The Health and Wealth of Portugal

A Saúde e a Riqueza em Portugal

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At a time when Portugal is struggling with budget deficits, public debt, unemployment, slow growth, and austerity – all issues causing a great deal of anxiety at home and much concern throughout the European Union (EU) and beyond – it might seem somewhat secondary to zero in on key features of the country's demographic and health profile. But the reality is that these features are shaping, and will continue to shape, Portugal's health profile and its income and wealth trajectories.

One of the most salient features transforming Portugal's demographic profile is a sharp climb in its share of elderly people – a trend that by 2050 will boost the country's median age sufficiently to make it rank among the world's "oldest" countries. Is population ageing a blessing or a curse? Certainly, there's no shortage of economic commentators willing to take a highly alarmist tone. They warn of a host of undesirable phenomena, including workforce shortages, economic growth slowdowns, asset market meltdowns, and the financial collapse of pension and health care systems. Among these doomsday predictions, a particularly striking one is due to Pete Peterson – a past U.S. Secretary of Commerce and former CEO of the now-defunct Lehman Brothers. In a 1999 article, he went so far as to describe global aging as a "threat more grave and certain than those posed by chemical weapons, nuclear proliferation, or ethnic strife."[13] Economic concerns figure prominently in his thinking. This is because older people simply don't work and save as much as younger adults.

But these alarmist views fall apart under close scrutiny for a variety of reasons, which this paper will elaborate. In fact, my intent in this article is to dispel the popular notion that population aging automatically and mechanically translates into economic and social catastrophe. Granted, there is no denying that demographics exert a huge influence on business, politics, economic development, social structures, and our individual and collective futures. But there is wide scope of action to offset the negative and accentuate the positive consequences of population ageing.

This paper starts with two relatively new ideas on the importance of health and demography to economic growth, highlights salient features of Portugal's health and population trends, examines the economic implications of these trends, and explores ways in which Portugal might address the challenges of population ageing – keeping in mind its current and likely continuing austerity pressures.

Healthier Means Wealthier

The first major advance in recent years in our understanding of economic growth has to do with the link between population health and economic growth. Traditionally, economists have believed that population health is a consequence of economic growth, and that health is little more than a social indicator that improves after incomes grow. By no means is this a crazy idea. When people have more money, they tend to have better nutrition, better access to safe water and sanitation, access to more and better health care, and better psycho-social resources like community recreation facilities and mental health counseling. Fig. 1 shows this positive association between health and income. This association holds for different income and health measures and at different points in time. Fig. 1 also suggests that income (the independent variable on X axis) affects health (the dependent variable on the Y axis).

But there is something embarrassing in all of this: a scatterplot association does not demonstrate causality. So could causality run in the other direction—from health to income? For the past 10 to 15 years, economists have intensively explored this possibility, which is quite plausible for many reasons. First, a healthier workforce is naturally a more productive workforce. Second, healthier children tend to have better records of school attendance, stay in school longer, have higher cognitive function, and learn more in school. Third, healthy populations have higher savings rates as people save more in anticipation of longer periods of retirement. And fourth, healthy populations are like a magnet when it comes to attracting foreign direct investment.[3,7,8,10]

What have the researchers found? There is indeed a link that runs from health to income, and it operates through all four of the channels cited above. Moreover, this link is robust and powerful. For example, a 10-year gain in life expectancy translates into as much as 1 additional percentage point of annual growth of income per capita – a big deal in

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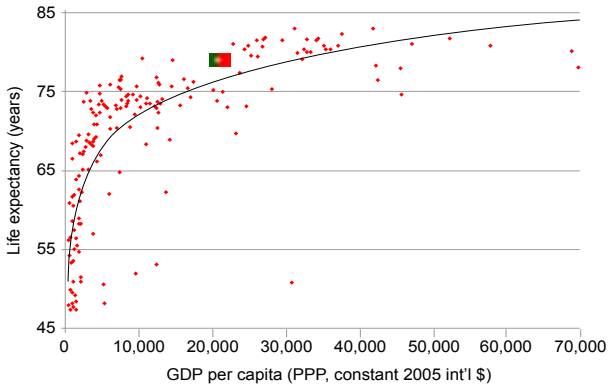


Figure 1 - Higher income goes hand-in-hand with better health – and vice versa.

Life Expectancy (years) vs GDP per capita

Note: Each point is a country, with the location of the point reflecting the country's income per capita and the life expectancy of its people in 2010. Source: World Bank, World Development Indicators. Online data, 2012.

