

Chapter 12

Ageing and Migration: Some Reflexions on the Effects of the Economic and Financial Crisis on Demographic Trends in Portuguese Regions

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12.1 Introduction

The ageing of the Portuguese population is a long-term trend that began years ago but has become more evident and worrying in the present decade.

The role of international migration in demographic issues has gained significant ground in migration policy debates since the mid-2000s. A growing number of studies about the future of the European population emphasize the role of immigration in the European demographic dynamics (EC 2006, 2009; Lanzieri 2011; Giannakouris 2010; Lutz and Scherbov *s/d*; Bijak et al. 2013).

In 2006, the EU Commission committed itself that every 2 years a European Forum on Demography would be held with the purpose of analysing the demographic trends and reviewing the position of the EU and its member states in responding to demographic change.

Portugal is keeping up with this trend and recent studies on population change, fertility and migration have examined the increasing importance of international migration in population change (Valente Rosa et al. 2004; Magalhães and Peixoto 2008; Abreu and Peixoto 2009; Abreu 2012; Muysken 2008). Growing concerns with the sustainability of the social security system led the Portuguese government to commission research on the evolution of the birth rate and possible measures to

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remove the obstacles to the wanted fertility, in which the role of migration comes into play (Azevedo 2014).¹

According to Statistics Portugal and the 2011 Census (INE 2012), 82.4% of the foreign citizens living in Portugal are aged between 15 and 64 and only 5% are 65 or older, whereas for the nationals those proportions are respectively 65.5% and 19.6%. According to the demographic statistics, in 2012, 12.1% of all births in the country were from foreign mother, father or both, and this proportion grew steadily throughout the last decade (8.5% in 2002).

Considering the relative youth of the migrant population, the higher birth rates of some communities and the regional disparities in its settlement patterns, the presence of foreign groups may attenuate the population loss and ageing in some regions of Portugal, giving a valuable contribution to regional development by feeding the economic activity with working-age population.

However, the economic and financial crisis the country is going through has had a deep effect on the recent evolution of migration flows to and from Portugal. The rising unemployment led to a reduction of labour inflows, expansion of return flows to the origin countries and even re-emigration to other countries, perceived as offering better opportunities. Moreover, on the outflows side, there has been a growing emigration of Portuguese workers that is reaching similar levels to those observed in the 1960s (Fonseca and McGarrigle 2014; Malheiros 2011; Peixoto 2012; Marques 2009; Pires et al. 2010; Santos 2013).

The goal of this chapter is to explore these processes, illustrating the link between economic growth, international migration flows and demographic change in Portugal in the last decades, giving particular attention to the most recent dynamics, mainly after the emergence of the economic and financial crisis in 2008. In order to anticipate the demographic trends at the regional level, forecasting models were developed, taking into account different scenarios of natural population change, economic growth and migration flows. The paper is composed of four main parts and starts by giving a general picture of the main demographic trends in Portugal, focusing on the relevance of migration for demographic change. In the second part, the role of international migration for the growth of the Portuguese economy is analysed, whereas in the third section the population projections according to different scenarios up to 2050 are presented. The fourth part includes a regionalization of the previously mentioned demographic scenarios at the NUTS 3 level. The chapter ends with some concluding remarks.

¹Due to continuous population decline, demographic issues have indeed reached a moment's high in Portugal. Statistics Portugal and the Foundation Francisco Manuel dos Santos conducted a nation-wide survey to fertility in order to understand the values, attitudes and socioeconomic factors underpinning the decision of procreation (INE/FFMS 2014).

12.2 Main Demographic Trends in Portugal: The Increasing Importance of Migration in Demographic Change

Throughout the last 40 years the Portuguese demographic evolution shows a convergence with the EU's average. The total fertility rate (TFR) had a sharp decline, from 3.01 in 1970 (well above the replacement level) to 2.25 in 1980 and 1.56 in 1990. This declining trend has continued and in 2013 it was only 1.21. This is the lowest figure ever in Portugal and the lowest among the EU member states.

Improvements in living standards as well as universal access to the National Health Service have also led to a continuous increase in life expectancy at birth. Indeed, the life expectancy at birth in Portugal has increased during the period 1970–2013 by 12.87 years, reaching an average of 80.00 years for the total population, 76.91 years for men and 82.79 years for women.

The continuous decline of the birth rate and the increase of life expectancy at birth are visible in the population ageing. The recently released results for 2013 show a country with an old age dependency ratio² of 30.3, well above the EU28 average (27.5), an index of renewal of the active population³ of 86.2 much lower than the figure for 2001 (142.4) and a declining proportion of young people (only 14.6% are aged 14 or less against 16.2% in 2001). The 2% population growth between the 2001 and 2011 censuses was possible due to the remarkable increase of foreign citizens in Portugal (rate of change of 70% between the two censuses⁴) who smoothed not only the population decline and ageing, but also the decreasing birth rate. If it was not for the presence of an average of 400,000 non-nationals between 2002 and 2012, representing approximately 4.0% of the total resident population, Portugal would be an even older country.

Indeed, in the last half a century, migration has been a very important component of the population change with a simultaneous decrease of the role of natural growth. This component was particularly important in the 1960s and 1970s (rate of natural increase of 122.2‰ and 85.9‰, respectively) but its relevance dwindled in the following decades with a positive net migration (rate of net migration 1991–2001: 40‰; 2001–2011: 18‰) that clearly overcame the natural component (Table 12.1).

Considering the last 10 years, the way migration flows influenced the evolution of the population in Portugal was quite different throughout the decade and worth

²The old age dependency ratio is the ratio between the total number of elderly persons of an age when they are generally economically inactive (aged 65 and older) and the number of persons of working age (from 15 to 64).

³Relation between the population who is potentially entering the labour market and the population that is leaving it. In potential terms, in 2011, for each 100 people leaving the labour market, only 94 joined in.

⁴The figures from the 2001 and 2011 censuses conducted by Statistics Portugal differ from those disseminated by the Immigration and Borders Service for the same years, being the main reason for the disparities the criteria used to collect the data.

Table 12.1 Components of population change in inter-census periods, 1960–2011

Rates per 1000 people			
Decades	Population change	Natural increase	Net migration
1960–1970	–25.8	122.2	–148.0
1970–1981	126.5	85.9	40.6
1981–1991	3.5	35.5	–32.0
1991–2001	48.4	8.3	40.0
2001–2011	19.7	1.7	18.0

Source: 1960, 1970, 1981, 1991, 2001 and 2011 INE census data; INE Statistical Yearbooks (several years)

analysing in more detail. Considering the most recent decade, the population variation between 2001 and 2009 (from 10,394,669 to 10,573,479, i.e., 1.72%) was essentially due to the positive net migration that compensated the very low natural growth rate which has been increasingly negative since 2007 (from -0.01% in 2007 to -0.23% in 2013). That is, for most of the period, the inflows exceeded the outflows and even compensated for the negative natural change until 2009, allowing Portugal to have a small population growth. However, the onset of the economic crisis of 2008 has had a direct impact on the migration flows to and from Portugal with less people choosing it as a country of residence and more people leaving for other destinations seen as more attractive, both in Europe and on other continents. Since 2010 emigration has been higher than immigration and thus, the migratory flows are reinforcing the already negative natural population loss.

Emigration has been a structural feature of the Portuguese society, and despite the fluctuations observed in the 1990s, especially in the temporary outflows, the figures were rather low in this decade and in the early 2000s, probably due to the good economic performance of the nation's economy⁵ (Peixoto 1993; Arroeteia 2011). Despite the breaks in the statistical series that render a longitudinal comparison more difficult, temporary and permanent emigration have been growing steadily since 2011 with the temporary outflows higher than the permanent ones (Fig. 12.1).

In Fig. 12.1, it can also be observed that since 1993, the temporary emigration has been always higher than the permanent kind. According to Peixoto (2004), the real identity of the temporary emigrants may have changed across time. They often used the temporary migrant status because it was the only legal way to have access to the labour market in the hosting countries. After returning to Portugal, they would leave several times until they obtained a permanent status. More recently, researchers admit that a significant proportion of these individuals are indeed

⁵Between 1991 and 2007, the GDP's real growth rate was always positive (except in 1993 and 2003) and often above the EU average in the early 1990s. Moreover, in the same period, the unemployment rate was kept below the two-digit figure, reaching a maximum of 8.0% in 2007 and was frequently below the EU average (Source: Fonseca and Malheiros 2003; Fonseca and McGarrigle 2014).

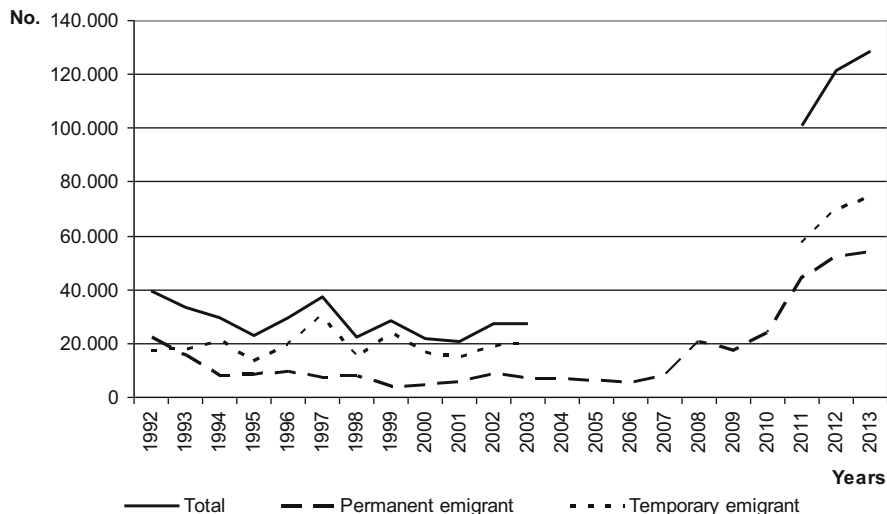


Fig. 12.1 Emigration from Portugal: total, temporary and permanent, 1992–2013. Source: Statistics Portugal and PORDATA. Note: The data between 1992 and 2007 were collected in the survey of the outflows and from 2008 onwards in the Annual Estimations of Emigration. Both sources are from Statistics Portugal

temporary workers who emigrate for restricted periods in order to maximize their income abroad.

Regarding immigration, the effects of the economic and financial crisis are reflected in the decrease of the inflows to Portugal, as well as in return flows to sending countries or re-emigration to other destinations of a growing number of foreigners (Fonseca and McGarrigle 2014; Pires et al. 2010).

