DEMOGRAPHY

Shape your **future**

Allianz

Michael Diekmann,
Chairman of the Board of Management
of Allianz SE

Structuring the **future** in an aging society

The global economy is in turmoil and encountering some difficult times. Politicians and companies are not the only people reflecting on the consequences that the present crisis might entail for all of us. Every individual is asking questions. Where is there a safe haven? What can I rely on? What action do I need to take in order to ensure my own future? We don't know when the turbulence currently being experienced will come to an end. This economic situation is unique; nobody can reliably predict when a stable upturn will start to develop.

Even if the crisis calms down more quickly than expected, the global population will continue to age dramatically – irrespective of the crisis. We are entering a world in which elderly people are part of everyday reality. This is a world where the young generation will always be in a minority and older people will make up an increasing proportion of society. We are already witnessing this development today. It is influencing our everyday life, our businesses, and our planning for the future. The effects engendered by the aging of society will be much more tangible over the coming decades than 'in the past'. And they will affect the personal sphere of each one of us.

This is one of the key issues for Allianz in living up to our responsibility towards our customers. Training, workplace design, changes in consumer patterns, provision for retirement and illness, and capital market trends – all are factors in the equation for future planning in aging societies. This is why we have compiled further information in this document. The two aims of this document are to draw attention to a subject that is important all across the world and to provide motivation and ideas for addressing the issues entailed in structuring a secure future and thus placing these issues at the forefront of our actions.

Sincerely yours,

M. Diekmann

Michael Diekmann
Chairman of the Board of Management of Allianz SE

Demography (from the Greek demos – people, graphein – to write)

The study of the structure and development of a population, and the causal effects underlying a population, as well as the potential future effects. Often subdivided into a more quantitative and a primarily qualitative branch. The quantitative branch (demography in a more restricted sense) focuses on population statistics, the qualitative branch (also known as population research) investigates the structural possibilities within population development that deal with the primary concern of population policy.

Source: Translation of the entry in Duden/Meyers Lexikon

Demographic development changes our society and the way we work together –

Change with perspective

Since the advent of industrialization, the global population has been growing inexorably. By 2050, the number of people populating the earth will have risen to more than nine billion. But in contrast to previous eras, the main factor driving the growth of the global population today has been increasing life expectancy across the world. Conversely, birth rates are falling and the number of children (individuals below the age of 15) are likely to decrease slightly from 2020, while the number of people aged over 65 will increase by nearly one billion. There will therefore be dramatic changes in the age structure of the population.

Despite this trend being observed across the globe, there are substantial differences in the speed and extent of this change in individual countries. The key factors for demographic development are the onset of the decline in birth rate, the extent to which the rate slowed, and whether it will remain at the low level or rebound later on. Migrational movements are also extremely important for the development of population size.

If we analyze these elements for demographic development, we can categorize countries into two groups: those with growing populations (e.g. India, U.S.A, Brazil) and others with a falling population (e.g. Germany, Japan, Russia) over the next 50 years. The level of economic and social development taking place within a country is not necessarily the determining factor; it is by no means inevitable that the population of industrial countries will shrink and the population in developing countries will generally rise.

Demography in Europe: development is not uniform. There are highly variable trends even within the EU. France, along with Scandinavia, Ireland and Great Britain, still has a relatively high birth rate and is therefore anticipating population growth taking inward migration into account. However, the population in Germany will decline significantly despite higher net inward migration. A comparable negative development is also anticipated in Italy and in most Central and Eastern European EU member states.

Although a longer life expectancy and falling birth rates have been identified as global trends, demographic development is not the only factor driving change when individual analyses are carried out.

This document addresses the phenomenon on the basis of four aspects: What levers are at the disposal of established industrial nations for safeguarding their social systems? Will increasing age lead to shifts in the consumer goods industry? What prospects does investment in training offer for avoiding demographic disaster? And finally: What effect will demographic change have on international capital markets?

Demographic change is expected to exert significant effects in all these areas. Financial service providers as well as each individual will have to adjust to these changes.

The **key responsibility** of the individual

The options of pay-as-you-go and fully-funded approaches provide the basic means for delivering social insurance benefits. The development of the age structure inevitably entails lower monthly benefits and/or higher contributions in the pay-as-you-go approach. Fully-funded provision elements should therefore be strengthened in future.

"**Pension at 70,"** "The Dilemma of the **Sandwich Generation**," and "The increase in physician's fees by ten percent" – there is no shortage of slogans relating to pensions, health, and care insurance. There is also a plethora of self-appointed experts. Quite apart from the uncertainty being experienced by those people affected. But everyone involved can agree on one thing: something needs to be done.

Essentially, there are two forms of finance for social systems – the **pay-as-you-go system** and the fully-funded approach. The two financial models are affected by demographic development in different ways. Over the long term, the **fully-funded system** has advantages compared with the pay-as-you-go system. This is because the option of pay-as-you-go finance involves a working population that will shrink in size over the years. But, they have to pay for costs of benefits being paid out by the social security systems to a retired population no longer in work that is steadily increasing in size. By contrast, the fully-funded system essentially involves each individual paying for him or herself.

