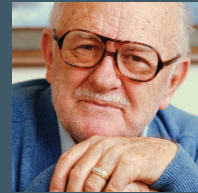
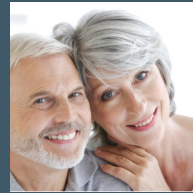


Financing Demographic Shifts:

The Future of Pensions and Healthcare
in a Rapidly Ageing World



Interim Report

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The views expressed in this publication do not necessarily reflect the views of the World Economic Forum.

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Introduction

This report is an interim discussion document of the “Financing Demographic Shifts: Pensions and Healthcare Scenarios to 2030” initiative of the World Economic Forum. The initiative explores the future of pensions and healthcare in a rapidly ageing world. It takes a global perspective, and also analyses a number of countries in further detail, starting with China and Italy.

The objectives of this initiative are to facilitate debate between key stakeholders, create new insights into the future of pensions and healthcare, and define strategic options for key stakeholders.

This document is an interim deliverable and provides an overview of the key driving forces shaping the future of pensions and healthcare in a global context. These global driving forces will be used to develop a set of plausible, yet challenging scenarios on the future of pensions and healthcare. Scenario

thinking is a powerful tool that helps policy-makers and business leaders prepare for a range of possible alternative futures in a world of uncertainty.

The scenarios report (including a description of strategic options and implications) will be available for Industry Partners of the World Economic Forum in the second half of 2008. The report will be publicly launched at the World Economic Forum’s Annual Meeting of the New Champions in Tianjin, China (25-27 September 2008), and also discussed in other meetings worldwide with various stakeholders (industry leaders, policy-makers and senior academics).

The session at the Annual Meeting in Davos, Switzerland, scheduled for 24 January 2008, is an important interim milestone to facilitate debate between key stakeholders, affirm key driving forces and further develop potential scenarios of the future.

Executive Summary

Demographic Shifts

In many countries around the world, a rapidly ageing population is putting severe pressure on pension and healthcare systems. The demographic time bomb is not only ticking in developed countries, but also in less developed countries.

The UN expects that by 2050, the old-age dependency ratio¹ at a global level will have more than doubled; from 11 elderly persons per 100 working age persons in 2007 to 25 elderly persons per 100 working age persons in 2050. In some countries, the pressures of an ageing population will be even stronger. For example, in China the old-age dependency ratio is expected to rise from 11% to 39% in 2050, in Germany from 29% to 50%, and in Japan and Italy from about 30% to 70%.

Key Challenges for Pensions and Healthcare

One of the key challenges is the financial sustainability of public pension and healthcare systems in rapidly ageing societies (developed and less developed). In addition, challenges in many less developed countries include the lack of formal social security, the diminishing role of families in old-age care, and underdeveloped private pension and health insurance markets (see Figure on page 9).

Key Driving Forces Shaping the Future of Pensions and Healthcare Globally

The future of pensions and healthcare (including financial sustainability) at a global level is not only driven by relatively predictable demographic changes, but by a number of more uncertain driving forces such as global economic performance, investment returns, changing patterns of infectious and chronic diseases, medical innovation, and the changing roles of governments and employers. In total, 12 key driving forces have been identified, based on expert interviews, extensive literature research and workshops worldwide.

Some Key Insights from the Scenarios Workshops

Based on these driving forces the World Economic Forum is developing a number of plausible, yet challenging scenarios for the future of pensions and healthcare (at a global level and for China and Italy). This is done in collaboration with a variety of leaders in the field (senior executives from financial institutions and healthcare companies, policy-makers and leading academics). Looking at different levels of analysis, workshop participants indicated that the following themes were of particular interest in constructing scenario analysis:

- **Global level:** the promise of innovation, the challenge of labour force decline in many (mostly high-income) countries, the potential of international cooperation and harmonization
- **China specific:** development of market-oriented financial sector, institutional and system reforms, human capital enhancement
- **Italy specific:** immigration, inter-generational equity, labour market reform

Demographic Shifts

In the next few decades, rapid population ageing around the world and a decline in the labour force in mainly developed countries will challenge the financial sustainability of most public pensions and healthcare systems. Less developed countries are even more challenged, with many facing a greater risk of poverty among elderly due to no universal or widespread pension or healthcare coverage.