12.2.1 Regional Disparities

The population loss and ageing is not evenly distributed across Portugal and noteworthy regional disparities can be found. The migratory gains of the first half of the 2001–2011 period were not equally distributed throughout the country, with foreign citizens opting for the areas with higher economic dynamics to settle down (Fonseca et al. 2013; Malheiros and Esteves 2013; Reis et al. 2010). Regions like the metropolitan areas of Lisbon and Porto and the Algarve were more often chosen by immigrants, who not only increased the resident population but also smoothed the population ageing through their younger age structure and higher birth rates. According to the 2011 census, 82% of the foreign citizens living in Portugal were aged between 15 and 64 years and those aged 65 or older only accounted for 5%. For the total resident population, the correspondent values were 59% and 20%, respectively (INE 2012). Considering the birth rates, again the foreign population

overcomes the figures for the Portuguese nationals: in 2001, the feminine birth rate (number of live births per 1000 women) for Portuguese women was 20.4‰ whereas for women with a foreign citizenship it reached 55.8‰ (Valente Rosa et al. 2004). For 2011 the difference between the two groups persists but with lower rates as a result of population ageing (16.5‰ and 51.0‰ respectively).

Considering the location quotients⁶ of foreign residents, they are more notably over-represented in the NUTS 3 of Grande Lisboa and Algarve, but also in Península de Setúbal, Oeste and Alentejo Litoral (Fig. 12.2).

Despite this spatial concentration in the three mentioned regions, it should also be noted that the migrants who arrived in the more recent migratory flows of the 2000s (Brazilians, Ukrainians and nationals from other Eastern European countries and from the former USSR) are slightly more dispersed throughout the territory compared to the citizens coming from the Portuguese-Speaking African Countries (PALOPs) and from the Asian continent. Although in small figures, the presence of Brazilians, Romanians, Ukrainians and Moldovans in the interior parts of Portugal contributed to the slowdown of population loss and ageing. However, vast areas of Portugal, namely the interior north and centre, the Alentejo region, the mountain areas of the Algarve, and some municipalities of the Autonomous Regions of the Azores and Madeira lost population and increased their demographic ageing index. The regions with a more severe negative population change were the NUTS 3 of Beira Interior Norte, Serra da Estrela and Pinhal Interior Sul (between -8% and -12%) which largely coincide with the geographical units with higher proportion of people aged 65 or older, but Alto Trás os Montes and Beira Interior Sul also have to be added (proportions between 27.9% and 33.6%)—Figs. 12.3 and 12.4. The NUTS 3 in the littoral, presenting more economic dynamics and labour market opportunities had population gains: up to 5% in the case of NUTS 3 of Grande Porto, Cávado, Ave and Tâmega and between 5% and 14% for Grande Lisboa, Península de Setúbal, Oeste, Algarve and the archipelago of Madeira. Some of these regions also have small proportions of ageing people (the archipelago of Madeira, for example) but in others, like the Oeste, 20% of the residents are aged 65 and older⁷ (Fig. 12.4).

⁶According to Statistics Portugal, the location quotient is calculated as follows: $LQ = (X_{rj}/X_r)/(X_{pj}/X_p)$, being X_{rj} the population of the group j in the territorial unit r ; X_r the total population of the territorial unit, X_{pj} the population of the group j in the territorial unit p ; X_p the total population of the unit p .

⁷According to Statistics Portugal, the ageing population is the population aged 65 or older.

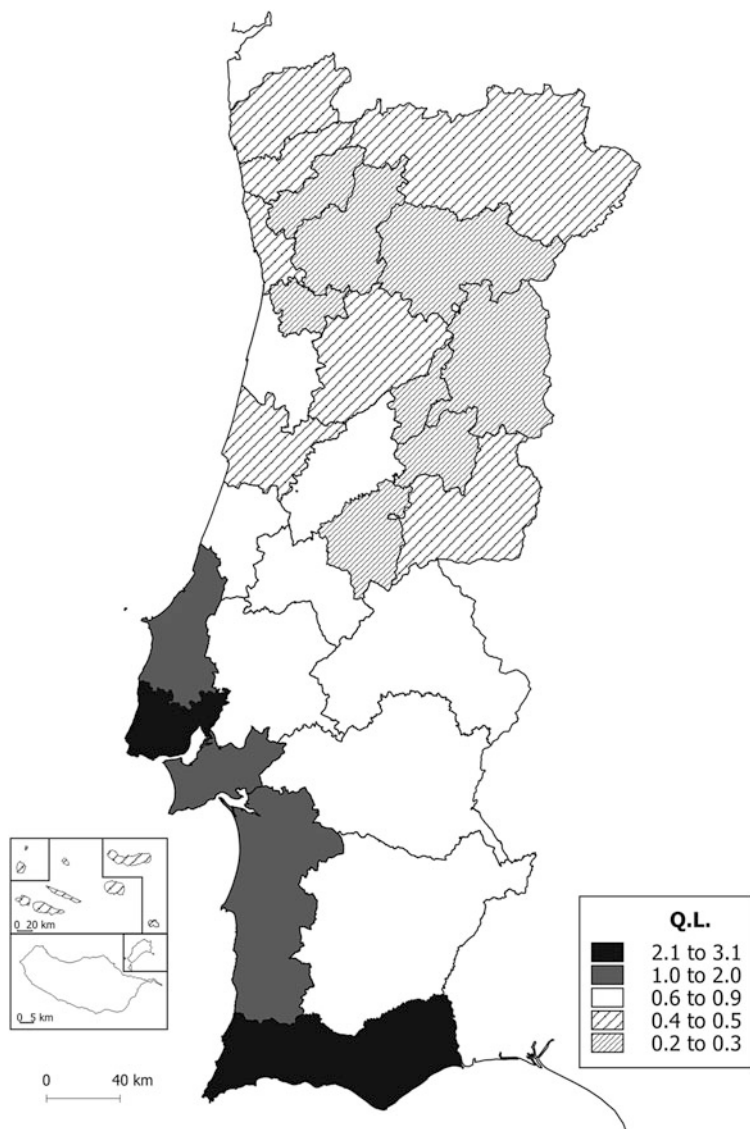


Fig. 12.2 Location quotients of foreign residents, 2011, NUTS 3. Source: INE 2012, with the authors' elaboration

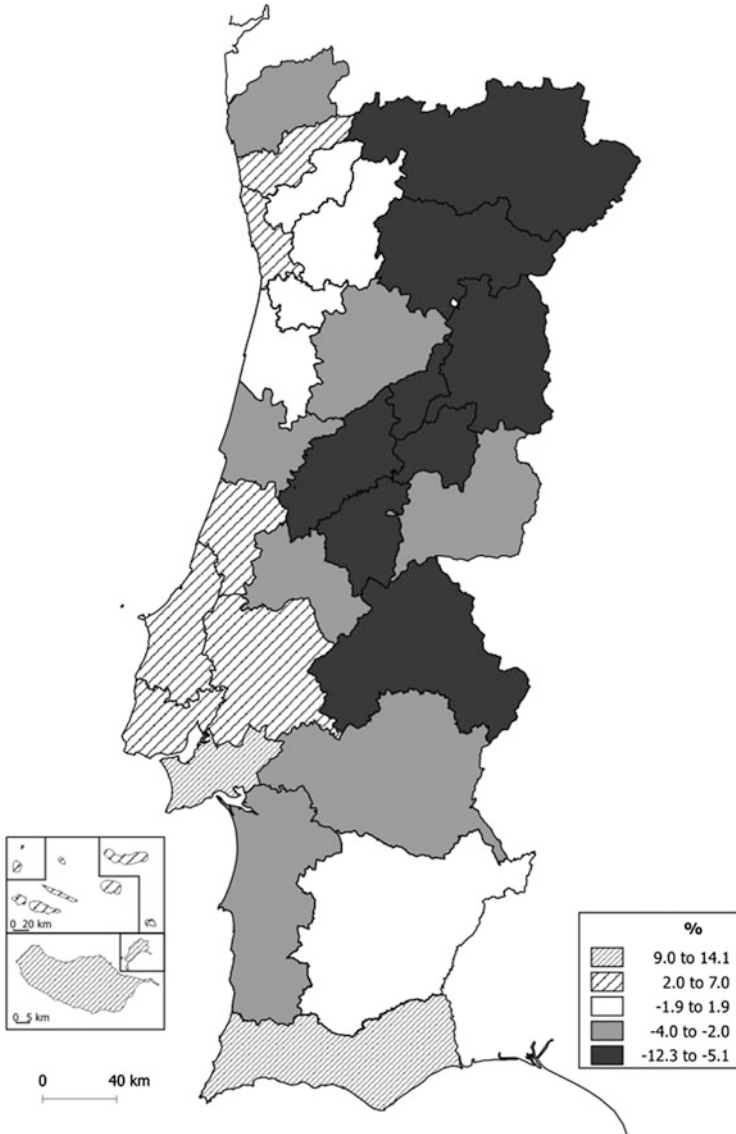


Fig. 12.3 Population change 2001–2011 (%), (NUTS 3). Source: INE 2012, with the authors' elaboration

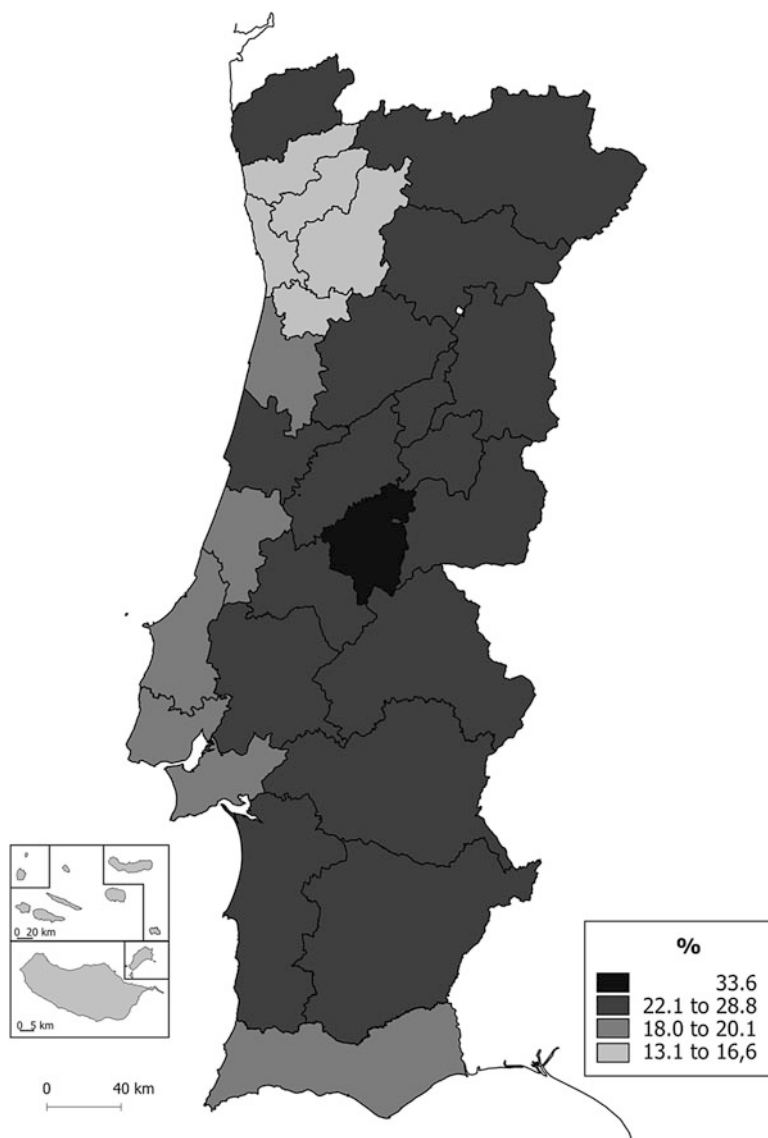


Fig. 12.4 Ageing population on the total population, 2011 (%), (NUTS 3). Source: INE 2012, with the authors' elaboration

