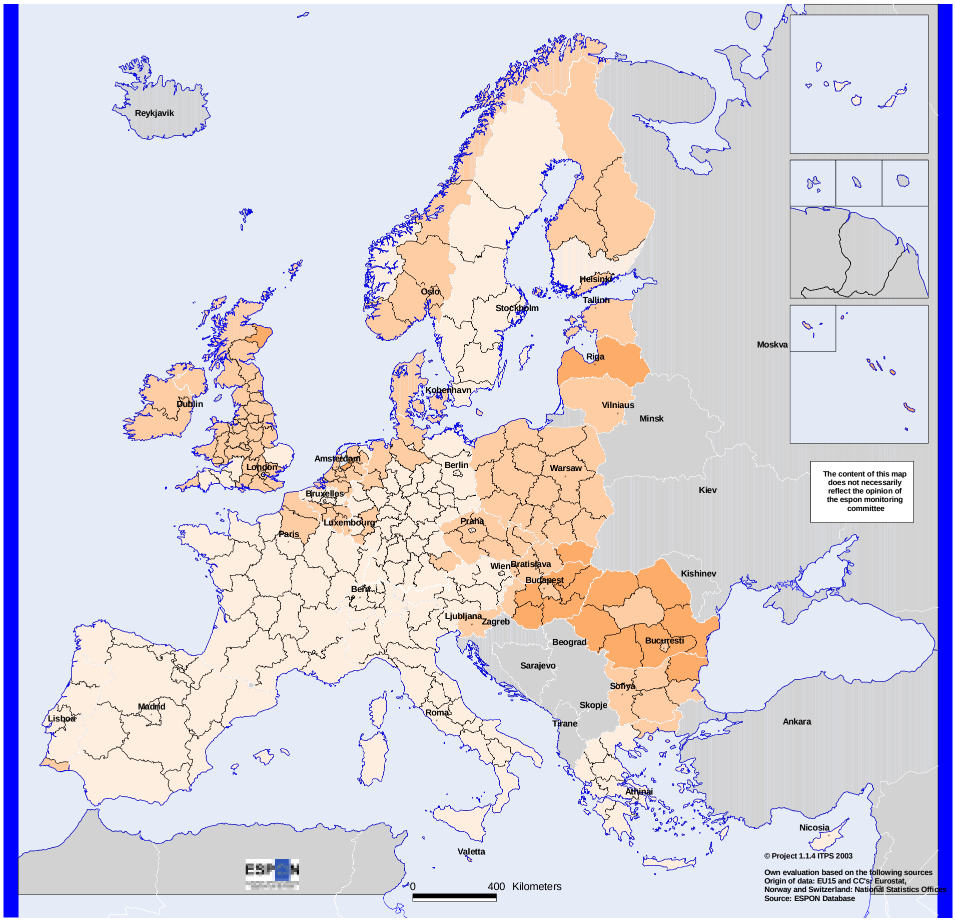


People 15-64 years/
people over 65

- 2.1 - 3
- 3 - 3.7
- 3.7 - 4.5
- 4.5 - 5.2
- 5.2 - 6
- 6 - 6.8
- 6.8 - 7.6

Map 8.24

Potential support ratio in 2050, Model B2



People 15-64 years/
people over 65

- 2.1 - 3
- 3 - 3.7
- 3.7 - 4.5
- 4.5 - 5.2
- 5.2 - 6
- 6 - 6.8
- 6.8 - 7.6

8.5 Concluding remarks

In this preliminary report is yet too soon to give definitive conclusions, but with the results of the various models presented, a general shape of the near future begins to appear. A strong ageing increase and even larger PSR decreases are the main conclusions. With *which* intensity levels in *what* regions, are the main questions to be answered. Meanwhile it will be convenient to see the behaviour of other important demographic variables.

8.5.1 Fertility

In all the models the same specific birth rates are assumed. Thus, the differences that appear are a result from the initial differences between the regions and the diverse evolution of each population age structure. The small differences shown by the models should be considered as an indicator of larger trends that are present and will act in each region. It is important to note that the crude birth rates for the ten enlargement countries are clearly smaller than those of the present European Union 15 countries.

The European immigration need is more urgent in the Candidate Countries than in the present 15 member states. This fact will sooner or later put the problem of the destination of the needed immigration on the political agenda.

Table 8.14 – Crude Birth Rate in Europe

EU15	**Scenarios**			
	A	**B1**	**B2**	**B3**
2000	**11,07**	**11,07**	**11,07**	**11,07**
2025	**9,26**	**9,11**	**9,19**	**10,42**
2050	**9,20**	**9,28**	**9,45**	**11,07**

EU25	**Scenarios**			
	A	**B1**	**B2**	**B3**
2000	**10,82**	**10,82**	**10,82**	**10,82**
2025	**9,26**	**9,13**	**9,23**	**10,38**
2050	**9,11**	**9,23**	**9,37**	**10,71**

EU29	**Scenarios**			
	A	**B1**	**B2**	**B3**
2000	**10,77**	**10,77**	**10,77**	**10,77**
2025	**9,24**	**9,11**	**9,21**	**10,32**
2050	**9,07**	**9,19**	**9,34**	**10,66**

Another thing is that the Model A will suffer a bigger reduction in the crude birth rate than the other three models will. The model shows the effect of immigration flows in the population in the increase of the number of births, as is very well illustrated by the results of model B3. It should be empathised that in all the periods, the model B1 tends to give values smaller than the Model B2, which shows, the importance of the migration of labour force *versus* total population.

8.5.2 Mortality

As occurs in relation to fertility, all the models assume the same specific regional mortality rates during the analysed period, and again, the small differences in the scenarios are the result of initial regional differences and differentiated age structure evolution. As with fertility, the small differences that appear are indicators of much stronger trends in the regional demographic evolution.

The volumes forecasted in Model A are indeed extraordinary, and show what will happen in the future of most of the European regions; first a rapid ageing, and after a strong and sudden mortality when a lot of elderly people arrive at the age of death at nearly the same time. The other scenarios show once more the effect of selected migration, and put the values in a more acceptable level.

It must be pointed out again that the ten enlargement countries seem to have a even worst demographic behaviour, as can be seen in the Table KL9, where the compared mortality between EU15 and EU25 is from 18,26 to 18,42, 15,16 to 15,42 and 14,66 to 14,74 in the A, B1 and B2 models, respectively.

Table 8.15 – Crude Mortality Rate in Europe

EU15	**Scenarios**			
	A	**B1**	**B2**	**B3**
2000	**10,04**	**10,04**	**10,04**	**10,04**
2025	**13,75**	**13,09**	**12,75**	**9,30**
2050	**18,26**	**15,16**	**14,66**	**7,60**

EU25	**Scenarios**			
	A	**B1**	**B2**	**B3**
2000	**10,15**	**10,15**	**10,15**	**10,15**
2025	**13,90**	**13,22**	**12,86**	**9,24**
2050	**18,42**	**15,27**	**14,74**	**7,53**

EU29	**Scenarios**			
	A	**B1**	**B2**	**B3**
2000	**10,26**	**10,26**	**10,26**	**10,26**
2025	**13,96**	**13,27**	**12,93**	**9,35**
2050	**18,51**	**15,33**	**14,80**	**7,64**

8.5.3 Migration

Only the B models allows a explicit analysis of migration, even the broad results of total population in Model A gives an indication of the volume of the population missing in relation to the initial population present in each region in the year 2000.

It is important to say that the migrant flows will be one of the most important results of our work, and in that sense, the comparison between the capacities of the EU15 and the countries of the enlargement, including Romania and Bulgaria, will be crucial in the understanding of the process and in the effort to look for suitable solutions.

The figures are impressive. To maintain the actual population level, the EU15 will need initially 700 thousand migrants each year, in the middle of the analysed period this amount will double (about one and a half million) and by 2050 2,2 million immigrants will be needed each year. A different situation occurs to maintain the labour force, with many more immigrants in the next future and less at the end (see table 8.13). In Model B3 the number of immigrants needed to maintain the PSR is shown, and the result shows that almost ten million immigrants are needed each year.

Table 8.13 also presents information about the EU25 and EU29, and in table 8.14 the respective immigration rates are shown.

It is important to note is once more, that when going from the present countries of the European Union (EU15) to the future European Union, the situation became worst with higher immigrants rates needed to supply the population needs of the enlargement countries.

Table 8.16 – Average annual number of migrants (in thousands)

EU15	**Scenarios**			
	A	**B1**	**B2**	**B3**
2000	**-**	**718**	**718**	**718**
2025	**-**	**1.481**	**2.180**	**8.078**
2050	**-**	**2.193**	**833**	**9.654**

EU25	**Scenarios**			
	A	**B1**	**B2**	**B3**
2000	**-**	**747**	**747**	**747**
2025	**-**	**1.834**	**2.677**	**10.412**
2050	**-**	**2.706**	**1.211**	**15.040**

EU29	**Scenarios**			
	A	**B1**	**B2**	**B3**
2000	**-**	**735**	**735**	**735**
2025	**-**	**2.039**	**2.919**	**11.296**
2050	**-**	**3.009**	**1.360**	**16.076**

Table 8.17 – Crude Migration Rate (per 1000 inhabitants)

EU15	**Scenarios**			
	A	**B1**	**B2**	**B3**
2000	**-**	**1,91**	**1,91**	**1,91**
2025	**-**	**3,93**	**5,60**	**15,13**
2050	**-**	**5,82**	**2,07**	**12,46**

EU25	**Scenarios**			
	A	**B1**	**B2**	**B3**
2000	**-**	**1,65**	**1,65**	**1,65**
2025	**-**	**4,06**	**5,74**	**16,02**
2050	**-**	**5,99**	**2,52**	**16,00**

EU29	**Scenarios**			
	A	**B1**	**B2**	**B3**
2000	**-**	**1,49**	**1,49**	**1,49**
2025	**-**	**4,13**	**5,73**	**16,04**
2050	**-**	**6,09**	**2,59**	**15,83**

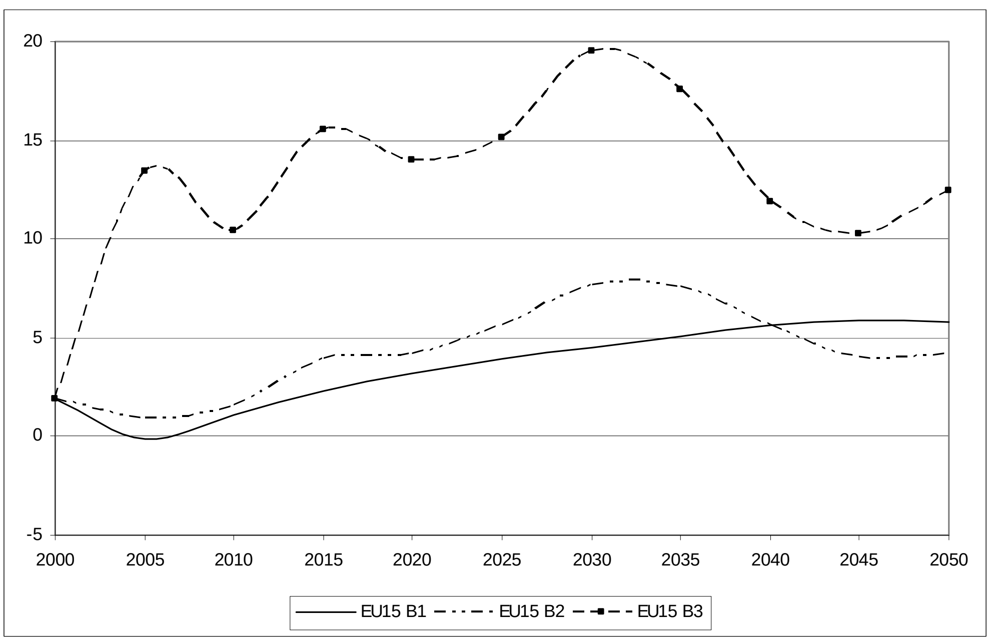


Figure 8.15 - Net Migration annual average(per 1000 inhabitants) EU15, 2000-2050

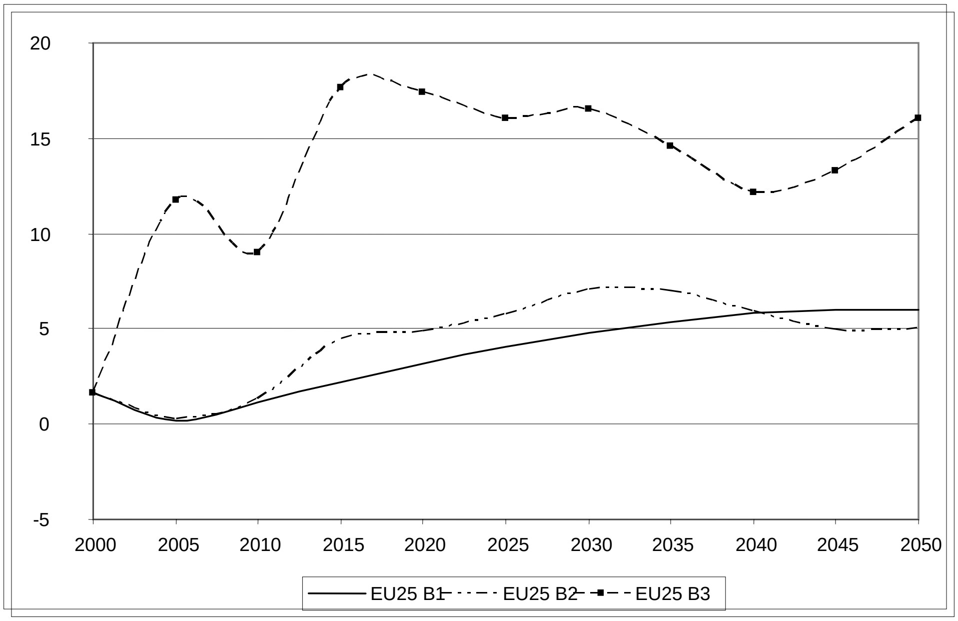


Figure 8.16 - Net Migration annual average (per 1000 inhabitants) EU25, 2000-2050

The observations of the needed immigrant flows in figures 8.15, 8.16 and 8.17, respectively for EU15, EU25 and EU29 show that the migration movements tend to be cyclical, as induced by conjuncture needs of labour force (or any other restriction), and that the arrival of migrants in one period will diminish the need for them in the subsequent periods.

The migrant flows are quite distinct either by the set of countries taken into account (i.e., EU15, EU25 or EU29), or according to the current model, as expected.

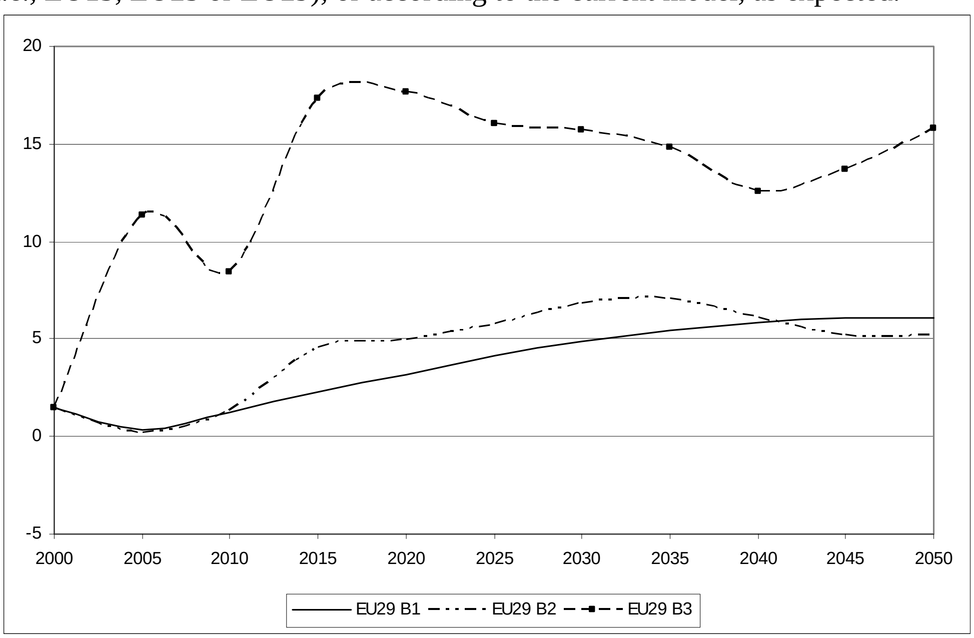


Figure 8.17 - Net Migration annual average (per 1000 inhabitants) EU29, 2000-2050

In general, the B1 model is the most regular, showing an almost constant growth of the immigrant rate until 2040, and for the last ten years the rate tends to remain constant. For the period 2000 to 2005 a small reduction appears due to the effect of the immigration flow which occurred between 1995 and 2000.

In the B2 model, indeed as well as in the B3 model, the regularity also increases with the number of countries considered.

The migrations associated to the Model B2 (which assume constant labour) illustrate the effect of small age cohorts intercalated with bigger ones. This is what happens in Europe. Some of the age strata are very small due to recent fall of fertility, but when and if the newcomers arrive (and in different regions this happened in different periods of time) they change the demographic patterns so that in the next period the migrant volume needed will not be so big.

In the B2 Model the variation range of migrant flow rates is not very large, although it decreases with the number of countries.
That same phenomenon is much better illustrated with the results of model B3. Much more intense and with a more marked situation for the EU15, it shows a strong cyclical trend with a variation range of more than 5 to 10 per thousand (wave amplitude) and a wave period of about five years (more visible in the EU15).

8.5.4 Other relations

In the next step it will be necessary to compare some of the results, in order to check for relations and correlations, as a base to the taxonomic work to be done to identify the different situations and processes developing in the European societies context.

The evolution of regional ageing between 2000 and 2050 (figures 8.18 and 8.19) is far from regular.

In average, the values of 2050 are 1,7463 greater than in 2000 for the total of the 29 countries, and 1,6822 for the 276 regions, with not very distinct relations, as we can see in the figure, as well by the low value of the determinant coefficient (0,2068 and 0,1598).

It will be interesting to map the residuals, in order to identify the spatial patterns of ageing.

Ageing process - Europe Countries

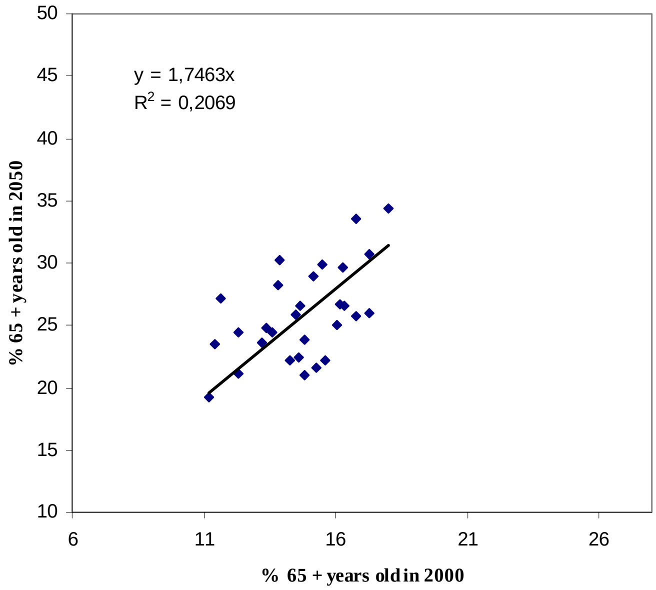


Figure 8.18 – Ageing in Europe, by country 2000/2050 (Model A)

Ageing process - Europe NUT 2

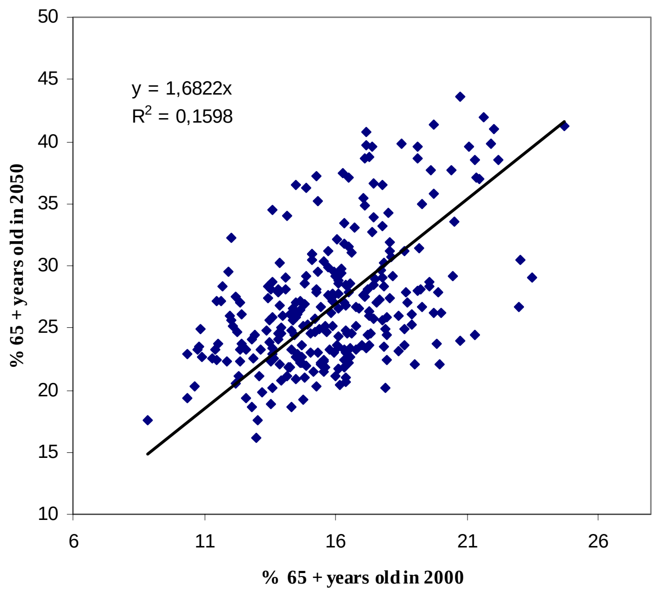


Figure 8.19 – Ageing in Europe, by NUT 2, 2000/2050 (Model A)

Other interesting relation to be explored is the relation between regional ageing (illustrated by the variable - Percentage of people with 65 and more years of age in 2050) and the depopulation/attraction balance (illustrated by the variable – Population variation 2000-2050) (figures 8.20 and 8.21).

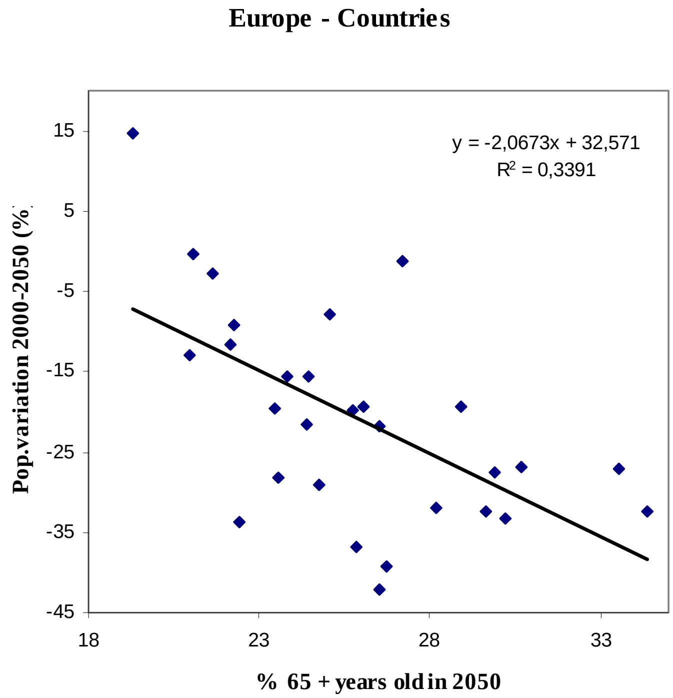


Figure 8.20 - Relation between the ageing in 2050 and population variations

The significance for the 276 regions is much high than for the countries, which seems to show that the national approach is more closed than the regional, and reflects more the management diversity.

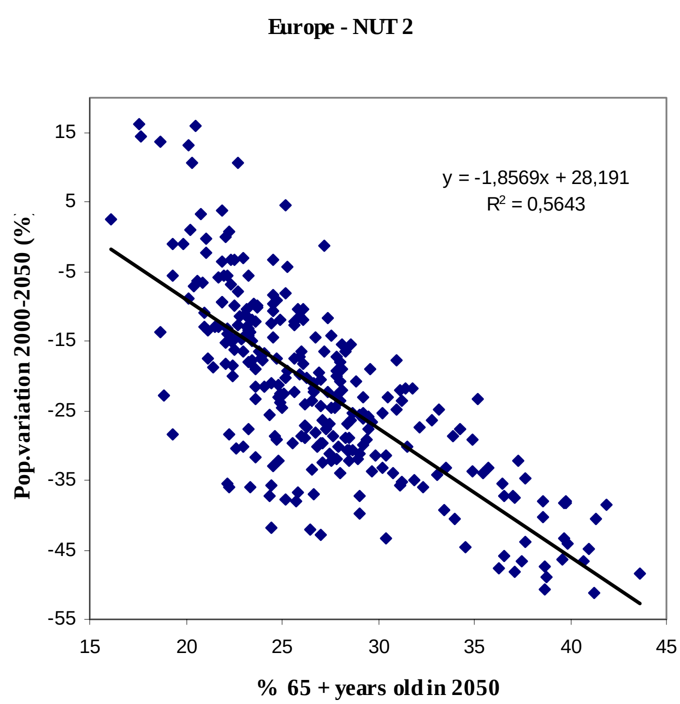


Figure 8.21 - Relation between the ageing in 2050 and population variations

Chapter 9 Policy implications and policy recommendations

With regard to demographic development it is easier to see the policy implications than to make policy recommendations. Demographic processes are not analogous with other social and economic processes that more easily can be handled by political and economic means. Investments in education, infrastructure or housing policy have more direct impact on development than incentives with regard to population development, even if this is not a 'mission impossible'. Especially with regard to migratory movements and international migration, rules and regulations can have an immediate effect on the future development.

Natural population development is a more complex phenomenon. If wars, famines and other catastrophes are excluded, death rates will probably not be changed in a way that has impact on natural population development in the long run even if life expectancy increases. Instead it is the total fertility rate that is the crucial and central variable here, but the effects of changed TFRs are of long term character. These are cohort effects and imply that it can take 20-25 years to see the impact on e.g. the active population or the labour force. Different parts of Europe have also differing attitudes to family policy and welfare state interventions in the private space and with regard to female labour force participation. The consequence of this reasoning is that it is easier to get a hint of the implications of the demographic development than to make any policy recommendations that will have immediate impact. Despite these reservations with regard to the direct effects of different political means, we sketch some of them below. This means also that many of the recommendations are much the same as the ones presented in the second interim report last August.

Natural Population Development, Aging and Dependency Rates (WP2)

One of the central aspects of demographic changes is that it has consequences on regional and spatial development that are central for sustainability, competitiveness, cohesion and polycentrism. Regions characterised by depopulation are often associated with stagnation and retardation, while regions that experience a positive population development are regarded as expansive and dynamic. The implication of these differing processes is among other things that it has effects on the investment and location pattern, as well as on renewal and expansion of the local or regional economy. The labour force - and especially the highly educated part - has increasingly been a location factor in the post-industrial society with respect to the mobile capital and the 'new' economy. The regional labour markets diverge and new 'mental maps' are created. This could be a hampering factor with regard to localisation of new firms and in-migration in depopulation and ageing areas, but also a reinforcing factor for in-migration areas, which are considered dynamic and expansive with young inhabitants and many possibilities. In this way, demographic development with population redistribution as a consequence of natural population decrease and low TFRs, ageing and out-migration accentuates the polarisation process between various regions.

The primary policy implications with regard to the ESDP/ESPON intentions are that these processes also hamper the development towards a polycentric development in Europe and reinforce the mono-centric tendencies at the macro level. From an ESDP/ESPON point of view where a polycentric and balanced development is desirable, the population redistribution will result in a regional polarisation instead of a balanced and sustainable development. A natural population increase is thus of utmost importance in order to create a positive atmosphere and to change vicious circles to virtuous ones.

This means that the both the EU regional development policy as well as national policies must prioritise an economic and social policy (family policy) in order to stimulate a rise of the TFRs. This will be of utmost importance even in order to stimulate the preconditions for endogenous growth that probably will result in higher TFRs. From a cohesion point of view this is of great importance if the risk for future concentration and social exclusion shall be avoided. As much of the social policy – including family policy - still is of national character, it is of utmost importance to coordinate these means within the EU in order to increase the TFRs. This means also that politicians and policy makers must be aware of the effects of 'demographic cycles' and their impacts on regional and spatial development and see these processes in a long wave perspective in order to separate short and long term effects.

Migration within and between the European Countries (WP3)

Different levels in income and education are strong push and pull factors for migratory movement. This is a well known fact, both theoretically and empirically. With regard to young people the urban lifestyle and education possibilities in the metropolitan areas are also pull-factors of great importance. The metropolitan regions are also in-migration areas with regard to foreigners and immigrants. Here there are a lot of signs of ghetto living and segregation that also results in social conflicts and problems.

By reducing the regional and national differences regarding income and education, more balanced migratory movements will take place, promoting a more symmetrical economic development in the EU29-area. Furthermore, reducing the regional and national differences in income and education will be an effective means to promote a polycentric development and even stimulate symmetrical migration flows even within different age groups and social categories. Regional enlargement with larger local labour markets and functional urban areas will also stimulate a polycentric development where perhaps the infrastructure and accessibility will be even more important and a precondition for, and a "driving force" in this development.

To close the gap in living standard and income levels is thus of utmost importance to create a polycentric development on EU29-level. The gap between the new EU-members and the old ones are much more pronounced than the gap within the various countries. Temporary rules and regulations are perhaps in some cases necessary in order to hamper a short term large drain from east to west – the fear of mass migration are probably overvalued - but this is not a solution in the long run. Instead a policy that stimulates symmetrical migratory movements should be of great importance and prioritised on the political and social agenda.

Fertility, Migration and Depopulation (WP4)

Depopulation is often a function of low fertility rates and natural population change and net out-migration. For many depopulation regions this result in vicious circles that result in eroding preconditions for endogenous growth end development. From a policy point of view this is problematic as many of these regions have long been out-migration regions and the policy means have not been succeeded to change this negative spiral. These development paths, however, are undesirable from a cohesion point of view even if there can be conflicts with regard to the growth perspective. This dilemma is of great importance with regard to the EU cohesion policy. The concept of territorial cohesion is a central ingredient in ESDP/ESPON and a policy that reduces the eventual goal conflict between growth and territorial cohesion where lagging and depopulation regions are stimulate – but not on the cost of economic growth and competitiveness – must be discussed explicitly among politicians and policy-makers and not be a topic only for 'regional economists'. Otherwise, the depopulation of many areas will continue and if this is the case, the welfare state must intervene in the sense that it will be a 'civilised depopulation'. The latter is, however, not political correct to declare but if nothing is done, the depopulation must at least be a 'civilised depopulation'.

Ageing, Labour Shortage and 'Replacement Migration' (WP5)

An increased immigration would certainly have an immediate impact on the working-age population. However, in the long-term, migration is not a solution to the population ageing, because immigrants themselves age, and need be replaced. Furthermore, although the fertility rates of immigrant women are higher compared to native women, the fertility level tends to converge in the long term.

The European immigration need is more urgent in the Candidate Countries (EU12) than in the present 15 member states. The destination of the immigrants will soon be on the political agenda. The EU12 do, however, have large possibilities of improving the labour productivity and labour force participation rates, which will lower the need of immigration.

In general, governments should respond to demographic change and to potential labour shortage with a variety of policies and instruments, depending on the specificities of each particular country or region. Five broad categories of interventions are available:

1. Encouraging higher workforce participation through retraining of the unemployed, discouraging early retirement, increase female activity rate, by making it easier for women to combine work with childcare;
2. Postponing retirement ages, a process facilitated by longer active lives;
3. Improve labour productivity levels, by increasing capital investment and promoting the development innovation both in technology and organization capacity;
4. Immigration policies;

5. Encouraging increase in fertility

It is also important to distinguish between short-term from long-term policy responses to a labour shortage. Immigration can only offer a short-term solution to the consequences of ageing. Long-term solutions, such as higher labour force participation rates or a higher retirement age, stimulate an increased fertility rate and improve the labour productivity, which is necessary to deal with the consequences of ageing.

ESPON 2006 Programme Action 1.1.4:

THE SPATIAL EFFECTS OF DEMOGRAPHIC TRENDS AND MIGRATION

Third Interim Report, March 2004

PART THREE: ANNEXES

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Table A1. Core indicators with regard to population, ageing and depopulation		Indexes (ratio/share E29 total = 100)						
NUTS 2	REGION NAME	Ageing Population 65+/Tot. Pop	Ageing "Labour Force" 55-64/20-64	"Labour Force" Replace-ment 10-19/55-64	Post-Active Dependency 65+/20-64	Aged People vs. Youth 65+/15-24	Share of children 0-14/Tot.pop	Changes in Natural Growth Potential: 20-29 years in 2020 (born 1991-2000)/20-29 years in 2000 (born 1971-1980)
NUTS 2	REGION	2000	2000	2000	2000	2000	2000	
AT11	BURGENLAND	116,0	103,2	90,6	116,5	125,1	88,5	93,1
AT12	NIEDEROESTERREICH	106,1	111,4	85,1	106,5	121,0	98,0	113,6
AT13	WIEN	100,9	105,1	69,8	95,3	128,5	87,2	97,5
AT21	KAERNTEN	104,0	101,9	96,5	104,5	111,5	98,6	108,8
AT22	STEIERMARK	105,8	103,1	90,9	105,1	115,0	94,5	100,8
AT31	OBEROESTERREICH	95,6	99,5	101,8	95,9	103,1	104,9	118,5
AT32	SALZBURG	86,9	97,4	99,6	85,0	90,7	104,2	110,3
AT33	TIROL	86,1	96,1	102,7	84,8	89,6	107,3	111,1
AT34	VORARLBERG	79,6	95,6	108,3	78,6	78,4	111,6	114,4
BE1	REG.BRUXELLES-CAP./BRUSSELS HFDST.GEW.	107,7	87,1	102,6	109,4	115,3	103,7	102,4
BE21	ANTWERPEN	108,5	100,9	94,0	110,1	120,9	100,1	117,2
BE22	LIMBURG (B)	88,8	95,3	102,4	86,8	88,4	101,2	108,2
BE23	OOST-VLAANDEREN	109,6	99,5	90,7	110,2	120,6	96,8	108,2
BE24	VLAAMS BRABANT	107,6	99,0	93,0	108,4	122,7	99,6	119,8
BE25	WEST-VLAANDEREN	116,0	106,8	91,1	119,8	126,5	99,1	114,7
BE31	BRABANT WALLON	94,5	93,3	116,0	97,1	98,8	114,4	134,4
BE32	HAINAUT	110,8	89,2	113,7	115,1	120,1	105,8	116,5
BE33	LIEGE	110,7	94,9	105,9	114,8	121,3	105,4	118,2
BE34	LUXEMBOURG (B)	103,7	87,4	131,7	110,8	106,7	118,7	130,7
BE35	NAMUR	104,7	89,2	119,9	109,3	109,4	110,8	123,2
BG01	SEVEROIZTOCHEN (NORTH-WEST)	136,7	117,2	87,8	145,3	144,7	89,1	93,0
BG02	SEVEREN TSENTRALEN (NORTH CENTRAL)	120,3	113,6	88,5	121,9	115,4	86,0	80,0
BG03	SEVEROZAPADEN (NORTH-EAST)	92,8	104,3	104,1	91,7	82,5	98,5	85,4
BG04	YUGOIZTOCHEN (NORTH-EAST)	99,8	98,2	99,1	96,4	88,4	86,7	68,5
BG05	YUZHEN TSENTRALEN (SOUTH CENTRAL)	99,0	104,0	107,3	98,9	87,3	95,6	83,2
BG06	YUGOZAPADEN (SOUTH-EAST)	96,7	103,9	110,7	97,8	84,9	101,2	91,0
CH01	REGION LEMANIQUE	96,0	98,6	88,6	94,4	110,1	103,1	117,1
CH02	ESPACE MITTELLAND	104,1	99,8	94,9	104,7	119,7	101,5	120,7
CH03	SUISSE DU NORD-EST	98,1	101,8	87,9	95,9	113,1	97,4	114,3
CH04	ZUERICH	99,4	100,7	87,6	97,6	114,8	98,9	114,5
CH05	SUISSE ORIENTALE	94,6	95,6	111,5	96,5	104,4	111,8	133,6
CH06	SUISSE CENTRALE	87,3	91,6	112,5	87,4	93,0	112,1	126,9
CH07	TICINO	111,2	111,5	67,1	107,5	138,8	85,9	100,7
CY	KIBRIS	74,8	90,7	141,0	77,2	63,6	125,1	119,6
CZ01	PRAHA	104,9	100,0	86,1	100,0	97,4	80,8	68,1
CZ02	STREDNÍ CECHY	92,4	94,7	104,4	89,7	79,8	94,8	78,1

CZ03	JIHOZÁPAD	88,9	94,0	107,6	86,1	75,9	96,5	78,7
CZ04	SEVEROZÁPAD	77,2	90,4	112,5	73,7	64,0	100,7	79,2
CZ05	SEVEROVYCHOD	88,9	92,0	111,5	86,8	75,1	99,3	80,2
CZ06	JIHOVYCHOD	90,5	94,5	110,8	88,7	76,0	98,2	80,2
CZ07	STREDNI MORAVA	87,2	92,8	113,4	84,9	71,9	98,6	78,3
CZ08	OSTRAVSKY	78,4	94,4	111,2	75,4	66,5	102,7	83,0
DE11	STUTTGART	98,1	118,2	72,3	95,4	117,4	97,6	115,0
DE12	KARLSRUHE	102,8	115,6	70,7	99,5	126,3	92,7	110,9
DE13	FREIBURG	101,8	113,8	79,6	100,9	119,8	99,5	118,9
DE14	TUEBINGEN	95,2	111,3	85,1	94,4	108,7	104,6	122,2
DE21	OBERBAYERN	98,5	120,0	62,7	93,5	125,6	91,3	111,0
DE22	NIEDERBAYERN	102,0	107,8	85,9	101,4	116,5	99,7	116,1
DE23	OBERPFALZ	102,1	109,1	84,4	101,4	119,0	99,8	117,6
DE24	OBERFRANKEN	111,8	117,1	75,9	111,7	133,7	93,9	113,4
DE25	MITTELFRANKEN	105,0	118,1	70,5	102,4	130,4	93,0	113,7
DE26	UNTERFRANKEN	103,4	111,8	84,0	103,1	119,4	99,3	118,5
DE27	SCHWABEN	103,3	117,1	78,1	103,2	122,9	101,5	123,6
DE3	BERLIN	91,0	120,1	65,0	83,0	105,3	80,1	82,2
DE4	BRANDENBURG	95,4	128,7	85,7	91,1	94,4	82,0	78,6
DE5	BREMEN	115,9	126,5	58,3	111,8	146,3	81,4	96,3
DE6	HAMBURG	107,2	118,1	56,4	99,9	135,8	78,7	85,8
DE71	DARMSTADT	100,8	117,6	62,8	95,2	131,0	87,6	108,3
DE72	GIESSEN	104,2	109,8	80,7	102,5	119,1	95,5	107,7
DE73	KASSEL	114,5	120,9	73,4	114,9	140,0	93,4	115,2
DE8	MECKLENBURG VORPOMMERN	93,0	122,1	96,0	89,5	86,3	84,4	75,5
DE91	BRAUNSCHWEIG	113,8	124,1	66,7	112,3	140,8	90,0	109,2
DE92	HANNOVER	112,4	125,9	62,5	110,0	144,6	89,3	113,0
DE93	LUENEBURG	103,3	125,3	69,5	102,2	132,4	99,7	132,9
DE94	WESER-EMS	97,6	113,8	84,4	97,8	111,4	106,3	124,7
DEA1	DUESSELDORF	110,6	126,0	63,6	108,1	145,9	90,2	116,8
DEA2	KOELN	100,8	117,8	68,8	97,2	126,5	93,7	114,9
DEA3	MUENSTER	101,8	111,7	83,3	101,6	118,5	102,1	120,3
DEA4	DETMOLD	107,7	117,3	81,0	109,4	125,7	102,3	122,6
DEA5	ARNSBERG	109,8	121,5	71,4	108,8	134,6	93,9	115,4
DEB1	KOBLENZ	112,6	119,9	76,8	113,8	138,9	97,6	126,4
DEB2	TRIER	113,5	112,6	81,3	114,8	132,1	96,1	114,1
DEB3	RHEINHESSEN-PFALZ	105,8	116,5	73,0	103,6	132,0	93,5	116,8
DEC	SAARLAND	114,3	123,7	67,0	112,2	146,2	87,3	113,5
DED1	CHEMNITZ	122,8	135,2	73,9	121,3	131,0	73,7	73,8
DED2	DRESDEN	111,7	134,5	78,7	109,2	110,8	77,7	70,9
DED3	LEIPZIG	110,3	130,7	74,3	105,6	115,4	74,4	68,6
DEE1	DESSAU	109,9	136,2	76,5	106,4	114,4	76,4	74,0
DEE2	HALLE	110,7	131,9	77,9	107,3	114,7	76,3	72,1
DEE3	MAGDEBURG	105,7	129,5	82,4	102,6	110,0	80,5	79,0
DEF	SCHLESWIG-HOLSTEIN	105,1	130,1	61,8	102,2	136,1	93,5	119,4
DEG	THUERINGEN	104,4	126,4	83,9	100,6	104,2	78,4	72,4
DK	DANMARK	95,2	102,7	83,3	94,1	107,6	107,1	119,9
EE	EESTI	93,0	104,9	116,9	94,2	83,7	104,6	90,3
ES11	GALICIA	126,7	100,1	89,0	125,4	114,2	71,6	58,8
ES12	ASTURIAS	133,2	95,8	82,5	129,7	128,7	63,5	53,8
ES13	CANTABRIA	119,0	87,3	101,1	116,2	107,4	73,9	61,1
ES21	PAIS VASCO	110,2	96,4	78,8	103,2	105,9	70,4	60,3
ES22	NAVARRA	115,6	92,1	89,1	112,6	113,4	79,9	73,0
ES23	RIOJA	123,7	95,4	89,3	122,5	119,5	77,2	69,6
ES24	ARAGON	137,2	100,0	82,1	138,6	141,1	74,2	70,3

ES3	MADRID	98,6	92,8	92,8	94,0	89,9	84,9	72,0
ES41	CASTILLA-LEON	138,9	97,5	88,6	140,8	136,4	71,9	64,1
ES42	CASTILLA-LA MANCHA	123,3	91,4	112,5	129,1	114,3	93,9	84,7
ES43	EXTREMADURA	115,9	91,2	119,2	120,8	103,7	96,6	84,0
ES51	CATALUNA	112,0	95,9	86,9	108,8	106,2	81,1	72,1
ES52	COMUNIDAD VALENCIANA	103,0	91,2	103,2	100,7	90,3	87,6	72,8
ES53	BALEARES	98,2	87,3	106,9	96,4	91,5	95,2	85,0
ES61	ANDALUCIA	90,5	84,7	131,1	90,8	73,4	103,3	82,9
ES62	MURCIA	91,4	84,6	128,2	92,1	75,1	104,7	85,7
ES63	CEUTA Y MELILLA	78,1	79,7	149,6	80,7	65,2	124,2	111,1
ES7	CANARIAS	76,6	79,3	127,7	73,1	63,8	99,3	76,3
FI13	IT--SUOMI	109,1	106,8	102,3	113,2	114,7	102,4	136,9
FI14	VALI-SUOMI	105,1	101,2	112,0	110,4	103,1	109,2	131,5
FI15	POHJOIS-SUOMI	84,6	94,1	129,2	87,8	77,7	120,2	139,0
FI16	UUSIMAA (SUURALUE)	74,1	87,3	99,6	70,3	77,7	108,2	117,0
FI17	ETELA-SUOMI	105,4	103,8	92,6	106,5	112,9	100,4	123,8
FI2	AALAND	104,3	101,5	96,9	106,9	124,8	108,6	139,0
FR1	ILE DE FRANCE	77,4	79,3	127,7	76,3	76,3	115,3	110,9
FR21	CHAMPAGNE-ARDENNE	100,6	87,0	133,4	105,4	98,9	111,9	116,4
FR22	PICARDIE	91,1	82,7	146,9	95,6	90,2	120,1	127,9
FR23	HAUTE-NORMANDIE	93,3	84,9	142,9	98,0	91,0	117,9	124,8
FR24	CENTRE	114,2	93,9	117,1	121,3	122,9	107,1	121,7
FR25	BASSE-NORMANDIE	111,1	91,5	129,0	119,4	112,1	111,1	123,6
FR26	BOURGOGNE	121,5	97,8	111,5	129,8	131,6	102,9	118,7
FR3	NORD-PAS-DE-CALAIS	89,3	78,6	166,7	95,3	79,1	123,7	120,8
FR41	LORRAINE	98,8	89,2	128,2	102,5	97,2	110,5	115,1
FR42	ALSACE	89,4	86,3	123,1	90,3	90,1	112,0	115,5
FR43	FRANCHE-COMTE	101,8	91,9	124,6	106,7	101,8	111,1	120,0
FR51	PAYS DE LA LOIRE	105,5	89,0	131,7	112,2	101,8	111,8	118,9
FR52	BRETAGNE	115,3	94,3	118,9	123,0	116,8	106,4	116,8
FR53	POITOU-CHARENTES	127,8	99,4	106,9	137,0	138,7	98,6	114,5
FR61	AQUITAINE	122,6	97,1	105,5	129,1	133,0	98,2	111,7
FR62	MIDI-PYRENEES	123,3	96,3	102,7	129,4	133,6	97,4	109,9
FR63	LIMOUSIN	147,8	103,6	90,6	158,8	171,8	85,1	101,0
FR71	RHONE-ALPES	96,0	90,2	123,3	99,4	95,9	113,7	120,8
FR72	AUVERGNE	125,6	99,6	100,7	131,6	137,0	94,1	107,2
FR81	LANGUEDOC-ROUSSILLON	123,7	100,4	106,3	132,3	131,1	101,8	115,9
FR82	PROVENCE-ALPES-COTE D'AZUR	118,1	102,1	103,0	125,0	130,3	104,5	122,7
FR83	CORSE	120,0	107,2	92,7	124,9	142,9	98,5	120,0
FR91	GUADELOUPE	65,7	75,5	182,0	68,9	59,5	137,6	134,4
FR92	MARTINIQUE	78,5	82,7	159,9	82,0	76,0	128,2	128,6
FR93	GUYANE	9,0	49,2	373,3	10,4	7,3	199,1	201,4
FR94	REUNION	26,2	66,4	241,8	28,0	20,4	157,4	141,1
GR11	ANATOLIKI MAKEDONIA, THRAKI	114,8	117,9	86,7	117,7	107,9	92,8	93,1
GR12	KENTRIKI MAKEDONIA	103,1	108,4	84,2	100,8	98,5	89,2	81,7
GR13	DYTIKI MAKEDONIA	114,6	110,6	96,1	117,4	105,0	91,8	85,9
GR14	THESSALIA	116,7	118,3	86,4	118,8	106,0	88,2	82,2
GR21	IPEIROS	126,0	110,5	87,8	126,8	115,1	76,7	65,9
GR22	IONIA NISIA	131,4	102,7	97,5	137,3	127,6	86,4	85,1
GR23	DYTIKI ELLADA	111,5	100,8	107,2	113,4	96,2	90,4	76,1
GR24	STEREA ELLADA	122,6	115,6	84,1	122,3	114,7	76,9	66,8
GR25	PELOPONNISOS	137,7	114,8	84,0	142,1	135,2	76,8	72,1
GR3	ATTIKI	102,2	97,8	90,0	99,4	99,3	89,0	84,6

GR41	VOREIO AIGAIO	147,6	113,6	95,1	163,3	147,5	89,8	99,7
GR42	NOTIO AIGAIO	96,4	93,2	111,9	96,8	89,5	101,7	99,1
GR43	KRITI	109,4	96,9	111,7	112,9	97,1	98,5	88,3
HU01	KOEZEP-MAGYARORSZAG	97,7	100,7	87,4	93,9	85,8	90,2	75,6
HU02	KOEZEP-DUNANTUL	84,5	98,7	102,6	82,0	71,9	101,1	84,7
HU03	NYUGAT-DUNANTUL	95,0	98,2	101,8	93,0	81,8	95,1	81,2
HU04	DEL-DUNANTUL	94,2	101,4	97,5	92,8	84,4	99,3	89,0
HU05	ESZAK-MAGYARORSZAG	94,9	106,8	99,4	95,8	85,0	106,1	99,2
HU06	ESZAK-ALFOELD	86,7	95,5	116,7	87,8	74,6	113,1	100,9
HU07	DEL-ALFOELD	99,2	104,2	95,1	98,7	89,8	99,5	89,2
IE01	BORDER, MIDLAND AND WESTERN	82,4	87,0	179,7	90,5	60,6	129,9	118,8
IE02	SOUTHERN AND EASTERN	68,3	80,8	165,3	70,4	52,0	126,3	104,8
IT11	PIEMONTE	131,0	118,9	53,6	125,8	171,0	69,4	77,1
IT12	VALLE D'AOSTA	119,8	110,1	56,6	113,0	158,1	73,6	79,7
IT13	LIGURIA	158,6	129,6	43,3	157,4	244,2	60,4	74,8
IT2	LOMBARDIA	112,1	111,6	59,6	105,1	138,0	75,8	80,0
IT31	TRENTINO-ALTO ADIGE	106,7	102,9	77,9	104,3	124,3	92,4	99,1
IT32	VENETO	114,0	107,5	63,4	107,9	138,0	77,3	80,2
IT33	FRIULI-VENEZIA GIULIA	135,5	121,4	48,4	129,3	186,8	64,9	72,5
IT4	EMILIA-ROMAGNA	141,5	116,7	49,7	137,0	198,3	65,3	74,3
IT51	TOSCANA	140,5	117,8	53,7	137,1	186,3	67,2	74,5
IT52	UMBRIA	142,6	117,3	61,0	142,5	176,8	71,0	77,5
IT53	MARCHE	136,9	113,6	64,8	136,6	164,1	74,9	80,5
IT6	LAZIO	109,3	108,5	70,0	104,5	126,2	82,5	86,1
IT71	ABRUZZO	126,8	105,8	81,6	128,0	137,3	83,5	84,5
IT72	MOLISE	131,8	102,6	90,1	136,1	138,8	85,4	85,5
IT8	CAMPANIA	87,2	90,3	124,3	88,4	77,1	112,1	100,9
IT91	PUGLIA	96,8	95,8	107,5	96,8	86,8	100,4	88,9
IT92	BASILICATA	114,1	97,4	104,3	116,7	109,8	94,8	87,8
IT93	CALABRIA	104,7	95,0	115,6	107,3	95,1	101,2	91,0
ITA	SICILIA	103,5	97,8	109,5	106,4	97,5	104,8	99,2
ITB	SARDEGNA	98,1	97,7	91,8	93,5	92,9	84,6	72,9
LT	LIETUVA	85,7	101,1	121,8	87,5	79,0	115,1	103,6
LU	LUXEMBOURG (GRAND-DUCHE)	91,6	93,0	95,7	90,9	107,1	110,2	128,6
LV	LATVIJA	94,1	111,9	109,7	95,3	87,8	103,7	92,1
MT	MALTA	79,1	95,1	123,2	79,5	69,2	114,9	109,2
NL11	GRONINGEN	93,0	89,2	100,3	90,3	88,3	97,8	92,3
NL12	FRIESLAND	92,0	98,2	106,0	93,0	97,4	110,7	126,0
NL13	DRENTHE	98,4	102,8	94,5	99,3	121,6	108,1	140,9
NL21	OVERIJSSEL	87,6	92,4	110,2	87,9	90,9	113,3	119,0
NL22	GELDERLAND	87,3	92,8	103,7	86,4	95,7	110,3	123,4
NL23	FLEVOLAND	56,8	65,2	177,3	57,1	59,9	138,8	156,0
NL31	UTRECHT	79,8	82,6	110,2	77,3	85,2	110,3	111,3
NL32	NOORD-HOLLAND	86,4	86,5	95,5	82,8	102,3	103,5	112,2
NL33	ZUID-HOLLAND	88,5	87,7	107,0	87,3	96,4	108,4	114,7
NL34	ZEELAND	105,0	103,7	95,2	107,8	125,0	107,6	136,6
NL41	NOORD-BRABANT	82,1	94,4	96,9	79,5	92,4	108,4	121,5
NL42	LIMBURG (NL)	93,4	102,2	86,3	90,6	112,5	100,3	124,3
NO01	OSLO OG AKERSHUS	88,4	81,2	101,9	86,5	106,2	111,0	115,1
NO02	HEDMARK OG OPPLAND	119,0	100,4	97,7	125,7	135,7	105,5	126,9
NO03	SOR-OSTLANDET	104,6	94,6	105,5	108,2	114,9	111,0	125,7
NO04	AGDER OG ROGALAND	86,7	84,6	136,1	91,4	84,7	128,2	135,6
NO05	VESTLANDET	99,7	88,0	126,5	106,0	101,5	121,4	131,9

NO06	TRONDELAG	99,3	90,9	114,3	103,8	106,6	118,5	131,3
NO07	NORD-NORGE	95,1	92,1	113,3	98,8	102,3	119,8	133,0
PL01	DOLNOSLASKIE	79,6	74,9	162,3	78,3	61,1	100,1	82,1
PL02	KUJAWSKO-POMORSKIE	73,3	76,2	173,1	74,0	56,0	113,2	95,4
PL03	LUBELSKIE	87,3	84,3	165,7	92,0	67,0	115,2	98,9
PL04	LUBUSKIE	69,3	69,4	194,8	69,6	50,9	112,9	91,6
PL05	LÓDZKIE	91,9	83,4	139,2	92,0	76,3	99,1	88,1
PL06	MALOPOLSKIE	79,2	83,0	160,6	81,6	61,1	116,4	98,1
PL07	MAZOWIECKIE	89,5	84,0	144,1	90,6	72,7	103,5	90,5
PL08	OPOLSKIE	75,2	85,0	150,9	74,3	59,3	105,2	87,5
PL09	PODKARPACKIE	76,0	79,0	186,9	80,2	57,5	124,4	104,1
PL0A	PODLASKIE	86,6	84,3	169,8	91,7	67,5	117,2	101,0
PL0B	POMORSKIE	68,9	75,6	175,2	69,1	52,0	115,5	94,5
PL0C	SLASKIE	73,6	88,6	136,8	71,4	57,9	100,7	84,1
PL0D	SWIETOKRZYSKIE	88,9	83,0	158,9	92,1	70,1	109,4	95,8
PL0E	WARMINSKO-MAZURSKIE	66,6	71,0	201,8	68,1	48,3	120,2	97,8
PL0F	WIELKOPOLSKIE	72,6	72,7	184,1	73,5	54,7	115,1	94,4
PL0G	ZACHODNIOPOMORSKIE	69,7	71,5	177,1	68,8	52,5	108,9	88,8
PT11	NORTE	90,0	89,2	116,3	89,4	76,5	101,8	89,6
PT12	CENTRO (P)	125,5	109,1	89,4	129,5	119,1	86,9	84,8
PT13	LISBOA E VALE DO TEJO	104,8	106,8	77,6	101,5	101,0	86,5	80,2
PT14	ALENTEJO	150,9	116,6	79,9	161,5	150,5	79,1	80,3
PT15	ALGARVE	105,4	105,2	82,2	105,8	106,6	85,3	86,5
PT2	ACORES	79,2	84,0	174,1	84,6	60,1	127,1	111,3
PT3	MADEIRA	85,6	89,1	150,9	89,0	66,0	112,8	95,8
RO01	NORD-EST	80,8	96,1	143,1	84,6	61,5	123,5	94,0
RO02	SUD-EST	80,8	95,4	130,2	80,5	65,5	109,2	81,6
RO03	SUD	94,5	105,1	111,6	95,6	82,3	106,2	82,9
RO04	SUD-VEST	93,0	106,8	111,0	94,4	80,4	107,4	87,4
RO05	VEST	82,8	93,9	120,5	80,8	70,8	103,2	78,9
RO06	NORD-VEST	79,4	95,4	128,8	79,3	62,9	110,6	83,8
RO07	CENTRU	78,7	91,0	136,5	78,1	61,3	107,8	78,6
RO08	BUCURESTI	87,4	85,8	123,1	82,0	69,0	83,2	54,9
SE01	STOCKHOLM LAEN	92,1	96,5	89,4	90,5	109,6	108,3	115,3
SE02	OESTRA MELLANSVERIGE	111,1	109,7	93,6	116,1	122,6	108,8	122,3
SE04	SYDSVERIGE	115,3	110,8	89,7	120,4	129,0	105,7	119,3
SE06	NORRA MELLANSVERIGE	126,6	117,2	89,7	136,2	151,4	104,4	133,3
SE07	MELLERSTA NORRLAND	128,5	117,9	87,5	137,6	150,5	101,6	125,2
SE08	OEVRE NORRLAND	111,9	110,8	94,9	117,1	119,0	106,9	119,2
SE09	SMAALAND MED OEARNA	121,5	113,1	97,6	131,5	135,5	109,1	132,5
SE0A	VASTSVERIGE	111,1	105,5	96,4	116,3	126,4	109,9	125,8
SI	SLOVENIJA	88,9	96,7	106,1	85,9	79,8	93,8	84,3
SK01	BRATISLAVSKÝ	77,2	80,6	138,8	73,7	61,1	95,2	74,8
SK02	Z-PADN+ SLOVENSKO	76,9	84,9	143,4	76,2	59,7	107,9	85,9
SK03	STREDN+ SLOVENSKO	73,6	80,8	158,3	74,5	57,0	117,2	95,7
SK04	VÝCHODN+ SLOVENSKO	66,6	77,4	180,6	69,1	50,1	130,5	107,8
UKC1	TEES VALLEY AND DURHAM	99,8	101,8	110,1	103,8	108,4	112,2	130,5
UKC2	NORTHUMBERLAND AND TYNE AND WEAR	106,2	99,4	107,5	110,0	108,9	106,5	118,6
UKD1	CUMBRIA	115,0	112,3	88,9	119,6	153,1	103,3	132,1
UKD2	CHESHIRE	99,2	105,1	98,7	101,4	117,3	110,4	133,9

UKD3	GREATER MANCHESTER	93,0	95,4	115,2	96,0	95,9	116,8	124,7
UKD4	LANCASHIRE	105,4	103,6	106,4	110,7	118,3	112,2	130,9
UKD5	MERSEYSIDE	103,5	101,0	111,7	108,7	107,8	112,7	123,9
UKE1	EAST RIDING AND NORTH LINCOLNSHIRE	106,3	104,0	106,1	111,7	117,2	112,0	133,0
UKE2	NORTH YORKSHIRE	114,5	109,7	94,2	119,6	138,5	103,4	134,7
UKE3	SOUTH YORKSHIRE	101,3	98,5	104,6	104,2	109,9	110,0	124,0
UKE4	WEST YORKSHIRE	94,5	92,7	117,3	97,6	93,2	115,6	124,1
UKF1	DERBYSHIRE AND NOTTINGHAMSHIRE	102,4	99,9	102,1	105,0	115,4	108,4	124,1
UKF2	LEICESTERSHIRE, RUTLAND AND NORTHAMPTONSHIRE	93,2	94,2	114,9	95,5	93,9	113,9	125,8
UKF3	LINCOLNSHIRE	121,9	115,9	88,9	129,2	159,3	102,8	133,3
UKG1	HEREFORDSHIRE, WORCESTERSHIRE AND WARWICKSHIRE	106,0	108,6	91,4	108,6	136,3	106,6	134,6
UKG2	SHROPSHIRE AND STAFFORDSHIRE	99,9	105,4	98,8	102,0	114,1	108,5	127,5
UKG3	WEST MIDLANDS	98,2	98,1	115,7	103,8	97,7	119,5	130,5
UKH1	EAST ANGLIA	110,1	101,8	99,1	114,5	130,4	107,3	122,2
UKH2	BEDFORDSHIRE AND HERTFORDSHIRE	90,8	92,6	109,0	92,0	106,6	115,7	132,2
UKH3	ESSEX	104,7	100,0	98,4	107,6	125,2	108,6	124,8
UKI1	INNER LONDON	70,2	67,5	123,1	66,3	63,6	111,8	95,0
UKI2	OUTER LONDON	87,0	84,0	112,2	86,3	88,3	112,6	112,7
UKJ1	BERKSHIRE, BUCKINGHAMSHIRE AND OXFORDSHIRE	82,7	88,6	116,1	82,3	87,9	114,3	122,3
UKJ2	SURREY, EAST AND WEST SUSSEX	118,2	101,2	96,9	123,9	145,4	104,2	130,0
UKJ3	HAMPSHIRE AND ISLE OF WIGHT	102,9	97,7	106,3	105,9	112,2	108,2	121,6
UKJ4	KENT	105,0	102,3	102,2	109,4	127,8	112,2	133,5
UKK1	GLOUCESTERSHIRE, WILTSHIRE AND NORTH SOMERSET	103,3	97,2	103,8	106,1	115,5	108,6	122,8
UKK2	DORSET AND SOMERSET	133,1	110,2	94,6	144,5	170,8	101,2	128,6
UKK3	CORNWALL AND ISLES OF SCILLY	128,1	118,6	88,6	137,4	168,4	101,4	134,3
UKK4	DEVON	127,5	112,5	94,0	137,1	143,9	101,8	129,9
UKL1	WEST WALES AND THE VALLEYS	115,0	111,0	101,0	123,0	127,0	109,1	131,6
UKL2	EAST WALES	103,3	101,1	109,5	108,1	110,0	112,6	128,6
UKM1	NORTH EASTERN SCOTLAND	92,1	91,9	110,3	91,9	95,8	106,8	120,4
UKM2	EASTERN SCOTLAND	100,3	97,8	100,6	101,1	105,2	104,3	112,1
UKM3	SOUTH WESTERN SCOTLAND	97,2	98,7	105,7	98,8	100,5	107,9	117,0
UKM4	HIGHLANDS AND ISLANDS	106,8	112,9	93,8	110,9	125,6	108,3	139,8
UKN	NORTHERN IRELAND	83,6	93,3	139,9	89,1	78,0	130,7	131,9
E-29	**E-29**	100,0	100,0	100,0	100,0	100,0	100,0	100,0
E-29	**E-29**	**15,6**	**17,7**	**1,2**	**0,3**	**1,2**	**17,2**	**0,8**

Table A2. Core indicators with regard to population, ageing and depopulation.								
		4 groups (4 = most "ageing"/"depopulating" = one STD or more from E29 average).						
NUTS 2	REGION NAME	Ageing Population 65+/Tot. Pop	Ageing "Labour Force" 55-64/20-64	"Labour Force" Replace-ment 10-19/55-64	Post-Active Depen-dency 65+/20-64	Aged People vs. Youth 65+/15-24	Share of children 0-14/Tot. pop	Changes in Natural Growth Potential: 20-29 years in 2020 (born 1991-2000)/20-29 years in 2000 (born 1971-1980)
NUTS 2	REGION	2000	2000	2000	2000	2000	2000	
AT11	BURGENLAND	3	2	2	3	3	3	2
AT12	NIEDEROESTERREICH	2	3	2	2	3	2	1
AT13	WIEN	2	2	3	1	3	3	2
AT21	KAERNTEN	2	2	2	2	2	2	1
AT22	STEIERMARK	2	2	2	2	3	2	1
AT31	OBEROESTERREICH	1	1	1	1	2	1	1
AT32	SALZBURG	1	1	2	1	1	1	1
AT33	TIROL	1	1	1	1	1	1	1
AT34	VORARLBERG	1	1	1	1	1	1	1
BE1	REG.BRUXELLES-CAP./BRUSSELS HFDST.GEW.	2	1	1	2	3	1	1
BE21	ANTWERPEN	2	2	2	3	3	1	1
BE22	LIMBURG (B)	1	1	1	1	1	1	1
BE23	OOST-VLAANDEREN	2	1	2	3	3	2	1
BE24	VLAAMS BRABANT	2	1	2	2	3	2	1
BE25	WEST-VLAANDEREN	3	2	2	3	3	2	1
BE31	BRABANT WALLON	1	1	1	1	1	1	1
BE32	HAINAUT	3	1	1	3	3	1	1
BE33	LIEGE	3	1	1	3	3	1	1
BE34	LUXEMBOURG (B)	2	1	1	3	2	1	1
BE35	NAMUR	2	1	1	2	2	1	1
BG01	SEVEROIZTOCHEN (NORTH-WEST)	4	4	2	4	4	3	2
BG02	SEVEREN TSENTRALEN (NORTH CENTRAL)	4	3	2	4	3	3	3
BG03	SEVEROZAPADEN (NORTH-EAST)	1	2	1	1	1	2	3
BG04	YUGOIZTOCHEN (NORTH-EAST)	1	1	2	1	1	3	4
BG05	YUZHEN TSENTRALEN (SOUTH CENTRAL)	1	2	1	1	1	2	3
BG06	YUGOZAPADEN (SOUTH-EAST)	1	2	1	1	1	1	2
CH01	REGION LEMANIQUE	1	1	2	1	2	1	1
CH02	ESPACE MITTELLAND	2	1	2	2	3	1	1
CH03	SUISSE DU NORD-EST	1	2	2	1	2	2	1
CH04	ZUERICH	1	2	2	1	2	2	1
CH05	SUISSE ORIENTALE	1	1	1	1	2	1	1
CH06	SUISSE CENTRALE	1	1	1	1	1	1	1
CH07	TICINO	3	3	3	2	4	3	1
CY	KIBRIS	1	1	1	1	1	1	1
CZ01	PRAHA	2	1	2	1	1	4	4
CZ02	STREDNÍ CECHY	1	1	1	1	1	2	3