Unequal pair: the advantages of globalization for retirement provision

Even the fully-funded approach is not immune to the effects of aging, since the longer life expectancy projected for individuals or the average age of the insurance population will either result in lower monthly benefits or higher premiums. Nevertheless, contrary to the pay-as-you-go system, the payment relationship between the generations or a decline in birth rates exerts no direct effect on the fully-funded system. Indirectly, an influence could be exerted by a demographically determined downward trend relating to the return on capital (see "**Asset Meltdown**" hypothesis, p. 18 and p. 20). However, any hypothetical fall in return can be slowed down and hence the dependence of the fully-funded approach on the (domestic) demographic development can be limited by investing capital in markets where the aging process is effectively static or is progressing at a slower rate. It is evident here that globalization is a key ingredient for retirement provision. Globalized capital markets are the only way of achieving diversification of this nature.

Stabilization at a low level: basic pension instead of full provision

The state pension differs markedly in that domestic life expectancy and birth rate play a key role. The funds required to finance a pay-as-you-go pension insurance system depend on the amount of the pension or level of the pension as well as the number of pensioners. If life expectancy is rising, the number of pensioners increases and the growing financial resources required can be provided by higher pension insurance contributions or

through higher taxes. However, since an aging society has relatively more pensioners and comparatively fewer people of working age to pay the contributions, the burden on those individuals in work rises disproportionately. An alternative would be to reduce the **level of pension** or to cut the number of pensioners by increasing the age at which the population becomes eligible for a pension. The example of the state pension in Germany provides a graphic illustration demonstrating that everything has been done in order to stabilize the pay-as-you-go pension insurance system:

- The contribution rates have risen over time,
- The federal subsidy financed by taxes for pension insurance has been increased,
- The pension reforms carried out in 2001 and 2004 changing the pension harmonization formula (Riester and sustainability factor) will gradually reduce the level of pension, and
- Raising the **limit for retirement age** (pension at 67) provided a more favorable structure for the ratio between pensioners and contributors paying into the system.

All these measures have made a big contribution to safeguarding the state pension insurance in Germany today against the effects of demographic development – ultimately at the cost of the level of pension. There is further need for action because many people will find that the state pension will scarcely do any more than provide the means for a basic existence. Hardly anyone will be able to manage without a supplementary fully-funded retirement pension, if they want to enjoy their familiar standard of living during retirement.

Disaster scenario: the spiral of costs for health and care

Not just pension insurance – the current system of financing pay-as-you-go health insurance and long-term care insurance is also highly dependent on demographic developments. In the case of health insurance institutions, this is primarily because older people incur higher health costs than younger people. This means that the age-specific expenditure profiles are rising. Estimates prepared by Allianz Group Economic Research & Corporate Development indicate that demographic development up to 2050 will lead to an increase in the contribution rate for statutory health insurance from the current level of 15.5 percent to 19 percent. If the increasing costs of delivering healthcare are also taken into account, for example as a result of advances in medical technology, the contribution rate would have to increase to at least 25 percent over the same period.

Full funding as a solution: individual responsibility instead of a contract between successive generations

In order to implement this development within the pay-as-you-go system, attention needs to be primarily focused on increases in contributions and tax subsidies as well as the benefits provided by health insurance schemes. This will inevitably entail certain benefits being eliminated from the portfolio of the statutory health insurance schemes without any replacement. They could then only be covered in part by a top-up insurance. In Switzerland, for example, all dental treatment and dental prostheses are covered by private insurance policies.

Markku Wilenius,
Finnish Professor for Future Research and Board Member of the Club of Rome, at Allianz he looks into future and trend research.

WHAT MODIFICATION WILL BE TRIGGERED BY DEMOGRAPHIC CHANGE?

"We will be addressing the issue of 'age' with increasing frequency. The interest in this topic will not be generated by improved medical care but will be primarily based on the fact that senior citizens themselves will be playing a much more proactive role in our societies."

Professor Markku Wilenius,
Senior Vice President, Allianz SE
Allianz Group Economic Research &
Corporate Development

Allianz – Schutzbrief 55 + emergency cover policy

Our social system needs to be remodeled, particularly in the health and care sector, in order to meet the challenges posed by demographic change. The emergency cover policy from Allianz provides two elements designed to give the best protection available in the private sector during retirement: firstly, active aid to assist in the daily routine, ranging from help with shopping, food and washing service through to personal care. Secondly, cash benefits aimed at ameliorating the financial consequences of an accident or the need for care. The policy provides independence for any person aged over 55 years requiring help following an illness or after an accident as they are able to remain in their own familiar surroundings during the period of convalescence and are not a burden to their families.

As far as long-term care insurance financed on a pay-as-you-go basis is concerned, the cost increases caused by demographic developments are even more dramatic because the age-specific expenditure profiles are undergoing even sharper rises due to the fact that older people require significantly higher expenditure on care than young people. The demographic development here will cause the contributions for long-term care insurance to rise twofold to around four percent by 2050.

The problem is finding a solution to this apparently endless spiral of rising costs and contributions and falling benefits encountered in social security systems financed on a pay-as-you-go basis. The answer is simple but difficult to put into practice. The amount of capital available needs to be increased. This is because every person or each generation finances itself in a fully-funded system and any burdens incurred as a result of demographic change can be distributed differently over time.

Double burden: the "sandwich generation" caught between the devil and the deep blue sea

However, the Germans have no choice as to which of the two systems they should introduce because the pay-as-you-go system already exists. A radical change to the fully-funded system would be associated with dramatic consequences for either today's generation of pensioners or the generation of people currently working.