12.3 International Migration and Growth of the Portuguese Economy: A Model Based on the Extensive Use of Labour

Considering the relevance of the migration flows in the evolution of the population living in Portugal, it is worth looking at the factors that have constrained or influenced their evolution. From a long-standing emigrant nation, due to the structural features of the Portuguese economy, regional asymmetries and geo-economic unbalances between Portugal and the destination countries, the country evolved to being a host of foreign citizens from the second half of the 1970s onwards (Baganha 1994; Arroiteia 2011; Fonseca 2005; Fonseca et al. 2003; Pires et al. 2010). The decolonization process in Africa in 1974–76 led to a boom of arrivals of Africans from the former colonies until the early eighties. The rate of increase was fairly good during the 1980s and there was a diversification of geographical origins (Asians from Pakistan, India and China, and South Americans, mostly Brazilians) pointing to a more important role of the Portuguese labour market in the recruitment of foreign workers and closely associated with the good economic performance of the country, especially after joining the EU in 1986, and until 1991 (Baganha et al. 1999; Fonseca and Malheiros 2003).

Indeed, the European funds of the Community Support Frameworks allowed for major public works in Portugal in the fields of transportation, construction, communication and energy, just to name a few (Fonseca et al. 2002; Góis and Marques 2007; Malheiros and Esteves 2013). There was a simultaneous increase in the foreign direct investment and a modernization of the Portuguese economy, with the tertiary sector assuming a predominant role in the country's creation of wealth.

However, a service-oriented economy may not be associated with high productivity and skills. As stated by experts from several fields “the Portuguese economy of the new millennium is an intensive user of labour force, more so than other productive factors. Therefore, its model of growth is conventionally called extensive.” (Reis et al. 2010, p. 23). Mota et al. (2004) add that the sectors which grew more significantly created huge amounts of low-skilled jobs, with low levels of productivity and productivity growth.⁸ This means that there was abundant offer on the side of the labour market which was satisfied by a higher participation of women and import of foreign workers (Baganha et al. 1999; Reis et al. 2010). As noted by other authors, informality, heavy segmentation and seasonality of some sectors are important features of the Portuguese labour market (Carvalho 2007; Peixoto 2008; Fonseca and McGarrigle 2014) and immigrants, due to their flexibility and ability to adapt to new and more precarious situations, were essential to feed the intermittent cycles of economic growth of the nineties and 2000s. Reis et al. (2010) explain that

⁸Besides its extensive character, the model was also dual in the sense that a small and geographically concentrated nucleus of activities of the industrial and tertiary sectors and also of the knowledge branch, with higher productivity and highly-skilled jobs, was consolidated (Mota et al. 2004).

for the Portuguese economy, immigration changed the ratios measuring the availability of active labour force *vis-a-vis* the resident population because immigration is associated with employment search and therefore, to mobility of active-age people between countries.

Considering that labour is a variable of adjustment in face of the economic cycle,⁹ in contexts of economic crisis like the one Portugal is experiencing, when confronted with lack of jobs, national and foreign workers leave and look for better opportunities in other places. Moreover, potential migrants in the home country receive negative feedback from relatives and friends living in Portugal who advise them to opt for a more prosperous country (Fonseca et al. 2014). Therefore, not only have the outflows increased but there has also been a simultaneous reduction of the inflows.

Despite the challenges in measuring emigration, Malheiros (2011) points to a figure close to 70,000 exits per year in the second half of the 2000–10 decade whereas a recent report from the Observatory of Emigration (Pires et al. 2014) mentions 95,000 Portuguese emigrants between 2010 and 2012, a remarkable increase closely linked to the worsening of the situation in Portugal due to the growing sovereign debt.¹⁰ Compared to previous periods of emigration, three features are quite new: (a) the framework of mobility has changed and a significant proportion of emigration occurs in the free-circulation area of the EU; (b) a substantial part of this emigration is done on a temporary basis, meaning it is not permanent; (c) the relative weight of skilled or highly educated emigrants in the total outflows is higher (Malheiros 2011; Pires et al. 2014).

Concerning the inflows, since 2008 there has been a continuous decrease in the first residence permits issued to foreign citizens. From the peak of close to 73,000 in 2008, the Immigration and Borders Service states in the annual report slightly more than 33,000 permits issued in 2013 (SEF 2009, 2014). The stock is also dwindling since 2009 when slightly more than 454,000 documented foreigners, representing 4.3% of the resident population, were registered by the same office (SEF 2014).¹¹ In 2013, the 401,320 documented foreign citizens accounted for 3.8% of the residents in the country. The evolution of the first permits issued and also of the stock shows a diminishing attractiveness of Portugal as a hosting nation, which in demographic terms means descending inflows of childbearing-aged people. This, combined with

⁹Reis et al. (2010) clarify that the Portuguese economy is highly dependent on huge volumes of labour due to the lack of positive articulation of labour with other strategic dimensions of production like improvement of skills and higher investment in R&D.

¹⁰Between 2010 and 2014, the Portuguese economy was bailed-out with the intervention of a troika, an entity composed by experts from the European Commission, the European Central Bank and the International Monetary Fund.

¹¹The growing number of requests of for Portuguese citizenship since the publication of the Organic Law no. 2/2006 (17th April), also known as the Nationality Law, may partly justify the shrinking stock of foreigners in the country. In 2006, 4447 grants of Portuguese citizenship were given whereas in 2012 the figure totalled 21,819 (Eurostat).

a soaring number of outflows, mostly in the similar age-bracket, will aggravate the country's population ageing and loss.

Considering the relevance of international migration in the country's demographic dynamics and also in the Portuguese regions, observed in the most recent decades as well as the strong association between the evolution of economic growth and migratory flows from and to Portugal, we will try to anticipate the regional evolution trends (at the NUTS 3 level) of the population and demographic ageing in the next section. The calculations will present results until the mid-twenty-first century for mainland Portugal based on different scenarios of economic evolution and migratory flows.

12.4 Population Projections to 2050

Despite the limitations, and ultimately, the uncertainty inherent to forecasting, population projections using different scenarios of natural demographic change, economic growth and migration flows can show diverse pictures of the expected evolution of a country's population. No matter how enticing it is, seeing into the future is not really possible, however, "... the momentum of demographic processes links the future with the past in clear and measurable ways" (Smith et al. 2001, p. 2), and computing one's knowledge of the past and expectations for the future in terms of births, deaths, inflows and outflows into a mathematical model, can give us reasonably accurate predictions.

Using a model specifically built for this paper (MIGLF), the evolution of the population residing in mainland Portugal was forecasted using a cohort-component model with restrictions on some of the demographic and economic features that enabled us to assess the impact of the change of some variables on all the others. The model considers 16 age groups in 5-year brackets (from [0–4] ... [70–74] and ≥ 75) divided by gender, totalling 32 demographic cohorts. The population projections are calculated and presented for the NUTS 1 level (1 territorial unit), NUTS 2 level (5 territorial units), and NUTS 3 level for continental Portugal (28 territorial units),¹² and for the 2011–2051 period with 5-year intervals. Inputting different rates at the demographic and economic levels, it was possible to produce a set of four scenarios. They all run with the fertility and mortality rates specific to each age group for the 2001–2011 decade, which allows us to calculate the effects of the changes in the other variables.

¹²Besides the mainland, Portugal comprises two archipelagos enjoying the status of Autonomic Regions—Madeira (261,313 inhabitants in 2013) and Azores (247,440 inhabitants in 2013).

12.4.1 Scenarios of Population Projection

Scenario A considers the average fertility and mortality rates specific to each age group of the 2001–2011 decade and does not take into account any migration flows. These fertility and mortality rates correspond to crude rates that are lower than the observed ones due to the decrease of the relative weight of the more fertile age cohorts. This scenario will be used as a baseline for the possibilities of demographic evolution of the other scenarios.

Scenario B combines the same fertility and mortality rates of scenario A with the average migration rates observed in the 2001–2011 period. The assumption is that this scenario represents the evolution trend of migration.

Scenario F corresponds to the evolution trend of the active population. It brings together scenario A (baseline) with the variation of the working-age people that was observed between 2001 and 2011. It represents a scenario in which the economic growth, although moderate, would be expected if the figures for the 2001–2011 would have been kept in the future.

Scenario G combines the specific fertility and mortality rates of the 2001–2011 period with the change in the proportion of the working-age population induced by the “economic crisis”, in a differentiated way: (i) for the 2011–2021 time span, the model considers the proportion of the working-age population of the 2006–2011 period, when the financial and economic crisis began and was acutely felt in Portugal; (ii) after 2021, a moderate recovery is admitted, considering similarly as in scenario F, the variation of the working-age people that was observed between 2001 and 2011.

12.5 Results

The results show that according to three out of the four scenarios described above (A—without migration; B—with the migration levels of the 2001–2011 period and G—which takes into account the effects of the crisis) there will be a strong trend of reduction of the resident population in mainland Portugal (Fig. 12.5). The situation is more acute for scenarios A and G with the population decreasing from 10 million people in 2011 to a figure close to 7.8 million people in 2051. The difference rests in the speed of this reduction, which is higher in scenario G, especially at the beginning of the period being studied.

More precisely, it is possible to observe that according to scenario A, the Portuguese population has a 21.8% decrease in the 40-year time span between 2011 and 2051. According to scenario B, a loss of population is also expected, but smaller than in the previous one: the population will dwindle from 10.05 million in 2011 to 8.64 million in 2051 (Fig. 12.5).

