



DEMOGRAPHIC CHANGE

One of the biggest challenges facing the developed world



Demographic Change

Demographic change is one of the biggest challenges facing the developed world. It is a phenomenon that affects the whole of society. Its consequences entail imbalances and high costs that threaten the sustainability of socio-political systems.

This article attempts to analyze the variables that directly influence age structure changes at the global level. It sounds obvious to say that longer lifespans combined with falling birth rates inverts the population pyramid. However, it is harder to identify the changes in lifestyle, culture and social patterns that appear to have turned a transitory imbalance into something chronic.

This third edition of *RSEARCH* presents both the macro- and micro-economic effects of demographic change. It analyses how the phenomenon can affect public spending sustainability, local productivity and labour market shortages. To wit: the loss of competitiveness among developed economies that is its final result.

The present issue also introduces the role that corporate social responsibility can play when it comes to preventing and mitigating the negative consequences of an ageing population. It furthermore provides diverse solutions for the short and long terms.

Demographic change is a slow and gradual process that requires a joint approach by all socioeconomic agents. The more time that passes, the fewer applicable solutions there are. It is time to act now.

What is Demographic Change?

Ageing populations, the imminent retirement of the baby boomers¹ and falling birth rates generate urgency and pressure in the need to take decisions to face the challenge of demographic change. This phenomenon, defined as a change in a population's age composition, has largely come about because of substantial progress in our society. Demographic change is a success story if considered from the viewpoint of society. It is the result of a rise in quality of life and increase in the duration of life. Substantial improvements in health services, improved quality of life and economic prosperity have driven up life expectancies and the numbers of years that people enjoy good health. We are living longer and better.

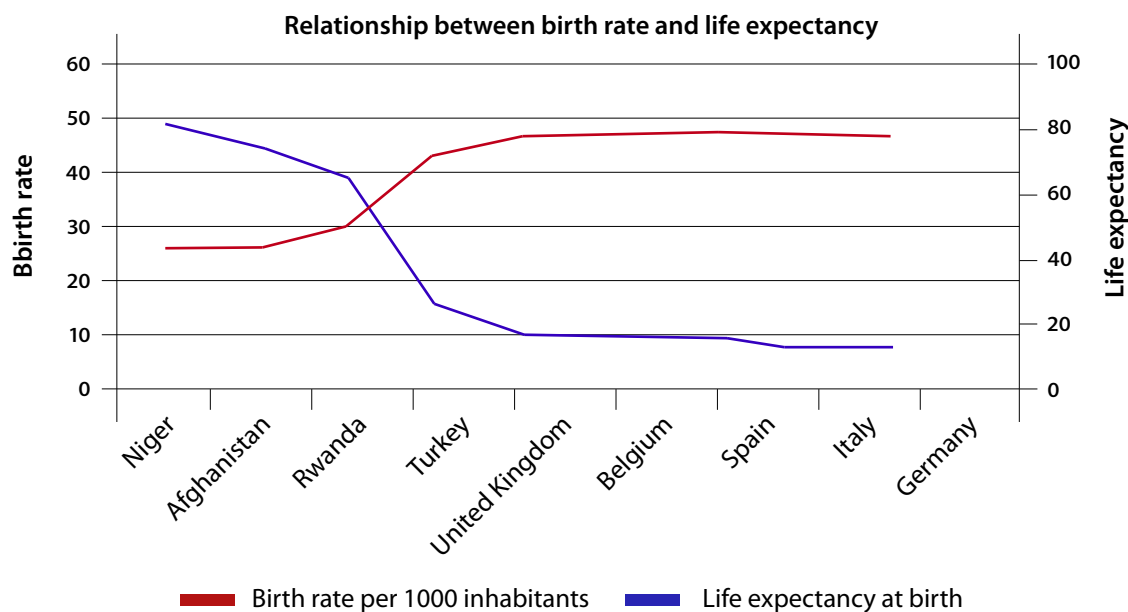
Although at first this is worth celebrating, an abrupt change in demographic profile can threaten the balance of our socioeconomic systems. A strong rise in life expectancy, together with a dramatic drop in birth rates foretells a scenario of profound transformation in the structure and functioning of society. For many experts, demographic change is more certain, in the probabilistic sense of the word, than climate change, and yet it attracts far less attention.

¹ A term that describes a person born during the sharp growth in birth rates in the post-World War II years (1948-1960).

Development versus birth rate – an imperceptible crossroads

The macroeconomic reality reveals a curious empirical law. Contrary to what we might expect, a country's birth rate is inversely proportional to its level of economic development. For years now, industrialised countries have been experiencing an important descent in birth rates. The birth rate in the EU-15 in 2008 was around 13 births per thousand inhabitants. By comparison, other socio-political systems had almost opposing figures: Costa Rica 17.71, and Angola 44.09. This pattern is generally repeated throughout the world.

The causes that explain this change in the developed world's birth rate are enormously complex and usually strongly correlated. Cultural changes, pace of life, habits, tastes, preferences and – with a special significance- women joining the labour market have created barriers to birth rates which are often invisible. Children are an investment of time and resources that frequently proves hard to combine with work and lifestyle. In Spain, the birth rate is 10.73 per 1,000 inhabitants³, one of the lowest in the world.



² The incorporation of women in the job market is a relatively recent event. In the US the rate of female employment rose from 19% to 60% between 1900 and 1999 (Bureau of Labor Statistics). In Spain the figure rose from 28.6% in 1976 to 48.76% (INE).

³ National Statistic Institute figures on gross birth rates per thousand inhabitants (2009)

Meanwhile, developing countries usually record significantly higher birth rates for numerous reasons. Some are related with aspects such as idiosyncrasy, culture and religion. Others have a purely economic basis, such as the need for labour to support the family economy. Also, because of the high rates of child mortality normally present in developing countries, there is a much more pressing need to have more children because of the higher risk of a reduction in the family production unit. From an overly economic point of view, one could argue that more children per family in an underdeveloped environment means a safe family, as it reduces the likelihood that the death of one or more family members will leave the family defenceless. This is even more important in situations of political instability, war or social upheaval.

Gradual ageing a silent revolution

The effects of demographic change are already visible today in many parts of Europe. On average, European women are becoming mothers later and having fewer children. Although it is true that an ageing society is a sign of increased quality and length of life, the absence of generational replacement produces two important consequences.

Firstly, a greater proportion of elderly people substantially increases the dependency rate. This results in increased health and care spending, a greater burden on the pension system and a greater concentration of dependency management. We illustrate this phenomenon with an everyday example of the Alves family. Secondly, this situation creates importance imbalances in the labour market, i.e., a shortage of qualified labour, again increasing the pressure on the pension system, in that there are

The Alves family and the rise in the dependency rate

The Alves family comprises the two grandparents, their four children and one grandson. The four children look after their parents in turns, one day each during the week and rotating on the weekends in a way that works for them. Because they can organise it among themselves, they have lower care costs. Cristina Alves, the eldest of the Alves children, has one son, Raúl. The question is: how will Raúl be able to look after his mother when she is dependent on him in the future? What happens if the company he works asks him to move to Paris? Should he say no? In any case, the situation generates a higher concentration of social costs that will impact a single person, as compared to his mother and her siblings, where the costs were shared among the four.

more pensioners to be supported by a fewer number of contributors to the social security system.

