Strategic Dossier 190 B
The evolution of demography and its impact on defense and national security

Spanish Institute of Strategic Studies

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Spanish demography: a panoramic overview of the xx century

Joaquín Leguina Herrán

The hopes which spread throughout Europe with the arrival of the XX century soon turned to pitch-black when the geopolitical strategies of the great powers gave way to a deadly war (1914-1918) which filled the battlefields with innumerable dead, thus destroying a major part of the European youth of the era.

To this demographic catastrophe would be joined, from 1918 on, a true plague, the flu epidemic ("Spanish flu" it was called, due to the absence of censorship of the press in Spain at the time and information thus flowing freely, unlike what was happening in the countries at war, as in fact the virus came from the United States).

Those suffering the highest death rate, which was also owing to the rise in tuberculosis, were children and young people. Those born during the epidemic also suffered from after-effects and malformation which caused them to live shorter lives. The "Spanish" flu is considered to have been the deadliest pandemic in history. The virus, of avian origin, was the *Influenza virus A*, sub-type H1-N1, which had undergone 25 mutations, some of which permitted it to adapt to the human body and manage to multiply daily 50 times more than common flu and 39,000 times more in four days.

It is estimated that between 10 and 20% of those infected died, which would give a result of between 50 and 100 million deaths worldwide. In Spain some

300,000 people died from this cause[1], although the figures of the time only admitted 175,000 deaths. The Great War, with the crowding into barracks and movement of troops, facilitated the proliferation of the epidemic. Apparently, the first case was detected at Fort Riley (Kansas) and when those North American soldiers were sent to France, they brought the virus to Europe. Among the most notable of the dead were the Austrian artists Koloman Moser, Gustav Klint and Egon Schille (painters) and Otto Wagner (architect), and in France those dead from this cause included the writers Guillaume Apollinaire and Edmond de Rostand, author of "Cyrano de Bergerac". In Spain, among the ill who survived the disease stands the figure of King Alphonse XIII.

It is estimated that the European countries involved in the conflict mobilized 58 million men during the war years, a figure equivalent to approximately half of the active masculine population. The number of dead and missing rose to some 9 million, equivalent to 15.5% of those mobilized. To those military losses must be added the civilian losses and those indirectly resulting from the rise in mortality occasioned by the greater incidence of infectious diseases.

The direct and indirect losses occasioned by the war in Europe—excluding Russia—may be estimated at 22 million.

From the beginning of the XX century, by international agreement, a census was carried out in years ending in zero, the census being dated the 31st of December (the last hour of the last day of the year). This date and hour were chosen as being the only moment of the year when generations and ages coincide (all those born in the census year are zero years old at that moment, all those born in the year previous to the census are one year old, etc.). Nonetheless, this is not a good date, since it coincides in Europe and in a great part of the world with the Christmas holidays, which produce great family movement, and thus from the 1980's on, the majority of the European countries have changed their census dates. In any case, the modern census provided better data and more explanatory classifications, so that more trustworthy and continuous demographic series were available.

The Spanish census of 1900 (31 December) reflected a population of 18,594,405 inhabitants and the last census before the war, that of 1930, of 23,563,867 inhabitants. In 1910, 19,927,150 and in 1920, 21,303,162.

In 1920, the USSR had 139.1 million inhabitants, Germany 52.3, the United Kingdom 43.7, France 39 and Italy 36.4. The total population of Europe at that date, following the deadly Great War, is estimated to have been 467.1 million

[1] To better illustrate the magnitude of the tragedy, as in 1918 Spain had some 21 million inhabitants and in 2017 has some 46.5 million, if we were now to suffer a pandemic with a death rate identical to that of 1918, the number of deaths in Spain would easily surpass 600,000.

inhabitants. Twenty years later, at the beginning of the II World War, this had grown to 556.4 million.

The Spain of the XX century prior to the Civil War was marked—economically as well as demographically—by the aforementioned European conflagration (1914-1918). With regard to Spain, Francisco Bernis[2], in 1923, wrote the following:

> *"The balance prior to the Great War was violently replaced by a much different situation. National consumption and production, in their relation with foreign countries, were modified, and due, I presume, to this, there is a surplus in the country of over three hundred thousand Spaniards, who would not otherwise have represented a surplus."*

These forecasts by Bernis have in good measure proved accurate.

During those years (the end of the Restoration, the Primo de Rivera dictatorship and the Second Republic), there took place in Spain the beginnings of what would later come to be called the "demographic transition"--a stage at which Spain arrived with some years' delay with respect to the major European countries. This process coincided with a notable and growing urban concentration. In effect, the process of urbanization, which had already begun in the XIX century, continued, although slowly, so that by about 1930 the rural population was still very high. At that date, Spaniards living in municipalities of less than 10,000 inhabitants represented, with respect to the total population, nearly 60%, while those who lived in cities of more than half a million residents came to less than 10%.

The theory of demographic transition, formulated based on the sharp drop in the birth-rate experienced in many Western countries during the first decades of the XX century, and especially as of the 1920's, is one of those rare theories which is attributed to various fathers, although E. W. Notestein is considered by many to be the author of the definitive formulation.

In summary, this theory describes the transition of one system of demographic balance characterized by elevated rates of birth and death with a slow population growth to a "modern" demographic system, a new equilibrium, also with slow growth, but due to reduced rates of births and deaths. Between these two states there would take place, properly speaking, the transitional phase, with elevated growth as a result of a drop in mortality prior to the drop in the birth-rate, although there are examples of countries where the drop in fertility was simultaneous or even prior to that of mortality.

During the years prior to the Civil War, the birth-rate in Spain began a slight but appreciable retreat, passing from a net birth-rate of 36.2 per 1000 in 1903 to 25.7 per 1000 in 1935. During the whole of this period, vegetative growth (births minus deaths) was positive, with the exception of 1918 when, due to

[2] Bernis, Francisco.*The economic consequences of the war*

the above-mentioned flu epidemic, the vegetative balance was negative (-4 per 1000 inhabitants). This vegetative growth, which in the first year of the century (1901) was 7.2 per 1000, went to 10.0 per 1000 in the year prior to the War (1935). Above that 10 per 1000 was the vegetative balance in the years 1903 (11.3); 1924 (10.1); and 1926 (11.0), and it reached its maximum: 11.8, in 1932.

The Final Offspring (FO) of the generations born between1871-1875 was of 4.6 children per woman, which, in the generations following, did nothing but drop. Women born at the end of the XIX century would have an average at the end of their fertile years of 3.5 children, and those born immediately prior to the War (1931-1935), 2.7 children.

The transition from 3.5 children per woman in the five-year period before the war (1931-1935) to 2.77 children per woman in the period 1936-1940 is owed more to the catastrophe of the Civil War than to any other cause, although in 1940 there was a partial recovery in the birth-rate which the war had set back.

As a consequence of the evolution in fertility—the effects of which were aggravated by the human losses resulting from the Great War-the fear of a demographic drop in Europe extended throughout nearly all countries and reached its maximum point during the thirties. The fall in "demographic vitality" was spoken of, and that fall was taken to be a sign of decadence (this was the era of Spengler and his work "The Decadence of the West", written between 1916 and 1920).

The demographic policies carried out--by fascism first, and Nazism later—were the expression of that fear. It was a case of policies which attempted to modify deeply-rooted behavior regarding procreation, marriage and even mobility. These policies were coherent with the ideologies which sustained them, but those pro-birth policies had only very modest effects, since if it is true that the financial incentives and rewards managed to raise the number of marriages and births (especially in Germany, where considerable means were appropriated to this cause) and produce a recovery, this was of short duration and did not impact on the decisions of couples regarding their final production of children.

Regarding mortality, the absolute number of deaths in Spain during the first stage of the century evolved from 517,600 in 1901 to 384,600 in 1935.

In the United Kingdom, life expectancy in 1920 surpassed that of Spain by nearly 12 years; in Germany, by 7.8 years and Italy, by 4.2 years. The United Kingdom and France would see their rates of life expectancy grow between 1920 and 1930 only by 3.2 and 2.7 years respectively. It may be said, therefore, that in Spain, mortality improved by a good rate, and also, without risk of doubt, that if there had not been a civil war with its attendant consequences, Spanish life expectancy would have placed it

at the head of Europe much earlier. It is as well to recall that in 1995 life expectancy at birth was already greater in Spain than in the United Kingdom and Germany.

This advance against death in Spain—produced once the effects of the Civil War were left behind—is explained in great part by the drop in infant mortality. Of the rates of mortality during the first year of life and above all due to the fall in mortality in the 1- to 4-year-old group, infant mortality remained stable during the first part of the century, but after the flu epidemic, began to fall rapidly.

In 1942, Jesus Villar Salinas published a brief treatise ("Demographic repercussions of the last Spanish war") in which he estimated at 800,000 the number of deaths attributable to the war, including within this figure deaths both at the front as well as behind the lines and also those caused by starvation and the lack of medical attention.

Pierre Vilar ("History of Spain") reduced that figure to 560,000, and for his part, Hugh Thomas ("The Spanish Civil War") has estimated that the number of deaths from all causes (the front, the rearguard, bombings, malnutrition and also the violent deaths immediately following the war) was around half a million persons.

Even if how many Spaniards died in the war is never known with absolute precision, the figures are now quite solid. As solid as impressive. At the front, that is to say, in the strictly military part of the war, about 95,000 combatants died. But the worst happened behind the lines: some 160,000 Spaniards were shot, died in bombardments, from curable illnesses or of starvation, behind both lines of fire.

If the nearly 200,000 exiles are added to all these deaths, we are speaking of around half a million people from a census showing a total of 23 million inhabitants in 1930.

At the end of the war in Spain, 170 urban centers had been practically wiped out. Two hundred and fifty thousand houses were left uninhabitable and as many more left partially damaged.

Comparing production in 1935 with that of 1940, the drop was of 21.2% in agriculture and of 30% in industry. In this same period, income per capita fell by 26.7%. Levels of per capita income were not to recover until well into the nineteen fifties.

In 1935, 613,700 births took place in Spain, a figure which fell to 419,800 in 1939[3]. During the two complete years of the war (1937-1938), at least

[3] Observe that in 2016, in a Spain with a population 80% greater than in 1939, fewer children were born than were born in the latter year, which had a material precariousness for the population incomparably higher than that of the worst years of the recent economic crisis.

200,000 births were lost in Spain. The marriage rate was also affected; at least 300,000 weddings were delayed or suspended.

The first period following the war was characterized by "reconstruction", with the country unable to exit from a productive structure proper to an agrarian economy wherein the scarcity of foodstuffs led to rationing (in 1939 there was created a "Commissary of Foodstuffs and Transports", "stuffs" in the slang of the times, which administered the ration cards). More than reconstruction, what there was during that period was stagnation: investment languished, housing production descended...As Professor Manuel-Jesús González has written, "the Civil War took its toll in penury and disorganization"[4].

During the three-year period 1948-1950, there was produced what may well be called an "economic transition". Those years take on importance because they represent the first link to a new stage which would culminate in the Plan for Stabilization (1959). Manuel Jesus Gonzales describes it thus:[5]

"I maintain that the first occurrence of relevant economic change must be situated clearly in the decade of the fifties. The technological transformation of the decade of the sixties would have been unfeasible without the first industrializing wave which took place in the previous decade, and which, based on the generating of goods of simply designed equipment and an intense commercial protectionism, produced the accumulation of capital and the interconnection of the market, sufficient to absorb the technology of importation of the following decade."

From 1956 on, a process was initiated to replace importations and at the beginning of the sixties, corporate expectations improved substantially. For its part, the international sector aided growth. On November 4th, 1950 Spain was admitted to the Food and Agriculture Organization and on the 6th of November, the United Nations authorized the return of ambassadors to Madrid.

The effects of that "opening " of the economy –together with the expansive cycle which was being produced in Western Europe—were not long in coming. The industrial GDP grew by 45.8% between 1959 and 1963 and per capita productivity among industrial workers grew during these five years by 5.6% annually. The number of tourists, which in 1959 stood at 4,195,000, in 1964 reached the figure of 14,103,000 and within the same period, the entrance of currency from tourism went from 128.6 million Dollars in 1959 to 918.6 million in 1964. For its part, the investment of foreign capital went from 964.2 million pesetas in 1959 to 4,687,800,000 in 1964. Remittances from emigrants, practically non-existent before 1960, grew from 55 million Dollars in 1960 to 239 million in 1964.

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4 González, Manuel-Jesús: *La economía política del franquismo (Franco's political economy). Tecnos: Madrid, 1979.*

5 González, M.J., Op. cit., p.117.

The importation of equipment (mostly machinery and industrial tools) grew in only three years (1961-1963) from 233.9 to 530 million Dollars. Between the year 1960 and 1970, the GDP doubled, growing specifically in monetary terms by 102%. Agriculture went from representing 24% of the GDP in 1960 to 13% in 1970, while industrialization went from 35% to 38% and services from 41% to 49%. In 1960 currency reserves reached 590 million Dollars.

The stage of self-sufficiency, that is, from the end of the war until the mid1950's, was characterized by instability, in rates of deaths as well as births. Stability was reached following the abandoning of the policies of self-sufficiency, a prelude to the liberalization begun in 1959, but the 635,000 births of 1935 would not again be reached until 1957. The same may not be said of the marriage rate (150,600 in 1935), this being far surpassed by the 215,800 in 1940, a rate which fell to 189,600 in 1941. During the entire era of General Franco the number of weddings never went below the 174,000 celebrated in 1943.

While in Europe after the Second World War there began a period of intense marrying, in Spain this phase of a descent in the age upon marriage and of a reduction in the rate of bachelorhood was produced later: in the fifties, and in a context of an improvement in socioeconomic conditions. It was that economic improvement which impelled Spanish young people to marry at ever-younger ages and in increasingly greater numbers until the seventies, during which decade a new change of tendency took place. Once again, this turning point appears delayed in time with respect to most European countries, whose marriage behaviors tended towards more restrictive standards from the decade of the sixties onwards.

From the end of the fifties, a major recovery was produced in the birthrate during the period 1956-1964, with net birth rates above 21 per 1000 (the period known as the "Spanish baby boom"). But the Spanish boom was later, briefer and less intense than that which took place in the major countries of Europe and in the U.S.

Starting from the second half of the sixties, net birth rates began to diminish in Spain, although very slowly, passing from 23.1 per 1000 in 1945-1949 to 18.8 per 1000 in 1975.

The long-term indicators ratify what has been said: among the generations born at the beginning of the thirties, the latest in reaching their maximum fertility is the Spanish generation born in 1935 (in Belgium it was that of 1931, in Denmark, Italy, Norway, Germany, and Switzerland that of 1933), but the maximum TFR (Total Fertility Rate, a transversal index known as the "number of children per woman") in Spain was that of 1964 (3.01) and coincides with the year in which maximums were also reached in England and in Wales (2.94), Belgium (2.71), France (2.90), Ireland (4.07) Italy (2.70), Norway (2.98), Portugal (3.15), the German Federal Republic (2.55), Sweden (2.48) and Switzerland (2.67).

It is evident that those years of Spanish fertility, while high in comparison with the rest of Europe, were not a "natural" fecundity. In other words: many Spanish couples were now using modern contraceptive methods, and more so when in the sixties the contraceptive tablets began to come on the market (the "pill", as it was then called).

The evolution of the death-rate during the long post-war period forms part of the process which has been called an epidemiological transition, wherein the great crises and pandemics have disappeared, infectious diseases are in clear retreat and accidents and cancer begin to be the protagonists.

The evolution of life expectancy at birth went from 64.3 years old in women and 59.8 years old in men in 1950[6] to 75.1 years old and 69.6 years old respectively in 1970.

During the first half of the century, life expectancy in Spain remained clearly below that of other Mediterranean countries such as Italy. In fact, Spanish women did not surpass the 50-year-old life expectancy rate until the third decade of the XX century, whereas the average date upon which European women as a whole reached the 50-year-old rate was approximately 1903. The Spanish women achieved this with a delay of nearly 25 years.

Once the years of the war and the post-war period ended, infant mortality again began to fall, settling at the end of the forties at the level it had displayed prior to the war. From the fifties onwards, with an infant mortality rate now inferior to 70 deaths per 1000 births, it fell at a rate of 5% annually, posting a rate in the final years of this period clearly beneath 20 per 1000, and the fall in the 1- to 4-year-old mortality rate was even greater.

The difference between masculine and feminine mortality rates has continued to grow (in favor of the women). Until the twenties, there was a notably greater mortality rate among young women, owing to the very high rate of deaths in childbirth, but from the beginning of the fifties a clear divergence began. The mortality rate of young men arrived at a point up to three times above that of women in the mid-nineties. This strong divergence contrasts with a relative stagnation in the rate of mortality of young men during the sixties. The mortality rate at the extreme ends of life, in infancy and in the elderly, is also clearly higher for men. These differences have continued to increase throughout the XX century. Whereas the exogenous mortality rate (infantile diseases, infections, accidents...) has been falling, the differences between masculine and feminine death rates have not moderated but rather have risen, and—given that this phenomenon is universal—the conclusion has been reached that the biological resistance of women is greater than that of men. This biological resistance in women is greater regarding survival, a situation clearly appreciable during infancy and youth. Nonetheless, their resistance to physical and mental deterioration is not greater, to the point where the rates are similar between men and women.

[6] The year 1940 has been skipped as being totally abnormal.

Chapter one

Demography of the geographic environment: Africa and the European Union

Juan A. Mora Tebas

Introduction

In terms of Security and Defense, the geopolitical challenges represented by dizzying demographic changes cannot be faced if these are not analyzed promptly enough. In order not to ignore that strategic function which is anticipation, a knowledge of the evolution of demography at 20 years' remove (a horizon of 2040), as well as its relation to Security, is indispensable. This chapter will be centered on what is happening, and what may happen, in our most immediate geographic environment: Africa and Europe.

According to the results of the varying average of the projections of the World Population Prospects: 2017 Revision, world population will reach nearly 7.6 billion by mid-2017 (7.405 billion according to the U.S. Census Bureau-International Database, of the U.S. government), which implies that the world will have grown by a billion persons in the last 12 years (938 million according to the U.S. Census Bureau). Sixty per cent live in Asia (4.5 billion), 17% in Africa (1.3 billion, which would be 1,222 billion according to the U.S. Census Bureau), 10% in Europe (742 million), 9% in Latin America and the Caribbean (646 million), and the remaining 6% in North America (361 million) and Oceania (41 million)[1].

[1] Division of Population and Department of Economic and Social Affairs, U.N., 2017.

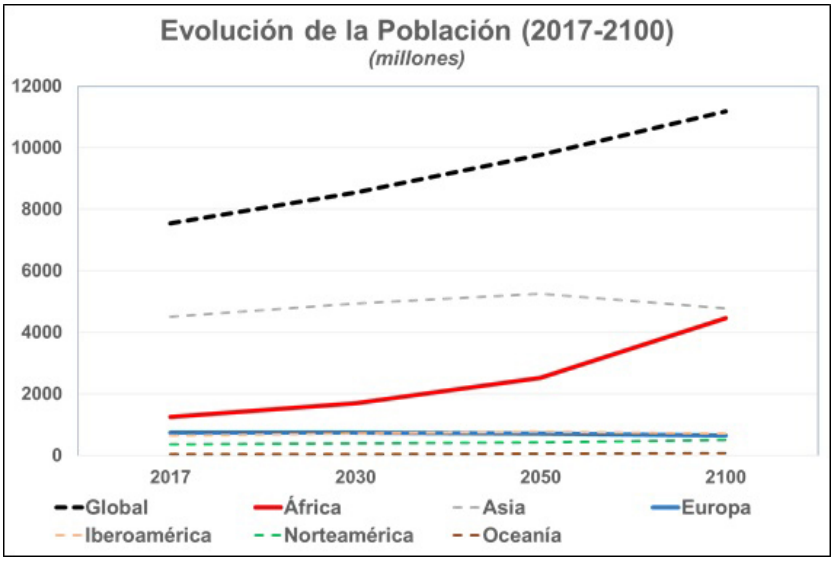

Figure 1.1: Evolution of the World Population (2017-2100)

The greater part of the rise foreseen for the world population may be attributed to a short list of countries with a high rate of fertility. For the period 2017-2100, 33 countries, most of them on the path to development, have a high probability of tripling their size[2].

Africa: Growth and Structure of the Population

In the years 1950-1960, the population of the entire continent of Africa was of some 275 million (9% of the world population). In the decade of the nineties, the Africans were some 640 million (12% of the world population) with an average fertility index of 6.7 children per woman, and it was foreseen that this figure would descend to 2.1% in 2020. The prediction was partially fulfilled, going from 5.1 births per woman (2000-2005) to 4.72 children per woman during the period 2010-2015[3].

Fertility

Africa is not homogeneous (ethnic groups, religions, languages, etc.) and neither is it with regard to fecundity:

- *Maghreb.* Finds itself about to complete its demographic transition in countries such as Tunisia (TFR 2.1 children per woman) and Algeria

[2] (Division of Population of the Department of Economic and Social Affairs. U.N 2017), p5

[3] NB: Most of the data relating to Africa are taken from the *World Population Prospects. The 2017 Revision*, published by the Division of Population of the Department of Economic and Social Affairs (General Secretariat of the U.N.), on June 21 2017, other sources being indicated where this is not the case.

(3 children per woman). Algeria is a special case within the Maghreb, as it suffers from a delay in the effects of the tendency towards a lesser fertility. In effect, the family planning programs allowed a fall in the Total Fertility Rate (TFR) from 4.5 children per woman (1990) to 2.8 in 2008 (2.4 in 2000). Nonetheless, this Rate rose to 3.03 in 2014, which is interpreted as a sign of the re-Islamization of the country. As a result, the Algerian population was 40 million in 2016, when it is estimated to have been only a million in 1830[4].

- *Sahel*. The case of Sahel is especially relevant. This is a case of a region incapable of feeding its population, which has been doubling nearly every 20 years due to an annual growth of 3.9% and fertility rates above 5.6 children per woman (excepting Mauritania, with 4.9).
- The example of Niger illustrates an upcoming catastrophe. This is a country with ¾ of its population living in the Sahara desert, which had 3 million inhabitants in 1960 and which may reach 40 million in 2040 and 60 million in the year 2050 due to a fertility rate above 7 children per woman. But the surveys show that Nigerian women want to have up to 9 children, and their husbands…11 children![5]

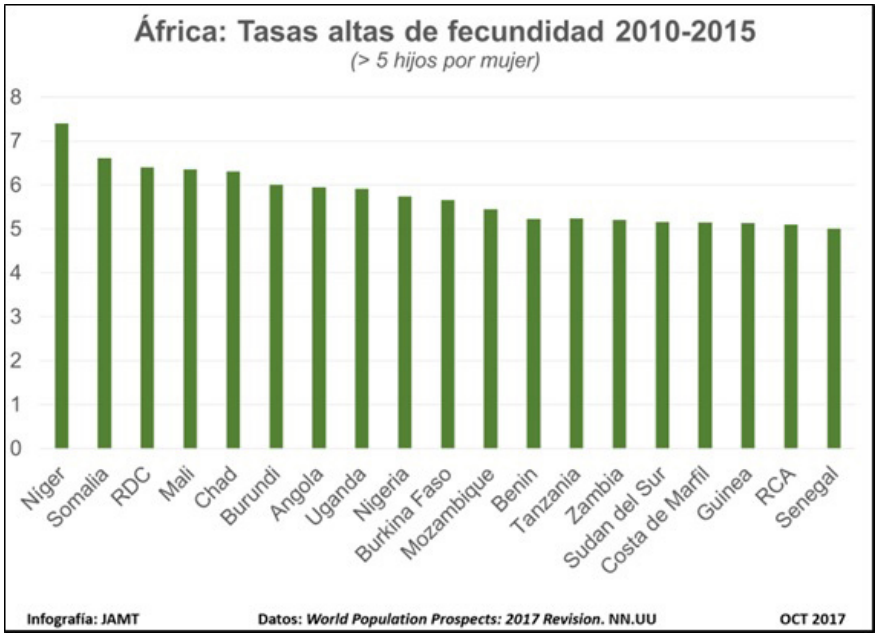

Figure 1.2: Africa: Number of children per woman (TFR) 2010-2015

[4] LUGAN, Bernard (2016) "Africa: a suicide for demography", 5 August 2016

[5] Interview with Mamadou Issofou, President of Nigeria. Jeune Afrique, 28 December 2014.

- *Tropical Africa*[6]. It is the only relevant region in the world which has remained in the center of the demographic transition. The rapid descent in the rate of mortality has not been accompanied by a significant reduction in the fertility rate. The number of children per woman is currently on the order of 5.5, and prospective scenarios only foresee a slow reduction in fecundity.
- *Southern Africa.* It is the African region with the least growth as a whole, its TFR standing at 2.7 children per woman.

Some regions of the world are still characterized by high levels of fertility of adolescent mothers (15-19 years old), which represents a situation of concern in many countries given the adverse social and health consequences both for the young mothers as well as for their children. During the period 2010-2015, the region in the world with the highest fertility rate in adolescent mothers was Africa, with 99 per 1000 women.

At a world level, the fertility rate is expected to descend from 2.5 children per woman (2010-2015) to 2.2 in 2045-2050 and 2.0 in 2095-2100. But in Africa we find the exception, because in every part of the world the tendency has reversed, leaving no-one in doubt that the demographic question is crucial for the future of Africa, although interpretations may diverge. This rhythm of growth of the population since mid-XX century, over a continent and in the long term, is an event unique in human history[7].

Between 2017 and 2050, 26 African countries will double their population. It is even estimated that 6 African countries (Angola, Burundi, Niger, Somalia, Tanzania and Zambia) will quintuple their populations by 2100.

By 2050 it is foreseen that 40% of the births in the world will be Africans, for a total of between 2 and 3 billion (90% in sub-Saharan Africa), constituting 25% of world population; reaching 4.2 billion in 2100, 1/3 of the world's population[8]. By 2050, half of the world's growth will be concentrated in 9 countries; of these, 5 will be African (Nigeria, the Democratic Republic of the Congo, Ethiopia, Tanzania and Uganda).

With extremely high fertility rates, Africa sees its population increase by 3% annually, which means that it will double its population every 23.5 years[9]. And according to the data from the 2017 revision of the UN. population perspectives, with the rhythm of population growth of 2014-2015, this would be some 27.3 years. According to U.S. Census Bureau estimates, in accord with the 2015-2016 growth, it will double in 29 years. The tendency is to slow

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6 Region of sub-Saharan Africa crossed by the equator. Refers to West, Central and East Africa.

7 (POURTIER 2016) "The African Challenge: Demographic bomb or demographic dividend?" Diploweb, 28 May 2016.

8 (LUGAN, Bernard 2016) "Africa: a suicide for demography" 5 August 2016.

9 LUGAN, Bernard(2016) "Africa: a suicide for demography" 5 August 2016

down this growth, although it will continue to be extremely strong. And this uncommon growth presents great challenges:

Internal challenges:

- To reach economic growth to the level of the great mass of young population.
- To control the phenomenon of expansion of cultivable land at the cost of pasture areas. This would cause the over-exploitation and exhaustion of the water wells, which would originate various communitarian conflicts[10]. These conflicts would be passed off as being of an ethnic and/or religious nature.

External challenges. The relations of Africa with the rest of the world will be marked by the consequences of this unprecedented demographic explosion[11]. For example, for 2040, the fragile Sahel region, in the process of desertification and with limited resources, will have to shelter more than 150 million inhabitants.