The world is ageing rapidly in developed and less developed countries²

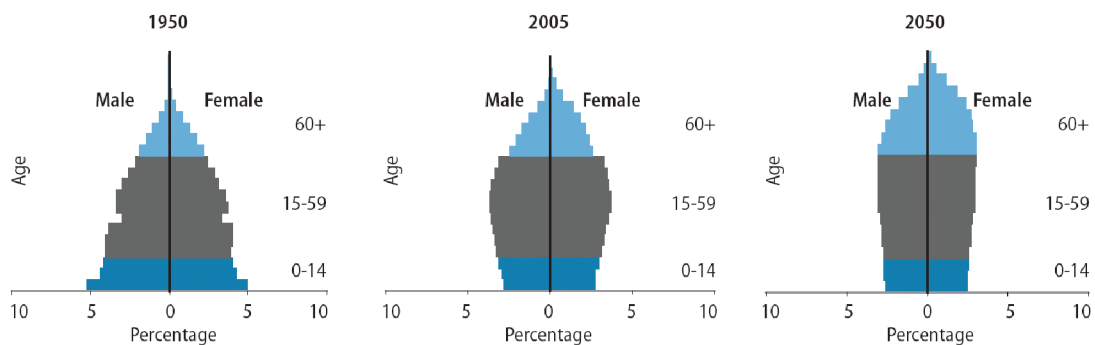
The UN predicts that globally the percentage of people aged 60 years or older will double between 2007 and 2050. By 2050, one-third of the total population in developed countries will be 60 years or older and in less developed countries one-fifth will be over 60.

Another major demographic development is continued demographic growth. The world population is predicted to grow from 6.6 billion persons in 2007 to 9.1 billion persons by 2050 (UN, 2007). This population growth will come almost completely from less developed countries and particularly in urban areas.

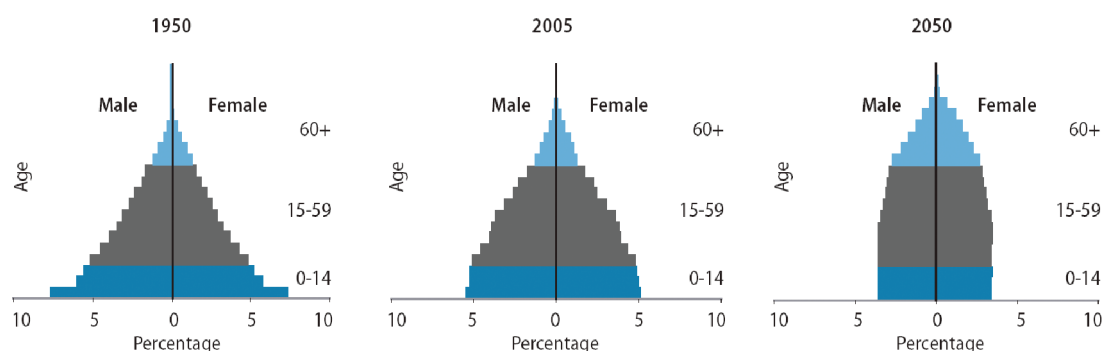
Rapid population ageing is a consequence of lower fertility rates and increased life expectancy

The UN expects that the total fertility rate³ in less developed countries, which was 6.2 in 1950, will reduce further from 2.7 in 2007 to 2.1 in 2050. In developed countries, the average fertility rate is expected to remain below the replacement fertility rate.⁴ Meanwhile, life expectancy at birth has increased globally by 20 years since 1950, and by 2050, life expectancy at birth is expected to reach, on average, 82.1 years in the developed countries and 74.0 years in the less developed countries.

Population pyramids – developed countries



Population pyramids – less developed countries



Source: United Nations (2007)

Demographic statistics and predictions in detail

	Population (millions)			Total fertility rate (per woman)			Life expectancy at birth (years)			% of total population age 60+			Median age (years)		
	1950	2007	2050	1950	2007	2050	1950	2007	2050	1950	2007	2050	1950	2005	2050
World	2519	6616	9076	5.0	2.5	2.0	46.6	66.5	75.1	8.2	10.7	21.7	23.9	28.1	37.8
Developed countries	813	1217	1236	2.8	1.6	1.8	66.1	76.2	82.1	11.7	20.7	32.4	29.0	38.6	45.5
Less developed countries	1707	5398	7840	6.2	2.7	2.1	41.1	64.6	74.0	6.4	8.4	20.0	21.4	25.6	36.6

Source: United Nations (2007)

The old-age dependency ratios do not spike only due to population ageing, yet also due to a decline of the labour force⁵