Scenario F is the only one forecasting a demographic growth until 2046 followed by a decrease in the decade 2040–51. When compared with scenario B, the results

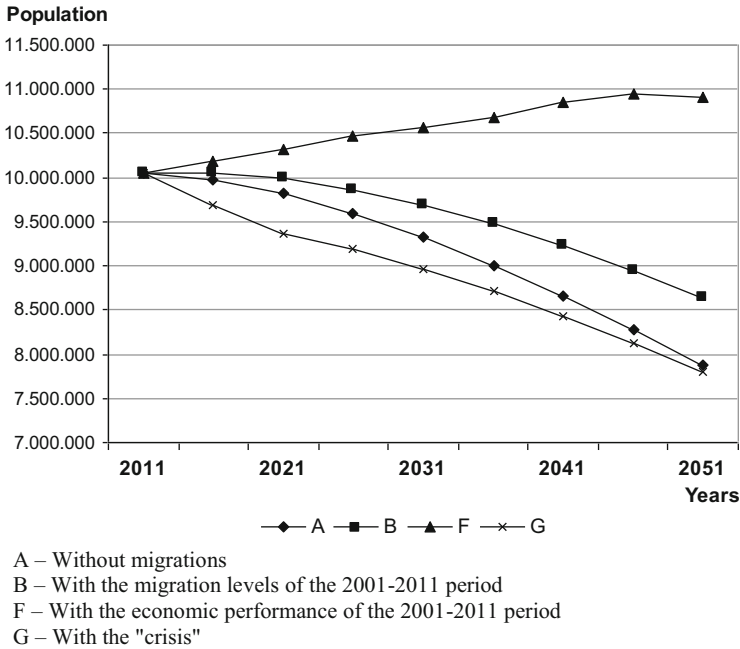


Fig. 12.5 Evolution of the total population in mainland Portugal according to the four scenarios of the MIGLF model, 2011–2051. A—Without migrations; B—With the migration levels of the 2001–2011 period; F—With the economic performance of the 2001–2011 period; G—With the “crisis”

of this scenario indicate the number of migrant workers that Portugal would need to keep a production system close to stagnation (considering that it admits a working-age population growth similar to the one observed between 2001 e 2011).

In scenario G, the effects of the present “crisis” in the evolution of the Portuguese population were identified. The results of this scenario show a strong trend for the reduction of the working age population and the increase in the percentage of people aged 65 or older (Fig. 12.5). Comparing this scenario with scenario F it is possible to have an idea of the demographic impacts of the crisis, namely on international migration flows (immigration and emigration).

As one can see in Fig. 12.6, all scenarios put into evidence the strong ageing trends of the Portuguese population and, consequently, the difficult conditions of sustainability of the national social security system.

Although these results are not comparable with the population projections for the 2012–2060 period published by Statistics Portugal (INE 2014), because they are based on slightly different assumptions, it is worth mentioning that Statistics Portugal’s projections also indicate a trend towards the reduction of the resident population. In addition, like the MIGLF projection models, they equally show the expected changes in the population’s age structure pointing to a continuous and strong demographic ageing in Portugal (INE 2014).

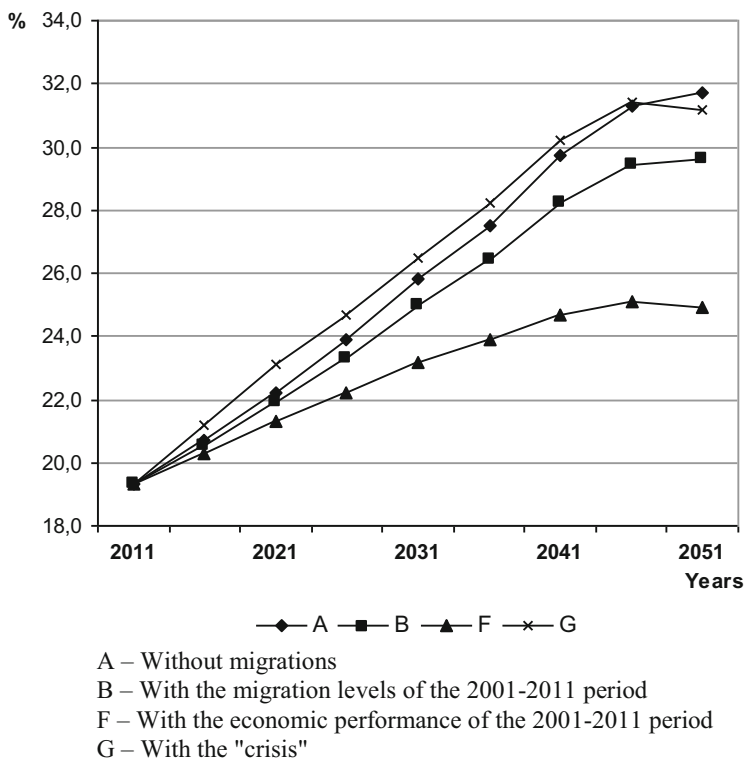


Fig. 12.6 Evolution of the proportion of ageing people (≥ 65 years) according to the four scenarios of the MIGLF model, 2011–2051. A—Without migrations; B—With the migration levels of the 2001–2011 period; F—With the economic performance of the 2001–2011 period; G—With the “crisis”

With 19.3% ageing population in 2011, and in case there are no migrations (scenario A), the proportion of ageing people (aged 65 or older) in 2051 will reach 31.7%. Even considering the migration levels of the 2001–2011 decade (scenario B), the proportion of ageing residents will be quite high (29.6%). Moreover, the effect of the crisis on the economy (scenario G) will produce very similar effects in the levels of ageing population comparatively to the scenario without migrations (31.2% of the population will be aged 65 or older). The “crisis”, causing a significant reduction in immigration and a resuming of emigration will represent, in 2051, a 6.3% difference in the proportion of ageing people, relative to scenario F.

The challenges associated with a growing proportion of ageing people in European societies, namely the sustainability of the social security system, can also be seen in the population support ratio (PSR), that is, the ratio of working-age (15–64 years) to retirement-age persons (65 or older)—Fig. 12.7. In 2001, the PSR was 4.10 and it had already dropped to 3.42 ten years later. In 2051, even considering the most favourable scenario (scenario F), which is very unlikely to

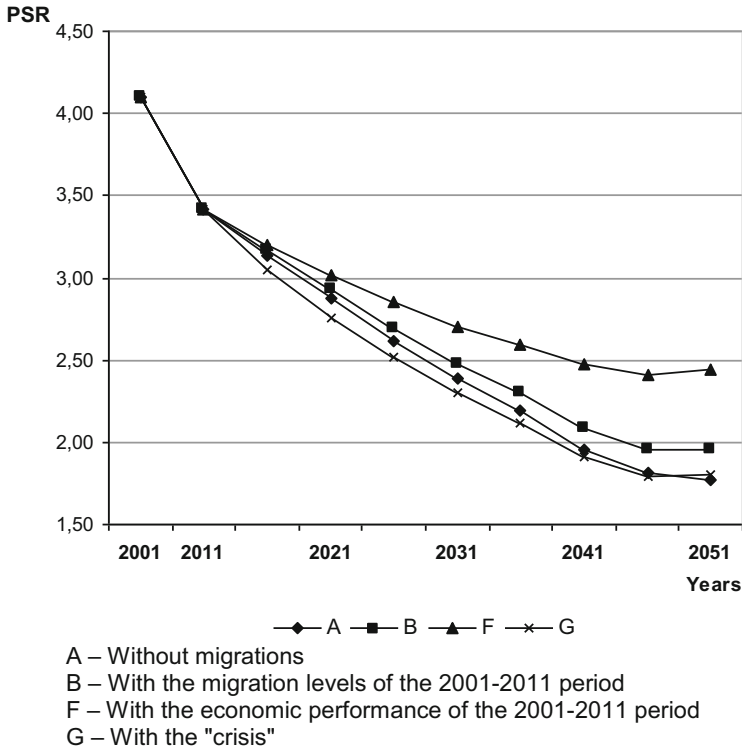


Fig. 12.7 Evolution of the PSR according to the four scenarios of the MIGLF model, 2011–2051. A—Without migrations; B—With the migration levels of the 2001–2011 period; F—With the economic performance of the 2001–2011 period; G—With the “crisis”

occur; there will be 2.44 working-age individuals for each retirement-age person. According to scenario G, the most likely to take place, the PSR will be only 1.8.

Across the scenarios, the least critical period in terms of the rate of change of the PSR is 2041–2051, during the course of which the decrease slows down a bit.

It is also important to have a look at the proportion of young people forecasted in the four scenarios of the MIGLF model because they are a remarkably relevant part of the population issue and influence the ageing process at the base of the age pyramid (Fig. 12.8).

The number of youth (population aged ≤ 14) will decrease considerably, especially in scenarios A, B and G but the concomitant variation of the share of the total population makes this loss relatively less important. A trend towards stagnation at the end of the studied period of time is observable, mostly from 2030 onwards. In scenarios F and G, a certain trend of growth in the proportion of young people in the total resident population is expected (Fig. 12.9).

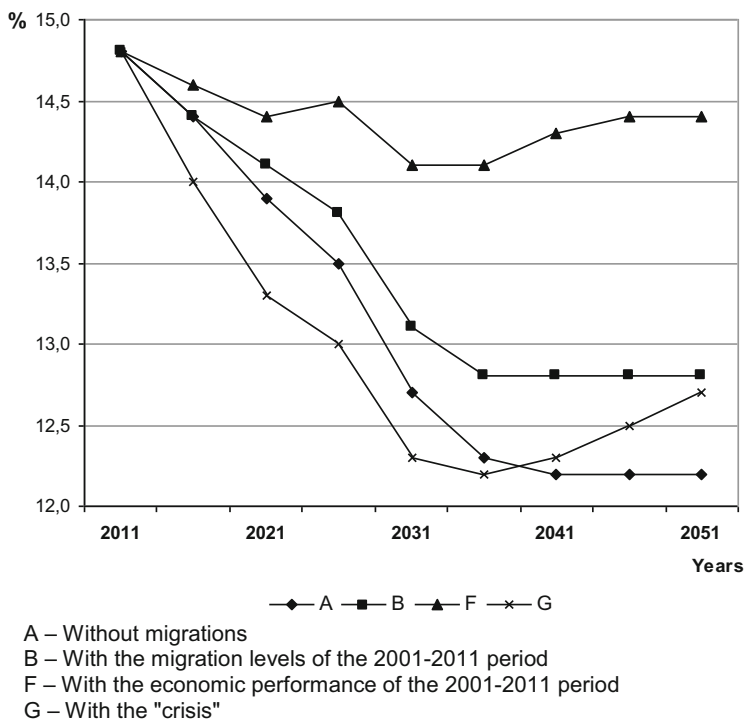


Fig. 12.8 Evolution of the proportion of young people (aged ≤ 14 years) according to the four scenarios of the MIGLF model, 2011–2051. A—Without migrations; B—With the migration levels of the 2001–2011 period; F—With the economic performance of the 2001–2011 period; G—With the “crisis”

12.6 Regionalization of the Scenarios at the NUTS 3 Level

Figures for the country level often hide interesting regional disparities due to distinct local and regional structures of the population, often associated with different levels of fertility, mortality and migrations. In scenario A (without migrations) the rate of change of the total population for mainland Portugal is -21.7% but there is a profound regional differentiation at the NUTS 3 level ranging from Tâmega with -12.6% to Pinhal Interior Sul with -45.1% (Fig. 12.9). All the territorial units located in the interior present higher negative variations compared with those located along the coast, which show a huge population loss if dependent exclusively on the natural balance.