Infancy and youth (0-24 years old)

Africa has a very young population, 3 of every 5 persons (60%) are under 25 years of age. This has not changed from 1950 to our times. Nonetheless, due to the massive growth of the population, the absolute number of children and

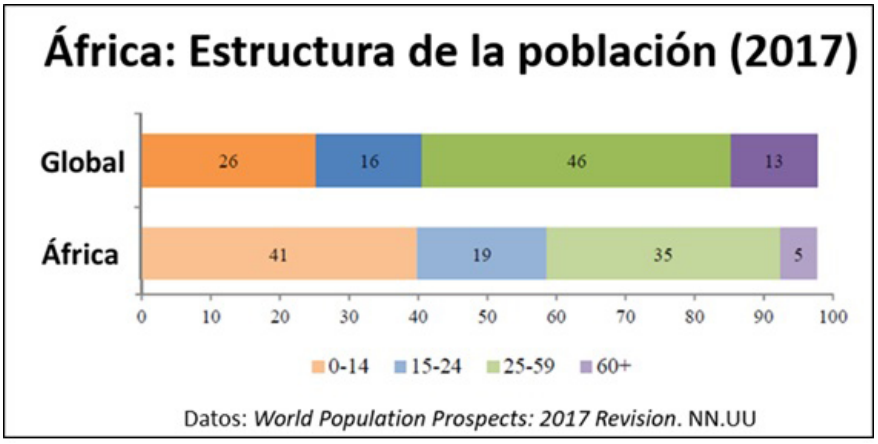

Figure 1.3: Structure of the African Population (2017)

[10] To go more deeply into these communitarian conflicts, see: MORA TEBAS, Juan A., "Communitarian Conflicts in Africa: Farmers vs. Herders". CESEDEN/IEEE. Analysis Document 02/2017 17 January 2017. Available at: http://www.ieee.es/Galerías/fichero/docs.analisis/2017/DIEEEA02-2017 Conflictos Intercommunitarios JAMT.pdf

[11] POURTIER, Roland (2016) "The African challenge: demographic bomb or demographic dividend?". Diploweb 28 May 2016.

youths of from 0 to 24 years of age has quintupled, going from 138 million in 1950 to 716 at the present time.

In 2017, those under 15 years of age were 41% of the population, to which must be added youths from 15 to 24 years of age representing 19% (Figure 1.3).

Although the populations of all nations are expected to grow in the future, populations will continue to be young in the regions where fertility continues to be high. In 2017, 60% of the African population was under 25 years of age; this percentage is expected to fall slightly, to 57%, by 2030, and to continue descending to 50% by 2050, which will still be a greater percentage of youth than is expected for other regions of the world.

This great change in the structure by ages in Africa is a consequence of the delay in the fall in fertility on this continent. The very high fertility rates, in spite of the relatively low infant mortality rate, have given rise to an enormous number of children and young people under the age of 25 in many African countries (especially in West and East Africa).

Providing these generations of children and youth with health care, education and job opportunities will be crucial to the success of the application of the 2030 Agenda for Sustainable Development[12].

Working age (25-59 years old)

Contrary to general opinion, labor costs are relatively high in Africa—three times as high in Djibouti as in Bombay—because the African city is expensive, costs of transport, housing and food dissuade the enterprising, creating a vicious circle where the lack of competitiveness is imposed[13]. Rates of youth unemployment are very high (Swaziland, South Africa, Libya and Gambia have nearly 50% youth unemployment) and in the majority of countries most workers have a very low cultural level. The highest rates of employees with advanced educations are in Algeria, Mauritius and South Africa[14].

In 2040, the African working-age population will be 2.5 times higher than the European. To avoid serious social tensions which could be created by the lack of employment, economic growth of GDP in Africa, according to some studies, should stand at 6%, but even then, that possible growth of annual income per capita would mean that per capita income would double in just over a generation, which would imply quadruplicating the GDP of the continent in 25 years.

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12 (General Assembly of the United Nations 2015)

13 Report of the World Bank (2017)."Opening African Villages to the World". 9 February 2017 (LALL, HENDERSON and VENABLES 2017)

14 (Mo Ibrahim Foundation 2017) Ibrahim Foundation Report 2017: 'Africa at a Tipping Point'on April 8 in Marrakech, Morocco.

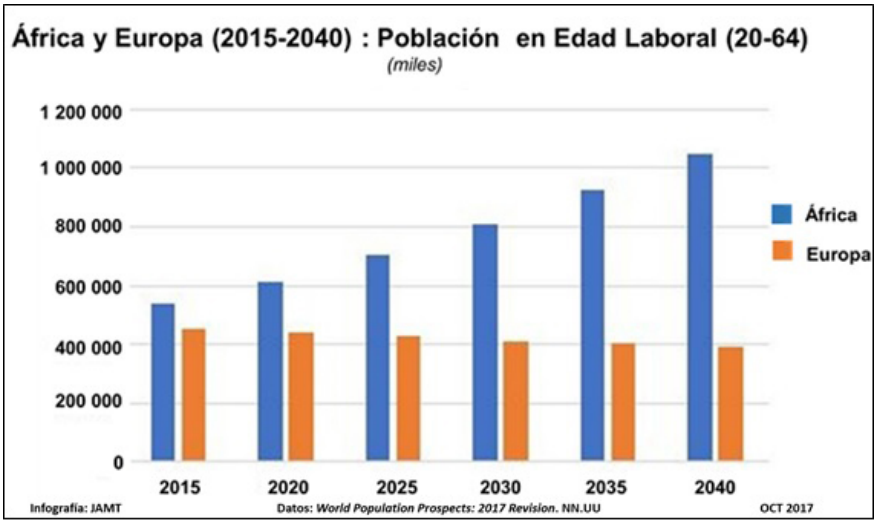

Figure 1.4: Africa and Europe (2015-2040): Working Age Population

Aging (> 65 years old)

But the group of children and youth is not the only one to experience enormous growth: the number of people over the age of 50 has increased from some 26 million in 1950 to 130 million currently.

Africa, which has the youngest age distribution of any region of the world, is also likely to undergo a rapid ageing of its population in the coming decades, the percentage of the population over the age of 60 rising from 5% in 2017 to 9% in 2050. In the next 35 years, their number will "rocket" to 412 million, and by the end of the XXI century, Africa will be home to more than 1.3 billion people over the age of 50[15].

Mortality

Infantile Mortality

The rate of infantile mortality[16]is a major indicator of development and welfare. The reduction in this rate has been substantial and of great scope in recent years. Between 2000-2005 and 2010-2015, infantile mortality fell by more than 20% in 163 countries, including in 47 of the 57 African countries.

[15] http://www.demographics.at/index.html

[16] Rate of infantile mortality: Total number of deaths of those under one year of age, belonging to a given sphere, for each 1000 live births within that sphere. (National Institute of Statistics-NIS-2017) p. 10.

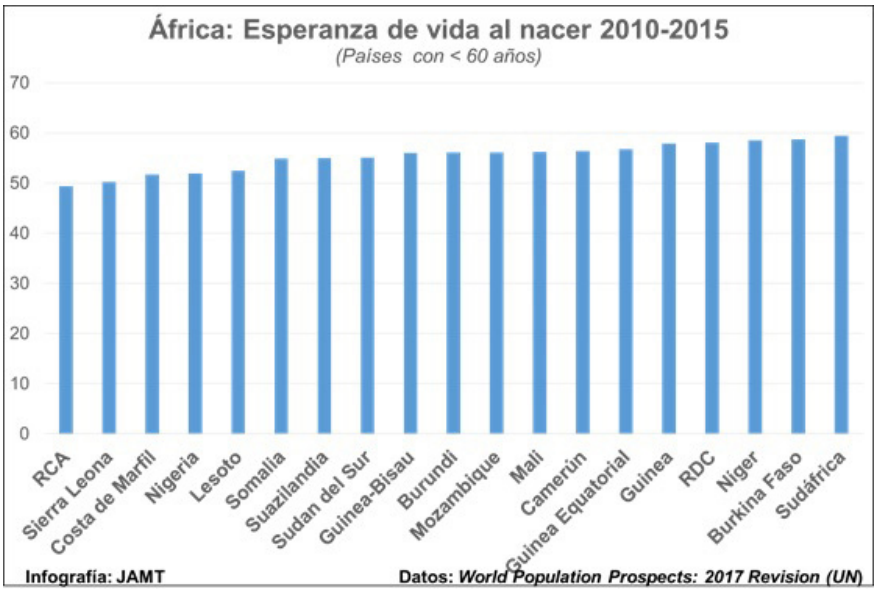

Figure 1.5 Africa: Life expectancy at birth (2010-2015)

In 1960 there were 80 countries which did not reach the threshold of 50 years of life expectancy at birth[17], according to data from the World Bank. In the period 1960-2015, the world average went from 52.5 years to 71.5. It rose by 3.6 years between 2000-2005 and 2010-2015, that is to say, it went from 67.2 to 70.8 years. All regions share this rise, but the greatest achievements were in Africa, where life expectancy increased by 6.6 years between these two periods after rising by nearly 2 years during the prior decade.

In 2015 there were 76 countries with a life expectancy lower than 70 years. The 25 countries with the worst figures belong to Tropical Africa.

The case of South Africa is special as being the country with the greatest incidence of the HIV/AIDS epidemic. Thus, life expectancy in South Africa fell from 62 years (1990-1995) to 53 years (2000-2005) and (2005-2010), increasing to 59 years (2010-2015). This represents a retreat from two decades of potential improvements in survival rates.

At a world level, it is estimated that life expectancy will rise from 71 years in 2010-2015 to 77 years in the period 2045-2050. Forecasts are that Africa will gain nearly 11 years of life expectancy by mid-century, reaching 71 years in 2045-2050. These increments are conditioned by the new advances in the fight against AIDS[18] and the successes achieved against other epidemics.

[17] Life expectancy at birth: Average number of years lived by the components of a generation of individuals submitted at each age to the pattern of mortality observed for people of a given sphere throughout the year. (National Institute of Statistics -NIS-20217) p. 10.

[18] Due to the greater accessibility and effectiveness of treatment and based on the evaluation of previously unavailable data, the estimated impact on mortality of the HIV/AIDS epidemic

Migratory Movements

Intra-African movements have been notable: from areas of high demographic pressure to areas where the pressure is lower, in other words, towards the areas which generate employment; from landlocked countries to coastal nations[19].

Economic reasons are the most utilized argument by migrants in transit upon answering the questionnaires at immigration information centers of the International Organization for Migrations (IOM) in Niger. Marriage, insecurity, discrimination and persecution receive marginal mention[20].

Extra-African migrations produce other problems, less important in absolute terms but reflecting the strong desire of the young to emigrate. Surveys in schools reflect clearly the desire to leave Africa. The great Gallup World Poll is going in the same direction: sub-Saharan Africa is the region of the world where the desire to emigrate is greatest (33% of the population)[21].

Urbanization

In the space of 20 years, the urban population of the African continent has doubled (472 million in 2015, according to the United Nations), and should still double in the next 20 years, to reach a billion. Africa could become primarily urban, 25 years later than East Asia (China had already crossed this threshold in 2011), 75 years after Latin America and 85 years after France[22].

The rate of African urbanization which was at 14% in1950 reached 40% in 2013 and will be at more than 60% in 2050.

Urbanization accompanies the transformation of economies, with the passing of rural and relatively unproductive societies to more complex systems in which industry and activities of the service sectors progressively occupy the preponderant roles[23].

African cities grow, above all, due to the increase in the population itself, sine the rural exodus is only responsible for a third of the new urbanites who must be given access to jobs, housing, schools, health care, etc.[24]

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has been reduced in the 2017 Revision in comparison with earlier evaluations, providing a result of an increase in population size in several of the countries affected by the epidemic.

19 (POURTIER 2016)

20 DAMGÉ, Mathilde, "Young, educated, vulnerable…robot portrait of a migrant to Niger". Le Monde, 7 June 2017.

21 (ESPIPOVA, RAY and PUGLIESE 2011) p21

22 CARAMEL, Laurane (2017). «Un milliard de citadins dans vingt ans: l'Afrique est-elle prête " *("A billion urbanites in 20 years: Is Africa ready?")* Le Monde, 30 July 2017.

23 Ibidem

24 Ibidem

All of this translates into urbanization without industrialization, a phenomenon unique in the history of the urbanization of Europe in the XIX century or that of Asia in the XX century, which was accompanied by strong growth in the manufacturing industries, a great source of jobs. Despite all the problems it generates, African urbanization has many positive aspects, among them the significant drop in fertility and the foreseeable rise of the middle classes[25].

The African Development Bank (AfDB), with excessive optimism, considers that the virtuous circle of development is based on the urban middle class. The criteria of the AfDB include within the middle classes people with incomes between $2 and $20 per day, based on which more than 300 million Africans (25%) would belong to the middle class[26].

While it is true that the middle class is growing twice as fast as the population, the number of poor people who live in the city grows more rapidly than the size of the middle class[27].

Objective data which might clarify the different conditions in which African cities grow is the average per capita income in a comparable stage of urbanization:

> *"When the countries of the Middle East and North Africa reached a 40% rate of urbanization, their per capita income was of $1800. And when the countries of East Asia and the Pacific passed that same threshold, this income level came to $3600. In (sub-Saharan) Africa, it only reaches $1000."*[28]

Slums multiply at the rhythm of population growth, so that States and local communities lack sufficient financial means to support them. These days, more than 60% of the urban population lives in shacks. The city of Dakar is a useful example, having been designed to accommodate 300,000 inhabitants and which now holds 3 million[29].

In these ill-equipped cities, air pollution begins to be a true problem, due to the antiquity of the vehicles and diesel generators, the burning of garbage, the use of vegetable carbons for cooking, etc. Onitsha, located on the banks of the River Niger (in the South of Nigeria), is one of the ten most contaminated cities in the world, with a fine-particle

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25 (POURTIER 2016)

26 Ibidem

27 Ibidem

28 (LALL, HENDERSON and VENABLES 2017) LALL, Sonak V nay; HENDERSON, J. Vernon; VENABLES, Anthony J. 2017. "Africa's Cities: Opening Doors to the World". Washington, D.C.: World Bank. Ç World Bank. http://openknowledge.worldbank.org/handle/10986/25896 License: CC BY 3.0 IGO.

29 (CARAMEL 2017)

level thirty times above the standards set by the WHO (World Health Organization)[30].

- Researchers at Yale University estimate that the growing African cities may absorb 5.87 million km^2 of land in the next 15 years, which is to say nearly 12 times the land surface of Spain (which is equivalent to some 9700 times the size of municipal Madrid, which occupies 604.3 km^2. And if we were to take the province of Madrid as "greater Madrid", with double the population of the capital city, it would be 731 times the province. And this, in only 15 years…) These same authors sketch a continent where urban growth is concentrated around five central points:
- The Nile Valley in Egypt
- The West African coast with the Gulf of Guinea,
- The Kano region (northern Nigeria)
- Addis Ababa and its periphery in Ethiopia
- The northern shore of Lake Victoria. In this case, "there is a high probability that the space between Kampala (Uganda) and Kisumu (Kenya) will become a single urban agglomeration", in other words a macro-city which would extend over a space of 300 km[31].

Africa will be an urbanized continent, where slums proliferate by the thousands as true poles for the generation of violence and poverty. By the year 2050, Africa will have between 300 and 500 million more urbanites, some through natural increments but the majority as a consequence of rural exodus, which will endanger all development policies[32], even though it is more economical to give modern services and quality of life in cities (due to economies of scale) and is easier to create new jobs in them than in the countryside, which, on the other hand, with mechanization, needs far fewer workers in order to produce more. So has it happened with development all over the world.

With 1.8 million inhabitants at the present time, Barnako, capital of Mali, is undergoing the fastest urban growth on the continent (5.5% annually) due to which it will hold 3.6 million in 2030[33], and cities such as Lagos (Nigeria) and Kinshasa (Democratic Republic of the Congo, DRC) will be mega-cities of more than 20 million people.

Presently, there are 500 million African urbanites, forecasts indicating that this will reach a billion, that is to say that 50% of Africans will live in urban aggregations in 2040[34].

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30 (LUGAN, Bernard, 2016)

31 SETO KC, GÜNERALP B, HUTYRA LR (2012). "Global forecasts of urban expansion to 2030 and direct impacts on biodiversity and carbon pools." Proceedings of the National Academy of Sciences of the United States of America (PNAS) October 2, 2012 vol. 109 no. 40 pp 16083-16088. (SETO KC 2012)

32 (LUGAN), Bernard 2016)

33 (Agence France Press . AFP 2017).

34 AFP (2017) "In Africa, cities explode but create little wealth" *Jeune Afrique*. 19 March 2017 (Agence France Press-AFP 2017)

Impact on Security and Defense

At a Political-Strategic Level

- *Proliferation of community conflicts.* The demographic explosion will engender a progressive saturation of control of land, which will multiply the violence associated with the fight for land (cultivated or pasture) and for resources among indigenous-migrants-foreigners in a competition for control of rural spaces. An example is what occurred in the Ivory Coast (2nd civil war, February-April 2011) a country with 25% of foreigners, where the inhabitants of the north are considered foreigners in the south, as being from an area which takes in immigrants from poorer countries like Burkina Faso or Mali, demonstrating that traditional hospitality can mutate into xenophobia[35].
- *Increment in demonstrations and popular revolts.* A growing discontent is to be foreseen in the immense masses of unemployed youth in the slums of the great cities, which constitutes a powder-keg easily lit and utilized by populists and religious and/or nationalist extremists. Not to dismiss the possibility that the popular revolts ("*black springs*") unseat leaders who seek to perpetuate themselves in power, as happened in Burkina Faso in the fall of 2014.
- *Massive movements of population: Alteration of the social balance (ethnic and/or religious) = "Balkanization/Lebanization".*
- The ethnic composition of the countries, combined with social problems and with weak governments, may generate internal disturbances, initiating a violence which may spread into neighboring countries; this could engender inter-State wars. In some countries, alterations in the ethnic and/or religious balance will be produced due to cross-border migration and to the high fertility rate of certain social groups. This lack of balance will transfer to the political field, permitting the minorities of today to become the majorities of the future.
- *Increment in organized crime and in "banditerrorism".* The high rates of juvenile unemployment and the lack of education constitute a Petri dish for the chronic banditry existing in many countries of the Sahel and sub-Saharan Africa. In recent years, these bands of evil-doers have been progressively taking on the jihadist proclamation. The type of work on offer (driving 4x4 vehicles, weapons handling, etc.) and the possibility of easily obtaining a high income which these groups offer them, exercise an attraction difficult to neutralize, auguring a growth in the terrorist phenomenon, which will grow and evolve to adapt itself to the urban environment.
- *Difficult governance.* The high growth rate of the population concentrated in the countries and poorer collectives will make it difficult for governments

35 (POURTIER 2016)

to eradicate poverty, reduce inequality, combat hunger and malnutrition, and broaden or update the systems of basic services.

- *Uncontrolled urbanization.* In 2040 50% of the African population will live in urban areas. The mega-cities resulting from massive internal migrations will be ungovernable, above all due to the "horizontality" of their urban conception, which extends them to over 100 km.
- *Greater representation in international organizations.* African leaders will claim a greater decision-making power as well as greater representation in the international organizations associated with security (in 2050, 26% of the world population will be African). Recently, on the occasion of the 54th anniversary of the African Union, its acting president and President of Guinea, Alpha Condé, put in a claim for two permanent seats on the Security Council for African countries[36].

The European Union: Growth and Structure of the Population

Since the Treaty of Rome of 1957, the population of the countries which make up the current European Union (EU28)[37], has grown annually until the mid-eighties, essentially due to natural increase, that is to say, the difference between the number of births and that of deaths. In the middle of the decade beginning in 2010, the EU experienced a surprising demographic rupture.

In 2015, and for the first time since the decade of the fifties, two demographic phenomena were produced in the EU:

- Depopulation, upon the death rate surpassing the birth rate by 135,000[38].
- The growth in the number of inhabitants was due exclusively to the migratory flow of people from countries not members of the EU, although this phenomenon had been coming about for years if the computation of births from non-EU mothers and the deaths in the EU of people born outside it was excluded. Thus, in 2013 there were 413,000 deaths of people born in the EU and resident in it, more than births in the EU from mothers born in it.

This is the consequence of a "demographic winter" lasting from the mid-seventies, a "winter", the causes of which it is important to understand, as well as the differences depending on the country affected.

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36 La Tribune Afrique (The African Tribune), 25 May 2017

37 NB: The majority of the information and relative data regarding the European Union (EU-28) are taken from the "*Demography report-2015*", (European Office of Statistics of the European Commission , EUROSTAT, http://ec.europa.eu/eurostat), the source being indicated when such is not the case.

38 This breach would be much higher if the pending "Brexit" were taken into account, since the excess of deaths in the UE-27, therefore without the United Kingdom, would be of 310,000.

As of 1 January 2016, the total population of the EU was estimated at 510.3 million. During that year, there were as many births as deaths (5.1 million), which means that the vegetative growth[39] of the EU population was neutral. The positive demographic change[40] (more than 1.5 million inhabitants) was, thus, due to net migration[41].

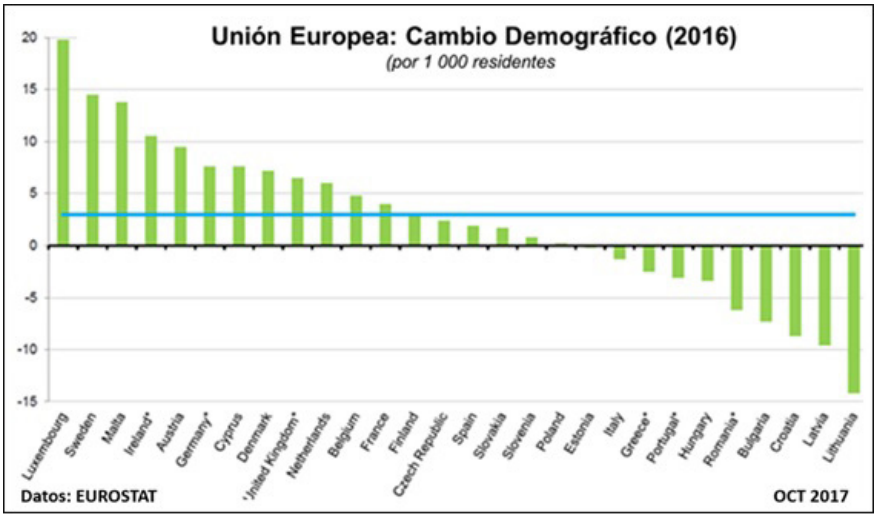

Figure 1.6. European Union: Demographic change (2016)

During the year 2016, the EU population rose by 1.5 million persons (+3.0 per 1000), growing in 18 member States and falling in 10.

PRINCIPAL VARIATIONS IN POPULATION (2016) *(per thousand inhabitants)*			
Luxemburg	+19,8	Lithuania	-14,2
Sweden	+14,5	Latvia	-9,6
Malta	+13,8	Croacia	-8,7

[39] *Natural Change:* The difference between the number of births and the number of deaths during the year, expressed per 1000 persons. A positive natural change, also known as a natural increment, is produced when births surpass deaths. A negative natural change, or natural diminishing, is produced when births are less numerous than deaths (European Commission-EUROSTAT 2017) p 5

[40] *Population change*: The difference between the size of the population at the end and at the beginning of a period. Specifically, this is the difference between the size of the population as of 1 January of two consecutive years. A positive change in the population is also known as "demographic growth". (European Commission-EUROSTAT 2017) p 5

[41] Net Migration: The difference between natural change and demographic change. It therefore includes statistical adjustment corresponding to all changes in the population which cannot be classified as births, deaths, immigration or emigration. (European Commission-EUROSTAT 2017) p 5

PRINCIPAL VARIATIONS IN POPULATION (2016) *(per thousand inhabitants)*			
Ireland	+10,6	Bulgaria	-7,3
Austria	+9,5	Romania	-6,2
Germany	+7,6		
Cyprus	+7,6		
Denmark	+7,2		
The United Kingdom	+6,5		
The Netherlands	+6,0		

Source: EUROSTAT 2017.
Table 1.1. Principal Variations in the Population in the EU in 2016.

As of 1 January 2017, the total population was estimated at 511.8 million with the following distribution:

- Germany: 82.8 million
- France: 67 million
- United Kingdom: 65.8 million
- Italy: 60.6 million
- Spain: 46.5 million
- Poland: 38 million

Regarding the remaining member States, 9 have a participation of between 4% and 1.5% of the population and 13 are below 1.5%1.

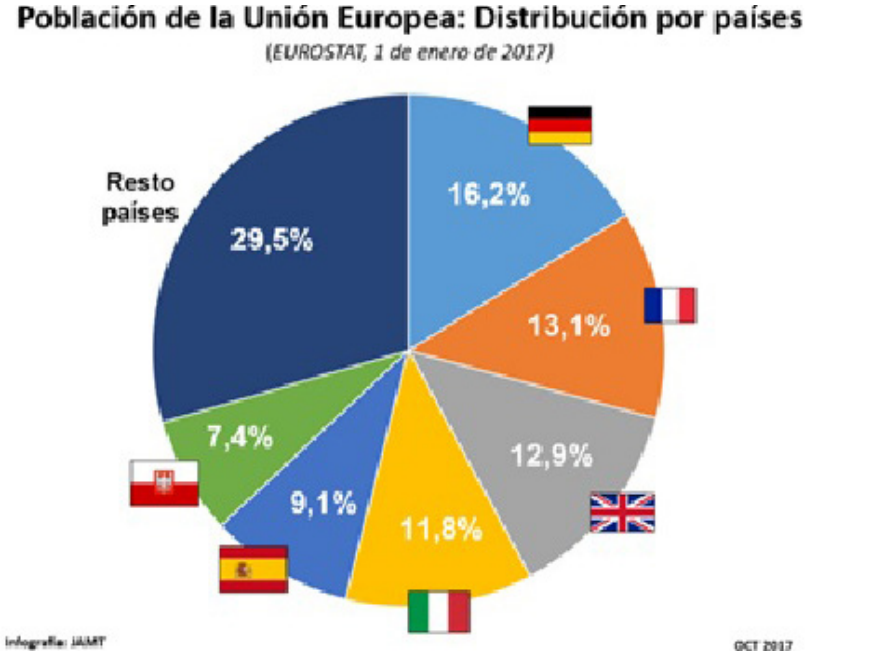

Figure 1.7. Population of the European Union

Fertility

In recent years, fertility had fallen in practically all regions of the world, Europe representing an exception, with an increase from 1.4 births per woman in 2000-2005 to 1.6 in 2010-2015[42], a rise which is due in large part to the greater fertility of the female extra-European immigrants.

As has been stated, the most widely used indicator for measurement of fertility is the Total Fertility Rate (TFR) or number of children per woman.

Between 1980 and 2003 the TFR shrank considerably in most member States. In 2001 and 2002, for the whole of the EU it stood at 1.46 live births per woman (reaching values below 1.30 in Bulgaria, the Czech Republic, Greece, Spain, Italy, Lithuania, Slovenia and Slovakia). In 2010 it recovered, rising to 1.62, to descend again to 1.54 in 2013 and recover to 1.58 in 2014. In 2015 it stood at 1.58 live births per woman (the same as in 2014), all countries reporting indices above 1.30.

A partial explanation of this rally might be the tendency to give birth in a later period of life (in the period 2001-20015, the average age of women at childbirth went from 29 to 30.5 years old). In the same sense, there is a growing contribution to births in Western Europe from non-European immigrant mothers whose average fertility is far higher than that of native European women.

Relatively weak family unit with a low proportion of married people and a high proportion of extra-marital births. However, in countries throughout Europe there are more children per household in those homes with a married couple in charge than those with de facto couples or single-parent homes.

Relatively high divorce rates. The instability of couples is quite generalized.

High participation of women in the labor market, since the number of children from women who do not work is generally much higher than for women who do.

Total Fertility Rate (TFR) 2015 *(births per woman)*			
Highest		**Lowest**	
France	1.96	**Portugal**	1.31
Ireland	1.92	**Cyprus**	1.32
Sweden	1.85	**Latvia**	1.32
United Kingdom	1.80	**Poland**	1.32
Denmark	1.71	**Spain /Greece**	1.33

Table 1.2. Total Fertility Rate (TFR) 2015

[42] (Division of Population of the Department of Economic and Social Affairs. U.N.) 2017) p 12 -6

The French overseas region of Guiana and the peripheral Spanish territory of the Autonomous City of Melilla registered the highest indices of fertility, with 3.50 and 2.70 live births per woman respectively. These were followed by Seine-Saint-Denis (near the French capital) and another French overseas region, Reunion. On the contrary, the lowest indices of fertility (below 1.35) were registered primarily in Germany, as well as in the member States of the east and south (Cyprus, Portugal, Spain, Slovakia and Poland) and, to a lesser degree, in Greece and Italy. The three least fertile regions of all of Europe between 2010 and 2014 were Spanish: Asturias, the Canary Islands and Galicia.