CZ03	JIHOZÁPAD	1	1	1	1	1	2	3
CZ04	SEVEROZÁPAD	1	1	1	1	1	1	3
CZ05	SEVEROVYCHOD	1	1	1	1	1	2	3
CZ06	JIHOVYCHOD	1	1	1	1	1	2	3
CZ07	STREDNI MORAVA	1	1	1	1	1	2	3
CZ08	OSTRAVSKY	1	1	1	1	1	1	3
DE11	STUTTGART	1	4	3	1	3	2	1
DE12	KARLSRUHE	2	4	3	1	3	2	1
DE13	FREIBURG	2	3	3	2	3	2	1
DE14	TUEBINGEN	1	3	2	1	2	1	1
DE21	OBERBAYERN	1	4	4	1	3	3	1
DE22	NIEDERBAYERN	2	3	2	2	3	2	1
DE23	OBERPFALZ	2	3	2	2	3	2	1
DE24	OBERFRANKEN	3	4	3	3	4	2	1
DE25	MITTELFRANKEN	2	4	3	2	3	2	1
DE26	UNTERFRANKEN	2	3	2	2	3	2	1
DE27	SCHWABEN	2	4	3	2	3	1	1
DE3	BERLIN	1	4	4	1	2	4	3
DE4	BRANDENBURG	1	4	2	1	1	4	3
DE5	BREMEN	3	4	4	3	4	4	2
DE6	HAMBURG	2	4	4	1	4	4	3
DE71	DARMSTADT	2	4	4	1	4	3	1
DE72	GIESSEN	2	3	3	2	3	2	1
DE73	KASSEL	3	4	3	3	4	2	1
DE8	MECKLENBURG VORPOMMERN	1	4	2	1	1	3	4
DE91	BRAUNSCHWEIG	3	4	3	3	4	3	1
DE92	HANNOVER	3	4	4	3	4	3	1
DE93	LUENEBURG	2	4	3	2	4	2	1
DE94	WESER-EMS	1	3	2	1	2	1	1
DEA1	DUESSELDORF	3	4	4	2	4	3	1
DEA2	KOELN	2	4	3	1	3	2	1
DEA3	MUENSTER	2	3	2	2	3	1	1
DEA4	DETMOLD	2	4	3	2	3	1	1
DEA5	ARNSBERG	2	4	3	2	4	2	1
DEB1	KOBLENZ	3	4	3	3	4	2	1
DEB2	TRIER	3	3	3	3	4	2	1
DEB3	RHEINHESSEN-PFALZ	2	4	3	2	4	2	1
DEC	SAARLAND	3	4	3	3	4	3	1
DED1	CHEMNITZ	4	4	3	4	4	4	4
DED2	DRESDEN	3	4	3	2	2	4	4
DED3	LEIPZIG	3	4	3	2	3	4	4
DEE1	DESSAU	2	4	3	2	2	4	4
DEE2	HALLE	3	4	3	2	2	4	4
DEE3	MAGDEBURG	2	4	3	2	2	4	3
DEF	SCHLESWIG-HOLSTEIN	2	4	4	2	4	2	1
DEG	THUERINGEN	2	4	2	2	2	4	4
DK	DANMARK	1	2	2	1	2	1	1
EE	EESTI	1	2	1	1	1	1	2
ES11	GALICIA	4	2	2	4	2	4	4
ES12	ASTURIAS	4	1	3	4	3	4	4
ES13	CANTABRIA	4	1	1	3	2	4	4
ES21	PAIS VASCO	3	1	3	2	2	4	4
ES22	NAVARRA	3	1	2	3	2	4	4
ES23	RIOJA	4	1	2	4	3	4	4
ES24	ARAGON	4	1	3	4	4	4	4

ES3	MADRID	1	1	2	1	1	3	4
ES41	CASTILLA-LEON	4	1	2	4	4	4	4
ES42	CASTILLA-LA MANCHA	4	1	1	4	2	2	3
ES43	EXTREMADURA	3	1	1	4	2	2	3
ES51	CATALUNA	3	1	2	2	2	4	4
ES52	COMUNIDAD VALENCIANA	2	1	1	2	1	3	4
ES53	BALEARES	1	1	1	1	1	2	3
ES61	ANDALUCIA	1	1	1	1	1	1	3
ES62	MURCIA	1	1	1	1	1	1	3
ES63	CEUTA Y MELILLA	1	1	1	1	1	1	1
ES7	CANARIAS	1	1	1	1	1	2	4
FI13	IT--SUOMI	2	2	1	3	2	1	1
FI14	VALI-SUOMI	2	2	1	3	2	1	1
FI15	POHJOIS-SUOMI	1	1	1	1	1	1	1
FI16	UUSIMAA (SUURALUE)	1	1	2	1	1	1	1
FI17	ETELA-SUOMI	2	2	2	2	2	1	1
FI2	AALAND	2	2	2	2	3	1	1
FR1	ILE DE FRANCE	1	1	1	1	1	1	1
FR21	CHAMPAGNE-ARDENNE	2	1	1	2	1	1	1
FR22	PICARDIE	1	1	1	1	1	1	1
FR23	HAUTE-NORMANDIE	1	1	1	1	1	1	1
FR24	CENTRE	3	1	1	4	3	1	1
FR25	BASSE-NORMANDIE	3	1	1	3	2	1	1
FR26	BOURGOGNE	4	1	1	4	4	1	1
FR3	NORD-PAS-DE-CALAIS	1	1	1	1	1	1	1
FR41	LORRAINE	1	1	1	2	1	1	1
FR42	ALSACE	1	1	1	1	1	1	1
FR43	FRANCHE-COMTE	2	1	1	2	2	1	1
FR51	PAYS DE LA LOIRE	2	1	1	3	2	1	1
FR52	BRETAGNE	3	1	1	4	3	1	1
FR53	POITOU-CHARENTES	4	1	1	4	4	2	1
FR61	AQUITAINE	4	1	1	4	4	2	1
FR62	MIDI-PYRENEES	4	1	1	4	4	2	1
FR63	LIMOUSIN	4	2	2	4	4	3	1
FR71	RHONE-ALPES	1	1	1	1	1	1	1
FR72	AUVERGNE	4	1	1	4	4	2	1
FR81	LANGUEDOC-ROUSSILLON	4	2	1	4	4	1	1
FR82	PROVENCE-ALPES-COTE D'AZUR	3	2	1	4	3	1	1
FR83	CORSE	4	3	2	4	4	2	1
FR91	GUADELOUPE	1	1	1	1	1	1	1
FR92	MARTINIQUE	1	1	1	1	1	1	1
FR93	GUYANE	1	1	1	1	1	1	1
FR94	REUNION	1	1	1	1	1	1	1
GR11	ANATOLIKI MAKEDONIA, THRAKI	3	4	2	3	2	2	2
GR12	KENTRIKI MAKEDONIA	2	3	2	2	1	3	3
GR13	DYTIKI MAKEDONIA	3	3	2	3	2	3	3
GR14	THESSALIA	3	4	2	3	2	3	3
GR21	IPEIROS	4	3	2	4	3	4	4
GR22	IONIA NISIA	4	2	2	4	3	3	3
GR23	DYTIKI ELLADA	3	2	1	3	1	3	4
GR24	STEREA ELLADA	4	4	2	4	2	4	4
GR25	PELOPONNISOS	4	4	2	4	4	4	4
GR3	ATTIKI	2	1	2	1	1	3	3

GR41	VOREIO AIGAIO	4	3	2	4	4	3	2
GR42	NOTIO AIGAIO	1	1	1	1	1	1	2
GR43	KRITI	2	1	1	3	1	2	3
HU01	KOEZEP-MAGYARORSZAG	1	2	2	1	1	3	4
HU02	KOEZEP-DUNANTUL	1	1	1	1	1	1	3
HU03	NYUGAT-DUNANTUL	1	1	1	1	1	2	3
HU04	DEL-DUNANTUL	1	2	2	1	1	2	3
HU05	ESZAK-MAGYARORSZAG	1	2	2	1	1	1	2
HU06	ESZAK-ALFOELD	1	1	1	1	1	1	1
HU07	DEL-ALFOELD	1	2	2	1	1	2	2
IE01	BORDER, MIDLAND AND WESTERN	1	1	1	1	1	1	1
IE02	SOUTHERN AND EASTERN	1	1	1	1	1	1	1
IT11	PIEMONTE	4	4	4	4	4	4	4
IT12	VALLE D'AOSTA	4	3	4	3	4	4	3
IT13	LIGURIA	4	4	4	4	4	4	4
IT2	LOMBARDIA	3	3	4	2	4	4	3
IT31	TRENTINO-ALTO ADIGE	2	2	3	2	3	2	2
IT32	VENETO	3	3	4	2	4	4	3
IT33	FRIULI-VENEZIA GIULIA	4	4	4	4	4	4	4
IT4	EMILIA-ROMAGNA	4	4	4	4	4	4	4
IT51	TOSCANA	4	4	4	4	4	4	4
IT52	UMBRIA	4	4	4	4	4	4	4
IT53	MARCHE	4	3	4	4	4	4	3
IT6	LAZIO	2	3	3	2	3	4	3
IT71	ABRUZZO	4	2	3	4	4	4	3
IT72	MOLISE	4	2	2	4	4	3	3
IT8	CAMPANIA	1	1	1	1	1	1	1
IT91	PUGLIA	1	1	1	1	1	1	3
IT92	BASILICATA	3	1	1	3	2	2	3
IT93	CALABRIA	2	1	1	2	1	1	2
ITA	SICILIA	2	1	1	2	1	1	2
ITB	SARDEGNA	1	1	2	1	1	3	4
LT	LIETUVA	1	2	1	1	1	1	1
LU	LUXEMBOURG (GRAND-DUCHE)	1	1	2	1	2	1	1
LV	LATVIJA	1	3	1	1	1	1	2
MT	MALTA	1	1	1	1	1	1	1
NL11	GRONINGEN	1	1	1	1	1	2	2
NL12	FRIESLAND	1	1	1	1	1	1	1
NL13	DRENTHE	1	2	2	1	3	1	1
NL21	OVERIJSSEL	1	1	1	1	1	1	1
NL22	GELDERLAND	1	1	1	1	1	1	1
NL23	FLEVOLAND	1	1	1	1	1	1	1
NL31	UTRECHT	1	1	1	1	1	1	1
NL32	NOORD-HOLLAND	1	1	2	1	2	1	1
NL33	ZUID-HOLLAND	1	1	1	1	1	1	1
NL34	ZEELAND	2	2	2	2	3	1	1
NL41	NOORD-BRABANT	1	1	2	1	1	1	1
NL42	LIMBURG (NL)	1	2	2	1	2	1	1
NO01	OSLO OG AKERSHUS	1	1	1	1	2	1	1
NO02	HEDMARK OG OPPLAND	4	2	2	4	4	1	1
NO03	SOR-OSTLANDET	2	1	1	2	2	1	1
NO04	AGDER OG ROGALAND	1	1	1	1	1	1	1
NO05	VESTLANDET	1	1	1	2	2	1	1

NO06	TRONDELAG	1	1	1	2	2	1	1
NO07	NORD-NORGE	1	1	1	1	2	1	1
PL01	DOLNOSLASKIE	1	1	1	1	1	1	3
PL02	KUJAWSKO-POMORSKIE	1	1	1	1	1	1	2
PL03	LUBELSKIE	1	1	1	1	1	1	2
PL04	LUBUSKIE	1	1	1	1	1	1	2
PL05	LÓDZKIE	1	1	1	1	1	2	3
PL06	MALOPOLSKIE	1	1	1	1	1	1	2
PL07	MAZOWIECKIE	1	1	1	1	1	1	2
PL08	OPOLSKIE	1	1	1	1	1	1	3
PL09	PODKARPACKIE	1	1	1	1	1	1	1
PL0A	PODLASKIE	1	1	1	1	1	1	1
PL0B	POMORSKIE	1	1	1	1	1	1	2
PL0C	SLASKIE	1	1	1	1	1	1	3
PL0D	SWIETOKRZYSKIE	1	1	1	1	1	1	2
PL0E	WARMINSKO-MAZURSKIE	1	1	1	1	1	1	2
PL0F	WIELKOPOLSKIE	1	1	1	1	1	1	2
PL0G	ZACHODNIOPOMORSKIE	1	1	1	1	1	1	3
PT11	NORTE	1	1	1	1	1	1	2
PT12	CENTRO (P)	4	3	2	4	3	3	3
PT13	LISBOA E VALE DO TEJO	2	2	3	2	2	3	3
PT14	ALENTEJO	4	4	3	4	4	4	3
PT15	ALGARVE	2	2	3	2	2	3	3
PT2	ACORES	1	1	1	1	1	1	1
PT3	MADEIRA	1	1	1	1	1	1	2
RO01	NORD-EST	1	1	1	1	1	1	2
RO02	SUD-EST	1	1	1	1	1	1	3
RO03	SUD	1	2	1	1	1	1	3
RO04	SUD-VEST	1	2	1	1	1	1	3
RO05	VEST	1	1	1	1	1	1	3
RO06	NORD-VEST	1	1	1	1	1	1	3
RO07	CENTRU	1	1	1	1	1	1	3
RO08	BUCURESTI	1	1	1	1	1	4	4
SE01	STOCKHOLM LAEN	1	1	2	1	2	1	1
SE02	OESTRA MELLANSVERIGE	3	3	2	3	3	1	1
SE04	SYDSVERIGE	3	3	2	4	3	1	1
SE06	NORRA MELLANSVERIGE	4	4	2	4	4	1	1
SE07	MELLERSTA NORRLAND	4	4	2	4	4	1	1
SE08	OEVRE NORRLAND	3	3	2	3	3	1	1
SE09	SMAALAND MED OEARNA	4	3	2	4	4	1	1
SE0A	V-STSVERIGE	3	2	2	3	3	1	1
SI	SLOVENIJA	1	1	1	1	1	2	3
SK01	BRATISLAVSKÝ	1	1	1	1	1	2	4
SK02	Z-PADN+ SLOVENSKO	1	1	1	1	1	1	3
SK03	STREDN+ SLOVENSKO	1	1	1	1	1	1	2
SK04	VÝCHODN+ SLOVENSKO	1	1	1	1	1	1	1
UKC1	TEES VALLEY AND DURHAM	1	2	1	2	2	1	1
UKC2	NORTHUMBERLAND AND TYNE AND WEAR	2	1	1	3	2	1	1
UKD1	CUMBRIA	3	3	2	3	4	1	1
UKD2	CHESHIRE	1	2	2	2	3	1	1

UKD3	GREATER MANCHESTER	1	1	1	1	1	1	1
UKD4	LANCASHIRE	2	2	1	3	3	1	1
UKD5	MERSEYSIDE	2	2	1	2	2	1	1
UKE1	EAST RIDING AND NORTH LINCOLNSHIRE	2	2	1	3	3	1	1
UKE2	NORTH YORKSHIRE	3	3	2	3	4	1	1
UKE3	SOUTH YORKSHIRE	2	1	1	2	2	1	1
UKE4	WEST YORKSHIRE	1	1	1	1	1	1	1
UKF1	DERBYSHIRE AND NOTTINGHAMSHIRE	2	1	1	2	3	1	1
UKF2	LEICESTERSHIRE, RUTLAND AND NORTHAMPTONSHIRE	1	1	1	1	1	1	1
UKF3	LINCOLNSHIRE	4	4	2	4	4	1	1
UKG1	HEREFORDSHIRE, WORCESTERSHIRE AND WARWICKSHIRE	2	3	2	2	4	1	1
UKG2	SHROPSHIRE AND STAFFORDSHIRE	1	2	2	2	2	1	1
UKG3	WEST MIDLANDS	1	1	1	2	1	1	1
UKH1	EAST ANGLIA	3	2	2	3	3	1	1
UKH2	BEDFORDSHIRE AND HERTFORDSHIRE	1	1	1	1	2	1	1
UKH3	ESSEX	2	1	2	2	3	1	1
UKI1	INNER LONDON	1	1	1	1	1	1	2
UKI2	OUTER LONDON	1	1	1	1	1	1	1
UKJ1	BERKSHIRE, BUCKINGHAMSHIRE AND OXFORDSHIRE	1	1	1	1	1	1	1
UKJ2	SURREY, EAST AND WEST SUSSEX	3	2	2	4	4	1	1
UKJ3	HAMPSHIRE AND ISLE OF WIGHT	2	1	1	2	2	1	1
UKJ4	KENT	2	2	1	2	3	1	1
UKK1	GLOUCESTERSHIRE, WILTSHIRE AND NORTH SOMERSET	2	1	1	2	3	1	1
UKK2	DORSET AND SOMERSET	4	3	2	4	4	1	1
UKK3	CORNWALL AND ISLES OF SCILLY	4	4	2	4	4	1	1
UKK4	DEVON	4	3	2	4	4	1	1
UKL1	WEST WALES AND THE VALLEYS	3	3	1	4	3	1	1
UKL2	EAST WALES	2	2	1	2	2	1	1
UKM1	NORTH EASTERN SCOTLAND	1	1	1	1	1	1	1
UKM2	EASTERN SCOTLAND	2	1	1	2	2	1	1
UKM3	SOUTH WESTERN SCOTLAND	1	1	1	1	2	1	1
UKM4	HIGHLANDS AND ISLANDS	2	3	2	3	3	1	1
UKN	NORTHERN IRELAND	1	1	1	1	1	1	1

Table A3: Core indicators with regard to population, ageing and depopulation

NUTS 2	REGION NAME	Average score on indirect "ageing"/ "depopu-lating" indicators	Average score on indirect "ageing"/ "depopu-lating" indicators, Grouped (quartiles)	National Total Fertility Rates 1999-2000 CODE
NUTS_2	REGION			
AT11	BURGENLAND	2,6	4	2
AT12	NIEDEROESTERREICH	2,1	3	2
AT13	WIEN	2,3	3	2
AT21	KAERNTEN	1,9	3	2
AT22	STEIERMARK	2,0	3	2
AT31	OBEROESTERREICH	1,1	1	2
AT32	SALZBURG	1,1	1	2
AT33	TIROL	1,0	1	2
AT34	VORARLBERG	1,0	1	2
BE1	REG.BRUXELLES-CAP./BRUSSELS HFDST.GEW.	1,6	2	3
BE21	ANTWERPEN	2,0	3	3
BE22	LIMBURG (B)	1,0	1	3
BE23	OOST-VLAANDEREN	2,0	3	3
BE24	VLAAMS BRABANT	1,9	3	3
BE25	WEST-VLAANDEREN	2,3	3	3
BE31	BRABANT WALLON	1,0	1	3
BE32	HAINAUT	1,9	3	3
BE33	LIEGE	1,9	3	3
BE34	LUXEMBOURG (B)	1,6	2	3
BE35	NAMUR	1,4	2	3
BG01	SEVEROIZTOCHEN (NORTH-WEST)	3,3	4	1
BG02	SEVEREN TSENTRALEN (NORTH CENTRAL)	3,1	4	1
BG03	SEVEROZAPADEN (NORTH-EAST)	1,6	2	1
BG04	YUGOIZTOCHEN (NORTH-EAST)	1,9	3	1
BG05	YUZHEN TSENTRALEN (SOUTH CENTRAL)	1,6	2	1
BG06	YUGOZAPADEN (SOUTH-EAST)	1,3	2	1
CH01	REGION LEMANIQUE	1,3	2	2
CH02	ESPACE MITTELLAND	1,7	3	2
CH03	SUISSE DU NORD-EST	1,6	2	2
CH04	ZUERICH	1,6	2	2
CH05	SUISSE ORIENTALE	1,1	1	2
CH06	SUISSE CENTRALE	1,0	1	2
CH07	TICINO	2,7	4	2
CY	KIBRIS	1,0	1	3
CZ01	PRAHA	2,1	3	1
CZ02	STREDNÍ CECHY	1,4	2	1
CZ03	JIHOZÁPAD	1,4	2	1
CZ04	SEVEROZÁPAD	1,3	2	1
CZ05	SEVEROVYCHOD	1,4	2	1
CZ06	JIHOVYCHOD	1,4	2	1

CZ07	STREDNI MORAVA	1,4	2	1
CZ08	OSTRAVSKY	1,3	2	1
DE11	STUTTGART	2,1	3	2
DE12	KARLSRUHE	2,3	3	2
DE13	FREIBURG	2,3	3	2
DE14	TUEBINGEN	1,6	2	2
DE21	OBERBAYERN	2,4	3	2
DE22	NIEDERBAYERN	2,1	3	2
DE23	OBERPFALZ	2,1	3	2
DE24	OBERFRANKEN	2,9	4	2
DE25	MITTELFRANKEN	2,4	3	2
DE26	UNTERFRANKEN	2,1	3	2
DE27	SCHWABEN	2,3	3	2
DE3	BERLIN	2,7	4	2
DE4	BRANDENBURG	2,3	3	2
DE5	BREMEN	3,4	4	2
DE6	HAMBURG	3,1	4	2
DE71	DARMSTADT	2,7	4	2
DE72	GIESSEN	2,3	3	2
DE73	KASSEL	2,9	4	2
DE8	MECKLENBURG VORPOMMERN	2,3	3	2
DE91	BRAUNSCHWEIG	3,0	4	2
DE92	HANNOVER	3,1	4	2
DE93	LUENEBURG	2,6	4	2
DE94	WESER-EMS	1,6	2	2
DEA1	DUESSELDORF	3,0	4	2
DEA2	KOELN	2,3	3	2
DEA3	MUENSTER	2,0	3	2
DEA4	DETMOLD	2,3	3	2
DEA5	ARNSBERG	2,6	4	2
DEB1	KOBLENZ	2,9	4	2
DEB2	TRIER	2,7	4	2
DEB3	RHEINHESSEN-PFALZ	2,6	4	2
DEC	SAARLAND	3,0	4	2
DED1	CHEMNITZ	3,9	4	2
DED2	DRESDEN	3,1	4	2
DED3	LEIPZIG	3,3	4	2
DEE1	DESSAU	3,0	4	2
DEE2	HALLE	3,1	4	2
DEE3	MAGDEBURG	2,9	4	2
DEF	SCHLESWIG-HOLSTEIN	2,7	4	2
DEG	THUERINGEN	2,9	4	2
DK	DANMARK	1,4	2	3
EE	EESTI	1,3	2	1
ES11	GALICIA	3,1	4	1
ES12	ASTURIAS	3,3	4	1
ES13	CANTABRIA	2,7	4	1
ES21	PAIS VASCO	2,7	4	1
ES22	NAVARRA	2,7	4	1
ES23	RIOJA	3,1	4	1
ES24	ARAGON	3,4	4	1

ES3	MADRID	1,9	3	1
ES41	CASTILLA-LEON	3,3	4	1
ES42	CASTILLA-LA MANCHA	2,4	3	1
ES43	EXTREMADURA	2,3	3	1
ES51	CATALUNA	2,6	4	1
ES52	COMUNIDAD VALENCIANA	2,0	3	1
ES53	BALEARES	1,4	2	1
ES61	ANDALUCIA	1,3	2	1
ES62	MURCIA	1,3	2	1
ES63	CEUTA Y MELILLA	1,0	1	1
ES7	CANARIAS	1,6	2	1
FI13	IT--SUOMI	1,7	3	3
FI14	VALI-SUOMI	1,7	3	3
FI15	POHJOIS-SUOMI	1,0	1	3
FI16	UUSIMAA (SUURALUE)	1,1	1	3
FI17	ETELA-SUOMI	1,7	3	3
FI2	AALAND	1,9	3	3
FR1	ILE DE FRANCE	1,0	1	3
FR21	CHAMPAGNE-ARDENNE	1,3	2	3
FR22	PICARDIE	1,0	1	3
FR23	HAUTE-NORMANDIE	1,0	1	3
FR24	CENTRE	2,0	3	3
FR25	BASSE-NORMANDIE	1,7	3	3
FR26	BOURGOGNE	2,3	3	3
FR3	NORD-PAS-DE-CALAIS	1,0	1	3
FR41	LORRAINE	1,1	1	3
FR42	ALSACE	1,0	1	3
FR43	FRANCHE-COMTE	1,4	2	3
FR51	PAYS DE LA LOIRE	1,6	2	3
FR52	BRETAGNE	2,0	3	3
FR53	POITOU-CHARENTES	2,4	3	3
FR61	AQUITAINE	2,4	3	3
FR62	MIDI-PYRENEES	2,4	3	3
FR63	LIMOUSIN	2,9	4	3
FR71	RHONE-ALPES	1,0	1	3
FR72	AUVERGNE	2,4	3	3
FR81	LANGUEDOC-ROUSSILLON	2,4	3	3
FR82	PROVENCE-ALPES-COTE D'AZUR	2,1	3	3
FR83	CORSE	2,9	4	3
FR91	GUADELOUPE	1,0	1	3
FR92	MARTINIQUE	1,0	1	3
FR93	GUYANE	1,0	1	3
FR94	REUNION	1,0	1	3
GR11	ANATOLIKI MAKEDONIA, THRAKI	2,6	4	2
GR12	KENTRIKI MAKEDONIA	2,3	3	2
GR13	DYTIKI MAKEDONIA	2,7	4	2
GR14	THESSALIA	2,9	4	2
GR21	IPEIROS	3,4	4	2
GR22	IONIA NISIA	3,0	4	2
GR23	DYTIKI ELLADA	2,4	3	2
GR24	STEREA ELLADA	3,4	4	2

GR25	PELOPONNISOS	3,7	4	2
GR3	ATTIKI	1,9	3	2
GR41	VOREIO AIGAIO	3,1	4	2
GR42	NOTIO AIGAIO	1,1	1	2
GR43	KRITI	1,9	3	2
HU01	KOEZEP-MAGYARORSZAG	2,0	3	1
HU02	KOEZEP-DUNANTUL	1,3	2	1
HU03	NYUGAT-DUNANTUL	1,4	2	1
HU04	DEL-DUNANTUL	1,7	3	1
HU05	ESZAK-MAGYARORSZAG	1,4	2	1
HU06	ESZAK-ALFOELD	1,0	1	1
HU07	DEL-ALFOELD	1,6	2	1
IE01	BORDER, MIDLAND AND WESTERN	1,0	1	3
IE02	SOUTHERN AND EASTERN	1,0	1	3
IT11	PIEMONTE	4,0	4	1
IT12	VALLE D'AOSTA	3,6	4	1
IT13	LIGURIA	4,0	4	1
IT2	LOMBARDIA	3,3	4	1
IT31	TRENTINO-ALTO ADIGE	2,3	3	1
IT32	VENETO	3,3	4	1
IT33	FRIULI-VENEZIA GIULIA	4,0	4	1
IT4	EMILIA-ROMAGNA	4,0	4	1
IT51	TOSCANA	4,0	4	1
IT52	UMBRIA	4,0	4	1
IT53	MARCHE	3,7	4	1
IT6	LAZIO	2,9	4	1
IT71	ABRUZZO	3,4	4	1
IT72	MOLISE	3,1	4	1
IT8	CAMPANIA	1,0	1	1
IT91	PUGLIA	1,3	2	1
IT92	BASILICATA	2,1	3	1
IT93	CALABRIA	1,4	2	1
ITA	SICILIA	1,4	2	1
ITB	SARDEGNA	1,9	3	1
LT	LIETUVA	1,1	1	2
LU	LUXEMBOURG (GRAND-DUCHE)	1,3	2	3
LV	LATVIJA	1,4	2	1
MT	MALTA	1,0	1	3
NL11	GRONINGEN	1,3	2	3
NL12	FRIESLAND	1,0	1	3
NL13	DRENTHE	1,6	2	3
NL21	OVERIJSSEL	1,0	1	3
NL22	GELDERLAND	1,0	1	3
NL23	FLEVOLAND	1,0	1	3
NL31	UTRECHT	1,0	1	3
NL32	NOORD-HOLLAND	1,3	2	3
NL33	ZUID-HOLLAND	1,0	1	3
NL34	ZEELAND	1,9	3	3
NL41	NOORD-BRABANT	1,1	1	3
NL42	LIMBURG (NL)	1,4	2	3
NO01	OSLO OG AKERSHUS	1,1	1	3

NO02	HEDMARK OG OPPLAND	2,6	4	3
NO03	SOR-OSTLANDET	1,4	2	3
NO04	AGDER OG ROGALAND	1,0	1	3
NO05	VESTLANDET	1,3	2	3
NO06	TRONDELAG	1,3	2	3
NO07	NORD-NORGE	1,1	1	3
PL01	DOLNOSLASKIE	1,3	2	2
PL02	KUJAWSKO-POMORSKIE	1,1	1	2
PL03	LUBELSKIE	1,1	1	2
PL04	LUBUSKIE	1,1	1	2
PL05	LÓDZKIE	1,4	2	2
PL06	MALOPOLSKIE	1,1	1	2
PL07	MAZOWIECKIE	1,1	1	2
PL08	OPOLSKIE	1,3	2	2
PL09	PODKARPACKIE	1,0	1	2
PL0A	PODLASKIE	1,0	1	2
PL0B	POMORSKIE	1,1	1	2
PL0C	SLASKIE	1,3	2	2
PL0D	SWIETOKRZYSKIE	1,1	1	2
PL0E	WARMINSKO-MAZURSKIE	1,1	1	2
PL0F	WIELKOPOLSKIE	1,1	1	2
PL0G	ZACHODNIOPOMORSKIE	1,3	2	2
PT11	NORTE	1,1	1	2
PT12	CENTRO (P)	3,1	4	2
PT13	LISBOA E VALE DO TEJO	2,4	3	2
PT14	ALENTEJO	3,7	4	2
PT15	ALGARVE	2,4	3	2
PT2	ACORES	1,0	1	2
PT3	MADEIRA	1,1	1	2
RO01	NORD-EST	1,1	1	2
RO02	SUD-EST	1,3	2	2
RO03	SUD	1,4	2	2
RO04	SUD-VEST	1,4	2	2
RO05	VEST	1,3	2	2
RO06	NORD-VEST	1,3	2	2
RO07	CENTRU	1,3	2	2
RO08	BUCURESTI	1,9	3	2
SE01	STOCKHOLM LAEN	1,3	2	2
SE02	OESTRA MELLANSVERIGE	2,3	3	2
SE04	SYDSVERIGE	2,4	3	2
SE06	NORRA MELLANSVERIGE	2,9	4	2
SE07	MELLERSTA NORRLAND	2,9	4	2
SE08	OEVRE NORRLAND	2,3	3	2
SE09	SMAALAND MED OEARNA	2,7	4	2
SE0A	VASTSVERIGE	2,1	3	2
SI	SLOVENIJA	1,4	2	1
SK01	BRATISLAVSKÝ	1,6	2	2
SK02	Z-PADN+ SLOVENSKO	1,3	2	2
SK03	STREDN+ SLOVENSKO	1,1	1	2
SK04	VÝCHODN+ SLOVENSKO	1,0	1	2
UKC1	TEES VALLEY AND DURHAM	1,4	2	3

UKC2	NORTHUMBERLAND AND TYNE AND WEAR	1,6	2	3
UKD1	CUMBRIA	2,4	3	3
UKD2	CHESHIRE	1,7	3	3
UKD3	GREATER MANCHESTER	1,0	1	3
UKD4	LANCASHIRE	1,9	3	3
UKD5	MERSEYSIDE	1,6	2	3
UKE1	EAST RIDING AND NORTH LINCOLNSHIRE	1,9	3	3
UKE2	NORTH YORKSHIRE	2,4	3	3
UKE3	SOUTH YORKSHIRE	1,4	2	3
UKE4	WEST YORKSHIRE	1,0	1	3
UKF1	DERBYSHIRE AND NOTTINGHAMSHIRE	1,6	2	3
UKF2	LEICESTERSHIRE, RUTLAND AND NORTHAMPTONSHIRE	1,0	1	3
UKF3	LINCOLNSHIRE	2,9	4	3
UKG1	HEREFORDSHIRE, WORCESTERSHIRE AND WARWICKSHIRE	2,1	3	3
UKG2	SHROPSHIRE AND STAFFORDSHIRE	1,6	2	3
UKG3	WEST MIDLANDS	1,1	1	3
UKH1	EAST ANGLIA	2,1	3	3
UKH2	BEDFORDSHIRE AND HERTFORDSHIRE	1,1	1	3
UKH3	ESSEX	1,7	3	3
UKI1	INNER LONDON	1,1	1	3
UKI2	OUTER LONDON	1,0	1	3
UKJ1	BERKSHIRE, BUCKINGHAMSHIRE AND OXFORDSHIRE	1,0	1	3
UKJ2	SURREY, EAST AND WEST SUSSEX	2,4	3	3
UKJ3	HAMPSHIRE AND ISLE OF WIGHT	1,4	2	3
UKJ4	KENT	1,7	3	3
UKK1	GLOUCESTERSHIRE, WILTSHIRE AND NORTH SOMERSET	1,6	2	3
UKK2	DORSET AND SOMERSET	2,7	4	3
UKK3	CORNWALL AND ISLES OF SCILLY	2,9	4	3
UKK4	DEVON	2,7	4	3
UKL1	WEST WALES AND THE VALLEYS	2,3	3	3
UKL2	EAST WALES	1,6	2	3
UKM1	NORTH EASTERN SCOTLAND	1,0	1	3
UKM2	EASTERN SCOTLAND	1,4	2	3
UKM3	SOUTH WESTERN SCOTLAND	1,1	1	3
UKM4	HIGHLANDS AND ISLANDS	2,1	3	3
UKN	NORTHERN IRELAND	1,0	1	3

Table A4. Core indicators with regard to population, ageing and depopulation.					
NUTS 2	REGION NAME	Percent population change 1995-1999	Share of NUTS 2 average population 1999 living in NUTS 3 regions with population decline 1995-1999	Share of NUTS 2 area comprising NUTS 3 regions with population decline 1995-1999	Population density 1999 (ihabitants/ square kilometers)
NUTS_2	REGION	1995-1999			1999
AT11	BURGENLAND	1,1	0,0	0,0	70,1
AT12	NIEDEROESTERREICH	1,4	14,4	24,1	80,3
AT13	WIEN	0,6	0,0	0,0	3862,7
AT21	KAERNTEN	0,5	0,0	0,0	59,2
AT22	STEIERMARK	-0,2	24,1	38,5	73,4
AT31	OBEROESTERREICH	-0,6	69,3	56,8	114,9
AT32	SALZBURG	1,6	0,0	0,0	72,0
AT33	TIROL	1,2	0,0	0,0	52,7
AT34	VORARLBERG	1,5	0,0	0,0	133,8
BE1	REG.BRUXELLES-CAP./BRUSSELS HFDST.GEW.	0,5	0,0	0,0	5931,7
BE21	ANTWERPEN	0,6	56,8	34,9	572,0
BE22	LIMBURG (B)	1,7	0,0	0,0	324,9
BE23	OOST-VLAANDEREN	0,5	0,0	0,0	455,4
BE24	VLAAMS BRABANT	1,4	0,0	0,0	480,1
BE25	WEST-VLAANDEREN	0,4	0,0	0,0	359,5
BE31	BRABANT WALLON	2,7	0,0	0,0	318,1
BE32	HAINAUT	-0,3	57,9	32,8	338,4
BE33	LIEGE	0,3	57,7	20,6	263,6
BE34	LUXEMBOURG (B)	1,7	0,0	0,0	55,2
BE35	NAMUR	1,4	0,0	0,0	120,3
BG01	SEVEROIZTOCHEN (NORTH-WEST)	-4,5	100,0	100,0	55,6
BG02	SEVEREN TSENTRALEN (NORTH CENTRAL)	-3,7	100,0	100,0	68,7
BG03	SEVEROZAPADEN (NORTH-EAST)	-2,5	100,0	100,0	67,4
BG04	YUGOIZTOCHEN (NORTH-EAST)	-0,9	43,7	93,4	105,7
BG05	YUZHEN TSENTRALEN (SOUTH CENTRAL)	-2,2	85,9	79,9	75,3
BG06	YUGOZAPADEN (SOUTH-EAST)	-2,4	100,0	100,0	56,5
CH01	REGION LEMANIQUE	1,3	0,0	0,0	148,0
CH02	ESPACE MITTELLAND	0,7	4,2	8,3	164,4
CH03	SUISSE DU NORD-EST	1,1	19,3	1,9	503,8
CH04	ZUERICH	1,4	0,0	0,0	690,0
CH05	SUISSE ORIENTALE	0,7	3,7	5,9	90,3
CH06	SUISSE CENTRALE	2,4	0,0	0,0	150,3
CH07	TICINO	0,3	0,0	0,0	109,2
CY	KIBRIS				
CZ01	PRAHA	-1,9	100,0	100,0	2399,2
CZ02	STREDNÍ CECHY	0,2	0,0	0,0	100,8
CZ03	JIHOZÁPAD	-0,4	100,0	100,0	66,9
CZ04	SEVEROZÁPAD	0,1	0,0	0,0	130,9
CZ05	SEVEROVYCHOD	-0,3	71,2	74,6	119,8
CZ06	JIHOVYCHOD	-0,3	100,0	100,0	118,7

CZ07	STREDNI MORAVA	-0,2	48,2	56,5	136,2
CZ08	OSTRAVSKY	-0,9	100,0	100,0	231,0
DE11	STUTTGART	1,5	18,0	2,9	370,2
DE12	KARLSRUHE	1,1	15,9	3,5	386,2
DE13	FREIBURG	2,0	0,0	0,0	226,7
DE14	TUEBINGEN	1,9	0,0	0,0	196,6
DE21	OBERBAYERN	1,2	29,7	1,8	229,1
DE22	NIEDERBAYERN	2,6	4,3	0,7	113,0
DE23	OBERPFALZ	2,2	15,7	1,4	110,7
DE24	OBERFRANKEN	0,6	29,3	19,6	154,1
DE25	MITTELFRANKEN	1,1	29,0	2,6	232,2
DE26	UNTERFRANKEN	1,4	13,7	1,5	156,1
DE27	SCHWABEN	1,4	20,6	2,5	174,2
DE3	BERLIN	-2,2	100,0	100,0	3804,9
DE4	BRANDENBURG	2,0	40,5	38,7	88,0
DE5	BREMEN	-2,1	100,0	100,0	1644,4
DE6	HAMBURG	-0,2	100,0	100,0	2255,6
DE71	DARMSTADT	0,9	21,1	5,0	498,5
DE72	GIESSEN	1,0	0,0	0,0	197,5
DE73	KASSEL	0,4	34,9	26,9	153,3
DE8	MECKLENBURG VORPOMMERN	-1,8	55,4	38,1	77,5
DE91	BRAUNSCHWEIG	-0,4	58,7	51,4	206,4
DE92	HANNOVER	0,7	35,3	18,7	237,8
DE93	LUENEBURG	3,9	0,0	0,0	106,6
DE94	WESER-EMS	2,8	15,8	2,7	161,0
DEA1	DUESSELDORF	-0,4	61,7	27,8	995,8
DEA2	KOELN	1,9	32,1	8,8	578,0
DEA3	MUENSTER	1,6	36,2	12,5	377,4
DEA4	DETMOLD	2,2	15,7	4,0	314,1
DEA5	ARNSBERG	-0,3	57,6	30,0	476,6
DEB1	KOBLENZ	2,3	0,0	0,0	187,8
DEB2	TRIER	1,2	0,0	0,0	103,8
DEB3	RHEINHESSEN-PFALZ	1,2	15,5	4,1	292,0
DEC	SAARLAND	-1,0	66,5	43,5	417,9
DED1	CHEMNITZ	-2,8	89,9	93,9	270,5
DED2	DRESDEN	-1,8	65,2	86,2	218,2
DED3	LEIPZIG	7,4	15,2	36,3	272,6
DEE1	DESSAU	-3,6	100,0	100,0	129,9
DEE2	HALLE	-3,5	90,9	85,8	198,9
DEE3	MAGDEBURG	-2,9	75,4	68,4	104,4
DEF	SCHLESWIG-HOLSTEIN	2,1	22,2	2,9	175,9
DEG	THUERINGEN	-2,1	82,0	83,0	152,0
DK	DANMARK	1,8	0,0	0,0	123,4
EE	EESTI	-1,0	63,2	43,1	33,0
ES11	GALICIA	-0,7	66,6	84,8	91,9
ES12	ASTURIAS	-1,9	100,0	100,0	100,0
ES13	CANTABRIA	0,0	0,0	0,0	99,5
ES21	PAIS VASCO	-0,7	86,4	58,0	284,0
ES22	NAVARRA	1,5	0,0	0,0	51,3
ES23	RIOJA	0,8	0,0	0,0	52,2
ES24	ARAGON	-1,0	100,0	100,0	24,6
ES3	MADRID	1,6	0,0	0,0	636,3
ES41	CASTILLA-LEON	-1,6	100,0	100,0	26,3
ES42	CASTILLA-LA MANCHA	1,1	39,5	46,5	21,5
ES43	EXTREMADURA	0,0	0,0	0,0	25,7

ES51	CATALUNA	0,9	0,0	0,0	191,9
ES52	COMUNIDAD VALENCIANA	2,0	0,0	0,0	171,1
ES53	BALEARES	6,1	0,0	0,0	153,6
ES61	ANDALUCIA	1,4	19,6	31,2	82,4
ES62	MURCIA	3,1	0,0	0,0	98,2
ES63	CEUTA Y MELILLA	4,5	0,0	0,0	4451,6
ES7	CANARIAS	6,1	0,0	0,0	227,3
FI13	IT--SUOMI	-2,5	100,0	100,0	9,8
FI14	VALI-SUOMI	-0,6	38,3	43,9	16,5
FI15	POHJOIS-SUOMI	0,2	35,1	72,5	4,3
FI16	UUSIMAA (SUURALUE)	5,4	0,0	0,0	150,6
FI17	ETELA-SUOMI	0,4	42,0	46,0	34,6
FI2	AALAND	4,0	0,0	0,0	17,0
FR1	ILE DE FRANCE	0,8	12,6	2,0	912,8
FR21	CHAMPAGNE-ARDENNE	-0,4	36,1	44,7	52,4
FR22	PICARDIE	0,6	28,8	38,0	95,9
FR23	HAUTE-NORMANDIE	0,6	0,0	0,0	144,8
FR24	CENTRE	0,9	22,3	35,8	62,4
FR25	BASSE-NORMANDIE	1,0	20,5	34,7	81,0
FR26	BOURGOGNE	-0,2	47,8	48,7	51,0
FR3	NORD-PAS-DE-CALAIS	0,3	0,0	0,0	322,3
FR41	LORRAINE	-0,2	55,7	73,6	98,2
FR42	ALSACE	2,7	0,0	0,0	210,1
FR43	FRANCHE-COMTE	0,5	0,0	0,0	69,1
FR51	PAYS DE LA LOIRE	2,4	0,0	0,0	100,7
FR52	BRETAGNE	2,2	0,0	0,0	107,0
FR53	POITOU-CHARENTES	1,4	20,7	23,1	63,7
FR61	AQUITAINE	1,9	0,0	0,0	70,6
FR62	MIDI-PYRENEES	2,3	25,8	42,9	56,4
FR63	LIMOUSIN	-0,7	50,2	67,4	42,0
FR71	RHONE-ALPES	2,2	12,9	10,9	129,5
FR72	AUVERGNE	0,0	37,8	50,2	50,4
FR81	LANGUEDOC-ROUSSILLON	3,8	0,0	0,0	84,1
FR82	PROVENCE-ALPES-COTE D'AZUR	2,3	0,0	0,0	143,9
FR83	CORSE	0,4	45,4	46,2	30,0
FR91	GUADELOUPE	1,0	0,0	0,0	248,7
FR92	MARTINIQUE	-1,0	100,0	100,0	338,7
FR93	GUYANE	3,9	0,0	0,0	1,9
FR94	REUNION	7,7	0,0	0,0	281,7
GR11	ANATOLIKI MAKEDONIA, THRAKI	0,2	42,1	39,4	39,8
GR12	KENTRIKI MAKEDONIA	2,1	4,6	13,4	96,0
GR13	DYTIKI MAKEDONIA	0,3	13,8	24,2	32,2
GR14	THESSALIA	0,1	36,1	42,9	52,9
GR21	IPEIROS	2,7	0,0	0,0	40,9
GR22	IONIA NISIA	2,5	26,5	54,6	88,4
GR23	DYTIKI ELLADA	1,4	24,6	23,1	65,2
GR24	STEREA ELLADA	1,4	0,0	0,0	42,6
GR25	PELOPONNISOS	1,2	0,0	0,0	43,3
GR3	ATTIKI	-0,4	100,0	100,0	906,0
GR41	VOREIO AIGAIO	-1,1	79,3	79,7	48,0
GR42	NOTIO AIGAIO	3,0	0,0	0,0	51,6
GR43	KRITI	1,8	0,0	0,0	67,8
HU01	KOEZEP-MAGYARORSZAG	-1,6	64,0	7,6	412,0
HU02	KOEZEP-DUNANTUL	-0,6	61,6	61,2	98,6

HU03	NYUGAT-DUNANTUL	-1,5	100,0	100,0	88,1
HU04	DEL-DUNANTUL	-2,2	100,0	100,0	69,0
HU05	ESZAK-MAGYARORSZAG	-2,2	100,0	100,0	94,7
HU06	ESZAK-ALFOELD	-1,2	100,0	100,0	86,0
HU07	DEL-ALFOELD	-2,0	100,0	100,0	73,4
IE01	BORDER, MIDLAND AND WESTERN	2,8	0,0	0,0	29,7
IE02	SOUTHERN AND EASTERN	4,4	0,0	0,0	74,5
IT11	PIEMONTE	-0,1	70,4	52,7	168,8
IT12	VALLE D'AOSTA	0,8	0,0	0,0	36,8
IT13	LIGURIA	-1,9	86,7	78,7	300,6
IT2	LOMBARDIA	1,4	0,0	0,0	378,9
IT31	TRENTINO-ALTO ADIGE	2,4	0,0	0,0	68,6
IT32	VENETO	1,6	28,2	43,2	245,0
IT33	FRIULI-VENEZIA GIULIA	-0,5	64,8	65,1	150,9
IT4	EMILIA-ROMAGNA	1,2	15,5	23,6	179,5
IT51	TOSCANA	0,2	58,8	52,9	153,7
IT52	UMBRIA	1,2	26,7	25,1	98,6
IT53	MARCHE	1,1	0,0	0,0	150,4
IT6	LAZIO	1,2	0,0	0,0	305,3
IT71	ABRUZZO	0,7	0,0	0,0	118,4
IT72	MOLISE	-0,9	72,0	65,5	74,1
IT8	CAMPANIA	0,6	12,7	35,8	425,6
IT91	PUGLIA	0,2	41,5	59,2	211,1
IT92	BASILICATA	-0,3	100,0	100,0	60,8
IT93	CALABRIA	-0,9	100,0	100,0	136,5
ITA	SICILIA	0,1	58,4	62,1	198,1
ITB	SARDEGNA	-0,4	62,7	40,2	68,7
LT	LIETUVA	-0,4	74,9	71,8	56,6
LU	LUXEMBOURG (GRAND-DUCHE)	5,6	0,0	0,0	167,4
LV	LATVIJA	-3,3	100,0	100,0	37,7
MT	MALTA				
NL11	GRONINGEN	0,7	9,4	11,4	240,1
NL12	FRIESLAND	2,0	0,0	0,0	185,4
NL13	DRENTHE	2,9	26,7	26,0	176,9
NL21	OVERIJSSEL	2,1	0,0	0,0	321,9
NL22	GELDERLAND	2,3	0,0	0,0	383,4
NL23	FLEVOLAND	16,4	0,0	0,0	219,1
NL31	UTRECHT	3,4	0,0	0,0	808,7
NL32	NOORD-HOLLAND	1,9	9,3	6,9	944,3
NL33	ZUID-HOLLAND	1,8	0,0	0,0	1182,1
NL34	ZEELAND	1,1	0,0	0,0	207,1
NL41	NOORD-BRABANT	2,8	18,7	18,3	475,8
NL42	LIMBURG (NL)	0,7	0,0	0,0	525,6
NO01	OSLO OG AKERSHUS	5,5	0,0	0,0	180,0
NO02	HEDMARK OG OPPLAND	-0,5	100,0	100,0	7,0
NO03	SOR-OSTLANDET	2,9	0,0	0,0	23,4
NO04	AGDER OG ROGALAND	3,3	0,0	0,0	24,3
NO05	VESTLANDET	1,6	0,0	0,0	15,9
NO06	TRONDELAG	1,0	32,7	54,3	9,4
NO07	NORD-NORGE	-1,3	100,0	100,0	4,1
PL01	DOLNOSLASKIE	-0,3	68,2	53,5	149,4
PL02	KUJAWSKO-POMORSKIE	0,4	0,0	0,0	116,9
PL03	LUBELSKIE	-0,3	44,9	60,8	89,1
PL04	LUBUSKIE	0,9	0,0	0,0	73,2

PL05	LÓDZKIE	-1,2	100,0	100,0	145,8
PL06	MALOPOLSKIE	1,1	23,0	2,2	212,6
PL07	MAZOWIECKIE	0,2	31,9	1,4	142,3
PL08	OPOLSKIE	-0,5	100,0	100,0	115,7
PL09	PODKARPACKIE	1,0	0,0	0,0	118,5
PL0A	PODLASKIE	0,2	0,0	0,0	60,6
PL0B	POMORSKIE	1,2	34,5	2,3	119,6
PL0C	SLASKIE	-0,8	43,6	9,9	396,6
PL0D	SWIETOKRZYSKIE	-0,5	100,0	100,0	113,4
PL0E	WARMINSKO-MAZURSKIE	1,0	0,0	0,0	60,5
PL0F	WIELKOPOLSKIE	0,7	17,2	0,9	112,4
PL0G	ZACHODNIOPOMORSKIE	0,8	0,0	0,0	75,6
PT11	NORTE	1,3	19,4	68,1	169,8
PT12	CENTRO (P)	1,9	16,5	51,4	74,1
PT13	LISBOA E VALE DO TEJO	1,1	61,7	30,4	285,3
PT14	ALENTEJO	-0,4	49,6	53,6	19,5
PT15	ALGARVE	7,6	0,0	0,0	73,8
PT2	ACORES	-1,2	100,0	100,0	103,0
PT3	MADEIRA	-3,1	100,0	100,0	318,4
RO01	NORD-EST	1,3	0,0	0,0	104,0
RO02	SUD-EST	-0,3	64,8	73,9	82,4
RO03	SUD	-1,1	91,2	87,1	101,2
RO04	SUD-VEST	-0,8	65,5	61,1	82,7
RO05	VEST	-2,6	100,0	100,0	63,4
RO06	NORD-VEST	-1,3	88,4	84,3	83,3
RO07	CENTRU	-1,4	100,0	100,0	77,4
RO08	BUCURESTI	-3,3	100,0	100,0	1238,3
SE01	STOCKHOLM LAEN	3,9	0,0	0,0	276,3
SE02	OESTRA MELLANSVERIGE	-0,6	80,4	81,8	38,8
SE04	SYDSVERIGE	0,6	11,9	21,1	91,1
SE06	NORRA MELLANSVERIGE	-2,3	100,0	100,0	13,2
SE07	MELLERSTA NORRLAND	-3,0	100,0	100,0	5,4
SE08	OEVRE NORRLAND	-1,9	100,0	100,0	3,3
SE09	SMAALAND MED OEARNA	-1,2	92,8	90,6	24,1
SE0A	VASTSVERIGE	0,6	0,0	0,0	59,9
SI	SLOVENIJA	-0,2	34,5	40,3	97,9
SK01	BRATISLAVSKÝ	-0,3	100,0	100,0	300,5
SK02	Z-PADN+ SLOVENSKO	0,0	70,6	72,3	125,1
SK03	STREDN+ SLOVENSKO	0,3	48,9	58,2	83,4
SK04	VÝCHODN+ SLOVENSKO	1,2	0,0	0,0	98,2
UKC1	TEES VALLEY AND DURHAM	-0,6	67,7	83,4	381,7
UKC2	NORTHUMBERLAND AND TYNE AND WEAR	-1,6	78,2	9,7	254,9
UKD1	CUMBRIA	0,2	48,0	30,4	72,1
UKD2	CHESHIRE	0,5	0,0	0,0	421,7
UKD3	GREATER MANCHESTER	-0,2	53,8	42,6	2003,9
UKD4	LANCASHIRE	-0,1	20,2	5,6	464,2
UKD5	MERSEYSIDE	-2,0	100,0	100,0	2140,2
UKE1	EAST RIDING AND NORTH LINCOLNSHIRE	-1,0	64,2	31,7	241,1
UKE2	NORTH YORKSHIRE	2,5	0,0	0,0	90,0
UKE3	SOUTH YORKSHIRE	-0,3	59,2	76,5	835,8
UKE4	WEST YORKSHIRE	0,3	0,0	0,0	1040,3
UKF1	DERBYSHIRE AND NOTTINGHAMSHIRE	0,8	34,4	41,3	419,1
UKF2	LEICESTERSHIRE, RUTLAND AND NORTHAMPTONSHIRE	2,4	18,7	1,5	316,4

UKF3	LINCOLNSHIRE	3,1	0,0	0,0	106,2
UKG1	HEREFORDSHIRE, WORCESTERSHIRE AND WARWICKSHIRE	1,6	0,0	0,0	206,0
UKG2	SHROPSHIRE AND STAFFORDSHIRE	1,2	16,8	1,5	240,9
UKG3	WEST MIDLANDS	-0,4	80,6	69,4	2915,6
UKH1	EAST ANGLIA	3,7	7,1	2,6	174,8
UKH2	BEDFORDSHIRE AND HERTFORDSHIRE	3,2	0,0	0,0	558,5
UKH3	ESSEX	2,6	0,0	0,0	440,3
UKI1	INNER LONDON	5,4	0,0	0,0	8778,8
UKI2	OUTER LONDON	3,3	0,0	0,0	3537,6
UKJ1	BERKSHIRE, BUCKINGHAMSHIRE AND OXFORDSHIRE	4,0	0,0	0,0	368,7
UKJ2	SURREY, EAST AND WEST SUSSEX	3,6	0,0	0,0	474,9
UKJ3	HAMPSHIRE AND ISLE OF WIGHT	2,4	10,6	1,0	426,7
UKJ4	KENT	2,3	0,0	0,0	424,9
UKK1	GLOUCESTERSHIRE, WILTSHIRE AND NORTH SOMERSET	2,6	0,0	0,0	286,7
UKK2	DORSET AND SOMERSET	2,3	0,0	0,0	194,1
UKK3	CORNWALL AND ISLES OF SCILLY	2,7	0,0	0,0	139,1
UKK4	DEVON	1,6	23,5	1,2	160,4
UKL1	WEST WALES AND THE VALLEYS	-0,6	70,2	41,0	142,3
UKL2	EAST WALES	2,7	0,0	0,0	139,9
UKM1	NORTH EASTERN SCOTLAND	-1,6	100,0	100,0	68,7
UKM2	EASTERN SCOTLAND	0,3	34,3	20,7	105,6
UKM3	SOUTH WESTERN SCOTLAND	-0,8	72,9	82,8	180,0
UKM4	HIGHLANDS AND ISLANDS	-0,5	58,9	76,2	9,3
UKN	NORTHERN IRELAND	2,4	16,8	0,8	119,5

Table 5a Total Fertility Rate 1990-1995

		1990		1995		1999	
BE	**BE Belgium**	**1,62**		**1,55**		**1,61**	
BE1	BE1 Région BXL-capitale	1,78		1,77		1,84	a
BE2	BE2 Vlaams Gewest	1,55		1,5		1,56	a
BE21	BE21 Antwerpen	1,58		1,54		1,60	a
BE22	BE22 Limburg	1,49		1,41		1,46	a
BE23	BE23 Oost-Vlaanderern	1,51		1,48		1,54	a
BE24	BE24 Vlaams Brabant	1,5		1,47		1,53	a
BE25	BE25 West-Vlaanderen	1,63		1,56		1,62	a
BE3	BE3 Région Wallonne	1,7		1,61		1,67	a
BE31	BE31 Brabant Wallon	1,68		1,61		1,67	a
BE32	BE32 Hainaut	1,66		1,57		1,63	a
BE33	BE33 Liège	1,69		1,59		1,65	a
BE34	BE34 Luxembourg (BE)	1,82		1,77		1,84	a
BE35	BE35 Namur	1,78		1,65		1,71	a
DK	**DK Denmark**	**1,68**		**1,81**		**1,74**	
DK001	DK001 København og Frederiksberg	1,33		1,51		1,50	
DK002	DK002 Københavns amt	1,70		1,92		1,83	
DK003	DK003 Frederiksborg amt	1,78		1,99		1,90	
DK004	DK004 Roskilde amt	1,68		1,92		1,83	
DK005	DK005 Vestsjællands amt	1,73		1,90		1,84	
DK006	DK006 Storstrøms amt	1,67		1,84		1,80	
DK007	DK007 Bornholms amt	1,77		1,98		1,80	
DK008	DK008 Fyns amt	1,72		1,81		1,75	
DK009	DK009 Sønderjyllands amt	1,93		1,96		1,92	
DK00A	DK00A Ribe amt	1,94		2,03		1,98	
DK00B	DK00B Vejle amt	1,77		1,90		1,86	
DK00C	DK00C Ringkøbing amt	1,84		2,01		1,94	
DK00D	DK00DE Århus amt	1,63		1,79		1,70	
DK00E	DK00 Viborg amt	1,95		2,07		1,98	
DK00F	DK00F Nordjyllands amt	1,75		1,84		1,75	
DE	**DE Federal Rep of Germany (incl x-GDR from 1991)**	**1,45**	b	**1,25**		**1,36**	
DE1	DE1 Baden-Württemberg	NA		NA		NA	
DE11	DE11 Stuttgart	1,49	b	1,44		1,46	
DE12	DE12 Karlsruhe	1,37	b	1,31		1,35	
DE13	DE13 Freiburg	1,43	b	1,37		1,39	
DE14	DE14 Tübingen	1,55	b	1,45		1,50	
DE2	DE2 Bayern	NA		NA		NA	
DE21	DE21 Oberbayern	1,39	b	1,32		1,39	
DE22	DE22 Niderbayern	1,50	b	1,37	b	1,45	
DE23	DE23 Oberpfalz	1,49	b	1,38		1,45	
DE24	DE24 Oberfranken	1,44	b	1,31		1,38	
DE25	DE25 Mittelfranken	1,41	b	1,32		1,39	
DE26	DE26 Unterfranken	1,49	b	1,36		1,37	
DE27	DE27 Schwaben	1,59	b	1,47		1,52	
DE3	DE3 Berlin	1,10	b	1,06		1,20	
DE4	DE4 Brandenburg	0,97	b	0,83		1,12	
DE5	DE5 Bremen	1,30	b	1,28		1,34	
DE6	DE6 Hamburg	1,24	b	1,16		1,21	

DE7	DE7 Hessen	NA		NA	NA	
DE71	DE71 Darmstadt	1,29	b	1,27	1,36	
DE72	DE72 Gießen	1,35	b	1,28	1,35	
DE73	DE73 Kassel	1,42	b	1,39	1,40	
DE8	DE8 Mecklenburg-Vorpommern	1,01	b	0,82	1,14	
DE9	DE9 Nidersachsen	NA		NA	NA	
DE91	DE91 Braunschweig	1,37	b	1,29	1,37	
DE92	DE92 Hannover	1,35	b	1,31	1,38	
DE93	DE93 Lüneburg	1,48	b	1,43	1,52	
DE94	DE94 Weser-ems	1,57	b	1,47	1,59	
DEA	DEA Nordrhein-Westfalen	NA		NA	NA	
DEA1	DEA1 Düsseldorf	1,42	b	1,33	1,36	
DEA2	DEA2 Köln	1,41	b	1,34	1,40	
DEA3	DEA3 Münster	1,50	b	1,40	1,46	
DEA4	DEA4 Detmold	1,53	b	1,49	1,53	
DEA5	DEA5 Arnsberg	1,48	b	1,38	1,43	
DEB	DEB Rheinland-Pfalz	NA		NA	NA	
DEB1	DEB1 Koblenz	1,52	b	1,39	1,47	
DEB2	DEB2 Trier	1,48	b	1,38	1,36	
DEB3	DEB3 Rheinhessen-Pfalz	1,41	b	1,32	1,38	
DEC	DEC Saarland	1,32	b	1,24	1,28	
DED	DED Sachsen	NA		NA	NA	
DED1	DED1 Chemnitz	1,02	b	0,86	1,18	
DED2	DED2 Dresden	1,01	b	0,84	1,18	
DED3	DED3 Leipzig	0,98	b	0,77	1,10	
DEE	DEE Sachsen-Anhalt	NA		NA	NA	
DEE1	DEE1 Dessau	0,97	b	0,81	1,08	
DEE2	DEE2 Halle	0,99	b	0,81	1,13	
DEE3	DEE3 Magdeburg	1,02	b	0,84	1,16	
DEF	DEF Schleswig-Holstein	1,44	b	1,34	1,43	
DEG	DEG Thüringen	0,97	b	0,84	1,12	
GR	**GR Greece**	**1,39**		**1,38**	**1,31**	
GR1	GR1 Voreia Ellada	1,41		1,35	1,33	
GR11	GR11 Anatoliki Makedonia, Thraki	1,49		1,46	1,44	
GR12	GR12 Kentriki Makedonia	1,33		1,3	1,3	
GR13	GR13 Dytiki Makedonia	1,49		1,41	1,36	
GR14	GR14 Thessalia	1,54		1,4	1,31	
GR2	GR2 Kentriki Ellada	1,41		1,18	1,11	
GR21	GR21 Ipeiros	1,36		1,1	0,99	
GR22	GR22 Ionia Nisia	1,51		1,49	1,32	
GR23	GR23 Dytiki Ellada	1,51		1,28	1,19	
GR24	GR24 Sterea Ellada	1,31		1,04	0,99	
GR25	GR25 Peloponnisos	1,37		1,18	1,14	
GR3	GR3 Attiki	1,3		1,3	1,36	
GR4	GR4 Nisia Aigaiou, Kriti	1,42		1,42	1,49	e
GR41	GR41 Voreio Aigaio	1,44		1,44	1,51	e
GR42	GR42 Notio Aigaio	1,42		1,42	1,49	e
GR43	GR43 Kriti	1,42		1,42	1,49	e
EES	**ES Spain**	**1,36**		**1,18**	**1,2**	
ES1	ES1 Noroeste	NA		NA	NA	
ES11	ES11 Galicia	1,17		0,94	0,91	
ES12	ES12 Principado de Asturias	0,98		0,83	0,82	