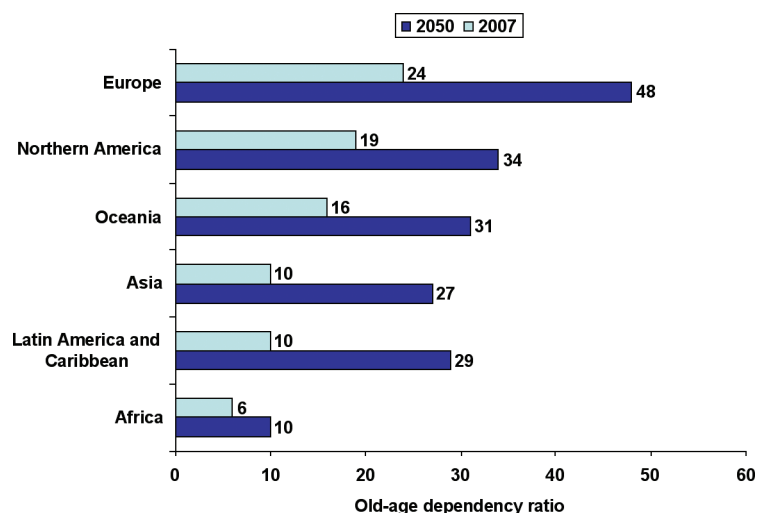
From all major regions, Europe has the highest old-age dependency ratio of 24% in 2007 and is also expected to be the oldest region in 2050, with an old-age dependency ratio of 48%. However, the UN predicts that all regions will experience dramatic increases in the old-age dependency ratio.

These dramatic increases are not only due to a rapid increase in the number of elderly, but also due to a decline of the working age group (typically people aged 15 to 64) in many (mostly high-income) countries. The World Bank (2007) expects that the

labour force in high-income countries will peak in 2010 and then begin to shrink significantly. In Japan this working age group has already begun to shrink, while in Europe the peak will be reached in 2007-08. In other high-income countries the peak will occur later – around 2020 for the US and 2015 for the rest. There will be a considerable slowdown in labour force growth in East Asia, including China.

Less developed countries are forecast to add nearly one billion workers to the world's labour force by 2025, assuming no change in the labour force participation rate; however, according to the International Labour Organization (2007), the productivity of these workers is a concern.

Old-age dependency ratio (%) in major areas, 2007 and 2050



Source: United Nations (2007)

Key Challenges for Pensions and Healthcare in Developed and Less Developed Countries

Developed and less developed countries are confronted with a number of similar challenges regarding pensions and healthcare

Examples of similar challenges in both developed and less developed countries are:

- The **significant pressure on pay-as-you-go (PAYG) public pension and healthcare systems** due to rapid population ageing, cost-increasing medical technologies and higher incidences of chronic diseases.

China, for example, will be confronted with a significant increase in old-age social security expenditures in the next few decades. World Bank (2005) projections for China, based on existing pension provisions and under a no coverage expansion scenario, show that China's implicit pension debt (i.e. present value of projected accrued liabilities) amounts to approximately US\$ 1.6 trillion.

- **Will the private sector come to the rescue?**

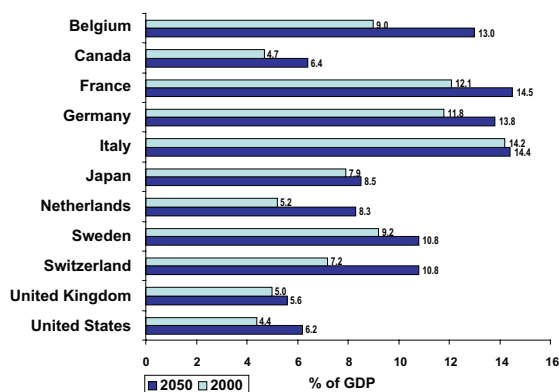
As governments continue to struggle with rising pension and healthcare costs, further political reforms and a growing private role are likely to emerge. There will be increasing pressure on employers to fund and facilitate healthcare for their employees. Meanwhile, expanding middle classes in emerging markets will increasingly demand higher quality services and care.

- The **lack of financial knowledge of most individuals** is a major policy concern. Financial knowledge by individuals has become increasingly important due to the shift towards increased individual responsibility and personal choices in defined contribution retirement schemes, especially in developed countries.

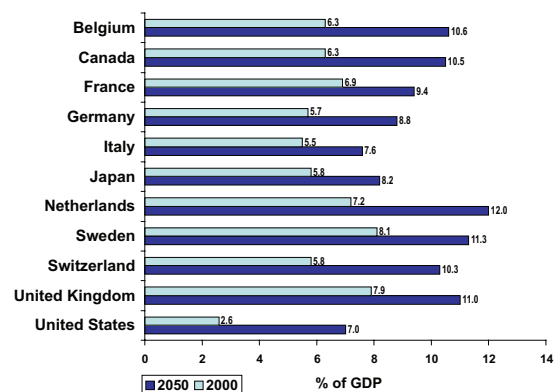
- The **growing prevalence of chronic diseases** around the world. According to the World Health Organization (WHO, 2005), cardiovascular diseases (mainly heart disease and stroke) are the leading cause (30%) of deaths in the world. The WHO expects that deaths from chronic diseases will increase by 17% between 2005 and 2015.