The current generation of pensioners has acquired entitlements to benefits through the payment of their contributions – an implicit debt owed by the social system. These benefits have to be financed by the people currently in work. If these entitlements were not honored, an entire generation would be abandoned without insurance cover because the pensioners are no longer in a position to finance annuity, long-term care or health insurance on the basis of the fully-funded model through their own income.

Moreover, the next generation – the transition or "sandwich generation" has to shoulder a twin burden. They have to set aside money to finance their own fully-funded system, while at the same time continuing to finance the benefits being made to older people from the previous generation. Fully-funded systems can only be put in place gradually with the aim of ensuring that this twin burden is structured in a reasonable way for the present generation. While duality within the system is unavoidable, the main focus should be clearly on strengthening the amount of capital available.

Role model set by private schemes: increases in expenditure accommodated with provisions for old age

The retirement provision sector once again demonstrates how this duality can be structured. A second and third fully-funded mainstay (company pensions, Riester pension) is increasingly being established as a supplement to the pay-as-

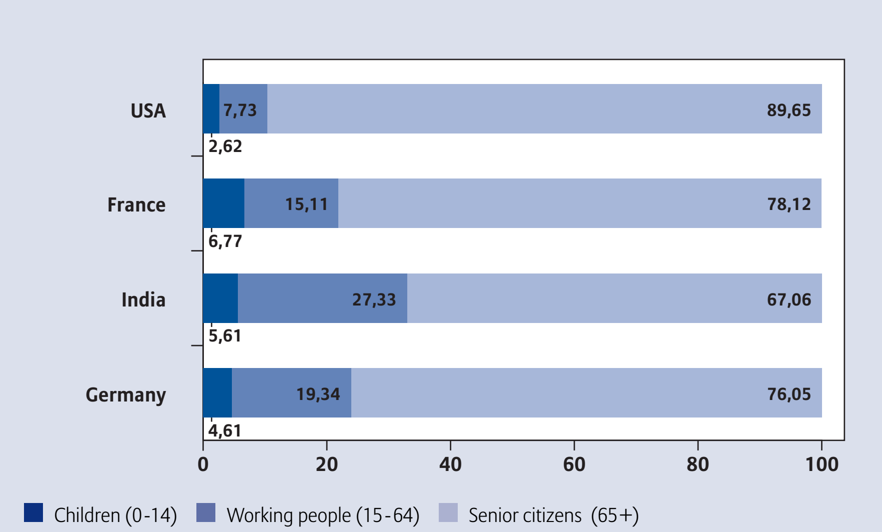
you-go primary mainstay. Arrangements can be made to accommodate increases in expenditure for health and long-term care insurance by forming provisions for aging within the insurance system. Private health insurance policies are already operating on the basis of this principle because their insured population is able to form provisions for old age in the early years, even though the health costs are not yet at the projected high level. At a later point in time when outgoings increase, this **capital stock** can be used to meet the higher costs incurred. The expenditure on long-term care is highly dependent on age and the fully-funded system is ideal for financing long-term care insurance.

Misconception: full funding for shrinking societies, pay-as-you-go funding for growing societies

Previous considerations tend to suggest a simple formula for solving the challenges posed by demographic changes: fully-funded models for shrinking societies, pay-as-you-go systems for growing societies. However, the fact that strengthening fully-funded provision is the best way of meeting the challenges of a shrinking and aging society does not necessarily entail that developing the pay-as-you-go system is the best way of meeting the needs of a growing population. The key criterion is the ratio of people paying premiums to individuals receiving benefits, and the change in age structure of society.

Furthermore, the economic development in emerging economies and the projected sociocultural change brought about by industrialization will loosen the bonds between generations within families. The trend toward urbanization and increasing requirements for mobility will reinforce this process. The systems of care within families that are established in these countries will be increasingly abandoned. In industrialized countries, the state reacted to this process with the introduction of government-run social systems. Emerging economies are now having to address similar considerations. In these countries, social security systems are not adequately established. In view of the experience gained with pay-as-you-go systems, fully-funded provision elements should play a bigger role right from the start.
_Contact: lorenz.weimann@allianz.com

HEALTH COSTS IN RELATION TO AGE (2007 IN PERCENT)



Source: Allianz SE

Stronger, more sustainable pattern of consumption

The level and structure of consumption is undoubtedly influenced by the trends entailed in demographic development. The effects of generation play a particularly important role here because they can lead to a change in the consumer behavior of future pensioners.

The laboratories of U.S. university MIT, the innovation centre for the food and beverages industry, and the test rigs of automobile manufacturers all have one characteristic in common: Research centers across the world are starting to develop products tailored to the needs of older people. These products will conform to modern marketing requirements as much as they meet the actual needs of older customers and consumers. The fact that the pattern of consumption will change as societies age is regarded as a foregone conclusion. However, it is more difficult to answer the question as to whether this will also be associated with an overall reduction in consumer spending – particularly since the population is shrinking.

Consumer development: the number of households is the key factor

Societies with decreasing populations generally find that the number of consumers also falls in accordance with an associated drop in consumer demand. However, the total consumer expenditure in any economy is not simply dependent on the number of people within the population. The number of households is also a key factor. For example, a single-person household needs a once-only purchase like washing machine and a dishwasher just as much as a household with four or more people living in it. Hence, a large proportion of consumer spending is not dependent on the person but on the household .

The vast majority of pensioners live in one-person or two-person households and an increase in the number of older people can therefore lead to a decline in consumer spending. The rising number of young single households is likely to mitigate the effects of a decline in total consumer spending within a shrinking population.