During the year 2016, 5.1 million babies were born in the EU, 11,000 more than the previous year, putting the crude birth rate[43] of the whole of the EU28 at 10 per 1000 residents. The highest crude birth rates were registered in countries of northern and central Europe, while the lowest were found to be in the south.

CRUDE BIRTH RATES (2016) *(per thousand inhabitants)*			
Highest		Lowest	
Ireland	13.5	Italy	7.8
Sweden	11.8	Portugal	8.4
United Kingdom	11.8	Spain	8.7
France	11.7	Croacia	9.0
		Bulgaria	9.1

Table 1.3. Crude birth rates 2016

At a world level, fertility is expected to fall from 2.5 births per woman (2010-2015) to 2.2 in 2045-2050 and 2.0 in 2095-2100, according to projection of the variant average. The fertility rate for the whole of Europe is expected to rise from 1.6 births per woman to (2010-2015) to almost 1.8 in 2045-2050. This increase, however, will not avoid the contraction of the total population.

In all countries of Europe the Total Fertility Rate is below the level required to replace the population in the long term (around 2.1 births per woman) and in most cases, has been below the replacement level for several decades. In 2050, it is estimated that several countries (Bulgaria, Croatia, Lithuania, Poland and Romania) will see a drop in population of more than 15%[44].

[43] Crude Birth Rate: The total of births in a year per 1000 inhabitants from mothers belonging to a specific area. When the phenomenon restricted to a population subset within the geographical area under consideration is evaluated, it is referred to simply as the "Fertility Rate". (National Institute of Statistics-NIS 2017) p 6

[44] (Division of Population of the Department of Economic and Social Affairs. U.N. 2017) p 5

Infancy and Youth (0-24)

The greatest percentage of youth is generally found in the member States which register the highest indices of fertility. This is the case of several regions of Ireland and France (Guiana and Reunion or areas of the suburbs of Paris).The age structures of the great urban areas may present a greater proportion of youth and of those of working age as a result of the "call effect", related to the greater job opportunities which attract both internal and international migrants. In Europe, only 27% of the population is under 25 years of age.

Even more significant is the fall in the number of children and young adults (0-24): their number has diminished from 240 million in 1950 to 197 million in 2015. Their number will be reduced by 18 million by 2050, and at the end of the XXI century, Europe may have 165 million children and young adults. Their percentage with respect to the rest of the population may drop from 44% in 1950 to 25% in 2050.

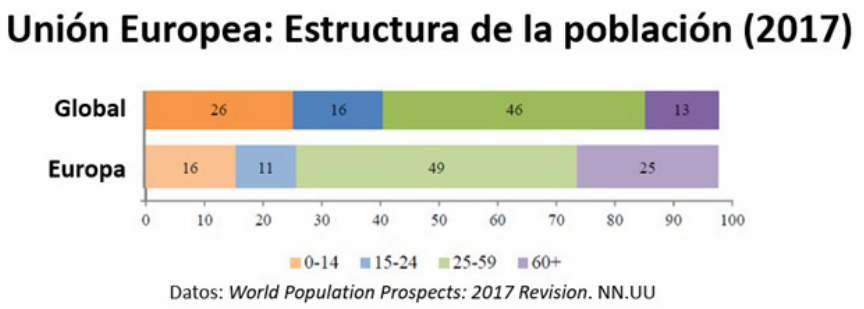

Figure 1.8 Structure of the population: % by Age Groups (2017)

Working Age (16-64)

In 1950, Europe had a maximum of 189 million people of working age. Presently, the working age population is 259 million, 35% of the population. At the beginning of 2015, the EU-28 held 508.5 million inhabitants. In the EU as a whole, the youngest persons (0-19 years of age) represented 20.9% of the total population, at the same time that people of working age (20-64 years of age) represented three fifths (60.2%) of the total, with people of advanced age (65 or more years old) constituting around 18.9% of the population.

Examining in more detail the working age group of the population, 12.2% of the population were 20-34 years of age, 28.6% of the population were 35-54 years old and 12.8% were 55-64 years old.

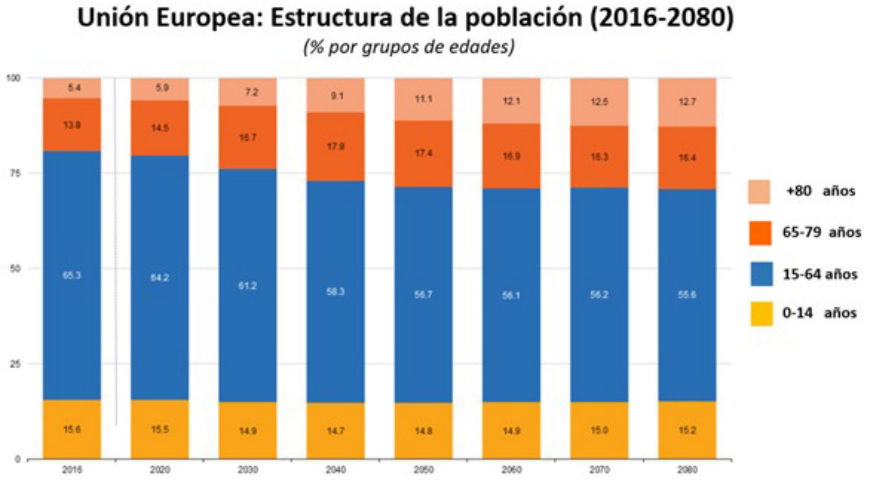

Figure 1.9. Structure of the population by Age Groups (2016-2080)

The highest percentages are found in the capitals and great cities: United Kingdom (Central London), Denmark (Copenhagen), and Romania (Bucharest); next, the insular Spanish regions[45] of the Balearic Islands (Ibiza and Formentera) and the Canary Islands (Fuerteventura). Following these are the capitals or great cities mainly in Germany, Poland, Slovakia, United Kingdom, Bulgaria (Sofia-Stolitsa) and Norway (Oslo).

In the course of a generation, the average European worker has gone from having one lifelong job to having more than ten during his working life. More women are working than ever before, but in order to achieve true gender equality, persisting barriers must be eliminated. At a moment when the working-age population is diminishing in Europe, its entire potential must be used to advantage.

Within just 35 years, Europe may have fewer than 179 million people of working age, ten million fewer than in 1950, and this percentage will fall to 28% by the end of the century.

The ageing of the population will have a profound effect on the active/inactive population relation (*support ratio*). In 2017, this ratio was of 3.3 persons of working age (20-64) per retired person (>65). These low values underline the fiscal and political pressure which many countries must face in the coming decades in relation to public health systems, pensions and social protection for a growing population of people over 65 years of age.

[45] Although their percentage of people 20-34 years of age is relatively low in comparison with the regions of the capitals (perhaps due to the fact that young people usually end their studies on the Peninsula), they do have a high percentage of people 35-54 and 55-64 years old.

People of Advanced Age

The most dramatic change in the structure of Europe by ages is now and will be in the number of people over 50 years old. In 1950, they made up 22% of the population, and constituted 38% in 2015.

People of advanced age represent an especially high proportion of the total population in rural and remote regions of Greece, Spain, France and Portugal, as well as several regions in the east of Germany. In 2015, people of an advanced age in the central and inland Greek region of Evrytania made up more than a third (33.7%) of the total population, the highest percentage in the E.U. Orense, in the Spanish northwest, was another region where people of advanced age represented more than 30% of the total population, and was one of the three Spanish regions found among the ten EU regions with the highest percentage (28.5% or more) of people of advanced age.

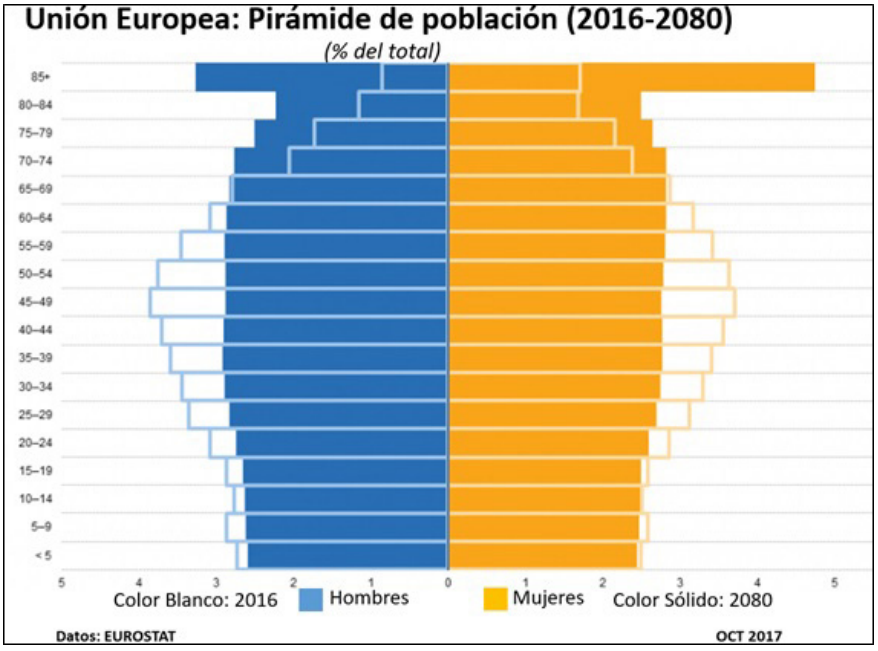

Figure 1.10 Population pyramid 2016-2080

Europe is rapidly ageing and life expectancy is achieving unprecedented levels. For the second half of the XXI century, nearly half of the European population (47%) will be 50 years of age or more, and it will be the "oldest" region of the world in 2030, with an average age of 45 years. In addition, the absolute number of people over 50 has gone from 119 million in 1950 to 282

million, forecast to reach a maximum around 2040 of 332 million, then to descend slowly to 302 million by 2100[46].

Mortality

The crude death rate[47] is more influenced by the structure by ages than by the death rate itself (people of an advanced age are more likely to die), as well as the likelihood of contracting a specific illness or of dying of an external cause.

In 2016, 5.1 million deaths were registered in the EU, nearly 91,000 fewer than in the previous year. The crude death rate for the EU as a whole was of 10.0 per 1000 inhabitants.

CRUDE DEATH RATES (2016) *(per thousand inhabitants)*			
Highest		Lowest	
Bulgaria	15,1	Ireland	6,4
Latvia	14,6	Cyprus	6,4
Lithuania	14,3	Luxembourg	6,8
Romania	13,0	Malta	7,6
Hungary	13,0	The Netherlands	8,7

Chart 1.4. Crude Death Rates in the EU in 2016

Infant Mortality

The major increase in life expectancy throughout the EU in recent years has been due especially to the great reduction in infant mortality[48].

During the decade 2005-2014, the infantile mortality rate was reduced by more than a quarter, from 5.1 per 1000 to 3.7 per 1000. If the analysis is extended to the last 20 years (in 1995 it was at 7.5%), the infant mortality rate has fallen by half.

In 2015, around 18,400 babies died before reaching the age of a year, 700 fewer than in 2014. This is equivalent to an infant mortality rate of 3.7 deaths

46 (European Commission 2017) p 10

47 Crude Death Rate: The number of deaths of people belonging to a specific area per 1000 inhabitants of that area during one year. This term is used when the indicator refers to the total of deaths occurring in a specific geographic area, whereas when evaluating the phenomenon restricted to a population subset within he geographical area under consideration, the indicator is simply called the "Death Rate". (National Institute of Statistics-NIS 2017) p 9

48 Infantile mortality rate: The total deaths of those under one year of age belonging to a specific area per 1000 live births within that area. (National Institute of Statistics-NIS 2017 p 12

per 1000 live births; a figure quite low in comparison with the rate of 5.3 registered in the previous decade (5.3 per 1000) and that of the previous half century (32.8 per 1000).

In 2015, and despite this progress, some member states still had relatively high infant mortality rates, as for example, Romania (7.6 deaths per 1000 live births), and Bulgaria (6.6 deaths per 1000 live births). In this same year, the lowest rates registered were in Slovenia (1.6 deaths per live births) and Finland (1.7 deaths per live births). Compared with 2014, there is to be observed a slight recovery in the infant mortality rate in 12 member States: from the 0.1 per 1000 in Germany, the Czech Republic, Ireland, Italy and Austria to the 1.3 per 1000 in Cyprus.

Life expectancy

During the last 50 years, life expectancy[49] at birth has increased by around 10 years on average in the EU, due in great part to improvement in the socioeconomic situation and to environmental conditions, as well as to improved medical treatments and health care. In 2014, life expectancy at birth was of 80.9 years on average in the EU-28, the highest life expectancy being registered in the Community of Madrid, with 84.9 years (the highest in general being registered in Spain).

Presently, Europe has the greatest percentage (25%) of people over 60 years of age. Rapid ageing will occur in other parts of the world, so that for 2050 every region of the world except Africa will have nearly a quarter or more of its population at an age of 60 years or over. The number of older people in the world is forecast at 1.4 billion in 2030 and 2.1 billion in 2050 and could rise to 3.1 billion in 2100. In the coming decades, an increase in the number of older people is almost inevitable, given the size of the generations born in recent decades[50].

At the other end of the scale are found regions with a life expectancy below that of 78 years: Bulgaria, the Czech Republic, Croatia, Estonia, Slovakia, Hungary, Latvia, Lithuania, Portugal (Madeira and the Azores), Poland and Romania. The lowest life expectancy at birth is registered in Bulgaria (north-west region), at 73 years old, coinciding with the fact of being the poorest region of the EU. It is important to point out that there are growing differences in the life expectancy of men and of women. In 2014, the imbalance as a function of gender was of 5.5 years, since the life expectancy of women was of 83.6 years, while that of men was of 78.1 years.

[49] Life expectancy [at birth]: Average number of years a newborn child may expect to live, submitted throughout its life to current conditions of mortality. (EUROSTAT)

[50] (Division of Population of the department of Economic and Social Affairs. U.N. 2017) p 11

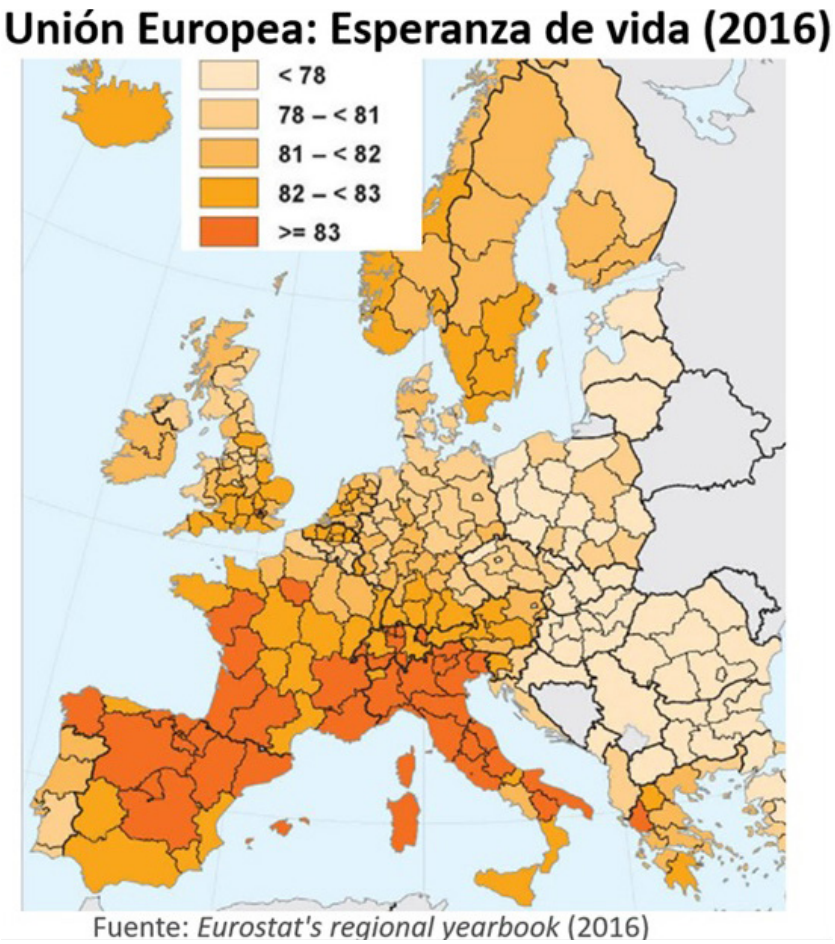

Figure 1.11 Life expectancy at birth (2016)

Migratory movements

The general change in the population is produced as a consequence of the interaction of two components: natural movement of population and net migration (immigrants minus emigrants). These components may combine to reinforce the growth or reduction of the population or rather may annul each other when they evolve in opposite directions.

Whereas the movements of people from Asia, Africa and Latin America towards Europe have been a key characteristic in the patterns of global migration for nearly half a century, migratory flow within regions has also been relevant[51].

[51] (Division of Population of the Department of Economic and Social Affairs. U.N. 2017) p 10

Historically, migrant patterns were relatively balanced during the decade of the sixties. It was in 1970 when a net exit flow of 707,028 people was registered, migrating from the EU to other destinations throughout the world, this being the highest number of net emigrants. The net exit flow following this was registered between 1982 and 1984, a period of recession; from that time on, the tendency was reversed, generating more immigrants than emigrants. Starting in 1998, net positive migration surpassed 500,000 people each year, with the exceptions of 1991 and 1997, with a net migration of over a million persons in ten of the 27 years in the period 1988-2014. Net migration into the EU rose to 1.8 million people in 2003, subsequently falling to a minimum of 712,000 people in 2011.In 203, net migration rose to 1.7 million people and remained at over a million in 2014.

In 2014, the net flow of migrants (from other regions within the same State, from other regions of the EU or from third countries) was especially concentrated in many parts of Germany, the United Kingdom, France, Austria and Sweden. The refugee crisis, which occasioned the arrival in Europe of 1.2 million people in 2015, was of a magnitude unprecedented since the Second World War[52].

With regard to migration, two sectors of Europe also contrast with each other:

- *Countries with a positive balance.* In 2015, the countries which registered a positive migratory balance were: Germany, Austria, Belgium, France, Luxembourg, the Netherlands, Denmark, Finland, the United Kingdom and Sweden.
- *Countries with a negative balance.* Net migration was negative, in other words, more people left the region than arrived in it, in regions of the east and south of Europe (Slovenia, Croatia, Hungary, Romania, Bulgaria, Greece and Cyprus), as well as in the north of Europe (the Baltic Republics), several regions of the Iberian peninsula, France (Isle de France and Champagne-Ardennes) and a great part of Ireland. The highest crude negative rates of migration were registered in the border region of Ireland and in Athens (Kentrikos Tomeas Athinon), where the net migration rate dropped to 21.1 per 1000.

Immigration

At the beginning of the decade, attention was focused, perhaps too much so, on those immigrants proceeding from the Middle East, without taking note of those proceeding from Africa. In the year 2016, however, immigration proceeding from Africa has surpassed that of Syrians, Iraqis and Afghans. According to a report from the European Agency for the Administration of Operative Cooperation at Foreign Borders (FRONTEX), 93% of those who disembarked in Italy last year

[52] (European Commission 2017) p 11

came from Africa[53]. In 2016, coinciding with a decreasing flow on the Eastern Mediterranean route, the number of migrants through the western Balkans was considerably reduced, from 764,000 in 2015 to 123,000. The descent was also due to the measures implemented by the EU and the western Balkan countries.

Meanwhile, the number of detections on the Central Mediterranean route rose by 181,000 (nearly 25%), the highest number ever registered. Among the first ten nationalities of immigrants who arrived in Italy between January and November of 2016, nine were African (only the Bangladeshis in 9th position with 4.4% of arrivals were to break this tendency). This reflects the ever-greater migratory pressure proceeding from the African continent, especially from West Africa: Nigeria (21%), Eritrea (11.7%), Guinea (7.2%) and the Ivory Coast (6.7%)[54]. In the year 2016, a total is estimated of 503,700 detections of illegal crossings of borders along the foreign borders of the European Union. Migratory flows have diminished by two thirds (364,000 arrivals in Europe) and have changed their nature. The crossings through the Central Mediterranean (181,000) rose by a fifth, taking precedence over passages through the Aegean Sea (175,000), reduced by a fourth[55].

The pressures motivating migration also multiplied (not so the Latin American, Asian and Maghrebi, since these are countries which in general are developing, and in them fertility is no longer explosive), and flows will be produced proceeding from different parts of the world, in the face of the effects of population growth and of generalized tensions.

In countries where fertility is already below replacement level, it is expected that the population will diminish in size unless the loss from an excess of deaths over births is countered by a gain due to positive net migration. However, international migration at current levels will be incapable of compensating for the expected loss of population associated with low levels of fertility, especially in the European region. Between 2015 and 2050, the excess of deaths over births in Europe is forecast at 57 million, while the net entrance of international migrants is expected to be of some 32 million, which implies a global reduction in European population by some 25 million[56].

Demographic change

Historically, the growth of European population has reflected in great part the evolutions of natural movement of the populace[57]. Specifically, the

[53] (European Agency for the Management of Operative Cooperation at Foreign Borders-FRONTEX 2017)

[54] (LEPARMENTIER and BAUMARD 2017) LEPARMENTIER, Arnaud & BAUMARD, Maryline. "African migrations, tomorrow's challenge". Le Monde, 16 January 201

[55] Ibidem

[56] (Division of Population of the Department of Economic and Social Affairs. U.N. 2017) p 16

[57] *Demographic change*: The difference between the size of the population at the end and at the beginning of the period (for example, during a natural year). A positive demographic

population of the EU increased between 1 January of 1960 and 1 January of 2015 by 101.7 million inhabitants, which is equivalent to an inter-annual increment of 0.4%. Natural growth of the population reached its maximum in 1964, when 3.6 million more births than deaths were registered. Since then, fertility rates have progressively diminished and life expectancy has gradually increased, giving rise to de-acceleration in growth of the population. In 2003, natural growth of the population of the member States of the EU had nearly become balanced, given that the number of births surpassed the number of deaths by less than 100,000. Subsequently, the fertility index and natural growth of the population again increased slightly in several member States, though it is true that this tendency was generally reversed with the arrival of the economic and financial crisis (2008-2013) when the natural increment in the population diminished by 578,000 to 82,000, rising to 191,000 in 2014, but in general terms the population dropped by more than 4%.

In 2014, the highest growth indices were found in the United Kingdom, (Peripheral London and Central London), Germany (Potsdam, Kreisfreie Stadt), Denmark (Copenhagen), Ireland (Dublin), Luxembourg (the capital), Austria (Vienna and Innsbruk), Sweden (Oslo), France (Guyana), Spain (Fuerteventura, Ibiza and Formentera) and Romania (Bucharest-Ilfov).

The regions in descent were mainly distributed along an arc located in the southeast of Europe beginning in Croatia and crossing Hungary, Romania, Bulgaria (Vidin, with 20%), and arriving in Greece with the highest index (24.9% in the region of Kentrikos Tomeas Athinon); and in several regions of the Iberian Peninsula and the east of Germany as well.

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change is called population growth and a negative one is called population descent. (EUROSTAT). Demographic change has two components:

- *Natural change.* The difference between the number of live births and the number of deaths. Positive natural change, also known as natural increment, is produced when live births are more numerous than deaths. Negative natural change, also known as natural decrease, occurs when the number of live births is inferior to the number of deaths.
- *Net migration.* Including statistical adjustments, this is calculated as the difference between the total change in population and natural change; therefore, statistics on migration are affected by all of the statistical inaccuracies in the two components of this equation, especially demographic change. Net migration, including statistical adjustments, may cover, in addition to the difference between immigration and emigration, other changes observed in population figures between January 1 of two consecutive years which may not be attributed to births, deaths, immigration or emigration.

  Crude change rates are calculated with respect to total demographic change, natural demographic change and net migration plus statistical adjustment. In all cases, the level of change during the year is compared with the average population of the area under consideration in the same year and the resulting rate is expressed per 1000 inhabitants.

Impact on Security and Defense

The European Union is sensitive to the challenges to Security which the demographic problem presents. It is therefore not surprising that in its Global Security Strategy 2016 it situates demographic challenges immediately behind the threat of terrorism[58]. The principal threats which may be inferred are:

At Political-Strategic Level

- *Loss of social cohesion*. The growing increment in the immigrant population in EU countries, with their different customs, religions, languages and races, together with their concentration in urban ghettos could cause a growth in sectarianism which would carry with it a lack of social cohesion generating violent conflicts and clashes. This weakness in European societies, duly manipulated by populist forces under one banner or another, may lead to bloody urban clashes.
  Some analysts[59] even go so far as to predict a civil war in Europe, as by inciting hatred against Moslems in European societies, a spiral is initiated which would come to radicalize remaining Moslems (forecast to be 71 million in 2050, 13% of the population[60]), ending by leading to a total civil war in Europe.
- *Repopulation of large regions ("bantustans")* As a consequence of massive migrations, above all of Africans, urban aggregations will arise (voluntarily or instigated by governments), in depopulated regions, classifying by ethnic groups, languages or religions.
- *Change of orientation/priorities of the missions of the Armed Forces* These will find themselves involved increasingly in "non-specific" missions such as:
  - Support for the populations in cases of catastrophes and massive migrations.
  - Support for police corps (counter-terrorist fight, vigilance of sensitive points, urban patrols, border control, etc.).
- In operations/missions abroad, which will increase in number:
  - Priority for activities in urban areas over those carried out in rural areas.
  - Training/Advising/Mentoring for third-country Armed Forces within the concept of "Creation of Capacities."

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58 European Foreign Action Service (2016) "EU Global Security Strategy: A common vision, a joint performance: a stronger Europe". & 3.4 p. 27. Available at https://europa.eu/globalstrategy/sites/globalstrategy/files/eugs.es version.pdf

59 David Engels (Historian at the Free University of Brussels), Gilles Kepel (politician, orientalist and French scholar) among others.

60 Pew Research Center projection (http://www.pewresearch.org)

  - (Direct) Humanitarian support.
  - Missions of a police character (Population control, control of sensitive points, anti-terrorist struggle, etc.)

This extension/change of mission will require the creation of new doctrines and great organizational flexibility, preceded by effort at multi-disciplinary training at all levels. It should be kept in mind that many of the tasks carried out in missions abroad might be executed by reserve military personnel (> 58 years of age), relieving the burden of the operative units.

- *Need for a major increase in Police Corps personnel.* Reduction in Armed Forces troops in favor of the Police Corps due to:
  - Social perception of security. The civil society perceives the concept of security through the optic of what occurs in its immediate surroundings, and does not follow or has no concern regarding international security/insecurity. As such, it will pressure political decision-makers (national and local) to increase police presence in the face of the more than foreseeable rise in insecurity in the great urban centers.
  - Concentration of the population in great urban centers. The uncontrollable rise of the urban population at the cost of rural depopulation.
- *Defense Industry: Influence on R + D + i.* The European defense industry should be attentive to demographic changes in order to adapt to them. For example:
  - Reducing considerably units of ship's crews, combat vehicles, aircraft and weapons systems, increasing automation by means of technology.
  - Adapting weapons systems to combat in urban areas and abrasive scenarios.
  - Adapting soldiers' equipment (reducing weights, increasing connectivity and ergonomics, etc.).

At Operational Level

- *Reduction of Defense Budgets.* Demographic development is one of the basic factors influencing the financing of government budgets. Upon a reduction in the number of young people of working age, reduction of fiscal income is presumed, which together with the progressive and inevitable rise in disbursement for pensions, will reduce States' incomes, and as a result those funds dedicated to Security and Defense. Another influence will be the tendency to increase the budgets for Homeland Security.
- *Difficulties with internal cohesion of the Armed Forces.* Lack of social cohesion would also be seen within European Armed Forces which should be attentive in order to reinforce cohesion through the encouragement

of a team spirit, equality in the development of professional careers, without recourse to the paternalism of quotas.

  – Reduction of Armed Forces personnel in favor of the Police Corps. As a consequence of the social perception of security and the concentration of the population in great urban centers, greater numbers of police personnel will be required.