ES13	ES13 Cantabria	1,15		0,92		0,98	
ES2	ES2 Noreste	NA		NA		NA	
ES21	ES21 Pais Vasco	0,99		0,91		1,01	
ES22	ES22 Comunidad Foral de Navarra	1,23		1,12		1,21	
ES23	ES23 La Rioja	1,21		1,05		1,14	
ES24	ES24 Aragón	1,16		1,08		1,11	
ES3	ES3 Comunidad de Madrid	1,27		1,15		1,24	
ES4	ES4 Centro (E)	NA		NA		NA	
ES41	ES41 Castilla y León	1,17		0,96		0,93	
ES42	ES42 Castilla-la Mancha	1,61		1,36		1,27	
ES43	ES43 Extremadura	1,63		1,32		1,21	
ES5	ES5 Este	NA		NA		NA	
ES51	ES51 Cataluña	1,25		1,16		1,25	
ES52	ES52 Comunidad Valenciana	1,38		1,19		1,20	
ES53	ES53 Baleares	1,62		1,35		1,43	
ES6	ES6 Sur	NA		NA		NA	
ES61	ES61 Andalucia	1,66		1,37		1,31	
ES62	ES62 Murcia	1,73		1,43		1,42	
ES63	ES63 Ceuta y Melilla	1,93		1,96		1,91	
ES7	ES7 Canarias	1,48		1,24		1,29	
FR	**FR France (*)**	**1,88**		**1,70**		**1,86**	**d**
FR1	FR1 Île de France	1,89		1,74		1,94	d
FR2	FR2 Bassin Parisien	1,92		1,72		1,89	d
FR21	FR21 Champagne-Ardenne	1,88		1,71		1,87	d
FR22	FR22 Picardie	2,02		1,78		1,98	d
FR23	FR23 Haute-Normandie	1,98		1,78		1,92	d
FR24	FR24 Centre	1,86		1,66		1,85	d
FR25	FR25 Basse-Normandie	1,90		1,77		1,91	d
FR26	FR26 Bourgogne	1,84		1,64		1,79	d
FR3	FR3 Nord - Pas-de-Calais	2,14		1,87		2	d
FR4	FR4 Est	1,87		1,68		1,79	d
FR41	FR41 Lorraine	1,88		1,65		1,75	d
FR42	FR42 Alsace	1,85		1,67		1,76	d
FR43	FR43 Franche-Comté	1,91		1,75		1,91	d
FR5	FR5 Ouest	1,90		1,70		1,92	d
FR51	FR51 Pays de la Loire	1,95		1,76		2	d
FR52	FR52 Bretagne	1,93		1,70		1,92	d
FR53	FR53 Poitou-Charentes	1,74		1,58		1,76	d
FR6	FR6 Sud-Ouest	1,65		1,50		1,69	d
FR61	FR61 Aquitaine	1,68		1,50		1,7	d
FR62	FR62 Midi-Pyrénées	1,65		1,52		1,7	d
FR63	FR63 Limousin	1,50		1,43		1,61	d
FR7	FR7 Centre-Est	1,89		1,66		1,83	d
FR71	FR71 Rhône-Alpes	1,95		1,71		1,87	d
FR72	FR72 Auvergne	1,64		1,44		1,67	d
FR8	FR8 Méditerranée	1,84		1,67		1,76	d
FR81	FR81 Languedoc-Roussillon	1,81		1,65		1,7	d
FR82	FR82 Provence-Alpes-Côte d'Azur	1,86		1,69		1,8	d
FR83	FR83 Corse	1,76		1,57		1,67	d
IE	**IE011 Ireland**	**2,11**		**1,84**		**1,89**	**d**
IE01	IE012 Border, Midlands and Western	NA		NA		2,02	d
IE02	IE013 Southern and Eastern	NA		NA		1,85	d

IT	**IT Italy**	**1,33**		**1,18**		**1,23**	e
IT1	IT1 Nord Ovest	1,07		0,98		1,02	e
IT11	IT11 Piemonte	1,08		1,00		1,04	e
IT12	IT12 Valle d'Aosta	1,10		1,08		1,13	e
IT13	IT13 Liguria	1,02		0,91		0,95	e
IT2	IT2 Lombardia	1,13		1,09		1,13	e
IT3	IT3 Nord Est	1,17		1,08		1,13	e
IT31	IT31 Trentino-Alto Adige	1,40		1,33		1,39	e
IT32	IT32 Veneto	1,14		1,06		1,10	e
IT33	IT33 Friuli-Venezia Giulia	1,08		0,99		1,03	e
IT4	IT4 Emilia-Romagna	1,04		0,99		1,03	e
IT5	IT5 Centro (I)	1,14		1,03		1,08	e
IT51	IT51 Toscana	1,09		0,99		1,03	e
IT52	IT52 Umbria	1,21		1,10		1,14	e
IT53	IT53 Marche	1,24		1,10		1,14	e
IT6	IT6 Lazio	1,28		1,13		1,18	e
IT7	IT7 Abruzzo-Molise	1,33		1,14		1,19	e
IT71	IT71 Abruzzo	1,32		1,13		1,17	e
IT72	IT72 Molise	1,34		1,22		1,27	e
IT8	IT8 Campania	1,81		1,51		1,57	e
IT9	IT9 Sud	1,57		1,31		1,37	e
IT91	IT91 Puglia	1,60		1,35		1,40	e
IT92	IT92 Basilicata	1,40		1,14		1,19	e
IT93	IT93 Calabria	1,56		1,29		1,34	e
ITA	ITA Sicilia	1,74		1,45		1,51	e
ITB	ITB Sardegna	1,35		1,07		1,12	e
LU	**LU Luxembourg**	**1,61**		**1,69**		**1,73**	
NL	**NL Netherlands**	**1,62**		**1,53**		**1,64**	
NL1	NL1 Noord-Nederland	1,59		1,56		1,69	
NL11	NL11 Groningen	1,48		1,42		1,52	
NL12	NL12 Friesland	1,68		1,69		1,78	
NL13	NL13 Drenthe	1,64		1,60		1,79	
NL2	NL2 Oost-Nederland	1,71		1,62		1,75	
NL21	NL21 Overijssel	1,77		1,64		1,78	
NL22	NL22 Gelderland	1,65		1,58		1,70	
NL23	NL23 Flevoland	2,05		1,84		1,94	
NL3	NL3 West-Nederland	1,61		1,50		1,61	
NL31	NL31 Utrecht	1,59		1,50		1,65	
NL32	NL32 Noord-Holland	1,54		1,45		1,56	
NL33	NL33 Zuid-Holland	1,66		1,52		1,63	
NL34	NL34 Zeeland	1,75		1,68		1,74	
NL4	NL4 Zuid-Nederland	1,59		1,50		1,59	
NL41	NL41 Noord-Brabant	1,62		1,54		1,63	
NL42	NL42 Limburg (NL)	1,52		1,42		1,51	
AT	**AT Austria**	**1,45**		**1,40**		**1,31**	
AT1	AT10 Ostösterreich	1,41		1,34		1,26	
AT11	AT11 Burgenland	1,34		1,28		1,15	
AT12	AT12 Niederösterreich	1,50		1,47		1,34	
AT13	AT13 Wien	1,36		1,26		1,23	
AT2	AT20 Sudösterreich	1,42		1,35		1,26	
AT21	AT21 Kärnten	1,46		1,42		1,29	
AT22	AT22 Steiermark	1,40		1,31		1,24	

AT3	AT30 Westösterreich	1,52		1,50		1,40
AT31	AT31 Oberösterreich	1,51		1,49		1,42
AT32	AT32 Salzburg	1,45		1,46		1,39
AT33	AT33 Tirol	1,51		1,47		1,34
AT34	AT34 Vorarlberg	1,66		1,65		1,51
PT	**PT Portugal**	**1,57**	**e**	**1,40**		**1,48**
PT1	PT1 Portugal (Continent)	1,56	e	1,39		1,48
PT11	PT11 Norte	1,59	e	1,41		1,45
PT12	PT12 Centro (P)	1,50	e	1,33		1,37
PT13	PT13 Lisboa e Vale do Tejo	1,56	e	1,39		1,57
PT14	PT14 Alentejo	1,40	e	1,25		1,35
PT15	PT15 Algarve	1,69	e	1,51		1,67
PT2	PT2 Açores (PT)	2,07	e	1,84		1,67
PT3	PT3 Madeira (PT)	1,54	e	1,37		1,41
FI	**FI Finland**	**1,77**		**1,79**		**1,72**
FI1	FI1 Manner-Suomi	1,77		1,79		1,72
FI13	FI13 Itä-Suomi	1,76		1,78		1,76
FI14	FI14 Väli-Suomi	1,94		1,92		1,84
FI15	FI15 Pohjois-Suomi	2,01		2,08		2,04
FI11	FI16 Uusimaa (suuralue)	1,67		1,68		1,58
FI12	FI17 Etelä-Suomi	1,73		1,76		1,71
FI2	FI2 Åland	2,01		1,88		1,67
SE	***se* Sweden**	**2,12**	**b**	**1,74**		**1,50**
SE01	*se01* Stockholm	1,95	b	1,70		1,49
SE02	*se02* Östra Mellansverige	2,15	b	1,77		1,49
SE021	*se021* Uppsala län	2,11	b	1,69		1,37
SE022	*se022* Södermanlands län	2,23	b	1,83		1,60
SE023	*se023* Östergötlands län	2,15	b	1,81		1,49
SE024	*se024* Örebro län	2,12	b	1,75		1,55
SE025	*se025* Västmanlands län	2,17	b	1,79		1,50
SE04	*se04* Sydsverige	2,05	b	1,71		1,50
SE041	*se041* Blekinge län	2,22	b	1,76		1,50
SE044	*se044* Skåne län	2,04	b	1,71		1,50
SE06	*se06* Norra Mellansverige	2,28	b	1,73		1,52
SE061	*se061* Värmlands län	2,26	b	1,74		1,54
SE062	*se062* Dalarnas län	2,34	b	1,79		1,56
SE063	*se063* Gävleborgs län	2,25	b	1,67		1,45
SE07	*se07* Mellersta Norrland	2,20	b	1,74		1,52
SE071	*se071* Västernorrlands län	2,18	b	1,76		1,55
SE072	*se072* Jämtlands län	2,24	b	1,70		1,46
SE08	*se08* Övre Norrland	2,28	b	1,71		1,49
SE081	*se081* Västerbottens län	2,37	b	1,73		1,43
SE082	*se082* Norrbottens län	2,21	b	1,69		1,55
SE09	*se09* Småland med öarna	2,26	b	1,83		1,54
SE091	*se091* Jönköpings län	2,35	b	1,87		1,59
SE092	*se092* Kronobergs län	2,16	b	1,81		1,54
SE093	*se093* Kalmar län	2,26	b	1,83		1,49
SE094	*se094* Gotlands län	2,17	b	1,72		1,53
SE0A	*se0a* Västsverige	2,13	b	1,74		1,52
SE0A1	*se0a1* Hallands län	2,20	b	1,84		1,60
SE0A2	*se0a2* Västra Götalands län	2,13	b	1,75		1,51
UK	***uk* United Kingdom**	**1,83**		**1,70**		**1,68**

UKC	*ukc* North East	1,78	f	1,66		1,62
UKC1	*ukc1* Tees Valley and Durham	1,84	f	1,71		1,69
UKC2	*ukc2* Northumberland, Tyne and Wear	1,74	f	1,62		1,57
UKD	*ukd* North West (including Merseyside)	1,84	f	1,71		1,70
UKD1	*ukd1* Cumbria	1,73	f	1,61		1,64
UKD2	*ukd2* Cheshire	1,81	f	1,69		1,71
UKD3	*ukd3* Greater Manchester	1,87	f	1,74		1,74
UKD4	*ukd4* Lancashire	1,89	f	1,76		1,77
UKD5	*ukd5* Merseyside	1,79	f	1,67		1,59
UKE	*uke* Yorkshire and The Humber	1,87	f	1,74		1,72
UKE1	*uke1* East Riding and North Lincolnshire	1,87	f	1,74		1,70
UKE2	*uke2* North Yorkshire	1,80	f	1,67		1,63
UKE3	*uke3* South Yorkshire	1,83	f	1,70		1,66
UKE4	*uke4* West Yorkshire	1,92	f	1,79		1,80
UKF	*ukf* East Midlands	1,80	f	1,68		1,65
UKF1	*ukf1* Derbyshire and Nottinghamshire	1,79	f	1,66		1,63
UKF2	*ukf2* Leicestershire, Rutland and Northants	1,82	f	1,70		1,70
UKF3	*ukf3* Lincolnshire	1,82	f	1,69		1,67
UKG	*ukg* West Midlands	1,91	f	1,78		1,78
UKG1	*ukg1* Herefordshire, Worcestershire and Warks	1,83	f	1,71		1,70
UKG2	*ukg2* Shropshire and Staffordshire	1,81	f	1,68		1,67
UKG3	*ukg3* West Midlands	1,99	f	1,86		1,87
UKH	*ukh* Eastern	1,84	f	1,71		1,66
UKH1	*ukh1* East Anglia	1,79	f	1,67		1,59
UKH2	*ukh2* Bedfordshire, Hertfordshire	1,90	f	1,77		1,73
UKH3	*ukh3* Essex	1,83	f	1,70		1,67
UKI	*uki* London	1,88	f	1,75	f	1,73
UKI1	*uki1* Inner London	1,88	f	1,75	f	1,73
UKI2	*uki2* Outer London	1,89	f	1,76	f	1,74
UKJ	*ukj* South East	1,82	f	1,70		1,65
UKJ1	*ukj1* Berkshire, Bucks and Oxfordshire	1,79	f	1,67		1,67
UKJ2	*ukj2* Surrey, East and West Sussex	1,80	f	1,67		1,58
UKJ3	*ukj3* Hampshire and Isle of Wight	1,82	f	1,69		1,64
UKJ4	*ukj4* Kent	1,90	f	1,77		1,77
UKK	*ukk* South West	1,79	f	1,67		1,64
UKK1	*ukk1* Gloucestershire, Wiltshire and North Somerset	1,81	f	1,69		1,66
UKK2	*ukk2* Dorset and Somerset	1,77	f	1,64		1,58
UKK3	*ukk3* Cornwall and Isles of Scilly	1,92	f	1,79	f	1,76
UKK4	*ukk4* Devon	1,78	f	1,65	f	1,63
UKL	*ukl* Wales	1,90	f	1,77		1,73
UKL1	*ukl1* West Wales and The Valleys	1,92	f	1,79	f	1,76
UKL2	*ukl2* East Wales	1,83	f	1,70	f	1,68
UKM	*ukm* Scotland	1,67	f	1,55		1,53
UKM1	*ukm1* North Eastern Scotland	NA		NA		NA
UKM2	*ukm2* Eastern Scotland	NA		NA		NA
UKM3	*ukm3* South Western Scotland	NA		NA		NA
UKM4	*ukm4* Highlands and Islands	NA		NA		NA
UKN	*ukn* Northern Ireland	2,05	f	1,91		1,88
BG	**Bulgaria**	**1,81**		**1,24**		**1,23**
CY	**Cyprus**	**2,42**		**2,13**		**1,83**
CZ	**Czech Republic**	**1,89**		**1,28**		**1,13**

EE	**Estonia**	**2,05**		**1,32**		**1,24**	
HU	**Hungary**	**1,87**		**1,58**		**1,31**	**d**
HU01	Közép-Magyarország	N.A.		N.A.		1,17	d
HU011	Budapest	1,46		1,22		1,05	d
HU012	Pest	1,85		1,62		1,39	d
HU02	Közép-Dunántúl	N.A.		N.A.		1,22	d
HU021	Fejér	1,98		1,52		1,23	d
HU022	Komárom-Esztergom	1,89		1,52		1,28	d
HU023	Veszprém	1,89		1,57		1,18	d
HU03	Nyugat-Dunántúl	N.A.		N.A.		1,18	d
HU031	Gyor-Moson-Sopron	1,86		1,53		1,19	d
HU032	Vas	1,75		1,55		1,18	d
HU033	Zala	1,79		1,46		1,16	d
HU04	Dél-Dunántúl	N.A.		N.A.		1,34	d
HU041	Baranya	1,77		1,51		1,3	d
HU042	Somogy	1,93		1,64		1,4	d
HU043	Tolna	2		1,58		1,34	d
HU05	Észak-Magyarország	N.A.		N.A.		1,54	d
HU051	Borsod-Abaúj-Zemplén	2,12		1,85		1,63	d
HU052	Heves	1,82		1,55		1,38	d
HU053	Nógrád	1,91		1,7		1,49	d
HU06	Észak-Alföld	N.A.		N.A.		1,55	d
HU061	Hajdú-Bihar	2,02		1,8		1,53	d
HU062	Jász-Nagykun-Szolnok	2,09		1,75		1,46	d
HU063	Szabolcs-Szatmár-Bereg	2,13		1,91		1,63	d
HU07	Dél-Alföld	N.A.		N.A.		1,35	d
HU071	Bács-Kiskun	2,01		1,64		1,38	d
HU072	Békés	1,9		1,6		1,35	d
HU073	Csongrád	1,75		1,63		1,3	d
LT	**Lithuania**	**2**		**1,49**		**1,35**	
LV	**Latvia**	**2,02**		**1,25**		**1,18**	
MT	**Malta**	**2,05**		**1,83**		**1,72**	
PL	**Poland**	**2,06**		**1,62**		**1,34**	
PL01	Dolnoslaskie	1,89		1,48		1,20	
PL02	Kujawsko-Pomorskie	2,12		1,67		1,36	
PL03	Lubelskie	2,34		1,79		1,45	
PL04	Lubuskie	2,08		1,68		1,29	
PL05	Lódzkie	1,88		1,53		1,26	
PL06	Malopolskie	2,19		1,74		1,49	
PL07	Mazowieckie	2,01		1,61		1,35	
PL08	Opolskie	1,85		1,38		1,15	
PL09	Podkarpackie	2,41		1,77		1,48	
PL0A	Podlaskie	2,29		1,76		1,39	
PL0B	Pomorskie	2,15		1,69		1,42	
PL0C	Slaskie	1,75		1,41		1,19	
PL0D	Swietokrzyskie	2,16		1,69		1,33	
PL0E	Warminsko-Mazurskie	2,22		1,72		1,40	
PL0F	Wielkopolskie	2,19		1,69		1,39	
PL0G	Zachodniopomorskie	2,06		1,64		1,30	
RO	**Romania**	**1,83**		**1,34**		**1,3**	
RO01	Nord-Est	2,34		1,71		1,66	e
RO02	Sud-Est	1,79		1,31		1,27	e

RO03	Sud	1,83		1,34		1,3	e
RO04	Sud-Vest	1,83		1,34		1,3	e
RO05	Vest	1,59		1,16		1,13	e
RO06	Nord-Vest	1,87		1,37		1,33	e
RO07	Centru	1,76		1,29		1,25	e
RO08	Bucuresti	1,27		0,93		0,9	e
SI	**Slovenia**	**1,46**		**1,29**		**1,21**	
SK	**Slovak Republic**	**2,09**		**1,52**		**1,33**	
NO	**NORWAY©**	**1,93**	**c**	**1,87**	**c**	**1,84**	**c**
N010	AKERSHUS	1,78	c	1,82	c	1,8	c
N011	AUST-AGDER	1,87	c	1,89	c	1,9	c
N012	BUSKERUD	1,72	c	1,74	c	1,74	c
N013	FINNMARK	1,93	c	2,06	c	2,05	c
N014	HEDMARK	1,65	c	1,75	c	1,71	c
N015	HORDALAND	1,98	c	2,02	c	1,97	c
N016	MORE OG ROMSDAL	1,95	c	1,97	c	2	c
N017	NORDLAND	1,9	c	1,97	c	1,93	c
N018	NORD-TRONDELAG	1,94	c	2	c	2,03	c
N019	OPPLAND	1,65	c	1,72	c	1,72	c
N020	OSLO	1,63	c	1,71	c	1,69	c
N021	OSTFOLD	1,66	c	1,72	c	1,72	c
N022	ROGALAND	2,07	c	2,13	c	2,08	c
N023	SOGN OG FJORDANE	2,04	c	2,11	c	2,11	c
N024	SOR-TRONDELAG	1,82	c	1,9	c	1,87	c
N025	TELEMARK	1,78	c	1,77	c	1,73	c
N026	TROMS	1,87	c	2	c	1,9	c
N027	VEST-AGDER	1,98	c	2,02	c	1,96	c
N028	VESTFOLD	1,76	c	1,78	c	1,75	c
CH	**Switzerland**	**1,59**		**1,48**		**1,48**	
CH01	NORDOSTSCHWEIZ	1,56		1,48		1,48	a
CH02	NORDWESTSCHWEIZ-BERN	1,54		1,42		1,42	a
CH03	SUDSCHWEIZ	1,81		1,57		1,57	a
CH04	WESTSCHWEIZ	1,64		1,56		1,56	a
CH05	SUDSCHWEIZ	1,56		1,39		1,39	a

a Estimated according to the national change 1995-1999

b Data for 1991

c Average values for 1986-1990, 1991-1995 and 1996-2000

d Values for 2000

e Estimated

f Estimated according to the national change 1990-1995, 1995-1999

(*) excluding overseas departments

Table 5b TFR 1960, 1980 and 1988

REGION	CODE	1960	REGION	CODE	1980.
SCHLESWIG-HOLSTEIN	R11	2,39	SCHLESWIG-HOLSTEIN	R11	1,43
HAMBURG	R12	1,82	HAMBURG	R12	1,22
BRAUNSCHWEIG	R13A10A	2,19	BRAUNSCHWEIG	R13A	1,39
HILDESHEIM	R13A10B	2,38	HANNOVER	R13B	1,36
HANNOVER	R13B	2,14	LUNEBURG	R13C	1,52
LUNEBURG	R13C10A	2,60	WESER-EMS	R13D	1,67
STADE	R13C10B	2,69	BREMEN	R14	1,25
AURICH	R13D10A	2,72	DUSSELDORF	R151	1,36
OLDENBURG	R13D10B	2,82	KOLN	R152	1,34
OSNABRUCK	R13D10C	2,93	MUNSTER	R153	1,51
BREMEN	R14	2,14	DETMOLD	R154	1,51
DUSSELDORF	R151	2,20	ARNSBERG	R155	1,49
AACHEN	R15210A	2,45	DARMSTADT	R161	1,35
KOLN	R15210B	2,19	KASSEL	R162	1,44
MUNSTER	R153	2,62	KOBLENZ	R171	1,54
DETMOLD	R154	2,39	TRIER	R172	1,66
ARNSBERG	R155	2,30	RHEINHESSEN-PFALZ	R173	1,41
DARMSTADT	R16110A	2,39	STUTTGART	R181	1,55
WIESBADEN	R16110B	2,11	KARLSRUHE	R182	1,36
KASSEL	R162	2,46	FREIBURG	R183	1,45
KOBLENZ	R17110A	2,61	TUBINGEN	R184	1,61
MONTABAUR	R17110B	2,70	OBERBAYERN	R191	1,32
TRIER	R172	2,95	NIEDERBAYERN	R192	1,71
PFALZ	R17310A	2,55	OBERPFALZ	R193	1,66
RHEINHESSEN	R17310B	2,44	OBERFRANKEN	R194	1,57
NORDWURTTEMBERG	R181	2,45	MITTELFRANKEN	R195	1,42
NORDBADEN	R182	2,37	UNTERFRANKEN	R196	1,60
SUDBADEN	R183	2,65	SCHWABEN	R197	1,65
SUDWURTENBERG-HOHENZOLLERN	R184	2,67	SAARLAND	R1A	1,37
OBERBAYERN	R191	2,12	WEST-BERLIN	R1B1	1,55
NIEDERBAYERN	R192	3,00	HAUPTSTADT BERLIN	R1B2	1,93
OBERPFALZ	R193	2,83	COTTBUS	R1CA	2,06
OBERFRANKEN	R194	2,49	FRANKFURT	R1CB	1,98
MITTELFRANKEN	R195	2,25	POTSDAM	R1CD	1,93
UNTERFRANKEN	R196	2,84	NEUBRANDENBURG	R1DA	2,15
SCHWABEN	R197	2,61	ROSTOCK	R1DB	2,05
SAARLAND	R1A	2,59	SCHWERIN	R1DC	2,07
WEST-BERLIN	R1B1	1,60	CHEMNITZ	R1EA	1,82
HAUPTSTADT BERLIN	R1B2	2,09	DRESDEN	R1EB	2,02
COTTBUS	R1CA	2,50	LEIPZIG	R1EC	1,84
FRANKFURT	R1CB	2,56	HALLE	R1FA	1,88
POTSDAM	R1CD	2,49	MAGDEBURG	R1FB	1,90
NEUBRANDENBURG	R1DA	2,90	ERFURT	R1GA	1,95
ROSTOCK	R1DB	2,68	GERA	R1GB	1,88
SCHWERIN	R1DC	2,79	SUHL	R1GC	1,90
CHEMNITZ	R1EA	2,03	PARIS	R2101	1,66
DRESDEN	R1EB	2,25	SEINE-ET-MARNE	R2102	2,00
LEIPZIG	R1EC	2,16	YVELINES	R2103	2,05
HALLE	R1FA	2,32	ESSONNE	R2104	1,92
MAGDEBURG	R1FB	2,48	HAUTS-DE-SEINE	R2105	1,88
ERFURT	R1GA	2,41	SEINE-ST-DENIS	R2106	2,12
GERA	R1GB	2,26	VAL-DE-MARNE	R2107	1,87
SUHL	R1GC	2,32	VAL-D'OISE	R2108	2,04
SEINE	R21A11	2,13	ARDENNES	R2211	2,11
SEINE ET OISE	R21A12	2,64	AUBE	R2212	1,93

SEINE-ET-MARNE	R21B	2,82	MARNE	R2213	2,01
ARDENNES	R2211	3,47	HAUTE-MARNE	R2214	2,16
AUBE	R2212	2,91	AISNE	R2221	2,13
MARNE	R2213	2,98	OISE	R2222	2,07
HAUTE-MARNE	R2214	3,41	SOMME	R2223	2,00
AISNE	R2221	3,26	EURE	R2231	2,08
OISE	R2222	3,26	SEINE-MARITIME	R2232	2,13
SOMME	R2223	3,16	CHER	R2241	1,83
EURE	R2231	3,18	EURE-ET-LOIR	R2242	2,12
SEINE MARITIME	R2232	3,03	INDRE	R2243	1,75
CHER	R2241	2,69	INDRE-ET-LOIRE	R2244	1,82
EURE-ET-LOIR	R2242	2,95	LOIR-ET-CHER	R2245	1,90
INDRE	R2243	2,69	LOIRET	R2246	2,03
INDRE-ET-LOIRE	R2244	2,96	CALVADOS	R2251	1,99
LOIR-ET-CHER	R2245	2,87	MANCHE	R2252	2,17
LOIRET	R2246	2,82	ORNE	R2253	2,11
CALVADOS	R2251	3,09	COTE-D'OR	R2261	1,84
MANCHE	R2252	3,04	NIEVRE	R2262	1,87
ORNE	R2253	3,01	SAONE-ET-LOIRE	R2263	1,95
COTE D'OR	R2261	2,86	YONNE	R2264	2,08
NIEVRE	R2262	2,72	NORD	R2301	2,27
SAONE-ET-LOIRE	R2263	2,83	PAS-DE-CALAIS	R2302	2,29
YONNE	R2264	2,97	MEURTHE-ET-MOSELLE	R2411	1,93
NORD	R2301	3,15	MEUSE	R2412	2,14
PAS-DE-CALAIS	R2302	3,23	MOSELLE	R2413	1,93
MEURTHE-ET-MOSELLE	R2411	3,01	VOSGES	R2414	2,13
MEUSE	R2412	3,42	BAS-RHIN	R2421	1,78
MOSELLE	R2413	3,31	HAUT-RHIN	R2422	1,94
VOSGES	R2414	3,00	DOUBS	R2431	2,10
BAS-RHIN	R2421	2,89	JURA	R2432	2,04
HAUT-RHIN	R2422	2,78	HAUTE-SAONE	R2433	2,07
DOUBS	R2431	3,06	TERRITOIRE-DE-BELFORT	R2434	2,12
JURA	R2432	2,87	LOIRE-ATLANTIQUE	R2511	2,07
HAUTE-SAONE	R2433	3,14	MAINE-ET-LOIRE	R2512	2,23
TERRITOIRE DE BELFORT	R2434	2,94	MAYENNE	R2513	2,17
LOIRE-ATLANTIQUE	R2511	2,96	SARTHE	R2514	1,95
MAINE-ET-LOIRE	R2512	3,14	VENDEE	R2515	2,18
MAYENNE	R2513	2,90	COTES-DU-NORD	R2521	2,02
SARTHE	R2514	3,12	FINISTERE	R2522	2,00
VENDEE	R2515	3,13	ILLE-ET-VILAINE	R2523	1,95
COTES-DU-NORD	R2521	2,84	MORBIHAN	R2524	2,13
FINISTERE	R2522	2,83	CHARENTE	R2531	1,84
ILLE-ET-VILAINE	R2523	2,77	CHARENTE-MARITIME	R2532	1,89
MORBIHAN	R2524	3,00	DEUX-SEVRES	R2533	2,00
CHARENTE	R2531	2,79	VIENNE	R2534	1,72
CHARENTE-MARITIME	R2532	2,98	DORDOGNE	R2611	1,71
DEUX-SEVRES	R2533	3,02	GIRONDE	R2612	1,74
VIENNE	R2534	2,89	LANDES	R2613	1,73
DORDOGNE	R2611	2,50	LOT-ET-GARONNE	R2614	1,82
GIRONDE	R2612	2,51	PYRENEES-ATLANTIQUES	R2615	1,74
LANDES	R2613	2,67	ARIEGE	R2621	1,68
LOT-ET-GARONNE	R2614	2,58	AVEYRON	R2622	1,76
PYRENEES-ATLANTIQUES	R2615	2,71	HAUTE-GARONNE	R2623	1,55
ARIEGE	R2621	2,43	GERS	R2624	1,59
AVEYRON	R2622	2,47	LOT	R2625	1,70
HAUTE-GARONNE	R2623	2,42	HAUTES-PYRENEES	R2626	1,63
GERS	R2624	2,58	TARN	R2627	1,80
LOT	R2625	2,60	TARN-ET-GARONNE	R2628	1,73

HAUTES-PYRENEES	R2626	2,51	CORREZE	R2631	1,69
TARN	R2627	2,44	CREUSE	R2632	1,62
TARN-ET-GARONNE	R2628	2,71	HAUTE-VIENNE	R2633	1,52
CORREZE	R2631	2,32	AIN	R2711	2,05
CREUSE	R2632	2,39	ARDECHE	R2712	1,90
HAUTE-VIENNE	R2633	2,24	DROME	R2713	2,04
AIN	R2711	2,72	ISERE	R2714	1,93
ARDECHE	R2712	2,64	LOIRE	R2715	2,02
DROME	R2713	2,73	RHONE	R2716	2,02
ISERE	R2714	2,68	SAVOIE	R2717	1,87
LOIRE	R2715	2,60	HAUTE-SAVOIE	R2718	1,96
RHONE	R2716	2,51	ALLIER	R2721	1,74
SAVOIE	R2717	2,73	CANTAL	R2722	1,86
HAUTE-SAVOIE	R2718	2,74	HAUTE-LOIRE	R2723	1,90
ALLIER	R2721	2,48	PUY-DE-DOME	R2724	1,73
CANTAL	R2722	2,75	AUDE	R2811	1,76
HAUTE-LOIRE	R2723	2,50	GARD	R2812	1,88
PUY-DE-DOME	R2724	2,50	HERAULT	R2813	1,69
AUDE	R2811	2,41	LOZERE	R2814	1,95
GARD	R2812	2,67	PYRENEES-ORIENTALES	R2815	1,82
HERAULT	R2813	2,35	ALPES-DE-HAUTE-PROVENCE	R2821	1,73
LOZERE	R2814	2,64	HAUTES-ALPES	R2822	1,91
PYRENEES-ORIENTALES	R2815	2,67	ALPES-MARITIMES	R2823	1,75
ALPES-HAUTE-PROVENCE	R2821	2,66	BOUCHES-DU-RHONE	R2824	1,83
HAUTES-ALPES	R2822	2,75	VAR	R2825	1,93
ALPES-MARITIMES	R2823	2,01	VAUCLUSE	R2826	1,94
BOUCHES-DU-RHONE	R2824	2,54	CORSE-DU-SUD	R2831	2,01
VAR	R2825	2,61	HAUTE- CORSE	R2832	1,86
VAUCLUSE	R2826	2,66	TORINO	R3111	1,33
CORSE	R283	3,21	VERCELLI	R3112	1,30
TORINO	R3111	1,76	NOVARA	R3113	1,38
VERCELLI	R3112	1,59	CUNEO	R3114	1,50
NOVARA	R3113	1,83	ASTI	R3115	1,24
CUNEO	R3114	1,83	ALESSANDRIA	R3116	1,17
ASTI	R3115	1,69	AOSTA	R312	1,32
ALESSANDRIA	R3116	1,64	IMPERIA	R3131	1,20
AOSTA	R312	1,76	SAVONA	R3132	1,12
IMPERIA	R3131	1,83	GENOVA	R3133	1,09
SAVONA	R3132	1,65	LA SPEZIA	R3134	1,19
GENOVA	R3133	1,63	VARESE	R3201	1,42
LA SPEZIA	R3134	1,73	COMO	R3202	1,47
VARESE	R3201	2,10	SONDRIO	R3203	1,65
COMO	R3202	1,93	MILANO	R3204	1,31
SONDRIO	R3203	2,61	BERGAMO	R3205	1,56
MILANO	R3204	1,85	BRESCIA	R3206	1,54
BERGAMO	R3205	2,38	PAVIA	R3207	1,20
BRESCIA	R3206	2,31	CREMONA	R3208	1,36
PAVIA	R3207	1,62	MANTOVA	R3209	1,28
CREMONA	R3208	1,94	BOLZANO	R3311	1,81
MANTOVA	R3209	2,00	TRENTO	R3312	1,46
BOLZANO	R3311	2,77	VERONA	R3321	1,49
TRENTO	R3312	2,38	VICENZA	R3322	1,53
VERONA	R3321	2,28	BELLUNO	R3323	1,35
VICENZA	R3322	2,49	TREVISO	R3324	1,46
BELLUNO	R3323	1,87	VENEZIA	R3325	1,28
TREVISO	R3324	2,39	PADOVA	R3326	1,43
VENEZIA	R3325	2,35	ROVIGO	R3327	1,39
PADOVA	R3326	2,50	PORDENONE	R3331	1,38

ROVIGO	R3327	2,37	UDINE	R3332	1,28
GORIZIA	R333A	1,83	GORIZIA	R3333	1,13
TRIESTE	R333B	1,48	TRIESTE	R3334	1,01
UDINE	R333C	1,86	PIACENZA	R3401	1,17
PIACENZA	R3401	1,62	PARMA	R3402	1,18
PARMA	R3402	1,68	REGGIO NELL EMILIA	R3403	1,31
REGGIO NELL'EMILIA	R3403	1,74	MODENA	R3404	1,21
MODENA	R3404	1,93	BOLOGNA	R3405	1,00
BOLOGNA	R3405	1,65	FERRARA	R3406	1,08
FERRARA	R3406	1,94	RAVENNA	R3407	1,13
RAVENNA	R3407	1,92	FORLI	R3408	1,37
FORLI	R3408	2,09	MASSA-CARRARA	R3511	1,41
MASSA-CARRARA	R3511	1,87	LUCCA	R3512	1,40
LUCCA	R3512	1,99	PISTOIA	R3513	1,33
PISTOIA	R3513	1,75	FIRENZE	R3514	1,21
FIRENZE	R3514	1,79	LIVORNO	R3515	1,33
LIVORNO	R3515	1,85	PISA	R3516	1,36
PISA	R3516	1,81	AREZZO	R3517	1,37
AREZZO	R3517	1,90	SIENA	R3518	1,28
SIENA	R3518	1,59	GROSSETO	R3519	1,23
GROSSETO	R3519	1,77	PERUGIA	R3521	1,53
PERUGIA	R3521	1,89	TERNI	R3522	1,42
TERNI	R3522	1,78	PESARO E URBINO	R3531	1,53
PESARO E URBINO	R3531	2,07	ANCONA	R3532	1,47
ANCONA	R3532	1,90	MACERATA	R3533	1,49
MACERATA	R3533	1,91	ASCOLI PICENO	R3534	1,54
ASCOLI PICENO	R3534	2,08	VITERBO	R3601	1,69
VITERBO	R3601	2,06	RIETI	R3602	1,72
RIETI	R3602	2,06	ROMA	R3603	1,46
ROMA	R3603	2,33	LATINA	R3604	1,88
LATINA	R3604	2,71	FROSINONE	R3605	1,96
FROSINONE	R3605	2,52	CASERTA	R3701	2,45
CASERTA	R3701	3,13	BENEVENTO	R3702	2,19
BENEVENTO	R3702	2,58	NAPOLI	R3703	2,37
NAPOLI	R3703	3,49	AVELLINO	R3704	2,10
AVELLINO	R3704	2,62	SALERNO	R3705	2,15
SALERNO	R3705	2,95	L AQUILA	R3811	1,78
L'AQUILA	R3811	2,20	TERAMO	R3812	1,88
TERAMO	R3812	2,20	PESCARA	R3813	1,65
PESCARA	R3813	2,22	CHIETI	R3814	1,77
CHIETI	R3814	2,04	ISERNIA	R3821	1,88
ISERNIA	R382	2,42	CAMPOBASSO	R3822	1,84
FOGGIA	R3911	3,29	FOGGIA	R3911	2,29
BARI	R3912	3,27	BARI	R3912	2,08
TARANTO	R3913	2,89	TARANTO	R3913	2,17
BRINDISI	R3914	3,06	BRINDISI	R3914	2,18
LECCE	R3915	2,72	LECCE	R3915	2,24
POTENZA	R3921	3,01	POTENZA	R3921	2,00
MATERA	R3922	2,98	MATERA	R3922	2,13
COSENZA	R3931	3,07	COSENZA	R3931	2,06
CATANZARO	R3932	3,54	CATANZARO	R3932	2,29
REGGIO DI CALABRIA	R3933	3,10	REGGIO DI CALABRIA	R3933	2,34
TRAPANI	R3A01	2,76	TRAPANI	R3A01	2,17
PALERMO	R3A02	3,09	PALERMO	R3A02	2,21
MESSINA	R3A03	2,56	MESSINA	R3A03	1,93
AGRIGENTO	R3A04	2,76	AGRIGENTO	R3A04	2,34
CALTANISSETTA	R3A05	3,43	CALTANISSETTA	R3A05	2,26
ENNA	R3A06	2,94	ENNA	R3A06	2,27
CATANIA	R3A07	3,30	CATANIA	R3A07	2,20

RAGUSA	R3A08	2,67	RAGUSA	R3A08	2,12
SIRACUSA	R3A09	2,91	SIRACUSA	R3A09	2,08
CAGLIARI	R3BA	3,35	SASSARI	R3B01	1,79
NUORO	R3BB	2,95	NUORO	R3B02	1,97
SASSARI	R3BC	2,93	ORISTANO	R3B03	1,93
GRONINGEN	R411	2,91	CAGLIARI	R3B04	1,91
FRIESLAND	R412	3,49	GRONINGEN	R411	1,52
DRENTHE	R413	3,28	FRIESLAND	R412	1,91
OVERIJSSEL	R42A	3,38	DRENTHE	R413	1,70
GELDERLAND	R42B	3,34	OVERIJSSEL	R42A	1,87
NOORD-BRABANT	R451	3,36	GELDERLAND	R42B	1,65
LIMBURG	R452	3,29	NOORDBRABANT	R451	1,62
UTRECHT	R471	3,11	LIMBURG	R452	1,45
NOORD-HOLLAND	R472	2,86	UTRECHT	R471	1,53
ZUID-HOLLAND	R473	2,90	NOORDHOLLAND	R472	1,43
ZEELAND	R474	3,10	ZUIDHOLLAND	R473	1,60
ANTWERPEN	R511	2,67	ZEELAND	R474	1,77
VLAAMS-BRABANT	R512	2,44	ANTWERPEN	R511	1,67
LIMBURG	R515	3,33	LIMBURG	R515	1,78
OOST-VLAANDEREN	R518	2,55	OOST-VLAANDEREN	R518	1,68
WEST-VLAANDEREN	R519	2,67	WEST-VLAANDEREN	R519	1,77
BRABANT WALLON	R5224	2,24	BRABANT WALLON	R5224	1,61
HAINAUT	R523	2,55	HAINAUT	R523	1,63
LIEGE	R524	2,37	LIEGE	R524	1,61
LUXEMBOURG (B)	R526	2,91	LUXEMBOURG	R526	1,92
NAMUR	R527	2,76	NAMUR	R527	1,77
BRUXELLES	R53	2,01	BRUXELLES	R53	1,64
LUXEMBOURG	R6	2,31	VLAAMS BRABANT	R5512	1,58
CUMBERLAND	R710A1	2,77	GRAND-DUCHE	R6	1,51
WESTMORLAND	R710A2	2,49	CLEVELAND	R7111	2,03
YORKSHIRE - EAST RIDING	R710B	2,77	DURHAM	R7112	1,88
DURHAM	R710C11	2,79	CUMBRIA	R712	1,84
NORTHUMBERLAND	R710C12	2,69	NORTHUMBERLAND	R7131	1,87
YORKSHIRE - NOTH RIDING	R710D11	3,02	TYNE AND WEAR	R7132	1,87
YORKSHIRE - WEST RIDING	R710D12	2,71	HUMBERSIDE	R721	1,91
DERBYSHIRE	R7311	2,59	NORTH YORKSHIRE	R722	1,79
NOTTINGHAMSHIRE	R7312	2,77	SOUTH YORKSHIRE	R723	1,83
LEICESTERSHIRE	R7321A	2,75	WEST YORKSHIRE	R724	2,03
RUTLAND	R7321B	3,08	DERBYSHIRE	R7311	1,89
NORTHAMPTONSHIRE	R7322	2,86	NOTTINGHAMSHIRE	R7312	1,85
LINCOLNSHIRE -P. OF HOLLAND	R733A	2,40	LEICESTERSHIRE	R7321	1,97
LINCOLNSHIRE -P. OF KESTEVEN	R733B	2,70	NORTHAMPTONSHIRE	R7322	1,96
LINCOLNSHIRE -P. OF LINDSEY	R733C	2,94	LINCOLNSHIRE	R733	1,84
CAMBRIDGESHIRE	R7401A	2,47	CAMBRIDGESHIRE	R7401	1,94
HUNTINGDONSHIRE	R7401B	2,98	NORFOLK	R7402	1,84
ISLE OF ELY	R7401C	2,60	SUFFOLK	R7403	1,98
SOKE OF PETERBOROUGH	R7401D	2,86	BEDFORDSHIRE	R7511	2,12
NORFOLK	R7402	2,55	HERTFORDSHIRE	R7512	1,83
EAST SUFFOLK	R7403A	2,71	BERKSHIRE	R7521	1,95
WEST SUFFOLK	R7403B	2,75	BUCKINGHAMSHIRE	R7522	1,98
BEDFORDSHIRE	R7511	3,01	OXFORDSHIRE	R7523	1,91
HERTFORDSHIRE	R7512	2,61	EAST SUSSEX	R7531	1,77
BERKSHIRE	R7521	2,92	SURREY	R7532	1,75
BUCKINGHAMSHIRE	R7522	2,78	WEST SUSSEX	R7533	1,86
OXFORDSHIRE	R7523	2,76	ESSEX	R754	1,88

EAST SUSSEX	R7531	2,39	GREATER LONDON	R755	1,80
SURREY	R7532	2,39	HAMPSHIRE	R7561	1,92
WEST SUSSEX	R7533	2,53	ISLE OF WIGHT	R7562	1,84
ESSEX	R754	2,54	KENT	R757	1,93
LONDON	R755A	2,47	AVON	R7611	1,80
MIDDLESEX	R755B	2,44	GLOUCESTERSHIRE	R7612	1,86
HAMPSHIRE	R7561	2,81	WILTSHIRE	R7613	1,91
ISLE OF WIGHT	R7562	2,47	CORNWALL	R7621	1,93
KENT	R757	2,62	DEVON	R7622	1,86
CORNWALL AND THE ISLES OF SCILLY	R76A	2,50	DORSET	R7631	1,78
DEVON	R76B	2,59	SOMERSET	R7632	1,88
DORSET	R76C	2,70	HEREFORD AND WORCESTER	R7711	1,88
GLOUCESTERSHIRE	R76D11	2,70	WARWICKSHIRE	R7712	1,82
SOMERSET	R76D12	2,66	SALOP	R7721	1,88
WILTSHIRE	R76E	2,99	STAFFORDSHIRE	R7722	1,90
HEREFORDSHIRE	R77A1	2,79	WEST MIDLANDS	R773	2,05
WORCESTERSHIRE	R77A2	2,54	CHESHIRE	R781	1,88
SHROPSHIRE	R77B	2,71	GREATER MANCHESTER	R782	1,99
STAFFORDSHIRE	R77C11	2,63	LANCASHIRE	R783	2,00
WARWICKSHIRE	R77C12	2,90	MERSEYSIDE	R784	1,92
CHESIRE	R78A	2,75	CLWYD	R7911	1,95
LANCASHIRE	R78B	2,87	DYFED	R7912	2,01
DENBIGHSHIRE	R7911A	2,63	GWYNEDD	R7913	2,06
FLINTSHIRE	R7911B	2,87	POWYS	R7914	1,97
CARDIGANSHIRE	R7912A	2,37	GWENT	R7921	1,96
CARMARTHENSHIRE	R7912B	2,35	MID-GLAMORGAN	R7922	2,08
PEMBROKESHIRE	R7912C	2,87	SOUTH-GLAMORGAN	R7923	1,97
ANGLESEY	R7913A	3,01	WEST-GLAMORGAN	R7924	1,96
CAERNARVONSHIRE	R7913B	2,49	BORDERS	R7A11	1,87
MERIONETHSHIRE	R7913C	2,83	CENTRAL SCOTLAND	R7A12	1,88
BRECONSHIRE	R7914A	2,54	FIFE	R7A13	2,06
MONTGOMERYSHIRE	R7914B	2,63	LOTHIAN	R7A14	1,69
RADNORSHIRE	R7914C	2,77	TAYSIDE	R7A15	1,88
GLAMORGAN	R792A	2,69	DUMFRIES AND GALLOWAY	R7A21	1,95
MONMOUTHSHIRE	R792B	2,81	STRATHCLYDE	R7A22	1,95
BORDER COUNTIES	R7AA	2,50	HIGHLAND	R7A31	2,22
REMAINDER OF SOUTH DIVISION	R7AB	2,89	ISLANDS	R7A32	2,26
EAST CENTRAL DIVISION	R7AC	2,80	GRAMPIAN	R7A4	1,96
REMAINDER OF NORTHERN DIVISION	R7AD	2,64	NORTHERN IRELAND	R7B	2,52
CROFTING COUNTIES	R7AE	2,90	DUBLIN	R8001A	2,67
CENTRAL CLYDESIDE CONURBATION	R7AF1	3,05	KILDARE	R8001B	3,85
REMAINDER OF WEST CENTRAL DIVISION	R7AF2	2,96	MEATH	R8001C	3,66
NORTHERN IRELAND	R7B	3,38	WICKLOW	R8001D	3,59
DUBLIN	R8001A	3,31	CORK	R8002A	3,27
KILDARE	R8001B	4,50	KERRY	R8002B	3,45
MEATH	R8001C	4,15	CARLOW	R8003A	4,02
WICKLOW	R8001D	3,85	KILKENNY	R8003B	3,26
CORK	R8002A	3,68	WEXFORD	R8003C	3,82
KERRY	R8002B	3,92	WATERFORD	R8003D	3,31
CARLOW	R8003A	4,71	TIPPERARY	R8003E	3,68
KILKENNY	R8003B	3,90	LOUTH	R8004A	3,43
WEXFORD	R8003C	4,04	CAVAN	R8004B	4,13
WATERFORD	R8003D	3,73	MONAGHAN	R8004C	3,53
TIPPERARY	R8003E	4,40	CLARE	R8005A	3,68
LOUTH	R8004A	3,74	LIMERICK	R8005B	3,35

CAVAN	R8004B	4,10	DONEGAL	R8006	3,69
MONAGHAN	R8004C	4,06	ROSCOMMON	R8007A	3,32
CLARE	R8005A	4,07	LADIS	R8007B	3,62
LIMERICK	R8005B	3,99	LONGFORD	R8007C	3,89
DONEGAL	R8006	3,48	OFFALY	R8007D	3,70
ROSCOMMON	R8007A	3,77	WESTMEATH	R8007E	3,95
LADIS	R8007B	4,24	GALWAY	R8008A	3,35
LONGFORD	R8007C	4,33	MAYO	R8008B	3,72
OFFALY	R8007D	4,52	LEITRIM	R8009A	3,72
WESTMEATH	R8007E	4,32	SLIGO	R8009B	3,22
GALWAY	R8008A	3,98	KOBENHAVN-HOVESTADE	R9011	1,20
MAYO	R8008B	3,93	KOBENHAVN-AMT	R9012	1,42
LEITRIM	R8009A	4,09	FREDERIKSBORG	R9013	1,49
SLIGO	R8009B	3,90	ROSKILDE	R9014	1,44
FREDERIKSBORG	R901A	2,62	VEST-SJAELLAND	R9021	1,55
KOBENHAVN - HOVESTADE	R901B	2,18	STORSTROM	R9022	1,55
ROSKILDE	R901C	2,58	BORNHOLM	R9023	1,83
HOLBAEK	R9021A	2,65	FYN	R9031	1,56
SORO	R9021B	2,55	SONDERJYLLAND	R9032	1,79
MARIBO	R9022A	2,57	RIBE	R9033	1,80
PRAESTO	R9022B	2,72	VEJLE	R9034	1,68
BORNHOLM	R9023	2,99	RINGKOBING	R9035	1,81
ODENSE	R9031A	2,51	ARHUS	R9036	1,50
SVENDBORG	R9031B	2,62	VIBORG	R9037	1,82
ABENRA - SONDERBORG	R9032A	2,74	NORDJYLLAND	R9038	1,69
HADERSLEV	R9032B	2,79	EVROS	RA111	2,27
TONDER	R9032C	3,02	XANTHI	RA112	2,82
RIBE	R9033	3,06	RODOPI	RA113	2,38
VEJLE	R9034	2,62	DRAMA	RA114	2,53
RINGKOBING	R9035	3,09	KAVALA	RA115	2,20
ARHUS	R9036A	2,26	IMATHIA	RA121	2,25
RANDERS	R9036B	2,76	SALONIKA (THESSALONIKI)	RA122	2,06
SKANDERBORG	R9036C	2,60	KILKIS	RA123	1,99
THISTED	R9037A	3,03	PELLA	RA124	2,35
VIBORG	R9037B	2,94	PIERIA	RA125	2,21
ALBORG	R9038A	2,64	SERRES	RA126	2,06
HJORRING	R9038B	3,03	CHALKIDIKI	RA127	2,14
GREC CENTRALE ET EUBEE	RAA	1,93	GREVENA	RA131	2,03
PELOPONESE	RAB	2,56	KASTORIA	RA132	2,27
ILES IONIENNES	RAC	2,34	KOZANI	RA133	2,66
EPIRE	RAD	2,61	FLORINA	RA134	2,60
THESSALIE	RAE	2,26	KARDITSA	RA141	2,41
MACEDOINE	RAF	2,23	LARISSA	RA142	2,49
THRACE	RAG	2,75	MAGNISIA	RA143	2,34
ILES EGEENNES	RAH	2,40	TRIKALA	RA144	2,49
CRETE	RAI	2,42	ARTA	RA211	2,30
CORUNA (LA)	RB111	2,38	THESPROTIA	RA212	2,47
LUGO	RB112	2,21	YANINA (IOANNINA)	RA213	2,32
ORENSE	RB113	2,10	PREVEZA	RA214	2,50
PONTEVEDRA	RB114	2,79	ZANTE (ZAKYNTHOS)	RA221	2,28
OVIEDO	RB12	2,55	CEPHALONIA	RA222	2,04
SANTANDER	RB13	2,89	CORFU (KERKYRA)	RA223	2,18
ALAVA	RB211	2,94	LEVKAS	RA224	2,22
GUIPUZCOA	RB212	2,98	AETOLIA-AKARNANIA	RA231	2,60
VIZCAYA	RB213	2,99	AKHAIA	RA232	2,64
NAVARRA	RB22	2,85	ILIA	RA233	2,24
LOGRONO	RB23	2,62	BEOTIA	RA241	2,13
HUESCA	RB241	2,20	EUBOEA	RA242	2,52

TERUEL	RB242	2,53	EVRYTANIA	RA243	1,80
ZARAGOZA	RB243	2,57	PHTHIOTIS	RA244	2,09
MADRID	RB3	2,68	PHOCIS	RA245	1,69
AVILA	RB411	2,95	ARGOLIS	RA251	2,27
BURGOS	RB412	3,01	ARKADIA	RA252	2,03
LEON	RB413	2,91	KORINTHIA	RA253	2,21
PALENCIA	RB414	3,13	LAKONIA	RA254	2,13
SALAMANCA	RB415	3,01	MESSINIA	RA255	2,43
SEGOVIA	RB416	2,90	ATTIKI	RA3	2,05
SORIA	RB417	2,50	LESVOS	RA411	2,28
VALLADOLID	RB418	3,15	SAMOS	RA412	2,47
ZAMORA	RB419	2,80	CHIOS	RA413	2,53
ALBACETE	RB421	3,36	DODECANESOS	RA421	2,33
CIUDAD REAL	RB422	3,22	CYCLADES	RA422	1,95
CUENCA	RB423	3,10	IRAKLIO	RA431	2,65
GUADALAJARA	RB424	2,63	LASITHI	RA432	2,28
TOLEDO	RB425	2,84	RETHYMNO	RA433	2,75
BADAJOZ	RB431	3,12	CANEA	RA434	2,28
CACERES	RB432	3,18	LA CORUNA	RB111	2,10
BARCELONA	RB511	2,29	LUGO	RB112	2,00
GERONA	RB512	2,26	ORENSE	RB113	1,46
LERIDA	RB513	2,64	PONTEVEDRA	RB114	2,29
TARRAGONA	RB514	2,47	OVIEDO	RB12	1,78
ALICANTE	RB521	2,77	SANTANDER	RB13	2,11
CASTELLON	RB522	2,33	ALAVA	RB211	1,98
VALENCIA	RB523	2,62	GUIPUZCOA	RB212	1,69
BALEARES	RB53	2,34	VIZCAYA	RB213	1,84
ALMERIA	RB611	3,41	NAVARRA	RB22	1,92
CADIZ	RB612	3,45	LOGRONO	RB23	2,00
CORDOBA	RB613	3,15	HUESCA	RB241	1,88
GRANADA	RB614	3,43	TERUEL	RB242	2,00
HUELVA	RB615	2,91	ZARAGOZA	RB243	1,87
JAEN	RB616	3,39	MADRID	RB3	2,06
MALAGA	RB617	2,87	AVILA	RB411	2,00
SEVILLA	RB618	3,05	BURGOS	RB412	1,80
MURCIA	RB62	3,07	LEON	RB413	2,03
PALMAS (LAS)	RB701	3,63	PALENCIA	RB414	1,95
SANTA CRUZ DE TEN.	RB702	2,88	SALAMANCA	RB415	2,00
BRAGA	RC1A1	4,52	SEGOVIA	RB416	2,10
BRAGANCA	RC1A2	3,84	SORIA	RB417	1,71
PORTO	RC1A3	3,74	VALLADOLID	RB418	2,03
VIANA DO CASTELO	RC1A4	3,14	ZAMORA	RB419	1,92
VILA REAL	RC1A5	4,17	ALBACETE	RB421	2,49
AVEIRO	RC1B1	3,66	CIUDAD REAL	RB422	2,33
CASTELO BRANCO	RC1B2	2,63	CUENCA	RB423	2,12
COIMBRA	RC1B3	2,48	GUADALAJARA	RB424	2,07
GUARDA	RC1B4	3,19	TOLEDO	RB425	2,37
SETUBAL	RC1B4	2,18	BADAJOZ	RB431	2,56
VISEU	RC1B5	3,59	CACERES	RB432	2,29
LEIRIA	RC1C1	2,89	BARCELONA	RB511	1,71
LISBOA	RC1C2	2,00	GERONA	RB512	2,09
SANTAREM	RC1C3	2,45	LERIDA	RB513	1,91
BEJA	RC1D1	2,32	TARRAGONA	RB514	2,19
EVORA	RC1D2	2,04	ALICANTE	RB521	2,41
PORTALEGRE	RC1D3	2,19	CASTELLON	RB522	2,22
FARO	RC1E	2,15	VALENCIA	RB523	2,19
ACORES	RC2	4,10	BALEARES	RB53	2,20
MADEIRA	RC3	3,70	ALMERIA	RB611	2,77
BURGENLAND	AT01	2,77	CADIZ	RB612	2,92

KARNTEN	AT02	3,13	CORDOBA	RB613	2,51
NIEDEROSTERREICH	AT03	2,83	GRANADA	RB614	2,50
OBEROSTERREICH	AT04	3,00	HUELVA	RB615	2,82
SALZBURG	AT05	2,89	JAEN	RB616	2,53
STEIERMARK	AT06	2,88	MALAGA	RB617	2,50
TIROL	AT07	3,12	SEVILLA	RB618	2,78
VORARLBERG	AT08	3,11	MURCIA	RB62	2,79
WIEN	AT09	1,77	LAS PALMAS	RB701	2,59
BLAGOEVGRAD	BGA	3,21	TENERIFE	RB702	2,43
BURGAS	BGB	2,52	BRAGA	RC1A1	2,64
VARNA	BGC	2,35	BRAGANCA	RC1A2	2,58
VRATSA	BGD	1,94	PORTO	RC1A3	2,18
KOLAROVGRAD	BGE	2,73	VIANA DO CASTELO	RC1A4	2,41
PLEVEN	BGF	2,01	VILA REAL	RC1A5	2,76
PLOVDIV	BGG	2,36	AVEIRO	RC1B1	2,27
RUSE	BGH	2,58	CASTELO BRANCO	RC1B2	2,09
SOFIA-VILLE	BGI	1,59	COIMBRA	RC1B3	2,12
SOFIA-REGION	BGJ	2,25	GUARDA	RC1B4	2,28
STARA ZAGORA	BGK	2,15	SETUBAL	RC1B4	1,93
TARNOVO	BGL	1,82	VISEU	RC1B5	2,77
CHASKOVO	BGM	3,31	LEIRIA	RC1C1	2,21
VALAIS	CH0A	3,21	LISBOA	RC1C2	1,85
TICINO	CH0B	1,91	SANTAREM	RC1C3	2,07
GRAUBUNDEN	CH0C	2,87	BEJA	RC1D1	2,29
BERN	CH0D	2,52	EVORA	RC1D2	2,16
GLARUS	CH0E1	2,50	PORTALEGRE	RC1D3	2,16
ST-GALLEN	CH0E2	2,84	FARO	RC1E	2,14
APPENZELL R.A.	CH0E31	2,68	ACORES	RC2	3,13
APPENZELL R.I.	CH0E32	2,68	MADEIRA	RC3	2,35
THURGAU	CH0E4	2,84	BURGENLAND	AT01	1,66
SCHAFFHAUSEN	CH0E5	2,51	KARNTEN	AT02	1,69
ZURICH	CH0E6	2,14	NIEDEROSTERREICH	AT03	1,68
ZUG	CH0E7	2,61	OBEROSTERREICH	AT04	1,77
LUZERN	CH0F1	3,13	SALZBURG	AT05	1,75
SCHWYZ	CH0F2	3,41	STEIERMARK	AT06	1,65
NIDWALDEN	CH0F3	3,53	TIROL	AT07	1,78
OBWALDEN	CH0F4	3,58	VORARLBERG	AT08	1,95
URI	CH0F5	3,70	WIEN	AT09	1,36
VAUD	CH0G1	1,93	BURGAS	BG0101	2,32
FRIBOURG	CH0G2	3,02	JAMBOL	BG0102	2,38
NEUCHATEL	CH0G3	1,92	SLIVEN	BG0103	2,48
GENEVE	CH0G4	1,64	HASKOVO	BG0201	2,29
AARGAU	CH0H1	2,83	KARDZALI	BG0202	2,69
BASEL-LAND	CH0H21	2,60	STARA ZAGORA	BG0203	2,07
BASEL-STADT	CH0H22	1,84	GABROVO	BG0301	1,82
SOLOTHURN	CH0H3	2,67	LOVEC	BG0302	2,03
PRAHA	CS01	1,33	PLEVEN	BG0303	1,99
JIHOCESKY	CS02	2,24	VELIKO TARNOVO	BG0304	1,82
JIHOMORAVSKY	CS03	2,24	MIHAHLOVGRAD	BG0401	2,06
SEVEROCESKY	CS04	2,07	VIDIN	BG0402	2,18
SEVEROMORAVSKY	CS05	2,38	VRACA	BG0403	2,15
STREDOCESKY	CS06	1,90	PAZARDZIK	BG0501	2,44
VYCHODOCESKY	CS07	2,11	PLOVDIV	BG0502	1,92
ZAPADOCESKY	CS08	2,22	SMOLJAN	BG0503	1,92
BRATISLAVA	CS09	2,71	RAZGRAD	BG0601	2,45
STREDOSLOVENSKY	CS10	3,10	RUSE	BG0602	1,90
VYCHODOSLOVENSKY	CS11	3,40	SILISTRA	BG0603	2,13
ZAPADOSLOVENSKY	CS12	2,71	TARGOVISTE	BG0604	2,37
ESTONSKAJA SSR	EE	1,95	SOFIA-VILLE	BG07	1,59