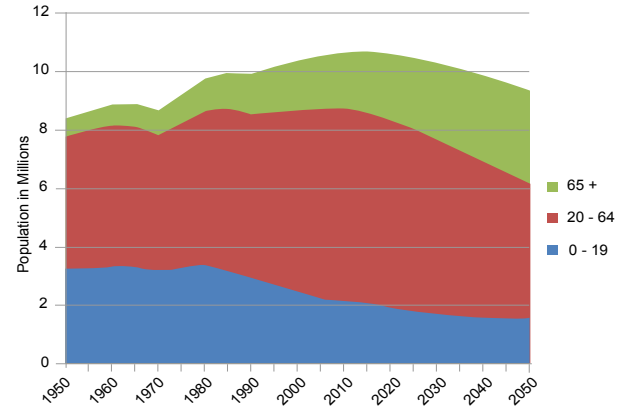


Figure 2 - Portugal's total population and working-age population are peaking now.

Source: UN World Population Prospects, 2010 Revision

a world economy in which per capita income typically grows at 2-3 percent per year.[9] A 1 percentage point gain is also meaningful because a 10-year increase in life expectancy is well within the grasp of a large number of countries. It is only half of the increase in life expectancy the world has enjoyed during the past 50 years, and it is also half of the life expectancy improvement that several leading European demographers are projecting for much of Europe during this century.

This latest economic insight helps to explain why health figures so prominently in plans to halve the global poverty rate, which has emerged as the central imperative of the entire global development community – from the United Nations to Bill Gates. The main asset poor people possess is their labor, and the value of that asset is crucially determined by their health.

Demographic Dividend

The second breakthrough idea has to do with the economic growth potential created by changes in the population's age distribution. For many countries, especially low- and middle-income ones, those changes stem from a phenomenon known as the "demographic transition" – which refers to the historical transition from a regime of high fertility and high mortality to a regime of low fertility and low mortality. For other countries, especially the wealthy industrial ones, the age structure changes are associated with cycles of baby boom and baby bust, like those that followed World War I and World War II.

Baby booms have large economic consequences because lots of children require lots of resources for food, clothing, housing, medical care, and schooling – resources that don't appear out of thin air. They have to be diverted from other uses (such as building factories, laying down infrastructure, and investing in R&D), which tends to slow economic growth, as conventionally measured. But then the iron law of demography kicks in as the baby boomers reach the working ages within a period of 15-25 years. When that happens, the economy's productive capacity will expand on a per capita basis – offering what is known as a "demographic dividend".[2,4,5,12]

In conceptual terms, the dividend is a composite of five distinct forces. The first two are pure accounting effects: (i) the swelling of the labor force as the baby boomers reach working ages; and (ii) the fact that the working ages also happen to be the prime years for savings, which is key to the accumulation of physical and human capital and technological innovation.

The other three forces reflect human behavior: (iii) the rise in women's workforce activity that naturally accompanies a decline in fertility; (iv) the boost to savings that occurs as the incentive to save for longer periods of retirement rises with increases in life expectancy; and (v) the redirection of resources from social spending on children to investment in physical capital, R&D, and infrastructure – all classic drivers of economic growth – made possible by the falling youth dependency burden.

However, there is nothing automatic about the dividend. Whether changes in age structure actually translate into higher levels of income per capita depends critically on the operation of labor and capital markets and other institutions and policies. This matters greatly. The dividend has been a powerful differentiator of countries in terms of their economic performance, as the cases of East Asia and more recently Ireland show (Box 1).[4]

Portugal's Key Demographic and Health Trends

How do these two economic breakthrough ideas pertain to Portugal? The answer lies in the country's main demographic and health trends. Here, four key observations tell the story.

(1) Portugal's total population and working-age population are just at their peak.

Portugal's total population has grown from 8.4 million in

Box 1 **Seizing the demographic dividend: East Asia and Ireland**

In **East Asia**, starting in the mid-1970s and running for roughly three decades, income per capita grew at about 6% per cent per year. Never before in history had such a large group of countries grown their incomes so rapidly for such a long period of time. The World Bank undertook to unlock the secrets of East Asia's success, in the hope that they could transfer the lessons to other countries. They dubbed the phenomenon a miracle, which was basically a confession of ignorance on their part since you don't call something a miracle unless you can't figure it out.

Sadly for them, they neglected the dramatic changes in age structure that took place in East Asia that stemmed in large part from a decline in fertility from 6 to 2 children per woman. Once the effects of changed aged structure are accounted for, East Asia's growth is still impressive, but it is not miraculous: it appears to adhere to the same identifiable principles of economic growth as other countries and regions.