Projected increase in ageing-related public spending, 2000-2050
(Assuming unchanged policies as from the early or mid-2000s, in % of GDP)

Old-age pension: Projected increase in age-related public spending



Health, long-term care: Projected increase in age-related public spending



Source: OECD (2005)

Most less developed countries are confronted with even larger challenges

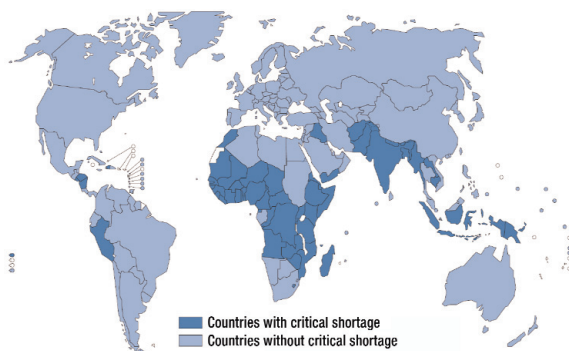
Specific challenges in less developed countries include:

- The **lack of formal social security coverage**. According to the UN (2007), on average, only 20% of the populations in less developed countries are covered by social security benefits.
- **Underdeveloped private pension and health insurance markets**. According to the OECD (2006), pension markets in most non-OECD countries are at an early stage of development. The weighted average ratio of pension fund assets to GDP across 27 non-OECD economies was only 34% in 2005. As a comparison, this ratio was 88% for the OECD area in 2005.
- The **double burden of infectious and chronic diseases**. Many less developed countries have not yet adequately addressed public-health goals such as mass vaccination. At the same time they are confronted with rapid population ageing, which is leading to greater demands for health-care services by older persons with chronic diseases.

In addition, infectious diseases are now spreading geographically much faster than at any time in history and gains in many areas of infectious disease control are being seriously jeopardized by increasing drug resistance and climate change which alters distribution of malarial mosquitoes and other carriers of infectious diseases.

- The **existing health systems** in less developed countries, particularly low-income ones, are still mainly geared towards providing care for acute episodic conditions and **not geared towards chronic care needs and care that is specific to older persons**.
- Structural **shortage of well-trained healthcare workers**. According to the WHO (2006), a global deficit of 2.4 million doctors, nurses and midwives exists. There are currently 57 countries, primarily in less developed countries, with critical shortages of healthcare workers. Old-age care is especially in need of more care personnel.
- The **diminishing role of the family in old-age social security**. Traditionally, in many less developed countries and in some developed countries, families play an important role in old-age social security. The tradition, in some countries codified in law, is that every individual will support his/her parents in old age, and in turn can rely on the financial support of his/her children (e.g. children have the legal obligation to do so in China and Singapore). However, this tradition is being challenged as many young people are migrating to cities, the size of families shrinks, and people are adopting more individualistic attitudes.

Critical shortages of healthcare workers, 2006



Source: World Health Organization (2006)



Key Driving Forces Shaping the Future of Pensions and Healthcare Globally

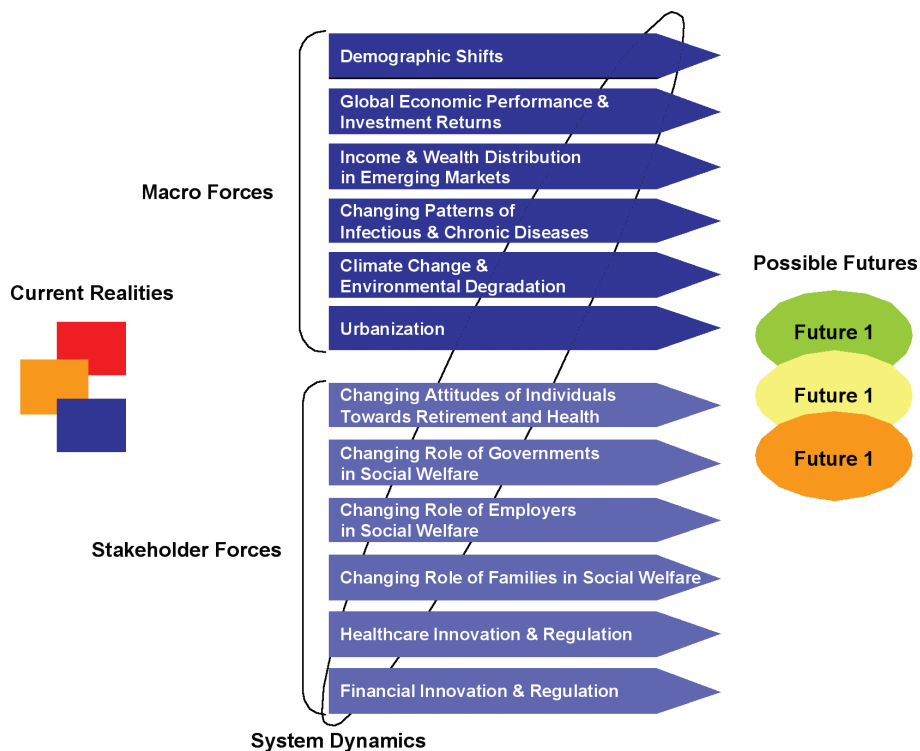
The future of pensions and healthcare is affected by a number of interacting macro forces and stakeholder forces