It is important to underline that demographic change is not just a possible future scenario with a determined probability of occurrence. It is a foreseeable trend and one which – unless there is some severe natural catastrophe, war or other singular event – will definitely occur. Although there is no doubt that the effects of demographic change will be important, the level of impact is hard to determine because it will affect people in a very local fashion. That is why this article focuses on trends, statistics and possible future impacts. However, we will try to use examples to illustrate the important differences that can be seen in different local environments.

Welcome to Seniopolis!

This country invented by Forética comprises a simulated world that will allow us to analyse the effects of demographic change. Seniopolis' economy is composed of both, private and public sectors (the latter being education, health and public pension and justice systems). There is no inflation in Seniopolis and the local currency based on gold reserves is called the *vetustus*.

Age groups	%
0 a 14 years	14,34%
15 a 29 years	19,73%
30 a 44 years	25,30%
45 a 59 years	18,92%
60 a 74 years	13,53%
75 and over	8,18%

Seniopolis aims to be a simplified reflection of a European country, e.g., Spain, and has the following demographic features:

Men: 49% ~ **Women:** 51%
Birth rate: 1.14%
Death rate: 0.85%
Immigration: 5.55%
Emigration: 4.2%
Average wage: 1,609 vetustuss

The demographic variables are based on Spanish population figures gathered by the National Statistics Institute.

Seniopolis is going to help us to find out the manifestation of demographic change throughout the article

Let us compare two European cities such as London and Estepona. The former is an expanding city which is cosmopolitan and trendsetting. Immigration is abundant and diverse and London is a magnet for a great many new young residents, such as students and qualified professionals. Estepona, on the other hand, is a relatively small place to which a number of foreigners, among others, have retired. Each city has its own different realities and requires customised policies.

Perhaps in a not-too-distant future Estepona will need the migration of a younger population to provide the services demanded by the 'aged' city (medical personnel, services that specialise in the elderly), as its local population is also getting older. Barcelona could 'export' part of this workforce. However, if it is ageing too, the economic development of both cities may be limited. Some of the ways to solve this problem begin with the reallocation of population masses from one place to the other. But that is not always enough. If there is no replacement of the declining population resulting from falling birth rates, demographic change means that the structure of the society will become increasingly older. So not only will its population age, but it will get smaller too, because children are not born at the same rate as the elderly die.

The rich cry too. And they get old.

Europe is not alone. The general situation in the US and Japan, amongst other nations, is similar to that of Europe. Industrialized economies are experiencing a historically unprecedented period of demographic change. In these countries the trend is for rising median ages and falling birth rates. Meanwhile, expanding populations and high birth rates are set to become features of (with the odd notable exception) developing and emerging countries, such as African nations, India and Brazil.

Japan is one of the clearest examples of a country experiencing the effects of demographic change. The median age in Japan in 2008 was 43.8 and is expected to climb to 55 by 2050. Life expectancy in Japan was 83 years in 2005 and is set to rise to 85 by 2025, with just 8 births per 1,000 women (the figure was 9 children per 1,000 women in 2005)⁴. According to a study carried out by McKinsey & Company, Japan is one of the countries most strongly affected by demographic change. It is already possible to see some economic effects related with this change. The study underlines, for example, that Japan is already facing a fall in individual household financial wealth. This is because over the course their lives, people tend to accumulate more wealth and save more during their active years and put aside capital to cover retirement contingencies. A longer lifespan (higher number of pensioners and with an older median age) significantly reduces these capital reserves⁵.

Ageing and shrinking populations are a reality in European countries. In Germany, for example, even though there is a net immigration level of 200,000 people per year, the country's population is expected to fall from 82.4 million to 75 million by 2050. Half of these 75 million people will probably be aged over 49; more than a third will be over 59 and one-eighth will be over 79 years old. In other words, in absolute terms, 28 million of the 75 million inhabitants in Germany will be over 59 and more than 9 million will be over 79⁶. The situation is similar in the Czech Republic. In 2000, the country had a population of 10.2 million inhabitants. Projections show a drop in population. It is estimated that the Czech Republic will have around 9.8 million inhabitants by 2025 and that the figure will fall to around 8.5 million by 2050. It is expected that over a third of the 10.2 million inhabitants will be over 49 by the year 2025. By 2050, there will be some 4.5 million over-49-year-olds, i.e., more than half the total population. People aged over 59 will comprise the majority of this group, with a total of 3.4 million.

⁴ United Nations Population Division, *Population Projections: 2008 Revision, Japan*
<http://esa.un.org/unpp/p2k0data.asp>

⁵ McKinsey & Company, *The Coming Demographic Deficit: How Aging Populations Will Reduce Global Savings*,
<http://www.mckinsey.com/mgi/reports/pdfs/demographics/Chapter1.pdf>

⁶ Council of European Municipalities and Regions, *Demographic Changes in Europe*,
www.ccre.org/bases/T_599_36_3524.pdf

What is Demographic Change?

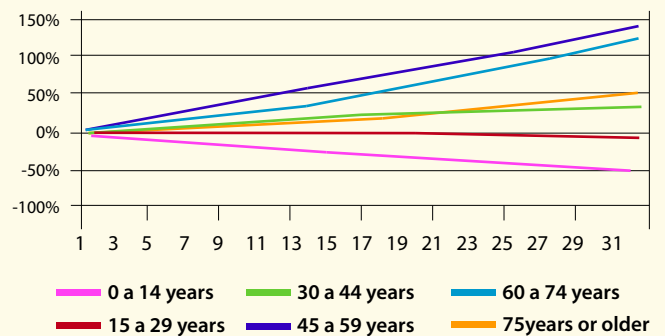
Imbalances of a new world population structure

What do these types of projections suggest? This scenario underlines the changing population structures between countries. Instead of the almost-homogenous and immutable historical reality among countries in terms of the composition of the different age groups, coming years will see shrinking populations in Europe, Japan and other developed parts of the world; population growth will take place on continents such as Asia, Africa and South America (although the latter is expected to grow less).

This will cause changes in world population trends. In developing countries, particularly on the African continent, the trend is the opposite of Europe: it is expected that, due to the high birth rates and lower life expectancies in comparison with developed countries, the population will mostly comprise young people. This means that the biggest concentration of young people will be grouped in these regions.