In **Ireland**, economic growth in the 1990s took off, reaching about 7.5% per year. The trigger seems to be closely connected to changes in the country's age structure that followed a precipitous fall in fertility in the 1980s. Given that this fall was connected to legalization of contraception, it leads to the rather ironic conclusion that legalizing contraception gave birth to the Celtic Tiger.

1950 to 10.7 million at present. It is now projected to begin declining and to stand at about 9.4 million in 2050 (Fig. 2). The working-age population (aged 20 - 64) is expected to experience a similar trajectory; it is now at its peak, roughly 6.6 million.

Moreover, the ratio of the working-age to the dependent population (child and elderly) is also at its peak – meaning that the potential demographic dividend is now about as big as it will get. Currently, there are about 1.6 working-age adults for every dependent, but by 2050, this figure is projected to fall to just below 1.0. Although the working-age ratio in Portugal is above that of the EU, it will decline more quickly and is projected to cross below that of the EU in the next few decades.

(2) Portugal's share of elderly is rising rapidly, even by international standards.

As for those aged 65+ (the "old") and those 80+ (the "oldest old") – a distinction made by demographers to highlight the substantially different needs and capacities of the two groups – Portugal's share is growing quickly. By 2050, the number of people ages 65+ will rise to 3.2 million, constituting about 34% of Portugal's population (Fig. 4). This is larger than the current population of the Lisbon metropolitan area (2.8 million). And of that 3.2 million, more than 1 million will be 80+, constituting nearly 12% of Portugal's population.

Between now and 2050, every country in the world is projected to grow older, but some will grow older faster than others – with the dramatic pace of Portugal's population ageing at the upper end of the spectrum. The world median age (the age that half the population is older than and half is younger than) has increased from a low of 22 in 1970 to about 30 today, and by 2050 is projected to be about 38 (Fig. 5). In contrast, Portugal's median age is already 42 and is expected to reach 52 by 2050, rising faster than the EU as a whole. By then, it will have the fourth highest median age in the world, behind only Taiwan, Bosnia/Herzegovina, and Japan. Keep in mind that Japan is currently the oldest population in the world and struggling mightily with that fact, even though its median age is still in the mid–40s.

(3) Portugal's life expectancy is rising, fertility is dropping, and net migration is fairly unstable.

With respect to trends in mortality, in 1950, life expectancy at birth in Portugal was 60. Since then, as Figure 6 shows, it has increased at an average of 3 years per decade, currently up to 80 – not only matching its EU counterparts but also more than a decade above the world average. By 2050, the UN projects the figure to reach about 84.

At the same time, Portugal's fertility path has dropped sharply from over 3 children per woman in 1950 to only 1.3 today. That fact is driving the declining growth rate of population and also the increasing elder share, both abso-

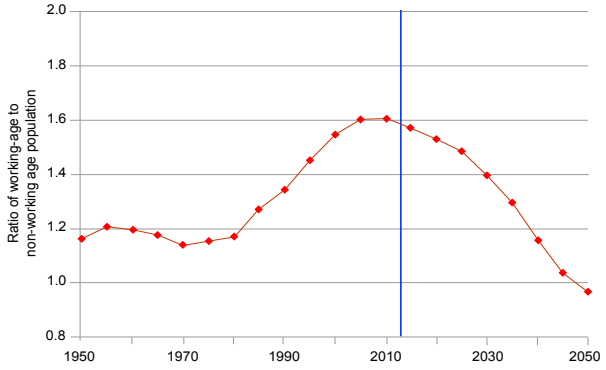


Figure 3 - Portugal's working-age to non-working age ratio is headed for a steep decline.
Source: UN World Population Prospects, 2010 Revision

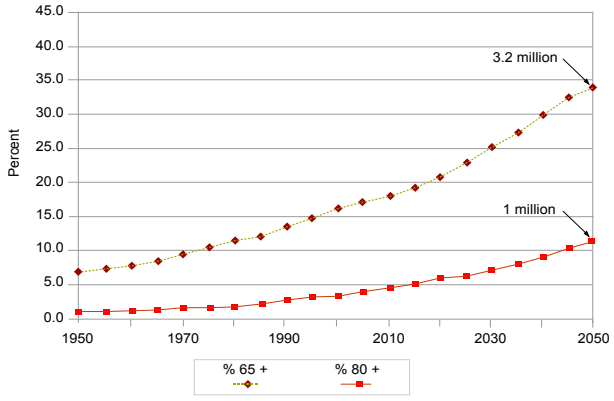


Figure 4 - The "graying" of Portugal.
Source: UN World Population Prospects, 2010 Revision