- *Difficulty of recruitment.* Due to the reduction of the group of young people, despite the fact that an ever-smaller fraction of the Armed Forces will need youth and physical strength, given the growing automation of the battlefield. On the other hand, there would be a larger fraction which would require maturity and technological expertise.

Chapter two

Demographic evolution of Spain (1976-2016)

Alejandro Macarrón Larumbe

General view

For many years now, Spain has been one of the world's countries with the lowest fertility and highest life expectancy. As a result of this, saving new and massive influxes of foreign immigration, or there is a strong rebound in fertility, Spain may lose population and may age, which will have great repercussion on social welfare, the economy, domestic and geopolitical policies and, logically, would have the relevant consequences for its security and defense.

Between 1990 and 2014, fertility in Spain stood at an average of 1.29 children per woman (TFR), and 1.26 among women of Spanish nationality, far distant from the 2.05 children per woman which conventionally would assure generational replacement. In 2016, the average age at maternity of Spanish women was 32 ; if the rate of fertility does not vary and there is no net influx of immigration, in a hundred years Spain would lose more than 75% of youth of 0-15 years of age.

Before going ahead, it should be made clear that the number of "elderly", in other words the number of persons surpassing age X (usually taken to be the 65th anniversary, although such a low level is today highly debatable) depends on the number of births 65 and more years previously, and on the mortality suffered by those generations. But in the evolution of the index of ageing (persons with an age of X years or

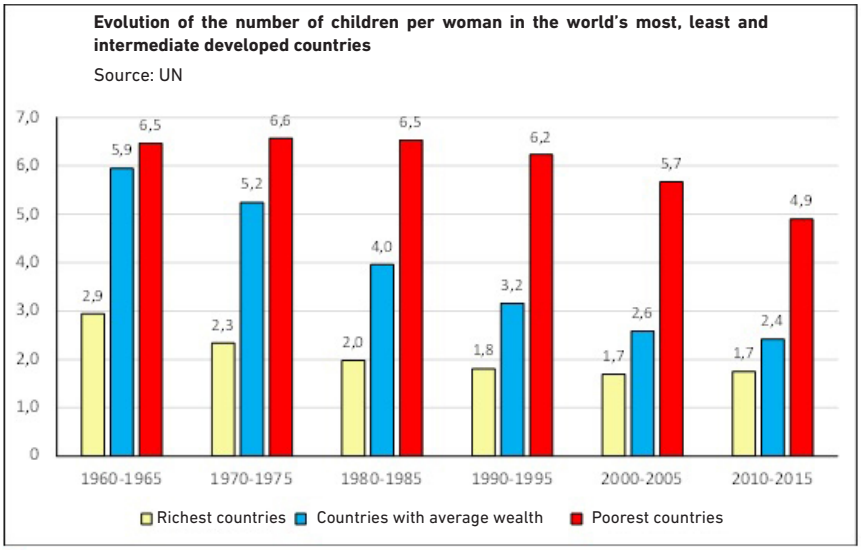
more/Total population), the index of mortality hardly exerts influence, but rather, basically, the evolution of fertility, as well, naturally, as the migratory balance.

Spanish life expectancy has been the highest in Europe in recent years, and at world level is only slightly behind the Japanese. In 2016 it stood at 83.2 years at birth (80.4 years for men, 85.9 for women). This data is a good indicator of the quality of life in Spain and of the Spanish healthcare system. It is also irrefutable evidence of high social cohesion existing in our country in everything which impacts in a significant way on life expectancy, especially in matters of nutrition, general healthiness and access to modern medical care. Otherwise, life expectancy of the population as a whole, immigrants included, could not be so high. However, although the improvement in life expectancy hardly influences the index of ageing (people 65 and over/ Total population) it does determine a growing longevity, that is to say, more elderly. Spanish society tends to be very aged, a phenomenon common to all developed countries, and within not very many years, to the emerging countries as well. This combination of low fertility and very high longevity leads to the fact that Spain, as has been said, was the least fertile country in the world between 1989 and 2014, but there are other records as well:

- The three most infertile European regions from 2010 to 2014, of a total of 276, were Asturias, the Canary Islands and Galicia. Another two Autonomous Communities, Castile and Leon-and-Cantabria, also figure among the ten regions of least fertility in all of Europe.
- Among the six regions with the highest proportion of the population over the age of eighty are Castile-and-Leon, Asturias and Galicia.
- The three provinces of all of Europe with the highest proportion of people over 65 years of age are Orense, Zamora and Lugo. In these there are more than two deaths per birth (as well as in Asturias and Leon), and in 2016 this reached 3 to 1 in Zamora.
- Fewer Spaniards are now born than at the end of the XVIII century (when Spain had a population 4-5 times smaller).
- Spanish women (together with the Italian) are the European women with the highest ages at the birth of their first child.
- Before 2020, for the first time in history, according to the UN, the will be more people in the world over the age of 64 than under the age of 5. In Spain now there are four over the age of 64 for every one under 5.

The Spanish panorama is similar to that of Germany, Italy, Portugal, Switzerland, Austria, nearly all of Eastern Europe and Russia, as well as in Japan. And with slightly milder profiles regarding fertility and ageing, this is also the case in the rest of Europe, the U.S. and other developed countries. China, Korea and other Asian countries and Latin America show a similar

demographic tendency. In these latter countries, the fall in fertility has been more recent than in Europe, but was produced more abruptly. In any case, the demographic tendencies at the medium and long term are similar. In fact, world fertility has fallen by half in the last 50 to 60 years, and continues to descend. (See Figure 2.1).



The world fertility rate went from 5.0 children per woman in 1960-1965 to 2.5 in 2010-2015, according to the UN

Figure 2.1. Evolution of number of children per woman. Comparative according to the level of development

Indigenous demographic tendencies are seen to be amplified or attenuated according to the level of the migratory balance. Migratory flows from abroad, traditionally negative in Spain, changed their nature drastically in around 1991, and much more so since 2001. (This phenomenon will be dealt with in the following chapter).

Principal demographic indicators and their evolution in the last 40 years

As a consequence of the low fertility of recent years, in Spain—and in many other European countries something similar is occurring—the age structure of the population no longer presents the traditional triangular profile (from which derives the demographic concept of the "pyramid" of ages), due to the growing weight in our population of people of middle and advanced age (see figure 3.2).

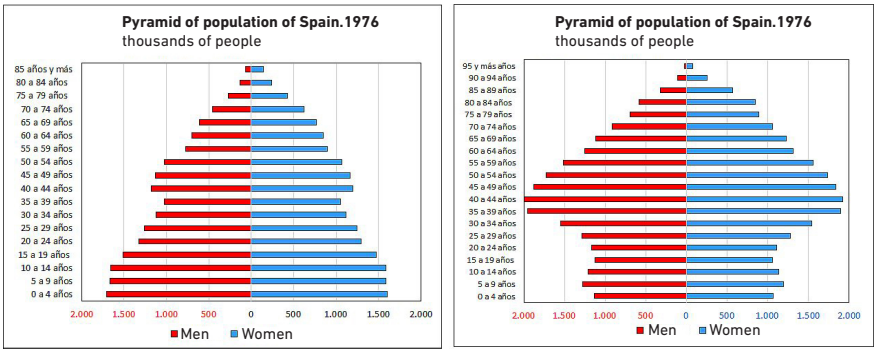


Figure 2.2 Pyramid of population of Spain. Year 1976. Year 2016

In 1976, in contrast, it still maintained essentially its classic triangular shape.

If nothing changes substantially in the variables determining demographic evolution (fertility rates and death rates by ages, immigration and emigration), based on this population pyramid, already inverted with respect to its traditional triangular shape, and with current fertility values, Spanish society will have a growing percentage of people of retirement age, a shrinking population of working age—saving continuous increments in the retirement age—and possibly, although depending on migratory balances, a smaller total population.

Chart 3.1 supplies the principal demographic indicators as of 1 January 2016, and also as a comparison with the date of 1 January 1976. Since then, together with an appreciable population growth, two thirds of which is owed to incoming foreign immigration and the children that those immigrants have had in Spain, a great descent is observed in the proportion of infantile and youth population, a strong increase in the professionally active population[1], and even wider growth, in percentage terms, of the retired population. This has brought with it a substantial reduction in the ratio between the working-age and the retirement-age populations. The foreign population, from being very reduced in Spain in 1976—less than 200,000 persons—has come to be a very significant part of the total population of the country, and more so among the generations of the future, as is to be appreciated in the birth statistics, to which must be added an appreciable number of children of immigrants who, although not born in Spain, settled to live in the country before reaching the age of ten years.

[1] As a great many Spaniards follow University studies or others subsequent to their secondary education, we have taken the age of 20 years in approximate fashion as the average age of insertion into the labor market of the Spanish population. On the other hand, the official retirement age is ascending, arriving at 67 years of age in 2027, from the traditional 65. Nonetheless, although in 2017 it already stands at 65 years and 5 months, and there are people who continue to work for several years after the official or theoretical age of retirement, the effective average age of retirement in Spain is below 65.

Summary of demographic indicators for Spain in 1976 and 2016			
Source: NIS, EUROSTAT, author's analysis	**1976**	**2016**	**Variation % 1976-2016**
Resident Population (millions)	**35.9**	**46.5**	**29%**
Foreign-born population (millions)	0.2	5.9	3376%
% of foregin-born population	0.5%	12.7%	2586%
Population under 20 years old (millions)	12.7	9.2	-28%
% population under 20 years old	35.5%	19.8%	-44%
Population from 20 to 64 years old (millions)	19.3	28.5	48%
% population from 20 to 64 years old	53.8%	61.4%	14%
Population 65 years old or over (millions)	3.8	8.7	127%
% population 65 years old or over	10.7%	18.7%	75%
Life expectancy at birth (years old)	73.3	82.7	13%
Average age of the population (years old)	30	42	40%
Number of births	668,596	418,432	-37%
Rate of fertility (number of children per woman)	2.8	1.3	-54%
Percentage of children born of foreign mothers	<1%	22.6%	N/D
Vegetative growth (births minus deaths)	371,260	-1,976	-101%
NB. Data of the population at 1 January of the year. Life expectancy, births, fertility and vegetative growth of the previous year (1975 and 2015, respectively)			

Table: 2.1

The two components of the variants in population, vegetative growth (the difference between births and deaths) and the migrant balance, have had a very different evolution in the past 40 years.

Annual vegetative growth, above 375,000 people around 1975-1976, began to fall as of 1977, as did fertility, and was reduced to nearly zero in 1998. It rebounded just at the end of the XX century due to the temporary growth in the number of births produced from 1999 to 2008, due above all to the children of immigrants, to fall again as of 2009, becoming negative in 2015 (several years previously, it had already become so in the population of Spanish nationality). This negative tendency in the vegetative balance (births less deaths) is most likely to be prolonged, for deaths tend to increase in an aged population and births tend to shrink, there being ever fewer women of fertile age, who in the coming years will be those women belonging to the generations born between 1977 and 1998. In 1976 677,000 babies were born in Spain. And in the period 1995-1998, fewer than 370,000 per year.

Taken as a whole, the population in Spain grew by nearly 11 million people from 1975 to the present day. Some 55% of this growth is directly due to the positive balance of migration from abroad, a proportion which would rise to two thirds of the total increase in population if we add to that percentage the children had by immigrants in Spain. The remaining third is owed to the positive vegetative balance accumulated within the Spanish population in these decades, nearly all of it concentrated in the period 1975-1995, and was due to the inertia of the greater birthrate which there was in Spain in the three decades prior to 1980.

Regional Demographic Situation

Although the general demographic trend is similar, there do exist notable variations upon studying it by Autonomous Communities and by provinces- and within these, by areas and localities—regarding indices of fertility, degrees of ageing and evolution of population, the latter being linked to the local balance between births and deaths, and to internal and external migratory movements. This variability is of maximum importance with respect to businesses carried out on a local scale, such as the retail banking operations with private individuals and small companies with activities revolving around their local markets.

Charts 2.2 and 2.3 and figure 2.3 display the principal indicators of population and ageing by Autonomous Community, as well as their variation in the past 40 years. In them may be appreciated the aforementioned diversity in the magnitude of population variations, presence of foreign population and ageing.

Data on population, foreigners as of 2016, and variation 1976-2016, by Autonomous Community						
Data source: NIS (Figures of population), author's analysis	Total population - 1976	% population Foreign-born - 1976	% variation 1976-2016 of the total population	% variation 1976n 2016 of the popul. born in Spain	% population 65 years of age or older (total)	% 65 of age or older(born in Spain)
TOTAL SPAIN	**46,445,828**	**12.7%**	**29.2%**	**13.3%**	**18.9%**	**20.4%**
Andalusia	8,405,303	9.3%	35.0%	23.1%	16.5%	16.9%
Aragón	1,318,738	12.7%	12.0%	-1.7%	21.2%	23.7%
Asturias	1,041,026	7.0%	-4.8%	-11.0%	24.5%	25.8%
Balearic Islands	1,135,633	23.4%	90.4%	46,8%	15.6%	16.9%
Canary Islands	2,135,722	18.8%	70.4%	39.1%	15.6%	15.9%
Cantabria	582,548	8.1%	18.7%	9.6%	20.9%	22.2%
Castile and León	2,454,858	7.6%	-6.7%	-13.3%	24.4%	26.0%
Castile - La Mancha	2,049,147	9.9%	21.1%	9.7%	18.5%	20.2%
Catalonia	7,408,853	15.7%	33.5%	13.1%	18.8%	21.2%
Community of Valencia	4,933,051	15.7%	46.9%	24.5%	19.0%	19.7%
Extremadura	1,085,115	4.1%	-3.2%	-6.7%	20.0%	20.6%
Galicia	2,720,544	7.8%	-0.8%	-8.0%	24.4%	25.9%
La Rioja	312,815	12.9%	28.3%	12.3%	20.4%	22.9%
Madrid	6,424,843	16.7%	51.4%	26.8%	17.4%	19.8%
Murcia	1,466,507	15.0%	63.8%	40.0%	15.5%	16.7%
Navarra	637,540	12.9%	30.2%	14.1%	19.4%	21.8%
Basque Country	2,164,144	7.3%	7.2%	-0.2%	21.9%	23.2%
Ceuta	84,663	11.7%	32.7%	17.7%	11.4%	11.6%
Melilla	84,777	21.5%	48.1%	16.9%	10.1%	8.3%

Table: 2.2

En este cuadro hay que cambiar población por population en la tercera y sexta columnas, y variación por variation en la cuarta y quinta columnas. Tambien hay que cambiar comas por puntos decimales en las columnas sexta y séptima

There may also be appreciated great variation by Autonomous Community in the indicators of fertility and vegetative growth (births minus deaths), as well as in the proportion between deaths and births, which anticipate how the population would tend to evolve in the absence of migratory influxes from other parts of Spain and from abroad.

With regard to fertility (measured by number of children per woman), the difference between the total for each Autonomous Community and that of

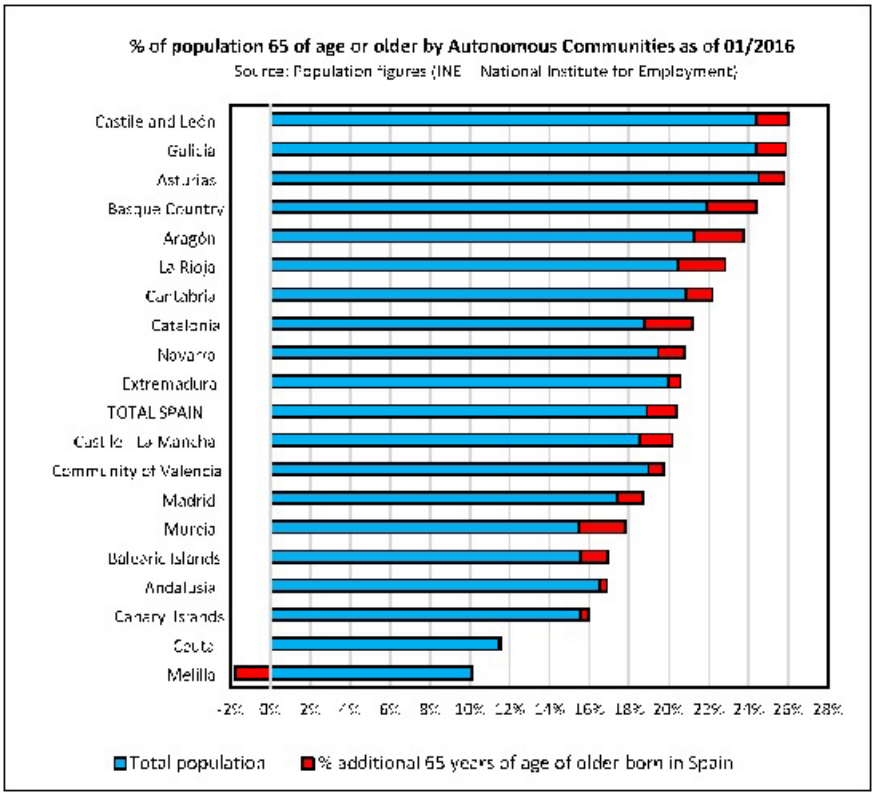


Figure 2.3 Percentage of population 65 years of age or over by Autonomous Community as of 01/2016

the women resident in it of Spanish nationality—including immigrants with double nationality—especially in some Autonomous Communities such as La Rioja, the Basque Country and Catalonia, in addition to Ceuta and Melilla, give an idea of the greater birthrate of their immigrant population—due above all to the immigrants of Moslem religion—and of the importance of its contribution to fertility and births in the corresponding communities. Equally, it should be emphasized that fertility in the three Autonomous Communities with lowest levels (Asturias, the Canary Islands and Galicia) was also the lowest among all regions of any European country, on average, between 2010 and 2014.

Datos de fecundidad y saldo vegetativo por CCAA en 2015					
Fuente de datos: INE (Cifras de población y nacimientos por CCAA), Eurostat (nacimientos de madres nacidas en el extranjero), análisis propio	Hijos por mujer (total)	Hijos por mujer (españolas)	% de nacimientos de madres nacidas en el extranjero (est.) (*)	Nacimientos menos muertes	Defunciones por cada nacimiento
TOTAL ESPAÑA	**1,33**	**1,28**	**22,6%**	**-1.976**	**1,00**
Andalucía	1,37	1,33	14,7%	6.572	0,85
Aragón	1,3[illegible]	1,20	27,1%	-2.3[illegible]	1,26
Asturias	1,03	0,99	11,4%	-7.0[illegible]	2,10
Baleares	1,34	1,22	34,0%	2.275	0,75
Canarias	1,05	1,05	11,5%	1.035	0,94
Cantabria	1,15	1,13	13,5%	-1.656	1,52
Castilla y León	1,19	1,15	15,9%	-11.9[illegible]	1,65
Castilla - La Mancha	1,32	1,31	20,5%	-1.779	1,75
Cataluña	1,43	1,30	32,6%	5.574	0,92
Comunidad Valenciana	1,32	1,29	24,3%	-901	1,02
Extremadura	1,25	1,27	8,2%	-2.624	1,29
Galicia	1,10	1,09	9,0%	-12.251	1,59
La Rioja	1,34	1,25	31,7%	-351	1,13
Madrid	1,37	1,32	26,3%	18.070	0,77
Murcia	1,57	1,48	28,5%	4.743	0,71
Navarra	1,52	1,37	23,9%	327	0,95
País Vasco	1,35	1,27	20,5%	-2.652	1,14
Ceuta	1,85	1,65	24,8%	550	0,46
Melilla	2,57	1,79	57,7%	914	0,34

(*) NB. The data per Autonomous Community have been estimated deflating the regional percentage of foreign-born mothers without dual citizenship given by the INE (17.6% at the national level) with the births of mothers born abroad (22.6% at the national level)

Table: 2.3

With regard to the provinces, Table 2.4 displays the principal indicators of population, vegetative growth, and ageing. It is ordered by percentage of persons of 65 years of age or over. There may be appreciated once again a great variability in values of the principal demographic indicators.

It bears repeating that the three Spanish provinces with the greatest number of people of advanced age, Orense, Zamora and Lugo, are, as well, the provinces, or their equivalents, of any European country with persons 65 years of age and over from among those having a population of 100,000 inhabitants or more. In these three provinces, as well as in Asturias and Leon, in 2015 more than two persons died for everyone who was born.

Indicadores demográficos por provincias de España, ordenadas de las más a las menos envejecidas						
Fuente: INE (Cifras de población, nacimientos y defunciones),	Población a 01/2016	% variación 1976-2016 de la población	% variación 1976-2016 de la población nacida en	Nacimientos menos muertes por 1.000 hab. en 2015	Muertes por nacimiento en 2015	% población con 65 años o más a 01/2016
Total ESPAÑA	**46.445.828**	**29,2%**	**13,3%**	**-0,04**	**1,00**	**18,7%**
Orense	314.764	-27,5%	-34,7%	-8,97	2,55	30,7%
Zamora	181.347	-25,7%	-29,5%	-9,74	2,83	29,7%
Lugo	336.213	-18,8%	-23,9%	-8,76	2,36	28,7%
León	475.021	-13,0%	-18,8%	-6,69	2,05	26,0%
Salamanca	338.609	-9,3%	-14,8%	-4,80	1,70	25,6%
Soria	90.821	-16,9%	-26,2%	-6,09	1,88	25,4%
Ávila	163.688	-17,1%	-23,6%	-6,32	1,94	25,1%
Asturias	1.041.026	-4,8%	-11,0%	-6,80	2,10	24,4%
Palencia	164.253	-15,7%	-19,7%	-6,03	1,86	24,2%
Teruel	136.074	-17,0%	-25,6%	-5,81	1,81	24,0%
La Coruña	1.124.212	5,7%	-1,6%	-3,74	1,50	23,7%
Cuenca	204.071	-13,0%	-22,7%	-4,80	1,65	22,8%
Burgos	359.925	-0,8%	-9,3%	-3,06	1,40	22,7%
Vizcaya	1.134.416	0,8%	-5,4%	-2,19	1,27	22,2%
Huesca	220.623	1,3%	-11,0%	-3,87	1,46	22,2%
Segovia	156.362	0,0%	-11,7%	-3,93	1,52	22,0%
Cáceres	402.488	-9,7%	-13,4%	-4,10	1,56	21,9%
Guipúzcoa	707.911	6,5%	-1,0%	-0,81	1,09	21,6%
Valladolid	524.832	17,5%	9,9%	-1,91	1,24	21,6%
Pontevedra	945.355	13,9%	5,7%	-2,39	1,32	21,4%
Cantabria	582.548	18,7%	9,6%	-2,85	1,38	20,7%
Zaragoza	962.041	20,9%	5,7%	-1,39	1,16	20,5%
La Rioja	312.815	28,3%	12,3%	-1,15	1,13	20,3%
Álava	321.816	40,5%	27,8%	1,22	0,88	20,1%
Alicante	1.842.756	78,2%	40,2%	0,03	1,00	19,5%
Ciudad Real	508.476	2,6%	-4,1%	-2,50	1,30	19,4%
Navarra	637.540	30,2%	14,0%	0,51	0,95	19,3%
Lérida	429.138	22,6%	1,9%	-0,98	1,11	19,1%
Barcelona	5.446.273	26,9%	8,6%	0,79	0,92	18,8%
Badajoz	682.628	1,1%	-2,3%	-1,42	1,16	18,7%
Albacete	392.991	15,2%	6,7%	-0,57	1,06	18,7%
Castellón	571.258	40,1%	20,9%	-0,50	1,06	18,5%
Jaén	646.620	-1,3%	-3,9%	-2,03	1,24	18,5%
Córdoba	792.483	8,8%	5,3%	-1,04	1,12	18,4%
Valencia	2.519.036	31,5%	16,8%	-0,27	1,03	18,3%
Tarragona	791.747	68,2%	41,2%	0,70	0,93	18,2%
Gerona	741.695	68,8%	36,3%	1,54	0,85	17,6%
Toledo	689.307	44,9%	30,4%	0,68	0,93	17,5%
Granada	917.659	21,9%	12,1%	0,17	0,98	17,2%
Madrid	6.424.843	51,4%	26,8%	2,82	0,72	17,2%
Málaga	1.641.148	74,9%	42,8%	1,40	0,85	16,9%
Santa Cruz de Tenerife	1.024.662	65,3%	31,5%	-0,05	1,01	16,6%
Huelva	521.741	27,0%	15,9%	1,22	0,87	15,9%
Guadalajara	254.303	75,6%	49,0%	1,22	0,87	15,6%
Sevilla	1.940.996	37,5%	31,3%	1,74	0,83	15,6%
Baleares	1.135.633	90,4%	46,6%	2,01	0,79	15,4%
Murcia	1.466.507	63,8%	39,8%	3,24	0,70	15,3%
Cádiz	1.248.368	33,4%	27,0%	1,36	0,86	15,3%
Almería	696.288	76,9%	43,0%	3,79	0,67	14,5%
Las Palmas	1.111.060	75,4%	46,3%	0,98	0,87	14,1%
Ceuta	84.663	32,7%	17,7%	7,01	0,46	11,3%
Melilla	84.777	48,1%	16,9%	11,74	0,34	10,0%

Table: 2.4

Chapter three

Migratory movements

Alejandro Macarrón Larumbe

Traditional Spanish emigration into America during the final years of the XIX century was maintained during the first third of the XX century. It is estimated that between 1880 and 1930, more than three million Spaniards went to the American continent. With reference to the census of 1920, it is calculated that a million of them resided in Latin American countries, while during that time only 76,000 foreigners resided in Spain.

Spanish emigration soon became more European and less transoceanic. In fact, at the beginning of the century (French census of 1901) 80,500 Spaniards were counted in France, which ten years later (French census of 1911) were 106,000, and the Spanish migratory flow into France intensified with the outbreak of the Great War (1914-1918).

Many Spaniards took advantage of the open-door policy with the French government, concerned, no doubt, about the lack of laborers caused by the massive military mobilization, and thus, according to official French data, from January 1916 to March of 1918 (27 months) there were in France 220,000 entrances of salaried Spaniards. The most numerous nuclei (more than 20%) of emigrants to France came from the Provinces of Valencia and from Murcia.

At the end of the Great War (1918), more than 250,000 Spaniards were permanently settled in France, but later on, in the period 1931-1936 and due to the Great Depression, a heavy drop was produced in Spanish emigration

into France, so that at the commencement of the Civil War (1936), the number of Spaniards who were living in France was hardly greater than those counted in 1921.

In the thirty years following the Civil War, the Spanish population went from the 26,386,854 inhabitants counted in the 1940 census (31 of December) to the 34,041,531 of December 31 of 1970. In 1950, 28,172,268 inhabitants were counted and 30,776,935 in 1960.

In the immediate post-war period, there were heavy restrictions on the departure of Spaniards to foreign countries, and especially to France[1], but emigration into that country resumed during the five-year period 1956-1960, when the French economy found itself obliged to augment its labor force, due to the incorporation into the workforce of a series of "empty" generations and also to the war in Algeria. For its part, the Spanish economy, slowed by monetary stabilization, found itself impelled to free up excess laborers and in this way, Spanish foreign emigration grew based on the Plan for Stabilization (1959), and what previously had been transatlantic emigration became a heavy exit of workers into the European environment. America was thus left in second place in the face of a powerful intra-European current and Spain was, after Italy, the principal participant in this new emigration

Towards Europe

In the French census of 1960, when the massive Spanish emigration into Europe had barely begun, Spaniards in France numbered 394,389 and constituted the most numerous foreign group after the Italians: in precise terms, Spaniards represented 21.5% of all foreigners resident in France.

This new Spanish migratory cycle was characterized by movement beyond the French area and extending into other neighboring countries: Germany in first place, but also into Switzerland, Austria, the Netherlands and Belgium. The years of maximum Spanish emigration were: 1962 to France (63.500 emigrants), 1965 to Germany (65,100 emigrants) and 1969 to Switzerland (65.280 emigrants). The factors of attraction were the same everywhere: economic development, low European birthrate in the years prior to World War II and the rise in educational level, which prolonged school years, setting back the age of incorporation into the workforce in Western Europe.

The cycle of economic boom produced in Europe was of prime importance for the success of the Spanish Stabilization Plan itself. In fact, Spanish emigration became, in an extremely short period of time, not only the greatest annual influx of entrances into Europe, but in addition, the number of Spaniards resident in European countries began to be very notable.