Following discussion and debate by experts and workshop participants, the project considers that 12 dominant forces – **six macro forces and six stakeholder forces** – are key in shaping the needs and access to pensions and healthcare from a global perspective. The six macro forces are forces over which the key stakeholders (individuals, families, governments, employers, financial institutions and healthcare providers) have relatively limited influence. The six stakeholder forces consist of the attitudes and actions of all stakeholders. As **system dynamics apply**, these forces are not 100% mutually exclusive nor entirely exogenous; the forces interact with each other. In addition, as the focus is on the most important forces, the list is not collectively exhaustive.

How these forces play out at a country level depends very much on today's starting point ("**current realities**"). Differences between countries include most notably cultural preferences, expectations, legacy pension promises and historical forms of financing (pre-funded or PAYG).

In addition to examining these driving forces, the project will also consider a number of "**wild cards**" – highly unpredictable events like a severe financial crisis such as the Great Depression or a medical breakthrough significantly extending life expectancy – that may shape the future of pensions and healthcare. Some of these "wild cards" will be further explored in the final report. The next few pages describe the driving forces in further detail.

Key driving forces shaping the future of pensions and healthcare globally



Source: World Economic Forum (2008)

Macro Forces

Demographic Shifts

Facts and/or Projections	Relevance for Pensions/Healthcare
<p>The UN (2007) predicts that the old-age dependency ratio at the world level will increase from 11.5% in 2007 to 25.4% in 2050.</p> <p>The World Bank (2007) expects that the labour force in high-income countries will peak in 2010 and then begin to shrink significantly.</p>	<p>Rapidly ageing populations will – all other things being equal – increase the demand for retirement benefits and long-term care for older persons.</p> <p>A decline in the labour force – all other things being equal – will undermine the financial sustainability of PAYG pensions and healthcare systems.</p>
Uncertainties	
<p>Demographic shifts in the next two decades are fairly predictable. Only extreme events such as pandemics, heat waves and breakthrough life-extension innovations can influence this shift significantly. What is less certain is the proportion of the very elderly and the number of years of good or ill health prior to death.</p>	

Global Economic Performance & Investment Returns

Facts and/or Projections	Relevance for Pensions/Healthcare
<p>Real stock market returns can vary significantly; also over a long-term period. For example, in the past 50 years, the cumulative real (inflation-corrected) return of the S&P 500 over a 20-year period was as high as 1097% between 1980 and 1999 and as low as 15% (cumulative) from 1961 to 1980. Based on data from 1952-2002, the average 20-year cumulative real returns on the S&P 500 was 284% (NDR, World Economic Forum analysis, 2008).</p> <p>The US Bureau of Labor Statistics data shows the volatility of labour productivity growth. From 1973 to 1995, US non-farm labour productivity grew at 1.2%, while from 1995 to 2000, the annual average rate doubled to 2.3%, a significant acceleration (BLS, 2007).</p>	<p>Future investment returns will have a major impact on the sufficiency of capital funded pensions.</p> <p>Economic performance (e.g. long-term labour productivity growth) will have a major impact on the financial sustainability of PAYG pensions and healthcare systems.</p> <p>Economic performance will also influence the expectations of individuals regarding pensions and healthcare quality standards and benefit levels.</p>
Uncertainties	
<p>Historical evidence indicates that capital market returns are uncertain also from a long-term perspective. Changing patterns in labour productivity are also uncertain, particularly in terms of technology improvements.</p>	

Income and Wealth Distribution in Emerging Markets

Facts and/or Projections	Relevance for Pensions/Healthcare
<p>The global middle class is growing twice as fast as the overall world population (World Bank, 2007).</p> <p>The World Bank (2007) predicts that by 2030, fully 1.2 billion people in developing countries – 15% of the world population – will belong to the global middle class, up from 400 million in 2005. Families of four in that class earn between US\$ 16,000 and US\$ 68,000 in PPP dollars.</p>	<p>Demand for healthcare and retirement services is likely to rise with the growth in the global middle class.</p>
Uncertainties	
<p>Political instability and failure of market, social and institutional reforms could slow growth and distort income distribution, hindering the expansion of the middle class. There is also uncertainty to which new markets will emerge.</p>	

Changing Patterns of Infectious & Chronic Diseases

Re-emergence of infectious diseases. Increases in the incidence of chronic diseases in both developed and less developed countries.