Presuming that the migratory volume of the 2001–2011 decade will be maintained during the 2011–2051 period, the results of scenario B show a negative population change, although quite smaller (-14.0%) than in scenario A. The regional contrasts are much more acute, ranging from a remarkable growth in the

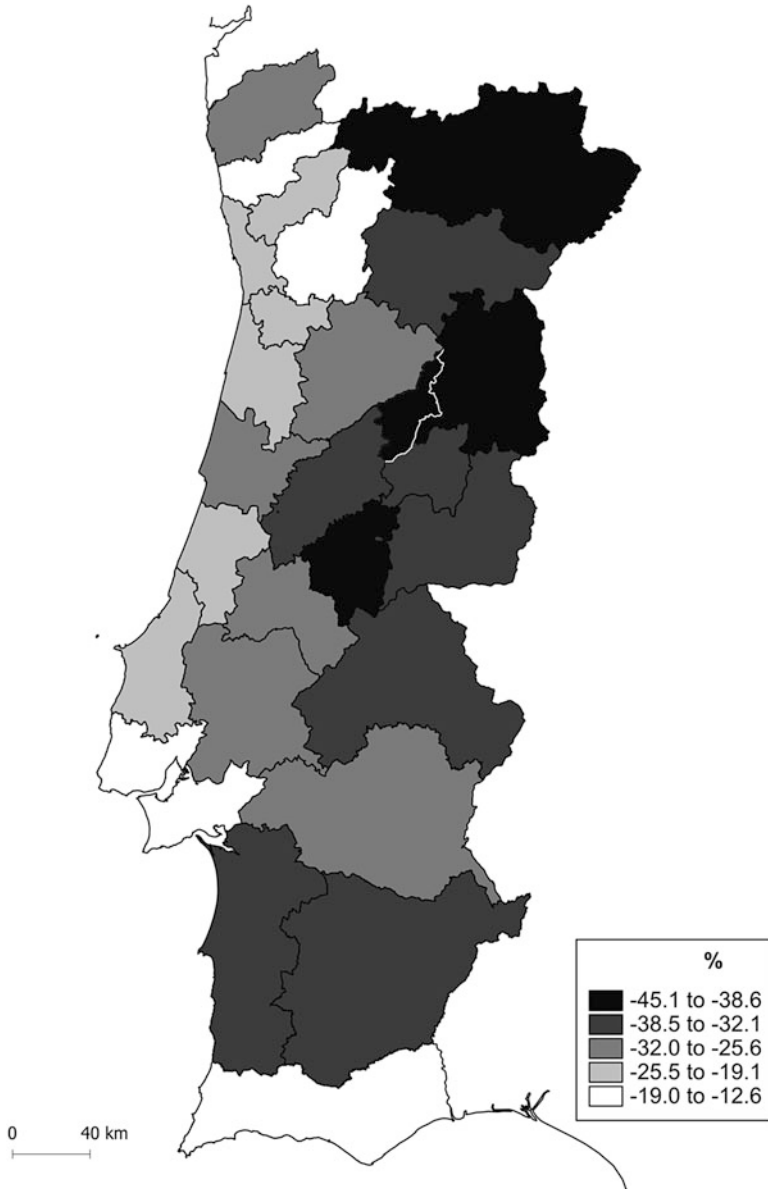


Fig. 12.9 Regional variation of the population, 2011–2051 (%): scenario A

Algarve (57.8%) to a severe decline in Serra da Estrela (−57.5%). Thus, migrations have an impact on the increase of regional contrasts (Fig. 12.10).

In scenario F (with the economic performance of the 2001–2011 period), Portugal will see its population increasing 8.6% and the variations of the population

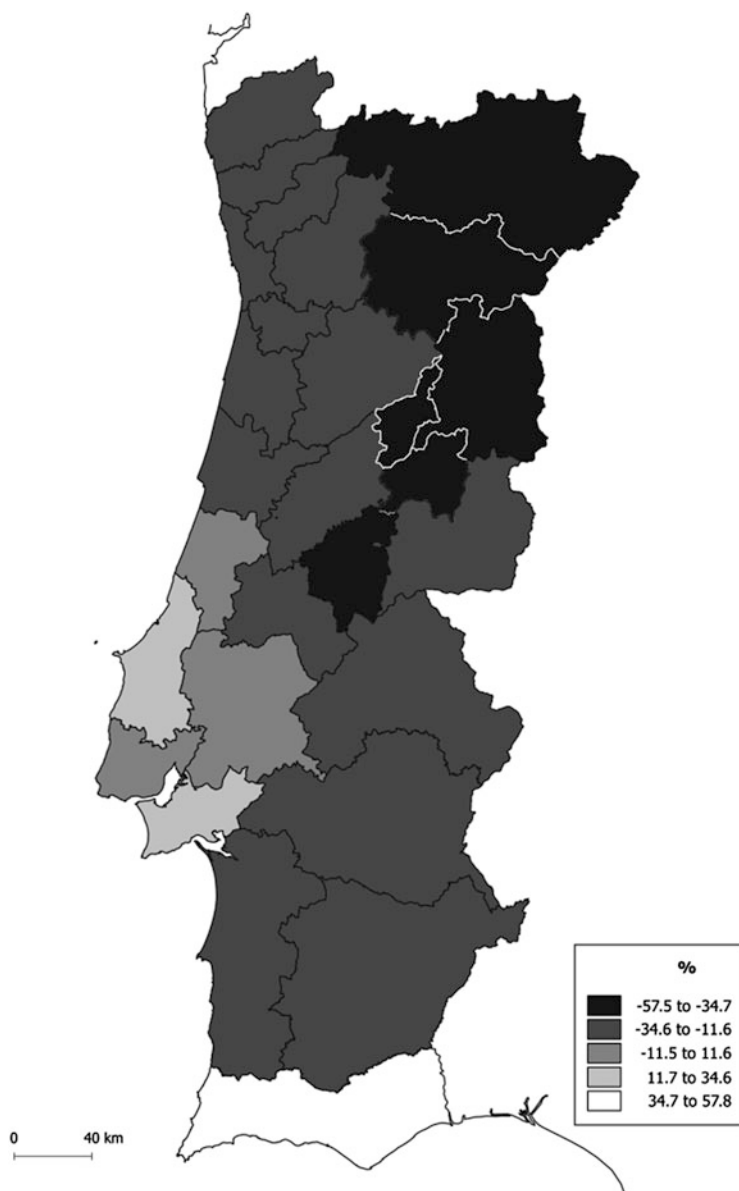


Fig. 12.10 Regional variation of the population, 2011–2051 (%): scenario B

between 2011 and 2051 show a smaller amplitude comparatively to the previous two scenarios (Fig. 12.11). The main losses are still in the interior regions of the country. The Metropolitan Area of Lisbon, the Algarve and the NW region (Porto,

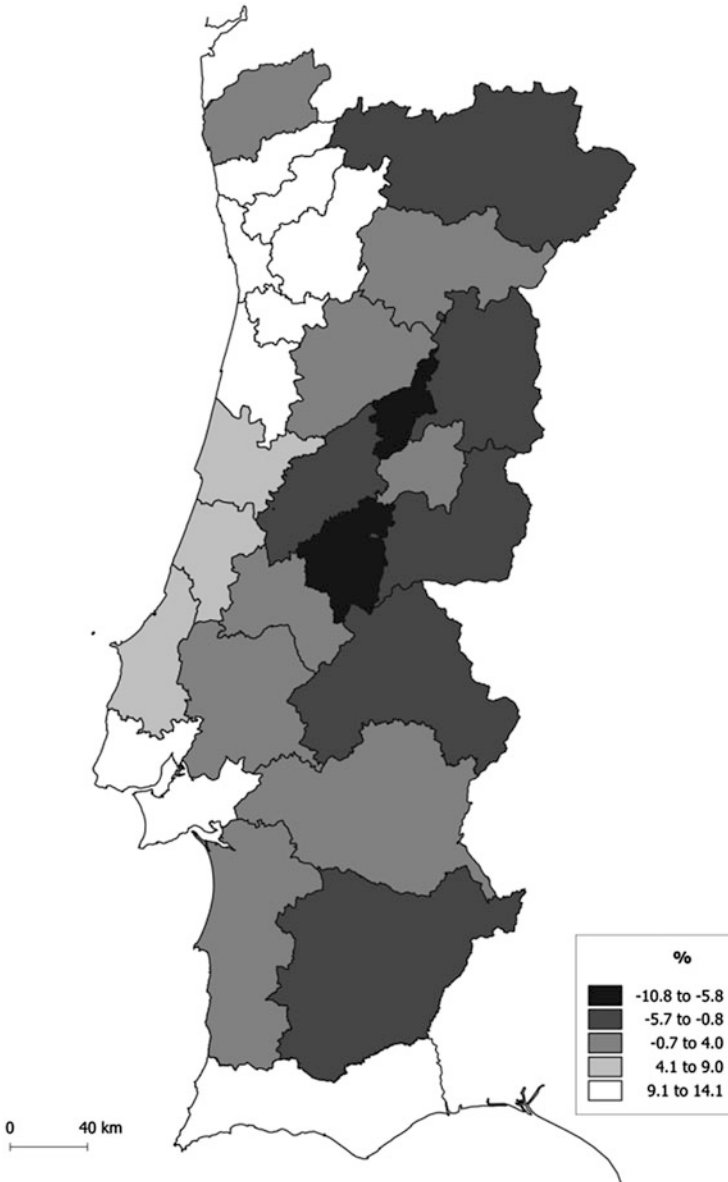


Fig. 12.11 Regional variation of the population, 2011–2051 (%): scenario F

Tâmega, Cávado, Ave and Entre Douro e Vouga) show population gains ranging from 9.1% to 14.1%.