ALAND	FI01	2,57	BLAGOEVGRAD	BG0801	2,41
HAME	FI02	2,45	KJUSTENDIL	BG0802	2,03
KESKI-SUOMI	FI03	2,86	PERNIK	BG0803	1,94
KUOPIO	FI04	3,01	SOFIA-CAMPAGNE	BG0804	2,00
KYMI	FI05	2,58	SUMEN	BG0901	2,27
LAPPI	FI06	3,82	TOLBUHIN	BG0902	2,20
MIKKELI	FI07	2,91	VARNA	BG0903	1,89
OULU	FI08	3,56	AARGAU	CH01	1,69
POHJOIS-KARJALA	FI09	3,40	APPENZELL R.A.	CH02	2,05
TURKU-PORI	FI10	2,40	APPENZELL R.I.	CH03	2,05
UUSIMAA	FI11	2,26	BASEL-LAND	CH04	1,51
VAASA	FI12	2,67	BASEL-STADT	CH05	1,14
BARANYA	HU01	2,20	BERN	CH06	1,56
BACS-KISKUN	HU02	2,11	FRIBOURG	CH07	1,63
BEKES	HU03	2,00	GENEVE	CH08	1,29
BORSOD-ABAUJ-ZEMPLEN	HU04	2,40	GLARUS	CH09	1,92
BUDAPEST	HU05	1,20	GRAUBUNDEN	CH10	1,66
CSONGRAD	HU06	1,82	JURA	CH11	1,73
FEJER	HU07	2,29	LUZERN	CH12	1,75
GYOR-SOPRON	HU08	2,15	NEUCHATEL	CH13	1,39
HAJDU-BIHAR	HU09	2,49	NIDWALDEN	CH14	1,92
HEVES	HU10	1,93	OBWALDEN	CH15	2,21
SZOLNOK	HU11	2,10	ST-GALLEN	CH16	1,81
KOMAROM	HU12	2,18	SCHAFFHAUSEN	CH17	1,63
NOGRAD	HU13	2,16	SCHWYZ	CH18	1,99
PEST	HU14	1,99	SOLOTHURN	CH19	1,62
SOMOGY	HU15	2,07	THURGAU	CH20	1,89
SZABOLCS-SZATMAR	HU16	2,87	TICINO	CH21	1,37
TOLNA	HU17	2,11	URI	CH22	2,04
VAS	HU18	2,19	VALAIS	CH23	1,75
VESZPREM	HU19	2,28	VAUD	CH24	1,39
ZALA	HU20	2,21	ZUG	CH25	1,60
LITOVSKAJA SSR	LT	2,56	ZURICH	CH26	1,39
LATVIISKAJA SSR	LV	1,92	PRAHA	CS01	1,86
AUST-AGDER	NO01	3,14	JIHOCESKY	CS02	2,11
BUSKERUD	NO02	2,64	JIHOMORAVSKY	CS03	2,15
FINNMARK	NO03	3,51	SEVEROCESKY	CS04	2,06
HEDMARK	NO04	2,75	SEVEROMORAVSKY	CS05	2,05
HORDALAND	NO05	3,07	STREDOCESKY	CS06	2,03
MORE OG ROMSDAL	NO06	3,38	VYCHODOCESKY	CS07	2,07
NORDLAND	NO07	3,27	ZAPADOCESKY	CS08	1,99
NORD-TRONDELAG	NO08	3,28	BRATISLAVA	CS09	2,24
OPPLAND	NO09	2,82	STREDOSLOVENSKY	CS10	2,38
OSLO	NO10A	2,07	VYCHODOSLOVENSKY	CS11	2,55
AKERSHUS	NO10B	2,72	ZAPADOSLOVENSKY	CS12	2,24
OSTFOLD	NO11	2,72	ESTONSKAJA SSR	EE	2,04
ROGALAND	NO12	3,20	ALAND	FI01	1,58
SOGN OG FJORDANE	NO13	3,64	HAME	FI02	1,52
SOR-TRONDELAG	NO14	2,90	KESKI-SUOMI	FI03	1,67
TELEMARK	NO15	2,75	KUOPIO	FI04	1,70
TROMS	NO16	3,39	KYMI	FI05	1,52
VEST-AGDER	NO17	3,13	LAPPI	FI06	1,76
VESTFOLD	NO18	2,83	MIKKELI	FI07	1,50
BIALYSTOK	PLA	3,45	OULU	FI08	2,05
BYDGOSZCZ	PLB	3,39	POHJOIS-KARJALA	FI09	1,64
GDANSK	PLC	3,09	TURKU-PORI	FI10	1,61
KATOWICE	PLD	2,51	UUSIMAA	FI11	1,49
KIELCE	PLE	3,25	VAASA	FI12	1,93

KOSZALIN	PLF	3,78	BARANYA	HU01	1,81
KRAKOW-VILLE	PLG11	1,83	BACS-KISKUN	HU02	1,98
KRAKOW-CAMPAGNE	PLG12	3,30	BEKES	HU03	1,93
LODZ-VILLE	PLH11	1,67	BORSOD-ABAUJ-ZEMPLEN	HU04	2,07
LODZ-CAMPAGNE	PLH12	2,95	BUDAPEST	HU05	1,59
LUBLIN	PLI	3,03	CSONGRAD	HU06	1,76
OLSZTYN	PLJ	3,88	FEJER	HU07	2,05
OPOLE	PLK	3,11	GYOR-SOPRON	HU08	2,05
POZNAN-VILLE	PLL11	1,95	HAJDU-BIHAR	HU09	2,05
POZNAN-CAMPAGNE	PLL12	3,42	HEVES	HU10	1,91
RZESZOV	PLM	3,23	SZOLNOK	HU11	2,17
SZEZECIN	PLN	3,09	KOMAROM	HU12	1,93
WARSZAWA-VILLE	PLO11	1,59	NOGRAD	HU13	1,90
WARSZAWA-CAMPAGNE	PLO12	3,13	PEST	HU14	1,89
WROCLAW-VILLE	PLP11	1,93	SOMOGY	HU15	1,89
WROCLAW-CAMPAGNE	PLP12	3,08	SZABOLCS-SZATMAR	HU16	2,21
ZIELONA-GORA	PLQ	3,30	TOLNA	HU17	1,97
BACAU	ROA	3,08	VAS	HU18	1,98
BAIA MARE	ROB	2,74	VESZPREM	HU19	2,20
BUCURESTI-VILLE	ROC1	1,23	ZALA	HU20	1,91
BUCURESTI-REGION	ROC2	2,20	LITOVSKAJA SSR	LT	1,98
CLUJ	ROD	2,43	LATVIISKAJA SSR	LV	1,89
CONSTANTA	ROE	2,96	AUST-AGDER	NO01	1,88
CRAIOVA	ROF	2,14	BUSKERUD	NO02	1,58
GALATI	ROG	2,87	FINNMARK	NO03	1,76
HUNEDOARA	ROH	1,98	HEDMARK	NO04	1,50
IASI	ROI	3,31	HORDALAND	NO05	1,89
ORADEA	ROJ	2,22	MORE OG ROMSDAL	NO06	1,90
PITESTI	ROK	2,28	NORDLAND	NO07	1,88
PLOIESTI	ROL	2,31	NORD-TRONDELAG	NO08	1,87
STALIN	ROM	2,09	OPPLAND	NO09	1,57
SUCEAVA	RON	2,84	OSLO	NO10A	1,42
TIMISOARA	ROO	1,67	AKERSHUS	NO10B	1,55
REG. AUT. MAGHIARA	ROP	2,66	OSTFOLD	NO11	1,61
ALVSBORG	SE01	2,12	ROGALAND	NO12	2,08
BLEKINGE	SE02	2,13	SOGN OG FJORDANE	NO13	2,02
GOTEBORG-BOHUS	SE03	2,18	SOR-TRONDELAG	NO14	1,72
GAVLEBORG	SE04	2,25	TELEMARK	NO15	1,67
GOTLAND	SE05	2,58	TROMS	NO16	1,79
HALLAND	SE06	2,21	VEST-AGDER	NO17	2,05
JAMTLAND	SE07	2,22	VESTFOLD	NO18	1,60
JONKOPING	SE08	2,19	BIALA PODLASKA	PL01	2,83
KALMAR	SE09	2,18	BIALYSTOK	PL02	2,32
KOPPARBERG	SE10	2,33	BIELSKO BIALA	PL03	2,36
KRISTIANSTAD	SE11	2,18	BYDGOSZCZ	PL04	2,25
KRONOBERG	SE12	2,12	CHELM	PL05	2,62
MALMOHUS	SE13	2,09	CIECHANOW	PL06	2,64
NORRBOTTEN	SE14	2,58	CZESTOCHOWA	PL07	2,26
OREBRO	SE15	2,14	ELBLAG	PL08	2,54
OSTERGOTLAND	SE16	2,18	GDANSK	PL09	2,16
SKARABORG	SE17	2,29	GORZOW WIELKOPOLSKI	PL10	2,40
SODERMANLAND	SE18	2,27	JELENIA GORA	PL11	2,16
STOCKHOLM STAD	SE19A	1,93	KALISZ	PL12	2,43
STOCKHOLM LAN	SE19B	2,33	KATOWICE	PL13	2,00
UPPSALA	SE20	2,28	KIELCE	PL14	2,47
VARMLAND	SE21	2,15	KONIN	PL15	2,58
VASTERBOTTEN	SE22	2,20	KOSZALIN	PL16	2,29
VASTERNORRLAND	SE23	2,10	KRAKOW	PL17	1,94
VASTMANLAND	SE24	2,34	KROSNO	PL18	2,75

SLOVENIJA	SI	2,32	LEGNICA	PL19	2,24
			LESZNO	PL20	2,57
			LODZ	PL21	1,61
			LOMZA	PL22	3,01
			LUBLIN	PL23	2,20
			NOWY SACZ	PL24	3,05
			OLSZTYN	PL25	2,46
			OPOLE	PL26	2,28
			OSTROLEKA	PL27	2,90
			PILA	PL28	2,58
			PIOTRKOW TRYBUNALSKI	PL29	2,45
			PLOCK	PL30	2,33
			POZNAN	PL31	2,06
			PRZEMYSL	PL32	2,80
			RADOM	PL33	2,63
			RZESZOW	PL34	2,64
			SIEDLCE	PL35	2,79
			SIERADZ	PL36	2,43
			SKIERNIEWICE	PL37	2,28
			SLUPSK	PL38	2,46
			SUWALKI	PL39	2,76
			SZCZECIN	PL40	2,11
			TARNOBRZEG	PL41	2,67
			TARNOW	PL42	2,91
			TORUN	PL43	2,29
			WALBRZYCH	PL44	2,15
			WARSZAWA	PL45	1,65
			WLOCLAWEK	PL46	2,44
			WROCLAW	PL47	1,90
			ZAMOSC	PL48	2,75
			ZIELONA GORA	PL49	2,37
			ALBA	RO01	2,59
			ARAD	RO02	1,87
			ARGES	RO03	2,52
			BACAU	RO04	2,99
			BIHOR	RO05	2,29
			BISTRITA-NASAUD	RO06	3,10
			BOTOSANI	RO07	3,71
			BRASOV	RO08	1,87
			BRAILA	RO09	2,57
			BUCURESTI	R0C1	1,35
			BUZAU	RO11	2,70
			CARAS-SEVERIN	RO12	1,99
			CLUJ	RO14	2,10
			CONSTANTA	RO15	1,94
			COVASNA	RO16	2,70
			DIMBOUITA	RO17	2,84
			DOLJ	RO18	2,23
			GALATI	RO19	2,64
			GORJ	RO21	2,71
			HARGHITA	RO22	2,63
			HUNEDOARA	RO23	2,09
			IASI	RO25	2,98
			MARAMURES	RO26	2,68
			MEHEDINTI	RO27	2,67
			MURES	RO28	2,50
			NEAMT	RO29	2,97
			OLT	RO30	2,81
			PRAHOVA	RO31	2,43

			SATU MARE	RO32	2,70
			SALAJ	RO33	2,86
			SIBIU	RO34	2,42
			SUCEAVA	RO35	3,03
			TIMIS	RO37	1,62
			TULCEA	RO38	2,78
			VASLUI	RO39	4,07
			VILCEA	RO40	2,69
			VRANCEA	RO41	2,95
			TELEORMAN	ROC23	2,69
			ALVSBORG	SE01	1,72
			BLEKINGE	SE02	1,78
			GOTEBORG-BOHUS	SE03	1,58
			GAVLEBORG	SE04	1,57
			GOTLAND	SE05	1,80
			HALLAND	SE06	1,79
			JAMTLAND	SE07	1,70
			JONKOPING	SE08	1,78
			KALMAR	SE09	1,76
			KOPPARBERG	SE10	1,76
			KRISTIANSTAD	SE11	1,80
			KRONOBERG	SE12	1,83
			MALMOHUS	SE13	1,63
			NORRBOTTEN	SE14	1,72
			OREBRO	SE15	1,66
			OSTERGOTLAND	SE16	1,72
			SKARABORG	SE17	1,82
			SODERMANLAND	SE18	1,69
			STOCKHOLM	SE19	1,61
			UPPSALA	SE20	1,69
			VARMLAND	SE21	1,66
			VASTERBOTTEN	SE22	1,80
			VASTERNORRLAND	SE23	1,71
			VASTMANLAND	SE24	1,62
			SLOVENIJA	SI	2,00

REGION	**CODE**	**1988**
SCHLESWIG-HOLSTEIN	R11	1,44
HAMBURG	R12	1,24
BRAUNSCHWEIG	R13A	1,35
HANNOVER	R13B	1,29
LUNEBURG	R13C	1,44
WESER-EMS	R13D	1,52
BREMEN	R14	1,28
DUSSELDORF	R151	1,39
KOLN	R152	1,37
MUNSTER	R153	1,49
DETMOLD	R154	1,47
ARNSBERG	R155	1,43
DARMSTADT	R16A	1,31
KASSEL	R16C	1,40
KOBLENZ	R171	1,46
TRIER	R172	1,46
RHEINHESSEN-PFALZ	R173	1,39
STUTTGART	R181	1,52
KARLSRUHE	R182	1,36
FREIBURG	R183	1,46
TUBINGEN	R184	1,59

OBERBAYERN	R191	1,37
NIEDERBAYERN	R192	1,46
OBERPFALZ	R193	1,51
OBERFRANKEN	R194	1,47
MITTELFRANKEN	R195	1,45
UNTERFRANKEN	R196	1,52
SCHWABEN	R197	1,60
SAARLAND	R1A	1,27
WEST-BERLIN	R1B1	1,34
HAUPTSTADT BERLIN	R1B2	1,64
COTTBUS	R1CA	1,68
FRANKFURT	R1CB	1,70
POTSDAM	R1CD	1,70
NEUBRANDENBURG	R1DA	1,85
ROSTOCK	R1DB	1,73
SCHWERIN	R1DC	1,84
CHEMNITZ	R1EA	1,57
DRESDEN	R1EB	1,69
LEIPZIG	R1EC	1,61
HALLE	R1FA	1,66
MAGDEBURG	R1FB	1,70
ERFURT	R1GA	1,67
GERA	R1GB	1,60
SUHL	R1GC	1,66
PARIS	R2101	1,67
SEINE-ET-MARNE	R2102	2,02
YVELINES	R2103	2,06
ESSONNE	R2104	1,92
HAUTS-DE-SEINE	R2105	1,87
SEINE-ST-DENIS	R2106	2,11
VAL-DE-MARNE	R2107	1,87
VAL-D'OISE	R2108	2,04
ARDENNES	R2211	1,93
AUBE	R2212	1,75
MARNE	R2213	1,83
HAUTE-MARNE	R2214	1,98
AISNE	R2221	2,02
OISE	R2222	1,96
SOMME	R2223	1,90
EURE	R2231	1,90
SEINE-MARITIME	R2232	1,93
CHER	R2241	1,69
EURE-ET-LOIR	R2242	1,95
INDRE	R2243	1,62
INDRE-ET-LOIRE	R2244	1,68
LOIR-ET-CHER	R2245	1,75
LOIRET	R2246	1,86
CALVADOS	R2251	1,80
MANCHE	R2252	1,97
ORNE	R2253	1,90
COTE-D'OR	R2261	1,67
NIEVRE	R2262	1,70
SAONE-ET-LOIRE	R2263	1,77
YONNE	R2264	1,89
NORD	R2301	2,12
PAS-DE-CALAIS	R2302	2,13
MEURTHE-ET-MOSELLE	R2411	1,75
MEUSE	R2412	1,94
MOSELLE	R2413	1,74

VOSGES	R2414	1,93
BAS-RHIN	R2421	1,70
HAUT-RHIN	R2422	1,84
DOUBS	R2431	1,84
JURA	R2432	1,80
HAUTE-SAONE	R2433	1,82
TERRITOIRE-DE-BELFORT	R2434	1,84
LOIRE-ATLANTIQUE	R2511	1,81
MAINE-ET-LOIRE	R2512	1,95
MAYENNE	R2513	1,89
SARTHE	R2514	1,71
VENDEE	R2515	1,90
COTES-DU-NORD	R2521	1,81
FINISTERE	R2522	1,79
ILLE-ET-VILAINE	R2523	1,75
MORBIHAN	R2524	1,90
CHARENTE	R2531	1,62
CHARENTE-MARITIME	R2532	1,68
DEUX-SEVRES	R2533	1,77
VIENNE	R2534	1,53
DORDOGNE	R2611	1,58
GIRONDE	R2612	1,59
LANDES	R2613	1,61
LOT-ET-GARONNE	R2614	1,69
PYRENEES-ATLANTIQUES	R2615	1,63
ARIEGE	R2621	1,63
AVEYRON	R2622	1,72
HAUTE-GARONNE	R2623	1,52
GERS	R2624	1,55
LOT	R2625	1,66
HAUTES-PYRENEES	R2626	1,58
TARN	R2627	1,73
TARN-ET-GARONNE	R2628	1,68
CORREZE	R2631	1,52
CREUSE	R2632	1,45
HAUTE-VIENNE	R2633	1,37
AIN	R2711	1,90
ARDECHE	R2712	1,77
DROME	R2713	1,91
ISERE	R2714	1,80
LOIRE	R2715	1,89
RHONE	R2716	1,89
SAVOIE	R2717	1,73
HAUTE-SAVOIE	R2718	1,79
ALLIER	R2721	1,53
CANTAL	R2722	1,63
HAUTE-LOIRE	R2723	1,69
PUY-DE-DOME	R2724	1,52
AUDE	R2811	1,66
GARD	R2812	1,76
HERAULT	R2813	1,60
LOZERE	R2814	1,84
PYRENEES-ORIENTALES	R2815	1,71
ALPES-DE-HAUTE-PROVENCE	R2821	1,71
HAUTES-ALPES	R2822	1,87
ALPES-MARITIMES	R2823	1,73
BOUCHES-DU-RHONE	R2824	1,80
VAR	R2825	1,90
VAUCLUSE	R2826	1,91

CORSE-DU-SUD	R2831	1,74
HAUTE- CORSE	R2832	1,61
TORINO	R3111	1,09
VERCELLI	R3112	1,07
NOVARA	R3113	1,14
CUNEO	R3114	1,24
ASTI	R3115	1,03
ALESSANDRIA	R3116	0,97
AOSTA	R312	1,21
IMPERIA	R3131	1,05
SAVONA	R3132	0,98
GENOVA	R3133	0,95
LA SPEZIA	R3134	1,04
VARESE	R3201	1,18
COMO	R3202	1,23
SONDRIO	R3203	1,37
MILANO	R3204	1,09
BERGAMO	R3205	1,30
BRESCIA	R3206	1,28
PAVIA	R3207	1,00
CREMONA	R3208	1,13
MANTOVA	R3209	1,06
BOLZANO	R3311	1,51
TRENTO	R3312	1,23
VERONA	R3321	1,20
VICENZA	R3322	1,22
BELLUNO	R3323	1,08
TREVISO	R3324	1,17
VENEZIA	R3325	1,02
PADOVA	R3326	1,15
ROVIGO	R3327	1,12
PORDENONE	R3331	1,14
UDINE	R3332	1,05
GORIZIA	R3333	0,93
TRIESTE	R3334	0,83
PIACENZA	R3401	0,95
PARMA	R3402	0,96
REGGIO NELL EMILIA	R3403	1,06
MODENA	R3404	0,98
BOLOGNA	R3405	0,81
FERRARA	R3406	0,87
RAVENNA	R3407	0,92
FORLI	R3408	1,11
MASSA-CARRARA	R3511	1,16
LUCCA	R3512	1,15
PISTOIA	R3513	1,09
FIRENZE	R3514	1,00
LIVORNO	R3515	1,09
PISA	R3516	1,11
AREZZO	R3517	1,12
SIENA	R3518	1,05
GROSSETO	R3519	1,01
PERUGIA	R3521	1,19
TERNI	R3522	1,11
PESARO E URBINO	R3531	1,19
ANCONA	R3532	1,15
MACERATA	R3533	1,17
ASCOLI PICENO	R3534	1,20
VITERBO	R3601	1,36

RIETI	R3602	1,39
ROMA	R3603	1,18
LATINA	R3604	1,51
FROSINONE	R3605	1,58
CASERTA	R3701	1,96
BENEVENTO	R3702	1,75
NAPOLI	R3703	1,89
AVELLINO	R3704	1,68
SALERNO	R3705	1,72
L AQUILA	R3811	1,34
TERAMO	R3812	1,41
PESCARA	R3813	1,24
CHIETI	R3814	1,33
ISERNIA	R3821	1,48
CAMPOBASSO	R3822	1,45
FOGGIA	R3911	1,74
BARI	R3912	1,58
TARANTO	R3913	1,65
BRINDISI	R3914	1,66
LECCE	R3915	1,70
POTENZA	R3921	1,59
MATERA	R3922	1,69
COSENZA	R3931	1,63
CATANZARO	R3932	1,81
REGGIO DI CALABRIA	R3933	1,86
TRAPANI	R3A01	1,71
PALERMO	R3A02	1,74
MESSINA	R3A03	1,52
AGRIGENTO	R3A04	1,85
CALTANISSETTA	R3A05	1,78
ENNA	R3A06	1,79
CATANIA	R3A07	1,73
RAGUSA	R3A08	1,67
SIRACUSA	R3A09	1,64
SASSARI	R3B01	1,18
NUORO	R3B02	1,29
ORISTANO	R3B03	1,27
CAGLIARI	R3B04	1,25
GRONINGEN	R411	1,39
FRIESLAND	R412	1,65
DRENTHE	R413	1,59
OVERIJSSEL	R42A	1,70
GELDERLAND	R42B	1,62
NOORDBRABANT	R451	1,53
LIMBURG	R452	1,45
UTRECHT	R471	1,52
NOORDHOLLAND	R472	1,46
ZUIDHOLLAND	R473	1,60
ZEELAND	R474	1,62
ANTWERPEN	R511	1,47
LIMBURG	R515	1,48
OOST-VLAANDEREN	R518	1,46
WEST-VLAANDEREN	R519	1,61
BRABANT WALLON	R5224	1,70
HAINAUT	R523	1,66
LIEGE	R524	1,67
LUXEMBOURG	R526	1,92
NAMUR	R527	1,77
BRUXELLES	R53	1,62

VLAAMS BRABANT	R5512	1,58
GRAND-DUCHE	R6	1,41
CLEVELAND	R7111	1,94
DURHAM	R7112	1,70
CUMBRIA	R712	1,64
NORTHUMBERLAND	R7131	1,65
TYNE AND WEAR	R7132	1,76
HUMBERSIDE	R721	1,88
NORTH YORKSHIRE	R722	1,60
SOUTH YORKSHIRE	R723	1,75
WEST YORKSHIRE	R724	1,91
DERBYSHIRE	R7311	1,76
NOTTINGHAMSHIRE	R7312	1,76
LEICESTERSHIRE	R7321	1,81
NORTHAMPTONSHIRE	R7322	1,87
LINCOLNSHIRE	R733	1,67
CAMBRIDGESHIRE	R7401	1,77
NORFOLK	R7402	1,71
SUFFOLK	R7403	1,82
BEDFORDSHIRE	R7511	1,96
HERTFORDSHIRE	R7512	1,86
BERKSHIRE	R7521	1,81
BUCKINGHAMSHIRE	R7522	1,77
OXFORDSHIRE	R7523	1,64
EAST SUSSEX	R7531	1,71
SURREY	R7532	1,81
WEST SUSSEX	R7533	1,77
ESSEX	R754	1,83
GREATER LONDON	R755	1,90
HAMPSHIRE	R7561	1,83
ISLE OF WIGHT	R7562	1,68
KENT	R757	1,87
AVON	R7611	1,75
GLOUCESTERSHIRE	R7612	1,73
WILTSHIRE	R7613	1,82
CORNWALL	R7621	1,82
DEVON	R7622	1,73
DORSET	R7631	1,64
SOMERSET	R7632	1,80
HEREFORD AND WORCESTER	R7711	1,76
WARWICKSHIRE	R7712	1,68
SALOP	R7721	1,77
STAFFORDSHIRE	R7722	1,82
WEST MIDLANDS	R773	1,98
CHESHIRE	R781	1,79
GREATER MANCHESTER	R782	1,91
LANCASHIRE	R783	1,94
MERSEYSIDE	R784	1,91
CLWYD	R7911	1,80
DYFED	R7912	1,67
GWYNEDD	R7913	1,83
POWYS	R7914	1,79
GWENT	R7921	1,96
MID-GLAMORGAN	R7922	1,95
SOUTH-GLAMORGAN	R7923	1,91
WEST-GLAMORGAN	R7924	1,84
BORDERS	R7A11	1,66
CENTRAL SCOTLAND	R7A12	1,67
FIFE	R7A13	1,83

LOTHIAN	R7A14	1,51
TAYSIDE	R7A15	1,67
DUMFRIES AND GALLOWAY	R7A21	1,73
STRATHCLYDE	R7A22	1,73
HIGHLAND	R7A31	1,97
ISLANDS	R7A32	2,01
GRAMPIAN	R7A4	1,74
NORTHERN IRELAND	R7B	2,41
DUBLIN	R8001A	1,84
KILDARE	R8001B	2,43
MEATH	R8001C	2,34
WICKLOW	R8001D	2,30
CORK	R8002A	2,19
KERRY	R8002B	2,23
CARLOW	R8003A	2,74
KILKENNY	R8003B	2,24
WEXFORD	R8003C	2,42
WATERFORD	R8003D	2,19
TIPPERARY	R8003E	2,40
LOUTH	R8004A	2,14
CAVAN	R8004B	2,66
MONAGHAN	R8004C	2,43
CLARE	R8005A	2,39
LIMERICK	R8005B	2,16
DONEGAL	R8006	2,59
ROSCOMMON	R8007A	2,36
LADIS	R8007B	2,39
LONGFORD	R8007C	2,50
OFFALY	R8007D	2,34
WESTMEATH	R8007E	2,44
GALWAY	R8008A	2,27
MAYO	R8008B	2,52
LEITRIM	R8009A	2,48
SLIGO	R8009B	2,30
KOBENHAVN-HOVESTADE	R9011	1,27
KOBENHAVN-AMT	R9012	1,56
FREDERIKSBORG	R9013	1,68
ROSKILDE	R9014	1,57
VEST-SJAELLAND	R9021	1,61
STORSTROM	R9022	1,64
BORNHOLM	R9023	1,74
FYN	R9031	1,54
SONDERJYLLAND	R9032	1,72
RIBE	R9033	1,76
VEJLE	R9034	1,63
RINGKOBING	R9035	1,78
ARHUS	R9036	1,51
VIBORG	R9037	1,76
NORDJYLLAND	R9038	1,64
EVROS	RA111	1,55
XANTHI	RA112	1,93
RODOPI	RA113	1,63
DRAMA	RA114	1,73
KAVALA	RA115	1,51
IMATHIA	RA121	1,54
SALONIKA (THESSALONIKI)	RA122	1,41
KILKIS	RA123	1,36
PELLA	RA124	1,61
PIERIA	RA125	1,51

SERRES	RA126	1,41
CHALKIDIKI	RA127	1,47
GREVENA	RA131	1,39
KASTORIA	RA132	1,55
KOZANI	RA133	1,82
FLORINA	RA134	1,78
KARDITSA	RA141	1,65
LARISSA	RA142	1,70
MAGNISIA	RA143	1,60
TRIKALA	RA144	1,70
ARTA	RA211	1,57
THESPROTIA	RA212	1,69
YANINA (IOANNINA)	RA213	1,59
PREVEZA	RA214	1,71
ZANTE (ZAKYNTHOS)	RA221	1,56
CEPHALONIA	RA222	1,40
CORFU (KERKYRA)	RA223	1,49
LEVKAS	RA224	1,52
AETOLIA-AKARNANIA	RA231	1,78
AKHAIA	RA232	1,81
ILIA	RA233	1,53
BEOTIA	RA241	1,46
EUBOEA	RA242	1,73
EVRYTANIA	RA243	1,23
PHTHIOTIS	RA244	1,43
PHOCIS	RA245	1,16
ARGOLIS	RA251	1,55
ARKADIA	RA252	1,39
KORINTHIA	RA253	1,51
LAKONIA	RA254	1,46
MESSINIA	RA255	1,66
ATTIKI	RA3	1,40
LESVOS	RA411	1,56
SAMOS	RA412	1,69
CHIOS	RA413	1,73
DODECANESOS	RA421	1,60
CYCLADES	RA422	1,34
IRAKLIO	RA431	1,81
LASITHI	RA432	1,56
RETHYMNO	RA433	1,88
CANEA	RA434	1,56
LA CORUNA	RB111	1,19
LUGO	RB112	1,21
ORENSE	RB113	0,92
PONTEVEDRA	RB114	1,30
OVIEDO	RB12	1,14
SANTANDER	RB13	1,22
ALAVA	RB211	1,15
GUIPUZCOA	RB212	1,09
VIZCAYA	RB213	1,07
NAVARRA	RB22	1,20
LOGRONO	RB23	1,19
HUESCA	RB241	1,26
TERUEL	RB242	1,43
ZARAGOZA	RB243	1,18
MADRID	RB3	1,31
AVILA	RB411	1,38
BURGOS	RB412	1,22
LEON	RB413	1,26

PALENCIA	RB414	1,30
SALAMANCA	RB415	1,30
SEGOVIA	RB416	1,27
SORIA	RB417	1,32
VALLADOLID	RB418	1,14
ZAMORA	RB419	1,29
ALBACETE	RB421	1,61
CIUDAD REAL	RB422	1,63
CUENCA	RB423	1,43
GUADALAJARA	RB424	1,39
TOLEDO	RB425	1,58
BADAJOZ	RB431	1,70
CACERES	RB432	1,63
BARCELONA	RB511	1,23
GERONA	RB512	1,27
LERIDA	RB513	1,19
TARRAGONA	RB514	1,35
ALICANTE	RB521	1,52
CASTELLON	RB522	1,38
VALENCIA	RB523	1,33
BALEARES	RB53	1,54
ALMERIA	RB611	1,74
CADIZ	RB612	1,83
CORDOBA	RB613	1,68
GRANADA	RB614	1,65
HUELVA	RB615	1,75
JAEN	RB616	1,79
MALAGA	RB617	1,51
SEVILLA	RB618	1,71
MURCIA	RB62	1,70
LAS PALMAS	RB701	1,60
TENERIFE	RB702	1,44
BRAGA	RC1A1	1,83
BRAGANCA	RC1A2	1,79
PORTO	RC1A3	1,51
VIANA DO CASTELO	RC1A4	1,67
VILA REAL	RC1A5	1,91
AVEIRO	RC1B1	1,57
CASTELO BRANCO	RC1B2	1,45
COIMBRA	RC1B3	1,47
GUARDA	RC1B4	1,58
SETUBAL	RC1B4	1,34
VISEU	RC1B5	1,92
LEIRIA	RC1C1	1,53
LISBOA	RC1C2	1,28
SANTAREM	RC1C3	1,43
BEJA	RC1D1	1,59
EVORA	RC1D2	1,50
PORTALEGRE	RC1D3	1,50
FARO	RC1E	1,48
ACORES	RC2	2,17
MADEIRA	RC3	1,63
BURGENLAND	AT01	1,34
KARNTEN	AT02	1,38
NIEDEROSTERREICH	AT03	1,44
OBEROSTERREICH	AT04	1,51
SALZBURG	AT05	1,47
STEIERMARK	AT06	1,38
TIROL	AT07	1,49

VORARLBERG	AT08	1,65
WIEN	AT09	1,40
BURGAS	BG0101	2,09
JAMBOL	BG0102	2,21
SLIVEN	BG0103	2,25
HASKOVO	BG0201	2,02
KARDZALI	BG0202	2,04
STARA ZAGORA	BG0203	1,94
GABROVO	BG0301	1,72
LOVEC	BG0302	2,07
PLEVEN	BG0303	2,10
VELIKO TARNOVO	BG0304	1,84
MIHAHLOVGRAD	BG0401	2,10
VIDIN	BG0402	2,19
VRACA	BG0403	2,03
PAZARDZIK	BG0501	2,23
PLOVDIV	BG0502	1,86
SMOLJAN	BG0503	2,01
RAZGRAD	BG0601	1,89
RUSE	BG0602	1,83
SILISTRA	BG0603	1,95
TARGOVISTE	BG0604	2,16
SOFIA-VILLE	BG07	1,72
BLAGOEVGRAD	BG0801	2,16
KJUSTENDIL	BG0802	1,99
PERNIK	BG0803	1,75
SOFIA-CAMPAGNE	BG0804	1,93
SUMEN	BG0901	1,92
TOLBUHIN	BG0902	2,04
VARNA	BG0903	2,03
AARGAU	CH01	1,58
APPENZELL R.A.	CH02	2,03
APPENZELL R.I.	CH03	2,03
BASEL-LAND	CH04	1,49
BASEL-STADT	CH05	1,17
BERN	CH06	1,47
FRIBOURG	CH07	1,60
GENEVE	CH08	1,37
GLARUS	CH09	1,92
GRAUBUNDEN	CH10	1,71
JURA	CH11	1,68
LUZERN	CH12	1,68
NEUCHATEL	CH13	1,54
NIDWALDEN	CH14	1,94
OBWALDEN	CH15	2,16
ST-GALLEN	CH16	1,74
SCHAFFHAUSEN	CH17	1,61
SCHWYZ	CH18	1,84
SOLOTHURN	CH19	1,61
THURGAU	CH20	1,93
TICINO	CH21	1,14
URI	CH22	1,74
VALAIS	CH23	1,64
VAUD	CH24	1,55
ZUG	CH25	1,46
ZURICH	CH26	1,32
PRAHA	CS01	1,78
JIHOCESKY	CS02	1,94
JIHOMORAVSKY	CS03	1,95

SEVEROCESKY	CS04	1,99
SEVEROMORAVSKY	CS05	1,99
STREDOCESKY	CS06	1,90
VYCHODOCESKY	CS07	1,97
ZAPADOCESKY	CS08	1,91
BRATISLAVA	CS09	1,96
STREDOSLOVENSKY	CS10	2,16
VYCHODOSLOVENSKY	CS11	2,37
ZAPADOSLOVENSKY	CS12	1,96
ESTONSKAJA SSR	EE	1,93
ALAND	FI01	1,55
HAME	FI02	1,51
KESKI-SUOMI	FI03	1,63
KUOPIO	FI04	1,59
KYMI	FI05	1,47
LAPPI	FI06	1,65
MIKKELI	FI07	1,50
OULU	FI08	1,96
POHJOIS-KARJALA	FI09	1,65
TURKU-PORI	FI10	1,55
UUSIMAA	FI11	1,49
VAASA	FI12	1,82
BARANYA	HU01	1,67
BACS-KISKUN	HU02	1,96
BEKES	HU03	1,96
BORSOD-ABAUJ-ZEMPLEN	HU04	2,11
BUDAPEST	HU05	1,39
CSONGRAD	HU06	1,64
FEJER	HU07	1,91
GYOR-SOPRON	HU08	1,84
HAJDU-BIHAR	HU09	1,98
HEVES	HU10	1,83
SZOLNOK	HU11	2,21
KOMAROM	HU12	1,91
NOGRAD	HU13	1,97
PEST	HU14	1,83
SOMOGY	HU15	1,79
SZABOLCS-SZATMAR	HU16	2,24
TOLNA	HU17	1,86
VAS	HU18	1,84
VESZPREM	HU19	1,88
ZALA	HU20	1,84
LITOVSKAJA SSR	LT	2,16
LATVIISKAJA SSR	LV	2,15
AUST-AGDER	NO01	1,88
BUSKERUD	NO02	1,72
FINNMARK	NO03	1,94
HEDMARK	NO04	1,65
HORDALAND	NO05	1,99
MORE OG ROMSDAL	NO06	1,95
NORDLAND	NO07	1,94
NORD-TRONDELAG	NO08	1,93
OPPLAND	NO09	1,69
OSLO	NO10A	1,63
AKERSHUS	NO10B	1,81
OSTFOLD	NO11	1,68
ROGALAND	NO12	2,09
SOGN OG FJORDANE	NO13	2,02
SOR-TRONDELAG	NO14	1,88

TELEMARK	NO15	1,84
TROMS	NO16	1,86
VEST-AGDER	NO17	2,03
VESTFOLD	NO18	1,78
BIALA PODLASKA	PL01	2,67
BIALYSTOK	PL02	2,21
BIELSKO BIALA	PL03	2,17
BYDGOSZCZ	PL04	2,11
CHELM	PL05	2,38
CIECHANOW	PL06	2,35
CZESTOCHOWA	PL07	2,05
ELBLAG	PL08	2,26
GDANSK	PL09	2,14
GORZOW WIELKOPOLSKI	PL10	2,24
JELENIA GORA	PL11	1,94
KALISZ	PL12	2,24
KATOWICE	PL13	1,91
KIELCE	PL14	2,18
KONIN	PL15	2,30
KOSZALIN	PL16	2,14
KRAKOW	PL17	2,00
KROSNO	PL18	2,48
LEGNICA	PL19	2,06
LESZNO	PL20	2,40
LODZ	PL21	1,60
LOMZA	PL22	2,67
LUBLIN	PL23	2,15
NOWY SACZ	PL24	2,65
OLSZTYN	PL25	2,22
OPOLE	PL26	1,99
OSTROLEKA	PL27	2,56
PILA	PL28	2,35
PIOTRKOW TRYBUNALSKI	PL29	2,18
PLOCK	PL30	2,10
POZNAN	PL31	2,11
PRZEMYSL	PL32	2,61
RADOM	PL33	2,40
RZESZOW	PL34	2,43
SIEDLCE	PL35	2,57
SIERADZ	PL36	2,22
SKIERNIEWICE	PL37	2,14
SLUPSK	PL38	2,33
SUWALKI	PL39	2,59
SZCZECIN	PL40	1,99
TARNOBRZEG	PL41	2,41
TARNOW	PL42	2,55
TORUN	PL43	2,16
WALBRZYCH	PL44	1,98
WARSZAWA	PL45	1,64
WLOCLAWEK	PL46	2,19
WROCLAW	PL47	1,86
ZAMOSC	PL48	2,48
ZIELONA GORA	PL49	2,22
ALBA	RO01	2,26
ARAD	RO02	1,88
ARGES	RO03	2,17
BACAU	RO04	2,73
BIHOR	RO05	2,18
BISTRITA-NASAUD	RO06	2,69

BOTOSANI	RO07	3,27
BRASOV	RO08	1,53
BRAILA	RO09	2,13
MUNICIPALI BUCURESTI	RO10	1,59
BUZAU	RO11	2,55
CARAS-SEVERIN	RO12	1,92
CLUJ	RO14	1,88
CONSTANTA	RO15	1,94
COVASNA	RO16	2,34
DIMBOUITA	RO17	2,45
DOLJ	RO18	2,16
GALATI	RO19	2,52
GORJ	RO21	2,48
HARGHITA	RO22	2,19
HUNEDOARA	RO23	2,04
IASI	RO25	2,83
MARAMURES	RO26	2,50
MEHEDINTI	RO27	2,39
MURES	RO28	2,26
NEAMT	RO29	2,55
OLT	RO30	2,65
PRAHOVA	RO31	2,11
SATU MARE	RO32	2,44
SALAJ	RO33	2,75
SIBIU	RO34	1,94
SUCEAVA	RO35	2,78
TIMIS	RO37	1,58
TULCEA	RO38	2,58
VASLUI	RO39	3,71
VILCEA	RO40	2,53
VRANCEA	RO41	2,72
ALVSBORG	SE01	2,07
BLEKINGE	SE02	1,93
GOTEBORG-BOHUS	SE03	1,90
GAVLEBORG	SE04	2,02
GOTLAND	SE05	2,12
HALLAND	SE06	2,03
JAMTLAND	SE07	2,10
JONKOPING	SE08	2,12
KALMAR	SE09	2,05
KOPPARBERG	SE10	2,09
KRISTIANSTAD	SE11	2,11
KRONOBERG	SE12	2,02
MALMOHUS	SE13	1,89
NORRBOTTEN	SE14	1,98
OREBRO	SE15	1,93
OSTERGOTLAND	SE16	2,01
SKARABORG	SE17	2,09
SODERMANLAND	SE18	2,02
STOCKHOLM	SE19	1,84
UPPSALA	SE20	1,94
VARMLAND	SE21	2,00
VASTERBOTTEN	SE22	2,08
VASTERNORRLAND	SE23	1,97
VASTMANLAND	SE24	2,00
SLOVENIJA	SI	1,75

Table 5c TFR (national) 1960-2000

	AT	BE	BG	CY	CZ	DK	EE	FI
1960	2,69	2,56	2,31	3,51	2,11	2,57	n.a.	2,72
1961	2,79	2,63	2,28	3,48	2,13	2,55	n.a.	2,71
1962	2,8	2,59	2,22	3,45	2,14	2,55	n.a.	2,68
1963	2,82	2,68	2,19	3,42	2,35	2,64	n.a.	2,68
1964	2,79	2,72	2,17	3,36	2,36	2,6	n.a.	2,59
1965	2,7	2,62	2,08	3,31	2,18	2,61	n.a.	2,47
1966	2,66	2,52	2,02	3,26	2,01	2,61	n.a.	2,41
1967	2,62	2,41	2,03	3,08	1,9	2,35	n.a.	2,32
1968	2,58	2,31	2,28	2,9	1,83	2,12	n.a.	2,14
1969	2,49	2,28	2,28	2,72	1,86	2	n.a.	1,93
1970	2,29	2,25	2,18	2,54	1,91	1,95	2,16	1,82
1971	2,2	2,21	2,11	2,45	1,98	2,04	2,19	1,68
1972	2,08	2,09	2,04	2,41	2,07	2,03	2,14	1,58
1973	1,94	1,95	2,16	2,39	2,29	1,92	2,07	1,49
1974	1,91	1,83	2,3	2,12	2,43	1,9	2,07	1,61
1975	1,83	1,74	2,24	2,01	2,43	1,92	2,04	1,68
1976	1,69	1,73	2,25	2,25	2,36	1,75	2,06	1,7
1977	1,63	1,71	2,21	2,25	2,32	1,66	2,06	1,68
1978	1,6	1,69	2,15	2,3	2,32	1,67	2,02	1,64
1979	1,6	1,69	2,15	2,38	2,29	1,6	2,01	1,64
1980	1,62	1,68	2,08	2,38	2,1	1,55	2,04	1,63
1981	1,67	1,67	2,01	2,37	2,02	1,44	2,07	1,64
1982	1,66	1,61	2,02	2,5	2,01	1,43	2,08	1,71
1983	1,56	1,56	2	2,48	1,97	1,38	2,16	1,74
1984	1,52	1,54	2	2,48	1,97	1,4	2,17	1,69
1985	1,47	1,51	1,95	2,38	1,96	1,45	2,12	1,65
1986	1,45	1,54	2	2,4	1,93	1,48	2,17	1,6
1987	1,43	1,54	1,95	2,32	1,91	1,5	2,26	1,59
1988	1,44	1,57	1,97	2,41	1,94	1,56	2,26	1,69
1989	1,44	1,58	1,9	2,37	1,87	1,62	2,21	1,71
1990	1,45	1,62	1,81	2,42	1,89	1,67	2,04	1,78
1991	1,49	1,66	1,65	2,33	1,86	1,68	1,79	1,79
1992	1,49	1,65	1,54	2,49	1,72	1,76	1,69	1,85
1993	1,48	1,61	1,46	2,27	1,67	1,75	1,45	1,81
1994	1,44	1,56	1,37	2,23	1,44	1,81	1,37	1,85
1995	1,4	1,55	1,24	2,13	1,28	1,8	1,32	1,81
1996	1,42	1,55	1,24	2,08	1,18	1,75	1,3	1,76
1997	1,37	1,55	1,09	2	1,19	1,75	1,24	1,75
1998	1,34	1,53	1,11	1,92	1,16	1,72	1,21	1,7
1999	1,32	1,61	1,23	1,83	1,13	1,74	1,24	1,73
2000	1,32	1,65	1,3	1,64	1,14	1,76	1,34	1,73

Table 5c continued

	FR	DE	GR	HU	IE	IT	LV	LT
1960	2,73	2,37	2,28	2,02	3,76	2,41	n.a.	2,6
1961	2,81	2,44	2,19	1,94	3,79	2,41	n.a.	2,6
1962	2,79	2,44	2,24	1,79	3,92	2,46	n.a.	2,6
1963	2,89	2,51	2,22	1,82	4,01	2,54	n.a.	2,55
1964	2,91	2,53	2,31	1,81	4,07	2,7	n.a.	2,5
1965	2,84	2,5	2,3	1,82	4,03	2,66	1,74	2,4
1966	2,79	2,51	2,38	1,89	3,95	2,62	1,78	2,4
1967	2,66	2,45	2,55	2,01	3,84	2,53	1,83	2,4
1968	2,58	2,36	2,56	2,06	3,78	2,49	1,78	2,4
1969	2,53	2,21	2,53	2,04	3,96	2,51	1,93	2,4
1970	2,47	2,03	2,39	1,98	3,93	2,42	2,01	2,4
1971	2,49	1,97	2,32	1,93	3,99	2,41	2,04	2,3
1972	2,41	1,74	2,32	1,93	3,89	2,37	2,03	2,3
1973	2,3	1,56	2,26	1,93	3,75	2,34	1,96	2,2
1974	2,11	1,53	2,37	2,27	3,62	2,33	1,99	2,2
1975	1,93	1,48	2,32	2,35	3,4	2,2	1,96	2,2
1976	1,83	1,51	2,35	2,23	3,31	2,1	1,93	2,1
1977	1,86	1,51	2,28	2,15	3,27	1,97	1,88	2,1
1978	1,82	1,5	2,29	2,06	3,24	1,87	1,86	2
1979	1,86	1,5	2,29	2,01	3,23	1,76	1,87	2
1980	1,95	1,56	2,21	1,92	3,25	1,64	1,9	2
1981	1,95	1,53	2,09	1,88	3,07	1,59	1,9	2
1982	1,91	1,51	2,02	1,8	2,95	1,56	1,98	2
1983	1,78	1,43	1,94	1,75	2,74	1,51	2,13	2,1
1984	1,8	1,39	1,82	1,76	2,57	1,46	2,15	2,1
1985	1,81	1,37	1,67	1,85	2,47	1,42	2,09	2,1
1986	1,83	1,41	1,6	1,84	2,43	1,34	2,21	2,1
1987	1,8	1,43	1,5	1,82	2,31	1,32	2,21	2,16
1988	1,81	1,46	1,5	1,81	2,17	1,36	2,16	2,02
1989	1,79	1,42	1,4	1,82	2,08	1,33	2,05	1,98
1990	1,78	1,45	1,39	1,87	2,11	1,33	2,01	2,03
1991	1,77	1,33	1,38	1,88	2,08	1,31	1,86	2,01
1992	1,73	1,3	1,38	1,78	1,99	1,31	1,73	1,94
1993	1,65	1,28	1,34	1,69	1,9	1,25	1,51	1,74
1994	1,66	1,24	1,35	1,65	1,85	1,21	1,39	1,57
1995	1,7	1,25	1,32	1,58	1,84	1,18	1,26	1,55
1996	1,72	1,32	1,3	1,46	1,89	1,2	1,16	1,49
1997	1,71	1,37	1,31	1,38	1,92	1,22	1,11	1,47
1998	1,75	1,36	1,29	1,33	1,93	1,19	1,1	1,46
1999	1,77	1,37	1,3	1,29	1,89	1,23	1,18	1,46
2000	1,89	1,34	1,3	1,33	1,89	1,25	1,24	1,39

Table 5c continued

	LU	MT	NL	NO	PL	PT	RO	SK
1960	2,28	3,62	3,12	2,91	2,98	3,1	2,33	3,07
1961	2,33	3,27	3,21	2,94	2,83	3,16	2,17	2,96
1962	2,35	3,23	3,17	2,91	2,72	3,21	2,04	2,83
1963	2,33	2,9	3,19	2,93	2,7	3,11	2,01	2,92
1964	2,38	2,79	3,17	2,98	2,57	3,21	1,96	2,89
1965	2,42	2,47	3,04	2,94	2,52	3,14	1,91	2,78
1966	2,37	2,33	2,9	2,9	2,34	3,12	1,9	2,66
1967	2,25	2,24	2,81	2,81	2,33	3,08	3,66	2,48
1968	2,13	2,11	2,71	2,75	2,24	3	3,63	2,39
1969	2,02	2,02	2,75	2,69	2,2	2,95	3,19	2,43
1970	1,98	2,02	2,57	2,5	2,2	2,83	2,89	2,4
1971	1,96	2,59	2,36	2,49	2,25	2,78	2,66	2,43
1972	1,75	2,01	2,15	2,38	2,24	2,69	2,55	2,49
1973	1,58	2,22	1,9	2,23	2,26	2,65	2,44	2,57
1974	1,58	2,21	1,77	2,13	2,26	2,6	2,72	2,61
1975	1,55	2,27	1,66	1,98	2,27	2,58	2,62	2,55
1976	1,48	2,2	1,63	1,86	2,3	2,58	2,58	2,54
1977	1,49	2,18	1,58	1,75	2,23	2,48	2,6	2,49
1978	1,47	2,12	1,58	1,77	2,21	2,28	2,54	2,47
1979	1,47	2,16	1,56	1,75	2,28	2,17	2,5	2,45
1980	1,49	1,99	1,6	1,72	2,28	2,18	2,43	2,32
1981	1,55	1,93	1,56	1,7	2,24	2,13	2,37	2,29
1982	1,49	2,04	1,5	1,71	2,34	2,07	2,17	2,28
1983	1,43	1,97	1,47	1,66	2,42	1,95	2	2,28
1984	1,42	1,97	1,49	1,66	2,37	1,9	2,19	2,26
1985	1,38	1,96	1,51	1,68	2,33	1,72	2,26	2,25
1986	1,43	1,94	1,55	1,71	2,22	1,66	2,39	2,2
1987	1,4	1,98	1,56	1,75	2,15	1,62	2,42	2,15
1988	1,51	2,07	1,55	1,84	2,13	1,62	2,31	2,15
1989	1,52	2,11	1,55	1,89	2,08	1,58	2,19	2,08
1990	1,61	2,05	1,62	1,93	2,04	1,57	1,83	2,09
1991	1,6	2,04	1,61	1,92	2,05	1,57	1,56	2,05
1992	1,64	2,12	1,59	1,88	1,93	1,54	1,5	1,98
1993	1,7	2,01	1,57	1,86	1,85	1,52	1,45	1,92
1994	1,72	1,89	1,57	1,86	1,8	1,44	1,42	1,66
1995	1,69	1,83	1,53	1,87	1,61	1,4	1,34	1,52
1996	1,76	2,1	1,53	1,89	1,58	1,43	1,3	1,47
1997	1,71	1,95	1,56	1,86	1,51	1,46	1,32	1,43
1998	1,68	1,83	1,63	1,81	1,44	1,46	1,32	1,38
1999	1,71	1,72	1,64	1,85	1,37	1,49	1,3	1,33
2000	1,78	1,72	1,72	1,85	1,34	1,54	1,31	1,2

Table 5c continued

	SI	ES	SE	CH	UK
1960	2,18	2,86	2,2	2,44	2,72
1961	2,28	2,76	2,23	2,53	2,8
1962	2,28	2,8	2,26	2,59	2,88
1963	2,27	2,88	2,34	2,66	2,92
1964	2,26	3,01	2,48	2,67	2,97
1965	2,43	2,94	2,42	2,6	2,89
1966	2,25	2,99	2,36	2,51	2,79
1967	2,16	3,03	2,27	2,41	2,69
1968	2,06	2,96	2,07	2,3	2,6
1969	2,17	2,93	1,93	2,19	2,51
1970	2,1	2,9	1,92	2,1	2,43
1971	2,16	2,88	1,96	2,02	2,4
1972	2,15	2,86	1,91	1,9	2,2
1973	2,19	2,84	1,86	1,8	2,04
1974	2,1	2,89	1,87	1,72	1,92
1975	2,16	2,79	1,77	1,61	1,81
1976	2,2	2,79	1,68	1,54	1,74
1977	2,16	2,66	1,64	1,53	1,69
1978	2,19	2,53	1,6	1,5	1,75
1979	2,22	2,31	1,66	1,52	1,86
1980	2,11	2,2	1,68	1,55	1,9
1981	1,94	2,04	1,63	1,55	1,82
1982	1,93	1,94	1,62	1,56	1,78
1983	1,82	1,8	1,61	1,52	1,77
1984	1,75	1,73	1,66	1,53	1,76
1985	1,72	1,64	1,74	1,52	1,79
1986	1,65	1,56	1,8	1,53	1,78
1987	1,64	1,5	1,84	1,52	1,81
1988	1,63	1,45	1,96	1,57	1,82
1989	1,52	1,4	2,01	1,56	1,79
1990	1,46	1,36	2,13	1,59	1,83
1991	1,42	1,33	2,11	1,6	1,81
1992	1,34	1,32	2,09	1,58	1,79
1993	1,34	1,27	1,99	1,51	1,75
1994	1,32	1,21	1,88	1,49	1,74
1995	1,29	1,18	1,73	1,48	1,71
1996	1,28	1,17	1,6	1,5	1,72
1997	1,25	1,19	1,52	1,51	1,72
1998	1,23	1,15	1,5	1,46	1,71
1999	1,21	1,2	1,5	1,48	1,68
2000	1,26	1,22	1,54	1,5	1,64

Table A6. Population change 1996-1999 with regard to total and natural development and net-migration

Cyprus and Malta have been excluded

NUTS	REGION	Tot pop dev/ pop	Nat pop dev/ pop	Net mig/ pop
BE1	BE1 RÉGION BXL-CAPITALE	1,68	2,38	-0,70
BE21	BE21 ANTWERPEN	1,75	1,28	0,47
BE22	BE22 LIMBURG	4,69	3,37	1,32
BE23	BEE23 OOST-VLAANDERERN	1,75	0,52	1,23
BE24	BE24 VLAAMS BRABANT	3,68	1,26	2,42
BE25	BE25 WEST-VLAANDEREN	1,19	0,39	0,80
BE31	BE31 BRABANT WALLON	7,34	2,33	5,00
BE32	BE32 HAINAUT	-1,05	-0,49	-0,56
BE33	BE33 LIÈGE	1,15	0,23	0,92
BE34	BE34 LUXEMBOURG (BE)	4,80	2,19	2,60
BE35	BE35 NAMUR	3,73	1,45	2,28
DK001	DK001 KØBENHAVN OG FREDERIKSBERG	10,20	0,52	9,68
DK002	DK002 KØBENHAVNS AMT	2,90	1,37	1,53
DK003	DK003 FREDERIKSBORG AMT	9,12	2,88	6,23
DK004	DK004 ROSKILDE AMT	7,04	4,25	2,79
DK005	DK005 VESTSJÆLLANDS AMT	4,97	-0,34	5,32
DK006	DK006 STORSTRØMS AMT	2,07	-3,49	5,56
DK007	DK007 BORNHOLMS AMT	-4,45	-3,71	-0,74
DK008	DK008 FYNS AMT	1,66	0,35	1,31
DK009	DK009 SØNDERJYLLANDS AMT	0,85	1,58	-0,72
DK00A	DK00A RIBE AMT	2,01	2,53	-0,52
DK00B	DK00B VJL AMT	6,55	2,23	4,32
DK00C	DK00C RINGKØBING AMT	1,72	2,58	-0,86
DK00D	DK00D ÅRHUS AMT	6,00	3,65	2,35
DK00E	DK00E VIBORG AMT	2,15	0,43	1,72
DK00F	DK00F NORDJYLLANDS AMT	2,37	0,81	1,56
DE11	DE11 STUTTGART	3,31	1,91	1,39
DE12	DE12 KARLSRUHE	2,46	0,41	2,04
DE13	DE13 FREIBURG	4,60	1,51	3,09
DE14	DE14 TÜBINGEN	4,34	2,74	1,60
DE21	DE21 OBERBAYERN	2,30	1,32	0,98
DE22	DE22 NIDERBAYERN	6,06	0,61	5,45
DE23	DE23 OBERPFALZ	4,78	0,72	4,06
DE24	DE24 OBERFRANKEN	1,23	-1,50	2,72
DE25	DE25 MITTELFRANKEN	2,42	-0,24	2,66
DE26	DE26 UNTERFRANKEN	3,36	0,63	2,73
DE27	DE27 SCHWABEN	3,24	0,85	2,40
DE3	DE3 BERLIN	-6,28	-1,92	-4,37
DE4	DE4 BRANDENBURG	5,79	-4,17	9,97
DE5	DE5 BREMEN	-5,42	-2,12	-3,30
DE6	DE6 HAMBURG	-1,11	-1,74	0,62
DE71	DE71 DARMSTADT	2,08	0,38	1,70
DE72	DE72 GIEßEN	2,03	0,13	1,90
DE73	DE73 KASSEL	0,84	-1,07	1,91
DE8	DE8 MECKLENBURG-VORPOMMERN	-4,64	-3,46	-1,19
DE91	DE91 BRAUNSCHWEIG	-1,63	-1,69	0,06
DE92	DE92 HANNOVER	1,76	-1,26	3,02
DE93	DE93 LÜNEBURG	9,32	-0,02	9,34
DE94	DE94 WESER-EMS	6,65	2,15	4,50
DEA1	DEA1 DÜSSELDORF	-1,13	-1,46	0,33

DEA2	DEA2 KÖLN	4,79	0,50	4,29
DEA3	DEA3 MÜNSTER	3,63	1,27	2,36
DEA4	DEA4 DETMOLD	5,07	0,94	4,14
DEA5	DEA5 ARNSBERG	-0,71	-0,97	0,26
DEB1	DEB1 KOBLENZ	5,10	-0,89	5,99
DEB2	DEB2 TRIER	3,31	-0,72	4,03
DEB3	DEB3 RHEINHESSEN-PFALZ	3,19	-0,38	3,57
DEC	DEC SAARLAND	-2,80	-2,59	-0,22
DED	DED SACHSEN	-5,52	-5,51	-0,01
DEE1	DEE1 DESSAU	-8,51	-1,17	-7,34
DEE2	DEE2 HALLE	-7,78	-3,89	-3,89
DEE3	DEE3 MAGDEBURG	-7,78	-4,73	-3,05
DEF	DEF SCHLESWIG-HOLSTEIN	4,92	-0,73	5,65
DEG	DEG THÜRINGEN	-5,46	-4,80	-0,66
GR11	GR11 ANATOLIKI MAKEDONIA, THRAKI	0,53	-0,77	1,31
GR12	GR12 KENTRIKI MAKEDONIA	4,73	1,34	3,38
GR13	GR13 DYTIKI MAKEDONIA	1,49	0,00	1,49
GR14	GR14 THESSALIA	0,45	-0,99	1,44
GR21	GR21 IPEIROS	5,98	-2,07	8,04
GR22	GR22 IONIA NISIA	7,03	-1,99	9,02
GR23	GR23 DYTIKI ELLADA	2,99	-0,77	3,76
GR24	GR24 STEREA ELLADA	2,36	-1,96	4,33
GR25	GR25 PELOPONNISOS	0,94	-3,08	4,03
GR3	GR3 ATTIKI	-0,70	0,89	-1,59
GR41	GR41 VOREIO AIGAIO	-3,35	-4,35	1,00
GR42	GR42 NOTIO AIGAIO	5,50	3,46	2,04
GR43	GR43 KRITI	3,50	1,43	2,08
ES111	ES111 LA CORUÑA	0,08	-3,45	3,52
ES112	ES112 LUGO	-6,58	-7,57	0,99
ES113	ES113 ORENSE	-4,99	-7,47	2,47
ES114	ES114 PONTEVEDRA	0,61	-0,88	1,49
ES12	ES12 PRINCIPADO DE ASTURIAS	-5,10	-5,16	0,06
ES13	ES13 CANTABRIA	-0,19	-2,60	2,41
ES211	ES211 ÁLAVA	2,34	0,60	1,74
ES212	ES212 GUIPÚZCOA	-3,65	-0,15	-3,50
ES213	ES213 VIZCAYA	-5,30	-1,43	-3,88
ES22	ES22 COMUNIDAD FORAL DE NAVARRA	2,24	0,32	1,93
ES23	ES23 LA RIOJA	-1,86	-1,41	-0,45
ES241	ES241 HUESCA	-2,35	-3,89	1,54
ES242	ES242 TERUEL	-6,27	-4,82	-1,45
ES243	ES243 ZARAGOZA	-1,24	-2,28	1,04
ES3	ES3 COMUNIDAD DE MADRID	1,21	2,12	-0,90
ES411	ES411 AVILA	-4,74	-4,34	-0,39
ES412	ES412 BURGOS	-2,30	-2,01	-0,29
ES413	ES413 LEÓN	-3,34	-3,44	0,10
ES414	ES414 PALENCIA	-3,87	-3,50	-0,37
ES415	ES415 SALAMANCA	-2,07	-3,30	1,22
ES416	ES416 SEGOVIA	-1,49	-1,37	-0,11
ES417	ES417 SORIA	-4,35	-3,99	-0,36
ES418	ES418 VALLADOLID	-0,34	-1,15	0,81
ES419	ES419 ZAMORA	-5,84	-4,70	-1,13
ES421	ES421 ALBACETE	3,93	1,80	2,13
ES422	ES422 CIUDAD REAL	0,49	-0,14	0,63
ES423	ES423 CUENCA	-4,07	-1,83	-2,24

ES424	ES424 GUADALAJARA	14,06	-1,69	15,75
ES425	ES425 TOLEDO	7,17	0,00	7,17
ES431	ES431 BADAJOZ	2,87	0,50	2,36
ES432	ES432 CÁCERES	1,77	-0,96	2,73
ES511	ES511 BARCELONA	-2,30	0,19	-2,48
ES512	ES512 GERONA	4,44	0,06	4,38
ES513	ES513 LÉRIDA	-0,33	-2,55	2,22
ES514	ES514 TARRAGONA	8,91	-0,52	9,43
ES521	ES521 ALICANTE	4,42	1,03	3,39
ES522	ES522 CASTELLÓN DE LA PLANA	2,32	-0,96	3,27
ES523	ES523 VALENCIA	1,01	-0,50	1,50
ES53	ES53 BALEARES	5,09	0,45	4,64
ES611	ES611 ALMERÍA	6,47	3,85	2,62
ES612	ES612 CADIZ	4,19	3,57	0,62
ES613	ES613 CÓRDOBA	2,94	1,69	1,25
ES614	ES614 GRANADA	4,00	1,88	2,12
ES615	ES615 HUELVA	1,75	1,19	0,56
ES616	ES616 JAÉN	2,54	2,26	0,28
ES617	ES617 MÁLAGA	5,01	1,83	3,18
ES618	ES618 SEVILLA	5,03	2,58	2,46
ES62	ES62 MURCIA	6,03	3,54	2,49
FR101	FR101 PARIS	-0,22	6,02	-6,24
FR102	FR102 SEINE-ET-MARNE	6,25	7,55	-1,29
FR103	FR103 YVELINES	1,46	8,27	-6,82
FR104	FR104 ESSONNE	1,22	8,50	-7,28
FR105	FR105 HAUTS-DE-SEINE	4,27	8,81	-4,54
FR106	FR106 SEINE-SAINT-DENIS	-0,96	9,92	-10,88
FR107	FR107 VAL-DE-MARNE	1,50	8,12	-6,62
FR108	FR108 VAL-D'OISE	2,29	8,51	-6,22
FR211	FR211 ARDENNES	-2,66	3,08	-5,74
FR212	FR212 AUBE	0,20	1,82	-1,62
FR213	FR213 MARNE	0,38	4,18	-3,80
FR214	FR214 HAUTE-MARNE	-5,00	1,36	-6,35
FR221	FR221 AISNE	-0,98	2,61	-3,58
FR222	FR222 OISE	3,15	6,19	-3,04
FR223	FR223 SOMME	1,70	2,83	-1,13
FR231	FR231 EURE	4,66	4,52	0,14
FR232	FR232 SEINE-MARITIME	0,06	4,28	-4,22
FR241	FR241 CHER	-3,93	1,37	-5,31
FR242	FR242 EURE-ET-LOIR	1,21	3,59	-2,39
FR243	FR243 INDRE	-2,15	-3,44	1,29
FR244	FR244 INDRE-ET-LOIRE	4,80	2,30	2,50
FR245	FR245 LOIR-ET-CHER	3,18	0,32	2,86
FR246	FR246 LOIRET	6,06	3,91	2,16
FR251	FR251 CALVADOS	4,99	4,87	0,12
FR252	FR252 MANCHE	0,90	1,94	-1,04
FR253	FR253 ORNE	-1,22	1,59	-2,81
FR261	FR261 CÔTE-D'OR	2,24	3,23	-0,99
FR262	FR262 NIÈVRE	-4,29	-3,96	-0,33
FR263	FR263 SAÔNE-ET-LOIRE	-3,52	-0,43	-3,10
FR264	FR264 YONNE	2,81	-0,50	3,31
FR301	FR301 NORD	0,58	5,35	-4,77
FR302	FR302 PAS-DE-CALAIS	0,83	3,66	-2,83
FR411	FR411 MEURTHE-ET-MOSELLE	-1,29	3,35	-4,65