Facts and/or Projections	Relevance for Pensions/Healthcare
<p>Chronic diseases are the leading cause of mortality in the world, representing 60% of all deaths (WHO, 2007). The WHO (2005) expects that deaths from chronic diseases will increase by 17% between 2005 and 2015.</p> <p>The “Spanish flu” of 1918-1919 killed 50-100 million people unexpectedly at the beginning of the 20th century (Asian Development Bank, 2005). The threat of similar pandemics has not been wholly mitigated by advances in disease management and vaccinations.</p>	<p>The existence of infectious and chronic diseases reduces quality of life and creates significant costs for care, both acute and long-term. Trends indicate that low- and middle-income countries will see a rise in demand for more medicines and devices that treat chronic diseases as these become more prevalent, impacting public and private budgets.</p> <p>More companies are implementing wellness programmes focusing on prevention in order to reduce future healthcare costs.</p> <p>In disease pandemic cases, international patent rules will be overridden more often, in favour of international licensed healthcare manufacturing agreements and discounted supply deals.</p>
<p>Uncertainties</p> <p>The impact of infectious diseases is particularly uncertain given the emergence of drug resistance and the potential for new vaccinations in a highly interconnected world. In addition, uncertainty exists as to how chronic diseases will develop alongside changes in lifestyle.</p>	

Climate Change & Environmental Degradation

Increases in average global temperature of the earth. Unsustainable depletion of natural resources and the destruction of ecosystems.

Facts and/or Projections	Relevance for Pensions/Healthcare
<p>The 2003 heat wave in Europe claimed the lives of 35,000 people (WHO, 2007).</p> <p>The top 10 warmest years over the last century have all occurred since 1990 (EDN, 2007).</p> <p>Less rain and warmer temperatures from climate change could reduce agricultural yields by one-third or more in the US grain belt, vast areas of Asia and much of Australia (UN, 2003).</p>	<p>New patterns of heat waves and cold snaps, floods and droughts, and local pollution and allergens will affect health directly. Indirect effects will result from changes to ecological and social systems, such as changes in the distribution of infectious diseases, freshwater supplies, and local food production.</p>
<p>Uncertainties</p> <p>The rate and extent of climate change is very uncertain, as is the timing of extreme weather events associated with it. There is also uncertainty to the effectiveness of human societies’ response.</p>	

Urbanization

The trend of an increasing percentage of people living in urban areas.

Facts and/or Projections	Relevance for Pensions/Healthcare
<p>By 2008, for the first time, more than half of the globe’s population is living in towns and cities (UN, 2007).</p> <p>Future population growth will occur particularly in less developed country urban areas. The urban population of Asia and Africa is expected to double between 2000 and 2030 (UN, 2007).</p> <p>Between 2000 and 2030, the world’s urban population is expected to increase by 72% (UN, 2007).</p>	<p>Cities are in a better position to provide health care simply because of their advantages of scale and proximity.</p> <p>In cities of poorer countries, inadequate water and sanitation, poor air quality (inside houses as well as outside) and limited or no waste disposal are concerns.</p>
<p>Uncertainties</p> <p>The trend of urbanization itself is relatively predictable, but secondary effects and the precise patterns are less so.</p>	

Stakeholder Forces

In addition to the macro forces described above, there is a range of high-impact, high-uncertainty factors related to the prevailing attitudes and policies of stakeholders.

Changing Attitudes of Individuals Towards Retirement and Health

Facts and/or Projections	Relevance for Pensions/Healthcare
<p>The length and nature of retirement years have changed dramatically. In contrast to the sedentary past, retirement now accounts for fully one-quarter of people's lifetimes. What is more, it is a time when people are generally healthy, energetic and eager to get the most out of life. (AXA, 2007)</p> <p>Across G7 countries studied, employees increasingly appear to be viewing "retirement" as a transitional period in which they leave their primary occupations and then continue to work for a number of years in a new field or on a reduced basis (AARP, 2007).</p>	<p>Attitudes to retirement govern both length of participation in labour markets and saving behaviour. Current expectations regarding retirement income and health provision may not be met, and hence influence the retirement and healthcare burden on public and informal care systems.</p>
<p>Uncertainties</p> <p>Attitudes towards retirement are shifting both socially and politically, and are heavily dependent on economic circumstances.</p>	