According to scenario G, Portugal will see its population shrink by 22.3%. The regional population losses are the highest of the four scenarios for the 2011–2051

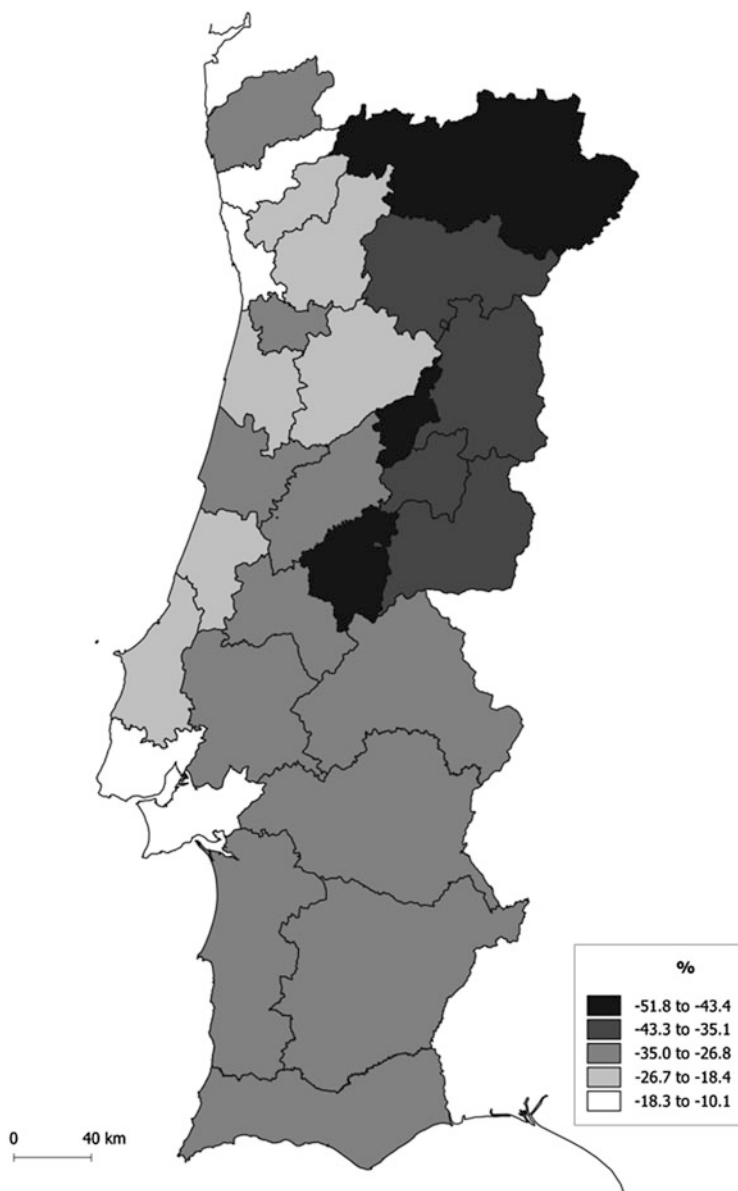


Fig. 12.12 Regional variation of the population, 2011–2051 (%): scenario G

period and all the 28 NUTS 3 have negative variations, ranging from 51.8% in Serra da Estrela to -10.1% in Cávado (Fig. 12.12).

Concerning the population aged 65 or older, its regional pattern of change ranges from a 2.7% increase in Pinhal Interior Sul, mostly due to the high proportion of

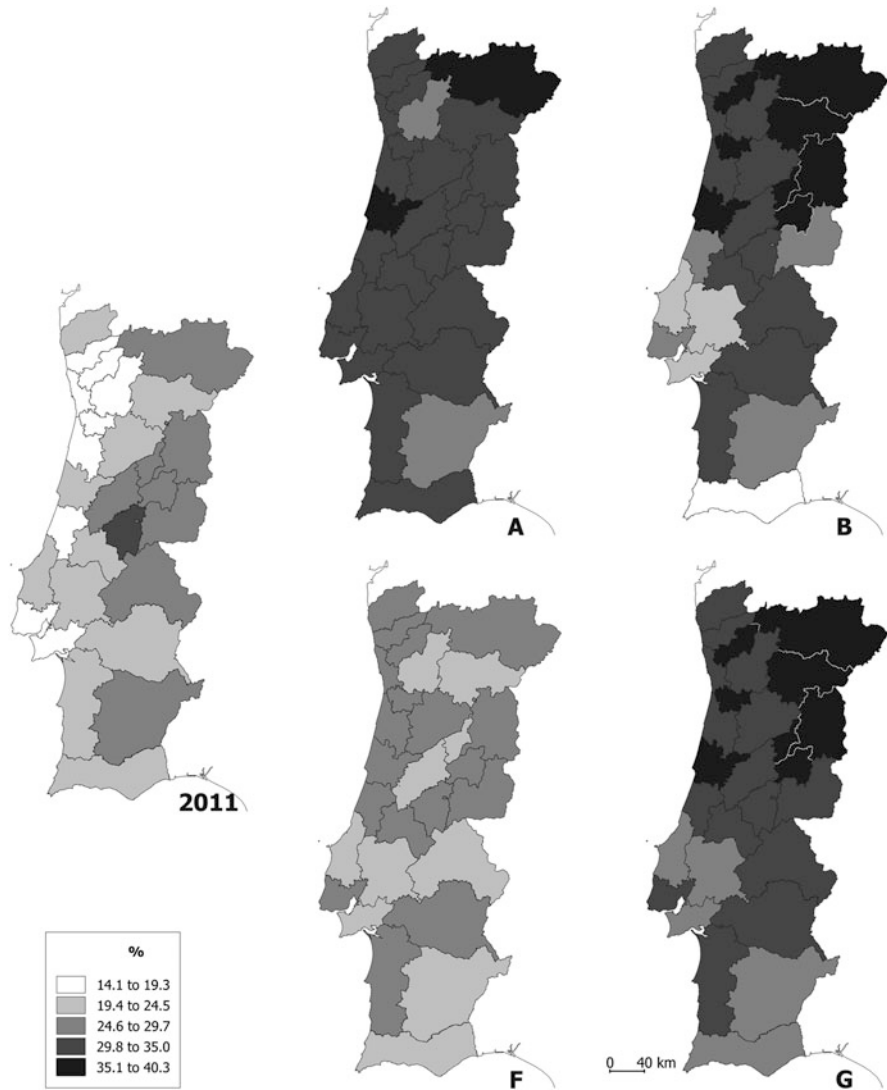


Fig. 12.13 Ageing population (aged 65 or more) in 2011, and according to the four scenarios of the MIGLF model in 2051 (%)

ageing people in 2011, to 121.4% in Cávado, more than the double of ageing citizens in 2011)—Fig. 12.13.

Comparing the figures for 2011 with the projections obtained in scenario G, the one including the effects of the structural crisis affecting the Portuguese economy today, it is possible to see that the relative weight aged 65 or older will grow from 19.3% in 2011 to 31.2% in 2051, meaning a 61.8% increase. From the regional point of view, the consequences are quite diverse in the set of NUTS 3 of mainland

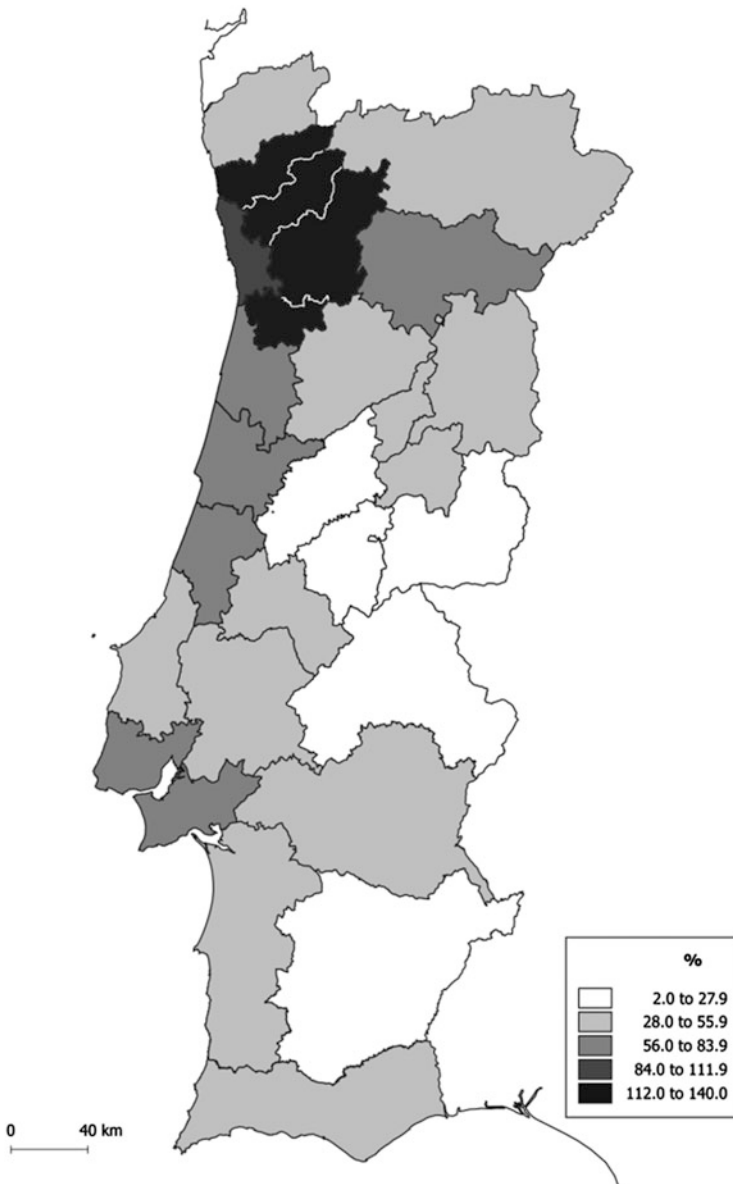


Fig. 12.14 Variation in the proportion of ageing people (aged 65 or more), 2011–2051—scenario G

Portugal, ranging from proportions higher than 100% in Ave (140.0%), Tâmega (135.0%), Entre Douro e Vouga (130.0%), Cávado (120.0%) and Grande Porto (100%), to almost stagnation with a very moderate growth in Pinhal Interior Sul