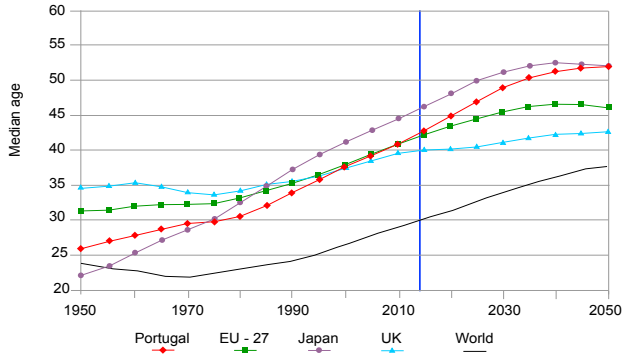


Figure 5 - Portugal's median age is rising faster than that of its peers

Source: UN World Population Prospects, 2010 Revision

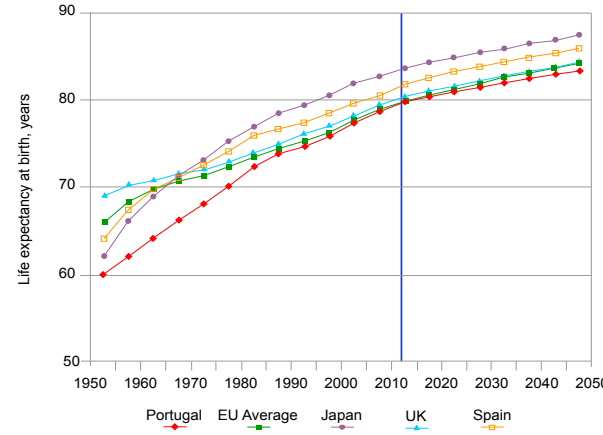


Figure 6 - Portugal is catching up with the EU in life expectancy

Source: UN World Population Prospects, 2010 Revision

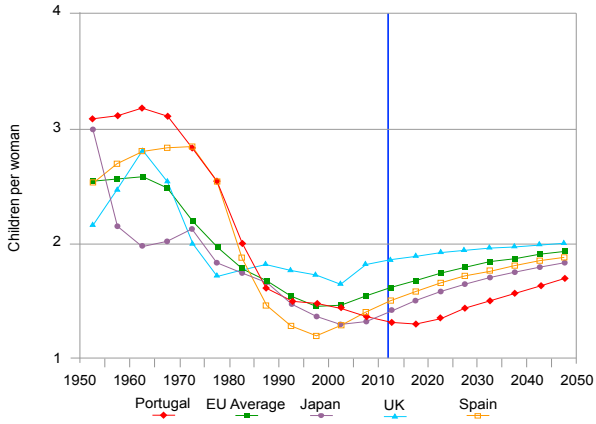


Figure 7 - Portugal is ahead of the EU now in its total fertility rate drop

Source: UN World Population Prospects, 2010 Revision

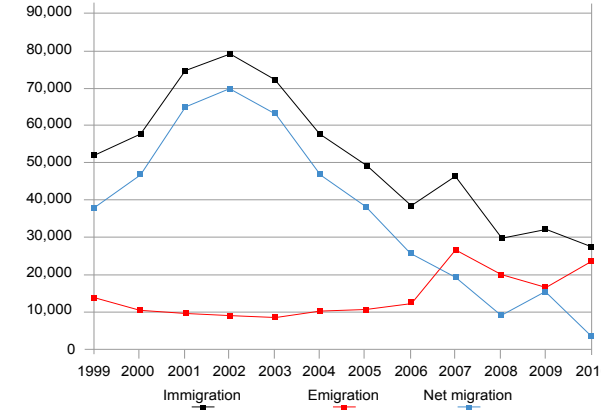


Figure 8 - Portugal's emigration picked up after the recent global financial crisis

Source: Eurostat

lutely and in relation to the rest of the EU. The UN projects a gradual rebound in the coming decades, but Portuguese fertility is still expected to be below that of the EU and Japan.