Accumulated growth rates by age group

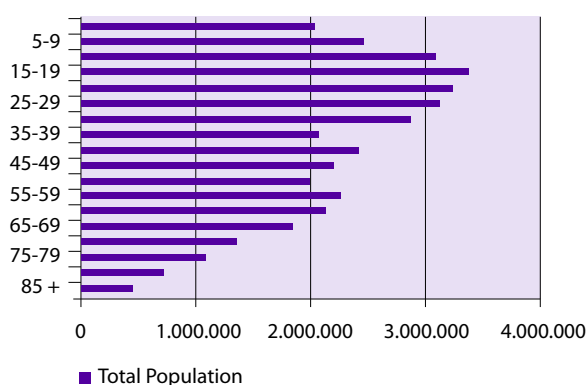


As the population grows, the pace slows down and the weight falls on the older groups. The ageing of the population is clear if we observe that the biggest growth rates are concentrated in the population age ranges of 45 years.

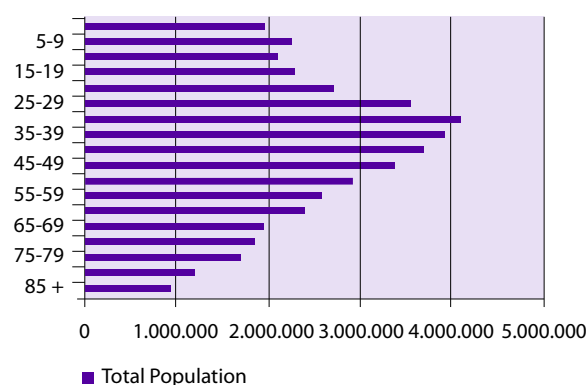
The Demographic Change Situation in Spain

With over 46.5 million people, Spain will also be affected by this demographic phenomenon. Today some 17% of Spaniards are over 65 and the figure is expected to rise to around 37% by 2050. This represents a growth of 117% in less than 50 years.

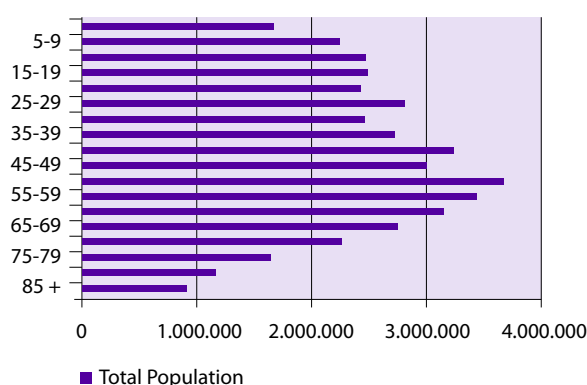
Spanish Population by Ages 1991



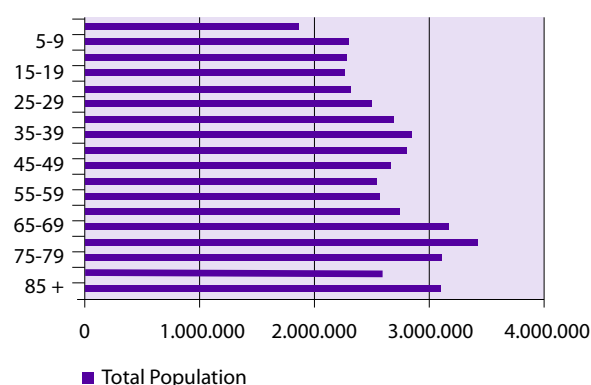
Spanish Population by Ages 2010



Spanish Population by Ages 2025



Spanish Population by Ages 2049



⁷ National Statistics Institute, *Long-Term Population Projections (2009-2059)*

The diagrams show the demographic changes that are occurring and those that are expected to occur in Spain in the future. Let us analyse the relationship between the under-20 and over-65-year-old populations. In 1991, people aged 0 to 19 comprised 28% of the population. On the other hand, over-65-year-olds represented nearly 14%. This is a ratio of two young people for each elderly person. The situation is quite different today. In Spain in 2010, around 19% of the population is aged between 0 and 19 and another 18% is people over 65. The ratio between young and old is 1.12, i.e., a 44% fall. This is a significant change for a historically steady variable and one that has taken place in a relatively short space of time. As the words to Gardel's tango go, "20 years is nothing" but the changes are important, given that they can be appreciated in such a short time period. If we extend the observation of this pattern to the National Statistic Institute's demographic projections for 2025 and 2049 the changes are even more radical: in 2025 the ratio is one young person for every person over 65, while the figure for 2049 is 0.5 young people for each elderly person, representing a drastic reduction of 50% and 72% respectively over 1991.

Another way of looking at this phenomenon is to calculate the median age of the Spanish population over time. The median age of the Spanish population has undergone significant growth. Median age in 2010 is 40. By 2025 it will be 45.9 and by 2049, 48.2.

The road to a more global population

There is another dimension to demographic change in Europe and the US that must be considered: immigration. Intuitively, immigration can serve to offset a labour shortfall in the economy and may help boost the birth rate. Europe has been attracting many migrants since the late 20th century. According to the OECD, the case of Spain is very illustrative, as it is the country with the highest growth of immigrants in Europe⁸. The 2009 report on Migration and the Labour Market prepared by the Permanent Observatory on Immigration underlines that at 1 January 2000 there were 801,329 foreign residents⁹ in Spain. Eight years later, in January 2008, there were around 3.98 million foreign residents. This means a rise of over 3 million people in eight years.

However, immigration alone is not a magic formula for neutralising demographic change. While supporting population growth in Spain, immigration should also cover and improve structural deficiencies in the population and the labour market, but this has yet to happen.

⁸ OECD, *National Immigration Figures 1998-2007*.

⁹ *Report 2009: Immigration and Labour Market in Spain*. Immigration Observatory

The road to a more global population

Social security in an aged Spain

Finally, it is important to emphasise the effects that demographic change may have on the Spanish social security system. Increasing life expectancies among Spaniards, together with falling birth rates, have direct consequences on social security systems. The ageing of the Spanish population increases the number of elderly people, boosting the number of people in the non-active population¹⁰.

The system requires a balance between the number of people paying into social security (net contributors) and the number of people receiving benefits from it (net recipients) in order to work. Such a balance exists today, although as we have seen throughout this document it is not only in danger but will certainly collapse.

The shortage of young people to replace those who are leaving the labour market is creating a situation where there are more beneficiaries of and fewer people contributing to the system. Because the Spanish

social security system depends on contributions from the active population to support the non-active population and unemployed, demographic change is threatening the system's sustainability.

The European Commission¹¹ says that in 2004 Spain had one net recipient for every three contributors, i.e., 75% of the population was paying social costs. The future forecast is that by 2050, 67% of the population will be net recipients, which means that each individual worker will have to maintain two people. An article published in the journal of the Ministry of Industry, Tourism and Trade on the future of pensions in Spain found that all the studies carried out announce a significant rise in pension spending by 2050.

Although the exact figures varied according to the studies and parameters used, a rise of between 2.4% and 3.4% of Spain's GDP was expected in contributory retirement pensions alone.

¹⁰ The non-active population is defined as those people who do not form part of the labour market and do not contribute to the social security system (both children and the elderly).