FR412	FR412 MEUSE	-4,26	1,55	-5,81
FR413	FR413 MOSELLE	1,16	3,36	-2,20
FR414	FR414 VOSGES	-2,00	1,39	-3,40
FR421	FR421 BAS-RHIN	7,25	4,64	2,62
FR422	FR422 HAUT-RHIN	5,11	4,22	0,89
FR431	FR431 DOUBS	1,91	5,02	-3,11
FR432	FR432 JURA	0,47	1,46	-1,00
FR433	FR433 HAUTE-SAÔNE	0,47	1,45	-0,98
FR434	FR434 TERRITOIRE DE BELFORT	1,09	4,37	-3,28
FR511	FR511 LOIRE-ATLANTIQUE	8,50	4,41	4,09
FR512	FR512 MAINE-ET-LOIRE	3,94	4,48	-0,55
FR513	FR513 MAYENNE	3,17	3,53	-0,35
FR514	FR514 SARTHE	3,51	3,04	0,47
FR515	FR515 VENDÉE	6,44	1,19	5,25
FR521	FR521 CÔTE-DU-NORD	3,52	-1,30	4,81
FR522	FR522 FINISTÈRE	3,63	0,16	3,48
FR523	FR523 ILLE-ET-VILAINE	9,99	4,81	5,19
FR524	FR524 MORBIHAN	5,79	1,05	4,75
FR531	FR531 CHARENTE	-1,03	-0,59	-0,44
FR532	FR532 CHARENTE-MARITIME	6,61	0,79	5,82
FR533	FR533 DEUX-SÈVRES	-0,56	0,39	-0,94
FR534	FR534 VIENNE	4,75	1,34	3,40
FR611	FR611 DORDOGNE	1,16	-3,87	5,03
FR612	FR612 GIRONDE	5,52	2,23	3,30
FR613	FR613 LANDES	5,76	-1,34	7,10
FR614	FR614 LOT-ET-GARONNE	1,18	-1,20	2,38
FR615	FR615 PYRÉNÉES-ATLANTIQUES	4,41	-0,73	5,14
FR621	FR621 ARIÈGE	1,95	-3,90	5,86
FR622	FR622 AVEYRON	-0,88	-5,79	4,91
FR623	FR623 HAUTE-GARONNE	12,63	4,40	8,23
FR624	FR624 GERS	-0,24	-3,29	3,04
FR625	FR625 LOT	3,87	-3,35	7,21
FR626	FR626 HAUTES-PYRÉNÉES	-1,79	-2,24	0,45
FR627	FR627 TARN	1,00	-1,56	2,56
FR628	FR628 TARN-ET-GARONNE	2,35	0,16	2,19
FR631	FR631 CORRÈZE	-3,89	-1,86	-2,03
FR632	FR632 CREUSE	-4,38	-7,96	3,58
FR633	FR633 HAUTE-VIENNE	-0,49	-2,54	2,05
FR711	FR711 AIN	9,77	4,34	5,43
FR712	FR712 ARDÈCHE	3,84	-0,12	3,95
FR713	FR713 DRÔME	6,32	3,15	3,17
FR714	FR714 ISÈRE	7,86	5,55	2,31
FR715	FR715 LOIRE	-4,20	1,73	-5,93
FR716	FR716 RHÔNE	3,61	6,65	-3,04
FR717	FR717 SAVOIE	7,19	3,53	3,66
FR718	FR718 HAUTE-SAVOIE	9,47	6,26	3,21
FR721	FR721 ALLIER	-4,10	-3,17	-0,94
FR722	FR722 CANTAL	-1,64	-13,13	11,49
FR723	FR723 HAUTE-LOIRE	3,17	-0,80	3,97
FR724	FR724 PUY-DE-DÔME	1,73	0,11	1,62
FR811	FR811 AUDE	12,16	-15,53	27,70
FR812	FR812 GARD	7,22	1,57	5,64
FR813	FR813 HÉRAULT	12,94	2,24	10,70
FR814	FR814 LOZÈRE	2,04	-2,72	4,77

FR815	FR815 PYRÉNÉES-ORIENTALES	9,88	-1,29	11,17
FR821	FR821 ALPES-DE-HAUTE-PROVENCE	6,36	-0,48	6,84
FR822	FR822 HAUTES-ALPES	8,87	1,39	7,49
FR823	FR823 ALPES-MARITIMES	2,88	-0,63	3,51
FR824	FR824 BOUCHES-DU-RHÔNE	3,32	2,56	0,76
FR825	FR825 VAR	10,19	0,75	9,44
FR826	FR826 VAUCLUSE	6,89	3,10	3,79
FR831	FR831 CORSE-DU-SUD	-3,02	-0,28	-2,74
FR832	FR832 HAUTE-CORSE	4,68	0,24	4,44
IE001	IE011 BORDER	1,68	1,23	0,45
IE004	IE012 MIDLANDS	6,44	1,77	4,67
IE008	IE013 WEST	13,11	1,03	12,09
IE002	IE021 DUBLIN	12,51	2,64	9,87
IE003	IE022 MID-EAST	25,85	3,14	22,71
IE005	IE023 MIDWEST	7,83	1,79	6,04
IE006	IE024 SOUTH-EAST (IE)	6,42	1,87	4,55
IE007	IE025 SOUTH-WEST (IE)	4,63	1,65	2,99
IT111	IT111 TORINO	-0,92	-1,86	0,94
IT112	IT112 VERCELLI	-2,75	-6,24	3,49
IT113	IT113 BIELLA	-1,93	-5,78	3,86
IT114	IT114 VERBANO-CUSIO-OSSOLA	-0,72	-3,72	3,00
IT115	IT115 NOVARA	2,83	-3,32	6,16
IT116	IT116 CUNEO	2,44	-3,61	6,05
IT117	IT117 ASTI	0,40	-6,35	6,74
IT118	IT118 ALESSANDRIA	-1,54	-8,53	6,99
IT12	IT12 VALLE D'AOSTA	3,35	-1,95	5,30
IT131	IT131 IMPERIA	-0,85	-5,53	4,69
IT132	IT132 SAVONA	-3,20	-7,22	4,02
IT133	IT133 GENOVA	-6,71	-6,86	0,14
IT134	IT134 LA SPEZIA	-4,02	-6,40	2,38
IT201	IT201 VARESE	2,57	-0,74	3,31
IT202	IT202 COMO	3,65	-0,19	3,84
IT203	IT203 LECCO	5,40	0,22	5,19
IT204	IT204 SONDRIO	0,56	-0,56	1,13
IT205	IT205 MILANO	2,36	-0,46	2,82
IT206	IT206 BERGAMO	7,04	1,30	5,74
IT207	IT207 BRESCIA	7,15	0,37	6,78
IT208	IT208 PAVIA	1,38	-6,26	7,64
IT209	IT209 LODI	7,19	-1,73	8,92
IT20A	IT20A CREMONA	2,21	-3,72	5,93
IT20B	IT20B MANTOVA	2,84	-3,87	6,71
IT311	IT311 BOLZANO-BOZEN	6,00	3,88	2,12
IT312	IT312 TRENTO	5,94	0,57	5,37
IT321	IT321 VERONA	5,75	-0,25	6,00
IT322	IT322 VICENZA	6,97	1,34	5,63
IT323	IT323 BELLUNO	-1,02	-3,93	2,91
IT324	IT324 TREVISO	7,83	0,70	7,13
IT325	IT325 VENEZIA	-1,06	-1,63	0,57
IT326	IT326 PADOVA	4,07	0,12	3,95
IT327	IT327 ROVIGO	-1,91	-4,22	2,31
IT331	IT331 PORDENONE	2,95	-2,53	5,48
IT332	IT332 UDINE	-0,83	-4,17	3,34
IT333	IT333 GORIZIA	0,00	-5,32	5,32
IT334	IT334 TRIESTE	-7,28	-9,00	1,72

IT401	IT401 PIACENZA	-1,00	-6,14	5,14
IT402	IT402 PARMA	2,41	-5,50	7,91
IT403	IT403 REGGIO NELL'EMILIA	10,12	-2,37	12,48
IT404	IT404 MODENA	5,74	-2,38	8,13
IT405	IT405 BOLOGNA	2,53	-4,65	7,18
IT406	IT406 FERRARA	-4,87	-7,09	2,22
IT407	IT407 RAVENNA	0,19	-4,95	5,14
IT408	IT408 FORLÌ-CESENA	2,23	-2,85	5,07
IT409	IT409 RIMINI	5,49	-0,75	6,24
IT5	IT5 CENTRO (I)	1,43	-3,70	5,14
IT511	IT511 MASSA-CARRARA	-1,91	-5,15	3,24
IT512	IT512 LUCCA	-0,49	-4,61	4,13
IT513	IT513 PISTOIA	2,56	-3,74	6,30
IT514	IT514 FIRENZE	-0,39	-3,92	3,54
IT515	IT515 PRATO	7,16	-0,89	8,05
IT516	IT516 LIVORNO	-2,03	-4,56	2,53
IT517	IT517 PISA	0,74	-4,24	4,98
IT518	IT518 AREZZO	3,40	-4,19	7,59
IT519	IT519 SIENA	1,13	-6,09	7,21
IT51A	IT51A GROSSETO	-1,70	-5,70	4,01
IT521	IT521 PERUGIA	4,31	-3,07	7,38
IT522	IT522 TERNI	-1,12	-4,92	3,80
IT531	IT531 PESARO E URBINO	3,62	-2,35	5,97
IT532	IT532 ANCONA	1,85	-2,72	4,57
IT533	IT533 MACERATA	3,28	-3,34	6,62
IT534	IT534 ASCOLI PICENO	2,58	-1,72	4,31
IT601	IT601 VITERBO	3,04	-3,09	6,13
IT602	IT602 RIETI	0,66	-3,10	3,76
IT603	IT603 ROMA	2,97	-0,10	3,07
IT604	IT604 LATINA	6,51	2,11	4,39
IT605	IT605 FROSINONE	2,61	-0,88	3,49
IT711	IT711 L'AQUILA	0,16	-2,74	2,90
IT712	IT712 TERAMO	4,10	-0,35	4,45
IT713	IT713 PESCARA	1,59	-0,46	2,05
IT714	IT714 CHIETI	1,46	-1,54	3,00
IT721	IT721 ISERNIA	-1,63	-2,53	0,90
IT722	IT722 CAMPOBASSO	-2,87	-1,96	-0,91
IT801	IT801 CASERTA	5,14	5,06	0,08
IT802	IT802 BENEVENTO	-1,86	0,00	-1,86
IT803	IT803 NAPOLI	1,08	5,72	-4,63
IT804	IT804 AVELLINO	-0,60	0,45	-1,06
IT805	IT805 SALERNO	1,82	2,29	-0,47
IT911	IT911 FOGGIA	-1,67	3,34	-5,01
IT912	IT912 BARI	2,49	3,38	-0,89
IT913	IT913 TARANTO	-1,83	2,88	-4,71
IT914	IT914 BRINDISI	-0,08	2,25	-2,33
IT915	IT915 LECCE	-0,08	1,59	-1,67
IT921	IT921 POTENZA	0,21	0,00	0,21
IT922	IT922 MATERA	-2,25	1,45	-3,69
IT931	IT931 COSENZA	-1,84	1,20	-3,03
IT932	IT932 CROTONE	-5,71	4,31	-10,02
IT933	IT933 CATANZARO	-0,82	1,73	-2,56
IT934	IT934 VIBO VALENTIA	-2,98	2,05	-5,03
IT935	IT935 REGGIO DI CALABRIA	-1,73	1,32	-3,05

ITA01	ITA01 TRAPANI	0,50	1,23	-0,73
ITA02	ITA02 PALERMO	0,21	2,90	-2,68
ITA03	ITA03 MESSINA	-1,78	-1,03	-0,76
ITA04	ITA04 AGRIGENTO	-2,67	2,04	-4,71
ITA05	ITA05 CALTANISSETTA	0,47	2,70	-2,23
ITA06	ITA06 ENNA	-5,79	0,54	-6,33
ITA07	ITA07 CATANIA	3,61	3,23	0,38
ITA08	ITA08 RAGUSA	4,00	1,89	2,11
ITA09	ITA09 SIRACUSA	-1,48	1,31	-2,79
ITB01	ITB01 SASSARI	-0,14	-0,72	0,58
ITB02	ITB02 NUORO	-2,82	0,00	-2,82
ITB03	ITB03 ORISTANO	-0,53	-1,89	1,37
ITB04	ITB04 CAGLIARI	-1,17	0,52	-1,69
LU	LU LUXEMBOURG	13,34	3,88	9,46
NL11	NL11 GRONINGEN	1,22	1,25	-0,03
NL12	NL12 FRIESLAND	4,95	2,87	2,08
NL13	NL13 DRENTHE	6,91	2,45	4,47
NL21	NL21 OVERIJSSEL	5,15	3,96	1,19
NL22	NL22 GELDERLAND	5,51	3,79	1,72
NL23	NL23 FLEVOLAND	38,80	10,09	28,71
NL31	NL31 UTRECHT	8,46	5,20	3,26
NL32	NL32 NOORD-HOLLAND	4,56	3,64	0,91
NL33	NL33 ZUID-HOLLAND	4,45	3,38	1,06
NL34	NL34 ZEELAND	3,16	2,08	1,08
NL41	NL41 NOORD-BRABANT	6,83	4,25	2,58
NL42	NL42 LIMBURG (NL)	1,76	1,61	0,15
AT11	AT11 BURGENLAND	3,44	-2,66	6,10
AT12	AT12 NIEDERÖSTERREICH	3,32	-0,68	4,00
AT13	AT13 WIEN	1,42	-1,87	3,29
AT21	AT21 KÄRNTEN	1,33	0,89	0,44
AT22	AT22 STEIERMARK	-0,86	-0,19	-0,66
AT31	AT31 OBERÖSTERREICH	-1,69	2,25	-3,94
AT32	AT32 SALZBURG	4,14	3,52	0,62
AT33	AT33 TIROL	2,90	4,13	-1,23
AT34	AT34 VORARLBERG	3,24	5,51	-2,27
PT11	PT11 NORTE	4,35	3,29	1,06
PT12	PT12 CENTRO (P)	-0,29	-1,99	1,70
PT13	PT13 LISBOA E VALE DO TEJO	1,57	0,21	1,36
PT14	PT14 ALENTEJO	-8,80	-6,06	-2,74
PT15	PT15 ALGARVE	3,08	-2,21	5,29
PT2	PT2 AÇORES (PT)	4,66	3,15	1,51
PT3	PT3 MADEIRA (PT)	3,99	1,68	2,32
FI13	FI13 ITÄ-SUOMI	-6,32	-0,62	-5,70
FI14	FI14 VÄLI-SUOMI	-1,09	1,56	-2,65
FI15	FI15 POHJOIS-SUOMI	-0,15	4,41	-4,56
FI11	FI16 UUSIMAA (SUURALUE)	12,96	4,64	8,32
FI12	FI17 ETELÄ-SUOMI	1,26	0,22	1,04
FI2	FI2 ÅLAND	5,27	2,64	2,64
SE01	STOCKHOLM	10,90	2,91	7,99
SE02	OSTRA MELLANSVERIGE	-1,51	-0,39	-1,12
SE04	SYDSVERIGE	2,15	-0,85	3,01
SE06	NORRA MELLANSVERIGE	-6,99	-3,10	-3,89
SE07	MELLERSTA NORRLAND	-8,42	-3,85	-4,57
SE08	OVRE NORRLAND	-4,85	-0,61	-4,24

SE03	SMALAND MED OARNA	-3,49	-1,44	-2,05
SE05	VASTSVERIGE	1,67	-0,03	1,69
UKB	UKN NORTHERN IRELAND	6,13	5,36	0,77
UK111	CLEVELAND	-1,41	1,71	-3,12
UK112	DURHAM	-0,36	-0,60	0,24
UK12	CUMBRIA	1,29	-1,23	2,52
UK131	NORTHUMBERLAND	2,75	-1,87	4,63
UK132	TYNE AND WEAR	-5,05	-0,66	-4,39
UK21	HUMBERSIDE	-2,11	0,24	-2,35
UK22	NORTH YORKSHIRE	5,58	-0,49	6,07
UK23	SOUTH YORKSHIRE	-0,27	0,39	-0,66
UK24	WEST YORKSHIRE	1,07	2,34	-1,28
UK311	DERBYSHIRE	4,19	0,61	3,58
UK312	NOTTINGHAMSHIRE	0,10	1,07	-0,97
UK321	LEICESTERSHIRE	2,31	2,43	-0,12
UK322	NORTHAMPTONSHIRE	9,09	2,54	6,56
UK33	LINCOLNSHIRE	6,46	-1,20	7,66
UK401	CAMBRIDGESHIRE	11,12	2,90	8,22
UK402	NORFOLK	7,96	-1,14	9,10
UK403	SUFFOLK	6,83	0,57	6,26
UK511	BEDFORDSHIRE	7,33	5,14	2,20
UK512	HERTFORDSHIRE	8,07	3,73	4,34
UK521	BERKSHIRE	5,56	5,29	0,27
UK522	BUCKINGHAMSHIRE	8,29	4,64	3,65
UK523	OXFORDSHIRE	11,27	3,44	7,83
UK531	EAST SUSSEX	8,03	-3,18	11,21
UK532	SURREY	7,43	1,94	5,48
UK533	WEST SUSSEX	9,76	-1,48	11,23
UK54	ESSEX	6,23	1,53	4,70
UK55	GREATER LONDON	9,15	5,85	3,29
UK561	HAMPSHIRE	5,37	1,85	3,52
UK562	ISLE OF WIGHT	6,09	-4,72	10,81
UK57	KENT	9,92	1,24	8,68
UK611	AVON	6,77	1,89	4,88
UK612	GLOUCESTERSHIRE	3,04	0,80	2,24
UK613	WILTSHIRE	8,87	2,97	5,90
UK621	CORNWALL	6,53	-1,95	8,48
UK622	DEVON	3,96	-1,97	5,93
UK631	DORSET	5,60	-2,94	8,54
UK632	SOMERSET	6,40	-1,03	7,44
UK711	HEREFORD AND WORCESTER	5,56	0,63	4,92
UK712	WARWICKSHIRE	5,06	0,83	4,24
UK721	SHROPSHIRE	8,40	1,45	6,95
UK722	STAFFORDSHIRE	1,54	1,02	0,52
UK73	WEST MIDLANDS	-1,58	2,99	-4,57
UK81	CHESHIRE	1,48	1,13	0,35
UK82	GREATER MANCHESTER	0,04	1,50	-1,46
UK83	LANCASHIRE	0,19	-0,03	0,21
UK84	MERSEYSIDE	-4,08	-0,33	-3,75
UK9	UKL WALES	1,52	-0,05	1,57
UKA	UKM SCOTLAND	-1,38	-0,22	-1,16
UKB	NORTHERN IRELAND	5,68	5,44	0,25
BG011	VIDIN	-13,79	-14,02	0,23
BG012	MONTANA	-14,24	-11,89	-2,35

BG013	VRATSA	-8,87	-9,51	0,63
BG021	PLEVEN	-10,64	-9,52	-1,11
BG022	LOVECH	-10,13	-10,68	0,55
BG023	VELIKO TARNOVO	-10,75	-9,35	-1,40
BG024	GABROVO	-8,55	-9,40	0,85
BG025	RUSE	-7,14	-7,86	0,71
BG031	VARNA	-5,94	-4,01	-1,93
BG032	DOBRICH	-5,09	-5,53	0,44
BG033	SHUMEN	-6,12	-5,66	-0,46
BG034	TURGOVISHTE	-6,80	-5,90	-0,91
BG035	RAZGRAD	-6,94	-5,75	-1,19
BG036	SILISTRA	-9,62	-6,84	-2,78
BG041	SOFIA STOLITSA (CAPITAL)	2,52	-4,79	7,31
BG042	SOFIA	-14,55	-8,00	-6,55
BG043	BLAGOEVGRAD	-2,85	-1,33	-1,52
BG044	PERNIK	-9,55	-9,98	0,42
BG045	KYUSTENDIL	-9,52	-9,52	0,00
BG051	PLOVDIV	-2,53	-5,42	2,89
BG052	STARA ZAGORA	-5,13	-6,67	1,54
BG053	HASKOVO	-2,31	-7,27	4,96
BG054	PAZARDZHIK	-7,25	-4,14	-3,11
BG055	SMOLYAN	-15,05	-2,58	-12,47
BG056	KARDZHALI	-11,74	-2,03	-9,70
BG061	BURGAS	-6,14	-3,76	-2,38
BG062	SLIVEN	-5,03	-3,16	-1,87
BG063	YAMBOL	-8,72	-8,14	-0,58
CZ01	PRAHA	-4,57	-4,29	-0,28
CZ02	STREDNÍ CECHY	0,45	-3,23	3,68
CZ031	JIHOCECKÝ	-0,27	-1,49	1,22
CZ032	PLZENSKÝ	-1,81	-2,95	1,14
CZ041	KARLOVARSKÝ	0,00	-0,55	0,55
CZ042	ÚSTECKÝ	0,61	-1,49	2,10
CZ051	LIBERECKÝ	0,00	-1,17	1,17
CZ052	KRÁLOVEHRADECKÝ	-0,90	-1,75	0,84
CZ053	PARDUBICKÝ	-0,98	-1,24	0,26
CZ061	VYSOCINA	-0,64	-0,96	0,32
CZ062	JIHOMORAVSKÝ	-0,88	-2,17	1,29
CZ071	OLOMOUCKÝ	-0,52	-1,76	1,24
CZ072	ZLÍNSKÝ	-1,11	-1,94	0,83
CZ08	MORAVSKOSLEZKO	-1,94	-0,96	-0,98
EE001	PÕHJA-EESTI	-9,57	-4,26	-5,31
EE004	LÄÄNE-EESTI	-1,80	-2,70	0,90
EE002	KESK-EESTI	9,01	-9,23	18,24
EE003	KIRDE-EESTI	-7,13	-3,57	-3,57
EE005	LÕUNA-EESTI	-2,77	-4,06	1,29
HU011	BUDAPEST	-12,45	-6,56	-5,89
HU012	PEST	11,33	-2,47	13,80
HU021	FEJÉR	0,00	-2,27	2,27
HU022	KOMÁROM-ESZTERGOM	-1,61	-3,43	1,82
HU023	VESZPRÉM	-3,09	-3,01	-0,09
HU031	GYOR-MOSON-SOPRON	-1,18	-3,22	2,04
HU032	VAS	-4,32	-5,06	0,74
HU033	ZALA	-6,71	-5,59	-1,12
HU041	BARANYA	-5,34	-3,94	-1,40

HU042	SOMOGY	-5,47	-4,98	-0,50
HU043	TOLNA	-5,40	-4,72	-0,67
HU051	BORSOD-ABAÚJ-ZEMPLÉN	-5,17	-2,11	-3,06
HU052	HEVES	-4,59	-4,89	0,31
HU053	NÓGRÁD	-6,82	-5,30	-1,52
HU061	HAJDÚ-BIHAR	-3,35	-1,28	-2,07
HU062	JÁSZ-NAGYKUN-SZOLNOK	-5,18	-4,31	-0,88
HU063	SZABOLCS-SZATMÁR-BEREG	-0,58	0,64	-1,22
HU071	BÁCS-KISKUN	-3,72	-4,77	1,05
HU072	BÉKÉS	-6,67	-5,58	-1,08
HU073	CSONGRÁD	-5,52	-5,28	-0,24
LT001	ALYTAUS (APSKRITIS)	-1,65	-0,99	-0,66
LT002	KAUNO (APSKRITIS)	-1,10	-0,49	-0,62
LT003	KLAIPEDOS (APSKRITIS)	0,00	0,48	-0,48
LT004	MARIJAMPOLES (APSKRITIS)	-0,84	0,00	-0,84
LT005	PANEVEZIO (APSKRITIS)	-2,58	-1,55	-1,03
LT006	SIAULIU (APSKRITIS)	-0,41	-0,58	0,17
LT007	TAURAGES (APSKRITIS)	0,00	-1,03	1,03
LT008	TELSIU (APSKRITIS)	0,00	1,09	-1,09
LT009	UTENOS (APSKRITIS)	-4,13	-5,28	1,16
LT00A	VILNIAUS (APSKRITIS)	-1,49	-1,56	0,07
LV001	RIGA	-9,52	-14,78	5,25
LV002	VIDZEME	-4,55	-17,30	12,75
LV003	KURZEME	-9,42	-5,46	-3,97
LV004	ZEMGALE	-7,02	-4,59	-2,43
LV005	LATGALE	-10,10	-4,21	-5,89
PL011	JELENIOGÓRSKO-WALBRZYSKI	-1,90	-0,50	-1,40
PL012	LEGNICKI	1,62	2,72	-1,10
PL013	WROCLAWSKI	3,10	2,02	1,09
PL014	MIASTA WROCLAW	-2,34	-1,87	-0,47
PL021	BYDGOSKI	1,13	1,26	-0,13
PL022	TORUNSKO-WLOCLAWSKI	0,94	1,85	-0,91
PL031	BIALSKOPODLASKI	-1,03	1,03	-2,06
PL032	CHELMSKO-ZAMOJSKI	-1,94	0,15	-2,09
PL033	LUBELSKI	0,00	0,54	-0,54
PL041	GORZOWSKI	3,05	2,26	0,78
PL042	ZIELONOGÓRSKI	2,36	2,04	0,31
PL051	LÓDZKI	-1,38	-1,63	0,24
PL052	PIOTRKOWSKO-SKIERNIEWICKI	-1,11	-0,33	-0,78
PL053	MIASTA LÓDZ	-6,75	-6,71	-0,04
PL061	KRAKOWSKO-TARNOWSKI	2,77	1,78	0,99
PL062	NOWOSADECKI	6,18	5,60	0,59
PL063	MIASTA KRAKÓW	-2,25	-1,40	-0,86
PL071	CIECHANOWSKO-PLOCKI	0,52	1,65	-1,14
PL072	OSTROLECKO-SIEDLECKI	0,43	2,20	-1,77
PL073	WARSZAWSKI (SRE 2001)	5,69	-0,40	6,08
PL074	RADOMSKI	0,44	1,59	-1,14
PL075	MIASTA WARSZAWA	-3,49	-4,08	0,59
PL08	OPOLSKIE	-1,07	0,76	-1,83
PL091	RZESZOWSKO-TARNOBRZESKI	3,31	3,37	-0,06
PL092	KROSNIENSKO-PRZEMYSKI	1,74	3,10	-1,36
PL0A1	BIALOSTOCKO-SUWALSKI	0,74	0,33	0,41
PL0A2	LOMZYNSKI	0,00	3,35	-3,35
PL0B1	SLUPSKI	2,74	4,25	-1,51

PL0B2	GDANSKI	6,42	5,28	1,14
PL0B3	GDANSK-GDYNIA-SOPOT	-1,10	-0,75	-0,35
PL0C1	PÓLNOCNOSLASKI (SRE 2001)	4,01	-1,70	5,72
PL0C2	POLUDNIOWOSLASKI (SRE 2001)	1,38	1,85	-0,47
PL0C3	CENTRALNY SLASKI (SRE 2001)	-7,30	-1,34	-5,96
PL0D	SWIETOKRZYSKIE	-1,25	0,20	-1,45
PL0E1	ELBLASKI	2,77	4,06	-1,29
PL0E2	OLSZTYNSKI	2,40	3,10	-0,69
PL0E3	ELCKI	1,71	4,55	-2,84
PL0F1	PILSKI	2,03	3,33	-1,30
PL0F2	POZNANSKI	4,66	2,28	2,37
PL0F3	KALISKI	0,83	1,33	-0,50
PL0F4	KONINSKI	1,14	2,73	-1,59
PL0F5	MIASTA POZNAN	-1,72	-2,30	0,57
PL0G1	SZCZECINSKI	1,49	1,41	0,09
PL0G2	KOSZALINSKI	3,27	3,00	0,27
RO011	BACAU	4,69	1,79	2,90
RO012	BOTOSANI	5,43	-0,51	5,94
RO013	IASI	-0,20	2,71	-2,91
RO014	NEAMT	4,29	0,63	3,66
RO015	SUCEAVA	3,51	2,67	0,84
RO016	VASLUI	6,87	2,10	4,77
RO021	BRAILA	0,00	-3,34	3,34
RO022	BUZAU	-0,98	-3,61	2,62
RO023	CONSTANTA	-1,12	-0,31	-0,80
RO024	GALATI	0,26	0,57	-0,31
RO025	TULCEA	-3,76	-2,38	-1,38
RO026	VRANCEA	1,28	-0,85	2,13
RO031	ARGES	-0,99	-1,43	0,44
RO032	CALARASI	-2,50	-3,40	0,90
RO033	DÂMBOVITA	-0,90	-2,11	1,20
RO034	GIURGIU	-6,13	-6,80	0,67
RO035	IALOMITA	1,09	-1,97	3,06
RO036	PRAHOVA	-2,89	-2,70	-0,19
RO037	TELEORMAN	-4,65	-7,80	3,15
RO041	DOLJ	-4,01	-4,27	0,27
RO042	GORJ	0,00	-0,59	0,59
RO043	MEHEDINTI	-3,08	-3,90	0,82
RO044	OLT	-1,30	-3,44	2,14
RO045	VÂLCEA	0,77	-2,62	3,39
RO051	ARAD	-2,80	-5,66	2,87
RO052	CARAS-SEVERIN	-8,31	-4,16	-4,16
RO053	HUNEDOARA	-9,52	-2,33	-7,18
RO054	TIMIS	-8,66	-3,03	-5,63
RO061	BIHOR	-3,73	-3,67	-0,05
RO062	BISTRITA-NASAUD	1,53	2,14	-0,61
RO063	CLUJ	-8,29	-3,45	-4,83
RO064	MARAMURES	0,31	1,00	-0,69
RO065	SATU MARE	-2,13	-2,55	0,43
RO066	SALAJ	-2,57	-3,47	0,90
RO071	ALBA	-2,90	-2,40	-0,50
RO072	BRASOV	-7,60	-0,84	-6,76
RO073	COVASNA	-2,16	-0,43	-1,73
RO074	HARGHITA	-2,43	-0,97	-1,46

RO075	MURES	-0,83	-1,99	1,16
RO076	SIBIU	-3,75	-0,52	-3,22
RO081	BUCURESTI (CAPITAL)	-10,03	-4,29	-5,74
RO082	ILFOV	-3,61	-4,09	0,48
SI001	POMURSKA	-3,97	-2,91	-1,06
SI002	PODRAVSKA	-1,56	-1,35	-0,21
SI003	KOROSKA	0,00	0,90	-0,90
SI004	SAVINJSKA	0,00	-0,13	0,13
SI005	ZASAVSKA	0,00	-2,13	2,13
SI006	SPODNJEPOSAVSKA	-4,76	-1,90	-2,86
SI009	GORENJSKA	0,85	1,70	-0,85
SI00A	NOTRANJSKO-KRASKA	-6,67	-1,33	-5,33
SI00B	GORISKA	-1,39	-1,67	0,28
SI00C	OBALNO-KRASKA	0,00	-1,62	1,62
SI00D	JUGOVZHODNA SLOVENIJA	1,22	0,97	0,24
SI00E	OSREDNJESLOVENSKA	0,00	1,10	-1,10
SK01	BRATISLAVSKÝ	-0,81	-1,13	0,32
SK021	TRNAVSKÝ KRAJ	0,91	-0,12	1,03
SK022	TRENCIANSKÝ KRAJ	-0,27	0,05	-0,33
SK023	NITRIANSKÝ KRAJ	-0,23	-1,44	1,21
SK031	ZILINSKÝ KRAJ	1,94	3,14	-1,21
SK032	BANSKOBYSTRICKÝ KRAJ	-0,25	-0,60	0,35
SK041	PRESOVSKÝ KRAJ	4,30	5,68	-1,38
SK042	KOSICKÝ KRAJ	2,63	3,16	-0,53
N010	AKERSHUS	15,41	6,08	9,33
N011	AUST-AGDER	4,23	2,49	1,74
N012	BUSKERUD	8,16	1,62	6,54
N013	FINNMARK	-10,59	6,93	-17,52
N014	HEDMARK	0,13	-2,04	2,18
N015	HORDALAND	5,18	5,30	-0,12
N016	MORE OG ROMSDAL	2,08	2,75	-0,67
N017	NORDLAND	-3,61	2,58	-6,18
N018	NORD-TRONDELAG	-1,38	2,75	-4,13
N019	OPPLAND	-1,18	-0,73	-0,45
N020	OSLO	9,57	4,49	5,08
N021	OSTFOLD	7,97	0,59	7,38
N022	ROGALAND	11,13	7,96	3,17
N023	SOGN OG FJORDANE	-0,28	2,94	-3,22
N024	SOR-TRONDELAG	4,72	4,16	0,57
N025	TELEMARK	2,67	-0,12	2,79
N026	TROMS	-2,12	4,54	-6,66
N027	VEST-AGDER	7,86	4,26	3,60
N028	VESTFOLD	10,13	1,55	8,58
CH01	NORDOSTSCHWEIZ	2,87	2,36	0,51
CH02	NORDWESTSCHWEIZ-BERN	1,03	1,44	-0,42
CH03	SUDSCHWEIZ	0,85	2,49	-1,64
CH04	WESTSCHWEIZ	4,26	3,51	0,75
CH05	ZENTRALSCHWEIZ	5,53	4,72	0,81

Table A7. Population change, six typologies with regard to total and natural population development and net-migration 1996-1999

Six typologies:

1	BT>0	BM>0	BN>0
2	BT>0	BM>0	BN<0
3	BT>0	BM<0	BN>0
4	BT<0	BM<0	BN<0
5	BT<0	BM>0	BN<0
6	BT<0	BM<0	BN>0

BT=Total population development
BM=Net migration
BN=Natural population development

BE	BE BELGIUM	1
BE1	BE1 RÉGION BXL-CAPITALE	3
BE21	BE21 ANTWERPEN	1
BE22	BE22 LIMBURG	1
BE23	BEE23 OOST-VLAANDERERN	1
BE24	BE24 VLAAMS BRABANT	1
BE25	BE25 WEST-VLAANDEREN	1
BE31	BE31 BRABANT WALLON	1
BE32	BE32 HAINAUT	4
BE33	BE33 LIÈGE	1
BE34	BE34 LUXEMBOURG (BE)	1
BE35	BE35 NAMUR	1
DK	DK DENMARK	1
DK001	DK001 KØBENHAVN OG FREDERIKSBERG	1
DK002	DK002 KØBENHAVNS AMT	1
DK003	DK003 FREDERIKSBORG AMT	1
DK004	DK004 ROSKILDE AMT	1
DK005	DK005 VESTSJÆLLANDS AMT	2
DK006	DK006 STORSTRØMS AMT	2
DK007	DK007 BORNHOLMS AMT	4
DK008	DK008 FYNS AMT	1
DK009	DK009 SØNDERJYLLANDS AMT	3
DK00A	DK00A RIBE AMT	3
DK00B	DK00B VJL AMT	1
DK00C	DK00C RINGKØBING AMT	3
DK00D	DK00D ÅRHUS AMT	1
DK00E	DK00E VIBORG AMT	1
DK00F	DK00F NORDJYLLANDS AMT	1
DE	DE FEDERAL REPUBLIC OF GERMANY (INCL EX-GDR FROM 1991)	2
DE1	DE1 BADEN-WÜRTTEMBERG	1
DE11	DE11 STUTTGART	1
DE12	DE12 KARLSRUHE	1
DE13	DE13 FREIBURG	1
DE14	DE14 TÜBINGEN	1
DE2	DE2 BAYERN	1
DE21	DE21 OBERBAYERN	1

DE22	DE22 NIDERBAYERN	1
DE23	DE23 OBERPFALZ	1
DE24	DE24 OBERFRANKEN	2
DE25	DE25 MITTELFRANKEN	2
DE26	DE26 UNTERFRANKEN	1
DE27	DE27 SCHWABEN	1
DE3	DE3 BERLIN	4
DE4	DE4 BRANDENBURG	2
DE5	DE5 BREMEN	4
DE6	DE6 HAMBURG	5
DE7	DE7 HESSEN	1
DE71	DE71 DARMSTADT	1
DE72	DE72 GIEßEN	1
DE73	DE73 KASSEL	2
DE8	DE8 MECKLENBURG-VORPOMMERN	4
DE9	DE9 NIDERSACHSEN	2
DE91	DE91 BRAUNSCHWEIG	5
DE92	DE92 HANNOVER	2
DE93	DE93 LÜNEBURG	2
DE94	DE94 WESER-EMS	1
DEA	DEA NORDRHEIN-WESTFALEN	2
DEA1	DEA1 DÜSSELDORF	5
DEA2	DEA2 KÖLN	1
DEA3	DEA3 MÜNSTER	1
DEA4	DEA4 DETMOLD	1
DEA5	DEA5 ARNSBERG	5
DEB	DEB RHEINLAND-PFALZ	2
DEB1	DEB1 KOBLENZ	2
DEB2	DEB2 TRIER	2
DEB3	DEB3 RHEINHESSEN-PFALZ	2
DEC	DEC SAARLAND	4
DED	DED SACHSEN	4
DEE	DEE SACHSEN-ANHALT	4
DEE1	DEE1 DESSAU	4
DEE2	DEE2 HALLE	4
DEE3	DEE3 MAGDEBURG	4
DEF	DEF SCHLESWIG-HOLSTEIN	2
DEG	DEG THÜRINGEN	4
GR	GR GREECE	1
GR1	GR1 VOREIA ELLADA	1
GR11	GR11 ANATOLIKI MAKEDONIA, THRAKI	2
GR12	GR12 KENTRIKI MAKEDONIA	1
GR13	GR13 DYTIKI MAKEDONIA	1
GR14	GR14 THESSALIA	2
GR2	GR2 KENTRIKI ELLADA	2
GR21	GR21 IPEIROS	2
GR22	GR22 IONIA NISIA	2
GR23	GR23 DYTIKI ELLADA	2
GR24	GR24 STEREA ELLADA	2
GR25	GR25 PELOPONNISOS	2
GR3	GR3 ATTIKI	6
GR4	GR4 NISIA AIGAIOU, KRITI	1
GR41	GR41 VOREIO AIGAIO	5
GR42	GR42 NOTIO AIGAIO	1

GR43	GR43 KRITI	1
EES	ES SPAIN	1
ES1	ES1 NOROESTE	5
ES11	ES11 GALICIA	5
ES111	ES111 LA CORUÑA	2
ES112	ES112 LUGO	5
ES113	ES113 ORENSE	5
ES114	ES114 PONTEVEDRA	2
ES12	ES12 PRINCIPADO DE ASTURIAS	5
ES13	ES13 CANTABRIA	5
ES2	ES2 NORESTE	4
ES21	ES21 PAIS VASCO	4
ES211	ES211 ÁLAVA	1
ES212	ES212 GUIPÚZCOA	4
ES213	ES213 VIZCAYA	4
ES22	ES22 COMUNIDAD FORAL DE NAVARRA	1
ES23	ES23 LA RIOJA	4
ES24	ES24 ARAGÓN	5
ES241	ES241 HUESCA	5
ES242	ES242 TERUEL	4
ES243	ES243 ZARAGOZA	5
ES3	ES3 COMUNIDAD DE MADRID	3
ES4	ES4 CENTRO (E)	2
ES41	ES41 CASTILLA Y LEÓN	5
ES411	ES411 AVILA	4
ES412	ES412 BURGOS	4
ES413	ES413 LEÓN	5
ES414	ES414 PALENCIA	4
ES415	ES415 SALAMANCA	5
ES416	ES416 SEGOVIA	4
ES417	ES417 SORIA	4
ES418	ES418 VALLADOLID	5
ES419	ES419 ZAMORA	4
ES42	ES42 CASTILLA-LA MANCHA	1
ES421	ES421 ALBACETE	1
ES422	ES422 CIUDAD REAL	2
ES423	ES423 CUENCA	4
ES424	ES424 GUADALAJARA	2
ES425	ES425 TOLEDO	1
ES43	ES43 EXTREMADURA	2
ES431	ES431 BADAJOZ	1
ES432	ES432 CÁCERES	2
ES5	ES5 ESTE	2
ES51	ES51 CATALUÑA	4
ES511	ES511 BARCELONA	6
ES512	ES512 GERONA	1
ES513	ES513 LÉRIDA	5
ES514	ES514 TARRAGONA	2
ES52	ES52 COMUNIDAD VALENCIANA	2
ES521	ES521 ALICANTE	1
ES522	ES522 CASTELLÓN DE LA PLANA	2
ES523	ES523 VALENCIA	2
ES53	ES53 BALEARES	1
ES6	ES6 SUR	1

ES61	ES61 ANDALUCIA	1
ES611	ES611 ALMERÍA	1
ES612	ES612 CADIZ	1
ES613	ES613 CÓRDOBA	1
ES614	ES614 GRANADA	1
ES615	ES615 HUELVA	1
ES616	ES616 JAÉN	1
ES617	ES617 MÁLAGA	1
ES618	ES618 SEVILLA	1
ES62	ES62 MURCIA	1
FR	FR FRANCE	3
FR1	FR1 ÎLE DE FRANCE	3
FR101	FR101 PARIS	6
FR102	FR102 SEINE-ET-MARNE	3
FR103	FR103 YVELINES	3
FR104	FR104 ESSONNE	3
FR105	FR105 HAUTS-DE-SEINE	3
FR106	FR106 SEINE-SAINT-DENIS	6
FR107	FR107 VAL-DE-MARNE	3
FR108	FR108 VAL-D'OISE	3
FR2	FR2 BASSIN PARISIEN	3
FR21	FR21 CHAMPAGNE-ARDENNE	6
FR211	FR211 ARDENNES	6
FR212	FR212 AUBE	3
FR213	FR213 MARNE	3
FR214	FR214 HAUTE-MARNE	6
FR22	FR22 PICARDIE	3
FR221	FR221 AISNE	6
FR222	FR222 OISE	3
FR223	FR223 SOMME	3
FR23	FR23 HAUTE-NORMANDIE	3
FR231	FR231 EURE	1
FR232	FR232 SEINE-MARITIME	3
FR24	FR24 CENTRE	1
FR241	FR241 CHER	6
FR242	FR242 EURE-ET-LOIR	3
FR243	FR243 INDRE	5
FR244	FR244 INDRE-ET-LOIRE	1
FR245	FR245 LOIR-ET-CHER	1
FR246	FR246 LOIRET	1
FR25	FR25 BASSE-NORMANDIE	3
FR251	FR251 CALVADOS	1
FR252	FR252 MANCHE	3
FR253	FR253 ORNE	6
FR26	FR26 BOURGOGNE	6
FR261	FR261 CÔTE-D'OR	3
FR262	FR262 NIÈVRE	4
FR263	FR263 SAÔNE-ET-LOIRE	4
FR264	FR264 YONNE	2
FR3	FR3 NORD - PAS-DE-CALAIS	3
FR301	FR301 NORD	3
FR302	FR302 PAS-DE-CALAIS	3
FR4	FR4 EST	3
FR41	FR41 LORRAINE	6

FR411	FR411 MEURTHE-ET-MOSELLE	6
FR412	FR412 MEUSE	6
FR413	FR413 MOSELLE	3
FR414	FR414 VOSGES	6
FR42	FR42 ALSACE	1
FR421	FR421 BAS-RHIN	1
FR422	FR422 HAUT-RHIN	1
FR43	FR43 FRANCHE-COMTÉ	3
FR431	FR431 DOUBS	3
FR432	FR432 JURA	3
FR433	FR433 HAUTE-SAÔNE	3
FR434	FR434 TERRITOIRE DE BELFORT	3
FR5	FR5 OUEST	1
FR51	FR51 PAYS DE LA LOIRE	1
FR511	FR511 LOIRE-ATLANTIQUE	1
FR512	FR512 MAINE-ET-LOIRE	3
FR513	FR513 MAYENNE	3
FR514	FR514 SARTHE	1
FR515	FR515 VENDÉE	1
FR52	FR52 BRETAGNE	1
FR521	FR521 CÔTE-DU-NORD	2
FR522	FR522 FINISTÈRE	1
FR523	FR523 ILLE-ET-VILAINE	1
FR524	FR524 MORBIHAN	1
FR53	FR53 POITOU-CHARENTES	1
FR531	FR531 CHARENTE	4
FR532	FR532 CHARENTE-MARITIME	1
FR533	FR533 DEUX-SÈVRES	6
FR534	FR534 VIENNE	1
FR6	FR6 SUD-OUEST	2
FR61	FR61 AQUITAINE	1
FR611	FR611 DORDOGNE	2
FR612	FR612 GIRONDE	1
FR613	FR613 LANDES	2
FR614	FR614 LOT-ET-GARONNE	2
FR615	FR615 PYRÉNÉES-ATLANTIQUES	2
FR62	FR62 MIDI-PYRÉNÉES	1
FR621	FR621 ARIÈGE	2
FR622	FR622 AVEYRON	5
FR623	FR623 HAUTE-GARONNE	1
FR624	FR624 GERS	5
FR625	FR625 LOT	2
FR626	FR626 HAUTES-PYRÉNÉES	5
FR627	FR627 TARN	2
FR628	FR628 TARN-ET-GARONNE	1
FR63	FR63 LIMOUSIN	5
FR631	FR631 CORRÈZE	4
FR632	FR632 CREUSE	5
FR633	FR633 HAUTE-VIENNE	5
FR7	FR7 CENTRE-EST	1
FR71	FR71 RHÔNE-ALPES	1
FR711	FR711 AIN	1
FR712	FR712 ARDÈCHE	2
FR713	FR713 DRÔME	1

FR714	FR714 ISÈRE	1
FR715	FR715 LOIRE	6
FR716	FR716 RHÔNE	3
FR717	FR717 SAVOIE	1
FR718	FR718 HAUTE-SAVOIE	1
FR72	FR72 AUVERGNE	2
FR721	FR721 ALLIER	4
FR722	FR722 CANTAL	5
FR723	FR723 HAUTE-LOIRE	2
FR724	FR724 PUY-DE-DÔME	1
FR8	FR8 MÉDITERRANÉE	1
FR81	FR81 LANGUEDOC-ROUSSILLON	2
FR811	FR811 AUDE	2
FR812	FR812 GARD	1
FR813	FR813 HÉRAULT	1
FR814	FR814 LOZÈRE	2
FR815	FR815 PYRÉNÉES-ORIENTALES	2
FR82	FR82 PROVENCE-ALPES-CÔTE D'AZUR	1
FR821	FR821 ALPES-DE-HAUTE-PROVENCE	2
FR822	FR822 HAUTES-ALPES	1
FR823	FR823 ALPES-MARITIMES	2
FR824	FR824 BOUCHES-DU-RHÔNE	1
FR825	FR825 VAR	1
FR826	FR826 VAUCLUSE	1
FR83	FR83 CORSE	1
FR831	FR831 CORSE-DU-SUD	4
FR832	FR832 HAUTE-CORSE	1
IE001	IE011 BORDER	1
IE004	IE012 MIDLANDS	1
IE008	IE013 WEST	1
IE002	IE021 DUBLIN	1
IE003	IE022 MID-EAST	1
IE005	IE023 MIDWEST	1
IE006	IE024 SOUTH-EAST (IE)	1
IE007	IE025 SOUTH-WEST (IE)	1
IT	IT ITALY	2
IT1	IT1 NORD OVEST	5
IT11	IT11 PIEMONTE	5
IT111	IT111 TORINO	5
IT112	IT112 VERCELLI	5
IT113	IT113 BIELLA	5
IT114	IT114 VERBANO-CUSIO-OSSOLA	5
IT115	IT115 NOVARA	2
IT116	IT116 CUNEO	2
IT117	IT117 ASTI	2
IT118	IT118 ALESSANDRIA	5
IT12	IT12 VALLE D'AOSTA	2
IT13	IT13 LIGURIA	5
IT131	IT131 IMPERIA	5
IT132	IT132 SAVONA	5
IT133	IT133 GENOVA	5
IT134	IT134 LA SPEZIA	5
IT2	IT2 LOMBARDIA	2
IT201	IT201 VARESE	2

IT202	IT202 COMO	2
IT203	IT203 LECCO	1
IT204	IT204 SONDRIO	2
IT205	IT205 MILANO	2
IT206	IT206 BERGAMO	1
IT207	IT207 BRESCIA	1
IT208	IT208 PAVIA	2
IT209	IT209 LODI	2
IT20A	IT20A CREMONA	2
IT20B	IT20B MANTOVA	2
IT3	IT3 NORD EST	2
IT31	IT31 TRENTINO-ALTO ADIGE	1
IT311	IT311 BOLZANO-BOZEN	1
IT312	IT312 TRENTO	1
IT32	IT32 VENETO	2
IT321	IT321 VERONA	2
IT322	IT322 VICENZA	1
IT323	IT323 BELLUNO	5
IT324	IT324 TREVISO	1
IT325	IT325 VENEZIA	5
IT326	IT326 PADOVA	1
IT327	IT327 ROVIGO	5
IT33	IT33 FRIULI-VENEZIA GIULIA	5
IT331	IT331 PORDENONE	2
IT332	IT332 UDINE	5
IT333	IT333 GORIZIA	2
IT334	IT334 TRIESTE	5
IT4	IT4 EMILIA-ROMAGNA	2
IT401	IT401 PIACENZA	5
IT402	IT402 PARMA	2
IT403	IT403 REGGIO NELL'EMILIA	2
IT404	IT404 MODENA	2
IT405	IT405 BOLOGNA	2
IT406	IT406 FERRARA	5
IT407	IT407 RAVENNA	2
IT408	IT408 FORLÌ-CESENA	2
IT409	IT409 RIMINI	2
IT5	IT5 CENTRO (I)	2
IT51	IT51 TOSCANA	2
IT511	IT511 MASSA-CARRARA	5
IT512	IT512 LUCCA	5
IT513	IT513 PISTOIA	2
IT514	IT514 FIRENZE	5
IT515	IT515 PRATO	2
IT516	IT516 LIVORNO	5
IT517	IT517 PISA	2
IT518	IT518 AREZZO	2
IT519	IT519 SIENA	2
IT51A	IT51A GROSSETO	5
IT52	IT52 UMBRIA	2
IT521	IT521 PERUGIA	2
IT522	IT522 TERNI	5
IT53	IT53 MARCHE	2
IT531	IT531 PESARO E URBINO	2

IT532	IT532 ANCONA	2
IT533	IT533 MACERATA	2
IT534	IT534 ASCOLI PICENO	2
IT6	IT6 LAZIO	2
IT601	IT601 VITERBO	2
IT602	IT602 RIETI	2
IT603	IT603 ROMA	2
IT604	IT604 LATINA	1
IT605	IT605 FROSINONE	2
IT7	IT7 ABRUZZO-MOLISE	2
IT71	IT71 ABRUZZO	2
IT711	IT711 L'AQUILA	2
IT712	IT712 TERAMO	2
IT713	IT713 PESCARA	2
IT714	IT714 CHIETI	2
IT72	IT72 MOLISE	4
IT721	IT721 ISERNIA	5
IT722	IT722 CAMPOBASSO	4
IT8	IT8 CAMPANIA	3
IT801	IT801 CASERTA	1
IT802	IT802 BENEVENTO	6
IT803	IT803 NAPOLI	3
IT804	IT804 AVELLINO	6
IT805	IT805 SALERNO	3
IT9	IT9 SUD	6
IT91	IT91 PUGLIA	3
IT911	IT911 FOGGIA	6
IT912	IT912 BARI	3
IT913	IT913 TARANTO	6
IT914	IT914 BRINDISI	6
IT915	IT915 LECCE	6
IT92	IT92 BASILICATA	6
IT921	IT921 POTENZA	1
IT922	IT922 MATERA	6
IT93	IT93 CALABRIA	6
IT931	IT931 COSENZA	6
IT932	IT932 CROTONE	6
IT933	IT933 CATANZARO	6
IT934	IT934 VIBO VALENTIA	6
IT935	IT935 REGGIO DI CALABRIA	6
ITA	ITA SICILIA	3
ITA01	ITA01 TRAPANI	3
ITA02	ITA02 PALERMO	3
ITA03	ITA03 MESSINA	4
ITA04	ITA04 AGRIGENTO	6
ITA05	ITA05 CALTANISSETTA	3
ITA06	ITA06 ENNA	6
ITA07	ITA07 CATANIA	1
ITA08	ITA08 RAGUSA	1
ITA09	ITA09 SIRACUSA	6
ITB	ITB SARDEGNA	4
ITB01	ITB01 SASSARI	5
ITB02	ITB02 NUORO	6
ITB03	ITB03 ORISTANO	5

ITB04	ITB04 CAGLIARI	6
LU	LU LUXEMBOURG	1
NL	NL NETHERLANDS	1
NL1	NL1 NOORD-NEDERLAND	1
NL11	NL11 GRONINGEN	3
NL12	NL12 FRIESLAND	1
NL13	NL13 DRENTHE	1
NL2	NL2 OOST-NEDERLAND	1
NL21	NL21 OVERIJSSEL	1
NL22	NL22 GELDERLAND	1
NL23	NL23 FLEVOLAND	1
NL3	NL3 WEST-NEDERLAND	1
NL31	NL31 UTRECHT	1
NL32	NL32 NOORD-HOLLAND	1
NL33	NL33 ZUID-HOLLAND	1
NL34	NL34 ZEELAND	1
NL4	NL4 ZUID-NEDERLAND	1
NL41	NL41 NOORD-BRABANT	1
NL42	NL42 LIMBURG (NL)	1
AT	AT AUSTRIA	1
AT11	AT11 BURGENLAND	2
AT12	AT12 NIEDERÖSTERREICH	2
AT13	AT13 WIEN	2
AT21	AT21 KÄRNTEN	1
AT22	AT22 STEIERMARK	4
AT31	AT31 OBERÖSTERREICH	6
AT32	AT32 SALZBURG	1
AT33	AT33 TIROL	3
AT34	AT34 VORARLBERG	3
PT	PT PORTUGAL	1
PT1	PT1 PORTUGAL (CONTINENT)	1
PT11	PT11 NORTE	1
PT12	PT12 CENTRO (P)	5
PT13	PT13 LISBOA E VALE DO TEJO	1
PT14	PT14 ALENTEJO	4
PT15	PT15 ALGARVE	2
PT2	PT2 AÇORES (PT)	1
PT3	PT3 MADEIRA (PT)	1
FI	FI FINLAND	1
FI13	FI13 ITÄ-SUOMI	4
FI14	FI14 VÄLI-SUOMI	6
FI15	FI15 POHJOIS-SUOMI	6
FI11	FI16 UUSIMAA (SUURALUE)	1
FI12	FI17 ETELÄ-SUOMI	1
FI2	FI2 ÅLAND	1
SE01	STOCKHOLM	1
SE02	OSTRA MELLANSVERIGE	4
SE04	SYDSVERIGE	2
SE06	NORRA MELLANSVERIGE	4
SE07	MELLERSTA NORRLAND	4
SE08	OVRE NORRLAND	4
SE03	SMALAND MED OARNA	4
SE05	VASTSVERIGE	2
UKB	UKN NORTHERN IRELAND	1

UK111	CLEVELAND	6
UK112	DURHAM	5
UK12	CUMBRIA	2
UK131	NORTHUMBERLAND	2
UK132	TYNE AND WEAR	4
UK21	HUMBERSIDE	6
UK22	NORTH YORKSHIRE	2
UK23	SOUTH YORKSHIRE	6
UK24	WEST YORKSHIRE	3
UK311	DERBYSHIRE	1
UK312	NOTTINGHAMSHIRE	3
UK321	LEICESTERSHIRE	3
UK322	NORTHAMPTONSHIRE	1
UK33	LINCOLNSHIRE	2
UK401	CAMBRIDGESHIRE	1
UK402	NORFOLK	2
UK403	SUFFOLK	1
UK511	BEDFORDSHIRE	1
UK512	HERTFORDSHIRE	1
UK521	BERKSHIRE	1
UK522	BUCKINGHAMSHIRE	1
UK523	OXFORDSHIRE	1
UK531	EAST SUSSEX	2
UK532	SURREY	1
UK533	WEST SUSSEX	2
UK54	ESSEX	1
UK55	GREATER LONDON	1
UK561	HAMPSHIRE	1
UK562	ISLE OF WIGHT	2
UK57	KENT	1
UK611	AVON	1
UK612	GLOUCESTERSHIRE	1
UK613	WILTSHIRE	1
UK621	CORNWALL	2
UK622	DEVON	2
UK631	DORSET	2
UK632	SOMERSET	2
UK711	HEREFORD AND WORCESTER	1
UK712	WARWICKSHIRE	1
UK721	SHROPSHIRE	1
UK722	STAFFORDSHIRE	1
UK73	WEST MIDLANDS	6
UK81	CHESHIRE	1
UK82	GREATER MANCHESTER	3
UK83	LANCASHIRE	2
UK84	MERSEYSIDE	4
UK9	UKL WALES	2
UKA	UKM SCOTLAND	4
UKB	NORTHERN IRELAND	1
BG	BULGARIA	5
BG01	SEVEROZAPADEN	4
BG011	VIDIN	5
BG012	MONTANA	4
BG013	VRATSA	5

BG02	SEVEREN TSENTRALEN	4
BG021	PLEVEN	4
BG022	LOVECH	5
BG023	VELIKO TARNOVO	4
BG024	GABROVO	5
BG025	RUSE	5
BG03	SEVEROIZTOCHEN	4
BG031	VARNA	4
BG032	DOBRICH	5
BG033	SHUMEN	4
BG034	TURGOVISHTE	4
BG035	RAZGRAD	4
BG036	SILISTRA	4
BG04	YUGOZAPADEN	5
BG041	SOFIA STOLITSA (CAPITAL)	2
BG042	SOFIA	4
BG043	BLAGOEVGRAD	4
BG044	PERNIK	5
BG045	KYUSTENDIL	5
BG05	YUZHEN TSENTRALEN	4
BG051	PLOVDIV	5
BG052	STARA ZAGORA	5
BG053	HASKOVO	5
BG054	PAZARDZHIK	4
BG055	SMOLYAN	4
BG056	KARDZHALI	4
BG06	YUGOIZTOCHEN	4
BG061	BURGAS	4
BG062	SLIVEN	4
BG063	YAMBOL	4
CZ	CZECH REPUBLIC	5
CZ01	PRAHA	4
CZ02	STREDNÍ CECHY	2
CZ03	JIHOZÁPAD	5
CZ031	JIHOCECKÝ	5
CZ032	PLZENSKÝ	5
CZ04	SEVEROZÁPAD	2
CZ041	KARLOVARSKÝ	2
CZ042	ÚSTECKÝ	2
CZ05	SEVEROVÝCHOD	5
CZ051	LIBERECKÝ	2
CZ052	KRÁLOVEHRADECKÝ	5
CZ053	PARDUBICKÝ	5
CZ06	JIHOVÝCHOD	5
CZ061	VYSOCINA	5
CZ062	JIHOMORAVSKÝ	5
CZ07	STREDNÍ MORAVA	5
CZ071	OLOMOUCKÝ	5
CZ072	ZLÍNSKÝ	5
CZ08	MORAVSKOSLEZKO	4
EE	ESTONIA	4
EE001	PÕHJA-EESTI	4
EE004	LÄÄNE-EESTI	5
EE002	KESK-EESTI	2

EE003	KIRDE-EESTI	4
EE005	LÕUNA-EESTI	5
HU	HUNGARY	4
HU01	KÖZÉP-MAGYARORSZÁG	5
HU011	BUDAPEST	4
HU012	PEST	2
HU02	KÖZÉP-DUNÁNTÚL	5
HU021	FEJÉR	2
HU022	KOMÁROM-ESZTERGOM	5
HU023	VESZPRÉM	4
HU03	NYUGAT-DUNÁNTÚL	5
HU031	GYOR-MOSON-SOPRON	5
HU032	VAS	5
HU033	ZALA	4
HU04	DÉL-DUNÁNTÚL	4
HU041	BARANYA	4
HU042	SOMOGY	4
HU043	TOLNA	4
HU05	ÉSZAK-MAGYARORSZÁG	4
HU051	BORSOD-ABAÚJ-ZEMPLÉN	4
HU052	HEVES	5
HU053	NÓGRÁD	4
HU06	ÉSZAK-ALFÖLD	4
HU061	HAJDÚ-BIHAR	4
HU062	JÁSZ-NAGYKUN-SZOLNOK	4
HU063	SZABOLCS-SZATMÁR-BEREG	6
HU07	DÉL-ALFÖLD	5
HU071	BÁCS-KISKUN	5
HU072	BÉKÉS	4
HU073	CSONGRÁD	4
LT	LITHUANIA	4
LT001	ALYTAUS (APSKRITIS)	4
LT002	KAUNO (APSKRITIS)	4
LT003	KLAIPEDOS (APSKRITIS)	3
LT004	MARIJAMPOLES (APSKRITIS)	6
LT005	PANEVEZIO (APSKRITIS)	4
LT006	SIAULIU (APSKRITIS)	5
LT007	TAURAGES (APSKRITIS)	2
LT008	TELSIU (APSKRITIS)	3
LT009	UTENOS (APSKRITIS)	5
LT00A	VILNIAUS (APSKRITIS)	5
LV	LATVIA	6
LV001	RIGA	5
LV002	VIDZEME	5
LV003	KURZEME	4
LV004	ZEMGALE	4
LV005	LATGALE	4
PL	POLAND	3
PL01	DOLNOSLASKIE	6
PL011	JELENIOGÓRSKO-WALBRZYSKI	4
PL012	LEGNICKI	3
PL013	WROCLAWSKI	1
PL014	MIASTA WROCLAW	4
PL02	KUJAWSKO-POMORSKIE	3

PL021	BYDGOSKI	3
PL022	TORUNSKO-WLOCLAWSKI	3
PL03	LUBELSKIE	6
PL031	BIALSKOPODLASKI	6
PL032	CHELMSKO-ZAMOJSKI	6
PL033	LUBELSKI	3
PL04	LUBUSKIE	1
PL041	GORZOWSKI	1
PL042	ZIELONOGÓRSKI	1
PL05	LÓDZKIE	4
PL051	LÓDZKI	5
PL052	PIOTRKOWSKO-SKIERNIEWICKI	4
PL053	MIASTA LÓDZ	4
PL06	MALOPOLSKIE	1
PL061	KRAKOWSKO-TARNOWSKI	1
PL062	NOWOSADECKI	1
PL063	MIASTA KRAKÓW	4
PL07	MAZOWIECKIE	2
PL071	CIECHANOWSKO-PLOCKI	3
PL072	OSTROLECKO-SIEDLECKI	3
PL073	WARSZAWSKI (SRE 2001)	2
PL074	RADOMSKI	3
PL075	MIASTA WARSZAWA	5
PL08	OPOLSKIE	6
PL09	PODKARPACKIE	3
PL091	RZESZOWSKO-TARNOBRZESKI	3
PL092	KROSNIENSKO-PRZEMYSKI	3
PL0A	PODLASKIE	3
PL0A1	BIALOSTOCKO-SUWALSKI	1
PL0A2	LOMZYNSKI	3
PL0B	POMORSKIE	1
PL0B1	SLUPSKI	3
PL0B2	GDANSKI	1
PL0B3	GDANSK-GDYNIA-SOPOT	4
PL0C	SLASKIE	4
PL0C1	PÓLNOCNOSLASKI (SRE 2001)	2
PL0C2	POLUDNIOWOSLASKI (SRE 2001)	3
PL0C3	CENTRALNY SLASKI (SRE 2001)	4
PL0D	SWIETOKRZYSKIE	6
PL0E	WARMINSKO-MAZURSKIE	3
PL0E1	ELBLASKI	3
PL0E2	OLSZTYNSKI	3
PL0E3	ELCKI	3
PL0F	WIELKOPOLSKIE	1
PL0F1	PILSKI	3
PL0F2	POZNANSKI	1
PL0F3	KALISKI	3
PL0F4	KONINSKI	3
PL0F5	MIASTA POZNAN	5
PL0G	ZACHODNIOPOMORSKIE	1
PL0G1	SZCZECINSKI	1
PL0G2	KOSZALINSKI	1
RO	ROMANIA	4
RO01	NORD-EST	1

RO011	BACAU	1
RO012	BOTOSANI	2
RO013	IASI	6
RO014	NEAMT	1
RO015	SUCEAVA	1
RO016	VASLUI	1
RO02	SUD-EST	5
RO021	BRAILA	2
RO022	BUZAU	5
RO023	CONSTANTA	4
RO024	GALATI	3
RO025	TULCEA	4
RO026	VRANCEA	2
RO03	SUD	5
RO031	ARGES	5
RO032	CALARASI	5
RO033	DÂMBOVITA	5
RO034	GIURGIU	5
RO035	IALOMITA	2
RO036	PRAHOVA	4
RO037	TELEORMAN	5
RO04	SUD-VEST	5
RO041	DOLJ	5
RO042	GORJ	2
RO043	MEHEDINTI	5
RO044	OLT	5
RO045	VÂLCEA	2
RO05	VEST	4
RO051	ARAD	5
RO052	CARAS-SEVERIN	4
RO053	HUNEDOARA	4
RO054	TIMIS	4
RO06	NORD-VEST	4
RO061	BIHOR	4
RO062	BISTRITA-NASAUD	3
RO063	CLUJ	4
RO064	MARAMURES	3
RO065	SATU MARE	5
RO066	SALAJ	5
RO07	CENTRU	4
RO071	ALBA	4
RO072	BRASOV	4
RO073	COVASNA	4
RO074	HARGHITA	4
RO075	MURES	5
RO076	SIBIU	4
RO08	BUCURESTI	4
RO081	BUCURESTI (CAPITAL)	4
RO082	ILFOV	5
SI	SLOVENIA	4
SI001	POMURSKA	4
SI002	PODRAVSKA	4
SI003	KOROSKA	3
SI004	SAVINJSKA	2

SI005	ZASAVSKA	2
SI006	SPODNJEPOSAVSKA	4
SI009	GORENJSKA	3
SI00A	NOTRANJSKO-KRASKA	4
SI00B	GORISKA	5
SI00C	OBALNO-KRASKA	2
SI00D	JUGOVZHODNA SLOVENIJA	1
SI00E	OSREDNJESLOVENSKA	3
SK	SLOVAK REPUBLIC	3
SK01	BRATISLAVSKÝ	5
SK02	ZÁPADNÉ SLOVENSKO	2
SK021	TRNAVSKÝ KRAJ	2
SK022	TRENCIANSKÝ KRAJ	6
SK023	NITRIANSKÝ KRAJ	5
SK03	STREDNÉ SLOVENSKO	3
SK031	ZILINSKÝ KRAJ	3
SK032	BANSKOBYSTRICKÝ KRAJ	5
SK04	VÝCHODNÉ SLOVENSKO	3
SK041	PRESOVSKÝ KRAJ	3
SK042	KOSICKÝ KRAJ	3
N010	AKERSHUS	1
N011	AUST-AGDER	1
N012	BUSKERUD	1
N013	FINNMARK	6
N014	HEDMARK	2
N015	HORDALAND	3
N016	MORE OG ROMSDAL	3
N017	NORDLAND	6
N018	NORD-TRONDELAG	6
N019	OPPLAND	4
N020	OSLO	1
N021	OSTFOLD	1
N022	ROGALAND	1
N023	SOGN OG FJORDANE	6
N024	SOR-TRONDELAG	1
N025	TELEMARK	2
N026	TROMS	6
N027	VEST-AGDER	1
N028	VESTFOLD	1
CH	SCHWEIZ	1
CH01	NORDOSTSCHWEIZ	1
CH02	NORDWESTSCHWEIZ-BERN	3
CH03	SUDSCHWEIZ	3
CH04	WESTSCHWEIZ	1
CH05	ZENTRALSCHWEIZ	1

Table A8. Share (%) of population in the ages 65+ in EU29.