Displacement compared with decline: consumer behavior in the context of demographic change

There is no doubt that significant shifts in demand throughout the economy occur in an aging society. The lower number of children leads to declines in demand for products specifically tailored to the needs of children. At the same time, there is an increase in demand for products that are consumed predominantly by older people. Examples of such shifts include health services or products that go hand in hand with more leisure time, such as books, wellness products, and travel. Since the "**opportunity costs** of leisure" also come down as leisure time increases, the demand for appropriate goods also declines. For example, pensioners may start carrying out tasks that they previously outsourced and paid for (e.g. gardening, washing, cooking).

Overall, there may be significant reallocation of consumer spending away from products and services that are associated with working life toward products and services that are more in tune with structuring time in retirement. New services geared to people of retirement age are likely to

benefit in particular from this trend. This increased demand for work-intensive health and care services might even result in price increases, although the number of people actually working is in decline.

Opportunity: the "cohort effect" and its influence on the purchasing behavior of senior citizens

The effects of so-called "cohorts" or different generations also need to be taken into account when it comes to the projected changes in consumer structure. These effects can lead to a change in consumer habits of future pensioners by comparison with the pensioners of today. For example, the current generation of pensioners has relatively low expenditure on information technology. That situation is likely to change when today's young people become pensioners in few decades time, since they have grown up with sophisticated information and communication technologies.

The anticipated effects on the structure of demand frequently prompt the argument that some of the economic assets (capital stock) – expressed in lay terms as machines and production facilities that are necessary to manufacture specific goods – are obsolete. Since the change in demand structure or age structure does not occur suddenly but gradually over a period of time, the economy should be able to carry out an appropriate adjustment of the capital structure without significant disruption. This means that businesses have enough time, for example, to transfer production from three-wheelers gradually and flexibly to rollator walking aids.

_Contact: lorenz.weimann@allianz.com

HOW WILL THE AGING POPULATION INFLUENCE TECHNICAL PROGRESS ON PRODUCT DEVELOPMENT?

"The products of the future are increasingly being directed toward allowing people to achieve everything that they would like to anytime and anywhere. You don't need a crystal ball to describe the next generation of notebooks and mobile phones: their operation will be simpler and at the same time 'more user-friendly'."

Markku Wilenius,
Senior Vice President, Allianz SE

Manuel Bauer, Executive Vice President Allianz SE, has headed "Global Life" since 2007. This unit is responsible for advanced development of the global life insurance business of Allianz.

Success factors
for financial service providers

Mr. Bauer, the demographic change is presenting financial service providers and most importantly their older customers with some major challenges. How will the Allianz Group meet these new challenges?

Although the population group of 50+ continues to be the section of society with the fastest growth, it is effectively being ignored by companies and financial service providers. So far, not many companies have succeeded in developing tailor-made solutions to meet the requirements of this target group. The parameters governing product development for this group of people are relatively obvious. The products need to generate a secure pension (however that may be structured), should be very safe and they also need to offer tax advantages – a local facet that makes a global concept more difficult to achieve. Our portfolio of products will undoubtedly be directed even more intensively to this target group in future.

Does this mean that the "globalization" of financial products being universally propagated represents an effective strategy?

A truly "global" product is simply not possible, at least at the present time; the differences between Germany and India, for example, are much too great. Instead, we are adopting a different route. We are working on product offers that can be utilized in similar markets – our pilot product will be gradually introduced into Germany, France and Italy. Nevertheless, we are also attempting to supply products that are at least very similar to other countries, for example in Asia.

Is this kind of approach actually worthwhile for financial service providers?

I am confident that in conjunction with the capability to think globally, it is important to abandon the single-minded quest for "profitability". Groups that develop their global strategy solely on the basis of maximizing profit have poor outcomes over the long term. It's much more important to understand the structure of the markets and use this knowledge to derive products that take account of the circumstances prevailing there, even if these products may not represent a seamless fit in the overall strategy.

Tailor-made product development is based on the strategy of benefiting from existing intelligence, i.e. exploiting the know-how of employees on the ground and creating the optimum solution for the target market in close cooperation with the Group.

What does this entail in practice?

We are bringing together employees from the key markets under the umbrella of our relatively new unit (Allianz Global Life). Apart from relevant experience as a product development designer, they have a high level of social expertise. We guarantee the necessary contact with the relevant

organization in the home country while simultaneously ensuring seamless integration within our multicultural team. I have also ascertained that those people who have declared that they are ready to embrace change are extremely willing to enter into risk and possess a significant amount of self-confidence. An increasing number of young women are members of this group which primarily regards the chance of living in a foreign country as an opportunity rather than a burden.

In your opinion, what are the key factors for success in times of demographic change?

An important success factor is market management close to the customer. These managers need to precisely identify changes in demand. The findings enable us to analyze new customer wishes and needs in all key areas (i.e. production, sales and administration) and reflect their aspirations at competitive prices. It should then be possible to transfer appropriate product solutions quickly and effortlessly from one market to another, as Allianz is currently doing with unit-linked annuity insurance policies. However, I believe that our success is much more an issue of personal trust. That's why financial service providers need to have a market presence in their key regions and work intensively there on expanding customer relations.