¹¹ Report on adequate and sustainable pensions (27/02/2006). EC: Employment and Social Affairs

If all the contributory pensions are considered, the figures rocket and experts indicate a spending rise as percentage of GDP of between 4.3% and 9.1%¹².

Another matter of concern in Spain and throughout Europe is the number of elderly people working, a figure which has fallen since the start of the century. The average participation of older workers has dropped by around 20% because of policies that promote and award bringing down average retirement ages. The age for early retirement in 1960 was around 67.9, but by 1990 had fallen to 61.7.

However, demographic change is starting to call into question the sustainability of these practices, as the early retirement of people capable of working is a luxury in a labour market that is short on supply. Fewer market entries because of a shortage of young people must be compensated for with later departures of older people.

Extending working lives, however, is a hard pill to swallow because of its high political cost. Again, the ageing of the population generates a perverse electoral dynamic. If the mass of the electorate is increasingly older and younger people tend not to vote, political decision-makers have no clear incentive to carry out traumatic reforms. This is particularly serious for people close to and relatively close to the retirement age (i.e., 40- to 50-year-olds), who expect to enjoy a long retirement after nearly fifty years of hard work.

¹² Ignacio Conde-Ruiz and Javier Alonso Meseguer, *El Futuro de las Pensiones en España: Perspectivas y Lecciones*. ICE

The Effects of Demographic Change

Demographic change affects all aspects of our society. It impacts nearly every sphere of life: labour markets, pension/social-security systems, infrastructures and urban management, education, budgets and finances. All of these areas directly impacted by changes in the population and age structure will be affected by the phenomenon. Its impact will be felt at the local and regional levels and will vary in line with the composition and context of each place. It affects society, industry, culture and the economy on various levels.

The Effects of Demographic Change

Social Effects

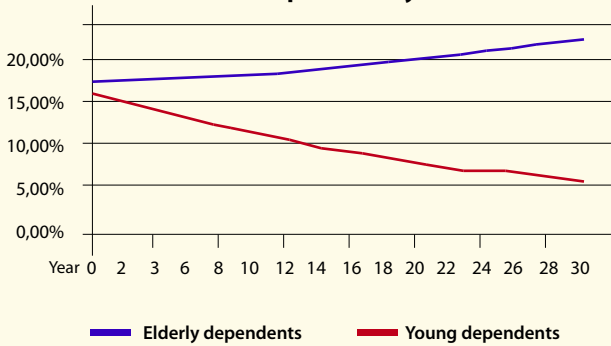
From a social viewpoint, demographic change increases elderly dependency. Elderly dependency increases pressure on the active population. Demographic change is creating a scenario in which more people (the non-active population) depend on a smaller group (the active population). According to the European Commission, in Spain in 2004 there was one inactive person for every three active persons. The forecast is that by 2050 each active person will have to support two inactive persons¹³.

¹³ Report on Adequate and Sustainable Pensions (27/02/2006), EC: Employment and Social Affairs

SENIOPOLIS

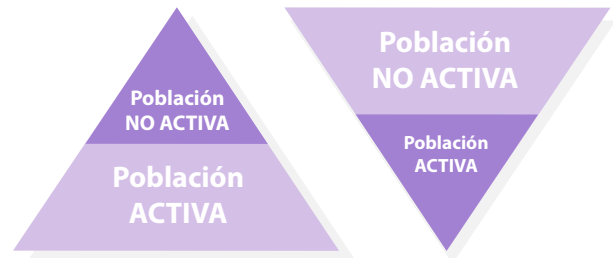


Dependency



The dependency rate in Seniopolis shows a clearly decreasing trend. As we can see, dependency rates of young people are falling because of the low growth in these age ranges. On the other hand, dependency rates among the elderly are growing because the population is ageing faster and growth is accumulating in their age ranges.

The age pyramid shows the division and support that exists between the active and non-active populations. The pyramid on the left refers to a normal dependency situation. The biggest concentration of population is in the active area. However, demographic change is inverting the age pyramid. A situation is being created whereby the active population is the minority. The second pyramid, on the right, demonstrates this scenario, where the presence of a greater proportion of elderly people substantially increases the dependency rate.



As we said before, this will affect a greater concentration of dependency management and cause imbalances in the labour market (fewer qualified workers) and pension system (more pensioners for a smaller number of social security contributors).

Another area that demographic change will affect involves changes to supply and demand for public services such as health and education. With other factors holding steady, the ageing population and fewer young people will create a need to modify public budgets as idle capacity will be generated in some services (fewer young people means less demand for education) and there will be shortages in other areas (health and care services).

These changes in the demand for public services will necessitate an efficient reallocation of public resources, which in turn will have an enormous political cost, particularly with regard to public functions.

In labour terms, changes in the supply and demand for public services will cause changes in the job market for some public service profiles. For example, there will be a lower demand for teachers and paediatricians, while the job offer for doctors specialising in illnesses among the elderly or personnel for old people's homes will rise.

The Effects of Demographic Change

Macroeconomic Effects and International Competitiveness

The demographic phenomenon will also affect the economy at the macroeconomic level and may represent a handicap to an economy's international competitiveness. Changes in a country's demographics may threaten the operability of national economies.

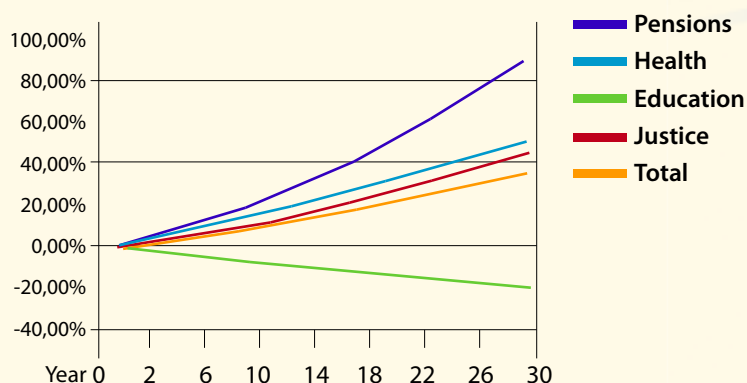
The success of the modern economy is largely based on the entry into the labour market of new generations who bring with them increased achievement and ambition, and who are motivated to be creative and to generate new knowledge.

Innovation, technological progress, infrastructure development, employee know-how and productivity are essential elements for the good operation of a national economy. In other words, the sustainability of economic systems in industrialised countries depends on economic productivity.

Demographic change, however, limits the entry into the job market of young people, while older people remain in the market for longer. Bearing this scenario in mind, many experts point out that demographic change may cause a drop in productivity levels. How do they explain this? The experts say that the creativity, dynamism, attitude and new perspectives young people bring to the labour market directly support and shore up innovation and technological progress and in general have a positive impact on productivity. In a labour market with a low active-population renewal rate, a country's productivity is in danger. To keep productivity levels steady in an aged market it is necessary to increase the contribution of other capital factors, particularly technology, to absorb the lower dynamism of the labour factor (workforce). As we have just seen, the important role of young people with regard to fostering technological innovation has led some experts to conclude that the resulting trend will be one of a widespread fall in productivity levels.