[1] García Fernández, José: Foreign Emigration from Spain. Barcelona, 1965.

The five-year period 1960-1964 produced 388,674 exits (permanent and temporary) through the Spanish Institute of Emigration (SIE), a number far surpassing that of transoceanic emigrants during the same period (168,000). The proportion of men within the European migration (86.5%) was far superior to that noted for transoceanic emigrants (56.6%). A total of 99.2% of Spanish emigrants into Europe were of ages 15 to 54 years (77.3% among transoceanic emigrants).

At that time, the official media spoke of "emigration for full employment"[2]; later, reference was made to "planning and mobilization of human resources in the most productive manner, in their employment beyond our borders". From within official circles, emigration appeared to be an emergency, soon becoming, however, a permanent feature of the Spanish economy, since, in addition to the intended effect of an employment safety valve, remittances from emigrants were also an important source of currency for the country.

If emigration abroad was notable during the long post-war period, much more significant were the internal migratory movements. Proof of this is the simple fact that in 1940, there were 2,170,000 Spaniards living in cities of over 500,000 inhabitants, and in 1975, there were 6,768,000, rising from a percentage of 8.3% of the total population to 18.9%.

Immigration

In 1976, foreign residents in Spain did not reach 0.5% of the population. Starting in 1991, and for 20 years, as previously remarked, things changed drastically, with the net arrival of six million-plus foreigners and Spaniards coming from abroad, especially in the years of the greatest expansion in the real estate market, from 2001 to 2007. At the beginning of 2016, according to data from the NIS, the population resident in Spain and born abroad was 13% of the total (13.2% according to municipal registers, and 12.7% according to NIS population estimates). Of these, the immense majority are immigrants seeking work. In general, this is a population younger than the native Spanish. According to NIS data based on municipal registers, in January of 2016, Spaniards resident in Spain (including immigrants with dual nationality) were of an average age of 7.9 years older than that of the foreigners.

Regarding international migratory flows, the following stages may be distinguished:

1st – From 1975 to 1981 a slight net arrival was produced of population proceeding from abroad—fewer than 10,000 people a year—part of which were Spaniards who had emigrated in the past to other countries and were returning to Spain.

[2] Alvaro Rengifo, Director, Spanish Institute of Immigration

2nd– From 1982 to 1990 between 20,000 and 40,000 more people left Spain than those who entered.

3rd – From 1991 to 2011, the international migratory balance—always according to the official data from the NIS—was positive, with three sub-stages clearly differentiated:

a. From 1991 to 2000, it oscillated between 110,000 and 156,000 people per year.
b. In 2001, this balance increased substantially, with the arrival of 322,000 people, initiating the great immigration boom which accompanied the strong expansion of the Spanish real estate market in those years. Between 2002 and 2007, the net annual migratory influxes oscillated between 634,000 and 776,000 persons.
c. In 2008, at the outset of the economic crisis, a considerable positive migratory balance was produced, but much inferior to that of previous years, going from 776,000 people in 2007 to 436,000 in 2008. And between 2009 and 2011, it was drastically reduced, down to 66,000 people in the past year.

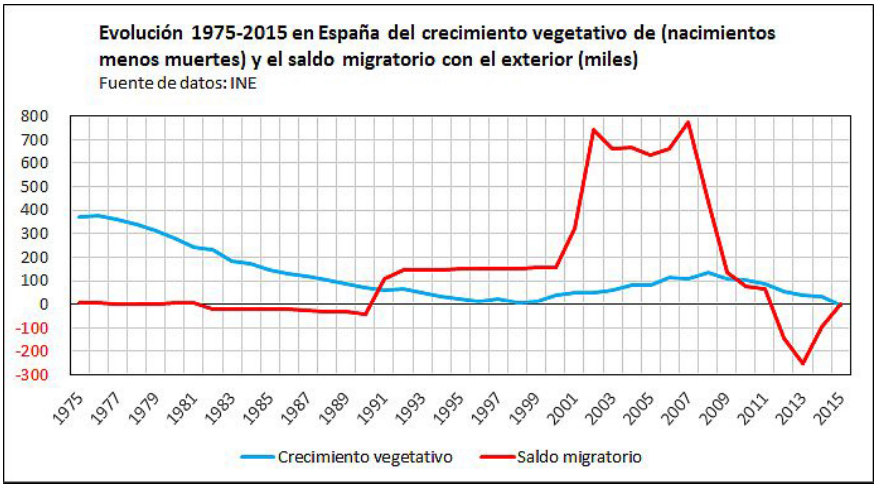


Figure 3.1: Evolution 1975-2015 in Spain of vegetative growth and the migratory balance

4th.—Between 2012 and 2015, the migratory balance was negative—principally due to the departure of Spanish immigrants and of Spaniards in search of job opportunities—reaching a level of minus 251,000 people in 2013. In 2015 it stood at nearly nil (fewer than 1,800 people in negative balance)[3].

[3] Its small size in 2015 was due to the fact that the net departure of population from Spain of typical working age, from 20 to 64 years of age (24,809), was nearly totally compensated for by the net arrival of those under 20 years of age (21,700) and those over 64 (1,347). At

5th. –In 2016, it again became positive (see Figure 3.1).

Figure 3.1: Evolution 1975-2015 in Spain of vegetative growth and the migratory balance.

At the beginning of 2016, the breakdown by continent of birth and principal nationalities of residents of foreign origin was as follows (see figure 3.2):

- 39% were of American origin. Of these, 91% were Latin Americans.
- 36% were of European origin. Of these, 42% were Western European (among whom the British contingent is the most numerous), 29% were Romanian and 6% Bulgarian.
- 18% were of African origin. Of these, 71% were Moroccan, 6% were Algerian and another 6% were Senegalese.
- 7% were of Asiatic origin, 43% of them being Chinese, 19% Pakistani, 11% Philippines and 10% Hindus.

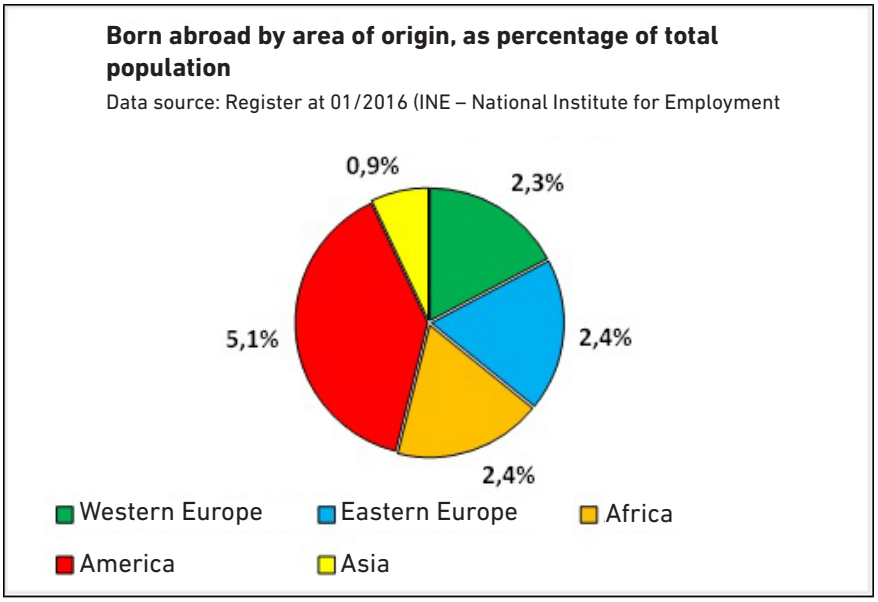


Figure 3.2 Area origin born abroad as total percentage

The inhabitants of Spain of foreign origin and/or foreign parents are particularly numerous in two very relevant segments of the population: people of working age—above all under 50 years of age—and children.

the same time, the net departure of population from 20 to 64 years of age from Spain in 2015, was due exclusively to Spaniards by birth who emigrated (some 25,600 more than returned to Spain that year), since in 2015, in coordination with the improvement in the economy, there was a slight net influx into Spain of working people born abroad (in net volume, some 800 persons).

Regarding the population of working age, among residents in Spain of between 20 and 59 years of age—always per data from the NIS—at mid-2016, nearly 18% had been born abroad, a percentage which rose to 30% in the case of the Balearic Islands, 224% in Madrid, 23% in the Canary Islands and Catalonia, 21% in Murcia, 20% in the Community of Valencia and 19% in Aragon, Navarre and La Rioja.

With respect to the new generations, around a quarter of children under the age of 6 in Spain are children of immigrants. Between 2008 and 2015, on average, the mother of 22.9% of those born in Spain is a foreign-born woman, according to data from EUROSTAT. To those births from immigrant parents must be added the children who emigrated to Spain with their parents, who rose to 2.9% of the resident population under the age of ten, and to 4.6% of the population under the age of fifteen, according to NIS estimates. And in no few provinces, the percentage of children of foreigners—born in Spain, or brought up in our country after arriving in it very young, together with their immigrant parents—surpasses 30% and even 40%,bordering 50% in Gerona, closely followed by Lerida and Almeria.

The National Survey of Immigrants (NSI) As has already been remarked, with the economic thrust which brought with it the entrance of Spain into the European institutions (1 January 1986), the nature of migration changed, so that on the eve of the crisis, specifically on 1 January 2007, there were counted in Spain 4,526,522 people who had been born abroad.

On that date (1-1-2007), was originated the National Survey of Immigrants (NSI), carried out by the NIS (National Institute of Statistics) with considerable statistical deployment and two main objectives:

1. To generate basic information about the immigrant community present in Spain at the moment of carrying out the Survey, including:
   - Fundamental socio-demographic characteristics.
   - Conditions of life and socio-economic situation of the immigrant community; in particular, their current housing situation and their job situation (occupation, multi-employment, temporary nature of jobs, income, etc.).
2. To contextualize the immigrant experience regarding the weight which arrival networks exert with regard to influencing the decisions and strategies which immigrants themselves decide—the definition of these networks is based fundamentally on their relationship with the family group--. The survey intended as well to obtain information about the relationship which the immigrants maintain with their countries of origin (remittances, contacts, etc.), and among themselves if in Spain, as well as their middle-term strategies.

The results of the NSI were, in synthesis, the following:

Only 15.3% of the four and a half million had arrived in Spain prior to 1987 and 70.1% had done so after 2001.

The average age of those born abroad was, at the time of the survey, 38.4 years and 47.8% were women versus 52.2% of men. Their distribution by classification was as follows: 295,000 (6.5%) were those unemployed of 65 years of age and older (nearly all retired), 378,000 (8.3% of the total) were persons of 16 to 64 years of age with advanced education and working in highly-paid positions, and 3,84,000 (85.1%) of all those born abroad were immigrants in the strict sense.

The largest minority, 1,788,000 (39.4% of the total) were of Latin American origin (of them, 54% women), in second place, 1,507,000 were born in the rest of the EU and in third place, 606,000 came from the Maghreb. The fact that a good part of the immigrants were Latin Americans provided rapid socioeconomic integration, as confirmed by the indicators commented below.

Some 16.1% of the immigrants who were employed at the time of the survey had arrived in Spain with a previous contract and 42.4% found work within a month. Only 10.2% took more than a year to find work. This rapid integration into the workforce only underlined the "attractiveness" which an economy like Spain's held for future immigrants in those years.

Of the employed immigrants, 19% worked in construction, 13.2% in Hospitality, 12.7% in Commerce and 9.4% in domestic service (this domestic service occupied 35.3% of women immigrants).

Some 61.4% of working immigrants had a work contract of unlimited duration. This proportion rose to 81.8% among highly qualified men. Those with contracts of unlimited duration had been—on average—in their last jobs for 61.4 months (just over 5 years), a period which dropped to 16.8 months among those with temporary contracts. This data on job stability underlines the changes for the worse, caused by the crisis beginning in 2008.

The lowest proportions of contracts of unlimited duration were among the immigrants of Maghrebi origin (45.1% of them) and the sub-Saharans (47.6 per 100).

Those born abroad who were working at the time of the survey were working 3 hours and 34 minutes less per week than they stated to have worked in their countries of departure. There, they worked 44.73 hours per week and now in their first Spanish jobs had achieved some reduction (44.25 hours weekly), but the greater part of the reduction was achieved after their first jobs in Spain (from 44.25 hours a week, they went to 41.16 hours in their present jobs).

Some 47.4% of the foreign-born who were working at the time of the survey had had more than two jobs in Spain and 53.8% had at some point been unemployed. Of these latter, 61.8% had been in this situation only once (17.4% twice and only 4.4% more than 5 times). Some 63.1% of the

immigrants had not changed municipalities of residence, a proportion which logically fell to 50.3% among those born abroad who had resided in Spain for more than twenty years. In those years, geographic mobility of Spaniards reached historic minimums and this data on immigrants only underline a phenomenon having much to do with the structure of housing ownership, an ownership much higher in Spain than in the rest of Europe.

Foreigners had, logically, an inter-municipal mobility greater than that of natives, but it cannot be said that there was great territorial instability: only 5.3%had changed municipalities more than twice.

Some 45.8% lived with their spouses (31.2% with children and 14.6% without). There were 24% who were bachelors and had no children.

Some 70.9% of foreign-born married men were married to women of their own countries. For their part, 64.4% of married women immigrants had spouses of their own countries. Nonetheless, given the brief time that, in general, they had been in Spain, exogamy (marriage with people not their own fellow-countrymen) was already reaching notable values: 29.1% among men and 35.6% among women. Specifically, more than 360 thousand Spanish women were married to foreigners and over 410 thousand Spanish men were married to foreign women.

In other words: 28.6% of married foreign-born men were married to Spanish women, and 37.7% of the married foreign women were married to men of Spanish nationality. This data emphasizes the rapid process of integration experienced by immigrants in Spain. This "matrimonial" process described in the 2007 survey shows a level of nuptial integration enviable by the rest of Europe.

At the time of the survey, there were in Spain nearly 2 million 160 thousand housing units where there lived at least one foreign-born person. Some 38.2% of those housing units were held in ownership, and 40.3% were rental units. Some 27.3% of the units were single-family homes and 72.2% were flats or apartments. Some 54.6% of the single-family homes held in ownership were completely paid for and among the flats or apartments held in ownership, a third were completely paid for. This surprising data shows with great clarity the "success" of the mortgage policy of the Spanish financial system ("Buy yourself a flat through a mortgage plan and if you have economic problems, you can always sell it for more than you bought in for"). This was an unbeatable commercial argument.

The average surface of the housing units where a foreign-born person lived was 75.2 m^2, with a 3.4 people occupancy per unit. This is, therefore, far from a situation of overcrowding, with the exception of the Asians, (20.4 m^2 and 3.9 persons per unit) and to a lesser degree, of non-EU Europeans (25.5 m^2 with 3.2 occupants per unit).The residential "overcrowding" of immigrants, denounced so roundly in those years, was a myth which the data never supported.

Some 44.9% of the foreign-born spoke Spanish as their native language and 58.3% of those whose mother tongue was not Castilian stated that they spoke Spanish well or very well. Only 14.5% of the immigrants in the strict sense whose native language was different from Spanish said they did not speak Spanish. Given the conditions of recent entry into Spain, it does not seem that in the medium term the language factor would have been or will be a determining problem. Latin American immigration (same language and religion) facilitated social integration notably, and with it, the good rhythm of the migratory phenomenon in Spain.

Although fertility in birth countries was, in general terms, much higher than in Spain, it may be safely predicted that fertility in foreign-born women now residing in Spain will progressively come to resemble the fertility of native women. It must also be borne in mind that among foreign-born women of the generation of 1957 or younger, with their fertile cycle over, reproductive indices hardly reach the substitution level (2.05 children per woman).

Children of the foreign-born between the ages of 4 and 16 years (ages of obligatory schooling) were going to school at the time of the survey. In fact, 97.5% were in school and 91.6% said they spoke Spanish well (20.4%) or very well (71.2%).

These figures rise to 92.3% (who speak it well or very well) among the children over 16 years of age (76.8% said they spoke it very well).Some 30.9% of boys and girls, children of immigrants in the strict sense, were in school having passed their 17th birthday. This rate of schooling rose to 72.9% among children of the foreign-born whose parents have a high level of qualification.

This educational data speaks to the same lines of integration and acceptance; neither ghettos nor insurmountable social distances. This is what was made clear in the NSI survey, a statistical effort on the part of the State which overthrew many pessimistic myths.

Only 17.2% of the Maghrebis arriving in Spain after the year 1990 had never travelled to their country. This proportion rose—with the distance—to 46.1% of Latin Americans and to 56.1% of sub-Saharans.

Nearly half of the foreign-born (48.8 per 100) sent money to their countries of origin. This was done by 65.7% of sub-Saharans, 58.2% of the Latin Americans, 54.1% of the Asians and 52.8% of the Maghrebis.

Knowing that among the foreign-born there were, according to the survey, a proportion of 25.2% unemployed, the remittance effort was no less, above all if it is kept in mind that those who sent money to their families did so in average quantities of nearly 2,000 Euros annually; more than 2,300 Euros the Asians, and 2,180 Euros the Latin Americans.

In short, the portrait which the NSI created regarding this collective of over four and a half million foreign-born residing in Spain at the time of the survey is very far from describing a marginalized population. On the contrary, the

NSI presents a population recently settled but making its way—not without great effort—in search of a better life. In addition, with a degree of social, labor, residential and educational integration which would be considered enviable in countries such as France.

Change of type

The crisis (begun in 2008) would overthrow, all over Europe and especially in Mediterranean Europe, many of the socioeconomic indicators which had been marking out a positive and promising trajectory. In the demographic field and specifically in Spain, the greatest change would be undergone precisely by migrations, although, as usually happens, demography moves slowly. Thus, at the beginning of 2010, 13.5% of residents in Spain were foreign-born, and as of July 1 2016, with the crisis now alleviated, the Spanish population marked a maximum: 46,468,000 inhabitants. Nonetheless, according to some estimates, from the end of 2008 to the first semester of 2016 (1-VI-2016), 3,368,000 persons had left Spain.

Before continuing, it should be noted that data on migratory flows leave a great deal to be desired. This has been described by the CSIC (*Consejo Superior de Investigaciones Científicas* –The Spanish National Research Council) researcher Amparo González Ferrer[4] : all Spanish figures on migratory flows are based directly or indirectly on changes in notifications of residence. In the case of foreigners, changes of residence due to expiration of permits or for improper inclusion permit the measurement, even though with a certain delay, of the departure of foreigners from Spain to other destinations, even if they do not notify their registry office. On the contrary, for Spaniards, there are no official notifications of cessation of work. Therefore, official data on Spanish emigration are based exclusively on official notifications of changes of residence, which are only produced if the emigrant registers with the Spanish consulates abroad. And we know that this registration often does not take place, even though the person spends years living abroad.

The motive is very simple: there is practically nothing which stops one from living a full and normal life abroad, even if you do not register. Registration carries with it hardly any benefits (it does not even assure one of being able to exercise the right to vote by mail, since with a certain frequency the voting form fails to arrive on time) and in addition, the costs of registration are high. In the first place, it is necessary to travel to the city where the consulate is located, which may be hundreds of kilometers from where the emigrant lives, and in many cases, only opens in the mornings. In the second place, the registration as a resident abroad carries with it the cancellation of your classification as a resident at your registration office in Spain, which means you will not have a family doctor (on the Spanish National Health System)

[4] The new Spanish emigration. Fundación Alternativas/Alternatives Foundation. 2013

to see on your visits home, you will be unable to continue as a possible beneficiary of officially protected housing, nor will you be able to vote in the municipal elections of your town or city. As if all this were not enough, registering as a resident does not depend just on wishing to do so but on being able to accredit your transfer of customary residence as permanent. For this, a work permit of at least one year's validity is generally required, a requisite which many Spaniards do not comply with at the time of their arrival, but rather months or years later.

The consequences of all this are obvious: the annual figures of the PERE (Register of Spaniards Residing Abroad, in its Spanish abbreviation), of the CERA (Electoral Census of Absent Residents, in its Spanish abbreviation), or the EVR (Statistic on Residential Variations, in its Spanish abbreviation) do not permit the creation of a precise indicator of how many Spaniards depart, nor of at what moment they do so. They are only a small sample of the people who have left in the past two, three, four or five years. In addition, these deficiencies in the measurement of Spanish emigration are accentuated when the destination is another country of the EU, given the facilities and guarantees of circulation and residence offered to Spaniards as Community citizens, which makes registration at the Consulate even less attractive.

It is important to clarify that the low quality of our figures for the understanding of changes in intensity, composition and tendencies of Spanish emigration the NIS limits itself to "cleaning" and publication of the data collected by the consulates following the instructions of the Royal Decree which regulates the operations of the PERE (Register of Spanish Residents Abroad, in its Spanish abbreviation), which obligates the counting as an emigrant only one who can prove that he will live for at least a year abroad and who decides to register. Therefore, it is the Government to whom it corresponds to adopt a different definition of emigrant, at least for statistical purposes.

Obviously, not everyone fits within what is called the "brain drain", nor is everyone going to stay abroad forever. Finding out what those who leave are like and when they return, if they do, is fundamental in order to understand the phenomenon, evaluate its possible effects for the country and, should the case arise, act in consequence.

It is obvious that the emigration of Spaniards, without being massive, increased with and due to the crisis. And in addition, that it is doing so at a rate far higher than Spanish figures suggest. At a conservative estimate, the number of Spaniards who departed between 2008 and 2012 may be around 700,000 people, more than triple what official sources measure.

The crisis has slightly modified the profile of migrants and their destinations. To the traditional destinations of our emigration such as France or Germany, the United Kingdom or Ecuador has been added. In this latter case, the protagonists of departures are immigrants naturalized as Spaniards who are

returning to their country of origin. Departures for the United Kingdom, our principal destination at present, not only have not ceased to grow but have done so at a rate higher than the rest of the countries of Southern Europe, making us the second provider of labor emigration to Great Britain, behind only Poland.

With data from the year 2015, we continue to have nearly three times more immigrants in our country than we have Spanish citizens residing abroad. Thus, for example, if we compare the Spanish emigrants in countries with greater possibilities of work, such as Germany or the United Kingdom, the number of Spaniards of working ages in those countries is far below that of the Germans and British of those ages who reside in Spain: 170,000 British and 147,000 Germans of working age, compared with 168,500 Spaniards of this age residing in Germany and the United Kingdom (NIS, 1 January 2016).

The phenomenon of emigration of youth is not exclusive to the countries which felt the worst effects of the crisis (Spain, Portugal, Greece or Italy). Other countries which came through it much better, such as Germany, are also seeing major flows of emigration of their youth into non-traditional emerging countries, as until now have been the United States, the United Kingdom, Canada or Australia.

According to the official figures, only 14.8% of the total of emigrants departing Spain during the period 2008-2015 held Spanish nationality: 475,095 in total, compared with more than 1.1 million Europeans, 480,000 Africans, or 904,000 Americans. Nevertheless, the percentage of Spaniards rises noticeably between 2014 and 2015, years in which departures abroad of Spanish nationals increase and those of Africans and South Americans diminish, both in absolute terms as well as in percentages. According to NIS data, only 323,553 of the 475,095 emigrants, besides having Spanish nationality, had been born in Spain. This situates the emigration rate of Spanish emigrants born in our country at 10.1% of the total of emigration during these eight years. Nearly 70% of the emigrants who left Spain in that period went back to their countries of birth. This is particularly evident with respect to several Central and South American countries, outstanding among them Ecuador (81%), Bolivia (87%), Columbia (85%), Brazil (84%), Argentina (77%), Peru (84%), Paraguay (90%), and the Dominican Republic (81%), Venezuela (74%), Mexico (69%). Regarding the causes due to which they state having emigrated, the answer has not been only the crisis. In a multiple-choice question, the major reasons for emigration are shown to be, among those related to the crisis, *Lack of future of the country* (48%), *Unemployment situation* (30%), *Poor quality of life* (14%), *Low salary* (14%), *Bad political situation in the country* (8%), or the *Search for a better future for their children in another country* (6%).But the situation of unemployment is not the most important motive for emigrating. Thus, 52% of those surveyed declared that they were working when they decided to emigrate and 47% had a contract of indefinite duration.

Youth

The Youth Observatory, attached to the Ministry of Health, Social Services and Equality, recently carried out a survey of Spanish youth (under the age of 30) residing abroad, which, very briefly summarized, presents the following results:

Some 68% of the Spanish youth surveyed residing in Europe declare not to have registered with the corresponding consulate. According to consular registers, Argentina is the country with the highest number of Spanish migrants: 385,388, a figure representing 20% of the total of Spanish residents abroad at a world level. A great proportion of these residents in Argentina are people over 70 years of age (104,379, which represent nearly 30% of the total). Most of them were nationalized under the Law of Historic Memory.

Outstanding in any case are the average annual growths being shown in recent years in Brazil and Chile (of 10.51% and 13.23% respectively during 2010-13). Approximately three out of every five Spanish emigrants from 2007 to 2013 are of between 15 and 29 years of age.

Nearly a third of those participating in the study went abroad to complete their educations, the bulk of the emigrants wait to finish their university studies before initiating their migratory projects. The average age of youth abroad is of 26 years (keep in mind that our work centers on persons between 18 and 29 years of age).

Although many travel alone, the majority travel with a companion (this may be a friend or family member who helps them get established). Due to their youth, very few have children, although the majority has a stable partner, and in fact usually live with that person. It is worth pointing out that all of the women who have children have taken them out of Spain, but not so with the men when these are fathers.

The economic crisis factor has been the detonator for the departure from Spain and has clear repercussions on the idea of returning. The young people do not have a clear idea of how long they will remain abroad, above all, because most of them subordinate the end of the migratory project to the reception of positive news about economic activity in Spain. In this sense, young people abroad have a more negative perception than residents in Spain about the past, present and future economic situation of the country, a question which could also affect their decision to return.

In general, the young people believe they have fulfilled their expectations regarding their personal and professional future during the period of migration. The one question they have had to assimilate as inevitable is that relative to salary; a good part of those interviewed thought that they were going to earn more money than they had in fact achieved abroad.

With respect to occupational status, in general the young people believe that emigrating has been a good strategy, the leap into occupations with more prestige is obviously the most difficult trajectory.

In fact, some young emigrants believe in the fulfillment of their expectations and the good prospects for finding another "even better" job within a space of twelve months, influences the good integration of young Spaniards abroad. Actually, the young emigrants say they respect the norms and traditions of the citizens of the countries where they live more than they do their own. The migratory project of young Spaniards is the result of a rational calculation of the cost-benefit ratio which the young people carry out taking into account the factors of expulsion, or "push", in Spain and of the attraction, or "pull", in the international scenario.

Often, the migratory project is planned immediately after the successful conclusion of their higher education. University graduates move into the next phase of their careers emigrating and competing on the base of what they have studied and the educational level they have reached.

Emigration may be an occasion to reinforce and specialize one's own professional profile through advanced education and training, especially a Master's degree program. It is obvious that the objective of this strategy is to improve one's employability.

The surveys (emigrants and non-emigrants) are or have been active for the most part within the advanced sector (technicians, scientists and intellectuals), in Spain as well as abroad. Within this sector, the greater proportion of emigrants who have participated in the study are attempting to extend their professional trajectory.

To a certain extent, the foreign work market is seen as more accessible and possessed of more job offers: compared with those left in Spain, greater facility is perceived in finding or changing jobs and less probability of losing the posts obtained.

For many young people the migratory project coincides with the planning or reinforcement of the process of their own independence: they achieve autonomy and independence working abroad.

More than half (60%) of the youth surveyed had previous experience of their country of reception. Of these, almost all had been there as tourists. However, the most striking statistic proceeds from 20% of them, whose previous experiences were owed to academic scholarships or to a period of residence there. Some 65.35% of them have friends in other countries and 42.52% knew people in the country.

Practically the whole of the sample thinks that living in a number of places during a lifetime is an enriching option.

Young emigrants use the social networks far less than direct means, such as telephone and Skype, in their dealings with Spanish family and friends. They use the former, however, to a greater extent with foreign friends.