Changing Role of Governments in Social Welfare

Facts and/or Projections	Relevance for Pensions/Healthcare
<p>Nearly all 30 OECD countries have made at least some changes to their public pension systems since 1990. The average pension promise in 16 countries studied by the OECD was cut by 22% (OECD, 2007).</p> <p>More governments are introducing stricter minimum funding requirements for company-sponsored pension plans in order to reduce the government's risk of bail outs if a company becomes insolvent and to protect employees. More governments are actively promoting healthy behaviours (e.g. anti-smoking, healthy eating).</p>	<p>Unfunded pension liabilities, combined with anticipated demographic trends, pose a considerable challenge to policy-makers that could imply slow growth, economic instability, or both.</p>
<p>Uncertainties</p> <p>Uncertainty exists if and to what extent the trend of retreating governments in developed countries will continue. Furthermore, how will the role of governments in less developed countries regarding social security evolve?</p>	

Changing Role of Employers in Social Welfare

Facts and/or Projections	Relevance for Pensions/Healthcare
<p>Companies are increasingly reducing their spending on employee benefits, e.g. through employee cost-sharing, flexible benefit programmes, and moving from defined benefit to defined contribution pension schemes. Generally, in addition to changing the style of benefits, companies have cut the amount they are prepared to contribute.</p> <p>More companies are implementing phased retirement programs due to labour shortages. More companies are implementing wellness programmes focusing on prevention in order to reduce future healthcare costs.</p>	<p>With declining numbers of people of working age in developed countries, high labour participation by older workers is essential for providing support to PAYG social security systems. Employers play a crucial role in shaping employment prospects of older workers.</p>
<p>Uncertainties</p> <p>In many countries, firms have provided healthcare and pension benefits for workers. However as competitive pressures continue to increase, there is uncertainty as to what benefits companies will offer workers.</p>	

Changing Role of Families in Social Welfare

Facts and/or Projections	Relevance for Pensions/Healthcare
<p>There has been a shift from extended to nuclear families, including an increase in one-person households. The escalating cost of providing institutionalized long-term care for the elderly, combined with the preference of many older people for remaining in their own homes, has slowed the growth of nursing homes and assisted living facilities in recent years. A major healthcare challenge is how to support community initiatives for the elderly (UN, 2008).</p>	<p>The role of families in caring for the elderly is declining worldwide. This may put extra pressure on public and private pensions and long-term care. With the slow growth and unpopularity of nursing homes and assisted living facilities, alternative living and care arrangements for older people in developed countries may grow in importance.</p>
<p>Uncertainties</p> <p>There is uncertainty as to how informal and family care structures will evolve, especially vis-à-vis the actions of the welfare state and alternative, private channels by which families can support the elderly and infirm.</p>	

Healthcare Innovation & Regulation

Innovation and regulations in drugs, devices and healthcare accessibility, delivery and production.

Facts and/or Projections	Relevance for Pensions/Healthcare
<p>The DataMonitor (2007) predicts that a number of new products are expected to reach the market in the orthopedic, oncology and cardiology sectors due to significant increases in R&D spending. In addition, biotechnology, nanotechnology and gene therapy offer costly but potential increasing quality of life and life extension. New infrastructure is arguably bypassing the learnings of history. Many health economies are trying to move care closer to home and supporting self-administration from tele-medicine. The European Patent Office (EPO) recently published scenarios which describe significantly different IP systems with the potential to impact health innovation and regulation (EPO, 2007).</p>	<p>Medical innovation partly creates its own demand (e.g. due to health-seeking behaviour) and thereby raises medical expenses. Medical innovation may further increase the life expectancy of people thereby increasing the need for old-age social security. In addition, new IP regimes would affect pharmaceutical companies, drug regulations and healthcare provision.</p>
<p>Uncertainties</p> <p>The extent and impact of new health technologies over the next 25 years is highly uncertain, as is the regulatory frameworks (including IP) that surround it.</p>	

Financial Innovation & Regulation

Extent to which regulation facilitates the development of mature financial markets with cross-border investment possibilities.

Facts and/or Projections	Relevance for Pensions/Healthcare
<p>Many countries still maintain restrictions on capital flows but the world has nonetheless seen a huge increase in financial flows both in gross and net terms (World Bank, 2007). Chinese citizens have traditionally been restricted from overseas investments. However, these restrictions are loosening. In May 2007, Chinese regulators lifted the ban to allow Chinese citizens to invest in Hong Kong securities market. Since December 2007, Chinese citizens are allowed to invest in the London stock market through commercial banks.</p>	<p>Modifying a funding mechanism can shift risk over time. There may be a growth of more creativity in annuity products, for example, or other ways of managing longevity risk. Perceptions of financial products are highly influenced by sometimes minor failings which are highly publicized. This may lead to overdependence on informal saving – personal property or real estate for example. Cross-border investment opportunities allow for more diversified investment portfolios of pension funds and potentially higher returns.</p>
<p>Uncertainties</p> <p>There is considerable uncertainty in the range and effectiveness of financial innovations in the area of pension and healthcare, and a wide range of possible policy responses by regulators to the economic circumstances of the future.</p>	