The experts also say that a possible decline in productivity would directly impact product prices in international markets. This would occur because the falls in productivity could give rise to a situation in which it would cost more resources to make a product, creating a secular inflationary trend. And for that reason, demographic change might be a phenomenon that negatively impacts a country's international competitiveness.

Accumulated rise in public spending in real terms



The opposite will occur with pensions, which will continue to grow because of the ageing population. There will be a fall in justice spending and a rise in health spending, bearing in mind the health requirements of the elderly.

The rise in the mass of active population will go a long way to boosting income in Seniopolis, while making spending less representative. Clearly, education, with lower growth rates among the youngest segments, will incur less spending over the years, as there will be fewer Seniopolitans to educate.

Beyond productivity levels, demographic change could also affect the ability to attract foreign investment. Although labour market composition is not the only factor that determines investment decisions, it is an important one. Generally speaking, investors seek attractive conditions for investment; a country where most of the labour force is old could be less appealing than one with a young population.

The ability to attract foreign investment could also be affected by the fact that older workers are usually on higher wages because of their years of experience.

For the investment community, having a large base of young workers on low salaries is more tempting than a country whose human resources mostly comprise older people on higher wages.

The Effects of Demographic Change

Microeconomic Effects: The Talent War

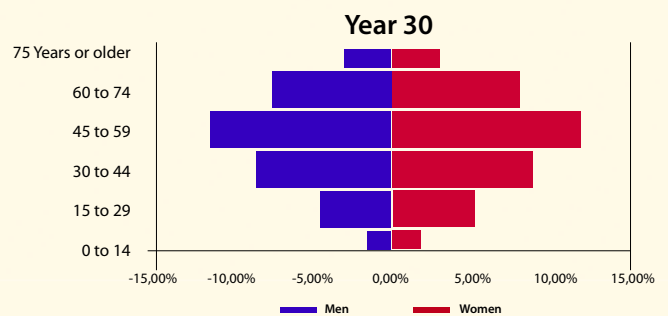
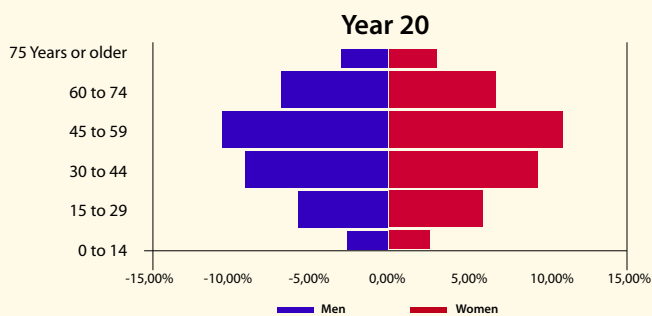
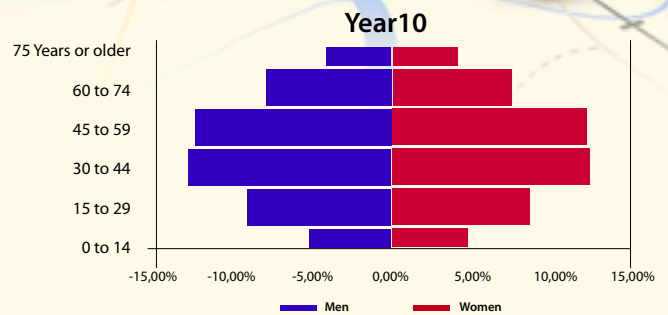
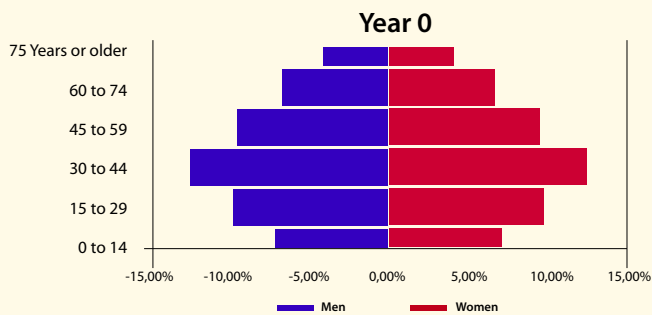
Demographic change also has repercussions at the microeconomic level. Changes in workforce composition have a direct impact on business performance and competitiveness. Competitiveness and performance largely depend on innovation and productivity. A company with low productivity levels and little innovation risks losing market share and thus viability.

With demographic change, the major challenge businesses will face will be how to successfully maintain competitiveness with an older workforce while at the same time increasing their ability for innovation and levels of productivity.

An older workforce has important repercussions on a company's cost structure. Older workers, because they have more experience in a job, usually enjoy higher wages than newcomers to the job market. Businesses should bear in mind a future scenario in which older people will form a higher percentage of the workforce than younger people, requiring greater spending on wages and human resource management.

This will create what some experts have called a 'talent crisis', although we would go further and call it a 'talent war'. War will occur when a shortage is so acute that businesses and organisations battle to capture employees with the best potential.

In a war situation, strategy becomes the most important factor. This shores up the figure of the human resources manager, who will become the key element of talent search and (presumably) a fundamental executive within a company.



We can see how Seniopolis's population pyramid is becoming increasingly inverted. The population is clearly experiencing progressive ageing and there

is a shortage of young people to bear the weight of the society's growth and development.

Corporate social responsibility: a tool for managing the microeconomic effects of demographic change

The microeconomic effects of demographic change feature a number of particular challenges and opportunities for businesses and public administrations alike. To soften these potentially devastating microeconomic effects, it is necessary to manage the specific challenges the phenomenon involves and to exploit the opportunities it presents. The table below details both the challenges and opportunities of demographic change, pointing out the areas they may affect.

The challenges of demographic change constitute a threat to productivity and innovation. They may also negatively influence a business's ability to attract investment, particularly with regard to local SMEs. The corporate inclusion of older people, guaranteeing wellness and health among a mature workforce and the talent war brought about by changes in age structures of the active population, will require customised solutions for each case.

Finally, the challenge of ongoing training refers to the need to guarantee continuous knowledge development in professional life so that companies have a greater talent pool and so that employees will be more employable in the event of losing or changing jobs.

A growing number of businesses are already responding to these challenges. Threatened by a rise in median worker age over coming years, many businesses are implementing strategies to avert declining productivity levels. Responses include measures such as workplace health and wellness management that recognize the diversity of employees and integrate the different requirements of younger and older employees alike. Other measures include the creation of training programmes to increase employee knowledge and talent and measures such as awareness campaigns and dialogue to ensure a positive work environment and prevent against any type of age-related discrimination ¹⁴.