For residents in Spain with an emotional partner abroad, contact via conversations through a computer surpass even telephone contact in terms of frequency, reaching 94.4% of those who carry out this type of contact daily or weekly.

There are a great number of young Spanish emigrants with emotional partners in Spain and who maintain frequent contact with them. Some 22% do so weekly and 17.1% monthly. In contrast, with foreign friends, only 17.4% have weekly contacts and 10.8%, monthly. This data leaves no doubt with respect to the foregoing: most young Spaniards do not use social networks with people in their country of reception.

Regarding the possibility of going to live abroad, a high percentage of young Spaniards surveyed who reside in Spain expressed an intention to leave. For nearly three quarters of them (74.9%), the intention to go is striking.

As far as the expectations due to which they would go to live abroad, for most of them these are related to working and professional areas. Some 67.57% of the young people point to job expectations as the principal motivation behind undertaking a migratory experience.

The emotional partner is whom they most ask about the possibility of moving to another country. Thus, 94.44% of youth whose partner resides in another country have looked into the options for emigration.

Young people feel especially identified with and close to their regions of origin and with the European Union, although, curiously, when evaluation of the European Union by the youth participating in the study is compared, it is residents abroad who value it in a lesser measure than do those residing in Spain.

The refugee crisis

> *"We are an island of well-being and the rest of the world wants to participate in the party. We have no alternative. If we do not wish to fire on launches filled with refugees or watch as they drown in the sea, if we wish to maintain our inheritance of civilization, we must think how to share our well-being on both sides of the Mediterranean in the coming decades."*
>
> Ulrique Guérot. Political Scientist

What Ms. Guérot does not say is how to do what she recommends.

It has repeatedly been said that demographic projections in Europe point to ageing as a certain danger. But those projections lack the capacity to foresee

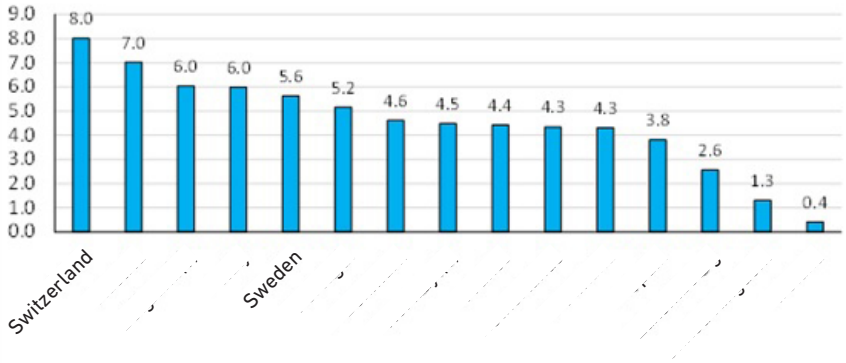
the ups and downs usually produced in migratory movements (we have seen this in Spain). Therefore, the first thing it would be essential to foresee is what is going to happen to the millions of people waiting for a chance to enter the European Union or the United States. The Mexican philosopher Hugo Hiriart has remembered:

> *"Walk on, walk on, go somewhere else. Hardly had the monkey given way to the "astute animals who invented knowledge" (Nietzsche) when these packed their bags and set off on the journey. Humanity, say the wise, has a single origin, was born in Africa and from there spread out all over the globe. It populated the wilderness, went up into the cold north and crossed the ice to America".*

It is not difficult to come to one conclusion: the migratory processes for a part of human nature, and nonetheless, these are bad times for emigration. Barriers are going up against free circulation. Restrictions abound, as does persecution (the migrant is arrested, confined and expelled) and the thoroughfares have become dangerous, those who have died upon trying are everywhere, but not even so can the human waves be halted. What we cannot know is how large they would be without such restrictions and obstacles, but it is foreseeable that they would be far more numerous. In certain places, unjustly for the great majority of them, migrants are likened to delinquents. The fact is that, while the great majority of immigrants commit no crimes, the foreign population as a whole presents rates of delinquency per 100,000 inhabitants far above those of the natives of the country, Spain included (see Figure 3.3).

Rates of foreign convicts per 100,000 over 15 years of age in Western Europe divided by the nationals of the country (2014)

Data source: EUROSTAT...



(1) NB. The data of Belgium and Norway are of 2013. EUROSTAT has no data of Germany, but from the records of convicts in 2014, the ratio would be 3.5 to 1.

Figure 3.3: Rates of foreign convicts

The natural tendency has turned into a political drama. And the debate is endless. In fact, migration and its difficulty constitute, all over the world, one of the great social and economic themes of politics and society in the XXI century.

With respect to this, the thinker Michael Dummet holds that there is no rational argument to halt migrations.

> *"Borders could be opened and, in orderly and gradual fashion, permit entry to all who desired it, and nothing would happen (besides, the receptor countries would benefit in the long run).Most of the arguments to obstruct and persecute migration are based on dark prejudices, unfounded fears and ethnic or racial hatreds".*

Other analysts maintain, to the contrary, and supported by the law of supply and demand, that a substantial increase in the unskilled workforce entails detrimental effects for the lower and lower middle classes in European/ Western countries, in bearing down on salaries and/or contributing to the growth of the unemployment rates among them, due to the increased job competition. And this, in addition to the social unrest generated among those directly affected or those who fear to be so—unrest which extremist populists capitalize on in elections—in welfare States like the European, implies in passing a higher cost to the taxpayer and/or greater public deficit, stemming from the need to spend more public money on social aid to the additional unemployed, and due to the descent in income as a result of social and income tax assessments originating with those workers negatively affected in their salaries and/or employability by competition for the same number of jobs.

In any case, neither these rationalizations nor the goodwill of the NGO's nor the evident need to "rejuvenate" the European population avail at all against the "fear of the other" which demagogues under whatever banner—those who see foreign immigration as "the mother of all social ills" afflicting the West, on the one hand, and those who believe that all immigrants who so wish may come in, when and from wherever they wish, on the other, as an illustration of the two extreme and opposing positions on the subject—are willing to use politically.

Actually, in spite of so many speeches and arguments, the truth is that today in Europe other highly toxic intersecting phenomena have recently coincided: a return to the old ways in Eastern Europe and simultaneously a migratory (or "refugee", call it as you will) crisis of dimensions which ten years ago would have been unimaginable.

The economic crisis which infected the EU has not created "new opportunities" but rather an old disease, the one which led Europe into two World Wars, the nationalist and populist one.

The EU lacks a plan respecting the "refugees", and how their integration will develop remains unknown. A significant fact in this respect is that Merkel's

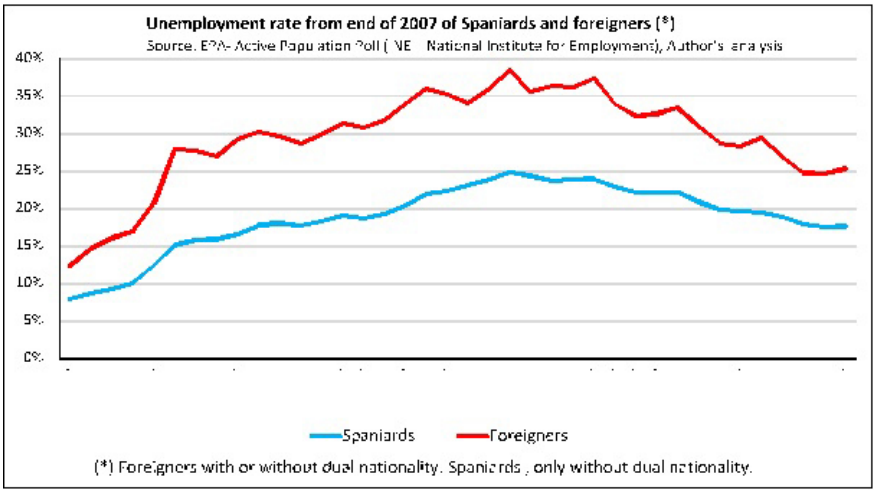


Figure 3.4: Unemployment rate from 2007 (Spaniards and foreigners)

response to the "refugee" crisis unleashed a new debate about identity. The Alternative for Germany party (AfD), Eurosceptic and ever more xenophobic, rose again in polls supported only by its xenophobic speech.

It is not difficult to arrive at one conclusion: these are bad times for migration. Barriers are rising against free circulation and restrictions and persecutions abound; the thoroughfares have turned dangerous, the dead in the attempt are everywhere, but these misfortunes do not manage to halt the human waves. The natural tendency towards movement has turned into political drama. And the debate is endless. In fact, migration and its difficulty constitute, all over the world—as aforesaid—one of the great social and economic themes of the XXI century.

It is also possible that we are simply in years or five-year periods of "pause", after decades of much immigration, and we should "digest" (assimilate) into Western society the population of foreign roots, whether direct or of second or third generation, until again a facility returns for the settlement in our countries of a new foreign population in considerable numbers. This has already happened in the past. In this as well there are and will be cycles, with flows and refluxes, as with the economy, politics or social modes. Thus, in the United States, a country built mainly by immigrants/colonialists—as well as by the descendants of African slaves and Native American Indians—in the decade of the twenties of the XX century, the gates to the massive arrival of foreigners were closed. During the following 40 years, the North American colossus carried out a "melting pot" (integration) of the resident populace of foreign roots. And from the sixties on, it once again received great waves of immigrants. Whether something similar will occur in this and future decades in Europe is something that cannot be foreseen.

Regarding the recent refugee crisis as such, understood as those people who leave their countries due to risk to their lives/personal safety by reason of wars or political tyranny (as opposed to emigration, with essentially economic motivation, by Eastern Europeans, Maghrebis, sub-Saharans, Asians or Latin Americans, with the partial exception regarding the latter, with reference to their motives, of Venezuelans and Cubans, etc.), which Europe has experienced since 2015, with the massive arrival of people proceeding from the Middle East, in summary fashion, the following may be said:

- A broad majority of the countries of the European Union, led by Germany in the face of a tremendous humanitarian problem—a stream of people escaping, principally, from the hell they were living through in Syria—decided to distribute the contingents of refugees by proportional quotas among the member countries of the EU. Parallel to this, treaties were signed with Turkey to reduce the volume of this human tide, in great majority Moslem, flowing towards Europe.
- The German government promoted this decision motivated by a mixture of genuine humanitarian reasons and in order to improve its international image as a "hard-hearted" country—with which it has been weighted since Nazism and the militarism of the First World War and years previous--and perhaps of its own chancellor, and of demographic considerations ("we need workforce personnel due to the ageing of our population and the loss of people of working age"). Likewise, in line with the second of these reasons, a very probable influence on the chancellor's support was the need to soften her image as an inflexible person, after an appearance televised in July of 2015 in which she told a Palestinian child that she and her family could not stay in Germany, after which the little girl burst into tears[5].
- This decision produced a fracture in the heart of the EU, principally between the large Western countries and several of those of Eastern Europe (the so-called "Visegrad group"). In addition, it may have contributed decisively the win of the "Brexit" option in the British referendum on the continuity of their country in the EU, due to the growing fear of the arrival of beggarly foreigners and Moslems in their country, as well as to the uneasy suspicion produced by the feeling that Germany—their ancient enemy—was imposing its will on the EU.
- In Germany, the country to which corresponded the greatest number of refugees, the massive arrival of these produced a wave of fear and rejection in the populace. This, among other things, helped, as has been pointed out, in the emergence of the AfD party, to the right of the Christian Democrats of the CDU.

[5] See http://www.lavanguardia.com/internacional/20150716/54433953707/merkel-llorar-nina-refugiada-no -podeis-venir-todos.html. On many occasions, unexpected incidents like this one, usually now called "black swans", alter the foreseeable course of history. Perhaps in this case it has been so on the subject of the refugees.

- For their part, the refugees, between the official welcome of the German authorities and their image as a solid and prosperous country, opted by a great majority, in numbers above a million people, to relocate there. As a consequence, the arrival of refugees to the remaining countries of the EU far distant from Greece and the nations geographically closer to the conflict, was well below that foreseen in the sharing agreements on refugees among the nations of the European Union[6].
- The countries which are being most directly affected by the arrival of refugees by sea, proceeding from countries in catastrophic situations (such as Syria and Libya), have been Greece (and to the north, other Balkan countries, Hungary and Austria) and Italy (in this case, due to its nearness to Libya).
- In Spain, the figures on requests for asylum since 2015, although far above those of previous years, have been relatively few if they are compared with those of other countries of reference in the EU, not to mention with Germany. Likewise, they have been much reduced in comparison with the total figures for immigrants. Specifically, in Spain there were in 2016 a total of 15,755 requests for asylum, a record figure for our country. In it appear petitioners from the Middle East or Africa, but also a goodly number of Venezuelan citizens, the nationality with most petitioners for asylum in Spain (3,960), followed by Syria (2795), Ukraine (2570), Algeria (740), Columbia (615), El Salvador (425),Honduras (385),Palestine (355), Morocco (340) and Nigeria (285)[7]. Of the favorable resolutions in 2016 (by petitions for asylum presented in that year or pending resolution from other years), 6,855 in total, some 6,215 corresponded to Syrian citizens. Rejected were 3,395 requests.

Regrettably, it is possible that in the coming years and five-year periods there may be new refugee crises, although perhaps not of the magnitude of that of 2016. And there will continue to arrive in Spain very poor immigration—and very unskilled, in terms of their eventual incorporation into the workforce—by sea proceeding from Africa, in addition to those who try to cross, and sporadically do manage to cross, the border fences in Ceuta and Melilla. To contain these influxes and prevent them from reaching uncontrolled

[6] Even Sweden, which in the years previous to 2016 had perhaps been the country most favorable of all to the arrival of refugees, with 12.3% of the total requests for asylum in 2015, saw itself eclipsed by the attraction of Germany for the refugees of 2016, a year in which requests to the Scandinavian country fell to 2.3% of the total. Something similar, but for other motives, occurred in Hungary. In 2015, it received 13.4% of all requests for asylum in the European Union, but in view of the very limited willingness of its authorities to shelter new refugees on its soil, these fell to 2.4% of the total in 2016. For its part, Germany went from 476,510 requests for asylum in2015 (36% of the total of those presented in the EU that year), to 745,155 in 2016 (59% of all those presented in the EU that year).These are data from the statistics on refugees and asylum from EUROSTAT.

[7] See http://www.europapress.es/epsocial/migracion/noticia-espana-registra-nuevo-record-soliticudes-asilo-2016-15755-90-aceptadas-son-sirios-20170313112914.html.

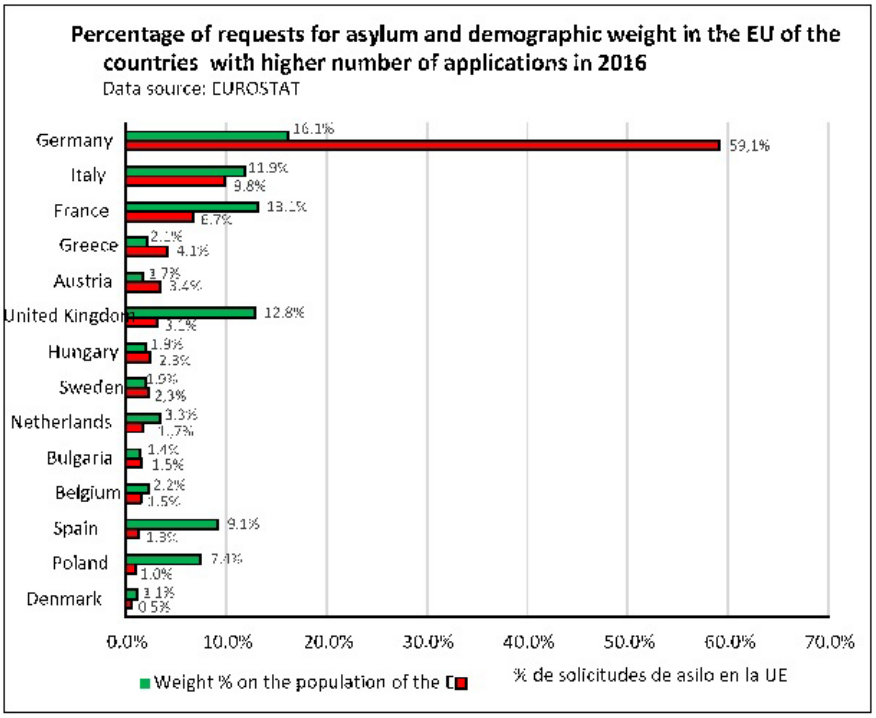


Figure 3.5. Percentage of requests for asylum, and demographic weight in the EU.

proportions due to their magnitude, in addition to Spanish diplomatic efforts and actions of direct cooperation with sub-Saharan countries of origin, such as Senegal, the key country for our action abroad is Morocco, which produces the largest African immigrant colony in Spain, and on whose attitude depends in very great measure whether or not it will be possible to moderate the influxes of sub-Saharan immigrants.

Chapter four

The future of the population in Spain

Several authors

On projections in general

Population projections play a role of great relevance in many aspects of economic and social life, and they enjoy a reputation that gives them the capacity to reduce uncertainty about the future with greater efficiency than the prospective in other areas. The planning of essential services and the solution of certain problems is based on them, such as those related to the financial balance of the systems of pensions, which require an approach with a broad temporal perspective: the effects take place on a long-term basis, and the political measures that affect the system must be adopted far in advance for them to be efficient.

However, fiascos have many times accompanied demographic prospects. In the seventies of the XX century, Malthusianism prevailed everywhere and international institutions made catastrophic "demographic predictions" to the point that it was written at the time that population growth put an end to Mankind.

In 1968, a Biology professor at Stanford University by the name of Paul Ehrlich published a book[1] where one could read the following:

> *"In the coming years billions of human beings will die of starvation caused by overpopulation [...] nobody will be able to stop an enormous growth of mortality."*

[1] The population bomb. Salvat. 1993

It was not long before the predictions of the UN, of MIT, or of those of the mentioned Ehrlich sank into the utmost ridicule because that "terminal" demographic crisis never existed and we now find ourselves with in a crisis of food distribution, but not of food production. In fact, more food is produced than consumed and we can even speak of overfeeding on the one hand, and of food waste, on the other. Also, the population necessary for agrarian production has decreased spectacularly. Not long ago, between 30 and 40% of the working population worked in the fields, and now, with only 3 % of them, more food than needed is obtained.

The failure of these demographic predictions had a lot to do with subsequent demographic evolution in China and in India.

What gives demographic projections a greater robustness than that enjoyed by the forecasts exercised in other branches of the social sciences (very particularly in the area of economics), is that a great deal of the future, especially in the nearest fifteen or twenty years, is already part of or very much oriented by the current structure and by the evolution of the determinants of the dynamics of population, having high temporal inertia. All in all, a population projection is no more than the quantification of a scenario based on hypotheses about the behavior of fertility, mortality and migrations. These scenarios do not usually include ruptures in tendency and generally limit themselves to prolonging the past. Thus, all projections carried out in Spain before the year 2000 considerably underestimated future immigration and, on the contrary, the projection carried out by the National Institute of Statistics in 2007 included high net immigration as of that date, without foreseeing that it would drop beginning in the following year.

In 2016, the National Institute of Statistics distributed long term projections that take into account the decrease of net immigration and foresee its continuity with a moderate positive balance, as well as an almost constant fertility rate during the coming fifty years. Once again, our most recent past prolongs itself to far horizons. These last latest projection describe a future where the pace of demographic growth decreases continuously due to the fertility and migration scenarios, despite a strong lengthening of the average life span.

Methodological considerations

The methodology of the projections carried out by the statistics organisms of the European Union differ very little from one country to another, and there is also an active and efficient technical coordination among them. They all resort to the component method which consists in calculating separately, for each year of the projection. the three flows that determine the population dynamics: births, deaths, and entrances and exits of migrants. For the estimation of these flows they use techniques of different difficulty, but, currently, even the simplest ones combine at least the structure by sex and ages of the

population with rates that reflect the behavior of the individual from each sex and age group. If one intends to go further than this breakdown, which today is considered the minimum, the issue gets considerably complicated. For instance, in order to project the future Spanish population by sex, age, and nationality, it is necessary, in addition to a very detailed breakdown of the migration flows, to analyze and foresee the nationalization of foreigners, as well as the mechanisms to acquire nationality by birth, depending on the nationality of the parents. One could even incorporate marital behaviors to establish situations of mixed unions (foreigners with Spaniards). It is easy to understand why it is not often that this type of projection is elaborated, in spite of which the last projections published by the National Institute of Statistics in 2016 introduce nationality into two scenarios of fertility and two of migrations, one for Spaniards and the other for foreigners. It is a demanding methodology which intends to improve the estimation of future births and migration flows, and which goes through a separate projection on foreign residents, although the National Institute of Statistics has not published, until now, these populations.

Whatever the specific methodology may be, the results are detailed series by sex and year of birth, and on occasion some other variable, of the future rates of fertility, of mortality, and of emigration, for each year of the projection. Starting from them, the births, deaths, and number of emigrants are projected in the same detail. The entrances from abroad are based on another methodology. They are estimated as an absolute number of immigrants for each year, broken down by sex and age. Starting from the population on 1 January of the initial year, the population on 1 January of the following year is derived, adding the births and the immigrants of the year (entrances into the population), and subtracting the deaths and the emigrants (exits). The estimated population serves as a basis to project the following year, in a repeated process which extends until the last year in the projective horizon, so that uncertainty about the results increases as the prospect becomes further away and the difficulty to anticipate future behaviors increases. Fertility, for instance, has not followed in the past a uniform model that may serve as a solid basis to anticipate the future. As far as mortality goes, the tendency has been more persistent and, in general, the projections correctly anticipate that life expectancy will continue to grow. However, the example of some countries shows that growth may reverse, as is the case of Russia and some other countries in Eastern Europe, or slow down, as is happening in the United States, for example. Even in Spain, life expectancy dropped slightly in 2015, although it did continue its ascendant path in 2016. There is no doubt that the evolution of fertility, as well as that of mortality are conditioned by social and economic variables, but there are no models robust enough to be formally integrated into the process of elaboration of demographic prospects.

The most recent techniques have allowed refining the analysis of fertility and of mortality, for example, incorporating a longitudinal vision, using

fertility rates according to the number of children already born, or starting from an analysis of the evolution of the main causes of death. Worse is the case of migration flows whose projection cannot be based on series from the past that either do not exist or are extremely fluctuating, nor on a refined analysis of the behaviors, which would have to be done in the countries of origin, nor on models which relate the flows with social or economic variables. In the projections for Spain after 1980, the only migratory flow that is involved as a component of the future variation of the population is immigration. Emigration, which, as has been observed, was quite relevant in the demographic history of the XX century, has had, since the mid seventies, a residual effect. Very recently, the crisis has caused the appearance of an emigration of young people of Spanish origin or already settled immigrants and, in many cases, with citizenship; this is a phenomenon is prolonged in the most recent projection of the National Institute of Statistics (2016).

As there is no objective basis to elaborate a model of projection that integrates immigration, the prospect of the annual number of immigrants is usually based on the recent tendency and on an analysis, not formally included in the model of projection, of the factors that may influence on it, such as the forecast evolution of the working market, the geographic location, immigration policies, etc. The migratory flows are unanimously considered as the most difficult variable to project and the one which presents the highest degree of uncertainty, and they are determining for the reliability and the predictive capacity of the prospects.

In practice, the fact that the authors of the projections are, above all, sensitive to the circumstances of the moment is verified, as has already been pointed out. For instance, although the projections carried out relative to 1991 anticipated a higher population growth than in the years before (caused by a higher net immigration), they were refuted by the reality. At 1st of January, 2002, the official population (41.8 million) already exceeded the prospect for that date by 1.6 million. En the projection elaborated in 1996, the population dropped in the long term, after reaching a maximum of 43.5 million towards 2025, a number that is well under the 47 million reached officially on 1/1/2010. Regarding the structure by ages, the 1996 projection suggested an intensification of population aging, with a percentage of elders over 65 which went from 13.8% in 1991 to 16.9% in 2991, 17.5% in 2008, and 21.3% in 2025. Also in this case, reality gradually drew further apart from the projected data, but not as far as was observed in the case of number of inhabitants. In 2010, the true percentage of "seniors" was 16.9%, only slightly lower than that foreseen in the prospect (17.5%) and in 2016 it reached 18.7%. The main reason for these deviations is that during the decade of 1998-2007 Spain suffered a huge demographic jolt with the entrances of immigrants which were the largest in Europe and almost in the whole world, concentrated within a very short period of time. This demographic contribution, which had not been foreseen, totally disrupted

previous prospects, made when it was believed the demographic future would be almost stagnant.

Thus, it is not strange that the very same authors of the projections of the population often warn that they must not be considered forecasts. It is a sensible warning which should be taken seriously by the users. Even the projections carried out at the same time by different organisms may differ considerably amongst one another. This will be seen by briefly comparing the estimations of the future population of Spain in three projections carried out by three organisms from different fields, but with reputable technical prestige: The Spanish National Institute of Statistics (NIS), the European Union Institute of Statistics (EUROSTAT), and the United Nations Population Division.

Scenarios for the future of the population in Spain

EUROSTAT as well as the United Nations periodically produce population projections for the countries in their respective areas. The most recent are those of the United Nations which have just been published in June of 2017, and those by EUROSTAT which are from 2015. They offer estimates of the future population for every year, until 2080 in the case of EUROSTAT, and until 2100 in the case of the United Nations, broken down by sex and year of age or five-yearly group for the 28 European Union (EU) member countries, in one case, and for all the countries in the world, in the other case. It seems obligatory to use the data from EUROSTAT to analyze the compared evolution of several member countries of the EU, since it uses a single methodology for all of them and, furthermore, it guarantees the coherence of the group. To compare countries that do not all belong to the European Union, the most adequate form is to resort to the prospects from the United Nations. The problem is that, for Spain, for instance, the projections of the three organisms (NIS, EUROSTAT and UN) do not coincide amongst themselves, and the differences, as can be seen below, are striking.

Taking the average variant from each organism, the evolution projected of the total population in Spain can be seen in Chart 4.1 and in Figure 4.1. It is surprising how different the EUROSTAT prospect is in relation with the other two, which are almost identical between them. According to this organism, the Spanish population would reach 49.6 million in 2066, the limit year of the NIS projection, as against the 41.1 million given by the NIS or the 40.9 million by the United Nations for the same date. It is necessary to point out that it is not common that the differences are so marked, which reinforces the need to resort to a single source, EUROSTAT, to compare Spain with the rest of the member countries. For the analysis of the projected evolution of the main indicators, in relation with the past, without comparing with other countries, we will base ourselves on the NIS prospect, but will add the values projected by EUROSTAT in order to offer a more open view of the future, which avoids falling into the false determinism to which a single scenario incites.

Year	NIS 2016	EUROSTAT 2015	UN 2017
2016	46,438,422	46,438,421	46,347,576
2021	46,380,938	46,602,886	46,449,574
2026	46,164,577	46,829,874	46,270,109
2031	45,886,177	47,199,138	46,069,477
2036	45,585,655	47,737,574	45,803,187
2041	45,247,160	48,374,451	45,460,397
2046	44,787,907	48,951,613	44,963,043
2051	44,115,209	49,317,679	44,224,268
2056	43,225,660	49,499,676	43,217,650
2061	42,176,904	49,567,193	42,024,887
2066	41,068,643	49,654,102	40,779,019

Source : NIS(2016), EUROSTAT (2015) and United Nations(2017)

Chart 4.1. Evolution of the population in Spain in three projections 2016-2066

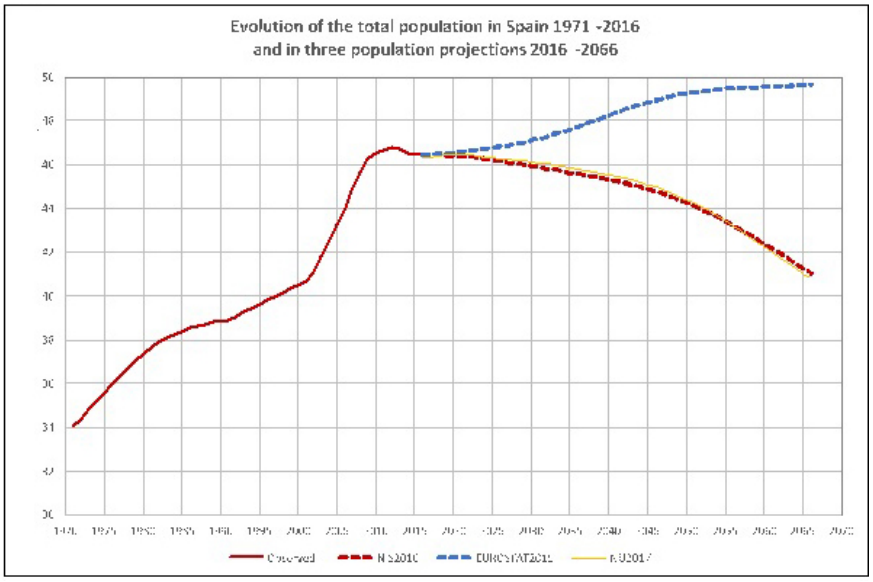


Figure 4.1. Evolution of the population in Spain 1971-2016 and three population projections 2016-2066

The projections carried out by the United Nations go until 2100 and they use the trends of the population in the world and in some regions with great demographic weight. For instance, the prospect of 2006 projected a world population of 9,200 million for 2050, while the most recent one, of 2017, gives, for that same date, 9,721 million, more even than the one published

two years earlier. This means that the hypotheses about the future evolution of fertility that were made in 2006 have turned out, to this date, to be too low. The most recent revision establishes that what was foreseen for 2006 has not been met for these last ten years and proceeds to rectify the scenario for the future. In practice, it is admitted that fertility will continue dropping in all countries, but the calendar for this drop is lengthened.