Allianz – Invest4Life

Demographic developments mean that additional retirement provision is absolutely crucial at the earliest possible stage. However, it's also possible to do something when people are older. Allianz is using an innovative product to directly address the changed customer needs of the 50+ target group while at the same time linking up with an investment yielding a guaranteed life-long annuity. The pension can continue to rise due to the extremely promising investment strategies, yet can never fall. A new, higher level of pension is defined that is in turn guaranteed for life, even if the fund subsequently undergoes negative development. The pension can be paid out immediately or after a waiting period. The customer also has access to the capital available in the fund during the pension phase. If the policyholder dies, the current fund value is paid to the surviving dependents.

Education and training as an **engine of growth** for the future

The growth of an economy ultimately depends on the quality of the training provided for its workforce. If industrialized nations affected by demographic change want to continue playing a leading role in international competition, wide-ranging training strategies are absolutely essential.

The great French actress Jeanne Moreau once said "Aging people are like museums. It's not about the facade, but about the treasures within". She is absolutely right in connection with demographic change because experience, education, training, and knowledge are one of the key challenges in aging societies.

The performance of an economy is not simply dependent on the number of workers (worker potential). Their productivity also plays a major role. Productivity is in turn determined by general technical progress, the training of an employee, and the equipment provided in the workplace (capital). Well-trained employees also form the platform for technical progress. In the language of economists, this means that the quantity and the quality of the "human capital" are important for overall economic performance.

Qualification as a factor for progress: quality rather than quantity is the deciding factor

The picture is relatively clear as far as quantity is concerned. The **workforce potential** is most directly affected by demographic change. An increase in the working population (such as in India and the U.S.A) tends to exert a positive influence on the social product of an economy, a decline in the population (for example in Japan or Germany) tends to exert a negative effect.

Aging and its consequences: not inevitably compromising productivity

The pivotal question is therefore whether aging within society inevitably leads to the "human capital" factor being devalued and ultimately results in degradation of technical advancement. This concern is particularly relevant today in older economies such as Germany, Japan and Italy. In these countries, the aging of the workforces is already evident, and the consequences of this fact will already be felt in the near future.

Optimism versus pessimism: life experience against declining efficiency

Pessimists paint various dismal scenarios, including the automobile sector where the most obvious discrepancy is manifested by the lack of skilled workers in the next generation. It is readily apparent that an older workforce with declining physical capacity in the production facilities could present an additional hurdle. If the innovative capability of car makers declines as a result of a shortfall in new designers and engineers, it will be difficult for the sector to maintain its leading role in international competition.

However, there are grounds for optimism in practice. Although the decline in mental capabilities with increasing age is an unavoidable fact, it is not necessarily a foregone conclusion that productivity declines with increasing age. Purely cognitive skills are set against the knowledge of experience that increases as time passes. There has been no definitive evidence that younger teams are superior to older teams even for assembly activities in automobile manufacture. The practical knowledge of older working teams can be combined with a lower frequency of errors to compensate for their slower speed compared with younger workers. The physical strain can also be reduced to a certain extent by appropriate technical advancements on production lines, although this entails a correspondingly higher level of qualification for the workforce to operate and maintain this level of technical innovation.

Risk averse and uncreative: the alleged lack of innovative drive in older people

Fears that the innovative potential of society will decline are also associated with the aging of society; this is based on the assumption that the creativity of the individual will go down as one becomes older and thus an increase in average age will tend to lead to a decline in the innovative capability with correspondingly negative effects on technical progress. A further argument suggests that older people are less open to technical innovations, while young people are more easily able to cope with new technologies. The corollary is that a decline in the number of young people entails disadvantages in research and development.

It is also frequently assumed that aversion to risk increases as people get older. If we assume that a certain degree of willingness to embrace risk has to be present in order to develop new technologies and products – for example because this activity is associated with borrowing capital or with establishing new companies – an increase in the average age of the population would also tend to stifle innovative activity.

The new "oldies": ingenious, versatile and technically skilled

However, this suspicion of a negative link between aging and technical progress has not been clearly established. A comparison of patent activities as measure for innovative capability and the contribution of the group of people aged between 45 and 64 in the U.S.A demonstrates that there tends to be a positive connection (see chart on p.17). Generally speaking, it is necessary to establish in this connection that the senior citizens of today are not comparable with those of 30 years ago. Experts refer to "cohort effects." For example, by comparison with the older generation of today, elderly people in thirty years time will be accustomed to using information technologies and will also be comfortable with rapid technological change. The health status of older people is also likely to improve with time and this should also exert a positive effect on their creativity. However, the French actress Jeanne Moreau has remarked that the "treasures within" – the key element which might provide compensation for the disadvantage of old people compared with young people – are not simply a matter of course. If an aging society wants to keep pace with a younger one, it will need to make substantial investments in the potential of the working population.

WHAT IS THE MOST EFFECTIVE WAY OF MEETING THE CHALLENGE OF "SAFEGUARDING SOCIAL SYSTEMS"?

"Like many other societies, German society is presenting a familiar phenomenon. Instead of 'setting aside' the current circumstances and looking for the best long-term scenarios relating to the issue of 'social security systems', the prevailing tendency is to be locked into initiatives designed to create short-term solutions. Whatever form these solutions ultimately take, the state will have to shift its role from being a 'full-service provider' toward that of a 'strategic partner' for citizens and the business community. Citizens need to become more aware of the costs that their behavior and lifestyle actually cause and companies will have to provide support for their customers in explaining this issue."