NUTS	REGION	1990	1995	1999
BE	**BE BELGIUM**	NA	0,15	0,17
BE1	BE1 RÉGION BXL-CAPITALE	NA	0,17	0,17
BE2	BE2 VLAAMS GEWEST	NA	0,15	0,16
BE21	BE21 ANTWERPEN	NA	0,15	0,17
BE22	BE22 LIMBURG	NA	0,12	0,13
BE23	BE23 OOST-VLAANDERERN	NA	0,16	0,17
BE24	BE24 VLAAMS BRABANT	NA	0,15	0,17
BE25	BE25 WEST-VLAANDEREN	NA	0,16	0,18
BE3	BE3 RÉGION WALLONNE	NA	0,16	0,17
BE31	BE31 BRABANT WALLON	NA	0,14	0,15
BE32	BE32 HAINAUT	NA	0,16	0,17
BE33	BE33 LIÈGE	NA	0,16	0,17
BE34	BE34 LUXEMBOURG (BE)	NA	0,15	0,16
BE35	BE35 NAMUR	NA	0,15	0,16
DK	**DK DENMARK**	0,16	0,15	0,15
DK001	DK001 KØBENHAVN OG FREDERIKSBERG	0,22	0,18	0,12
DK002	DK002 KØBENHAVNS AMT	0,15	0,15	0,16
DK003	DK003 FREDERIKSBORG AMT	0,12	0,13	0,13
DK004	DK004 ROSKILDE AMT	0,10	0,11	0,11
DK005	DK005 VESTSJÆLLANDS AMT	0,16	0,16	0,15
DK006	DK006 STORSTRØMS AMT	0,18	0,18	0,18
DK007	DK007 BORNHOLMS AMT	0,18	0,18	0,18
DK008	DK008 FYNS AMT	0,16	0,16	0,16
DK009	DK009 SØNDERJYLLANDS AMT	0,15	0,15	0,15
DK00A	DK00A RIBE AMT	0,14	0,14	0,14
DK00B	DK00B VEJLE AMT	0,15	0,15	0,15
DK00C	DK00C RINGKØBING AMT	0,12	0,14	0,14
DK00D	DK00DE ÅRHUS AMT	0,14	0,14	0,13
DK00E	DK00 VIBORG AMT	0,17	0,16	0,16
DK00F	DK00F NORDJYLLANDS AMT	0,16	0,16	0,16
DE	**DE GERMANY (INCLUDING EX-GDR FROM 1991)**	NA	0,15	0,16
DE1	DE1 BADEN-WÜRTTEMBERG	NA	0,15	0,15
DE11	DE11 STUTTGART	NA	0,14	0,15
DE12	DE12 KARLSRUHE	NA	0,15	0,16
DE13	DE13 FREIBURG	NA	0,15	0,16
DE14	DE14 TÜBINGEN	NA	0,14	0,15
DE2	DE2 BAYERN	NA	0,15	0,16
DE21	DE21 OBERBAYERN	NA	0,15	0,15
DE22	DE22 NIEDERBAYERN	NA	0,15	0,16
DE23	DE23 OBERPFALZ	NA	0,15	0,16
DE24	DE24 OBERFRANKEN	NA	0,17	0,17
DE25	DE25 MITTELFRANKEN	NA	0,16	0,16
DE26	DE26 UNTERFRANKEN	NA	0,15	0,16
DE27	DE27 SCHWABEN	NA	0,16	0,16
DE3	DE3 BERLIN	NA	0,14	0,14
DE4	DE4 BRANDENBURG	NA	0,13	0,14
DE5	DE5 BREMEN	NA	0,18	0,18
DE6	DE6 HAMBURG	NA	0,17	0,17
DE7	DE7 HESSEN	NA	0,16	0,16
DE71	DE71 DARMSTADT	NA	0,15	0,15
DE72	DE72 GIEßEN	NA	0,15	0,16

DE73	DE73 KASSEL	NA	0,17	0,18
DE8	DE8 MECKLENBURG-VORPOMMERN	NA	0,12	0,14
DE9	DE9 NIEDERSACHSEN	NA	0,16	0,16
DE91	DE91 BRAUNSCHWEIG	NA	0,17	0,17
DE92	DE92 HANNOVER	NA	0,17	0,17
DE93	DE93 LÜNEBURG	NA	0,16	0,16
DE94	DE94 WESER-EMS	NA	0,14	0,15
DEA	DEA NORDRHEIN-WESTFALEN	NA	0,16	0,16
DEA1	DEA1 DÜSSELDORF	NA	0,16	0,17
DEA2	DEA2 KÖLN	NA	0,15	0,15
DEA3	DEA3 MÜNSTER	NA	0,15	0,16
DEA4	DEA4 DETMOLD	NA	0,16	0,17
DEA5	DEA5 ARNSBERG	NA	0,16	0,17
DEB	DEB RHEINLAND-PFALZ	NA	0,16	0,17
DEB1	DEB1 KOBLENZ	NA	0,17	0,17
DEB2	DEB2 TRIER	NA	0,17	0,17
DEB3	DEB3 RHEINHESSEN-PFALZ	NA	0,16	0,16
DEC	DEC SAARLAND	NA	0,16	0,18
DED	DED SACHSEN	NA	0,17	0,17
DED1	DED1 CHEMNITZ	NA	NA	0,19
DED2	DED2 DRESDEN	NA	NA	0,17
DED3	DED3 LEIPZIG	NA	NA	0,17
DEE	DEE SACHSEN-ANHALT	NA	0,15	0,16
DEE1	DEE1 DESSAU	NA	0,15	0,17
DEE2	DEE2 HALLE	NA	0,15	0,17
DEE3	DEE3 MAGDEBURG	NA	0,15	0,16
DEF	DEF SCHLESWIG-HOLSTEIN	NA	0,16	0,16
DEG	DEG THÜRINGEN	NA	0,15	0,16
GR	**GR GREECE**	NA	0,15	0,17
GR1	GR1 VOREIA ELLADA	NA	0,15	0,17
GR11	GR11 ANATOLIKI MAKEDONIA, THRAKI	NA	0,15	0,17
GR12	GR12 KENTRIKI MAKEDONIA	NA	0,14	0,16
GR13	GR13 DYTIKI MAKEDONIA	NA	0,15	0,17
GR14	GR14 THESSALIA	NA	0,16	0,18
GR2	GR2 KENTRIKI ELLADA	NA	0,17	0,19
GR21	GR21 IPEIROS	NA	0,17	0,19
GR22	GR22 IONIA NISIA	NA	0,19	0,20
GR23	GR23 DYTIKI ELLADA	NA	0,16	0,17
GR24	GR24 STEREA ELLADA	NA	0,16	0,19
GR25	GR25 PELOPONNISOS	NA	0,19	0,21
GR3	GR3 ATTIKI	NA	0,14	0,16
GR4	GR4 NISIA AIGAIOU, KRITI	NA	0,17	0,17
GR41	GR41 VOREIO AIGAIO	NA	0,22	0,23
GR42	GR42 NOTIO AIGAIO	NA	0,14	0,15
GR43	GR43 KRITI	NA	0,16	0,17
EES	**ES SPAIN**	NA	0,15	0,17
ES1	ES1 NOROESTE	NA	0,18	0,19
ES11	ES11 GALICIA	NA	0,18	0,19
ES12	ES12 PRINCIPADO DE ASTURIAS	NA	0,19	0,20
ES13	ES13 CANTABRIA	NA	0,17	0,18
ES2	ES2 NORESTE	NA	0,17	0,18
ES21	ES21 PAIS VASCO	NA	0,15	0,17
ES22	ES22 COMUNIDAD FORAL DE NAVARRA	NA	0,17	0,18
ES23	ES23 LA RIOJA	NA	0,18	0,19

ES24	ES24 ARAGÓN	NA	0,20	0,21
ES3	ES3 COMUNIDAD DE MADRID	NA	0,13	0,15
ES4	ES4 CENTRO (E)	NA	0,18	0,20
ES41	ES41 CASTILLA Y LEÓN	NA	0,20	0,21
ES42	ES42 CASTILLA-LA MANCHA	NA	0,18	0,19
ES43	ES43 EXTREMADURA	NA	0,16	0,18
ES5	ES5 ESTE	NA	0,15	0,17
ES51	ES51 CATALUÑA	NA	0,16	0,17
ES52	ES52 COMUNIDAD VALENCIANA	NA	0,15	0,16
ES53	ES53 BALEARES	NA	0,15	0,15
ES6	ES6 SUR	NA	0,13	0,14
ES61	ES61 ANDALUCIA	NA	0,13	0,14
ES62	ES62 MURCIA	NA	0,13	0,14
ES63	ES63 CEUTA Y MELILLA	NA	0,11	0,12
ES7	ES7 CANARIAS	NA	0,10	0,12
FR	**FR FRANCE (**)**	NA	0,150	NA
FR1	FR1 ÎLE DE FRANCE	NA	0,11	0,15
FR2	FR2 BASSIN PARISIEN	NA	0,15	NA
FR21	FR21 CHAMPAGNE-ARDENNE	NA	0,14	0,16
FR22	FR22 PICARDIE	NA	0,13	0,15
FR23	FR23 HAUTE-NORMANDIE	NA	0,13	0,15
FR24	FR24 CENTRE	NA	0,17	0,18
FR25	FR25 BASSE-NORMANDIE	NA	0,16	0,18
FR26	FR26 BOURGOGNE	NA	0,18	0,19
FR3	FR3 NORD - PAS-DE-CALAIS	NA	0,13	0,15
FR4	FR4 EST	NA	0,14	NA
FR41	FR41 LORRAINE	NA	0,14	0,24
FR42	FR42 ALSACE	NA	0,13	0,14
FR43	FR43 FRANCHE-COMTÉ	NA	0,15	0,16
FR5	FR5 OUEST	NA	0,17	NA
FR51	FR51 PAYS DE LA LOIRE	NA	0,15	0,17
FR52	FR52 BRETAGNE	NA	0,17	0,19
FR53	FR53 POITOU-CHARENTES	NA	0,19	0,21
FR6	FR6 SUD-OUEST	NA	0,19	NA
FR61	FR61 AQUITAINE	NA	0,18	0,20
FR62	FR62 MIDI-PYRÉNÉES	NA	0,18	0,20
FR63	FR63 LIMOUSIN	NA	0,22	0,24
FR7	FR7 CENTRE-EST	NA	0,15	NA
FR71	FR71 RHÔNE-ALPES	NA	0,14	0,16
FR72	FR72 AUVERGNE	NA	0,18	0,20
FR8	FR8 MÉDITERRANÉE	NA	0,18	NA
FR81	FR81 LANGUEDOC-ROUSSILLON	NA	0,18	0,20
FR82	FR82 PROVENCE-ALPES-CÔTE D'AZUR	NA	0,18	0,19
FR83	FR83 CORSE	NA	0,17	0,19
IE	**IE011 IRELAND**	NA	NA	NA
IE01	IE012 BORDER, MIDLANDS AND WESTERN	NA	NA	NA
IE02	IE013 SOUTHERN AND EASTERN	NA	NA	NA
IT	**IT ITALY**	NA	0,16	0,18
IT1	IT1 NORD OVEST	NA	0,20	0,21
IT11	IT11 PIEMONTE	NA	0,19	0,20
IT12	IT12 VALLE D'AOSTA	NA	0,17	0,18
IT13	IT13 LIGURIA	NA	0,23	0,24
IT2	IT2 LOMBARDIA	NA	0,16	0,17
IT3	IT3 NORD EST	NA	0,17	0,18

IT31	IT31 TRENTINO-ALTO ADIGE	NA	0,16	0,16
IT32	IT32 VENETO	NA	0,16	0,18
IT33	IT33 FRIULI-VENEZIA GIULIA	NA	0,20	0,21
IT4	IT4 EMILIA-ROMAGNA	NA	0,21	0,22
IT5	IT5 CENTRO (I)	NA	0,20	0,22
IT51	IT51 TOSCANA	NA	0,21	0,22
IT52	IT52 UMBRIA	NA	0,21	0,22
IT53	IT53 MARCHE	NA	0,20	0,21
IT6	IT6 LAZIO	NA	0,15	0,17
IT7	IT7 ABRUZZO-MOLISE	NA	0,18	0,20
IT71	IT71 ABRUZZO	NA	0,18	0,20
IT72	IT72 MOLISE	NA	0,19	0,20
IT8	IT8 CAMPANIA	NA	0,12	0,13
IT9	IT9 SUD	NA	0,14	0,15
IT91	IT91 PUGLIA	NA	0,13	0,15
IT92	IT92 BASILICATA	NA	0,16	0,17
IT93	IT93 CALABRIA	NA	0,14	0,16
ITA	ITA SICILIA	NA	0,14	0,16
ITB	ITB SARDEGNA	NA	0,13	0,15
LU	**LU LUXEMBOURG**	NA	0,14	0,14
NL	**NL NETHERLANDS**	NA	0,13	0,14
NL1	NL1 NOORD-NEDERLAND	NA	0,14	0,15
NL11	NL11 GRONINGEN	NA	0,14	0,15
NL12	NL12 FRIESLAND	NA	0,14	0,14
NL13	NL13 DRENTHE	NA	0,15	0,15
NL2	NL2 OOST-NEDERLAND	NA	0,13	0,13
NL21	NL21 OVERIJSSEL	NA	0,13	0,14
NL22	NL22 GELDERLAND	NA	0,13	0,14
NL23	NL23 FLEVOLAND	NA	0,09	0,09
NL3	NL3 WEST-NEDERLAND	NA	0,14	0,14
NL31	NL31 UTRECHT	NA	0,12	0,12
NL32	NL32 NOORD-HOLLAND	NA	0,13	0,13
NL33	NL33 ZUID-HOLLAND	NA	0,14	0,14
NL34	NL34 ZEELAND	NA	0,16	0,16
NL4	NL4 ZUID-NEDERLAND	NA	0,12	0,13
NL41	NL41 NOORD-BRABANT	NA	0,12	0,13
NL42	NL42 LIMBURG (NL)	NA	0,13	0,14
AT	**AT AUSTRIA**	NA	0,15	0,15
AT1	AT10 OSTÖSTERREICH	NA	0,16	0,16
AT11	AT11 BURGENLAND	NA	0,17	0,18
AT12	AT12 NIEDERÖSTERREICH	NA	0,16	0,16
AT13	AT13 WIEN	NA	0,17	0,16
AT2	AT20 SUDÖSTERREICH	NA	0,16	0,16
AT21	AT21 KÄRNTEN	NA	0,15	0,16
AT22	AT22 STEIERMARK	NA	0,16	0,16
AT3	AT30 WESTÖSTERREICH	NA	0,13	0,14
AT31	AT31 OBERÖSTERREICH	NA	0,14	0,15
AT32	AT32 SALZBURG	NA	0,13	0,13
AT33	AT33 TIROL	NA	0,13	0,13
AT34	AT34 VORARLBERG	NA	0,11	0,12
PT	**PT PORTUGAL**	NA	0,15	0,16
PT1	PT1 PORTUGAL (CONTINENT)	NA	0,15	0,16
PT11	PT11 NORTE	NA	0,12	0,13
PT12	PT12 CENTRO (P)	NA	0,18	0,19

PT13	PT13 LISBOA E VALE DO TEJO	NA	0,15	0,16
PT14	PT14 ALENTEJO	NA	0,21	0,23
PT15	PT15 ALGARVE	NA	0,18	0,19
PT2	PT2 AÇORES (PT)	NA	0,11	0,12
PT3	PT3 MADEIRA (PT)	NA	0,11	0,13
FI	**FI FINLAND**	0,13	0,14	0,15
FI1	FI1 MANNER-SUOMI	0,13	0,14	0,15
FI13	FI13 ITÄ-SUOMI	0,14	0,15	0,17
FI14	FI14 VÄLI-SUOMI	0,14	0,15	0,16
FI15	FI15 POHJOIS-SUOMI	0,11	0,12	0,13
FI11	FI16 UUSIMAA (SUURALUE)	0,11	0,11	0,12
FI12	FI17 ETELÄ-SUOMI	0,15	0,16	0,16
FI2	FI2 ÅLAND	0,17	0,16	0,16
SE	**SE SWEDEN**	0,18	0,17	0,17
SE01	SE01 STOCKHOLM	0,16	0,15	0,15
SE02	SE02 ÖSTRA MELLANSVERIGE	0,18	0,17	0,17
SE04	SE04 SYDSVERIGE	0,19	0,18	0,18
SE06	SE06 NORRA MELLANSVERIGE	0,20	0,19	0,20
SE07	SE07 MELLERSTA NORRLAND	0,21	0,20	0,20
SE08	SE08 ÖVRE NORRLAND	0,17	0,16	0,17
SE09	SE09 SMÅLAND MED ÖARNA	0,19	0,19	0,19
SE0A	SE0A VÄSTSVERIGE	0,18	0,18	0,17
UK	**UK UNITED KINGDOM**	NA	0,16	0,16
UKC	UKC NORTH EAST	NA	0,16	0,16
UKC1	UKC1 TEES VALLEY AND DURHAM	NA	0,15	0,16
UKC2	UKC2 NORTHUMBERLAND, TYNE AND WEAR	NA	0,16	0,17
UKD	UKD NORTH WEST (INCLUDING MERSEYSIDE)	NA	0,16	0,16
UKD1	UKD1 CUMBRIA	NA	0,18	0,18
UKD2	UKD2 CHESHIRE	NA	0,15	0,15
UKD3	UKD3 GREATER MANCHESTER	NA	0,15	0,15
UKD4	UKD4 LANCASHIRE	NA	0,17	0,16
UKD5	UKD5 MERSEYSIDE	NA	0,16	0,16
UKE	UKE YORKSHIRE AND THE HUMBER	NA	0,16	0,16
UKE1	UKE1 EAST RIDING AND NORTH LINCOLNSHIRE	NA	0,16	0,17
UKE2	UKE2 NORTH YORKSHIRE	NA	0,18	0,18
UKE3	UKE3 SOUTH YORKSHIRE	NA	0,16	0,16
UKE4	UKE4 WEST YORKSHIRE	NA	0,15	0,15
UKF	UKF EAST MIDLANDS	NA	0,16	0,16
UKF1	UKF1 DERBYSHIRE AND NOTTINGHAMSHIRE	NA	0,16	0,16
UKF2	UKF2 LEICESTERSHIRE, RUTLAND AND NORTHANTS	NA	0,15	0,15
UKF3	UKF3 LINCOLNSHIRE	NA	0,19	0,19
UKG	UKG WEST MIDLANDS	NA	0,15	0,16
UKG1	UKG1 HEREFORDSHIRE, WORCESTERSHIRE AND WARKS	NA	0,16	0,17
UKG2	UKG2 SHROPSHIRE AND STAFFORDSHIRE	NA	0,15	0,16
UKG3	UKG3 WEST MIDLANDS	NA	0,15	0,15
UKH	UKH EASTERN	NA	0,16	0,16
UKH1	UKH1 EAST ANGLIA	NA	0,17	0,17
UKH2	UKH2 BEDFORDSHIRE, HERTFORDSHIRE	NA	0,14	0,14
UKH3	UKH3 ESSEX	NA	0,16	0,16
UKI	UKI LONDON	NA	NA	0,13
UKI1	UKI1 INNER LONDON	NA	NA	0,11
UKI2	UKI2 OUTER LONDON	NA	NA	0,14
UKJ	UKJ SOUTH EAST	NA	0,16	0,16
UKJ1	UKJ1 BERKSHIRE, BUCKS AND OXFORDSHIRE	NA	0,13	0,13

UKJ2	UKJ2 SURREY, EAST AND WEST SUSSEX	NA	0,19	0,18
UKJ3	UKJ3 HAMPSHIRE AND ISLE OF WIGHT	NA	0,16	0,16
UKJ4	UKJ4 KENT	NA	0,17	0,16
UKK	UKK SOUTH WEST	NA	0,19	0,18
UKK1	UKK1 GLOUCESTERSHIRE, WILTSHIRE AND NORTH SOMERSET	NA	0,16	0,16
UKK2	UKK2 DORSET AND SOMERSET	NA	0,21	0,21
UKK3	UKK3 CORNWALL AND ISLES OF SCILLY	NA	NA	0,20
UKK4	UKK4 DEVON	NA	NA	0,20
UKL	UKL WALES	NA	0,17	0,17
UKL1	UKL1 WEST WALES AND THE VALLEYS	NA	NA	0,1794
UKL2	UKL2 EAST WALES	NA	NA	0,1611
UKM	UKM SCOTLAND	NA	0,15	0,15
UKM1	UKM1 NORTH EASTERN SCOTLAND	NA	0,14	0,14
UKM2	UKM2 EASTERN SCOTLAND	NA	0,16	0,16
UKM3	UKM3 SOUTH WESTERN SCOTLAND	NA	0,15	0,15
UKM4	UKM4 HIGHLANDS AND ISLANDS	NA	0,16	0,16
UKN	UKN NORTHERN IRELAND	NA	0,13	0,13
BG	**BULGARIA**	NA	0,15	0,16
BG01	SEVEROZAPADEN	NA	0,20	0,21
BG011	VIDIN	NA	0,23	0,23
BG012	MONTANA	NA	0,21	0,22
BG013	VRATSA	NA	0,19	0,19
BG02	SEVEREN TSENTRALEN	NA	0,18	0,18
BG021	PLEVEN	NA	0,18	0,19
BG022	LOVECH	NA	0,20	0,20
BG023	VELIKO TARNOVO	NA	0,17	0,18
BG024	GABROVO	NA	0,18	0,19
BG025	RUSE	NA	0,15	0,17
BG03	SEVEROIZTOCHEN	NA	0,13	0,14
BG031	VARNA	NA	0,13	0,14
BG032	DOBRICH	NA	0,13	0,14
BG033	SHUMEN	NA	0,14	0,14
BG034	TURGOVISHTE	NA	0,15	0,16
BG035	RAZGRAD	NA	0,13	0,14
BG036	SILISTRA	NA	0,13	0,14
BG04	YUGOZAPADEN	NA	0,14	0,15
BG041	SOFIA STOLITSA (CAPITAL)	NA	0,14	0,15
BG042	SOFIA	NA	0,17	0,19
BG043	BLAGOEVGRAD	NA	0,11	0,12
BG044	PERNIK	NA	0,17	0,18
BG045	KYUSTENDIL	NA	0,18	0,19
BG05	YUZHEN TSENTRALEN	NA	0,14	0,15
BG051	PLOVDIV	NA	0,14	0,16
BG052	STARA ZAGORA	NA	0,15	0,16
BG053	HASKOVO	NA	0,16	0,18
BG054	PAZARDZHIK	NA	0,13	0,14
BG055	SMOLYAN	NA	0,10	0,12
BG056	KARDZHALI	NA	0,09	0,11
BG06	YUGOIZTOCHEN	NA	0,13	0,15
BG061	BURGAS	NA	0,13	0,14
BG062	SLIVEN	NA	0,13	0,14
BG063	YAMBOL	NA	0,16	0,18
CY	**CYPRUS (*)**	NA	NA	0,12
CZ	**CZECH REPUBLIC**	0,12	0,13	0,14

CZ01	PRAHA	0,15	0,16	0,16
CZ02	STREDNÍ CECHY	0,13	0,14	0,14
CZ03	JIHOZÁPAD	NA	0,13	0,14
CZ031	JIHOCECKÝ	NA	0,13	0,13
CZ032	PLZENSKÝ	NA	0,13	0,14
CZ04	SEVEROZÁPAD	NA	0,11	0,12
CZ041	KARLOVARSKÝ	NA	0,11	0,12
CZ042	ÚSTECKÝ	NA	0,12	0,12
CZ05	SEVEROVÝCHOD	NA	0,13	0,14
CZ051	LIBERECKÝ	NA	0,12	0,13
CZ052	KRÁLOVEHRADECKÝ	NA	0,14	0,14
CZ053	PARDUBICKÝ	NA	0,13	0,14
CZ06	JIHOVÝCHOD	NA	0,13	0,14
CZ061	VYSOCINA	NA	0,13	0,14
CZ062	JIHOMORAVSKÝ	NA	0,14	0,14
CZ07	STREDNÍ MORAVA	NA	0,13	0,13
CZ071	OLOMOUCKÝ	NA	0,13	0,13
CZ072	ZLÍNSKÝ	NA	0,13	0,13
CZ08	MORAVSKOSLEZKO	NA	0,11	0,12
EE	**ESTONIA**	0,12	0,13	0,15
EE001	PÕHJA-EESTI	0,10	0,12	0,13
EE004	LÄÄNE-EESTI	0,13	0,14	0,16
EE002	KESK-EESTI	0,13	0,14	0,15
EE003	KIRDE-EESTI	0,10	0,13	0,15
EE005	LÕUNA-EESTI	0,14	0,15	0,16
HU	**HUNGARY**	0,13	0,14	0,15
HU01	KÖZÉP-MAGYARORSZÁG	0,15	0,15	0,15
HU011	BUDAPEST	NA	NA	0,17
HU012	PEST	NA	NA	0,13
HU02	KÖZÉP-DUNÁNTÚL	0,11	0,12	0,13
HU021	FEJÉR	NA	NA	0,13
HU022	KOMÁROM-ESZTERGOM	NA	NA	0,13
HU023	VESZPRÉM	NA	NA	0,13
HU03	NYUGAT-DUNÁNTÚL	0,13	0,14	0,15
HU031	GYOR-MOSON-SOPRON	NA	NA	0,14
HU032	VAS	NA	NA	0,15
HU033	ZALA	NA	NA	0,15
HU04	DÉL-DUNÁNTÚL	0,13	0,14	0,15
HU041	BARANYA	NA	NA	0,14
HU042	SOMOGY	NA	NA	0,15
HU043	TOLNA	NA	NA	0,15
HU05	ÉSZAK-MAGYARORSZÁG	0,13	0,14	0,15
HU051	BORSOD-ABAÚJ-ZEMPLÉN	NA	NA	0,14
HU052	HEVES	NA	NA	0,16
HU053	NÓGRÁD	NA	NA	0,15
HU06	ÉSZAK-ALFÖLD	0,12	0,13	0,13
HU061	HAJDÚ-BIHAR	NA	NA	0,13
HU062	JÁSZ-NAGYKUN-SZOLNOK	NA	NA	0,15
HU063	SZABOLCS-SZATMÁR-BEREG	NA	NA	0,13
HU07	DÉL-ALFÖLD	0,14	0,15	0,15
HU071	BÁCS-KISKUN	NA	NA	0,15
HU072	BÉKÉS	NA	NA	0,16
HU073	CSONGRÁD	NA	NA	0,15
LT	**LITHUANIA**	NA	0,12	0,13

LT001	ALYTAUS (APSKRITIS)	NA	0,13	0,15
LT002	KAUNO (APSKRITIS)	NA	0,12	0,13
LT003	KLAIPEDOS (APSKRITIS)	NA	0,10	0,12
LT004	MARIJAMPOLES (APSKRITIS)	NA	0,13	0,15
LT005	PANEVEZIO (APSKRITIS)	NA	0,14	0,14
LT006	SIAULIU (APSKRITIS)	NA	0,12	0,13
LT007	TAURAGES (APSKRITIS)	NA	0,13	0,14
LT008	TELSIU (APSKRITIS)	NA	0,12	0,13
LT009	UTENOS (APSKRITIS)	NA	0,15	0,16
LT00A	VILNIAUS (APSKRITIS)	NA	0,10	0,12
LV	**LATVIA**	0,13	0,13	0,14
LV001	RIGA	NA	0,13	0,15
LV002	VIDZEME	NA	0,14	0,15
LV003	KURZEME	NA	0,13	0,14
LV004	ZEMGALE	NA	0,12	0,13
LV005	LATGALE	NA	0,15	0,16
MT	**MALTA**	NA	0,11	NA
PL	**POLAND**	0,09	0,11	0,12
PL01	DOLNOSLASKIE	0,10	0,11	0,11
PL02	KUJAWSKO-POMORSKIE	0,12	0,13	0,13
PL03	LUBELSKIE	0,09	0,10	0,11
PL04	LUBUSKIE	0,13	0,14	0,14
PL05	LÓDZKIE	0,10	0,11	0,12
PL06	MALOPOLSKIE	0,12	0,13	0,14
PL07	MAZOWIECKIE	0,09	0,10	0,11
PL08	OPOLSKIE	0,10	0,11	0,12
PL09	PODKARPACKIE	0,11	0,12	0,13
PL0A	PODLASKIE	0,09	0,10	0,10
PL0B	POMORSKIE	0,09	0,10	0,11
PL0C	SLASKIE	0,12	0,13	0,14
PL0D	SWIETOKRZYSKIE	0,08	0,09	0,10
PL0E	WARMINSKO-MAZURSKIE	0,10	0,11	0,11
PL0F	WIELKOPOLSKIE	0,08	0,10	0,11
PL0G	ZACHODNIOPOMORSKIE	0,08	0,10	0,11
RO	**RO ROMANIA**	0,10	0,12	0,13
RO01	RO01 NORD-EST	0,09	0,11	0,12
RO011	RO011 BACAU	NA	NA	0,11
RO012	RO012 BOTOSANI	NA	NA	0,15
RO013	RO013 IASI	NA	NA	0,11
RO014	RO014 NEAMT	NA	NA	0,12
RO015	RO015 SUCEAVA	NA	NA	0,13
RO016	RO016 VASLUI	NA	NA	0,13
RO02	RO02 SUD-EST	0,09	0,11	0,12
RO021	RO021 BRAILA	NA	NA	0,14
RO022	RO022 BUZAU	NA	NA	0,16
RO023	RO023 CONSTANTA	NA	NA	0,09
RO024	RO024 GALATI	NA	NA	0,11
RO025	RO025 TULCEA	NA	NA	0,11
RO026	RO026 VRANCEA	NA	NA	0,15
RO03	RO03 SUD	0,11	0,13	0,14
RO031	RO031 ARGES	NA	NA	0,12
RO032	RO032 CALARASI	NA	NA	0,15
RO033	RO033 DÂMBOVITA	NA	NA	0,13
RO034	RO034 GIURGIU	NA	NA	0,18

RO035	RO035 IALOMITA	NA	NA	0,14
RO036	RO036 PRAHOVA	NA	NA	0,13
RO037	RO037 TELEORMAN	NA	NA	0,19
RO04	RO04 SUD-VEST	0,11	0,13	0,14
RO041	RO041 DOLJ	NA	NA	0,15
RO042	RO042 GORJ	NA	NA	0,12
RO043	RO043 MEHEDINTI	NA	NA	0,15
RO044	RO044 OLT	NA	NA	0,14
RO045	RO045 VÂLCEA	NA	NA	0,14
RO05	RO05 VEST	0,11	0,12	0,13
RO051	RO051 ARAD	NA	NA	0,15
RO052	RO052 CARAS-SEVERIN	NA	NA	0,13
RO053	RO053 HUNEDOARA	NA	NA	0,11
RO054	RO054 TIMIS	NA	NA	0,13
RO06	RO06 NORD-VEST	0,10	0,11	0,12
RO061	RO061 BIHOR	NA	NA	0,13
RO062	RO062 BISTRITA-NASAUD	NA	NA	0,12
RO063	RO063 CLUJ	NA	NA	0,13
RO064	RO064 MARAMURES	NA	NA	0,10
RO065	RO065 SATU MARE	NA	NA	0,11
RO066	RO066 SALAJ	NA	NA	0,14
RO07	RO07 CENTRU	0,10	0,11	0,12
RO071	RO071 ALBA	NA	NA	0,13
RO072	RO072 BRASOV	NA	NA	0,10
RO073	RO073 COVASNA	NA	NA	0,12
RO074	RO074 HARGHITA	NA	NA	0,12
RO075	RO075 MURES	NA	NA	0,14
RO076	RO076 SIBIU	NA	NA	0,11
RO08	RO08 BUCURESTI	0,11	0,12	0,13
RO081	RO081 BUCURESTI (CAPITAL)	NA	NA	0,13
RO082	RO082 ILFOV	NA	NA	0,14
SI	**SLOVENIA**	0,11	0,12	0,14
SI001	POMURSKA	0,13	0,14	0,15
SI002	PODRAVSKA	0,10	0,12	0,14
SI003	KOROSKA	0,09	0,10	0,12
SI004	SAVINJSKA	0,10	0,11	0,13
SI005	ZASAVSKA	0,11	0,13	0,15
SI006	SPODNJEPOSAVSKA	0,12	0,13	0,15
SI009	GORENJSKA	0,10	0,11	0,13
SI00A	NOTRANJSKO-KRASKA	0,13	0,14	0,15
SI00B	GORISKA	0,13	0,14	0,16
SI00C	OBALNO-KRASKA	0,11	0,13	0,15
SI00D	JUGOVZHODNA SLOVENIJA	0,10	0,11	0,13
SI00E	OSREDNJESLOVENSKA	0,10	0,12	0,13
SK	**SLOVAK REPUBLIC**	0,10	0,11	0,11
SK01	BRATISLAVSKÝ	NA	NA	0,12
SK02	ZÁPADNÉ SLOVENSKO	NA	NA	0,12
SK021	TRNAVSKÝ KRAJ	NA	NA	0,11
SK022	TRENCIANSKÝ KRAJ	NA	NA	0,12
SK023	NITRIANSKÝ KRAJ	NA	NA	0,13
SK03	STREDNÉ SLOVENSKO	NA	NA	0,11
SK031	ZILINSKÝ KRAJ	NA	NA	0,11
SK032	BANSKOBYSTRICKÝ KRAJ	NA	NA	0,12
SK04	VÝCHODNÉ SLOVENSKO	NA	NA	0,10

SK041	PRESOVSKÝ KRAJ	NA	NA	0,10
SK042	KOSICKÝ KRAJ	NA	NA	0,11
NO	**NORWAY**	NA	NA	NA
N001	NO01 ØSTFOLD	0,16	0,17	0,17
N002	NO02 AKERSHUS	0,12	0,13	0,13
N003	NO03 OSLO	0,20	0,17	0,15
N004	NO04 HEDMARK	0,19	0,20	0,19
N005	NO05 OPPLAND	0,19	0,19	0,18
N006	NO06 BUSKERUD	0,17	0,17	0,16
N007	NO07 VESTFOLD	0,17	0,17	0,16
N008	NO08 TELEMARK	0,19	0,18	0,18
N009	NO09 AUST-AGDER	0,17	0,16	0,15
N010	NO10 VEST-AGDER	0,15	0,15	0,15
N011	NO11 ROGALAND	0,14	0,13	0,13
N012	NO12 HORDALAND	0,16	0,15	0,15
N014	NO14 SOGN OG FJORDANE	0,18	0,17	0,17
N015	NO15 MØRE OG ROMSDAL	0,17	0,17	0,17
N016	NO16 SØR-TRØNDELAG	0,16	0,16	0,15
N017	NO17 NORD-TRØNDELAG	0,17	0,17	0,17
N018	NO18 NORDLAND	0,17	0,16	0,16
N019	NO19 TROMS	0,14	0,14	0,10
N020	NO20 FINNMARK	0,12	0,12	0,13
CH	**SCHWEIZ / SUISSE (***)**	NA	0,15	0,15
CH	ZÜRICH	NA	0,15	0,15
CH	BERN	NA	0,17	0,17
CH	LUZERN	NA	0,14	0,19
CH	URI	NA	0,15	0,15
CH	SCHWYZ	NA	0,12	0,13
CH	OBWALDEN	NA	0,14	0,14
CH	NIDWALDEN	NA	0,12	0,13
CH	GLARUS	NA	0,16	0,16
CH	ZUG	NA	0,12	0,12
CH	FRIBOURG	NA	0,13	0,13
CH	SOLOTHURN	NA	0,16	0,16
CH	BASEL-STADT	NA	0,21	0,21
CH	BASEL-LANDSCHAFT	NA	0,15	0,16
CH	SCHAFFHAUSEN	NA	0,17	0,18
CH	APPENZELL A.RH.	NA	0,16	0,16
CH	APPENZELL I.RH.	NA	0,15	0,16
CH	ST.GALLEN	NA	0,14	0,14
CH	GRAUBÜNDEN	NA	0,15	0,15
CH	AARGAU	NA	0,13	0,13
CH	THURGAU	NA	0,14	0,14
CH	TICINO	NA	0,17	0,18
CH	VAUD	NA	0,16	0,16
CH	VALAIS	NA	0,13	0,15
CH	NEUCHÂTEL	NA	0,17	0,17
CH	GENÈVE	NA	0,14	0,15
CH	JURA	NA	0,16	0,16

(*) Data for 2001
(**) Without overseas departments
(***) Data for 2000

Table 9. Regions with a high share (18% or more) of the population in the ages 65+ year 1999. Six typologies with regard to total and natural population development and net-migration 1996-1999

Six typologies:

1	BT>0	BM>0	BN>0
2	BT>0	BM>0	BN<0
3	BT>0	BM<0	BN>0
4	BT<0	BM<0	BN<0
5	BT<0	BM>0	BN<0
6	BT<0	BM<0	BN>0

BT=Total population development
BM=Net migration
BN=Natural population development

NUTS	REGION					Typology
IT13	IT13 LIGURIA	0,24	-4,99	-6,70	1,71	5
FR21	FR41 LORRAINE	0,24	-0,60	2,88	-3,48	6
FR42	FR63 LIMOUSIN	0,24	-2,32	-3,27	0,95	5
GR4	GR41 VOREIO AIGAIO	0,23	-3,35	-4,35	1,00	5
PT14	PT14 ALENTEJO	0,23	-8,80	-6,06	-2,74	4
IT52	IT52 UMBRIA	0,22	2,85	-3,57	6,42	2
IT4	IT4 EMILIA-ROMAGNA	0,22	2,93	-4,08	7,00	2
IT51	IT51 TOSCANA	0,22	0,56	-4,24	4,79	2
ES3	ES41 CASTILLA Y LEÓN	0,21	-2,71	-2,86	0,15	5
BG01	SEVEROZAPADEN	0,21	-11,81	-11,31	-0,49	4
ES23	ES24 ARAGÓN	0,21	-2,04	-2,86	0,82	5
GR25	GR25 PELOPONNISOS	0,21	0,94	-3,08	4,03	2
IT33	IT33 FRIULI-VENEZIA GIULIA	0,21	-1,25	-5,01	3,75	5
UKK2	HAMPSHIRE	0,21	5,37	1,85	3,52	1
FR26	FR53 POITOU-CHARENTES	0,21	3,07	0,51	2,56	1
ES12	ES12 PRINCIPADO DE ASTURIAS	0,20	-5,10	-5,16	0,06	5
GR22	GR22 IONIA NISIA	0,20	7,03	-1,99	9,02	2
IT71	IT72 MOLISE	0,20	-2,52	-2,22	-0,30	4
FR52	FR81 LANGUEDOC-ROUSSILLON	0,20	10,43	-1,09	11,52	2
IT11	IT11 PIEMONTE	0,20	-0,29	-3,49	3,21	5
FR51	FR72 AUVERGNE	0,20	0,01	-2,42	2,42	2
FR41	FR62 MIDI-PYRÉNÉES	0,20	5,51	0,11	5,40	1
SE07	MELLERSTA NORRLAND	0,20	-8,42	-3,85	-4,57	4
FR3	FR61 AQUITAINE	0,20	4,31	0,06	4,25	1
SE06	NORRA MELLANSVERIGE	0,20	-6,99	-3,10	-3,89	4
IT6	IT71 ABRUZZO	0,20	1,79	-0,81	2,60	2
FR61	FR83 CORSE	0,19	1,29	0,13	1,16	1
FR26	FR26 BOURGOGNE	0,19	-0,55	0,21	-0,76	6
ES11	ES11 GALICIA	0,19	-1,30	-3,64	2,34	5
PT12	PT12 CENTRO (P)	0,19	-0,29	-1,99	1,70	5
N004	FINNMARK	0,19	-10,59	6,93	-17,52	6
FR53	FR82 PROVENCE-ALPES-CÔTE D'AZUR	0,19	5,22	1,44	3,78	1
ES22	ES23 LA RIOJA	0,19	-1,86	-1,41	-0,45	4
GR21	GR21 IPEIROS	0,19	5,98	-2,07	8,04	2
ES4	ES42 CASTILLA-LA MANCHA	0,19	3,94	0,00	3,94	1
UKF3	LINCOLNSHIRE	0,19	6,46	-1,20	7,66	2
SE09	SMALAND MED ÍAMA	0,19	-3,49	-1,44	-2,05	4

PT15	PT15 ALGARVE	0,19	3,08	-2,21	5,29	2
GR24	GR24 STEREA ELLADA	0,19	2,36	-1,96	4,33	2
FR25	FR52 BRETAGNE	0,19	5,96	1,45	4,51	1
N005	HEDMARK	0,18	0,13	-2,04	2,18	2
ES63	FR24 CENTRE	0,18	2,47	2,05	0,42	1
BG02	SEVEREN TSENTRALEN	0,18	-9,55	-9,24	-0,32	4
UKJ2	SURREY	0,18	7,43	1,94	5,48	1
	WEST SUSSEX	0,18	9,76	-1,48	11,23	2
IT12	IT12 VALLE D'AOSTA	0,18	3,35	-1,95	5,30	2
DK007	DK007 BORNHOLMS AMT	0,18	-4,45	-3,71	-0,74	4
ES13	ES13 CANTABRIA	0,18	-0,19	-2,60	2,41	5
SE04	SYDSVERIGE	0,18	2,15	-0,85	3,01	2

Table A10. Dependency rates 1995 and 1999**.**Total population/population 20-64 years.

		1995	1999
BE	**BE BELGIUM**	1,66	1,68
BE1	BE1 RÉGION BXL-CAPITALE	1,68	1,68
BE2	BE2 VLAAMS GEWEST	1,64	1,66
BE21	BE21 ANTWERPEN	1,65	1,67
BE22	BE22 LIMBURG	1,60	1,61
BE23	BE23 OOST-VLAANDERERN	1,64	1,65
BE24	BE24 VLAAMS BRABANT	1,63	1,66
BE25	BE25 WEST-VLAANDEREN	1,68	1,70
BE3	BE3 RÉGION WALLONNE	1,70	1,71
BE31	BE31 BRABANT WALLON	1,67	1,69
BE32	BE32 HAINAUT	1,70	1,71
BE33	BE33 LIÈGE	1,68	1,70
BE34	BE34 LUXEMBOURG (BE)	1,75	1,76
BE35	BE35 NAMUR	1,71	1,72
DK	**DK DENMARK**	1,64	1,63
DK001	DK001 KØBENHAVN OG FREDERIKSBERG	1,52	1,47
DK002	DK002 KØBENHAVNS AMT	1,63	1,65
DK003	DK003 FREDERIKSBORG AMT	1,60	1,62
DK004	DK004 ROSKILDE AMT	1,55	1,57
DK005	DK005 VESTSJÆLLANDS AMT	1,67	1,66
DK006	DK006 STORSTRØMS AMT	1,70	1,68
DK007	DK007 BORNHOLMS AMT	1,75	1,73
DK008	DK008 FYNS AMT	1,66	1,65
DK009	DK009 SØNDERJYLLANDS AMT	1,70	1,69
DK00A	DK00A RIBE AMT	1,69	1,68
DK00B	DK00B VEJLE AMT	1,67	1,65
DK00C	DK00C RINGKØBING AMT	1,70	1,68
DK00D	DK00DE ÅRHUS AMT	1,61	1,59
DK00E	DK00 VIBORG AMT	1,74	1,72
DK00F	DK00F NORDJYLLANDS AMT	1,68	1,66
DE	**DE GERMANY (INCLUDING EX-GDR FROM 1991)**	1,58	1,60
DE1	DE1 BADEN-WÜRTTEMBERG	1,58	1,60
DE11	DE11 STUTTGART	1,57	1,59
DE12	DE12 KARLSRUHE	1,56	1,58
DE13	DE13 FREIBURG	1,60	1,62
DE14	DE14 TÜBINGEN	1,60	1,63
DE2	DE2 BAYERN	1,58	1,60
DE21	DE21 OBERBAYERN	1,53	1,56
DE22	DE22 NIEDERBAYERN	1,62	1,63
DE23	DE23 OBERPFALZ	1,61	1,63
DE24	DE24 OBERFRANKEN	1,62	1,64
DE25	DE25 MITTELFRANKEN	1,58	1,60
DE26	DE26 UNTERFRANKEN	1,62	1,64
DE27	DE27 SCHWABEN	1,62	1,64
DE3	DE3 BERLIN	1,51	1,50
DE4	DE4 BRANDENBURG	1,59	1,57
DE5	DE5 BREMEN	1,56	1,58
DE6	DE6 HAMBURG	1,54	1,53
DE7	DE7 HESSEN	1,56	1,58

DE71	DE71 DARMSTADT	1,53	1,55
DE72	DE72 GIEßEN	1,59	1,61
DE73	DE73 KASSEL	1,63	1,64
DE8	DE8 MECKLENBURG-VORPOMMERN	1,61	1,59
DE9	DE9 NIEDERSACHSEN	1,60	1,62
DE91	DE91 BRAUNSCHWEIG	1,59	1,61
DE92	DE92 HANNOVER	1,58	1,60
DE93	DE93 LÜNEBURG	1,60	1,62
DE94	DE94 WESER-EMS	1,62	1,64
DEA	DEA NORDRHEIN-WESTFALEN	1,58	1,61
DEA1	DEA1 DÜSSELDORF	1,57	1,60
DEA2	DEA2 KÖLN	1,55	1,58
DEA3	DEA3 MÜNSTER	1,61	1,63
DEA4	DEA4 DETMOLD	1,64	1,66
DEA5	DEA5 ARNSBERG	1,60	1,62
DEB	DEB RHEINLAND-PFALZ	1,61	1,63
DEB1	DEB1 KOBLENZ	1,63	1,66
DEB2	DEB2 TRIER	1,64	1,66
DEB3	DEB3 RHEINHESSEN-PFALZ	1,58	1,60
DEC	DEC SAARLAND	1,58	1,61
DED	DED SACHSEN	1,63	1,61
DED1	DED1 CHEMNITZ	NA	1,62
DED2	DED2 DRESDEN	NA	1,61
DED3	DED3 LEIPZIG	NA	1,58
DEE	DEE SACHSEN-ANHALT	1,61	1,59
DEE1	DEE1 DESSAU	1,61	1,59
DEE2	DEE2 HALLE	1,61	1,59
DEE3	DEE3 MAGDEBURG	1,61	1,59
DEF	DEF SCHLESWIG-HOLSTEIN	1,57	1,59
DEG	DEG THÜRINGEN	1,61	1,59
GR	**GR GREECE**	1,66	1,64
GR1	GR1 VOREIA ELLADA	1,65	1,64
GR11	GR11 ANATOLIKI MAKEDONIA, THRAKI	1,67	1,68
GR12	GR12 KENTRIKI MAKEDONIA	1,61	1,61
GR13	GR13 DYTIKI MAKEDONIA	1,69	1,69
GR14	GR14 THESSALIA	1,70	1,68
GR2	GR2 KENTRIKI ELLADA	1,71	1,68
GR21	GR21 IPEIROS	1,69	1,66
GR22	GR22 IONIA NISIA	1,75	1,73
GR23	GR23 DYTIKI ELLADA	1,73	1,68
GR24	GR24 STEREA ELLADA	1,67	1,64
GR25	GR25 PELOPONNISOS	1,72	1,70
GR3	GR3 ATTIKI	1,62	1,60
GR4	GR4 NISIA AIGAIOU, KRITI	1,75	1,72
GR41	GR41 VOREIO AIGAIO	1,84	1,83
GR42	GR42 NOTIO AIGAIO	1,69	1,66
GR43	GR43 KRITI	1,75	1,71
EES	**ES SPAIN**	1,67	1,63
ES1	ES1 NOROESTE	1,68	1,63
ES11	ES11 GALICIA	1,69	1,64
ES12	ES12 PRINCIPADO DE ASTURIAS	1,65	1,61
ES13	ES13 CANTABRIA	1,67	1,62
ES2	ES2 NORESTE	1,62	1,59
ES21	ES21 PAIS VASCO	1,57	1,54

ES22	ES22 COMUNIDAD FORAL DE NAVARRA	1,64	1,61
ES23	ES23 LA RIOJA	1,68	1,64
ES24	ES24 ARAGÓN	1,69	1,66
ES3	ES3 COMUNIDAD DE MADRID	1,61	1,57
ES4	ES4 CENTRO (E)	1,73	1,70
ES41	ES41 CASTILLA Y LEÓN	1,70	1,67
ES42	ES42 CASTILLA-LA MANCHA	1,77	1,73
ES43	ES43 EXTREMADURA	1,76	1,72
ES5	ES5 ESTE	1,65	1,61
ES51	ES51 CATALUÑA	1,64	1,60
ES52	ES52 COMUNIDAD VALENCIANA	1,68	1,62
ES53	ES53 BALEARES	1,67	1,63
ES6	ES6 SUR	1,72	1,66
ES61	ES61 ANDALUCIA	1,72	1,66
ES62	ES62 MURCIA	1,72	1,67
ES63	ES63 CEUTA Y MELILLA	1,75	1,71
ES7	ES7 CANARIAS	1,63	1,58
FR	**FR FRANCE (**)**	1,70	NA
FR1	FR1 ÎLE DE FRANCE	1,61	1,61
FR2	FR2 BASSIN PARISIEN	1,73	NA
FR21	FR21 CHAMPAGNE-ARDENNE	1,71	1,71
FR22	FR22 PICARDIE	1,72	1,72
FR23	FR23 HAUTE-NORMANDIE	1,72	1,72
FR24	FR24 CENTRE	1,74	1,74
FR25	FR25 BASSE-NORMANDIE	1,75	1,76
FR26	FR26 BOURGOGNE	1,74	1,75
FR3	FR3 NORD - PAS-DE-CALAIS	1,76	1,05
FR4	FR4 EST	1,68	NA
FR41	FR41 LORRAINE	1,69	1,77
FR42	FR42 ALSACE	1,65	1,64
FR43	FR43 FRANCHE-COMTÉ	1,71	1,71
FR5	FR5 OUEST	1,75	NA
FR51	FR51 PAYS DE LA LOIRE	1,75	1,74
FR52	FR52 BRETAGNE	1,74	1,75
FR53	FR53 POITOU-CHARENTES	1,75	1,76
FR6	FR6 SUD-OUEST	1,71	NA
FR61	FR61 AQUITAINE	1,71	1,73
FR62	FR62 MIDI-PYRÉNÉES	1,70	1,72
FR63	FR63 LIMOUSIN	1,75	1,77
FR7	FR7 CENTRE-EST	1,69	NA
FR71	FR71 RHÔNE-ALPES	1,68	1,69
FR72	FR72 AUVERGNE	1,71	1,72
FR8	FR8 MÉDITERRANÉE	1,73	NA
FR81	FR81 LANGUEDOC-ROUSSILLON	1,74	1,75
FR82	FR82 PROVENCE-ALPES-CÔTE D'AZUR	1,72	1,74
FR83	FR83 CORSE	1,69	1,71
IE	**IE011 IRELAND**	NA	NA
IE01	IE012 BORDER, MIDLANDS AND WESTERN	NA	NA
IE02	IE013 SOUTHERN AND EASTERN	NA	NA
IT	**IT ITALY**	1,61	1,60
IT1	IT1 NORD OVEST	1,58	1,59
IT11	IT11 PIEMONTE	1,57	1,57
IT12	IT12 VALLE D'AOSTA	1,54	1,54
IT13	IT13 LIGURIA	1,61	1,62

IT2	IT2 LOMBARDIA	1,53	1,54
IT3	IT3 NORD EST	1,57	1,56
IT31	IT31 TRENTINO-ALTO ADIGE	1,60	1,60
IT32	IT32 VENETO	1,56	1,55
IT33	IT33 FRIULI-VENEZIA GIULIA	1,58	1,57
IT4	IT4 EMILIA-ROMAGNA	1,58	1,59
IT5	IT5 CENTRO (I)	1,62	1,62
IT51	IT51 TOSCANA	1,61	1,60
IT52	IT52 UMBRIA	1,64	1,64
IT53	IT53 MARCHE	1,64	1,64
IT6	IT6 LAZIO	1,57	1,57
IT7	IT7 ABRUZZO-MOLISE	1,68	1,67
IT71	IT71 ABRUZZO	1,67	1,66
IT72	IT72 MOLISE	1,70	1,70
IT8	IT8 CAMPANIA	1,69	1,67
IT9	IT9 SUD	1,69	1,67
IT91	IT91 PUGLIA	1,68	1,65
IT92	IT92 BASILICATA	1,70	1,68
IT93	IT93 CALABRIA	1,72	1,69
ITA	ITA SICILIA	1,70	1,69
ITB	ITB SARDEGNA	1,61	1,57
LU	**LU LUXEMBOURG**	1,60	1,63
NL	**NL NETHERLANDS**	1,60	1,61
NL1	NL1 NOORD-NEDERLAND	1,63	1,64
NL11	NL11 GRONINGEN	1,59	1,60
NL12	NL12 FRIESLAND	1,67	1,66
NL13	NL13 DRENTHE	1,64	1,65
NL2	NL2 OOST-NEDERLAND	1,63	1,64
NL21	NL21 OVERIJSSEL	1,64	1,65
NL22	NL22 GELDERLAND	1,62	1,62
NL23	NL23 FLEVOLAND	1,67	1,65
NL3	NL3 WEST-NEDERLAND	1,60	1,60
NL31	NL31 UTRECHT	1,59	1,59
NL32	NL32 NOORD-HOLLAND	1,57	1,57
NL33	NL33 ZUID-HOLLAND	1,61	1,62
NL34	NL34 ZEELAND	1,68	1,69
NL4	NL4 ZUID-NEDERLAND	1,57	1,59
NL41	NL41 NOORD-BRABANT	1,57	1,59
NL42	NL42 LIMBURG (NL)	1,57	1,59
AT	**AT AUSTRIA**	1,62	1,62
AT1	AT10 OSTÖSTERREICH	1,61	1,61
AT11	AT11 BURGENLAND	1,66	1,66
AT12	AT12 NIEDERÖSTERREICH	1,65	1,65
AT13	AT13 WIEN	1,57	1,56
AT2	AT20 SUDÖSTERREICH	1,64	1,64
AT21	AT21 KÄRNTEN	1,65	1,66
AT22	AT22 STEIERMARK	1,64	1,64
AT3	AT30 WESTÖSTERREICH	1,63	1,63
AT31	AT31 OBERÖSTERREICH	1,63	1,65
AT32	AT32 SALZBURG	1,61	1,61
AT33	AT33 TIROL	1,62	1,62
AT34	AT34 VORARLBERG	1,62	1,62
PT	**PT PORTUGAL**	1,69	1,65
PT1	PT1 PORTUGAL (CONTINENT)	1,68	1,64

PT11	PT11 NORTE	1,69	1,64
PT12	PT12 CENTRO (P)	1,75	1,71
PT13	PT13 LISBOA E VALE DO TEJO	1,63	1,60
PT14	PT14 ALENTEJO	1,78	1,76
PT15	PT15 ALGARVE	1,71	1,67
PT2	PT2 AÇORES (PT)	1,85	1,78
PT3	PT3 MADEIRA (PT)	1,78	1,72
FI	**FI FINLAND**	1,66	1,65
FI1	FI1 MANNER-SUOMI	1,66	1,65
FI13	FI13 ITÄ-SUOMI	1,69	1,71
FI14	FI14 VÄLI-SUOMI	1,74	1,73
FI15	FI15 POHJOIS-SUOMI	1,71	1,71
FI11	FI16 UUSIMAA (SUURALUE)	1,57	1,56
FI12	FI17 ETELÄ-SUOMI	1,66	1,66
FI2	FI2 ÅLAND	1,69	1,67
SE	**SE SWEDEN**	1,73	1,71
SE01	SE01 STOCKHOLM	1,64	1,62
SE02	SE02 ÖSTRA MELLANSVERIGE	1,74	1,72
SE04	SE04 SYDSVERIGE	1,74	1,72
SE06	SE06 NORRA MELLANSVERIGE	1,78	1,77
SE07	SE07 MELLERSTA NORRLAND	1,78	1,76
SE08	SE08 ÖVRE NORRLAND	1,72	1,72
SE09	SE09 SMÅLAND MED ÖARNA	1,79	1,79
SE0A	SE0A VÄSTSVERIGE	1,74	1,73
UK	**UK UNITED KINGDOM**	1,70	1,69
UKC	UKC NORTH EAST	1,71	1,71
UKC1	UKC1 TEES VALLEY AND DURHAM	1,71	1,71
UKC2	UKC2 NORTHUMBERLAND, TYNE AND WEAR	1,70	1,71
UKD	UKD NORTH WEST (INCLUDING MERSEYSIDE)	1,71	1,71
UKD1	UKD1 CUMBRIA	1,71	1,71
UKD2	UKD2 CHESHIRE	1,68	1,68
UKD3	UKD3 GREATER MANCHESTER	1,71	1,70
UKD4	UKD4 LANCASHIRE	1,73	1,73
UKD5	UKD5 MERSEYSIDE	1,73	1,73
UKE	UKE YORKSHIRE AND THE HUMBER	1,70	1,71
UKE1	UKE1 EAST RIDING AND NORTH LINCOLNSHIRE	1,72	1,73
UKE2	UKE2 NORTH YORKSHIRE	1,71	1,72
UKE3	UKE3 SOUTH YORKSHIRE	1,69	1,69
UKE4	UKE4 WEST YORKSHIRE	1,70	1,70
UKF	UKF EAST MIDLANDS	1,69	1,70
UKF1	UKF1 DERBYSHIRE AND NOTTINGHAMSHIRE	1,68	1,69
UKF2	UKF2 LEICESTERSHIRE, RUTLAND AND NORTHANTS	1,69	1,69
UKF3	UKF3 LINCOLNSHIRE	1,73	1,75
UKG	UKG WEST MIDLANDS	1,70	1,71
UKG1	UKG1 HEREFORDSHIRE, WORCESTERSHIRE AND WARKS	1,69	1,69
UKG2	UKG2 SHROPSHIRE AND STAFFORDSHIRE	1,67	1,68
UKG3	UKG3 WEST MIDLANDS	1,73	1,74
UKH	UKH EASTERN	1,69	1,69