Migration also continues to shape Portugal's population and age structure. Keep in mind that migration flows affect the share of the population that is elderly because a disproportionately large share of migrants is of working age. When migrants leave, the elderly share rises, and when they come to Portugal, the elder share tends to fall. At this point, the number of immigrants living in Portugal is close to 1 million, which is almost 10% of the population. However, lack of economic opportunity has caused immigration to Portugal to decline since its peak in 2002, while out-migration has increased, particularly after the 2007/2008 financial crisis, and especially among migrants from countries such as Romania, Ukraine and Moldova. A recent survey showed that over half of Portuguese college students in the class of 2013 plan to work abroad. Insofar as the out-migrants are more educated than the in-migrants, even low levels of net migration involve a loss of human capital that was expensive to accumulate.[1]

The coming together of these trends in longevity, fertility, and migration can best be visualized in the series of "population pyramids" shown in Fig. 9. These images show the share of population in each age group (represented by successive horizontal slices). Males are shown on the left side, females on the right, and the box at the top highlights those aged 65+. We see that in 1950, Portugal had a very young population, with children dominating adults and adults dominating the elderly – a pattern that resembles a pyramid. But by 2010, the base of the pyramid gets relatively smaller as fertility declines, and in later years, the diagram starts to look more like a mushroom, as large cohorts break into the retirement ages.

(4) Portugal's biggest health threat is non-communicable diseases (NCDs)

Currently, 86% of all deaths in Portugal are due to

1 If anything, Fig. 8 portrays a conservative view of the migration challenge facing Portugal since free mobility of people inside the European Union means that much migration is unmeasured.

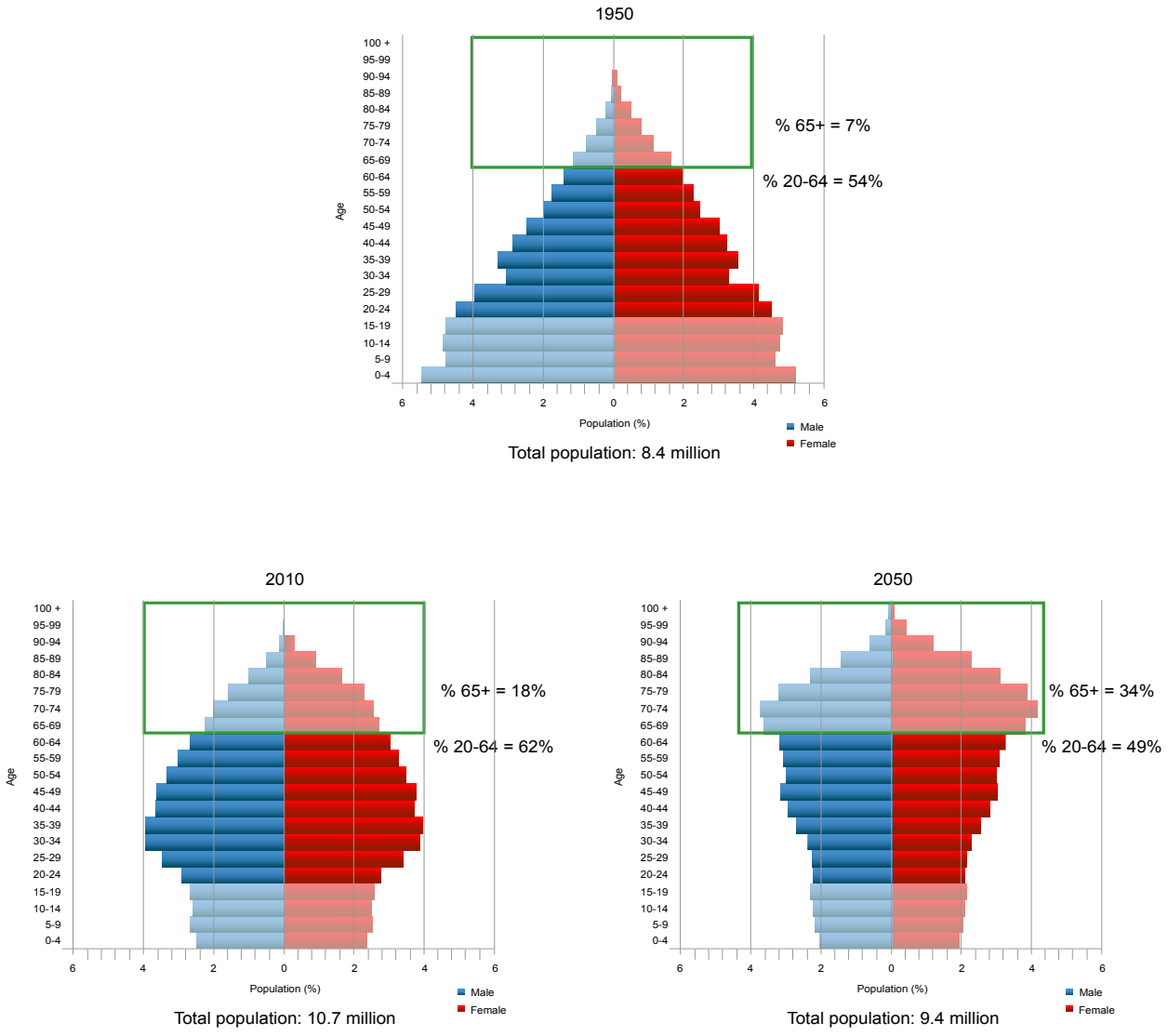


Figure 9 - Portugal's population pyramids highlight an aging population
Source: UN World Population Prospects, 2010 Revision