Markku Wilenius,
Senior Vice President, Allianz SE

Allianz and Mondial Assistance

As traditional family structures are eroded, organized help with everyday routines is becoming increasingly important for senior citizens and families with children alike. If increasing numbers of parents who have previously acted as carers are to be recruited for the labor market – and this is an inevitable consequence of demographic development – safety nets need to be spread to accommodate everyone. The senior citizens' service and the family assistance provided by Mondial Assistance organize all care essential to keep everyday life running smoothly in an emergency. This includes care services, journeys to physicians and authorities, school and kindergarten runs.

Strategy against wasted opportunities: investment in lifetime learning

The negative effects of the decline in the potential of employees can only be compensated by intensified training measures and correspondingly higher productivity of individual workers. In a nutshell, aging industrial nations like Germany simply cannot afford to allow young people to start their working lives without any qualifications. The quality of school and vocational training also needs to be increased and most importantly career training needs to be intensified. This is because learned knowledge is fast becoming obsolete due to technical progress and the length of time people spend working during their lifetimes needs to be extended. This is why life time learning is absolutely essential. In the language of economists, this means that the impairment of "human capital" needs to be kept as low as possible or that replacement investments (career training) are necessary on an ongoing basis in order to maintain productivity, let alone increase it.

The equation doesn't balance: fewer employees is not equivalent to safe jobs

What appears to be inevitable for society as a whole may have looked rather different to the individual at first glance. Individuals might be tempted to argue that in view of the general shortage of employee potential, there will be more demand for their labor over a longer period. They might also argue that they no longer need to increase their level of qualification in order to be assured of receiving a secure income in the future. The assumption could be that demographic development and the associated increasing competition for employees would correspondingly reduce the incentives to engage in training and further training. However, this assumption would not be appropriate if the demand and hence the pay for skilled and unskilled labor were to increase at the same rate due to the demographic development.

Displacement: the demand for unskilled workers will continue to fall

As shown in connection with technological progress, unskilled workers will increasingly be sidelined in the labor market. This contrasts with a shortage of skilled labor that is already dramatic in some areas today. This situation will become even more acute in the future. Pay for these workers will increase sharply and the incentive to undergo training and advanced training is therefore also likely to increase for other individuals. In economic terms, the level of pay commanded by well-trained employees is likely to increase over their entire working life, whereas the costs for advanced training – mainly comprising lost pay for the time used to undergo training – will not increase at the same rate. Accordingly, the financial benefits gained from training and hence the

DOES DEMOGRAPHIC CHANGE GO HAND IN HAND WITH A CHANGE IN VALUES?

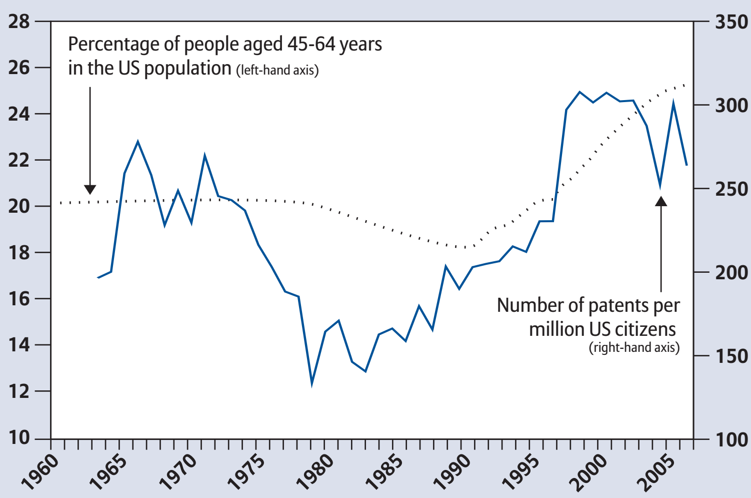
"The collective experience gained during the lifetime of the older generation represents a substantial asset for society and must not be squandered. We are effectively moving back to the era where age was synonymous with wisdom."

Markku Wilenius,
Senior Vice President, Allianz SE

incentive to invest in training will continue in an upward trajectory. This investment in human capital will in turn increase overall productivity within the economy.

If countries affected by demographic change want to continue to play a leading role in the global economy, it is essential to develop an enhanced awareness of the importance of lifetime learning in society and business.
_Contact: lorenz.weimann@allianz.com

POPULATION STRUCTURE AND PATENTS



Source: U.S. Census Bureau, U.S. Patent and Trademark Office

The effect of an **aging population** on the capital markets

Contrary to many assumptions made, demographic change is not necessarily the decisive factor governing the future of the capital markets. The global interaction between supply and demand is much more important. Demographic changes will not inevitably entail a collapse in the capital markets over the coming decades.

One widespread concern in many areas of the world is that demographic change might also exert a negative effect on the capital markets. Virtually all the baby-boomers have reached the stage in their lives when income and private savings are approaching the maximum in their life cycle. In around 20 years – even less in the U.S.A because the baby boom started there much earlier in comparison with Germany – these baby-boomers will be going into retirement, and disposing their savings so that they can use the income to enjoy their retirement. If everyone takes this line, the savings would drive up prices on the capital markets today and when they all sell at a later point, the capital markets would then collapse. The argument is that because there is a shortfall in children today, there will be no demand for these securities in the future. This link is known as the "Asset Meltdown" hypothesis.