Some Key Insights from the Scenarios Workshops

As part of the scenario-development process, the Financing Demographic Shifts project team has convened a number of workshops to examine combinations of drivers and their impact on the pension and healthcare environment. From these discussions, which involved industry leaders, policy-makers and senior academics, the following short-listed themes were identified for further scenario building:

Key themes from a global perspective

- ***The promise of innovation***

Many believe that financial and medical innovation can deliver the solutions to the financial and healthcare challenges of an ageing population. However, medical innovation may – due to costly new technologies and the associated need for more specialized healthcare professionals – also further increase the healthcare spending worldwide.

Financial innovation can alter the incentives of the various stakeholders and thereby lower the total financial burden; alternatively financial innovation could merely shift the financial burden between different generations and/or stakeholders. In short, innovation has the power to both ease and increase the burden of financing adequate lifestyles and healthcare systems, but can we ensure it does the former?

- ***The labour challenge***

The labour challenge consists of two main parts: the decline of the labour force size in many ageing countries and the achievement of high labour productivity growth. Strong GDP growth is needed to finance pay-as-you-go pension and healthcare systems.

How will ageing societies ensure that the labour force will continue to grow and that productivity will grow even further? Various options for ageing societies exist. For example: massive immigration of skilled workers, higher labour force participation of older workers and women, enhancements in education and stimulation of technological innovation to achieve high productivity growth.

- ***The potential of international cooperation and harmonization***

The threats of international public health emergencies, growing incidence of chronic diseases in most countries and increasing global labour mobility are demanding new levels of international cooperation within and between governments and private sectors worldwide. Will governments and private sectors be willing and able to cooperate in an unprecedented and effective way?

Regarding international harmonization, some key questions are: Will national pension and healthcare systems converge? Will regional schemes emerge, such as the growth of pan-European pension schemes?

Key themes regarding the future of pensions and healthcare in China

- ***The development of a market-oriented financial sector***

The development of a robust market-oriented financial sector would significantly impact resource allocation and transparency in the private sector, as well as provides incentives for improved governance. However, this will be driven by a range of political and economic factors. This is particularly important for the evolution of public and private financing of healthcare and pensions.

- ***Institutional and system reform***

A range of factors create friction in China's pension and healthcare systems, relating to current incentive schemes, significant disconnects between urban and rural social security systems, corruption and uneven funding. The fundamental challenges in delivering widely available and high quality services will require a significant focus on institutional and system reform.

- ***The enhancement of human capital***

In order to compensate for the shrinking labour force, China requires continual investment in human capital, particularly skills related to generating continuous economic growth and driving innovation.

Key themes regarding the future of pensions and healthcare in Italy

- ***Immigration***

At the country level, many of the economic, social and political factors could combine to produce varying environments in terms of both the stock and flow of immigration into Italy. Given current trends and range of possible policies, levels of immigration could have a significant impact on population and labour force structure, as well as catalyse shifts in social and political attitudes to the provision of welfare for citizens over the next 20 years.

- ***Inter-generational equity***

A major consequence of the current financing environment and medium-term outlook for Italy's pension implies that younger generations will bear the brunt of financing the continuing rights of older workers, while receiving fewer benefits themselves. Depending on how the uncertain drivers described above combine and influence the Italian economic and social environment, there could be serious consequences of significant inter-generational inequity.

- ***Labour market reform***

A critical aspect of the Italian environment is the development of the labour market in terms of its flexibility, ability to drive economic growth and the relative power of firms, unions and individuals to influence government policy on benefits. Given certain sets of drivers, it is possible that major labour market reforms could occur in Italy, however not without the added effect of significant disruption to the current social and political systems.

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Footnotes

- ¹ Number of people aged 65 years or over per one hundred persons aged 15 to 64 years.
- ² The category “developed countries” comprises all regions of Europe plus Northern America, Australia, New Zealand and Japan. The category “less developed countries” comprises all regions of Africa, Asia (excluding Japan), Latin America and the Caribbean plus Melanesia, Micronesia and Polynesia.
- ³ The average number of children that would be born to a woman over her lifetime if she were to experience the exact current age-specific fertility rates during her lifetime.

- ⁴ Replacement fertility is the total fertility rate at which women would have only enough children to replace themselves and their partner. The replacement fertility rate is roughly 2.1 births per woman for most industrialized countries but ranges from 2.5 to 3.3 in developing countries because of higher child mortality rates.
- ⁵ Various national definitions exist. Normally, the labour force consists of everyone of working age (typically between 15 and 64) who are participating workers; that is people actively employed or looking for work.



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