The table also details three existing opportunities within the field of demographic change at the micro-economic level. The first refers to dialogue between generations. Because of changes in the age structures of the population, internal communication within companies should attempt to mitigate the natural friction that exists between the different generation gaps. That is why it is crucial for ongoing dialogue between the generations, not only to produce a mutually binding and respectful environment, but also to support the development of new knowledge and skills between generations. The knowledge held by young people (cosmopolitan, global and Internet-savvy) and older people (with a culture of effort and austerity, experience and wisdom) is not mutually exclusive but can generate greater value through mutual enrichment. Such an exchange enables knowledge transfers and the development of new perspectives that can enrich creativity and innovation.

	Areas of impact		
	Workplace	Market	Community
Challenge			
Productivity	X	X	X
Innovation	X	X	X
Investment	X	X	X
Health and Wellness	X	X	X
Social	X	X	X
Talent	X	X	
Diversity Management (Human Resources)	X	X	
Ongoing	X		
Opportunities			
Inter- Dialogue	X	X	X
Products & Services	X	X	
Customer Relations		X	

¹⁴ Harvard Business Review, How BMW is Diffusing the Demographic Bomb (March 2010)
<http://hbr.org/2010/03/the-globe-how-bmw-is-defusing-the-demographic-time-bomb/ar/1>

A further opportunity of demographic change lies in the way that businesses relate with their customers. This can be illustrated with an example. A bank operates in two different environments: one is a town where most of the inhabitants are elderly, while the other is a city mainly comprising young people. Each environment will probably require distinct solutions. In the city, online or mobile banking may be a more effective and appropriate tool for managing the demand for financial services. In the town, on the other hand, it would probably be necessary to have a greater physical presence via a branch and more customer care because of the lower use of new banking technologies.

It also refers to the development of new products and services earmarked at covering the needs of a growing market segment, i.e., the elderly. Returning to the example of the bank, there are already various products and services designed for this profile, such as reverse mortgages. This product allows homeowners to receive additional income by converting the asset value of their property into cash, without them forfeiting ownership. When the owner dies, the heirs or financial institution liquidate the related liabilities (assets, debt and interest). Another example is the care system that a number of Spanish regions have already implemented. Elderly people can contract a care service that provides them with ongoing communication with the health services, and the person receives a variety of such services (regular interviews, emergencies, consultations, etc.). Customers can contact service providers by pressing a button on a chain hanging from the user's neck. These types of services also increase an elderly person's quality of life, giving them more independence and immediate access to community care.

Solutions to the Effects of Demographic Change

Demographic change is set to substantially transform the world in which we live and work. Because it will have such an enormous impact, solutions must be a joint effort by all the groups affected. Businesses, citizens and public administrations at the national, local and regional level should collaborate in implementing customised strategies bearing the new social reality in mind.

This article basically features six tools and practices that can alleviate the effects of demographic change. The first involves bringing younger and older people closer together through inter-generational dialogue, generating greater understanding and respect. The second refers to the importance of implementing local measures to manage the effects of demographic change. The third looks at the social security system and highlights a number of expert recommendations on possible adaptations to guarantee its sustainability. Fourthly we articulate solutions regarding immigration. The fifth tool considers the labour market and touches on aspects such as job access, diversity management and social inclusion. Finally the article emphasises the importance of raising birth rates to manage long-term demographic change.

Solutions to the Effects of Demographic Change

Inter-generational Dialogue to Promote Solidarity and Mutual Understanding

The gradual ageing of the population has consequences of a broad scope for society. Demographic change increases the demand for elderly services, such as pensions and health, while the anticipated budget outlays for services used mainly by young people fall, meaning that access to quality services for the young will be in shorter supply. The need to modify public service budgets, giving greater weight to services for the elderly, may create a conflict of interest between different generations.

To prevent these changes from affecting societal harmony it is important to facilitate a climate of solidarity and understanding between generations. Inter-generational dialogue can be an elemental tool in conflict prevention and the promotion of respect. The abilities and knowledge of elderly and young people do not have to be mutually competitive. On the contrary, they can help enrich society in general. Through this type of dialogue, young people learn from the experience of older generations, while elderly people can pass their knowledge on to the young and benefit from them in turn, by gaining new knowledge and learning more about the perspectives of younger generations.

One example of this type of inter-generational dialogue is the programme carried out in various Spanish universities, including the University of Alicante, called "Housing for Company" (Alojamiento por Compañía)¹⁵. The programme gives young students the chance to live with elderly, handicapped or single-parent families. The goal is to promote inter-generational solidarity and mutual support. The university emphasises that the programme allows elderly people to acquire greater in-depth knowledge of the needs of younger generations. For the students, the programme is a chance not just to develop mutually binding attitudes but provides contact with the social reality.

¹⁵ Alojamiento por Compañía Programme. University of Alicante, http://cervantes.cpd.ua.es/es/novedades/comunicados/2003/program_alojam.html

Solutions to the Effects of Demographic Change

Managing Infrastructures and Products Adapted to the Local Context

Demographic change has a local impact as it produces changes in population composition. It means that towns, cities and rural areas experience changes in the demand and supply of different social services and also impacts areas such as urban and rural development and construction.

Town-planning reforms, the development and implementation of works or other types of infrastructure development should consider the requirements and context of the population. The following example illustrates this: a town has a mainly adult population and a high level of young emigration to other cities. The town will not have the same infrastructure and urban-development requirements as a city, with a population comprising young national and foreign immigrants. The construction of children's parks, for example, would be more necessary in the city. The demand and need for homes for pensioners or parks designed for older people to take exercise in would be more appropriate for facilitating quality of life in the town.

Estepona provides examples of this type of infrastructure management. This town in Malaga province has rolled out an urban-development plan based on the new demographic reality, called "The Pensioner's Paradise: Best Services for the Elderly". Estepona is seeking to become a reference point for quality services for the elderly, as it not only has foreign and Spanish pensioners but also 25% of the local inhabitants are over 65. Estepona has built various old people's homes and developed support services such as free 24-hour personal care¹⁶.

Businesses also play an important role in these sorts of measures. The development of products and services adjusted to the local context can bring benefits for both parties. In the case of elderly people, for example, having access to products and services that meet their requirements increases their quality of life and integration within society.

For businesses, penetrating this market can increase profits and be a competitive edge as the company accesses a new market. This can also be illustrated with an example. In this case, we are looking at the difference in the products and services of a financial institution in a rural area comprising mostly elderly people, in comparison with a city with a large number of young people. It may be inferred that in the city, saving services will be used a great deal more than in the rural area, where most of the people are probably living off their pensions and spending the savings obtained during their working lives.

¹⁶ *Noticias La Costa del Sol*,
www.andalucia.com/news/cdsn/2004-11-24-htm

The adaptation and creation of products and services aimed at the elderly, who will become the most abundant group of inhabitants, is an important competitive opportunity for industry. It can also be a solution for increasing older people's quality of life, better integrating them in society and the job market and guaranteeing they remain in the active population for longer.