Domestic demography though is not the only factor determining the development in the capital markets. The global availability and demand of capital are also potent factors. The emerging economies of Asia, most importantly China and India, are important when it comes to demand. Their capital requirement will remain high for the foreseeable future. However, these countries currently have excess cover for the capital requirements from their own savings, despite the large volume of **direct investments** that are being made there. Nevertheless, it is likely that this will change at some point in the future and investors are then likely to do more business in Asia. More infrastructural investments are needed as a matter of urgency in order to improve the opportunities for development and growth. Capital will also be needed in the aging industrial countries because ultimately the decline in the potential of the labor force will (inevitably) necessitate investments in technologies for automation.

The "Asset Meltdown": the actual demand rather than the number of buyers is the key factor

The availability of capital is associated with the issue of whether a dramatic decline in supply, due to demographic conditions and a consequent "Asset Meltdown," are inevitable. An answer cannot be provided by simply analyzing the size of the generation of pensioners and the number of people in the labor market. The actual value of the demand for securities is the key factor rather than the number of potential savers or sellers of securities. If we assume that economic growth will continue, every generation will strive to achieve a higher standard of

WHAT IDENTIFIES THE COMPANY OF THE FUTURE?

"Companies which turn their customers into 'ambassadors' will be positioned sustainably in the markets of the future. However, this strategy demands an in-depth understanding of true 'customer needs' and an entrepreneurial approach that is rarely encountered today."

Markku Wilenius,
Senior Vice President, Allianz SE

Allianz Global Investors – Global Demography Fund
Investors are committed to one of the most important global trends in a global Demography Fund managed by Allianz Global Investors – demographic change. The fund permits strategic investment in opportunities presented by companies who are benefiting from this trend. The logic of the fund is based on the hypothesis that there will be an increase in demand in all key industries, such as infrastructure, transport, finance, healthcare, food, real estate and consumption. An international approach also permits a particularly broad spread of investments.

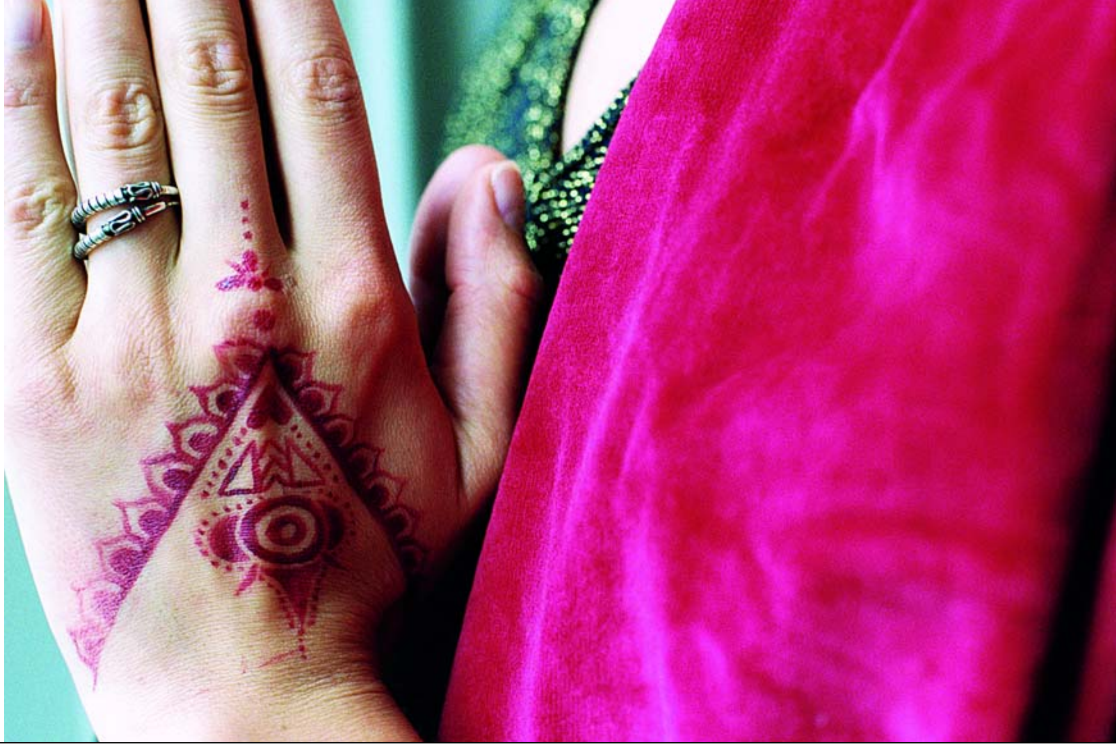
living than their parents' generation and this yields a higher per capita demand for securities.

It is not at all obvious whether this strong demand is more important than the reduction in the number of people creating the demand, or vice versa. At any rate, a decline in the demand for securities would be less dramatic than a comparison of the number of people suggests.

However, a much more important factor is that fully-funded retirement provision opens up the possibility of investing abroad. There is no restriction to investing in the home country as in the case of the pay-as-you-go model. Even if the size of the population in Germany and Europe is likely to fall over the next 50 years, the global population will continue to grow. By the same token, the increase in population is not restricted to the developing countries and emerging markets. The current population of 300 million in the U.S.A is expected to increase to more than 400 million by the year 2050. International **portfolio diversification** will be able to make use of demographic differences between individual countries.