NCDs, well above the global average – with cardiovascular disease and cancer together accounting for well over half of all deaths, followed by respiratory diseases and diabetes (Fig. 10). This pattern matters greatly because the cost of NCDs is substantial – reflecting both high medical expenses and the fact that NCDs undermine labor's contribution to output by causing disability and death, and the loss of both physical and human capital.

For NCDs, the key modifiable risk factors are the consumption of tobacco, use of alcohol, and diets rich in sugar, salt, fat, and calories, as well as physical inactivity. Here, Portugal's picture is mixed and hard to predict. Smoking rates are declining for men and remain low among women, and alcohol use appears under control by international standards. But the prevalence of obesity is increasing nationwide. In addition, age is itself a risk factor for NCDs and not a readily modifiable one, except perhaps in our minds. Moreover, we don't yet know whether living longer will result in a "compression of morbidity" or just more unhealthy years – and thus the blessing it seems to be or a curse in disguise (Box 2).

Portugal's Vanishing Demographic Dividend

What these four observations add up to is a country with dynamic health and demographic indicators that pose some significant challenges to its economic prospects.

- The benefits Portugal currently enjoys because of its favorable age structure are poised to diminish, albeit gradually, as the working-age share of the population declines – by perhaps a whopping 20%, just owing to changes in age structure alone.
- The difficulties might be magnified if fertility rises, because of the need to divert increased social resources to the additional children, as well as the likely negative effect of childbearing on the labor participation of women.
- There will be a rising fiscal burden associated with

Box 2 **Uncertainty surrounds how healthy our extra years will be**

To understand the nature of this uncertainty, consider the scenario in which death is postponed by our living longer, but not the onset of chronic disease, the functional breakdown of mind and body, and the loss of personal independence. In that circumstance, all we get from a longer lifespan is more years of misery. And all the state gets are bigger and more persistent health care and pension liabilities.

But what if not only death is postponed but also the onset of morbidity associated with chronic disease? And what if a combination of public health interventions, pharmaceuticals, and medical treatments slows the progression of chronic disease, while the local environment and infrastructure becomes friendlier to persons living with chronic disease. In that case, we would get a real increase in human well-being as a result of living longer, with modest fiscal implications for the state. This more upbeat scenario is called the "compression of morbidity" – the idea that the morbid years are compressed into a smaller part of the life cycle, either absolutely or relatively.

Which scenario will prevail in the coming years? The obesity epidemic suggests a continuing increase in diabetes and its various sequelae and an expansion, not a compression, of morbidity. By contrast, the early detection, treatment, and management of cardiovascular disease and various cancers seem to have improved over time, suggesting healthy ageing. Taken as a whole, the early evidence favors the compression of morbidity hypothesis, but the final verdict is most definitely not in.

greater spending on health and pensions and a decline in tax receipts.

- There could be significant political implications associated with a higher elderly share, given that older populations punch well above their weight thanks to their higher voter registration and participation rates. In recent years, many elderly European demonstrators have expressed strong feelings about higher retirement ages and fewer social benefits.

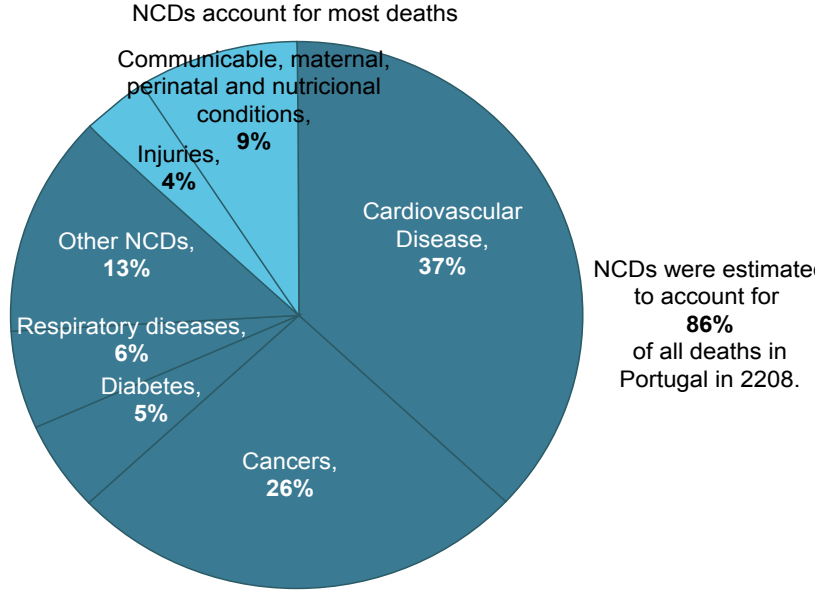
But is Auguste Comte, a French Philosopher who founded the field of sociology in the 19th century, correct when he says "Demography is Destiny"? In other words, is the social, political, and economic fabric of a nation fundamentally determined by the size, growth, and structure of its population? The answers appears to be no.