UKH1	UKH1 EAST ANGLIA	1,71	1,71
UKH2	UKH2 BEDFORDSHIRE, HERTFORDSHIRE	1,66	1,67
UKH3	UKH3 ESSEX	1,69	1,69
UKI	UKI LONDON	NA	1,60
UKI1	UKI1 INNER LONDON	NA	1,56
UKI2	UKI2 OUTER LONDON	NA	1,63
UKJ	UKJ SOUTH EAST	1,70	1,69
UKJ1	UKJ1 BERKSHIRE, BUCKS AND OXFORDSHIRE	1,64	1,64
UKJ2	UKJ2 SURREY, EAST AND WEST SUSSEX	1,74	1,73
UKJ3	UKJ3 HAMPSHIRE AND ISLE OF WIGHT	1,69	1,69
UKJ4	UKJ4 KENT	1,71	1,72
UKK	UKK SOUTH WEST	1,74	1,74
UKK1	UKK1 GLOUCESTERSHIRE, WILTSHIRE AND NORTH SOMERSET	1,69	1,69
UKK2	UKK2 DORSET AND SOMERSET	1,79	1,79
UKK3	UKK3 CORNWALL AND ISLES OF SCILLY	NA	1,77
UKK4	UKK4 DEVON	NA	1,77
UKL	UKL WALES	1,75	1,75
UKL1	UKL1 WEST WALES AND THE VALLEYS	NA	1,76
UKL2	UKL2 EAST WALES	NA	1,72
UKM	UKM SCOTLAND	1,67	1,67
UKM1	UKM1 NORTH EASTERN SCOTLAND	1,64	1,64
UKM2	UKM2 EASTERN SCOTLAND	1,66	1,66
UKM3	UKM3 SOUTH WESTERN SCOTLAND	1,68	1,68
UKM4	UKM4 HIGHLANDS AND ISLANDS	1,71	1,71
UKN	UKN NORTHERN IRELAND	1,79	1,76
BG	**BULGARIA**	1,68	1,64
BG01	SEVEROZAPADEN	1,78	1,75
BG011	VIDIN	1,80	1,77
BG012	MONTANA	1,79	1,77
BG013	VRATSA	1,75	1,73
BG02	SEVEREN TSENTRALEN	1,70	1,67
BG021	PLEVEN	1,73	1,71
BG022	LOVECH	1,75	1,72
BG023	VELIKO TARNOVO	1,70	1,66
BG024	GABROVO	1,66	1,63
BG025	RUSE	1,66	1,63
BG03	SEVEROIZTOCHEN	1,67	1,63
BG031	VARNA	1,63	1,60
BG032	DOBRICH	1,67	1,63
BG033	SHUMEN	1,70	1,66
BG034	TURGOVISHTE	1,73	1,69
BG035	RAZGRAD	1,70	1,65
BG036	SILISTRA	1,66	1,62
BG04	YUGOZAPADEN	1,64	1,60
BG041	SOFIA STOLITSA (CAPITAL)	1,60	1,55
BG042	SOFIA	1,70	1,71
BG043	BLAGOEVGRAD	1,68	1,64
BG044	PERNIK	1,66	1,64
BG045	KYUSTENDIL	1,70	1,67
BG05	YUZHEN TSENTRALEN	1,68	1,65
BG051	PLOVDIV	1,65	1,62
BG052	STARA ZAGORA	1,69	1,65

BG053	HASKOVO	1,73	1,70
BG054	PAZARDZHIK	1,69	1,67
BG055	SMOLYAN	1,66	1,60
BG056	KARDZHALI	1,72	1,64
BG06	YUGOIZTOCHEN	1,69	1,66
BG061	BURGAS	1,68	1,64
BG062	SLIVEN	1,72	1,69
BG063	YAMBOL	1,71	1,69
CY	**CYPRUS**	NA	NA
CZ	**CZECH REPUBLIC**	1,68	1,61
CZ01	PRAHA	1,66	1,59
CZ02	STREDNÍ CECHY	1,69	1,61
CZ03	JIHOZÁPAD	1,68	1,61
CZ031	JIHOCECKÝ	1,69	1,62
CZ032	PLZENSKÝ	1,67	1,60
CZ04	SEVEROZÁPAD	1,66	1,59
CZ041	KARLOVARSKÝ	1,64	1,58
CZ042	ÚSTECKÝ	1,67	1,59
CZ05	SEVEROVÝCHOD	1,70	1,62
CZ051	LIBERECKÝ	1,68	1,60
CZ052	KRÁLOVEHRADECKÝ	1,70	1,63
CZ053	PARDUBICKÝ	1,70	1,63
CZ06	JIHOVÝCHOD	1,71	1,63
CZ061	VYSOCINA	1,72	1,65
CZ062	JIHOMORAVSKÝ	1,70	1,62
CZ07	STREDNÍ MORAVA	1,70	1,62
CZ071	OLOMOUCKÝ	1,70	1,62
CZ072	ZLÍNSKÝ	1,69	1,62
CZ08	MORAVSKOSLEZKO	1,66	1,60
EE	**ESTONIA**	1,70	1,69
EE001	PÕHJA-EESTI	1,65	1,61
EE004	LÄÄNE-EESTI	1,74	1,75
EE002	KESK-EESTI	1,76	1,77
EE003	KIRDE-EESTI	1,63	1,66
EE005	LÕUNA-EESTI	1,77	1,78
HU	**HUNGARY**	1,68	1,63
HU01	KÖZÉP-MAGYARORSZÁG	1,67	1,60
HU011	BUDAPEST	NA	1,59
HU012	PEST	NA	1,60
HU02	KÖZÉP-DUNÁNTÚL	1,66	1,61
HU021	FEJÉR	NA	1,60
HU022	KOMÁROM-ESZTERGOM	NA	1,59
HU023	VESZPRÉM	NA	1,62
HU03	NYUGAT-DUNÁNTÚL	1,68	1,63
HU031	GYOR-MOSON-SOPRON	NA	1,62
HU032	VAS	NA	1,63
HU033	ZALA	NA	1,63
HU04	DÉL-DUNÁNTÚL	1,67	1,63
HU041	BARANYA	NA	1,62
HU042	SOMOGY	NA	1,63
HU043	TOLNA	NA	1,64
HU05	ÉSZAK-MAGYARORSZÁG	1,69	1,67
HU051	BORSOD-ABAÚJ-ZEMPLÉN	NA	1,68
HU052	HEVES	NA	1,66

HU053	NÓGRÁD	NA	1,63
HU06	ÉSZAK-ALFÖLD	1,71	1,67
HU061	HAJDÚ-BIHAR	NA	1,66
HU062	JÁSZ-NAGYKUN-SZOLNOK	NA	1,66
HU063	SZABOLCS-SZATMÁR-BEREG	NA	1,69
HU07	DÉL-ALFÖLD	1,70	1,65
HU071	BÁCS-KISKUN	NA	1,65
HU072	BÉKÉS	NA	1,65
HU073	CSONGRÁD	NA	1,64
LT	**LITHUANIA**	1,69	1,68
LT001	ALYTAUS (APSKRITIS)	1,75	1,74
LT002	KAUNO (APSKRITIS)	1,66	1,66
LT003	KLAIPEDOS (APSKRITIS)	1,68	1,68
LT004	MARIJAMPOLES (APSKRITIS)	1,78	1,79
LT005	PANEVEZIO (APSKRITIS)	1,73	1,72
LT006	SIAULIU (APSKRITIS)	1,73	1,72
LT007	TAURAGES (APSKRITIS)	1,80	1,79
LT008	TELSIU (APSKRITIS)	1,79	1,77
LT009	UTENOS (APSKRITIS)	1,76	1,74
LT00A	VILNIAUS (APSKRITIS)	1,61	1,60
LV	**LATVIA**	1,68	1,67
LV001	RIGA	1,62	1,61
LV002	VIDZEME	1,77	1,75
LV003	KURZEME	1,73	1,71
LV004	ZEMGALE	1,73	1,71
LV005	LATGALE	1,71	1,70
MT	**MALTA**	NA	NA
PL	**POLAND**	1,73	1,68
PL01	DOLNOSLASKIE	1,69	1,63
PL02	KUJAWSKO-POMORSKIE	1,73	1,68
PL03	LUBELSKIE	1,81	1,75
PL04	LUBUSKIE	1,73	1,67
PL05	LÓDZKIE	1,71	1,66
PL06	MALOPOLSKIE	1,75	1,71
PL07	MAZOWIECKIE	1,72	1,68
PL08	OPOLSKIE	1,68	1,64
PL09	PODKARPACKIE	1,81	1,75
PL0A	PODLASKIE	1,80	1,76
PL0B	POMORSKIE	1,72	1,66
PL0C	SLASKIE	1,65	1,61
PL0D	SWIETOKRZYSKIE	1,78	1,72
PL0E	WARMINSKO-MAZURSKIE	1,76	1,70
PL0F	WIELKOPOLSKIE	1,75	1,68
PL0G	ZACHODNIOPOMORSKIE	1,69	1,64
RO	**RO ROMANIA**	1,70	1,66
RO01	RO01 NORD-EST	1,79	1,73
RO011	RO011 BACAU	NA	1,69
RO012	RO012 BOTOSANI	NA	1,80
RO013	RO013 IASI	NA	1,71
RO014	RO014 NEAMT	NA	1,69
RO015	RO015 SUCEAVA	NA	1,76
RO016	RO016 VASLUI	NA	1,80
RO02	RO02 SUD-EST	1,69	1,65
RO021	RO021 BRAILA	NA	1,64

RO022	RO022 BUZAU	NA	1,70
RO023	RO023 CONSTANTA	NA	1,59
RO024	RO024 GALATI	NA	1,64
RO025	RO025 TULCEA	NA	1,65
RO026	RO026 VRANCEA	NA	1,72
RO03	RO03 SUD	1,71	1,67
RO031	RO031 ARGES	NA	1,62
RO032	RO032 CALARASI	NA	1,72
RO033	RO033 DÂMBOVITA	NA	1,69
RO034	RO034 GIURGIU	NA	1,76
RO035	RO035 IALOMITA	NA	1,70
RO036	RO036 PRAHOVA	NA	1,62
RO037	RO037 TELEORMAN	NA	1,72
RO04	RO04 SUD-VEST	1,71	1,68
RO041	RO041 DOLJ	NA	1,67
RO042	RO042 GORJ	NA	1,69
RO043	RO043 MEHEDINTI	NA	1,69
RO044	RO044 OLT	NA	1,68
RO045	RO045 VÂLCEA	NA	1,67
RO05	RO05 VEST	1,66	1,62
RO051	RO051 ARAD	NA	1,65
RO052	RO052 CARAS-SEVERIN	NA	1,63
RO053	RO053 HUNEDOARA	NA	1,59
RO054	RO054 TIMIS	NA	1,61
RO06	RO06 NORD-VEST	1,71	1,66
RO061	RO061 BIHOR	NA	1,66
RO062	RO062 BISTRITA-NASAUD	NA	1,73
RO063	RO063 CLUJ	NA	1,60
RO064	RO064 MARAMURES	NA	1,66
RO065	RO065 SATU MARE	NA	1,65
RO066	RO066 SALAJ	NA	1,71
RO07	RO07 CENTRU	1,71	1,65
RO071	RO071 ALBA	NA	1,66
RO072	RO072 BRASOV	NA	1,60
RO073	RO073 COVASNA	NA	1,67
RO074	RO074 HARGHITA	NA	1,67
RO075	RO075 MURES	NA	1,66
RO076	RO076 SIBIU	NA	1,65
RO08	RO08 BUCURESTI	1,63	1,56
RO081	RO081 BUCURESTI (CAPITAL)	NA	1,55
RO082	RO082 ILFOV	NA	1,64
SI	**SLOVENIA**	1,62	1,60
SI001	POMURSKA	1,64	1,61
SI002	PODRAVSKA	1,58	1,57
SI003	KOROSKA	1,62	1,58
SI004	SAVINJSKA	1,62	1,60
SI005	ZASAVSKA	1,62	1,61
SI006	SPODNJEPOSAVSKA	1,65	1,64
SI009	GORENJSKA	1,63	1,62
SI00A	NOTRANJSKO-KRASKA	1,67	1,64
SI00B	GORISKA	1,66	1,62
SI00C	OBALNO-KRASKA	1,59	1,56
SI00D	JUGOVZHODNA SLOVENIJA	1,66	1,65
SI00E	OSREDNJESLOVENSKA	1,61	1,59

SK	**SLOVAK REPUBLIC**	1,74	1,67
SK01	BRATISLAVSKÝ	NA	1,59
SK02	ZÁPADNÉ SLOVENSKO	NA	1,65
SK021	TRNAVSKÝ KRAJ	NA	1,64
SK022	TRENCIANSKÝ KRAJ	NA	1,66
SK023	NITRIANSKÝ KRAJ	NA	1,65
SK03	STREDNÉ SLOVENSKO	NA	1,68
SK031	ZILINSKÝ KRAJ	NA	1,70
SK032	BANSKOBYSTRICKÝ KRAJ	NA	1,66
SK04	VÝCHODNÉ SLOVENSKO	NA	1,72
SK041	PRESOVSKÝ KRAJ	NA	1,76
SK042	KOSICKÝ KRAJ	NA	1,69
NO	**NORWAY**	1,71	1,70
N001	01 ØSTFOLD	1,71	1,70
N002	02 AKERSHUS	1,65	1,66
N003	03 OSLO	1,61	1,57
N004	04 HEDMARK	1,76	1,75
N005	05 OPPLAND	1,74	1,73
N006	06 BUSKERUD	1,71	1,69
N007	07 VESTFOLD	1,72	1,72
N008	08 TELEMARK	1,76	1,74
N009	09 AUST-AGDER	1,77	1,73
N010	10 VEST-AGDER	1,77	1,76
N011	11 ROGALAND	1,73	1,73
N012	12 HORDALAND	1,74	1,73
N014	14 SOGN OG FJORDANE	1,82	1,81
N015	15 MØRE OG ROMSDAL	1,79	1,77
N016	16 SØR-TRØNDELAG	1,68	1,70
N017	17 NORD-TRØNDELAG	1,78	1,78
N018	18 NORDLAND	1,75	1,75
N019	19 TROMS	1,67	1,68
N020	20 FINNMARK	1,64	1,66
CH	**SWITZERLAND (*)**	1,61	1,63
CH	ZÜRICH	1,56	1,57
CH	BERN	1,64	1,65
CH	LUZERN	1,64	1,66
CH	URI	1,69	1,68
CH	SCHWYZ	1,63	1,64
CH	OBWALDEN	1,71	1,71
CH	NIDWALDEN	1,60	1,61
CH	GLARUS	1,71	1,71
CH	ZUG	1,56	1,58
CH	FRIBOURG	1,64	1,65
CH	SOLOTHURN	1,63	1,65
CH	BASEL-STADT	1,60	1,62
CH	BASEL-LANDSCHAFT	1,57	1,61
CH	SCHAFFHAUSEN	1,66	1,67
CH	APPENZELL A.RH.	1,73	1,73
CH	APPENZELL I.RH.	1,78	1,82
CH	ST.GALLEN	1,67	1,67
CH	GRAUBÜNDEN	1,64	1,65
CH	AARGAU	1,59	1,61
CH	THURGAU	1,68	1,68
CH	TICINO	1,57	1,60

CH	VAUD	1,62	1,64
CH	VALAIS	1,62	1,64
CH	NEUCHÂTEL	1,64	1,67
CH	GENÈVE	1,55	1,58
CH	JURA	1,68	1,70

(*) Data for 2000
(**) Without overseas departments

APPENDIX 11

Population Indicators for EU - 15

	Scenarios			
	A	B1	B2	B3
	Total population (thousands)			
2000	376.539	376.539	376.539	376.539
2025	356.074	376.539	389.372	533.836
2050	295.949	376.539	401.700	774.822
	Age group 0-14 (thousands)			
2000	63.372	63.372	63.372	63.372
2025	49.680	54.374	57.274	90.067
2050	40.052	55.962	59.849	129.906
	Age group 15-64 (thousands)			
2000	251.861	251.861	251.861	251.861
2025	227.519	242.484	251.861	357.117
2050	174.257	233.471	251.861	519.097
	Age group 65 + (thousands)			
2000	61.307	61.307	61.307	61.307
2025	78.875	79.680	80.237	86.651
2050	81.640	87.106	89.991	125.820
	Potential support ratio (PSR)			
2000	4,11	4,11	4,11	4,11
2025	2,88	3,04	3,14	4,12
2050	2,13	2,68	2,80	4,13
	Average annual number of migrants (thousands)			
2000	-	718	718	718
2025	-	1.481	2.180	8.078
2050	-	2.193	833	9.654
	Crude birth rate (per 1000 inhabitants)			
2000	11,07	11,07	11,07	11,07
2025	9,26	9,11	9,19	10,42
2050	9,20	9,28	9,45	11,07
	Crude death rate (per 1000 inhabitants)			
2000	10,04	10,04	10,04	10,04
2025	13,75	13,09	12,75	9,30
2050	18,26	15,16	14,66	7,60
	Crude migration rate (per 1000 inhabitants)			
2000	-	1,91	1,91	1,91
2025	-	3,93	5,60	15,13
2050	-	5,82	2,07	12,46

APPENDIX 12

Population Indicators for EU - 25

	Scenarios			
	A	**B1**	**B2**	**B3**
	Total population (thousands)			
2000	**451.629**	**451.629**	**451.629**	**451.629**
2025	**425.925**	**451.629**	**466.844**	**649.965**
2050	**351.652**	**451.629**	**480.284**	**940.146**
	Age group 0-14 (thousands)			
2000	**77.127**	**77.127**	**77.127**	**77.127**
2025	**60.263**	**66.158**	**69.788**	**111.830**
2050	**47.405**	**67.156**	**71.762**	**159.313**
	Age group 15-64 (thousands)			
2000	**303.475**	**303.475**	**303.475**	**303.475**
2025	**273.707**	**292.511**	**303.475**	**436.657**
2050	**208.785**	**282.287**	**303.475**	**633.733**
	Age group 65 + (thousands)			
2000	**71.027**	**71.027**	**71.027**	**71.027**
2025	**91.954**	**92.960**	**93.580**	**101.478**
2050	**95.463**	**102.187**	**105.047**	**147.101**
	Potential support ratio (PSR)			
2000	**4,27**	**4,27**	**4,27**	**4,27**
2025	**2,98**	**3,15**	**3,24**	**4,30**
2050	**2,19**	**2,76**	**2,89**	**4,31**
	Average annual number of migrants (thousands)			
2000	**-**	**747**	**747**	**747**
2025	**-**	**1.834**	**2.677**	**10.412**
2050	**-**	**2.706**	**1.211**	**15.040**
	Crude birth rate (per 1000 inhabitants)			
2000	**10,82**	**10,82**	**10,82**	**10,82**
2025	**9,26**	**9,13**	**9,23**	**10,38**
2050	**9,11**	**9,23**	**9,37**	**10,71**
	Crude death rate (per 1000 inhabitants)			
2000	**10,15**	**10,15**	**10,15**	**10,15**
2025	**13,90**	**13,22**	**12,86**	**9,24**
2050	**18,42**	**15,27**	**14,74**	**7,53**
	Crude migration rate (per 1000 inhabitants)			
2000	**-**	**1,65**	**1,65**	**1,65**
2025	**-**	**4,06**	**5,74**	**16,02**
2050	**-**	**5,99**	**2,52**	**16,00**

APPENDIX 13

Population Indicators for EU - 29

	Scenarios			
	A	B1	B2	B3
	Total population (thousands)			
2000	493.878	493.878	493.878	493.878
2025	464.781	493.878	509.327	704.184
2050	382.839	493.878	523.973	1.015.428
	Age group 0-14 (thousands)			
2000	84.730	84.730	84.730	84.730
2025	65.877	72.533	76.277	121.106
2050	51.558	73.450	78.387	172.227
	Age group 15-64 (thousands)			
2000	332.072	332.072	332.072	332.072
2025	299.682	320.990	332.072	473.731
2050	228.088	309.766	332.072	685.196
	Age group 65 + (thousands)			
2000	77.077	77.077	77.077	77.077
2025	99.222	100.356	100.978	109.347
2050	103.192	110.662	113.515	158.006
	Potential support ratio (PSR)			
2000	4,31	4,31	4,31	4,31
2025	3,02	3,20	3,29	4,33
2050	2,21	2,80	2,93	4,34
	Average annual number of migrants (thousands)			
2000	-	735	735	735
2025	-	2.039	2.919	11.296
2050	-	3.009	1.360	16.076
	Crude birth rate (per 1000 inhabitants)			
2000	10,77	10,77	10,77	10,77
2025	9,24	9,11	9,21	10,32
2050	9,07	9,19	9,34	10,66
	Crude death rate (per 1000 inhabitants)			
2000	10,26	10,26	10,26	10,26
2025	13,96	13,27	12,93	9,35
2050	18,51	15,33	14,80	7,64
	Crude migration rate (per 1000 inhabitants)			
2000	-	1,49	1,49	1,49
2025	-	4,13	5,73	16,04
2050	-	6,09	2,59	15,83

APPENDIX 14

Labour Shortage

We have not made sufficient reflection on the model results about Labour Shortage.But as is a preliminary report we just add the broad results to allow the beginning of a discussion within the working group members.

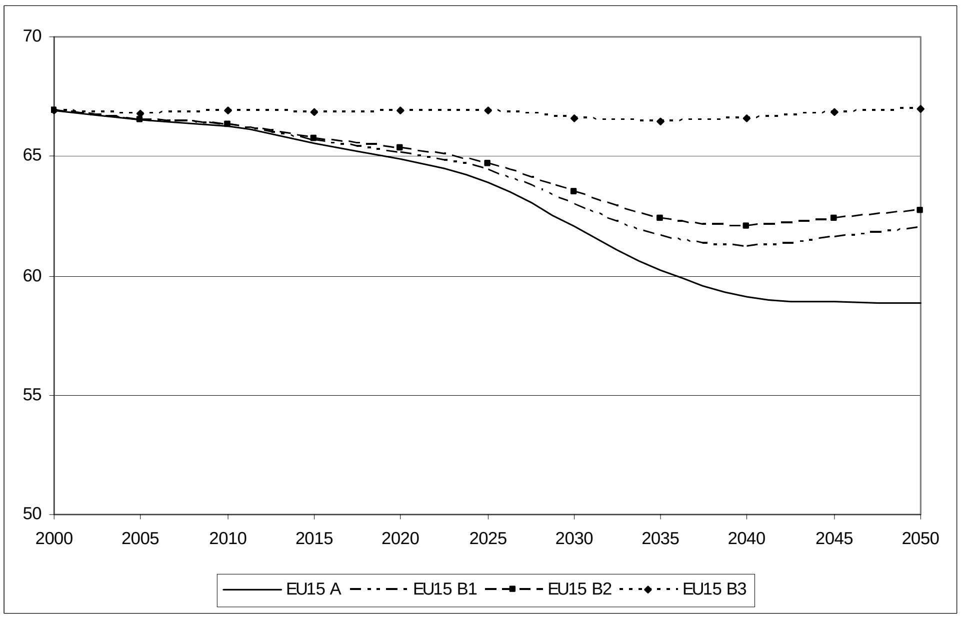


Figure A14.1 - % 15-64 years, EU15 2000-2050

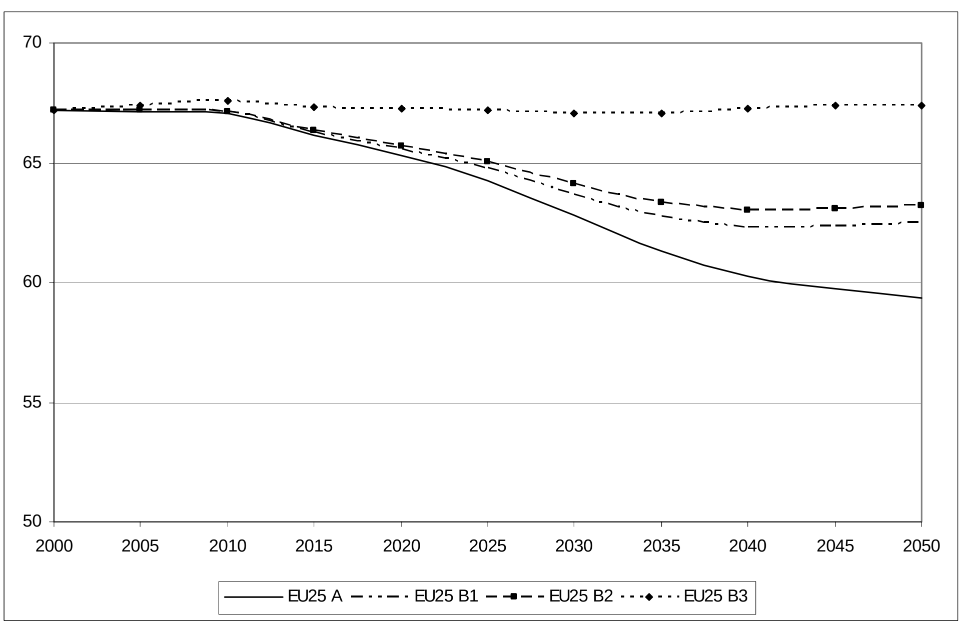


Figure A14.2 - % 15-64 years, EU25 2000-2050

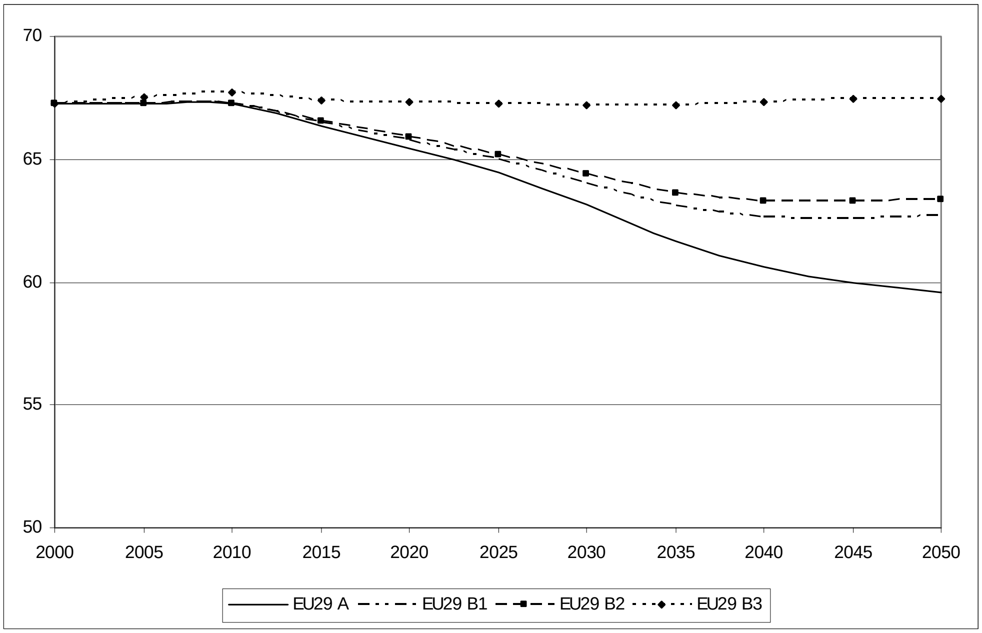


Figure A14.3 - % 15-64 years, EU29 2000-2050

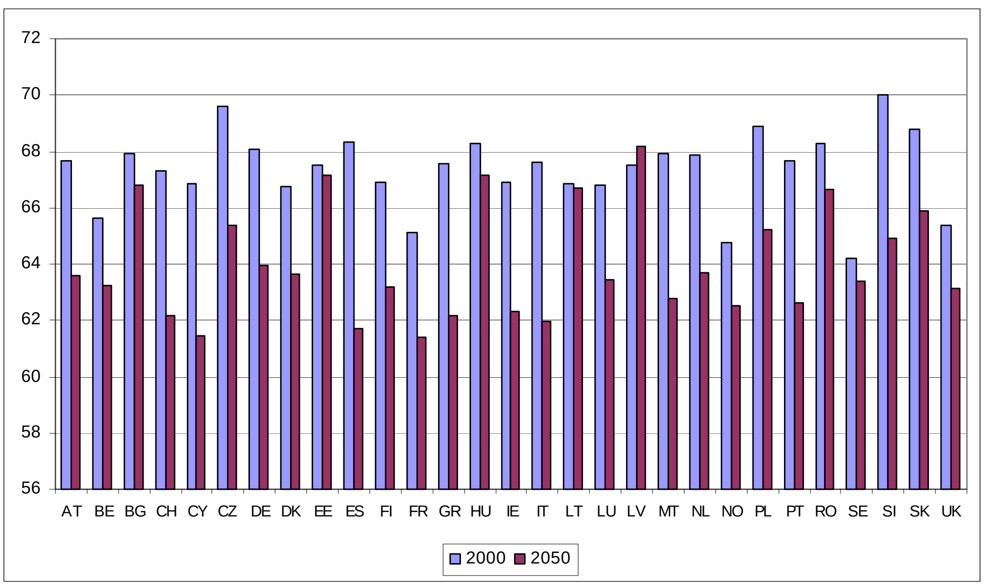


Figure A14.4 - % 15-64 years, by country - Model A

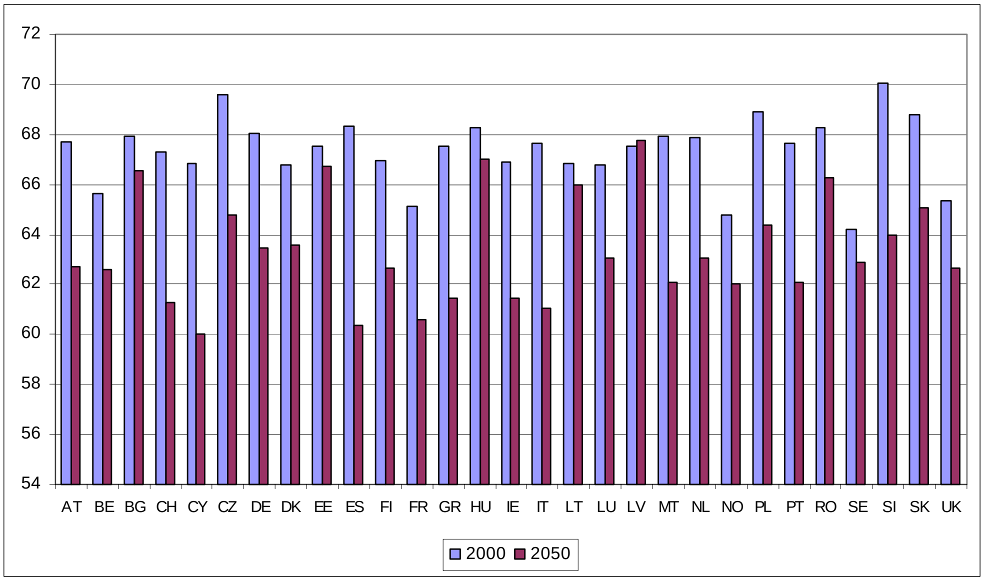


Figure A14.5 - % 15-64 years, by country - Model B1

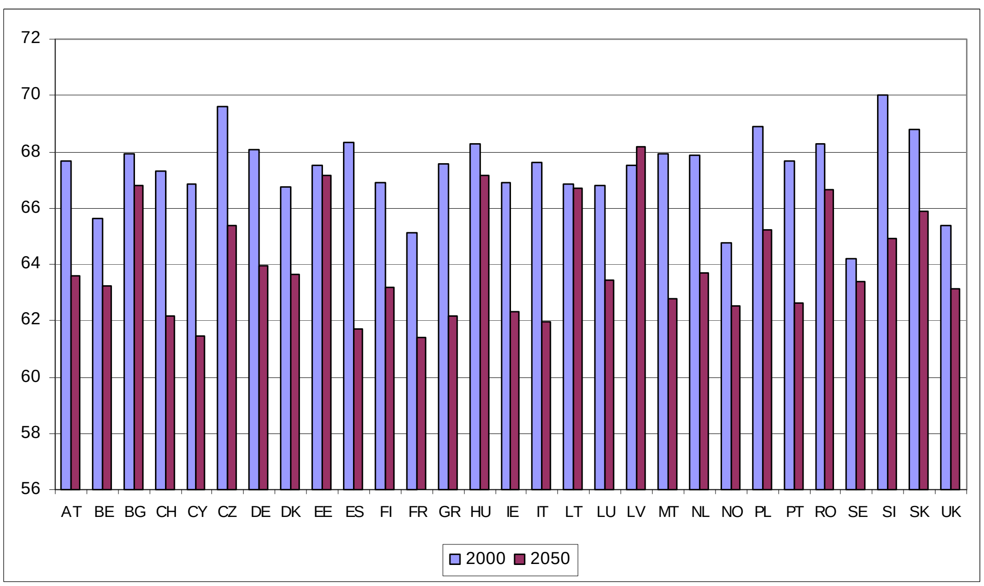


Figure A14.6 - % 15-64 years, by country - Model B2

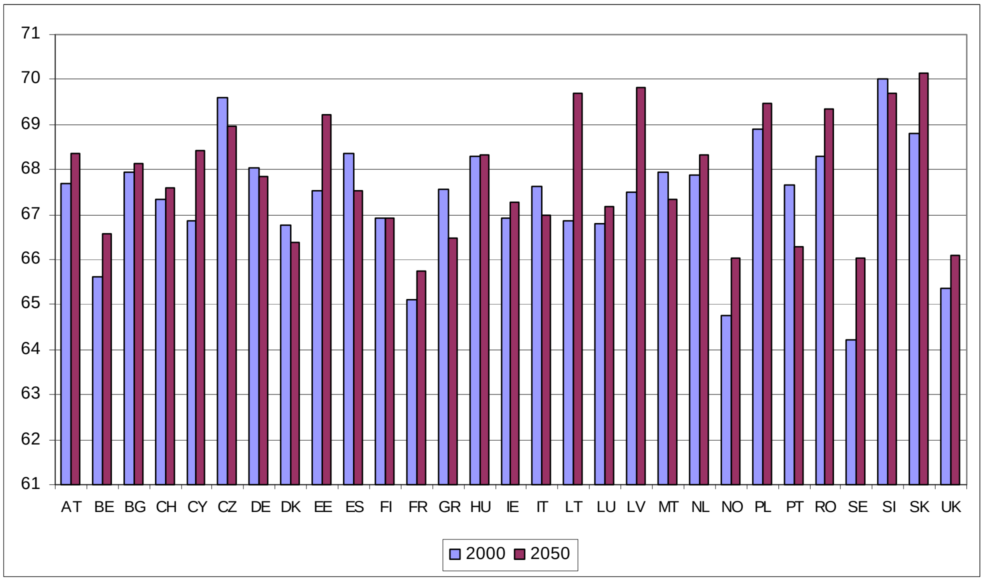
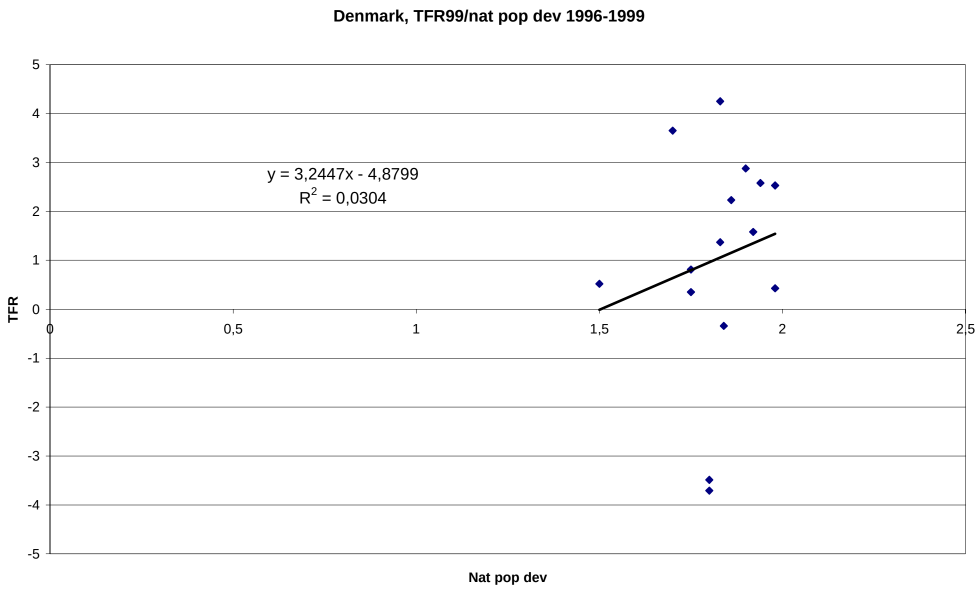
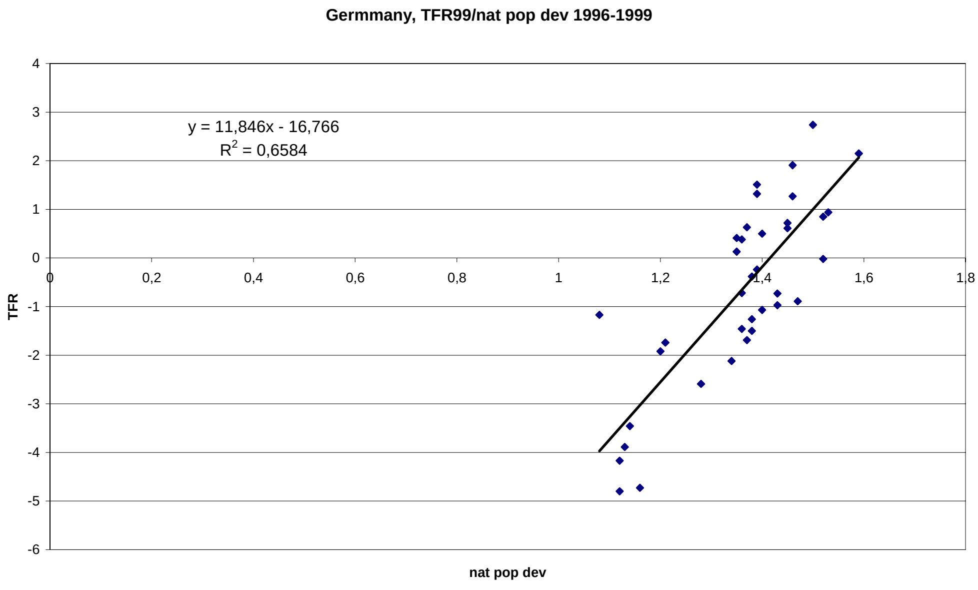


Figure A14.7 - % 15-64 years, by country - Model B3

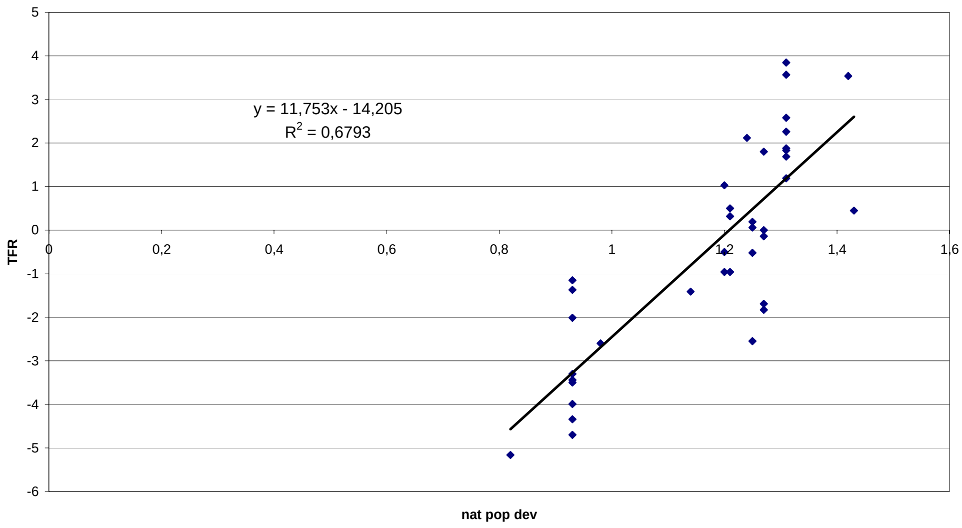
ANNEX 15

Correlations between TFR 1999 and natural population development 1996-1999.

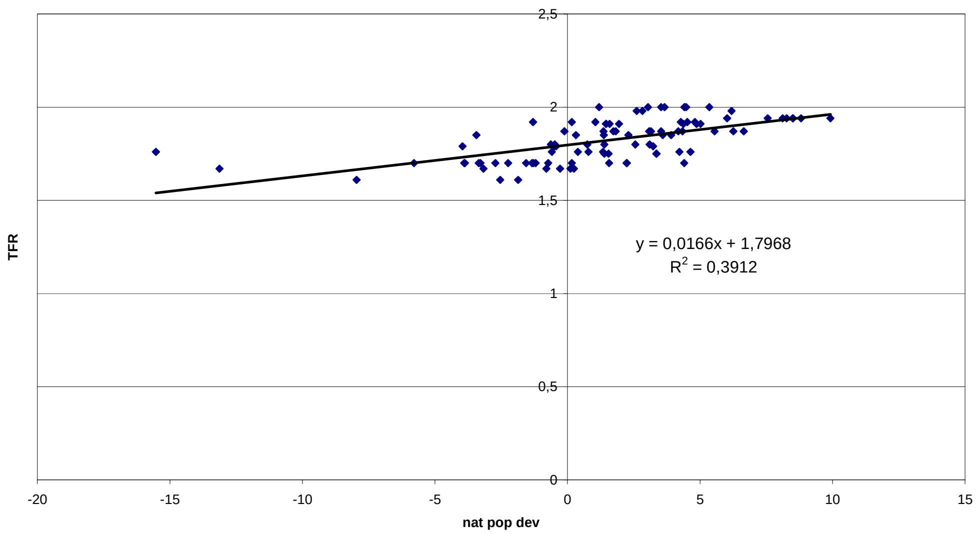


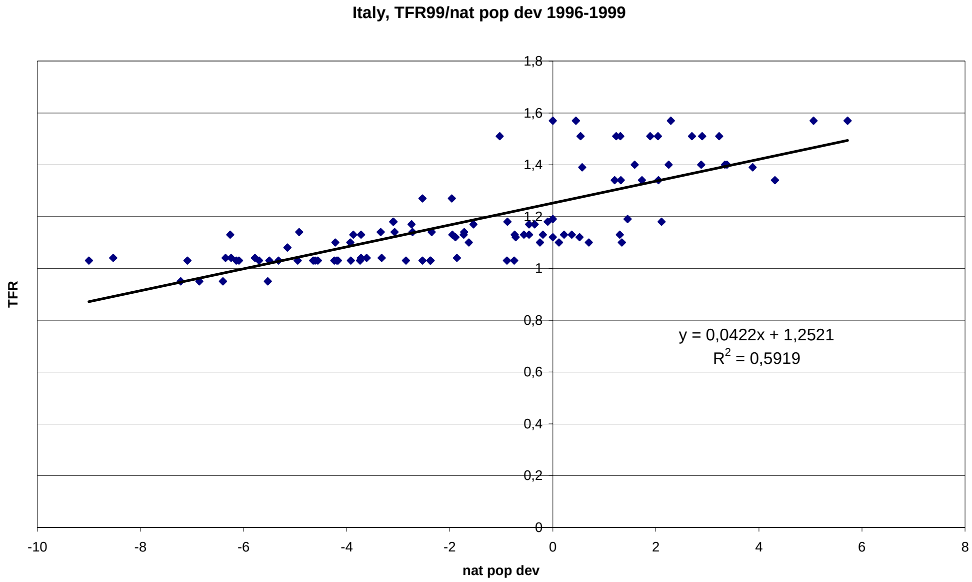


Spain, TFR99/nat pop dev 1996-1999

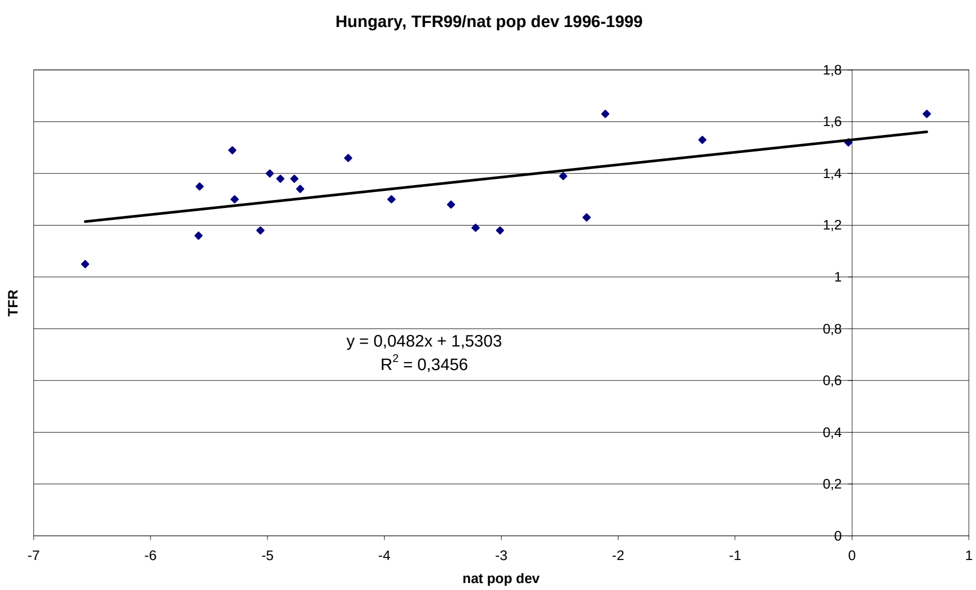


France, TFR99/nat pop dev 1996-1999

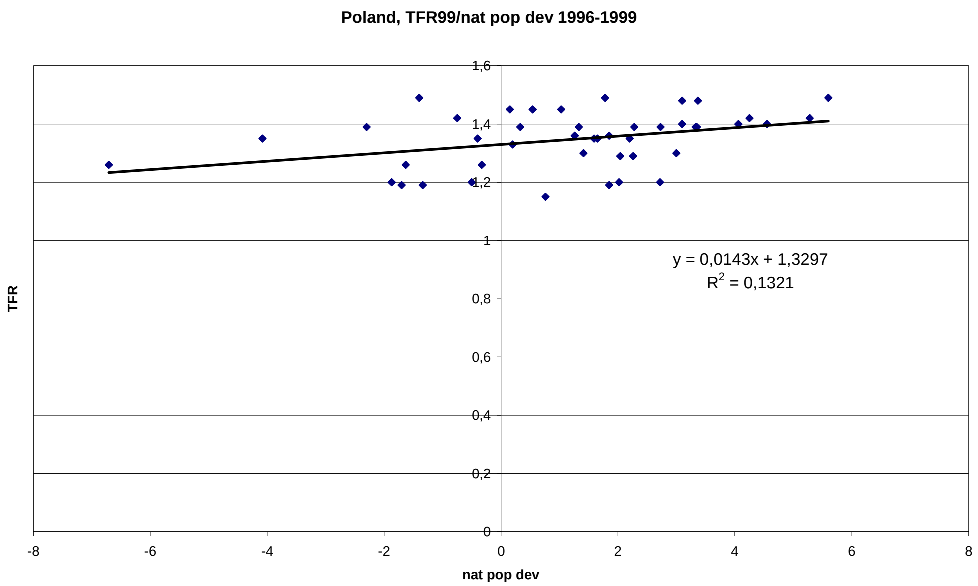


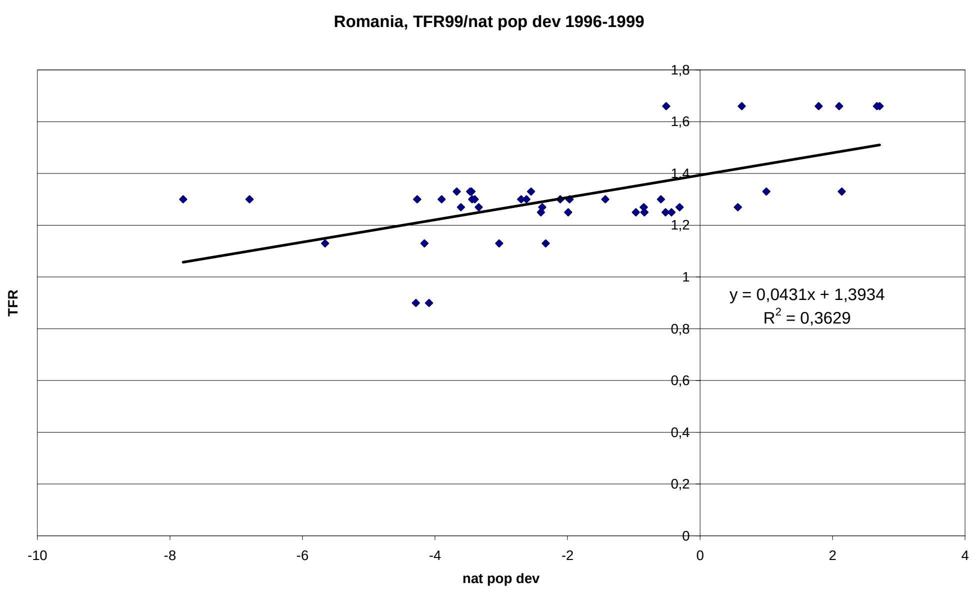


Italy, TFR99/nat pop dev 1996-1999
TFR
nat pop dev
y = 0,0422x + 1,2521
R^2 = 0,5919
1,8
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
-10
-8
-6
-4
-2
0
2
4
6
8

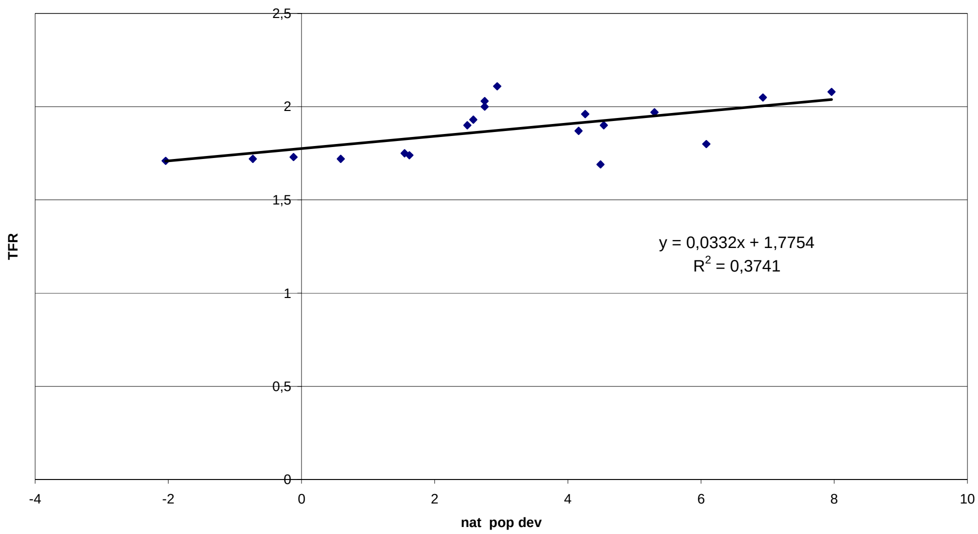


Hungary, TFR99/nat pop dev 1996-1999
TFR
nat pop dev
y = 0,0482x + 1,5303
R^2 = 0,3456
1,8
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
-7
-6
-5
-4
-3
-2
-1
0
1


Poland, TFR99/nat pop dev 1996-1999
y = 0,0143x + 1,3297
R^2 = 0,1321
TFR
nat pop dev
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
-8
-6
-4
-2
0
2
4
6
8


Romania, TFR99/nat pop dev 1996-1999
y = 0,0431x + 1,3934
R^2 = 0,3629
TFR
nat pop dev
1,8
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
-10
-8
-6
-4
-2
0
2
4

Norway, TFR99/nat pop dev 1996-1999



Annex B
List of Maps, Tables, Figures and Graphs

List of Maps

List of Tables

List of Figures

List of Graphs

ANNEX C

List of Missing Data

C.1 Population and Area

When is comes to data on the population in a given area the data on *age structure* is missing in 1990 for all countries at NUTS2 and NUTS3 levels except for Denmark, Finland, Sweden, Estonia, Hungary, Poland, Romania, Slovenia and Norway. The missing data disables us to calculate e.g. the dependency ratio and the share of population in various age groups in a given area for 1990.

C.2 Population Change

Data is missing on *births* and *deaths* at the NUTS3 level in 1990 and 1995. This disables us to calculate the *natural population development* for these areas and at that time. Data for Bulgaria, Cyprus, Malta, Czech Republic, Slovakia, Lithuania, Norway, and parts of Germany, United Kingdom, Ireland, Italy and Austria is missing at NUTS3 for 1990. At NUTS3 in 1995 data is missing for Cyprus, Malta, Slovakia and Norway, as well as for parts of Germany, United Kingdom and Ireland.

C.3 Migration

C.3.1 Domestic Migration

A vast majority of all *domestic migration* takes place within the NUTS2 area. Since no data at NUTS3 level is available we are unable to analyse a majority of the domestic migratory flows.

C.3.2 International Migration

At the NUTS3 level data on *international migration* is missing. Data on immigration and emigration is available at the NUTS2 level only. However, data is missing on the *area of destination* and the *area of origin*. Without the data on the place of origin and the place of destination it is impossible to distinguish an intra-EU29 migrant from an extra-EU29 migrant, and if the migration flows are caused by labour migration between the countries of the EU29 area or by refugees and return migration of refugees. As a consequence of the missing data on international migration it is impossible to analyse the direction and magnitude between the countries in the EU29 area.

Annex D

List of Abbreviations and Glossary

CBR, see Crude Birth Rate

Crude Birth Rate. The Crude Birth Rate is the number of births per thousand people in the population in a given year. This measure ignores the age and sex structure of the population.

Dependency Ratio. The total population divided by the number of persons in the ages 20-64. A high dependency ratio shows that the share of population ages 20-64 is relatively low.

Depopulation. Depopulation is a population decrease (i) of a certain enduring – and potentially territorially comprehensive – nature, (ii) which is related to long-term fertility decline, and where (iii) the structural demographic implications of which are inadequately counteracted, and sometimes even reinforced, by lasting patterns of net migration. In its turn the inherent demographic dynamics imply (iv) particular age-pyramid effects, which entail (v) a problem potential depending on qualities of the regional context.

Emigration. The process of leaving one country to take up permanent or semi-permanent residence in another

Immigration. The process of entering one country from another to take up permanent or semi-permanent residence.

Labour Shortage. The amount of labour by which quantity supplied is less than quantity demanded at the existing price at a short run perspective. A labour shortage will lead to a rise in the wage ratio. The amount of labour by which quantity supplied is less than quantity demanded at the existing price at a long run perspective *does not* indicate a labour shortage, but a lacking ability of structural adjustment, i.e. to substitute the expensive factor of production labour for, another the factor of production, capital.

Long Run. A period long enough for prices to adjust to their equilibrium level.

Migration. Migration is the change of the place of living by crossing national or international borders and with the intention to stay for a minimum time period.

Migratory balances: Migratory balance is a measure for a territorial unit of the difference between arrivals and departures (immigration – emigration). It is an indirect indicator for measuring of how attractive a region is.

Migration flows: Migration flows are exchanges of population between different territories.

Mobility: Mobility is a general term to describe the intensity of migration.

Natural Population Development. The natural population development is defined as the number of births minus the number of deaths for a given area during a given time.

Net Migration. The net effect of immigration and emigration on an area's population in a given time period, expressed as an increase or decrease.

PSR, see Potential Support Ratio

Potential Support Ratio. The potential support ratio is the ratio of the population aged 15-64 to the population aged 65 and older. A low ratio indicates that many people depend on a fewer supporters. A high ratio indicates that there are many to support each and every person over the age of 65.

Replacement Migration. Replacement migration can be defined as the needed immigration to compensate for (i) an ageing society and the rise in the number of pensioners, (ii) the consequences of depopulation, or, (iii) a low number of persons in active age.

Short Run. The time before the price level has adjusted to its equilibrium.

Substitution Effect. The substitution effect leads the producer to produce a given output using a technique which economises on the factor commodity that has become relatively more expensive. Thus, a rise in the wage rate of labour leads to a substitution effect towards more capital intensive production methods at each output.

TFR, see Total Fertility Rate

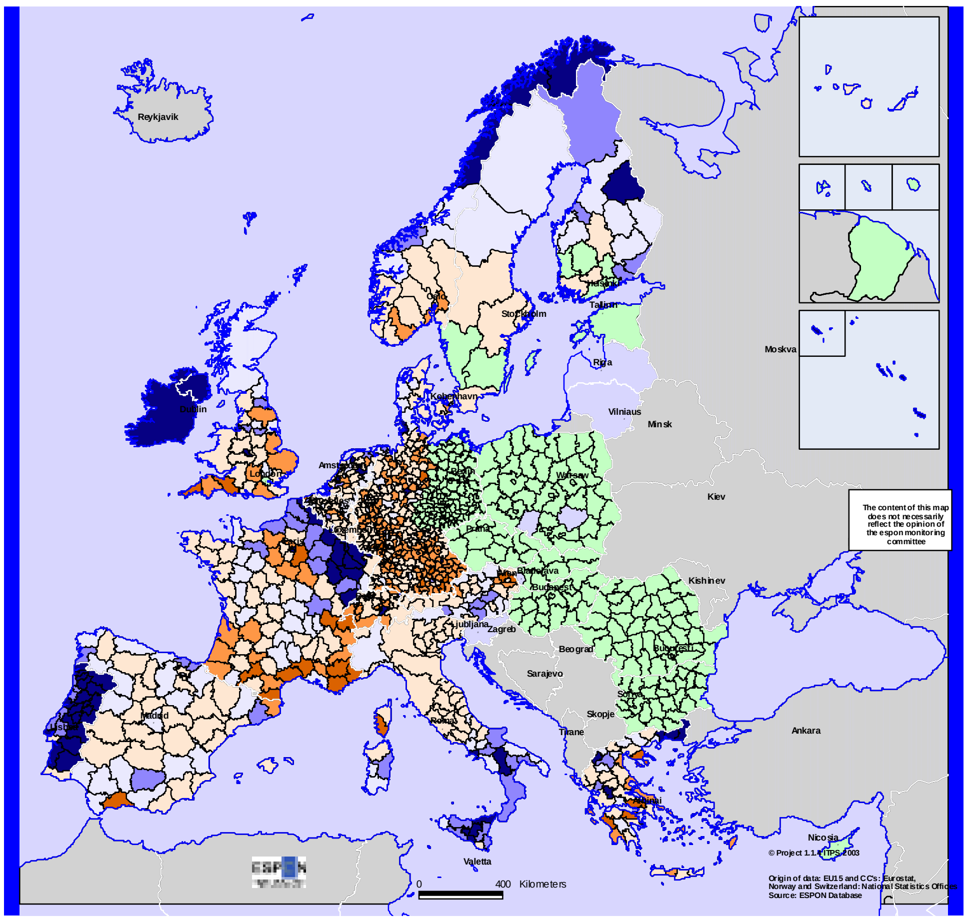
Total Fertility Rate. The total fertility rate TFR is the sum of the age-specific birth rates of women in five-year age groups multiplied by five in this example. Single year or ten-year cohorts or other age groupings can be used. National TFR's are published using five-year Intervals and, therefore, we also use them for comparability. The TFR estimates the number of children a cohort of 1,000 women would bear if they all went through their childbearing years exposed to the age-specific birth rates in effect for a particular time.

Total Population Development. The total population development is defined as the natural population change plus net migration for a given area at a given time.

Annex F

Additional Maps

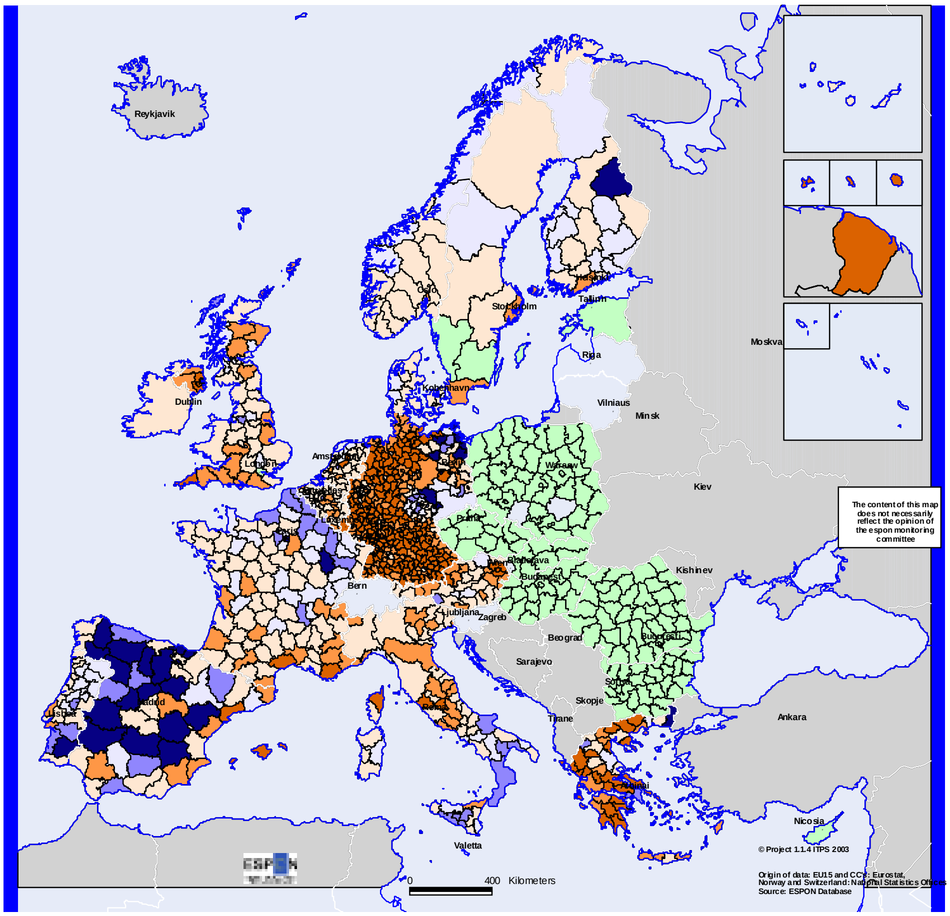
Migratory balance in the eighties



annual average balance
for thousand inhab.