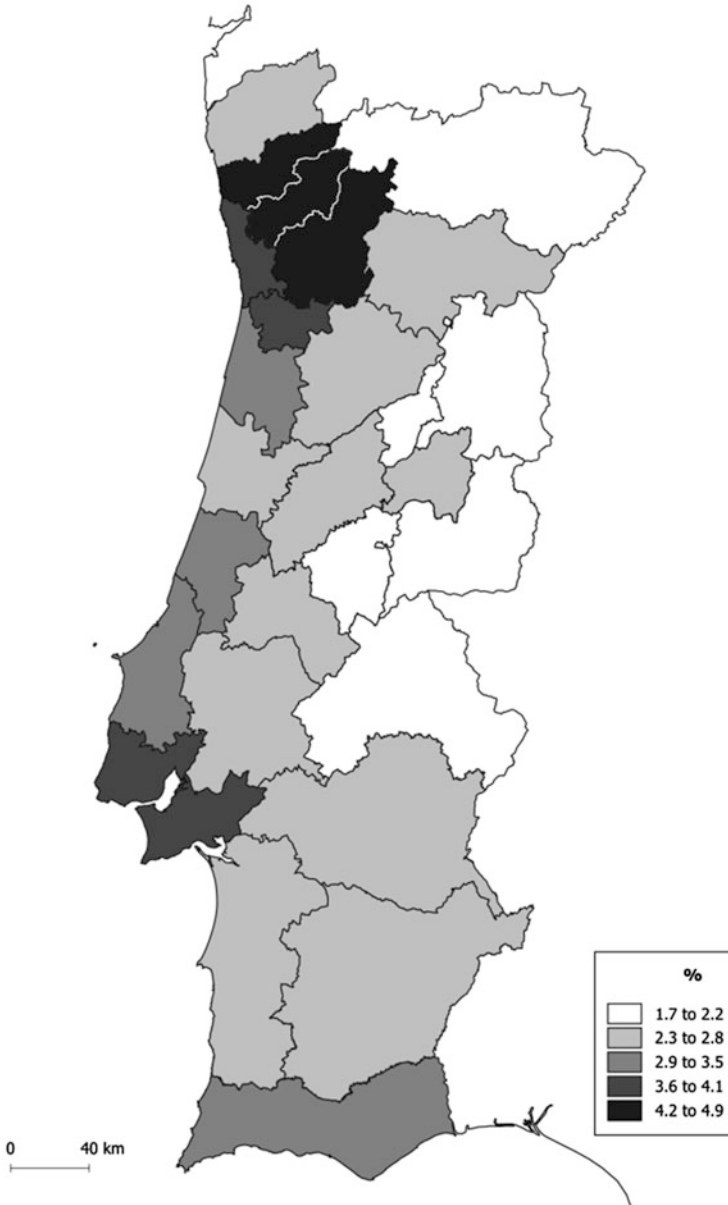


Fig. 12.15 Population support ratio in 2011, NUTS 3 (%)

(2.0%), and only 15.0% in Baixo Alentejo, and 18.0% in Alto Alentejo and in Beira Interior Sul (Figs. 12.13 and 12.14).

Both the remarkable growth and the fall can be explained: in the first case, these regions have a considerably young population today, whereas the NUTS 2 already

has a very elderly population, whose majority will pass away before 2051. The typical evolution process of these interior regions has the following stages: first, there is a process of population ageing, which is followed by ageing with depopulation, and lastly a major population loss after the normal life period of the many ageing residents.

The population support ratio, an important indicator of economic sustainability, shows that in 2011 there were already strong regional differences among the NUTS 3 of mainland Portugal (Fig. 12.15).

Considering the higher probability of scenario G occurring, it is interesting to see the expected variation between 2011 and 2051 according to that scenario, although the analysis at the NUTS 3 level is less interesting because in Portugal the social security systems have a national, and not a regional, basis. Thus, for a global reduction of 47.4% of the PSR in mainland Portugal, the most notable changes will take place in the NUTS 3 of Ave and Entre Douro e Vouga (a reduction of 67.1% and 66.3%, respectively), whereas the smallest variations will occur in Pinhal Interior Sul (only -2.5%), in Baixo Alentejo and Alto Alentejo (-17.9 and 19.9%, respectively)—Fig. 12.16.

Concerning the younger generations, the map for 2011 shows major regional differences in mainland Portugal with regions like Tâmega and Cávado, in the Northwest part of the country, with the highest proportions of youth (17.2% and 16.4%, respectively), but also the Algarve, Grande Lisboa, Península de Setúbal and its neighbouring regions of Lezíria do Tejo, Oeste and Pinhal Litoral with proportions of people aged 14 or younger in the total population between 14.5% and 15.8% (Fig. 12.17). These NUTS 3 are in contrast with the interior of the country where proportions do not rise above 12% (e.g., Pinhal Interior Sul, Serra da Estrela, Beira Interior Norte, Beira Interior Sul). The differences are seen in the 2011–2051 variation for scenario G but with a clear north-south divide where the northern regions will have greater losses of young people and some southern regions like the Algarve will gain young residents (Fig. 12.18).

The issue of ageing of the Portuguese population is felt both at the top and at the base of the age pyramid and according to scenario G—the most likely to occur—the proportion of young people will decrease from 14.8% in 2011 to 12.7% in 2051. Conversely, the relative weight of ageing citizens will increase from 19.3% in 2011 to 31.2% in 2051 which will certainly be a challenge for the sustainability of the social security system (Fig. 12.19).

Due to this major issue of the Portuguese economy, governments, both from centre-right-wing and centre-left-wing parties have implemented changes in the rules of access to social benefits and retirement pensions establishing more restrictive pathways for beneficiaries and longer working lives for the active population (Mendes 2005; Leiria and Pereira 2000).

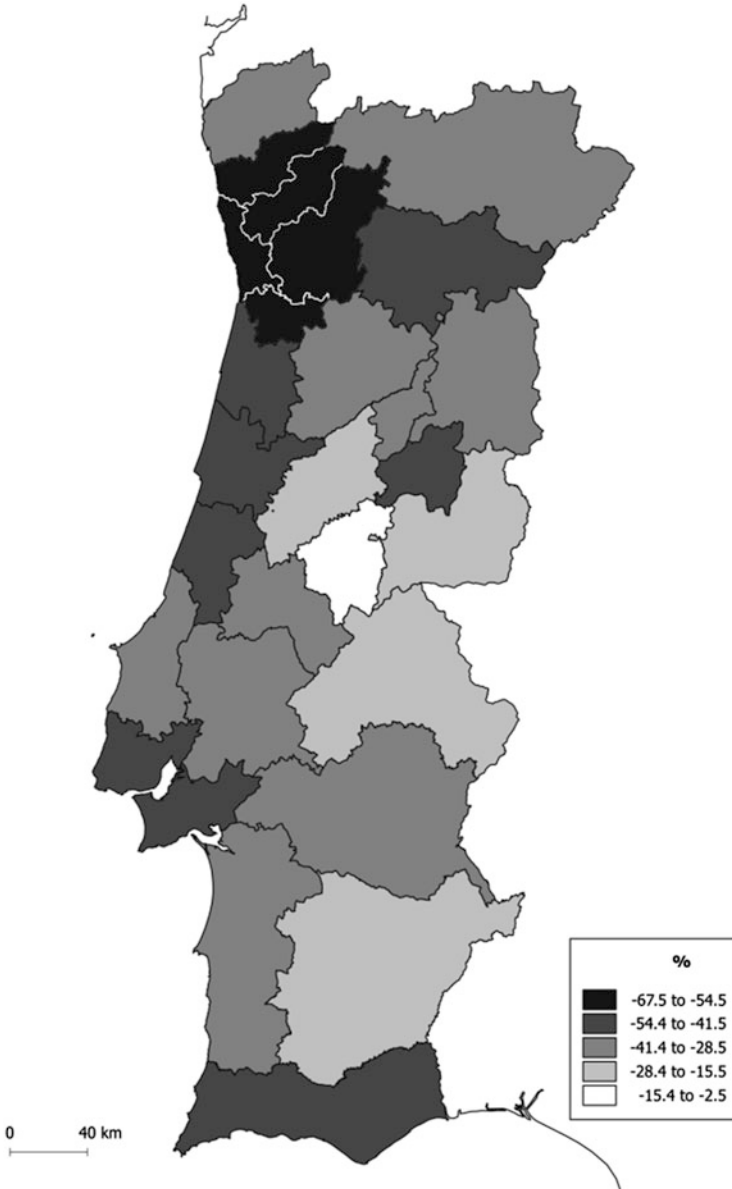


Fig. 12.16 Variation in the PSR 2011-2051 (%)—scenario G

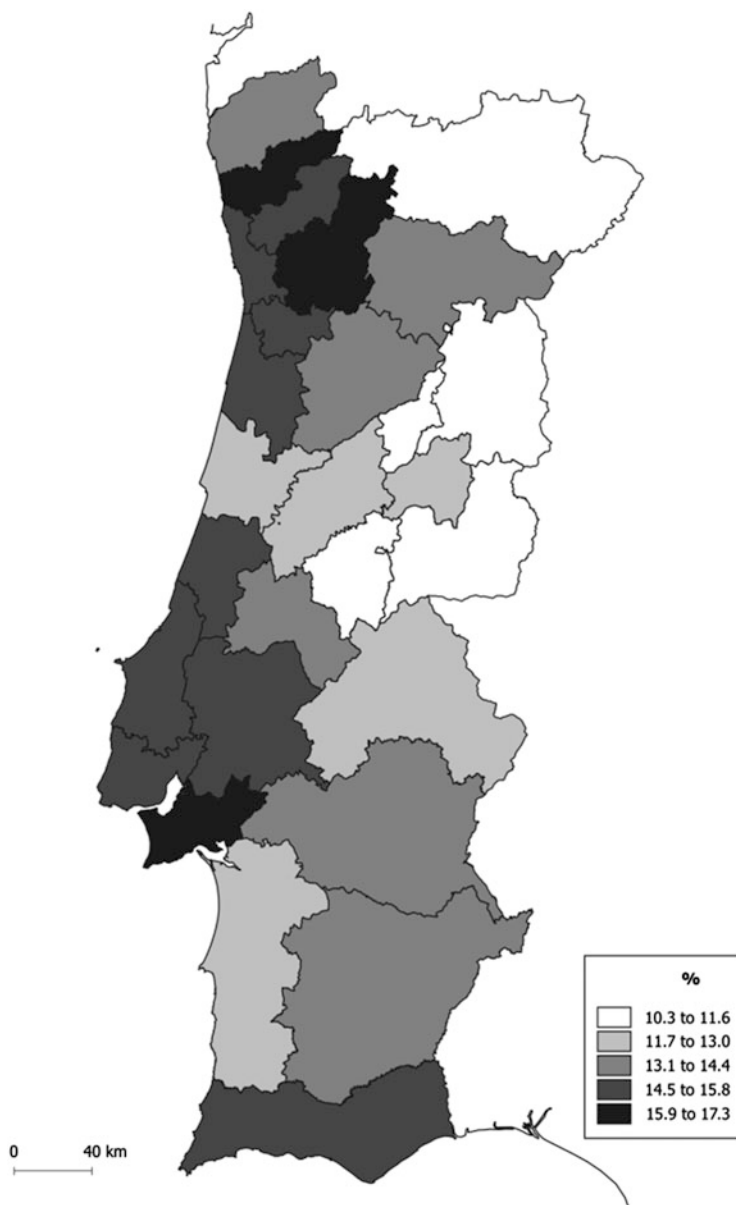


Fig. 12.17 Young people (aged ≤ 14 years) in 2011, NUTS 3 (%)