To begin with, "doomsday scenarios" generally don't prove true. Dire predictions abounded when world population was doubling from 3 to 6 billion from 1960 to 2000. But the reality is that global income per capita more than doubled during that time frame, life expectancy increased by more than 15 years, and primary school enrollment rates approached universality in many countries. Another reason is that demographic change has a habit of spurring behavioral adjustments (such as higher savings and lower fertility) and technological and institutional innovations that often offset the force of the demographic shifts.

Public Policy Responses

The good news is that Portugal has some options to address those challenges and to promote a more attractive future economic trajectory for itself.[1,6,11] Let's start with the highest priorities for the public sector.

Reforming pension systems - Public policies are needed that simultaneously serve the needs of the elderly and are faithful to countries' financial capacities. For example, what can be done about the anticipated funding gap in pay-as-you-go systems? This gap will arise because increasingly smaller groups of working-age people will make transfers to increasingly larger groups of elderly. And as difficult as the pension situation is in the wealthiest industrial countries, it is even more complicated and more urgent in



Source: WHO, Noncommunicable diseases: Country risk profiles 2011.

Figure 10 - Non-communicable diseases (NCDs) account for most deaths in Portugal.

Table 1 - Raising retirement ages (Life expectancy and retirement age)

	1971	2012	Increase 1971-2012
Male life expenctancy			
Portugal	**64.3**	**76.7**	**12.3**
France	68.3	78.4	10.1
Germany	67.8	78.1	10.3
Greece	70.2	77.6	7.3
Italy	68.8	79.2	10.5
Spain	69.3	78.6	9.3
Sweden	72.0	79.6	7.6
UK	68.8	78.2	9.4
Normal male retirement age			
Portugal	**65**	**65**	**0**
France	60	60	0
Germany	65	65	0
Greece	60	65	5
Italy	60	66	6
Spain	65	65	0
Sweden	63	65	2
UK	65	65	0

Source: UN, World Population Prospects 2010, for life expectancy and life expectancy projections. Social Security Administration, United States (2012) for retirement age.

Portugal.

The complication has to do with the fact that Portugal's pension system has been so generous for so many years and creates powerful incentives for early retirement. The urgency has to do with the colossal burden of public spending on pensions, which is over 10% of GDP – among the highest in the EU. Perhaps a political deal can be struck in which savings from pension reform are used to support health and educational investments.

Changing retirement policies - It is natural for people to respond to longer lifespans – and longer healthy lifespans – by planning on working longer. But public policy has been extremely sluggish in adapting to new demographic realities as most of the world's social security systems create strong incentives for retiring between ages 60 and 65. In many EU countries, between 1971 and 2012, male life expectancy rose by 7 to 13 years, but male retirement age rose much less, if at all (Table 1). In Portugal, while life expectancy increased more than 12 years, male retirement age stayed the same.

Allowing people more freedom of choice regarding the timing of retirement would be an excellent starting point for policy reform aimed at buttressing the supply of labor – and some countries (such as France, Ireland, and the United Kingdom) have gradual plans to increase the retirement age. Planning in advance is required because disrupting the plans of the cohort currently about to retire would be both unjust and unpopular.

Women-friendly work policies - Policy makers could explore services that try to encourage and facilitate childbearing while also making things a bit easier for women who are both working and raising kids. Family-friendly work policies (such as affordable childcare), gender equity, and perhaps tax breaks to ease purchase of a first home for young couples could actually support fertility increases and increase women's labor force participation.

Reforming health systems - A greater emphasis on prevention and early detection, as opposed to treatment and care, has considerable potential to contain the direct treatment cost and the lost income associated with NCDs. Prevention would encompass everything from encouraging and incentivizing better diets and more physical activity to expanding coverage of the new adult vaccine against pneumococcal disease. When diseases are caught early, they are usually easier and less expensive to treat, and more satisfactorily and permanently resolved. This lowers direct health costs and enables people to work longer and more productively, which gives a boost to their income and to the government's tax receipts.