Solutions to the Effects of Demographic Change

Working for the sustainability of National Social Security systems

There are different types of social security systems. In the context of demographic change, it is important to work so that these systems reflect the real context within the national sphere. In other words, ageing populations and falling birth rates are impacting the population structure and putting enormous pressure on the public pension system budget.

In Spain, for example, the social security system is designed so that the contributions of the active population are earmarked to funding social security. Social Security benefits involve various contingency covers for workers (accidents, unemployment and health care, among others) and include the pensions of non-active persons (retirement, widow/widower pensions). Focusing on the impact demographic change is having on the pension systems, we should firstly point out that there is a criterion known as the "general fund" (caja única). In other words, present pensions are guaranteed by present contributions, in the same way that future pensions will be guaranteed by future contributions. The sustainability of this system, as we saw earlier, is based on a balance between net contributors and recipients.

Anticipating a more-than-probable imbalance in the pension system as a result of demographic change, Spain established a Social Security Reserve Fund in 2003. The fund is aimed at increasing pension coverage in the country, paying out pensions in the event of a structural (not financial) deficit of the Social Security system. The question is: how much should the fund be endowed with in the event that the demographic imbalance becomes structural and secular? At the close of 2009 the fund had portfolio assets to the value of 60 billion euros. The 2010 Society Security budget for pension payments (both contributory and non contributory) is nearly 106.85 billion euros. In other words, the Reserve Fund currently covers approximately 6.7 months of pensions¹⁷.

¹⁷ 2010 Social Security Budget, State Secretariat on Social Security, Ministry of Work and Immigration p. 97

Given this situation, many experts point out that the Reserve Fund is an additional temporary guarantee but it does not solve the structural imbalance of the system. Possible solutions to this imbalance include the following:

Increasing the retirement age:

The longer someone is working, the less time they will need social security payments, alleviating the public budget. As argued previously, this involves more than just changing the legal retirement age. The labour market must adapt to older people. The European Commission, in its recently published Green Paper on pensions, recommends increasing the retirement age to at least 70 in order to maintain the sustainability of European pension systems.

Increasing social security contributions:

With all the other factors remaining constant, greater spending should be accompanied by greater income. Raising social security contributions on the part of individuals and companies can provide relief for the social security budget. However, this measure also has negative consequences for the economy, as it can end up reducing a country's international competitiveness, making labour costs more expensive and generating higher unemployment – which in turn will further reduce Social Security income.

Partial transition to a capitalisation system:

Contrary to the 'general fund' system, under a pure capitalisation system each euro a contributor provides to Social Security bears his or her name. This forces the system administrator or manager to follow a strict budgetary discipline because contributions have to be preserved individually. However, a pure system has a high social cost because a large part of the population would be considered a lost cause, as individuals who were unable to contribute would be abandoned to their fate and charity. On the other hand, a partial transition, e.g., establishing a personal minimum of capitalisation per contributor, could distribute the cost of the reforms to a greater number of contributors, reducing comparative inter-generational grievances.

Private saving incentives:

a legal and fiscal framework that encourages private saving for retirement pensions could increase the resources that families and businesses allocate to covering their retirement and dependency contingencies. However, this solution is improbable within the framework of a high public deficit and excessive public and private debt.

Solutions to the Effects of Demographic Change

Promoting sustainable immigration management

Immigration is a phenomenon that directly influences the effects of demographic change. From a purely economic viewpoint, immigration can be a source of human resources to replace the elderly people leaving the job market, while also reducing the median age of the active population. But making the most of migration's potential with regard to mitigating the economic consequences of an ageing population requires an adjustment between immigration and job supply in the destination country.

High levels of immigration do not necessarily curb a shrinking active population. It is important for immigration policies to focus on attracting resources, knowledge and skills that are in short supply in the recipient country. Over the past 30 years the Spanish census has added around 190,000 people per year thanks to immigration flows. Let us consider an theoretical example. Let's imagine there is a drastic shortage of medical personnel in Spain (the demand for healthcare employees is higher than the supply). To provide an adequate healthcare services, the country has to hire 8,000 health related specialists immediately. If only 1,000 out of the 190,000 new inhabitants had a healthcare qualification, the healthcare system would still remain under water. Furthermore, if the other 189,000 new immigrants' profiles would not match the requirements of the labour market, the effects of demographic change would persist vis à vis, with a higher unemployment rate and an increased demand for public services (health, education, justice, among others).

Some experts call attention to the fact that the focus of immigration is centred on guaranteeing low-qualified jobs (in agriculture, the building industry, domestic help, etc.). They warn that this is risky, because such a model would be less able to provide the productivity increases that would offset the shrinking and poorer dynamism of a more mature work factor. They also point out that it is important to avoid falling into a vicious circle of migration in which a country exports talent (through retirement and brain drain) but is unable to attract talented, highly qualified professionals.

It is important for immigration management to make workforce and social inclusion its main priorities. Poor integration of immigrant groups can generate serious population divides with a high social cost. These include the creation of ghettos, the appearance of cultural and racial barriers, sectarianism, marginality and, as a result, public insecurity and lack of cohesion.

In Spain, Aragon is one of the regions with the greatest shortage of young people, particularly in rural areas. In the town of Aguaviva, the mayor and citizens designed a plan to attract young immigrants with work permits. This repopulation programme was aimed at increasing the number of young people via immigration and thus the number of students and children, and to satisfy job demands in the town. Through an international advertisement, Aguaviva publicized the chance to live and work in the town to immigrant families who were willing to move there. The families were offered measures to help begin a new life, including low-rent housing, a job in agriculture, construction or services, health-care and free education for their children. In exchange for these opportunities, the families agreed to stay for a minimum of five years. The population of this small town has grown by 15% since the year 2000 and registrations for nursery places have doubled. New homes have gone up and an internet centre has begun. There are plans to open other facilities, such as a gym and a disco¹⁸.

Solutions to the Effects of Demographic Change

Access to employment, diversity management and social inclusion

The labour market is one of the areas that will be most affected by demographic change. If there are not enough people entering the job market to replace the older people leaving, it will be necessary to find resources to replace the outgoing workers. There are two ways to do so. One is through immigration management and the other is to avoid having to replace them by making people leave the labour market later.

¹⁸ Council of European Municipalities and Regions. *The Impact of Demographic Change on Local and Regional Governments*

Measures are needed to extend people's working lives as well as policies that make employment and movement within the labour market more accessible to older people. This responsibility falls both on the government and the private sector. In human resource management there is a culture that favours young people and creates barriers for older people when it comes to job hunting or taking up a new job. With demographic change, where the shortage of young people will be a reality, it is important to promote and adopt practices that support the integration of older people in the job market.

One way of doing this is by integrating diversity management into businesses. It is important for a company to understand and know how to value older people's talent and experience and the ways they can contribute to business performance and success. Older people's knowledge and skills do not compete with the knowledge of younger people, but rather complement it. For companies, having a variety of perspectives, knowledge and skills will always help boost creativity and innovation. A diversity strategy can help maximise productivity and creativity through the contributions of different types of people and serve as a mechanism for better facilitating access to jobs for older people.