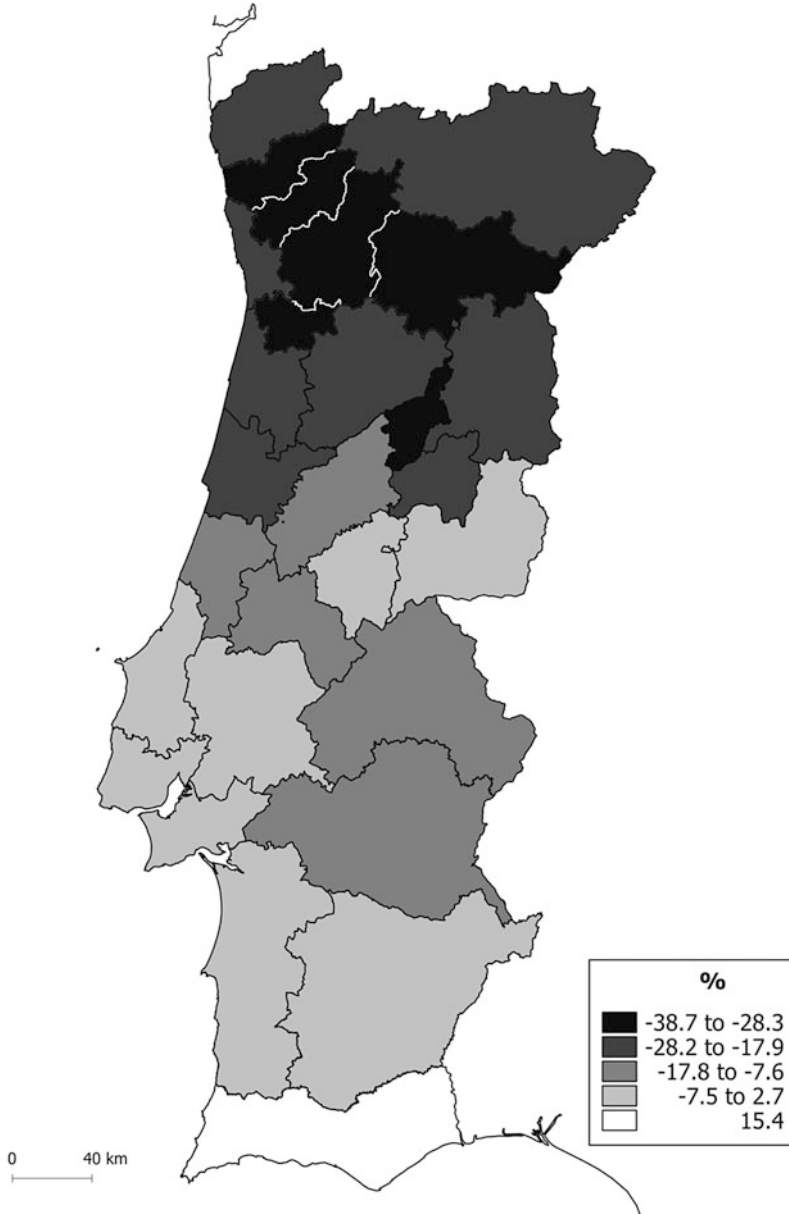


Fig. 12.18 Variation in the proportion of young people (aged ≤ 14 years) between 2011 and 2051 for scenario G, NUTS 3

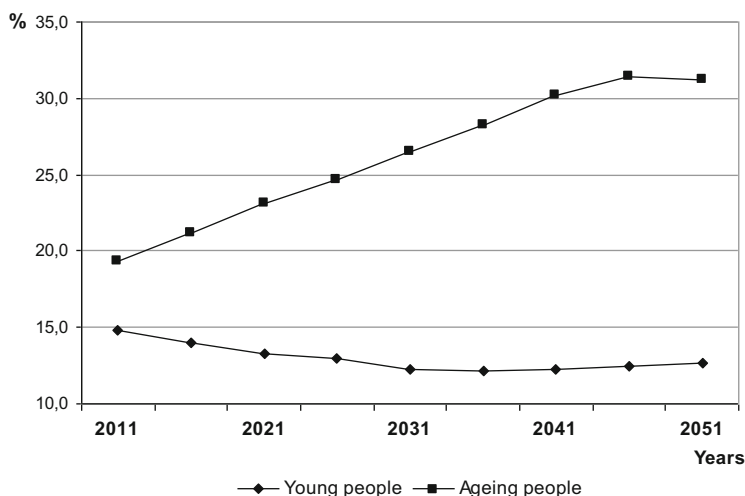


Fig. 12.19 Evolution of young and ageing people according to scenario G of the MIGLF model, 2011–2051 (%)

12.7 Concluding Remarks

The ageing of the Portuguese population is a long-term trend that has become more evident in recent years. Considering the small demographic change associated with natural growth, and even the negative net balance of the more recent years, the role of international migration is paramount in defining the evolution of the population residing in the country. This is not new but has acquired a major relevance in recent years.

Moreover, Portugal is a country with an uneven population distribution across its territory, with a major concentration in the coastal area between the NUTS 3 of Minho-Lima and Península de Setúbal and also in the NUTS 3 of Algarve. In fact, as previously mentioned, the disparities across regions are very striking and not all of them will have the same capacity for growth and attracting population.

This asymmetric distribution of the population goes side by side with profound regional disparities concerning income and wealth (Lewis and Williams 1986). According to the work of Duarte and Simões (2010), the economic inequality among Portuguese regions, assessed by the earnings of the employees working full time and using the Gini coefficient, has widened between 1995 and 2007. These asymmetries have not decreased, and in 2011, Portugal was the country with the 6th highest Gini coefficient among the 34 OECD countries (0.353), well above the OECD20 average (0.316) or the OECD34 average (0.314) (OECD 2011).

The NUTS 3 of Grande Lisbon, Grande Porto and Algarve have pulled national growth from the top and will probably continue to do so, concentrating economic activities and younger residents. Conversely, a large group of regions, mostly rural and in the interior, have less potential for development. Already struggling against

rural exodus and an ageing population, their lack of human capital and economic activities will not attract younger residents in the future. Moreover, the closure of public services, like courts of law, hospitals, post offices, schools and tax offices, due to very low population thresholds reinforces territorial marginalization. Therefore, the population loss and ageing in the interior regions of the mainland still continues and is expected to become more serious in the future.

According to the most likely scenario of population projections for 2051, there will be a population loss together with a remarkable ageing, especially in the interior regions. The population support ratio (PSR) will reach extremely low figures (1.8) placing a huge pressure on the social security system. The relative weight of the ageing population will be particularly felt in the interior regions, of a more rural character, where it is expected to reach between 35% and 40% of the total population.

However, Portugal will only be able to attract foreign citizens, or Portuguese residing abroad, if its economy becomes more dynamic, creating jobs or favourable conditions for entrepreneurial migrants. Considering the present crisis of the sovereign debt and the small growth of the European economy, to which Portugal is hugely dependent on, this seems very unlikely to happen in the near future. According to scenario G of the model MIGLF, the most likely scenario to occur, the population living in Portugal will decrease until 2040 and there will be a sharp ageing.

Therefore, population ageing is unavoidable and cannot be compensated for by any population policy, immigration policy, or family policy. Immigration is essential to maintain the absolute numbers of active population. However, the performance of the Portuguese economy in the future will be the main drive of net migration and, consequently, of main demographic trends.

Appendix

See Fig. 12.20.

NUTS 3 in mainland Portugal

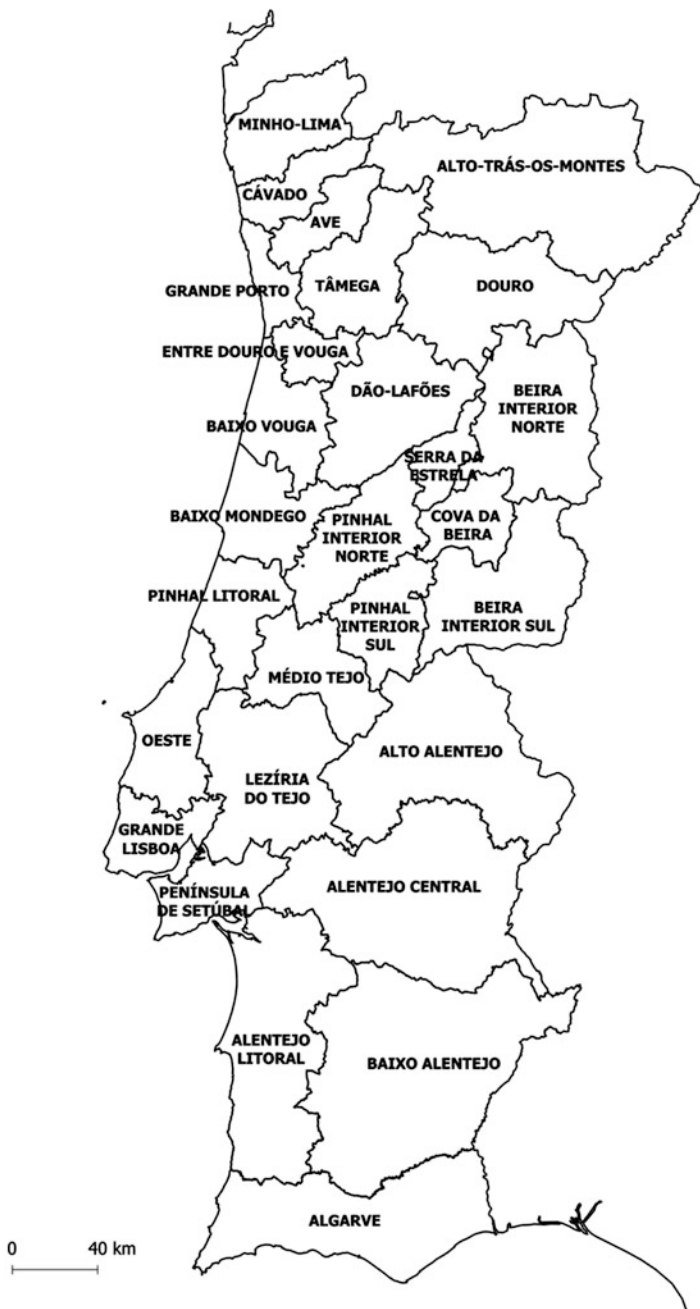


Fig. 12.20 NUTS 3 in mainland Portugal

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