The nature of medical training also needs to be rethought. Throughout the world, cure is the overriding objective of the medical profession, and this value is infused in the psyches of doctors from the moment they enter medical school. For many older people, however, cure is not possible – what they need is a better quality of life. In addition, medical training has grown increasingly specialized over time, yet many older people have multiple interacting conditions and are subject to treatments that may interact as well.

Develop and promote the use of new financial instruments - Needed especially are long-term instruments for private savings and insurance to complement social security. There may also be a need to invest in financial literacy for the elderly. In effect, we'll be asking the elderly to cope with taking on more individual financial risk with new

and more complex products – and we're asking them to do this as their cognitive facilities weaken.

Create age-friendly cities - At the city level, we need to redesign cities to foster more active and healthier aging. Here, the key is access to information, buildings, public transit, continuing education, affordable healthcare, housing, and services.

De-ghetto-ize ageing and take it outside the confines of single, partly relevant, or marginalized government departments - Ageing raises complex multi-sectoral and multi-stakeholder issues that demand multi-sectoral and multi-stakeholder responses. For that reason, it is especially important to highlight the connections between population ageing and macroeconomic performance, given that the power of the purse resides so heavily in treasury departments and finance ministries.

Businesses Responses

In the business sector, there is a great deal that firms can do to complement public sector responses.

Age-friendly workplaces - Firms need to rethink their business practices, ranging from creating flexible roles and schedules for workers to offering opportunities for retraining. They can also institute worker wellness programs that focus on prevention or early detection of costly-to-treat NCDs as a way to reduce health care costs and absenteeism and to promote worker loyalty.

Develop silver markets - There will be many new business opportunities that accompany population aging – including the design and marketing of consumer products and services that are customized to the needs, the financial capacities, the interests, and the channels of influence that characterize the silver generation.

Make better use of technology - The new information and communication technologies offer numerous ways of promoting healthy aging.

- *Telemedicine*. The ubiquity of cellphones and the Internet means that people who live in remote areas or can't go to the clinic can contact a healthcare provider electronically and possibly get a diagnosis or even treatment. Telemedicine can also help the elderly to better manage chronic diseases at home rather than in a hospital.
- "*Smart homes*." Digital devices that anticipate or respond to people's needs within their homes may be a key advance that allows older people a level of physical security that they did not previously have.
- *Social robots*. These can assist people with vital physical and cognitive activities, such as helping people retain their balance and walk further, and reminding people about eating and taking medicine. Related technologies can detect falls and report them to healthcare providers. The Japanese are even developing robots that can express emotion.

CONCLUSIONS

The fact that people are living longer than ever certainly ranks among the most remarkable achievements in all of human history – a success story reflecting contributions of public health, medicine, education, and economic development. But like other major human achievements, living longer raises immense challenges. As we identify those challenges, define preferred visions, and devise plans for realizing those visions, it is helpful to keep two points in mind.

First, the biggest risk we face is that we are victimized by our preconceptions of aging and fail to act.

For many, population aging conjures up apocalyptic visions of severe frailty, mass loneliness, and extreme isolation in old-age facilities that are overrun by octogenarians, nonagenarians, and centenarians who are imposing a huge financial burden on their children, grandchildren, and communities. Viewing older people through an ageist lens of decline and diminished value just entrenches stereotypes and affects how older people see themselves. We must take greater effort to paint a realistic picture of the elderly – illustrating the immense social capital they have to offer, including wisdom, experience, moral authority, and leadership. We need to document and project the huge asset that older people are to their families and society – such as the 91-year-old UK citizen, Arthur Gilbert, who recently completed his 41st triathlon, setting a new age record for triathletes.

If we don't react at all to population aging, then some of the alarms that have been sounded by the pundits might indeed become highly problematic realities. Business-as-usual policies and practices are unlikely to lead to desirable outcomes. Countries that can combat their natural myopia and short-termism have an exceptional opportunity to create a competitive advantage for themselves.

Second, there are numerous steps we can take to deflect this grim vision of aging.

Early alarmism surrounding population aging has put us in a defensive posture. But we also need an offensive strategy – to think positively and in a holistic way, including about education, transport, health, housing, and city design and about taking advantage of the opportunities that population ageing provides.

If countries like Portugal can keep these points in mind, they have a good chance of turning the achievement of living longer into a brighter future that offers generations reaching older ages now and in the future the opportunity to experience and express their full potential.

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CONFLICT OF INTERESTS

None stated.

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