Nevertheless, this does not mean that demographic change will have a benign influence on the development of the capital market. If the number of people available for work is tending to fall in some parts of the world and capital, in the form of savings, undergoes an increase, wages will be subject to higher rises than the price of capital. Accordingly, the returns will undergo a rather weaker development than in the past. However, this process is likely to entail gradual changes rather than dramatic swings. Forecasts are assuming that demographic development will cause the (nominal) return on capital in the EU to fall by 100 base points by 2035 and this will then increase. The sustained growth in the global population for the foreseeable future, increasing division of labor worldwide, integration of more economies in global trade and more closely networked global markets mean that a collapse in the capital markets due to demographic change cannot be regarded as inevitable. This highlights the fact that the real danger for capital markets is posed by stalling and reversal of the globalization process rather than demographic change. In this case, the long-term costs of the current crisis in the financial markets would far outstrip the current enormous losses.

_Contact: lorenz.weimann@allianz.com



Asset Meltdown
The "Asset Meltdown" hypothesis assumes that large volumes of assets will be sold when the baby-boomer generation (around 2020/2030) starts to retire so that the proceeds can be used to finance some of their consumption during retirement. Since the number of purchasers will be restricted due to the decline in the population, a drop in the price of equities, securities and real estate is likely to occur.

Capital stock
Defines the annual average gross assets of an economy and comprises all the manufactured assets that are used in production repeatedly or permanently for longer than one year. Alongside the employees, the capital stock plays a key role as a production factor. The capital stock is comparable with the average tied-up capital.

Cohort effect
A sociological term that links behaviors to the membership of different cohorts (social groups), not simply to the age. This leads to the assumption that senior citizens in 30 years' time will have a different approach compared to senior citizens today, e.g. will be accustomed to using advanced information technologies and comfortable with rapid technological change.

Contract between generations
The concept of a "contract between generations" describes the social consensus by which the contributions paid by each young working generation toward social security are used to finance the current pensions of the older generation. The current working generation simultaneously acquires an entitlement to future pension payments.

Direct investment
Describes a foreign investment in which capital is not exported purely for purposes of wealth accumulation. Rather, the aim is to operate entrepreneurially abroad or to exert a decisive influence on entrepreneurial activity. According to the International Monetary Fund (http://de.wikipedia.org/wiki/IMF), a characteristic of a direct investment is a shareholding of at least 10% in the company abroad, although taking the controlling aspect into consideration a shareholding of 25% or more is generally assumed.

Fully-funded system
The fully-funded system involves the insured person saving for themselves. Initially, the contributions are higher than the outgoings incurred enabling a capital stock to be built up. This is then released when the outgoings are higher than the contributions. The budget is balanced over the average lifespan of an individual. The simplest form is a fully-funded annuity insurance into which only contributions are paid (i.e. no benefits are paid out and from a specified age annuity payments are paid out of the capital stock and no further contributions are paid). The cash value of the contribution payments corresponds to the cash value of the annuity benefits.

Level of pension
Relationship between the average pension and the average income of employees. The level of pension is calculated on the basis of the "average pensioner," a fictitious person in Germany who is 65 years old and has paid into the statutory pension insurance for a period of 45 years.

Limit for retirement age
The current limit for retirement age in Germany is attained when a person reaches the age of 65. Another factor is completion of the general waiting period, i.e. the minimum insurance period (currently five years) in a pension insurance in order to be able to draw the retirement pension. The conditions of the retirement pension are defined in article § 35 German Social Code (SGB) VI.

Opportunity costs
Loss of profits that arise when several alternatives are available as a result of the decision to opt in favor of one option against the other possibilities. Also referred to as "costs of regret" or "costs of lost profits."

Pay-as-you-go system
The pay-as-you-go system is based on the principle that younger net payers support older net beneficiaries. The income derived from premiums within a given period is used up entirely to finance outgoings. No money is set aside. For example, the contributions paid in by the employees are used to pay for the pensions of older people. The pay-as-you-go system implicitly establishes a contract between generations because the current employees pay for the pensioners, i.e. the young people take care of the older generation, and each younger generation assumes that they will also be cared for by the next generation of young people during their retirement.

Portfolio diversification
Method of reducing the risk of cash investments in which the investor doesn't simply invest in individual stocks but in a broad spread of securities where the development of value is maximally uncorrelated. Portfolio diversification therefore describes the spread of risk in the portfolio (securities account mix).

Return on training
Financial benefits gained from training as a percentage gain on earned income achieved by an individual through additional training measures. If this parameter is analyzed in terms of society, the return on training represents the growth in total economic value added that is generated by the additional training investments.

Sandwich generation
Generation aged between 40 and 60 today that is "trapped" analogous to the filling in a sandwich between the need to save private capital for their own retirement provision while also having an obligation to make payments into the statutory, pay-as-you-go pension in order to finance the benefits paid to the pensioners of today.

Workforce potential
All the people who are available in the labor market to the economy: employees, unemployed, dormant reserves ("concealed unemployment").

Publisher:
Allianz SE
Königinstraße 28
80802 Munich
Germany
www.allianz.com

Editor-in-chief (responsible):
Emilio Galli-Zugaro

Editors:
Claudia Mohr-Calliet, Silke Bonarius

Editorial Team and Authors:
Allianz Group Economic Research & Corporate Development
Allianz Global Investors – Pensions International – Isabel Bodlak

Photos:
Allianz, Getty Images, Shutterstock

Printed by:
Mühlbauer Druck, Munich

Questions, further information and feedback to:
claudia.mohr-calliet@allianz.com, silke.bonarius@allianz.com, lorenz.weimann@allianz.com

Status:
July 2009

DEMOGRAPHY

Shape your **future**

Allianz