In general, human resource management with regard to demographic change must facilitate ongoing development of a worker's knowledge and skills throughout the whole of their working life. This ongoing training makes people more employable, which benefits both the company - as the employee can better adapt to the needs of his or her job in a changing society - and the employee, who benefits when it comes to looking for work or for continuing to work beyond a certain age. In Navarre, the Association of Work

Businesses trains companies and people in the field of their needs and skills. The main idea behind the plan is to foster ongoing education throughout people's working lives to develop new knowledge and professional skills that assure them a job at an older age. This type of project facilitates and helps provide better access to the labour market for older people, via ongoing training and the development of complementary skills, such as in the area of computers, communication or administrative or sales work¹⁹. In other words, ongoing training seeks to help active workers develop skills that will make them more employable and thus reduce future risks of social and labour-force exclusion.

¹⁹ Asociación Navarra de Empresas Laborales, Formar para Capacitar
<http://www.anel.es/empresas/formacion/formamos-para-capacitar>

There are many good practices among businesses that work actively to manage the effects of demographic change in their facilities. A chemical sector company, for example, has developed a workplace wellness strategy that integrates the importance of diversity management and aims to promote older people's access to jobs by guaranteeing support and help for remaining in their positions.

Through its initiatives, the company's workplace health department runs health campaigns considering the specific and special needs of older workers. The health programmes are various and are aimed at different groups of employees within the firm's chemical plants. This inclusion of a focus on older people is singular in these types of wellness practices. From basic ergonomics measures to diabetes-awareness campaigns, the company seeks to ensure that older employees are safe and healthy, thus reducing risk²⁰.

Solutions to the Effects of Demographic Change

Increasing Productivity and Economic Output through Investment in Education and Research

With demographic change, some experts predict that productivity levels will fall. They say this is due to a lack of young workers to replace those who leave the job market and to the dominant presence of older people negatively impacting innovation, productivity and technological progress. Demographic change affects all areas of productivity, various experts say, because an aged population does not have young people to enter the labour market with new ideas and creativity.

²⁰ BASF official website; Generations@Work Programme
<http://basf.com/group/corporate/en/sustainability/employees/demographic-change>

Young people are considered vital forces for development and for fostering technological progress and innovation. Also, if there is a group mostly comprising older people, the levels of dynamism, flexibility and often the ambition linked to young people in work will fall, directly affecting productivity.

Although there are experts who are not fully convinced by this trend resulting from demographic change, the truth is that productivity is too important a factor in the economic system we inhabit to ignore the risk of declining productivity. Experts such as the European Commission via its new 2020 strategy, say that the key lies in promoting education and investment in research to soften the impact. Through education, people can obtain new knowledge, giving rise to valuable contributions within the framework of innovation and workplace development.

Also, investment in research, already of vital importance for all businesses, is a mechanism that can accentuate the development of innovative advances that increase productivity at the micro level with a multiplier effect at the national level.

Solutions to the Effects of Demographic Change

Boosting birth rates. New generations.

Finally, and even though it appears to be obvious, one foolproof way of fighting demographic change consists of increasing a country's birth rate. For that it is necessary to create a series of economic, social and market incentives that boost birth rates. Previously we spoke of how present society's preferences, cultural changes and other elements create glass barriers to birth rates. One of the most important factors is related with women entering the job market. In this regard, the regulatory framework and business policies in human resource management can be factors that foster or dissuade procreation. However, the work factor alone does not explain the fall in the number of births.

Spain has one of the lowest rates of female workforce participation in the developed world²¹ and at the same time an equally low birth rate. With a female population of around 23 million, Spain has a female workforce participation rate of 36.5% and a birth rate of 1.14%²². Compare this with France, which has a female population of 33.2 million, a birth rate of 1.97% and a female workforce participation rate of around 12 million, or 37%. Then there is Belgium, with 5.4 million women, a birth rate of 1.8% and a female workforce participation rate of 36.4% or two million women²³. The figures show that even though there is a lower proportion of women who work in Spain, they tend to have fewer children. This lends weight to the argument that there are other barriers - legal, cultural and market-related - that make it hard for Spanish women to have more children. It is necessary to investigate and analyse these barriers in order to foster birth rates in Spain.

From a labour viewpoint, measures to promote a better work-life balance are crucial to boosting the fertility rate among working women. These types of measures help both female and male employees to better manage their time and professional and personal responsibilities in line with individual requirements. They also have an important benefit for companies. Being able to manage their time at work and in their private lives makes employees more satisfied with their work environment, which positively impacts motivation and the work environment. In economic terms, this tends to translate into better performance and greater productivity on the part of an employee. However, a rising birth rate alone is not enough to fix the problem, at least in the here and now.

The fact that it takes two decades for each individual who is born to join the job market means that, even if we were to experience a new baby boom today, the structural imbalances would not be solved within thirty or forty years, leaving a large generation group in true difficulties.

²¹ National Statistics Institute, Europe-25 Work Report
http://www.ine.es/prodyser/pubweb/espue25/espue25_merclab.pdf

²² National Statistics Institute, *Birth Rate and Employed Female Population*, 2008

²³ Eurostat, *Birth Rates and Female Work Participation Rates*, 2008-2009

Conclusions

Demographic change is a social, economic and political phenomenon with effects at the local, national and international levels. The ageing of the population in conjunction with low birth rates is accentuating the phenomenon's development in industrialised countries such as Germany, Japan and the Czech Republic. In Spain, immigration has been one of the factors that have softened its effects until now.

In developing countries, demographic change has also reached communities but the effects are different. It is expected that the vast majority of global population growth will occur in these countries which, due in part to their high levels of child mortality, high birth rates and lower life expectancies compared with industrialised countries, will comprise mostly young populations.

The effects of demographic change are varied but important to consider if we want to guarantee the good functioning of our society in coming years. There are a number of viable solutions today, but although it is a phenomenon that is more likely, from the probabilistic point of view, to happen than climate change, greater commitment and effort are required to develop customised strategies and management systems based on this new demographic reality.

In CSR, companies can find a valuable weapon for meeting the challenges involved with demographic change. The transformation of age structures in the European population poses challenges in the field of human resource management and is a threat to productivity levels. The ageing of the population will consequently reduce a company's long-term competitiveness. Policies to improve work-life balance, a focus on the physical and psychological wellness of employees, and human resource management based on equal opportunities and social inclusion may be highly effective tools for mitigating its impacts and exploiting its opportunities.



Lessons learnt:

In 30 years the population structure went from being mainly young to being dominated by a population in the older age ranges.

.....

Dependency among older people rose out of proportion to contributions by the active population.

Seniopolis's GDP will suffer a progressive decline due to the lack of new entries in the labour market and a significant number of departures.

.....

As time goes by, the pension system in Seniopolis will become unsustainable. An adaptation of the public spending distribution system will be required.



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