In this paper, we will analyze, in the first place, the projected evolution for the Spanish population, according to the data published by the NIS, to which we will add, for contrast, those of the EUROSTAT for Spain. We will then analyze the territorial distribution with the projection for the provincial populations. Finally, we will point to some conclusions, qualifying the results to take into account other possible scenarios, and we will end by highlighting the essential characteristics of the demographic future.

The projection of demographic dynamics

Between 1971 and 2016, the Spanish population grew – as already mentioned – from 34,060,642 to 46,445,828 inhabitants, which means an average rate of annual growth[2] of 6.9 per 1000. Almost half of this growth from the last 45 years corresponds to the last fifteen years (2000-2016) as a result of the high immigration until 2008. The average annual growth was 6 per 1000 in 1971-2000 and of 8.6 per 1000 in 2000-2016. According to the projection of 2016 by the NIS, the rate of average annual growth of the Spanish population between 2016 and 2032 will be -2.45 per 1000, which means a hypothetical drop of almost 5.4 million inhabitants in 50 years. A result that is in strong contrast with that offered by EUROSTAT for our country, as it gives an increase in the population of 3.2 million and an annual rate of positive growth of 1.34 per 1000.

We will see below the factors that explain these dynamics and the difference between projections.

Fertility

As already mentioned, the level of fertility has dropped in Spain since 1976 and has fallen below the level of generational replacement since 1983. In 1998, a minimum of 1.16 children per woman[3] (or indicator of fertility, TFR) was reached, then the lowest level in the European Union, whose average was 1.44. Beginning in that year, the decreasing trend was interrupted as a

[2] The rate of average annual growth is calculated according to the following formula: being the initial population, the final population of the period, and the number of years in the period.

[3] The statistical data regarding Spain for the years previous to 2017 come from the National Institute of Statistics (NIS), unless otherwise indicated.

result of immigration and of a slight recovery in births previously delayed by Spanish women. The average number of children per woman reached a maximum of 1.44 in 2008, but the crisis reversed the tendency once again and fertility reached 1.27 in 2013. In the last two years there has been a slight recovery up to 1.33 in 2015. The number of births follows a parallel evolution. Beginning in 2008, year when a maximum of 519,779 births was reached, a tendency towards the current drop reappears (420,290 births in 2015). In this period, around one fifth of the births were to foreign mothers: a maximum of 20.7% in 2009 which drops to 17.8% in 2014 and seems to have become stable in 2015 (17.9%). The weight of foreigners in births is explained by a higher fertility and, in particular, because they are, on average, younger than Spaniards and they bear their children at a younger age.

As far as the prospects for the future, the NIS and EUROSTAT offer a very different view of the evolution of fertility in Spain. The first one poses a very slight increase in the average number of children per woman, which remains practically constant until the horizon of the projection, while EUROSTAT introduces a strong growth, very fast from now until approximately 2045 (from 1.33 to 1.87), which takes the TFR to 1.9 in 2080. The NIS does not publish the TFR from 2016 to 2065 for the group of women resident in Spain because, as has been pointed out already, it projects separately the fertility of Spanish and foreign women. The first keep their fertility almost constant, from 1.28 in 2016 to 1.32 in 2065. The second start at 1.66 and reach 1.97 in 2065.

Obviously, the fertility of the group of women is an adjusted average of the TFR of the two groups, which is close to the value corresponding to the Spanish women due to the higher weight these represent (see Chart 4.2 and Figure 4.2).

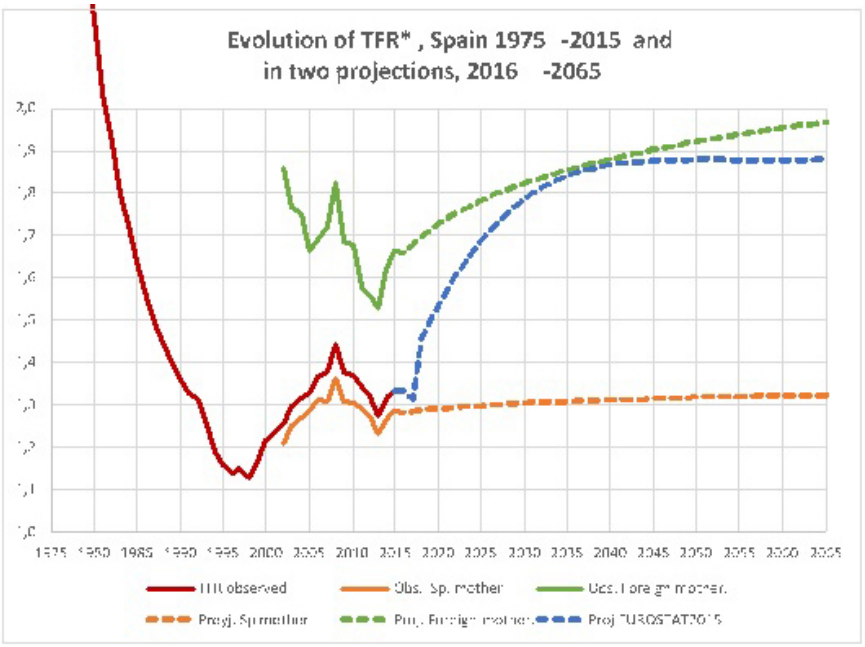
Chart 2 **Main indicators of demographic dynamics**
Evolution 1975-2015 and prospect 2020-2065 by NIS2016, in five-year jumps

	Fertility: TFR			Life expect. at 0 years		Life expect. at 65 years		Migration
Year	grouped	Spanish	foreign	men	women	men	women	balance *
1975	2.77			70.53	76.25	13.62	15.70	3,001
1980	2.21			72.36	78.41	14.60	16.90	-9,223
1985	1.64			73.08	79.54	14.89	17.43	-25,307
1990	1.36			73.40	80.41	15.43	18.20	103,351
1995	1.16			74.53	81.72	16.10	19.98	153,762
2000	1.21			75.93	82.74	16.61	20.57	510,543
2005	1.33	1.28	1.66	77.02	83.54	17.13	21.12	529,821
2010	1.37	1.31	1.69	79.05	85.04	18.41	22.43	-68,686
2015	1.33	1.31	1.79	79.03	85.42	18.80	22.66	-292
2020		*1.29*	*1.73*	*81.11*	*85.27*	*19.60*	*23.44*	*38,920*
2025		*1.30*	*1.78*	*82.11*	*86.95*	*20.24*	*24.01*	*51,602*
2030		*1.30*	*1.82*	*83.05*	*87.61*	*20.88*	*24.59*	*58,699*
2035		*1.31*	*1.85*	*83.95*	*88.24*	*21.52*	*25.15*	*63,041*
2040		*1.31*	*1.88*	*84.81*	*88.86*	*22.15*	*25.69*	*65,705*
2045		*1.32*	*1,90*	*85.63*	*89.45*	*22.77*	*26.21*	*70,340*
2050		*1.32*	*1.92*	*86.41*	*90.03*	*23.38*	*26.76*	*73,937*
2055		*1.32*	*1.94*	*87.17*	*90.58*	*23.97*	*27.27*	*77,115*
2060		*1.32*	*1.95*	*87.90*	*91.12*	*24.56*	*27.77*	*79,455*
2065		*1.32*	*1.97*	*88.60*	*91.64*	*25.13*	*28.25*	

(*) Annual average of the balances of the quinquennial period
Source : Elaborated by the author with data from INEBASE. NIS (2016)

Chart 4.2

Principal indicators of demographic dynamics. Evolution 1975-2015 and projection 2020-2066 of the NIS2016 every five years



(*) TFRaverage number of children per woman of 15-49 years old
Source Author's elaboration with data from INEBASE, **NIS** (2016) and **EUROSTAT** (2015)

Figure 4.2 Evolution of number of children per woman

This striking difference is explained by the use of two very different methodologies, to estimate future fertility, by the two statistical organisms, that of the EU and the Spanish one. The projection of fertility by the NIS which *"consists in a modeling of the behavior of the specific rates of fertility by age observed in the last four years and an extrapolation of them on the basis of such modeling"* (NIS, 2016, page 15), is entirely based on adjustments of mathematical functions, which leads, in practice, to simply prolonging the limited average variation of the TFR in these last years. On the contrary, EUROSTAT considers what is called a normative scenario, which puts forward the convergence of the value of this indicator among the member countries of the European Union, and obtains the TFR for every year by interpolation between the initial value and the value fixed for the horizon of the prospect. It cannot be affirmed that one methodology is better than the other. There are as few reasons to think that fertility will start an previously unprecedented rise as there are to consider ~~e~~ that, in the future, nothing will have bearing on such a significant indicator. It is best ~~is~~ to consider that the projections of these two organisms represent scenarios different and distant from the future demographic evolution. The NIS would represent a "pessimistic"

outlook for the future, with a drop of the population and an increase in ageing, and EUROSTAT a more "optimistic" view by foreseeing a sustainable growth in the population and less ageing. As we will see later on, the differences are only truly significant on the long term.

Life expectancy

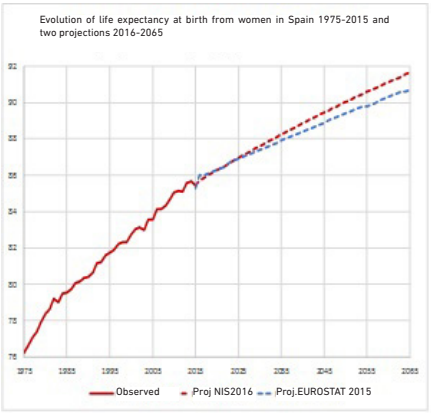
The increase in life expectancy at birth has been constant in Spain since the beginning of the XX century and, presently, it is still growing at a good pace. From 1975 to 2015 (last date published by the NIS), life expectancy of men has increased by 9.4 years (from 70.5 to 79.9 years old), and that of women in 9.2 years (from 76.2 to 85.4 years old), although in 2015 both have slightly dropped (see Chart 5.2). Spanish women enjoy one of the highest life expectancies in the European Union, only behind French women. In spite of this considerable improvement of life expectancy at birth, the negative effect of mortality on population growth has increased due to the higher weight of the older population: at the beginning of the eighties the rate of mortality was slightly lower than 8 per 1000, and in 2015 it exceeded 9 per 1000. The number of deaths was, in 2015, 422 per 1000, slightly over the number of births. Life expectancy at 65, an indicator more and more relevant when evaluating the impact of demographic ageing, has also grown at a sustained pace, going, in men, from 13.6 years old in 1975 to 18.8 years old in 2015 and, in women, from 15.7 to 22.7 years old (see data in Chart 5.2).

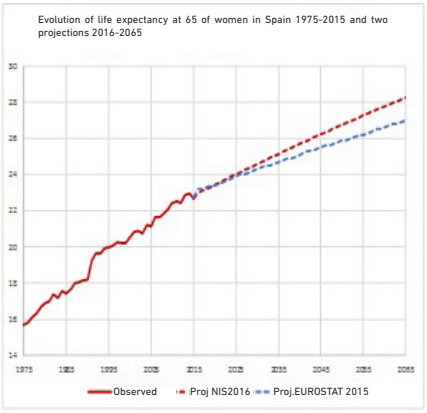
In the 2016 projections, the NIS foresees that life expectancy will continue increasing at a rate comparable to that of recent years, taking that of men from 79.9 years in 2015 to 88.6 years in 2065, and that of women from 85.4 to 91.6 years during the same period. The predicted increase of life expectancy at 65 years is, proportionally, much higher than life expectancy at birth. From 18.8 years for men and 22.7 for women in 2015, to 25.1, and 28.3 years, respectively, in 2065. In the next 50 years, life expectancy at birth would increase at an annual average of 0.21% in the case of men, and of 0.14% in the case of women, while life expectancy at 65 years would respectively increase by 0.58% and 0.44% annually. In the present stage of transition of mortality, practically the whole increase in longevity is concentrated in the last years of life.

Without the forcefulness of what is happening with fertility, the differences between the mortality prospects of the NIS and those of EUROSTAT are also significant, life expectancy projected by the NIS being higher. In 2065 the difference in life expectancy at birth of men is 2.2 years (86,4 years, according to EUROSTAT, 88.6 according to the NIS), and at 65 years old, it reaches 1.5 years (NIS: 23.6; EUROSTAT: 25.1). In the case of the women, the differences are 0.9 respectively, (90.7 and 91.6) in life expectancy at birth, and 1.2 (27.0 and 28.2) in life expectancy at 65 years old. As can be seen, the distance is proportionally higher at 65 years old.

Migration balances

As we saw in section 4, the effect of immigration on population growth has been considerable. Its impact on the structure by age has not been much, but the result has been positive. Starting at the beginning of the economic-financial crisis, in 2007, the flow of immigrants drops and an emigration of workers appears, basically towards other European Union countries, an unknown phenomenon in Spain since the beginning of the seventies. The result is, first, a drop in the positive balance of migration and, beginning in 2012, the appearance of a significant negative balance (see Figure 4.5).





Figures 4.3 and 4.4 Evolution of life expectancy at birth and at 65 years of women in Spain

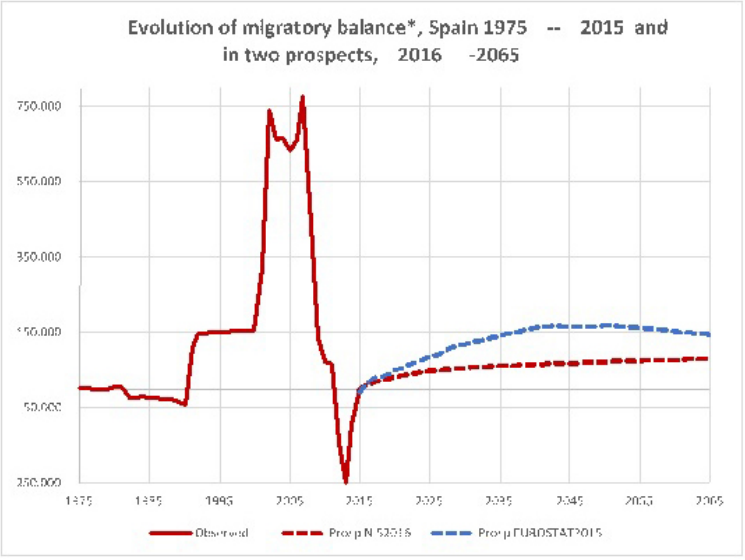


Figure 4.5. Migratory balance 1975-201

In 2016, the NIS projected emigration and immigration separately. The last data of the Statistics on Migrations corresponding to 2015 has been taken as the annual number of immigrants, distinguishing between Spaniards and foreigners; this data has remained the same throughout the whole projected period (NIS, 2016, page 37). The annual entrances are, therefore, estimated at 291,387 foreigners and 52,227 Spaniards, appropriately distributed by sex, generation and, until 2031, by provinces. For the projection of emigration, distinguishing also between foreigners and Spaniards, the rates of emigration are calculated by sex and age, which remain the same throughout the projected period. When applied to populations that vary, the number of emigrants drops slightly from one year to another. The result is a positive migration balance which, in time, grows slightly.

In EUROSTAT's projection for 2015, the positive migration balance is a bit higher than the prospect of the NIS throughout the entire period (Figure 4.5).

Volume and structure of the population by age

From the set of hypotheses elaborated by the NIS regarding mortality, fertility, and migration flows described in previous sections, derive the populations at first of January of every year, between 2016 and 2066, broken down by sex and age and, as pointed out previously, the path through the nationality variable is not reflected in the population figures published by the NIS. In Chart 4.3 and in Figure 4.6 are recorded the evolution of the total population, as well as the numbers of people making up the three large age groups: youngsters (0-14 years), working age adults (15-64), and the elderly (65 years or over). As previously indicated, the prospect of the NIS foresees a drop in the total population from 46.4 million in 2016 to 41.1 million in 2066[4]. The projected evolution breaks the growth tendency observed since 1975[5].

The drop in the total population does not, according to the NIS, prevent the number of persons 65 years old or over from increasing (from 8.2 million in 2016 to 14.2 million in 2065, after reaching a maximum of 15.6 million in 2050), which will cause, as can be seen later on, serious alteration in the structure by age of the population. For its part, the population of 0.14 years old will drop continuously from 7 million to 4.7 million, and the population of working age adults will do so at a more intense pace, from 30.7 million to 22.2 million, between the beginning and the end of the projection period.

[4] We should remember that the populations are always referred to as at 1st of January of every year, the same as for the initial population at the end of 2015.

[5] With the data used here. Actually, the growth is continuous since the beginning of last century.

Evolution of the total population and of large age groups
Spain 1971-2016 and NIS prospect 2016-2066

Year	Population 0-14	15-64	65+	total
1971	9.459.640	21.290.329	3.290.673	34.040.642
1976	9.800.272	22.410.601	3.735.552	35.946.425
1981	9.684.116	23.722.164	4.229.109	37.635.389
1986	8.868.402	25.009.411	4.653.382	38.531.195
1991	7.582.038	25.951.293	5.348.084	38.881.416
1996	6.493.243	27.214.618	6.100.512	39.808.374
2001	5.944.561	27.894.333	6.826.652	40.665.545
2006	6.380.270	30.305.549	7.324.150	44.009.969
2011	7.013.698	31.670.480	7.982.996	46.667.175
2016	7.025.401	30.720.533	8.699.893	46.445.828
2021	*6.631.580*	*30.324.083*	*9.425.276*	*46.380.938*
2026	*5.931.897*	*29.763.264*	*10.469.416*	*46.164.577*
2031	*5.443.320*	*28.717.648*	*11.725.209*	*45.886.177*
2036	*5.236.912*	*27.316.839*	*13.031.904*	*45.585.655*
2041	*5.258.015*	*25.653.779*	*14.335.366*	*45.247.160*
2046	*5.329.048*	*24.093.694*	*15.365.165*	*44.787.907*
2051	*5.283.749*	*23.231.439*	*15.600.021*	*44.115.209*
2056	*5.086.439*	*22.831.623*	*15.307.598*	*43.225.660*
2061				

Evolution of the structure by large age groups
in percentage of the total population
Spain 1971-2016 and NIS prospect 2016-2066

Year	Population 0-14	15-64	65+	total
1971	27,8%	62,5%	9,7%	100,0%
1976	27,3%	62,3%	10,4%	100,0%
1981	25,7%	63,0%	11,2%	100,0%
1986	23,0%	64,9%	12,1%	100,0%
1991	19,5%	66,7%	13,8%	100,0%
1996	16,3%	68,4%	15,3%	100,0%
2001	14,6%	68,6%	16,8%	100,0%
2006	14,5%	68,9%	16,6%	100,0%
2011	15,0%	67,9%	17,1%	100,0%
2016	15,1%	66,1%	18,7%	100,0%
2021	*14,3%*	*65,4%*	*20,3%*	*100,0%*
2026	*12,8%*	*64,5%*	*22,7%*	*100,0%*
2031	*11,9%*	*62,6%*	*25,6%*	*100,0%*
2036	*11,5%*	*59,9%*	*28,6%*	*100,0%*
2041	*11,6%*	*56,7%*	*31,7%*	*100,0%*
2046	*11,9%*	*53,8%*	*34,3%*	*100,0%*
2051	*12,0%*	*52,7%*	*35,4%*	*100,0%*
2056	*11,8%*	*52,8%*	*35,4%*	*100,0%*

Chart 4.3

The projected increase of the population of 65 or older happens, in particular, because very large generations, born as of 1950, will reach the age of retirement. It is the long-term result of the high birth rate that prevailed in Spain from the middle of the forties until 1976. The generations born between 1945 and 1950, about 600,000 every year, mostly retired between 2010 and 2015 (without counting early retirements). The number of births between 1950 and 1964 increased from 600 to 700 thousand a year, who will retire between 2015 and 2031 and, from 1965 to 1976 around 700,000 persons were born each year, who will retire towards 2030-2043.

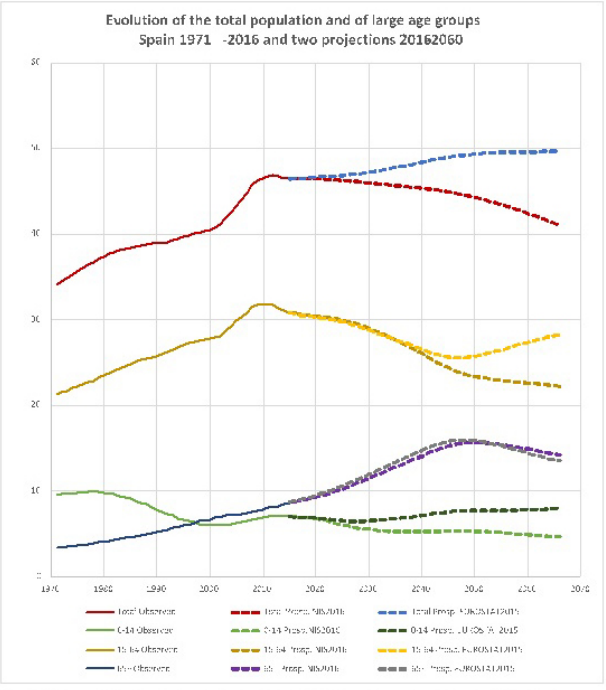
It has already been said that beginning in 1976 there was a rapid drop in the number of births down to 360,000 in 1996. When these generations reach the age of retirement, around 2041, the ageing of the population will start dropping to a minimum in 2062, when the generations corresponding to the recovery of fertility after 1996 appear, which places the number of births at around 500,000 annually (100,000 less than 50 years before)[6]. The variations in the birthrate increase due to the increase in mortality before 65 years of age, important for the most distant generations, but they have been gradually dropping and will be almost nil in more recent generations.

Increasingly, in this case, longevity after 65 years of age also exerts an influence which, as we have already seen, has strongly increased and will keep on doing so at a similar pace in the future.

[6] The gradual increase in the retirement age to 67 years old, introduced by law in 2013, does not modify the future effects of the evolution of births; it only delays them two years, except in the transition period from 2013 to 2027.

All of this explains why the projections by the NIS and by EUROSTAT reach almost coincidental estimations of the future number of seniors: The differences come only from the lower life expectancy that EUROSTAT projects. On the contrary, there are great differences in the number of youngsters of 0-14 years old and of working age adults from 15-64 years old: the EUROSTAT prospects are always higher than those by the NIS and the distance is greater as time passes (Figure 4.6). Therefore, despite a very similar elder population in both projections, the indexes that measure demographic ageing are very far from each other.

In order to measure demographic ageing, the most widely used indicator is simply the proportion those of 65 years of age or older in the total population (see Figure 4.7). The proportion of the elderly increases, according to the projection of the NIS, from 18.7% in 2016 to 34.6% in 2066, with a maximum of 35.5% in 2053, the year after which it drops. The percentage of the elderly, calculated with the EUROSTAT projection, is slightly higher than the former one until 2033, although the difference is minimal. The maximum, with this projection, is reached sooner, in 2046-48, with 32.4%, slightly below the value obtained with the NIS projection, which is 34.9% IN 2048. At the end, in 2066, the difference reaches more than seven points in percentage terms: 34.6%, according to the NIS, 27.2% according to EUROSTAT.

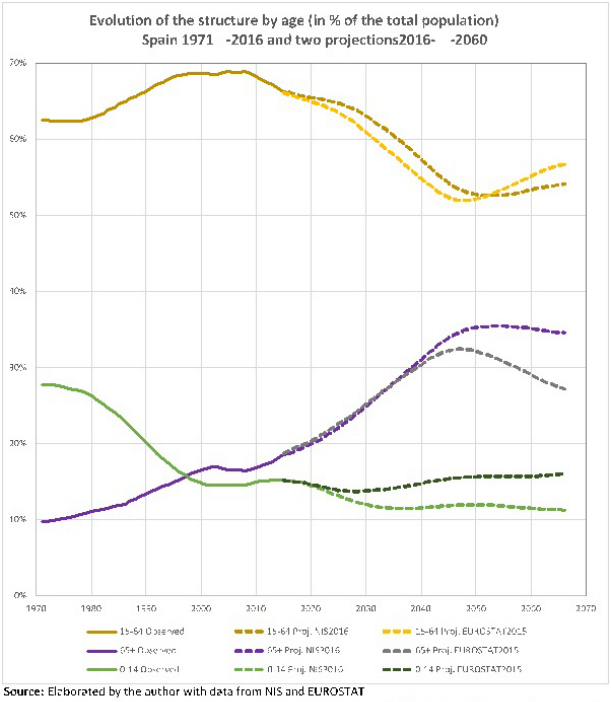


Source: NIS: data of population and projection 2016, at INEBASE. http://www.ine.es/inebmenu/indice.htm#7
EUROSTAT: projection 2015 at http://ec.europa.eu/eurostat/data/database

Figure 4.6. Evolution of the population in Spain and two projections

Another indicator very widely used is the so-called ratio of dependency, which is defined as the number of 65-year-old people or older for each person of 15-65 working age. The projected values that–appear in Figure 4.8, both the projection of the NIS 2016 and that of EUROSTAT 2015, show a strong increase from 28.3% in 2016 to 67.4% in 2053, followed by a slight drop in the last years of the projection.

The indicators projected by the NIS and by EUROSTAT coincide almost exactly until 2040, approximately; they only diverge significantly in the last years of the projection.