- -46.72 - -5
- -5 - -2.5
- -2.5 - 0
- 0 - 5
- 5 - 10
- 10 - 56
- no data

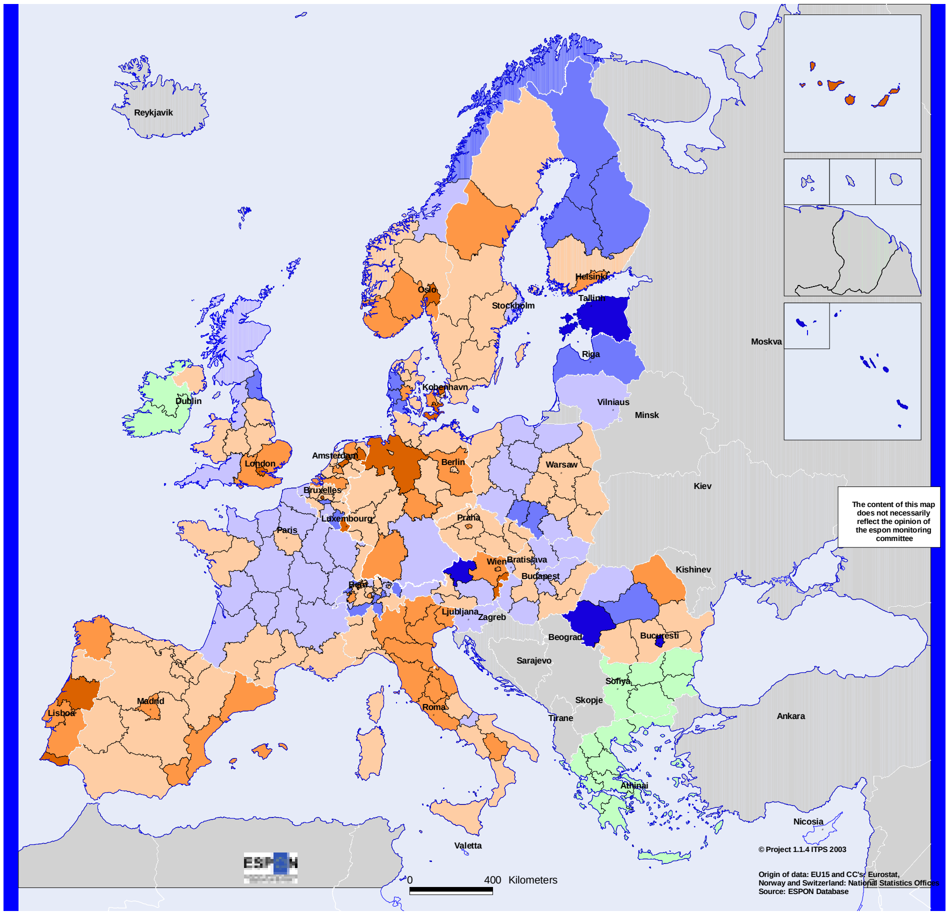
Migratory balance between 1990 and 1995



annual average balance
for thousand inhab.

- -46.72 - -5
- -5 - -2.5
- -2.5 - 0
- 0 - 5
- 5 - 10
- 10 - 56
- no data

External migratory balance, 1996-1999

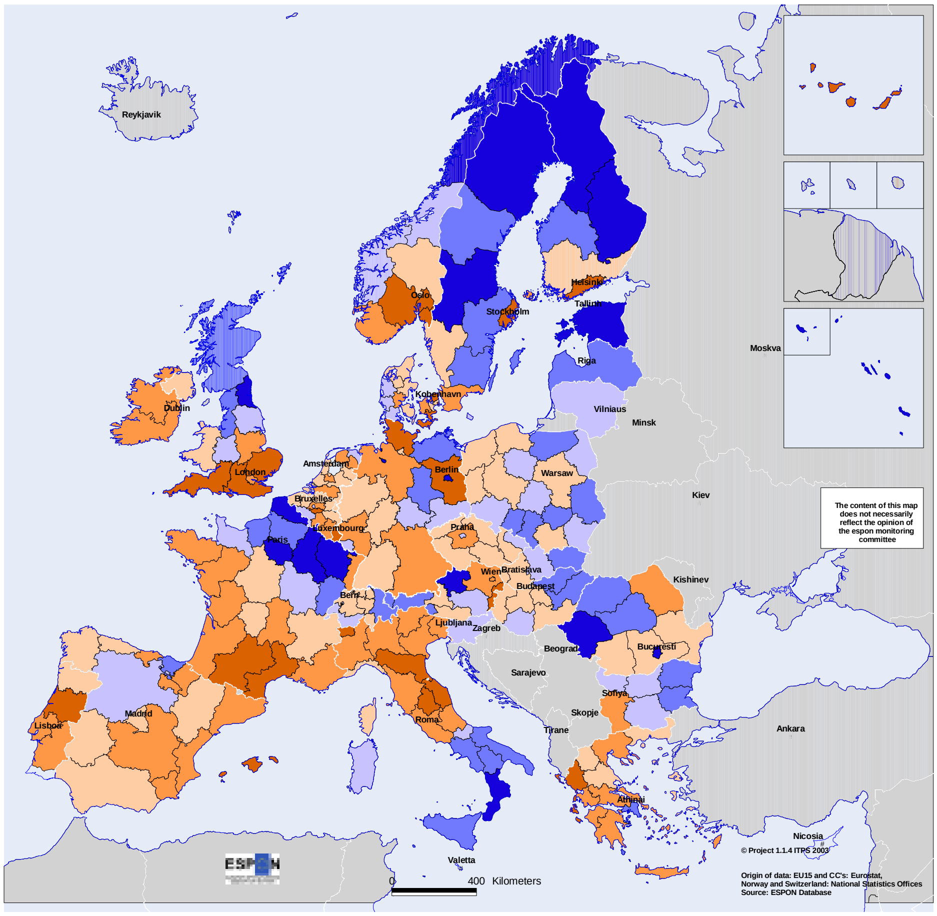


annual average balance
for 1000 inhab.

- -50 - -3
- -3 - -1
- -1 - 0
- 0 - 2
- 2 - 5
- 5 - 20
- no data

Source : Eurostat, except for Switzerland and Norway (national statistical institute)

Total migratory balance between 1996 and 1999

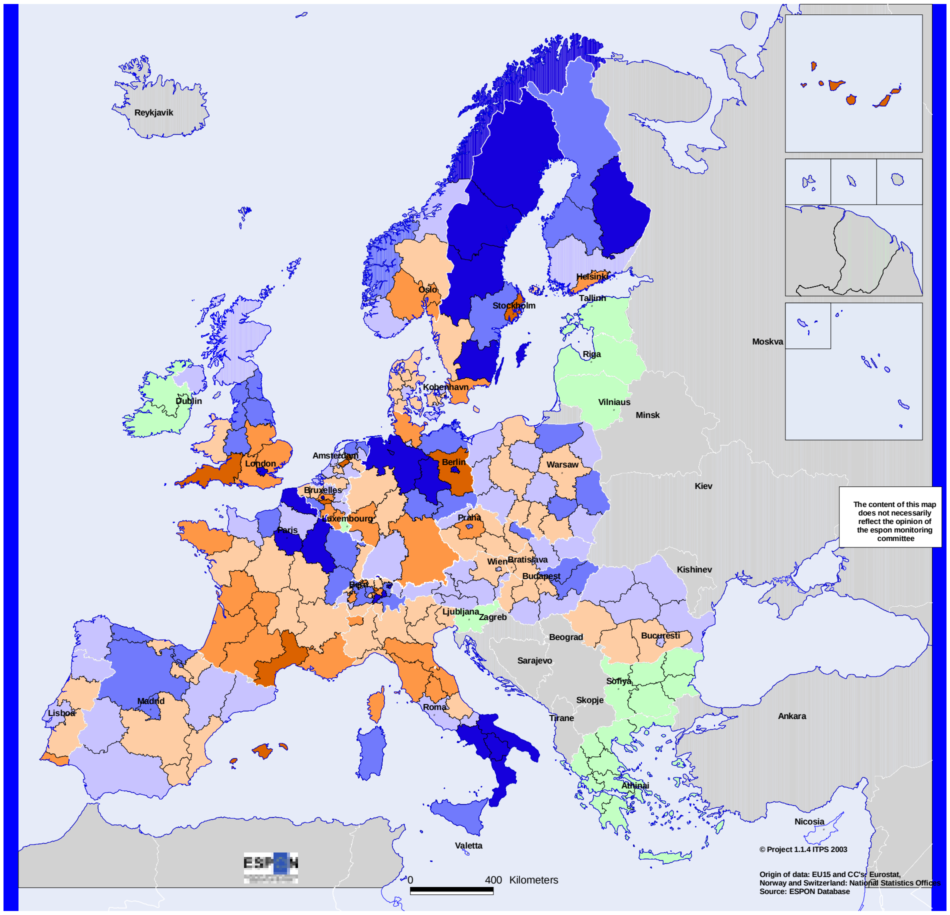


average annual balance
for thousand inhab.

- -50 - -3
- -3 - -1
- -1 - 0
- 0 - 2
- 2 - 5
- 5 - 20

1

Internal migratory balance, 1996-1999

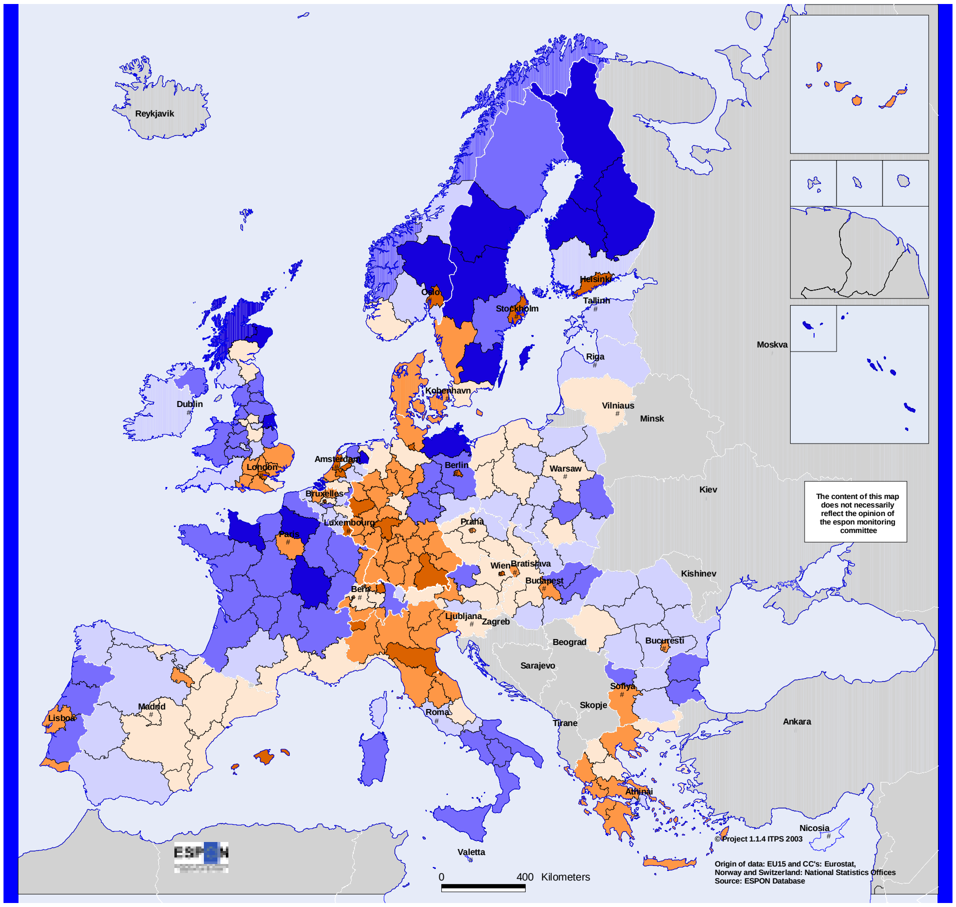


annual average balance
for 1000 inhab.

	-50 - -3
	-3 - -1
	-1 - 0
	0 - 2
	2 - 5
	5 - 20
	no data

Source : Eurostat, except for Switzerland and Norway (national statistical institute)

Migratory balances of 17.5 to 27.5 years old, between 1995 and 2000

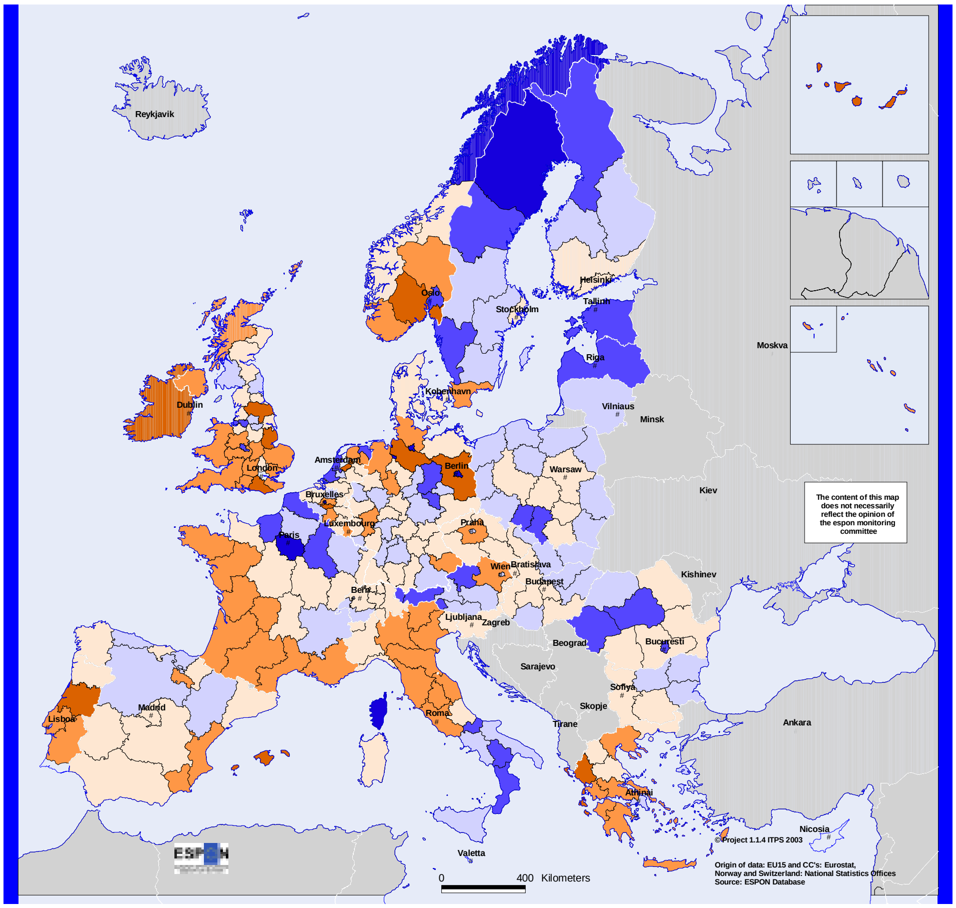


Migratory balances
for 1000 inhab.

- -173.61 - -75
- -75 - -25
- -25 - 0
- 0 - 25
- 25 - 100
- 100 - 305.9

Source : own evaluation on the basis of Eurostat data, except for Norway and Switzerland (national statistical institute)

Migratory balances of 32.5 to 42.5 years old, between 1995 and 2000

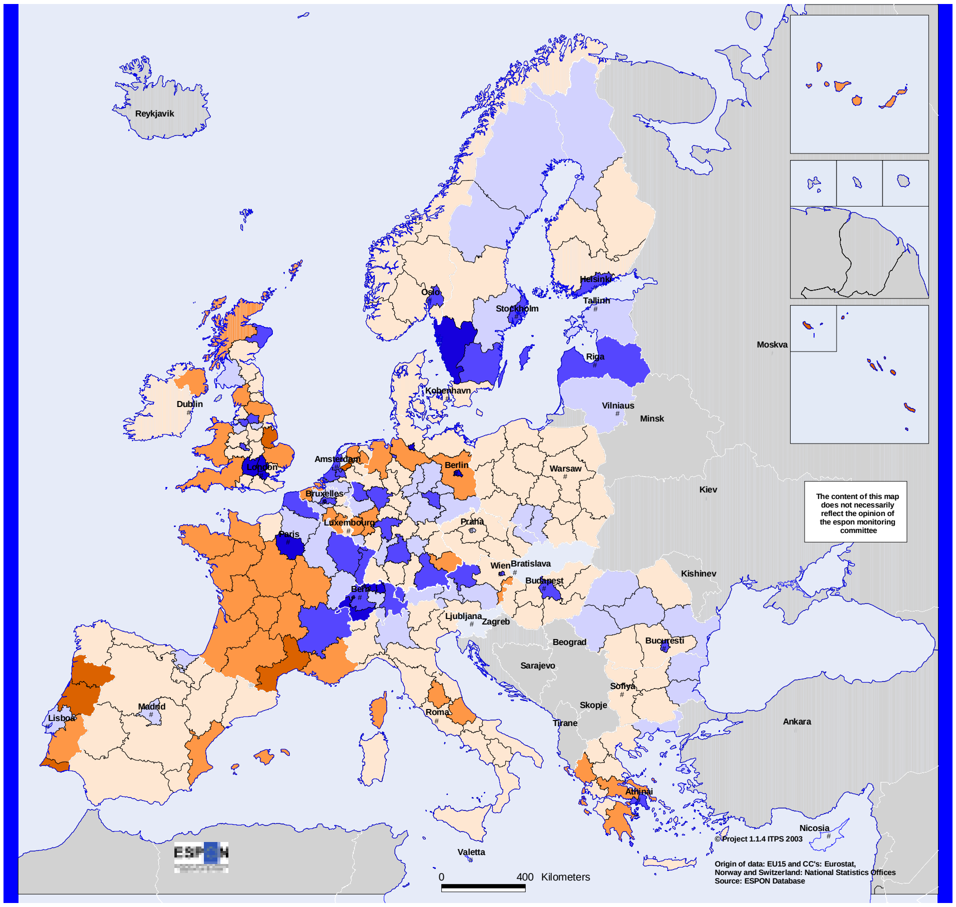


Migratory balances
for 1000 inhab.

- -65.01 - -25
- -25 - -10
- -10 - 0
- 0 - 20
- 20 - 50
- 50 - 161

Source : own evaluation on the basis of Eurostat data, except for Norway and Switzerland (national statistical institute)

Migratory balances of 52.5 to 67.5 years old, between 1995 and 2000

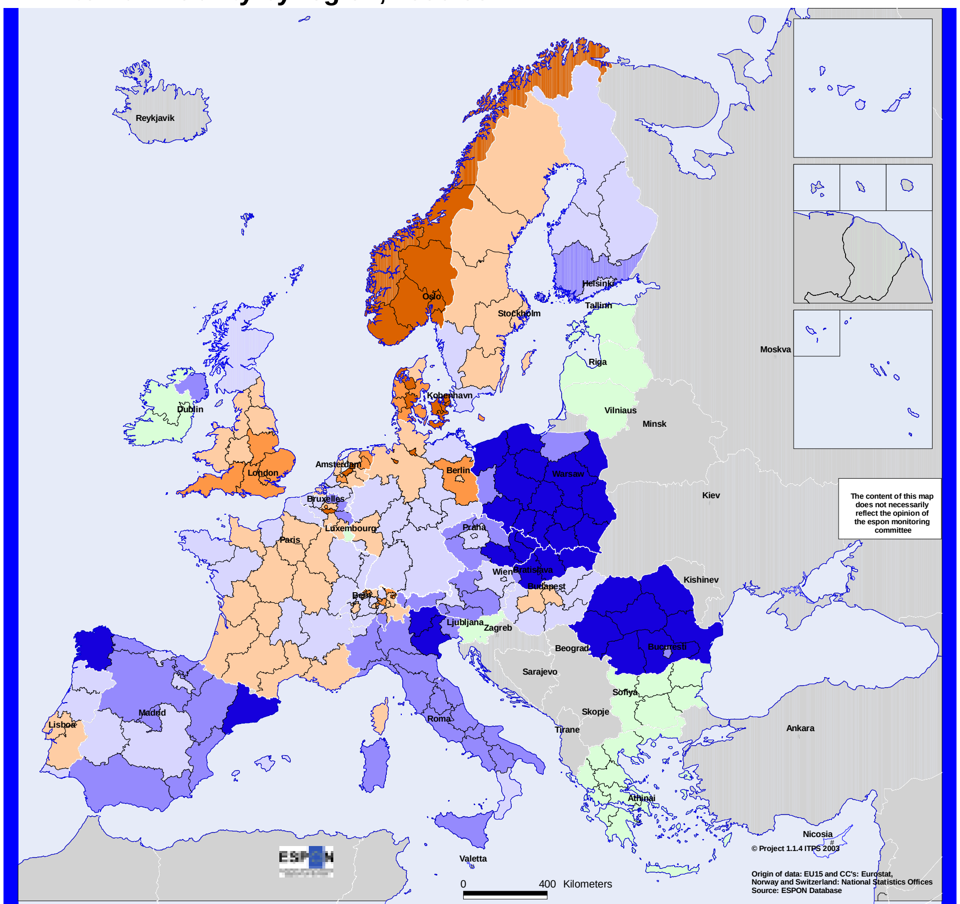


Migratory balances
for 1000 inhab.

- -86.33 - -25
- -25 - -10
- -10 - 0
- 0 - 20
- 20 - 50
- 50 - 125.86

Source : own evaluation on the basis of Eurostat data, except for Norway and Switzerland (national statistical institute)

Internal mobility by region, 1996-99

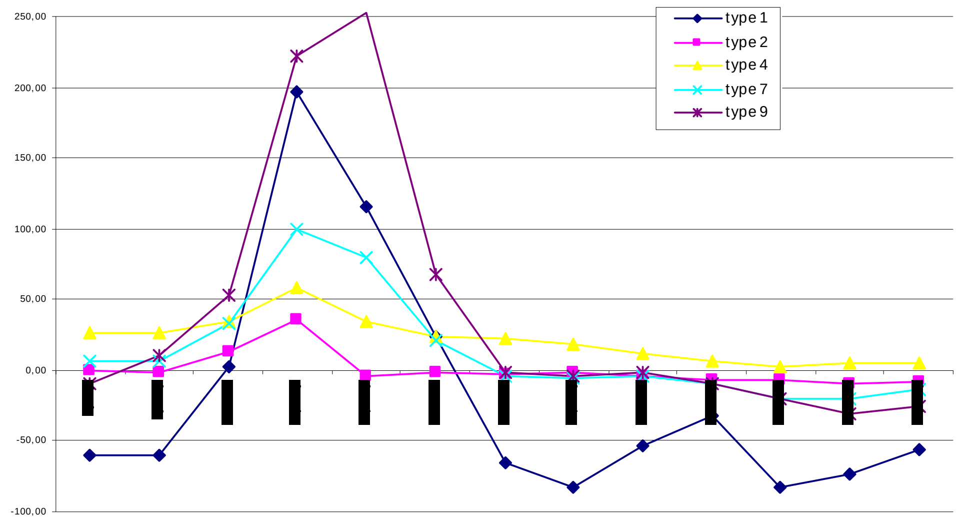


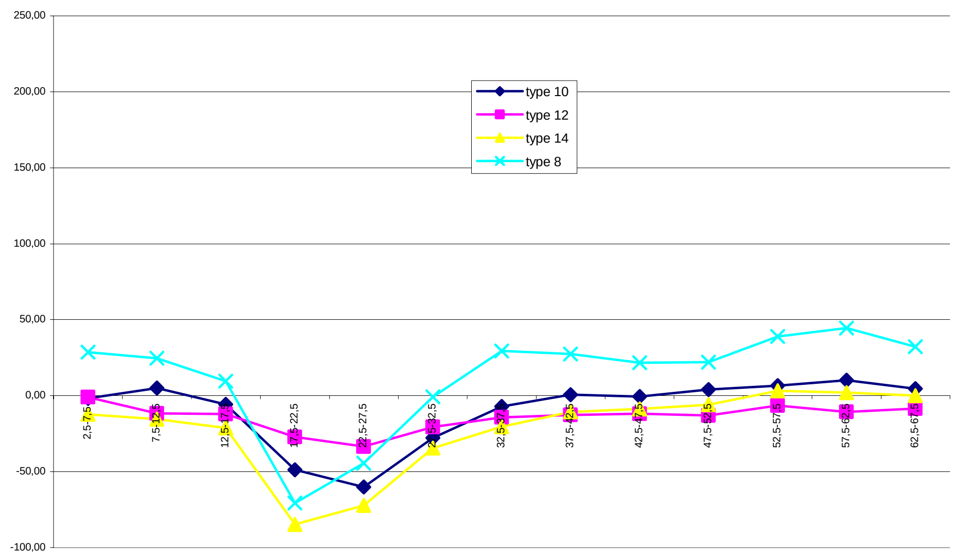
(immigration + emigration) inside the country/
population
for 1000 inhab.

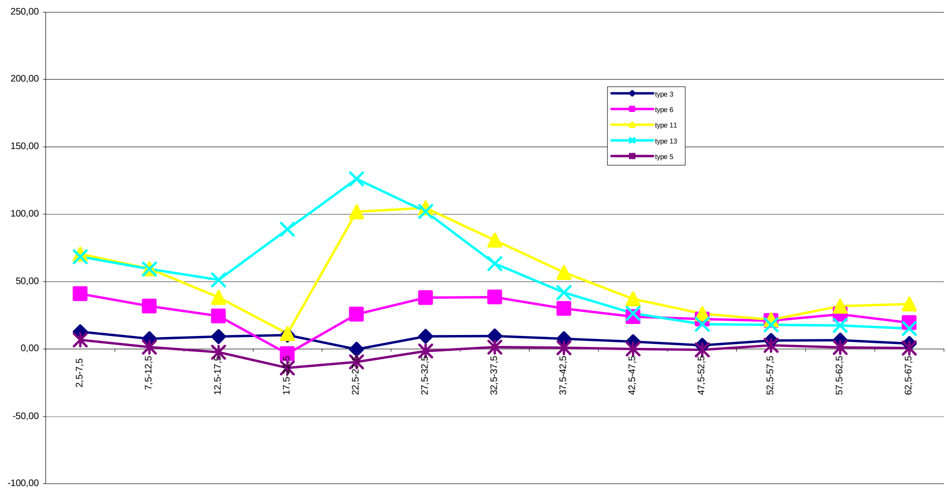
- no data
- 0 - 8
- 8 - 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 110

1

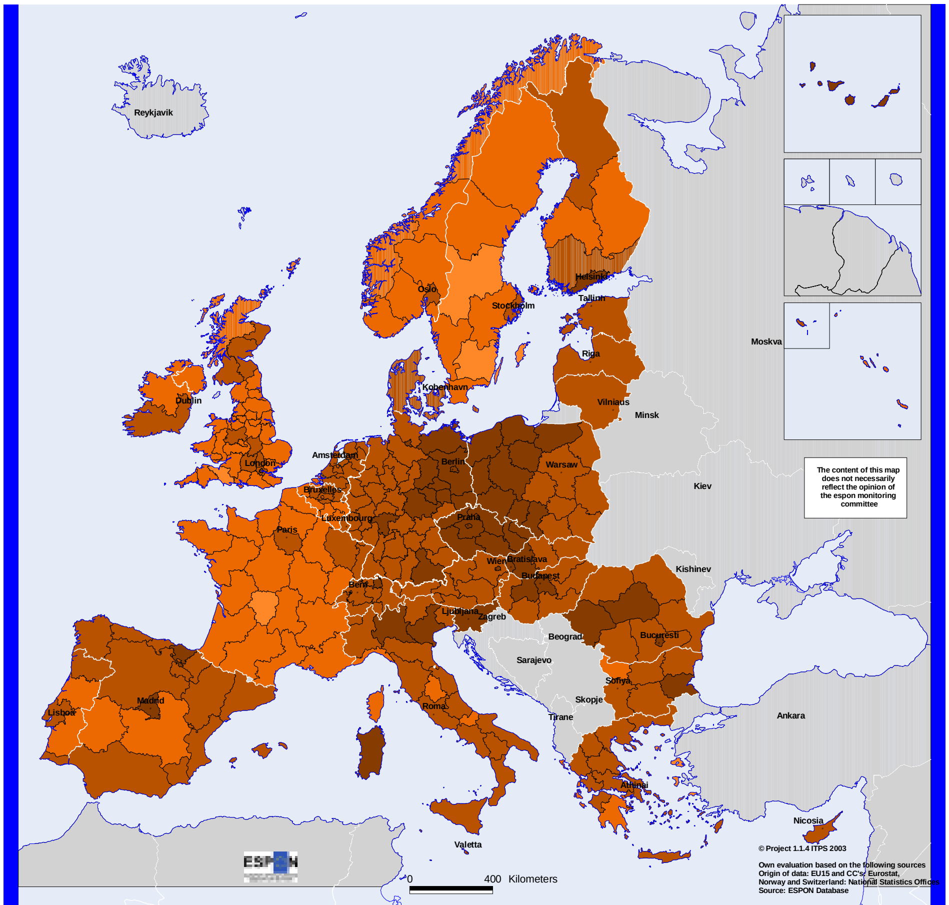
Age profile of the 14 types of the typology






250,00
200,00
150,00
100,00
50,00
0,00
-50,00
-100,00
2,5-7,5
7,5-12,5
12,5-17,5
27,5-32,5
32,5-37,5
37,5-42,5
42,5-47,5
47,5-52,5
52,5-57,5
57,5-62,5
62,5-67,5
type 3
type 6
type 11
type 13
type 5

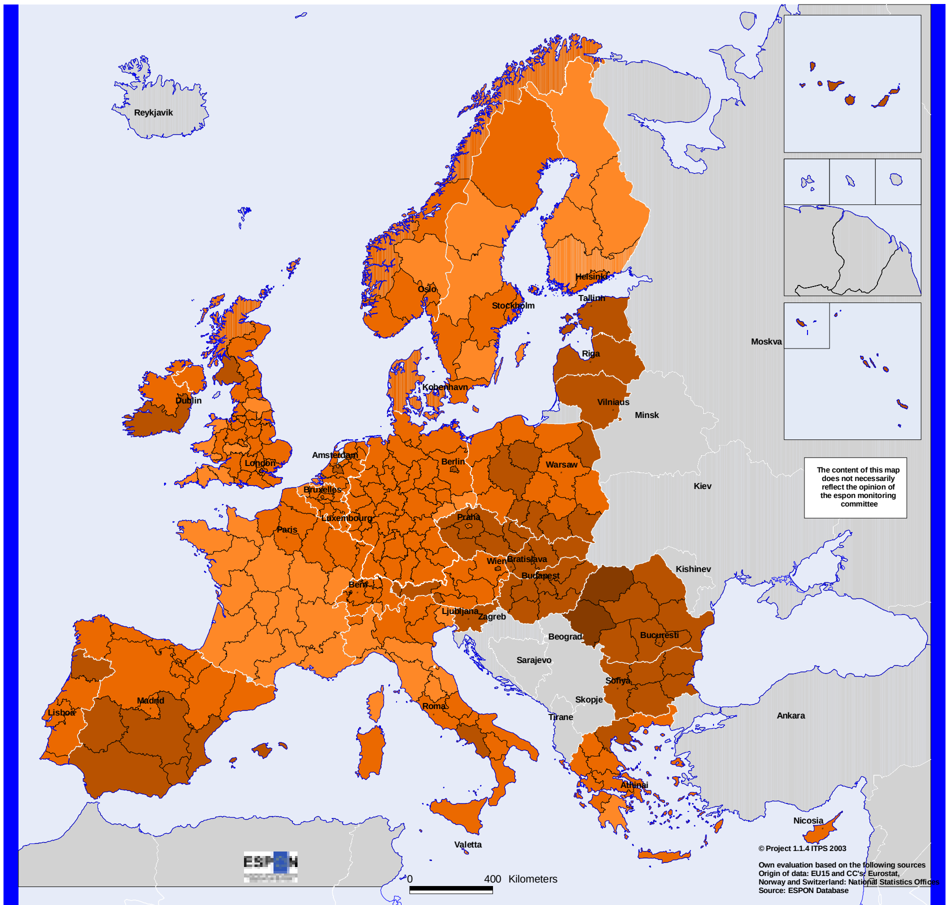
Share of people between 15 and 64 years, model A



People 15-64 years/
total population
%

- 49.6 - 52.9
- 52.9 - 56.1
- 56.1 - 59.3
- 59.3 - 62.5
- 62.5 - 65.6
- 65.6 - 68.9
- 68.9 - 72.1

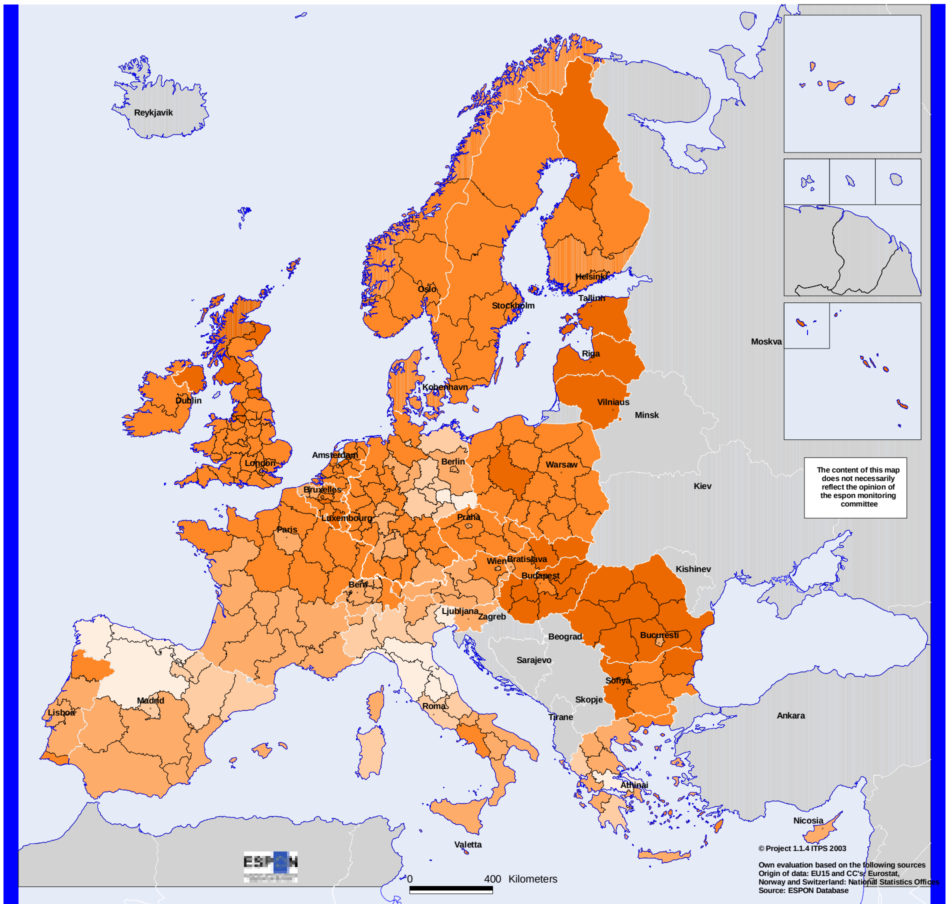
Share of people between 15 and 64 years in 2025, model A



People 15-64 years/
total population
%

49.6 - 52.9
52.9 - 56.1
56.1 - 59.3
59.3 - 62.5
62.5 - 65.6
65.6 - 68.9
68.9 - 72.1

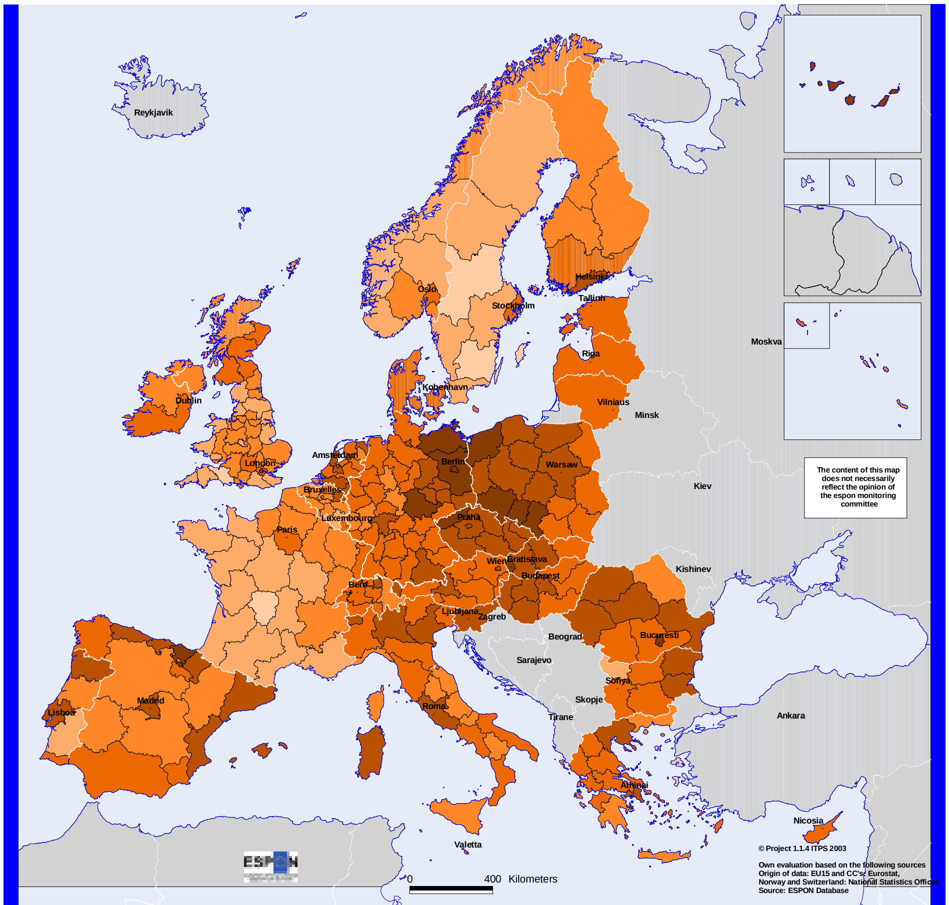
Share of people between 15 and 64 years in 2050, model A



People 15-64 years/
total population
%

49.6 - 52.9
52.9 - 56.1
56.1 - 59.3
59.3 - 62.5
62.5 - 65.6
65.6 - 68.9
68.9 - 72.1

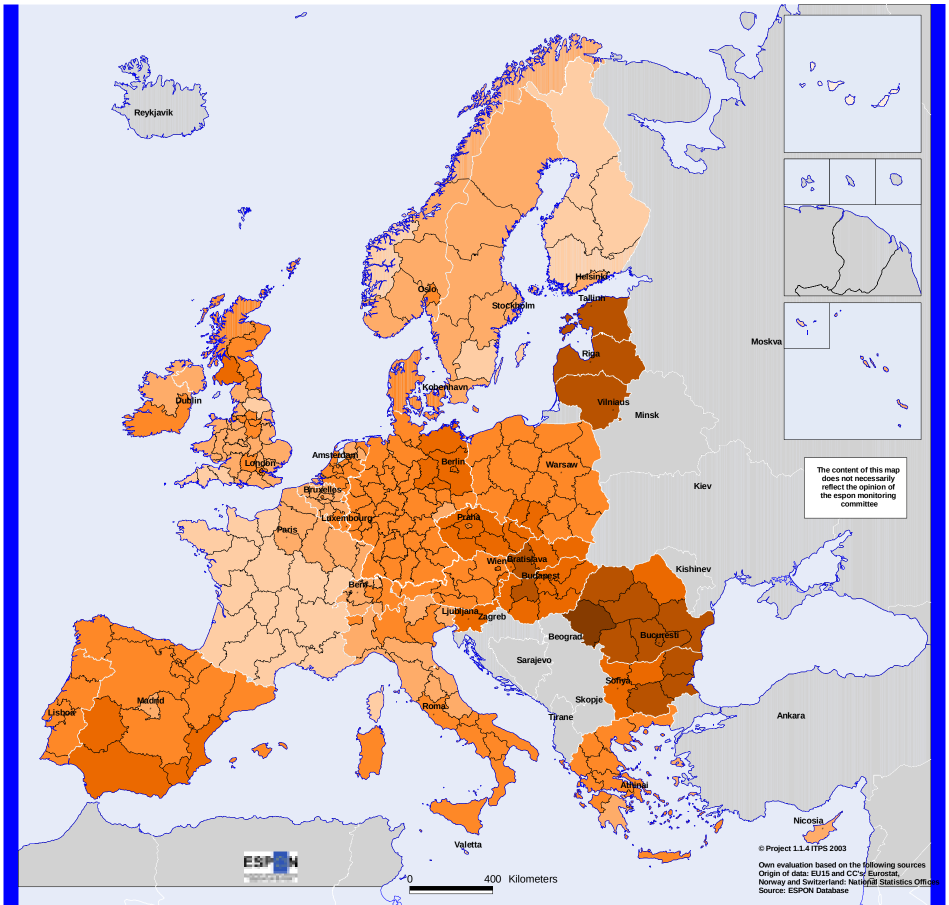
Share of people between 15 and 64 years in 2000, model B1



People 15-64 years/
total population
%

- 58.6 - 60.6
- 60.6 - 62.5
- 62.5 - 64.4
- 64.4 - 66.3
- 66.3 - 68.2
- 68.2 - 70.2
- 70.2 - 72.1

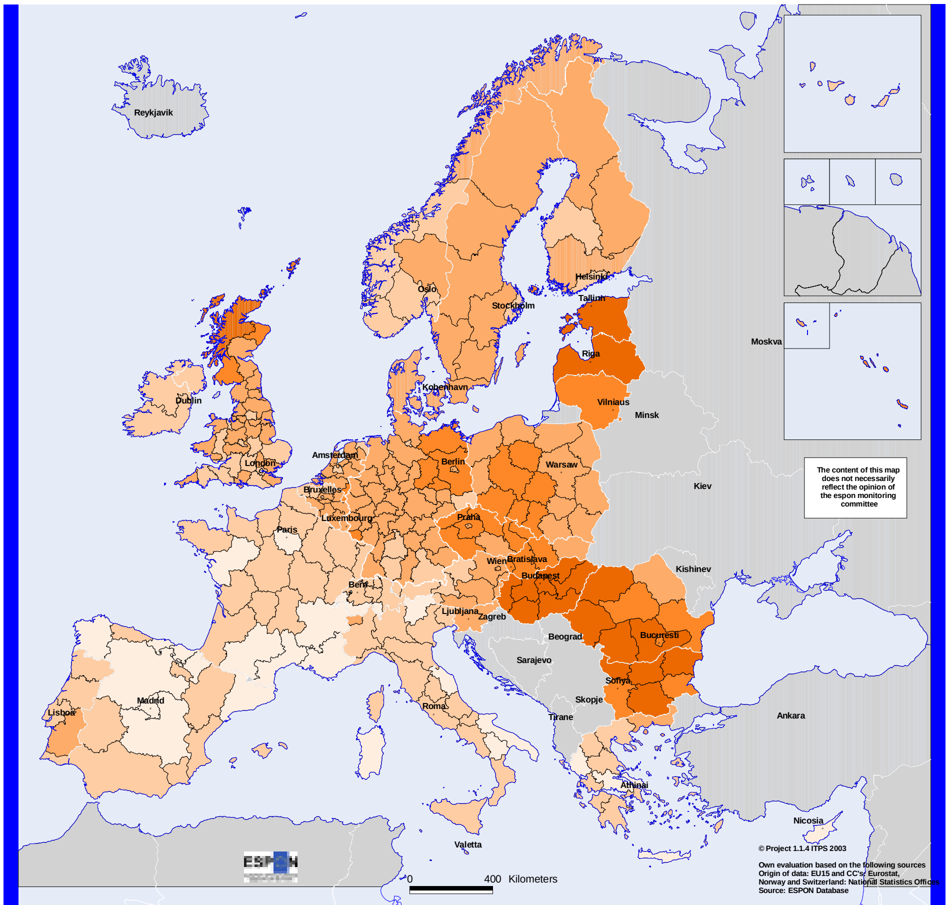
Share of people between 15 and 64 years in 2025, Model B1



people 15-64/
Total population
%

- 58.6 - 60.6
- 60.6 - 62.5
- 62.5 - 64.4
- 64.4 - 66.3
- 66.3 - 68.2
- 68.2 - 70.2
- 70.2 - 72.1

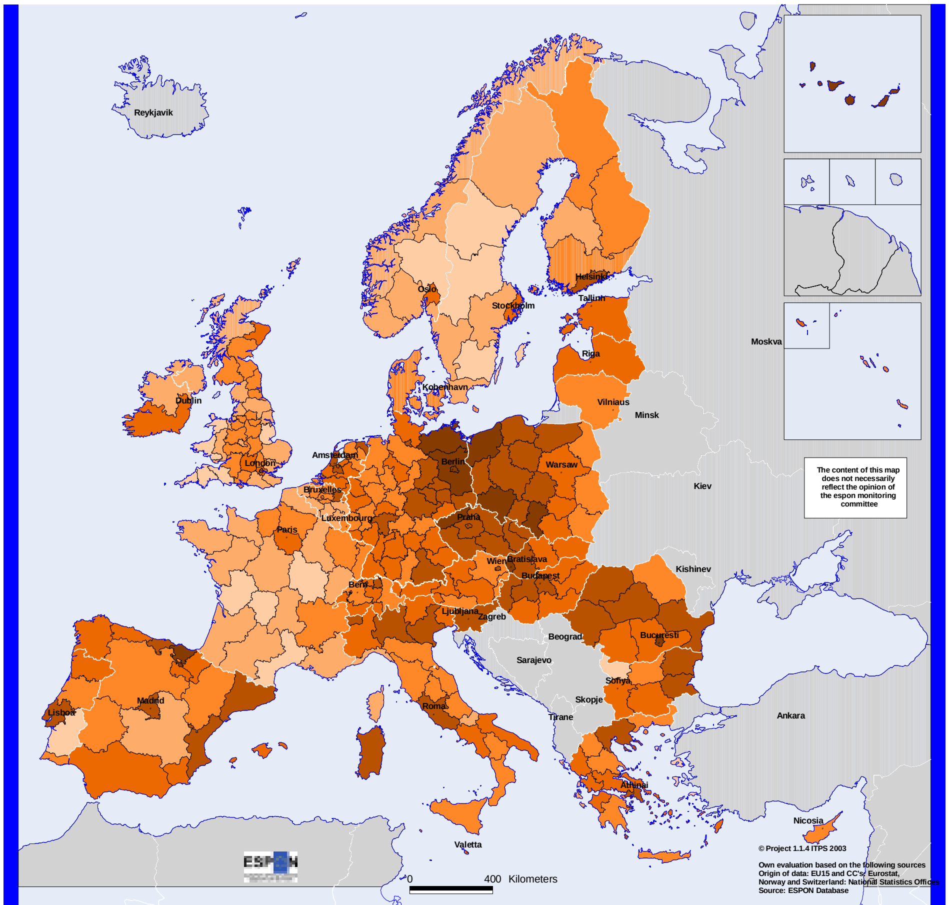
Share of people between 15 and 64 years in2050, model B1



People 15-64 years/
total population
%

- 58.6 - 60.6
- 60.6 - 62.5
- 62.5 - 64.4
- 64.4 - 66.3
- 66.3 - 68.2
- 68.2 - 70.2
- 70.2 - 72.1

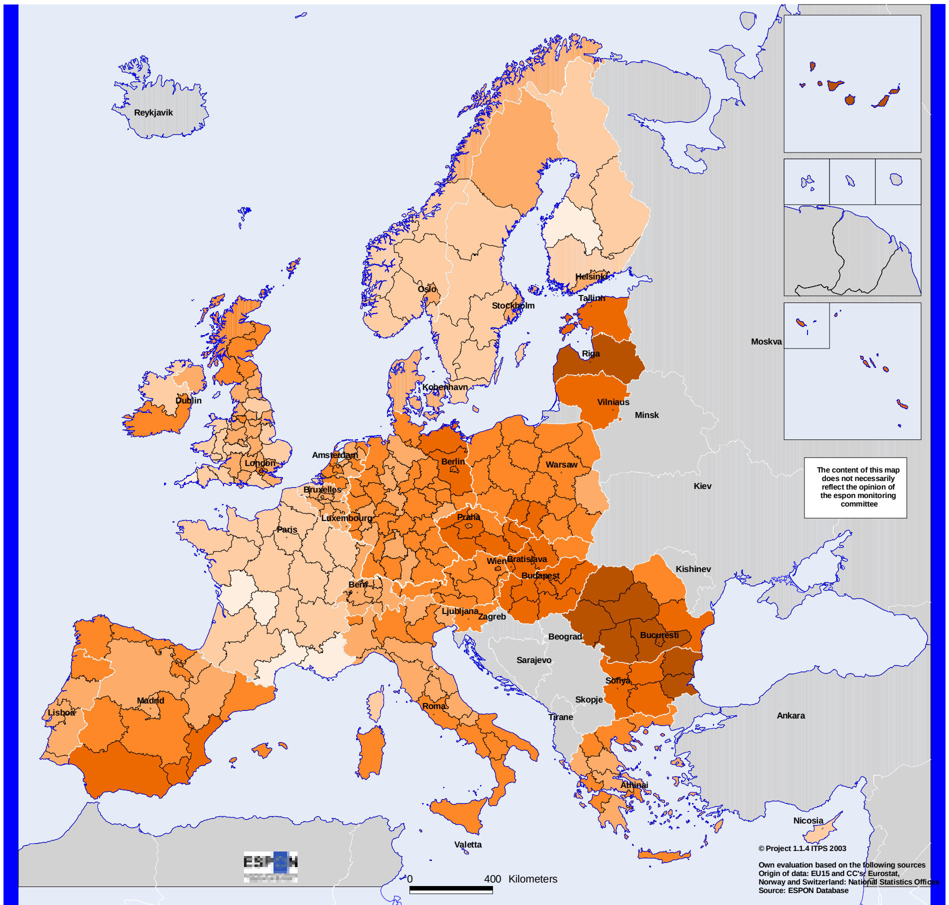
Share of people between 15 and 64 years in 2000, model B2



People 15-64 years/
total population
%

- 59.8 - 61.6
- 61.6 - 63.4
- 63.4 - 65.1
- 65.1 - 66.9
- 66.9 - 68.6
- 68.6 - 70.3
- 70.3 - 72.1

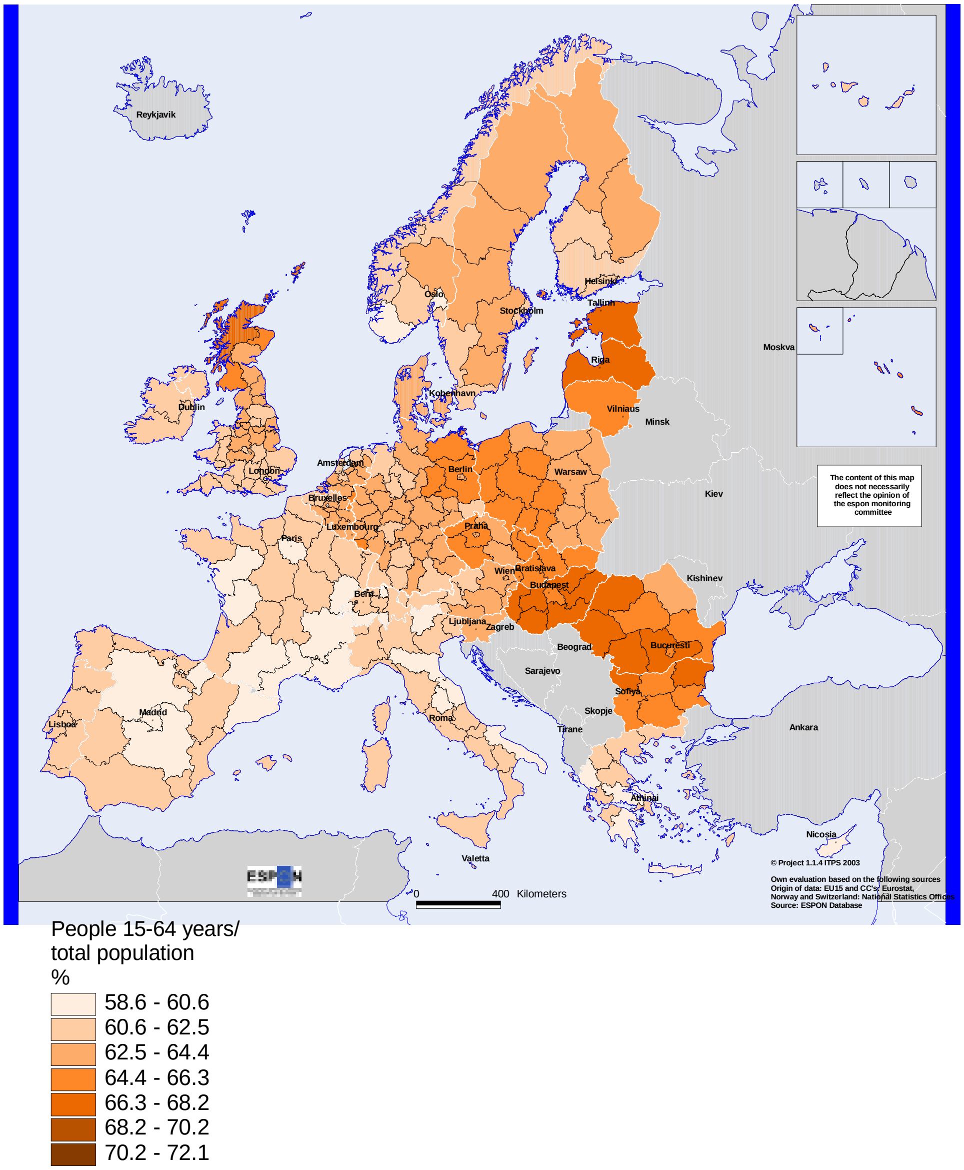
Share of people between 15 and 64 years in 2025, model B2



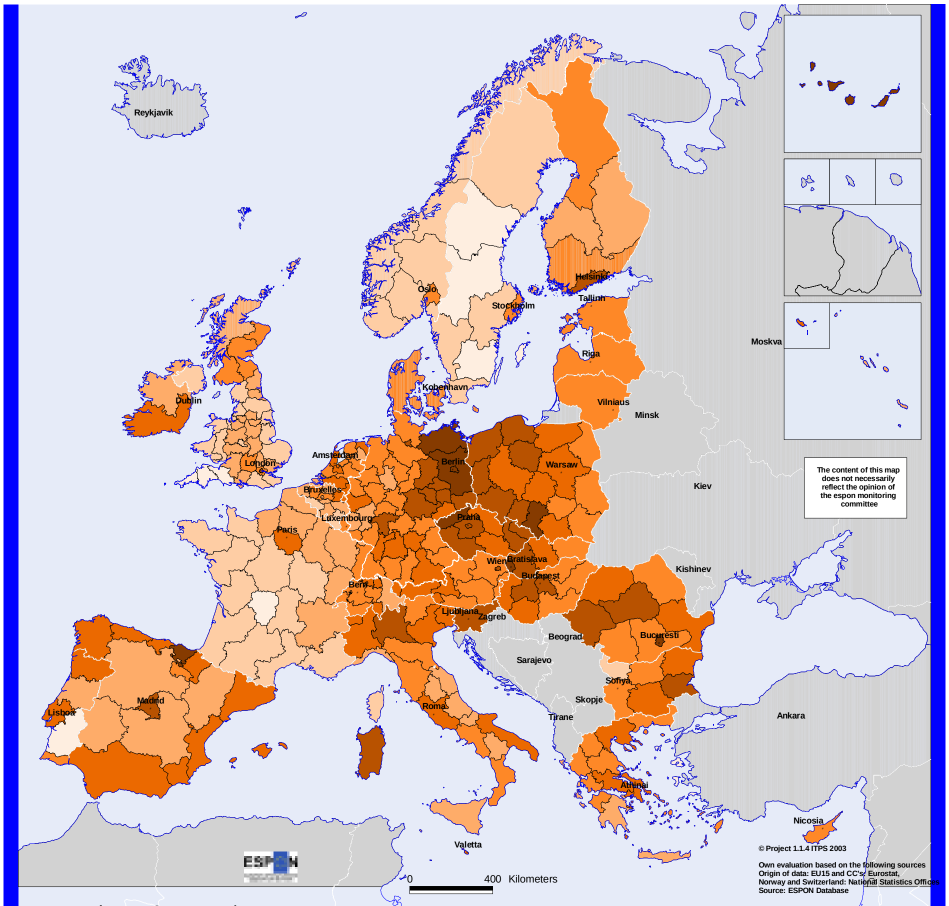
People 15-64 years/
total population
%

- 59.8 - 61.6
- 61.6 - 63.4
- 63.4 - 65.1
- 65.1 - 66.9
- 66.9 - 68.6
- 68.6 - 70.3
- 70.3 - 72.1

Share of people between 15 and 64 years in 2050, model B1



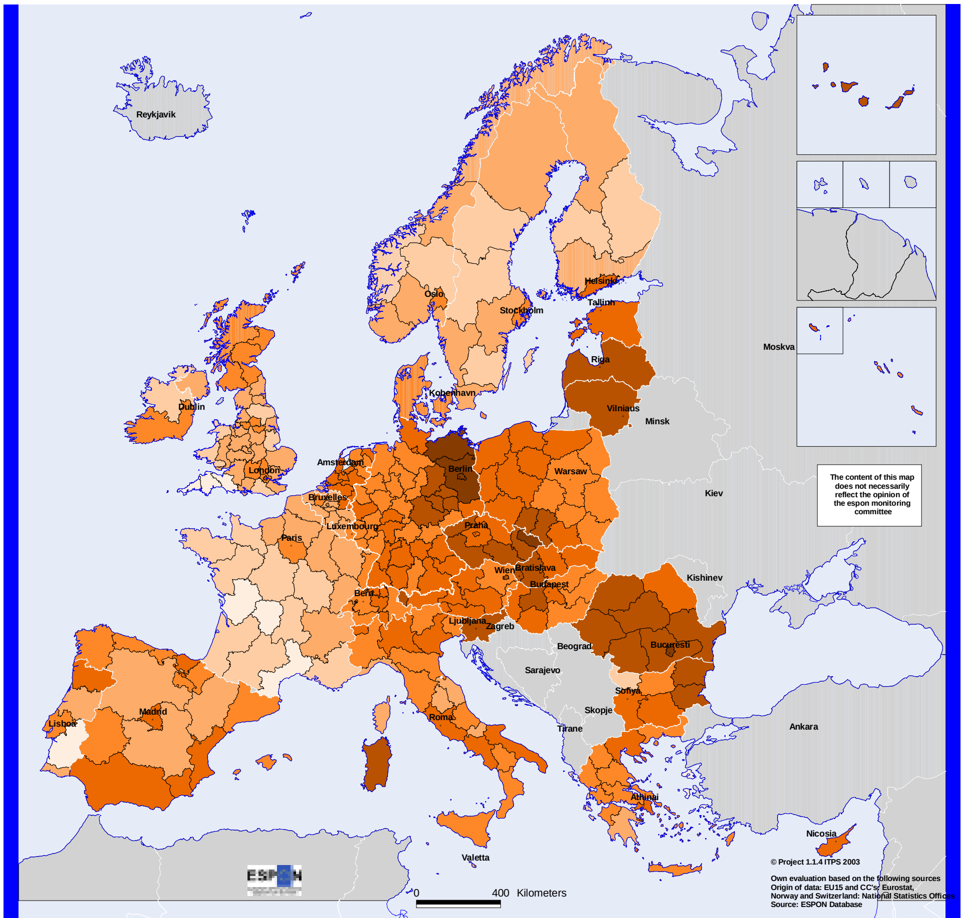
Share of people between 15 and 64 years in 2000, model B3



People 15-64 years/
total population
%

61.61 - 63.1
63.1 - 64.6
64.6 - 66.1
66.1 - 67.6
67.6 - 69.1
69.1 - 70.6
70.6 - 72.1

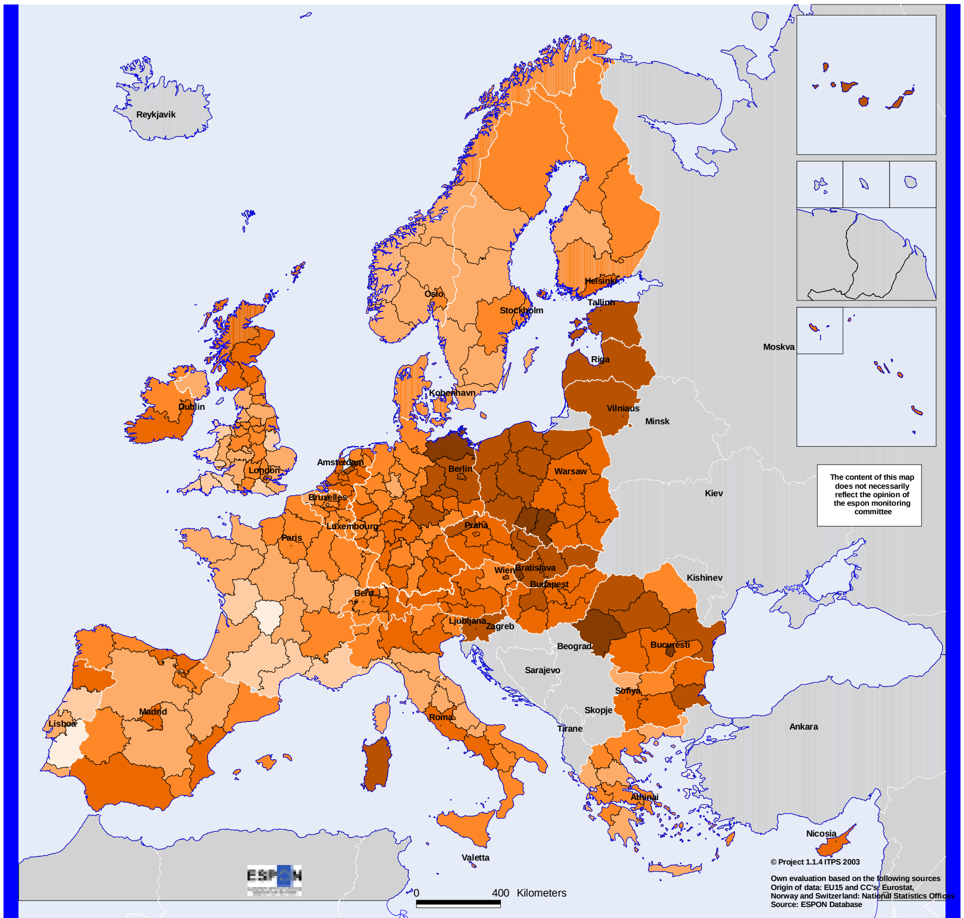
Share of people between 15 and 64 years in 2025, model B3



People 15-64 years/
total population
%

61.61 - 63.1
63.1 - 64.6
64.6 - 66.1
66.1 - 67.6
67.6 - 69.1
69.1 - 70.6
70.6 - 72.1

Share of people between 15 and 64 years in 2050, model B3



People 15-64 years/
total population
%

- 61.61 - 63.1
- 63.1 - 64.6
- 64.6 - 66.1
- 66.1 - 67.6
- 67.6 - 69.1
- 69.1 - 70.6
- 70.6 - 72.1

Annex F

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