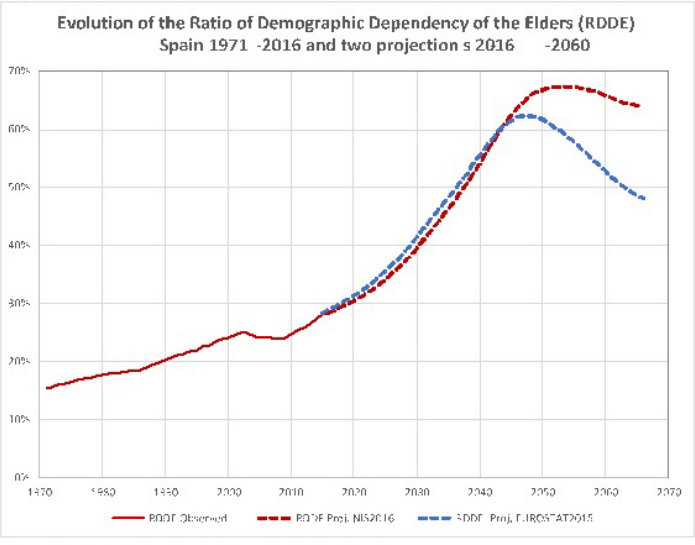


Source: Elaborated by the author with data from NIS and EUROSTAT
NIS: data of the population and projection 2016, at INEBASE: http://www.ine.es/inebmenu/indice.htm#7
EUROSTAT: projection 2015 at http://ec.europa.eu/eurostat/data/database

Figure 4.7. Evolution of the structure by age

The result from the comparison between indicators of the dependency of the elderly in both projections is not totally intuitive and leads to some conclusions that may contribute to a better utilization of the projections by users. In the first place, the verification that the projection the elderly group is quite solid because it is only affected by mortality, and this usually differs less between projections than other factors of the population dynamics. In second place, that the differences between relative values, from the point of view of demographic ageing, start being significant only after a long period of time, in this case around 25 years. Finally, that there is a moment in which the differences are of such magnitude that they hinder in practice a rigorous

use of one of the projections to the detriment of the other one. The uncertainty does not disappear, in the long term, with a demographic projection. Taken positively, this conclusion means that, if we are only interested in the relative indicators, in percentage terms, either of the compared prospects –and we must remember that they work with very distant hypothesis for the future– serves our purpose. The most sensible conclusion would be that it is not advisable to adopt any type of measure that could have immediate effects, based on a prospect of the population in a period over 20 or 25 years. In this specific case, one must add that, on the other hand, this indicator is not the most suitable to measure dependency, despite its name "rate of dependency" and its popularity. The first drawback is that, in the denominator, the whole population of 15-64 appears, when the proportion in fact employed barely exceeds, in Spain, 61% in these ages. The rest are working age adults who, for one reason or another, do not earn a salary or are not self-employed. These unemployed people not only do not participate in the maintenance of the dependents, but rather they are themselves dependent on those who are employed, and who are the only source of resources for everyone. Nor does the numerator correctly measure dependency. Children under 15 and non-working adults (unemployed or inactive) whom we just mentioned, are not included. It would be more appropriate to systematically use what is called Ratio of Total Dependency upon Occupied (RDTO), defined as the total number of dependents per working person. The evolution of this interesting indicator has been, and will continue to be, based on the projected data, very different from the previous one. In particular, the weight of dependency



Source: Elaborated by the author with data from NIS and EUROSTAT
NIS: data of population and projection 2016, at INEBASE: http://www.ine.es/inebmenu/indice.htm#7
EUROSTAT: projection 2015 at http://ec.europa.eu/eurostat/data/database

Figure 4.8. Evolution of the Ratio of Demographic Dependency of the Elders

does not increase as much in the future if the rate of employment grows, as is most probable. In that case, the number of dependent adults will drop, compensating part of the increase of the elderly population, and the number of working people that bear the burden of the dependents will increase.

Provincial distribution of the population in Spain

The evolution of the population has been very uneven territorially: out of the 52 provinces, 20 have acquired greater demographic weight as they grew at a faster pace than the average nationwide between 1971 and 2016. Among the 32 that have lost weight in the total population, a bit under half (14) have seen their population grow and in 18 the population has dropped. The provinces with higher demographic growth were, in that period (1971-2016), the Balearic Islands (17 per 1000), Las Palmas (15.8 per 1000), Alicante (15.5 per 1000), and Málaga (14.6 %). At the other extreme, Zamora's population dropped at an average annual pace of -7.8 per 1000, along with Ourense (-7.5 per 1000), Soria (-5.7 per 1000), Ávila (-5.7 per 1000), and Teruel (-5.7 per mil). This uneven growth results in a larger concentration of the population: the ten most populated provinces, which represented 48.6% of the total population in 1971, represent, in 2016, 52.5%.

The projection of the provincial populations carried out by the NIS in 2016 only goes as far as 2032, whereas those of Spain as a whole extend to 2066. Renouncing the offering of longer term prospects is due to the higher difficulty involved in estimating the future population of a small area (Ceuta's population in 2016 was lower than 85,000 inhabitants). From 2016 to 2032, the Spanish population will drop from 46,445,828 to 45,886,177 inhabitants, lowering the annual average rate to -0.8 per 1000, and will continue the process of concentration previously observed. The ten most populated provinces in 2016, which add up to 23,667,576 inhabitants (51% of the total) will have, in 2032, 24,165,916 inhabitants (52.8% of the total). In 1971, these ten provinces only represented 43.6% of the total population.

According to the projection by the NIS, the province with the highest demographic growth will be Melilla (7.7 per 1000) followed by the Balearic Islands (4.6 per 1000), Málaga (4 per 1000), and Almería (3.7 per 1000), all coastal provinces or in the islands. Among the 13 provinces whose populations increase, 11 are on the coast or in the islands. The others are Madrid and Álava. The very well-known and ancient dichotomy, peripheral Spain and inland Spain, will continue being valid, along with the lack of demographic dynamism in all of the Spanish northeast. Here, it would be advisable to remember that the prospect does not reveal any tendency, but rather it simply indicates how maintaining the recent tendencies will translate into the territorial distribution. The maps in Figure 4.9 show the highest concentration of the population. In a greater part of the territory, the population will drop below the average between 2016 and 2032, losing its

demographic weight. The increase of population will only take place in limited areas of the Mediterranean coast, the Canary Islands, and the provinces of Madrid and Álava. Regarding the period 1971-2016, the extending of the areas of negative growth is observed, and the reduction of those where the population grows. At the level of the autonomous communities, the concentration is slightly less visible. Nine communities, which totaled 59.8% of the population in 2016, will gain demographic weight and will represent 61.8% in 2032. Andalusia, Catalonia, the Community of Madrid, and the Community of Valencia will still be the most populated, although the latter will lose some demographic weight within the group.

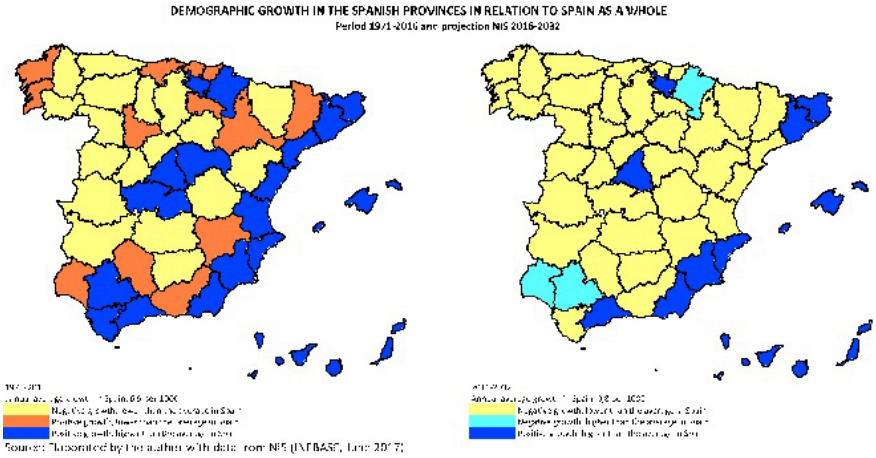


Figure 4.9

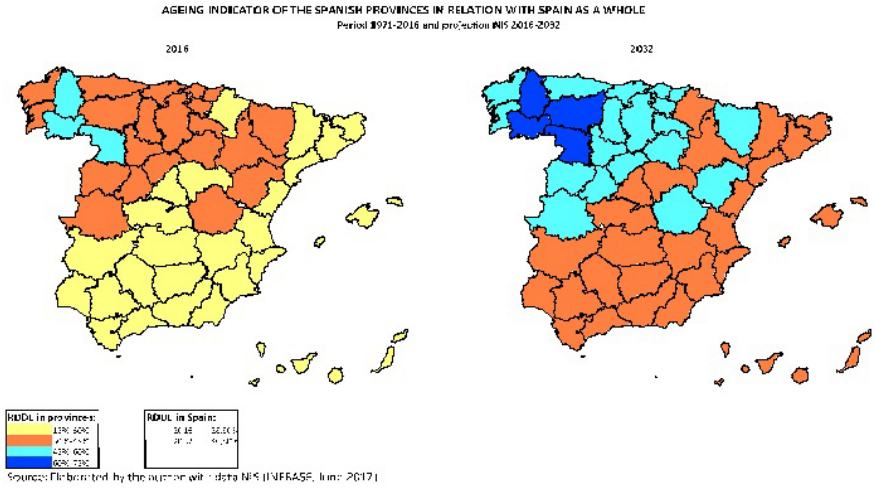
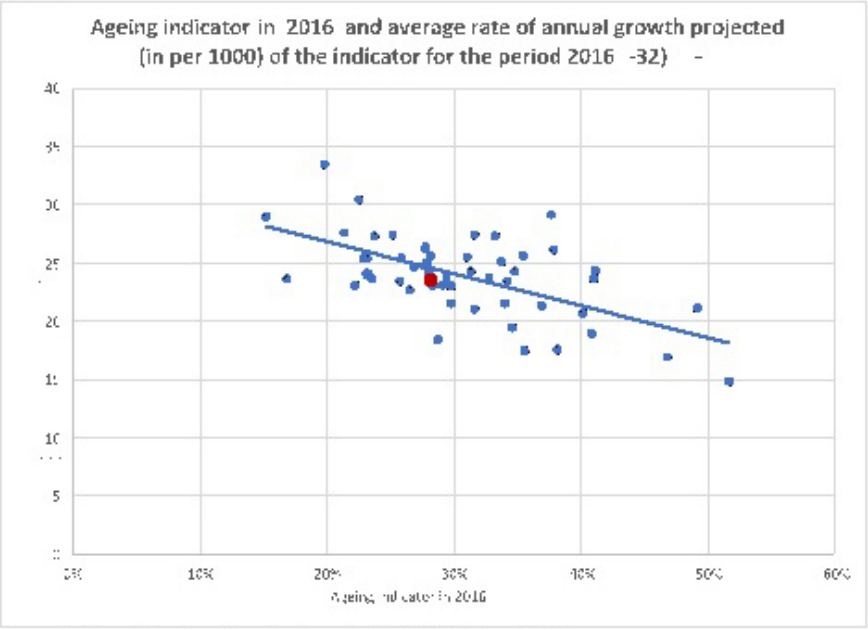


Figure 4.10

Besides the population growth it is interesting to analyze how the ageing of the population will evolve in the provinces. As an indicator of ageing, the demographic ratio of dependency of the elderly (RDDE) has been used, calculated as the number of elderly per one hundred people of working age. In Spain as a whole, this indicator will increase from 28.3% in 2016 to 40.8% in 2032. In 2016, the differences among provinces are significant: from 15.2% in Melilla, 19.8% in Las Palmas to 49.1% in Zamora and 51.6% in Ourense. The map in Figure 4.10 which corresponds to 2016 shows that the Northeast is the most aged area. The pattern is repeated in the projection for 2032, and in the map corresponding to 2032, in which can be observed that, practically, only the total level of demographic ageing will be modified. In 2032, the indicator will vary from 23.9% in Melilla and 32% in the Balearic Islands to 68.7% in Zamora. However, we can go a step further to verify that, in reality, the relative distance between provinces decreases. The most aged provinces today are not, contrary to what one may sometimes think, the ones that can age faster in the future. Figure 4.11 shows the negative correlation that there is between de degree of ageing in 2016 and its projected increase for the period 2016-2032. The projection indicates that, when ageing increases less in the provinces that have the greatest ratios of dependency of the elderly now, the distribution will be somewhat more balanced in 2032.



Source: Elaborated by the author, with data from INE (INEBASE, June 2017)

Figure 4.11 Ageing indicator in 2016

Some considerations of the demographic projections for Defense and Security

The current demographic data for Spain and the population projections foresee, for the coming 20 to 30 years – in a more or less marked way depending on assumptions, but in an essentially similar way in all of them – among others, the following relevant elements for issues related to national defense and security:

- **A decrease in the number of youngsters and young adults**. This, *ipso facto*, would imply lower rates of delinquency / criminality because these wane as people grow older. Something similar can be said about the possibility of internal revolts, to which middle aged and elderly people are less prone, in relation to youngsters. Likewise, this could involve a greater lack of potential recruits for the Armed Forces.
- **An increasing percentage of the population with foreign roots,** either because of the foreseeable arrival of new immigrants as well as for the considerable weight, among children who live in Spain now, of those who have foreign parents. Presently, approximately 25% of the children under 15 years old who live in Spain (and in some provinces this percentage even surpasses 40%), have one or two of the parents born abroad, adding together the children who are born in Spain with foreign parents with or without dual citizenship, and the children of foreigners born abroad and who were brought to Spain when very small, with their parents[7]. Furthermore, approximately one third of those children with foreign parents have Moslem parents. It is reasonable to expect that, because of this, in 10 to 15 years, al least one out of every 12 or 13 young adults in Spain will profess Islamism (and in some provinces, one out of every 5 or 6). It is, therefore, of essential interest for cohesion and security / national defense –as well as for the economy – that a solid cultural and affective integration is reached in Spain of second-generation immigrants. One of the first and bloodiest failures on record that can be verified in integration of members of that second generation[8] was reflected in the terrible jihadist attacks in Catalonia in August of 2017, committed by Moroccan immigrants or children of theirs born and brought up in Spain. Also with Yassin Ahram Pérez, son of a Moroccan immigrant and a Spanish woman, born and raised in Spain; this was the terrorist who claimed the attack in the name of ISIS / DAESH, in a video where he threatened Spain and claimed it for Islam as "Al Andalus".

[7] According to EUROSTAT, in 2015, 22,6% of the children who were born in Spain were of foreign-born women, with or without dual nationality. And at 1 January 2016, almost 5% of 15 year-old minors resident in Spain had been born abroad (according to Population Figures of the NIS they were 4.7%; and according to the Municipal Register they were 5,2%).

[8] From failures regarding the integration of first-generation Maghrebi immigrants there was already evidence at the 11 March 2004 in Madrid.

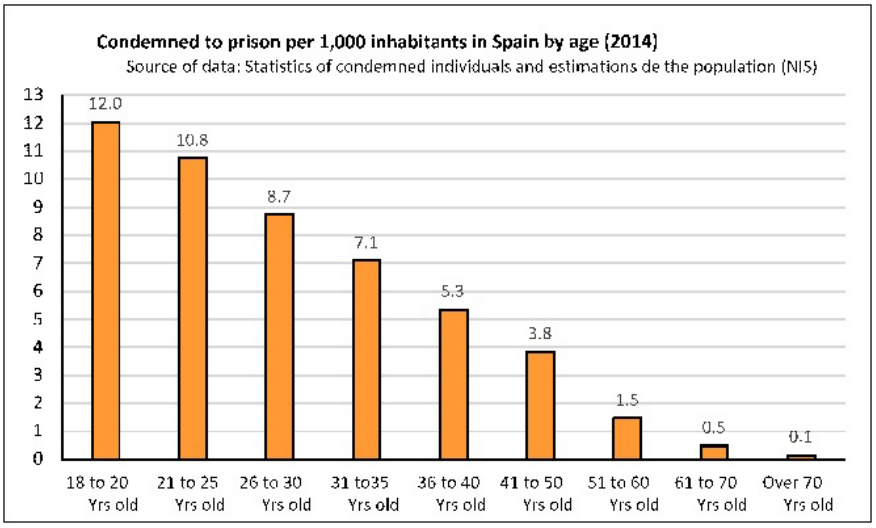


Figure 4.12. Condemned to prison per 1,000 inhabitants

- **A large, and growing, majority of the population with Maghrebi – Moslem roots in Ceuta and Melilla,** in 10 to 20 years, with the implications that this may have on Spanish security and sovereignty in both places.

More frequent names given to children born in Ceuta in 2016

	BOYS		GIRLS
TOTAL BIRTHS	561	TOTAL BIRTHS	506
MOHAMED	20	AMIRA	15
ADAM	13	MARIAM	14
OMAR	12	NOOR	13
DANIEL	11	AMINA	12
IMRAN	11	SARA	12
ALEJANDRO	10	SALMA	10
MAHER	10	YASMIN	10
HUGO	8	MARAM	9
SALMAN	8	TASNIM	8
SIRAJ	8	JULIA	7
LEO	9	LINA	8

More frequent names given to children born in Melilla in 2016

	BIRTHS		GIRLS
TOTAL BIRTHS	749	TOTAL BIRTHS	722
MOHAMED	36	AMIRA	38
RAYAN	23	NOUR	14
ADAM	22	MALAK	12
IMRAN	22	SARA	12
AMIR	11	NUR	10
AYMAN	11	SOFIA	10
OMAR	11	ISLAM	9
ANAS	9	MARIAM	9
ISMAEL	9	AMINA	8
LEO	9	LINA	8

Source: NIS. More frequent names given to newborns by place of residence of the mother

Chart 4.4

> Today, around half of the population in both places would have Maghrebi-Moslem roots, but one half is much younger than the other. Names of Moroccan-Arabic resonance have been a majority among newborns for many years in both cities. And in 2015 and 2016 – after several years of positive net immigration, due to the crisis --, the positive net immigration of Moroccans into Ceuta and Melilla has returned.

Finally, although the demography in Morocco has better figures and perspectives than the Spanish one, in case of eventual hostilities between Spain and our neighbor in the South regarding Ceuta and Melilla, both in factors regarding potential soldiers as well as a working population to create the wealth necessary to support the military expense (Morocco already has more people than Spain at the typical troop age, between 20 and 29 years old. Morocco will surpass Spain in working age population in less than 20 years, according to UN projections), the difference in the GDP between both countries is so great that, from a similar percentage of the GDP used on military expense, and a similar yield from the money used for that military expense, Spain should keep maintain, with no difficulty in the coming decades, a great superiority in military capability in the bilateral balance. Paradoxically, it is precisely the huge difference in the GDP per capita between both countries that, being neighbors, makes Spain more attractive as a destination for emigration of so many Moroccans, which has repercussions on other challenges for our security, beginning with the control of borders.

Source: IMF, World Bank, CIA Factbook, UN	GDP in parity with buying power (PPP) - 2016, in billions of international Dollars			Nominal GDP - 2016, in billions of international Dollars		
	Est. IMF	Est. World Bank	Est. CIA Factbook	Est. IMF	Est. World Bank	Est. UN
España	1,769	1,686	1,690	1,233	1,232	1,193
Morocco	301	273	283	104	101	110
Ratio Spain vs Morocco	5.9	6.2	6.0	11.9	12.2	10.8

Source: IMF, World Bank, CIA Factbook, UN (GDP and Data of the population 2015)	GDP PPP per capita - 2016, in international Dollars			GDP nominal per capita – 2016 in international Dollars		
	Est. IMF	Est. World Bank	Est. CIA Factbook	Est. IMF	Est. World Bank	Est. UN
Spain	38,127	36,338	36,424	26,575	26,553	25,713
Morocco	8,649	7,844	8,131	2,988	2,902	3,161
Ratio Spain vs Morocco	4.4	4.6	4.5	8.9	9.1	8.1

NB: the data per capita combines the 2016 GDP with the 2015 population estimated by the UN

Chart 4.5

Pensions

During recent years, and for profound reasons, the future evolution of Spanish demography has been bound, in the political, academic, and economic areas, to the support of retirement pensions. It is logical that it is seen as such, due to the evolution of the number of the elderly and the rate of ageing.

However, if one wants to observe the phenomenon of dependency in all of its extent, one must bear in mind that there are other *dependents*, other than the people retired; children, for instance.

According to the NIS (2016) projection already mentioned in previous pages, at the beginning of the fifties in this XXI century there will be 15.6 million *retirable* people (there are 8.7 million today), but the number of children (under 15 years old) will have dropped from the current 7 million down to 5.2. From this point of view, in this scenario of the NIS the number of *dependents* (children + the elderly) over the potentially active individuals would be 1.47, which is slightly less than the existing one currently.

In Spain, as in almost all of Europe –this has already been repeated here– there is an *ageing* process (as a measure of ageing the proportion is used between those 65 years old and older, over the total of the population), this ageing being a phenomenon that does not have its origin in the improvement of life expectancy. That improvement does produce a higher number of *old* people, but not necessarily more ageing because ageing is mainly explained –and it bears repeating– by the level of fertility in the years previous to the moment in which that ageing is measured.

Analysts and a number of opinion-makers deduce from ageing –without further consideration– that "the system of pensions is going to be unsustainable", forgetting that today's pensions are paid for by the employees (and the companies) of today, and today there are in Spain over four million people who cannot find a job –something that has nothing to do with ageing– and it is precisely that lack of jobs that produces the deficit in the system of pensions.

Does more longevity, in other words, the extension of life expectancy, pose a serious problem for future pensions? The answer is NO. To solve this issue it would be enough to extend the working age at the same rate that life expectancy grows for this effect to be eliminated.

It is the incapacity to create jobs which is behind the Social Security deficit (it is calculated that the effects of the crisis explain 70% of the current deficit), and that same incapacity to create employment and also the creation of unstable jobs which leads no few women to delay having children and, finally, to giving up maternity, in other words, to the low fertility that is observed in the Spanish population, since polls on fertility have been pointing out that Spanish women would like to have more than double the children they end up having.

Pension funds do not seem to be the solution either. The data seems to lead to that conclusion. It is enough to log onto a website such as *invertio.com* to realize that such a "solution" might be so for the financial entities that issue those funds (which cannot be recovered before the day of retirement), but not for the subscribers. In the aforementioned website, we can read that only 3 out of the 335 funds with 15 years of history had –between 2001 and 2016–

a return higher than either the stock market (5.24% of the IBEX) or public bonds at 15 years (5.27%). Even worse: the average of those 335 pension plans gave a return of 2.03%, so that they did not even reach half of both alternative returns (IBEX and public bonds)

On the other hand, pertinent financial calculations advise recently retired individuals that it is best to collect the entire fund at once, even if they have to return to the State all financing funds they may have received from the State, "encouraging" them to take one or more pension funds.

For more precise information regarding this issue, one may consult the works of the IESE Business School, under the direction of Pablo Fernández, regarding this market of pension funds which has over seven million savers-investors in Spain and handles almost 70 billion Euros. As Fernández affirms, "few management companies deserve the commissions they collect". Because if by only imitating the IBEX a portfolio duplicates by far the average return of the funds, it means that the low return of the latter is because: a) the management companies and banks that keep them are inefficient or ignorant; b) they impose abusive commissions on the retail client (of up to 2%); c) they dump junk-bonds into the fund in return for getting juicy contracts from the companies issuing the debt. Or for a disloyal union of the three reasons.

So, in these conditions, in Spain there continue to operate freely *"retirers",* people dedicated—in private commerce and in the public sector—to forcing the retirement of many "mature" employees, thus dumping onto the back of the Social Security system a multitude of pensions received by people who are in perfect mental and physical condition and who, in addition, have no desire to retire. As a flagrant example: doctors and other public employees pushed forcibly into retirement. Some definitive data: in 2016, 40% of all retirement took place before its time (pre-retirement).

From the economic and juridical point of view, retirement in Spain is practically equal to a definitive withdrawal, to inactivity. In fact, only 117,000 people 65-69 years of age were employed in 2016 and of those over 69, there were only 34,000 active persons, which is hardly to be wondered at, given the existing restrictions. To the point:

Since 2013 it has been possible to make a pension compatible with paid work, but in exchange for waiving half of the pension, paying a withholding tax of 1.35% for Labor Accidents and Illnesses, and paying a tax called "solidarity" of 8%. For a maximum pension, these "penalizations" represent some 22,000 Euros annually. A dissuasive cost. Tomás Arrieta and José A. Herce have presented it as follows:[9]

> *"This situation would be comic if it were not lamentable. The fact is that with this quasi-incompatibility, Social Security achieves barely perceptible*

[9] "(In)compatible Pensions." Arrieta, T. and Here, J.A. *El País*, 8-XII-2015.

results in any of the objectives it pursues, and what it does achieve is to stimulate the fiscal non-compliance of those workers covered. In fact, as this policy is based on the false belief that "old" workers occupy jobs that younger workers could do, what Social Security achieves is to reduce employment in the economy."

All this "retiring" effort is based on a fallacy widely and repeatedly refuted, according to which "retiring the old creates employment for the young". A totally false declaration, as is proved by the multitude of published articles, all based on empirical studies in the U.S. and other Western economies.

But, be that as it may, if we wish to arrive at rational solutions, the questions which must be asked are others. For example: Will a smaller working-age population than the present one produce the same or more than now? The answer is yes, since in the first place, the rate of employment (percentage of the employed out of the working-age population) is currently at 61% in Spain and could easily reach 73% or 75%. In addition, everything leads us to believe that productivity per person employed in normal conditions will rise noticeably.

Actually, today we find ourselves facing the following contradiction: young people are lacking (demography) and young people are in excess (*robotization*). In other words: both the problem of pensions and the strictly demographic problem should be approachable from a different perspective, which is not only demographic: that of a greater productivity, accompanied by ever more qualified work and a better distribution of it and of income.

Conclusions and Setting into Perspective

The projections regarding Spanish population published by the NIS in 2016 are ongoing, in the sense that they are based on a prolongation of the latest tendencies, relative to the demographic dynamic. They deal with a possible scenario, but others may be suggested, such as the projection for Spain of EUROSTAT published practically at the same time (2015), in order to compare the results obtained by the NIS with those of another very different scenario. Likewise, it makes sense to project what would happen "if nothing changes" (that is to say, without changes in the current fertility rate, without net migratory balances, and with a future fall in mortality rates by ages in line with that experienced in recent decades). The most significant conclusion of this comparison is that it would not be prudent to adopt measures with immediate effects which are based on projections at more than 20 or 25 years. This affects above all those related to demographic ageing which are supported upon the future evolution of the so-called "ratio of dependence".

According to the NIS, the diminishing of the Spanish population, begun in 2013, will proceed continuously until 2066, the last year of the projection period. The decline in the population was something unknown in Spain,

at least since the beginning of the past century. This projected evolution proceeds from the supposition, for the next fifty years, of a positive but very modest migratory balance, and of an insignificant rise in fertility. Upon formulating other scenarios, with a greater migratory balance and a higher fertility rate, as EUROSTAT does, the population could increase to reach 49.7 million in 2066, although the United Nations also projects a figure slightly lower than that of the NIS. Finally, if in the elaboration of the projections no appreciable rebound in the fertility rate were assumed—as is the case with the EUROSTAT scenario, despite the fact that this is not something which is occurring with the population of Spanish nationality—nor large positive migratory balances—as in fact there have not been in the current decade in Spain—the result would be a marked tendency towards a loss of population and greater demographic ageing.

The results of the NIS should be taken simply as a quantification of the effects of maintaining present tendencies. In spite of the differences in the total population, the principal indicator of ageing will continue to rise in any of the projections. It is a case of a process whose roots are found more in the past than in the present or future. The high birth rate of the period 1955-76 and the past reduction of the death rate explain the bulk of the rise in the number of older persons in the next two or three decades[10]. The future increase in life expectancy to 65 years will play a growing role in the longer term. The projections indicate that demographic evolution will continue in the future to be territorially very unequal. The already major concentration of the populace on the Mediterranean coast and the islands will become more acute. On the contrary, the unequal impact of ageing (measured by the ratio of demographic dependence of the elderly) may diminish somewhat, since this indicator will grow more in the most aged provinces.

Some reforms, especially those affecting the public system of pensions, are justified invoking the future long-term evolution of the previously cited ageing indicator, considered to be unsustainable, which may be excessive, to the extent that in the very long term, population projections cease to be reliable and that in addition, in the medium term, other factors may play a positive role. The employment rate in Spain is one of the lowest in Europe, far below that of Germany or the Nordic countries. The rise in employment may counter, in the near future, the very probable reduction of the population of working age, apart from the fact that, if the economy so demands, the number of immigrant workers can increase. Apart from that, the rise in employment will cause reduction in the number of dependent adults (unemployed or forcibly inactive). Finally, low fertility, no matter how undesirable, taken

[10] If there were no new foreign migrations, 16% of people who turn 65 years of age in Spain in the next 30 years will be individuals born outside of our country, nearly double the figure for 2017.

together with the fall in the number of women of childbearing age, has as an immediate consequence, a fall in the number of dependent children.

Demographic ageing is not an isolated phenomenon, limited to the increase in the number of older people. When all the factors which will be modified at the same time are taken into account, the future situation of Spain looks less alarming. In fact, it could even be better than that of most countries of comparable populations in the European Union (excepting France).

Our demographic future should always be situated within the perspective of what surrounds us. Demographic ageing is a process whose roots are very distant and now affects the most developed countries. And it will end by affecting every country of the world.

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