



Leopoldina  
Nationale Akademie  
der Wissenschaften

## More Years, More Life

Recommendations of the Joint Academy Initiative on Aging





Leopoldina

Nationale Akademie  
der Wissenschaften

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of the Recommendations of the Joint Academy Initiative on Aging  
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## **More Years, More Life**

## **Recommendations of the Joint Academy Initiative on Aging**

Appointed by the  
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National Academy of Sciences  
in collaboration with the  
acatech – German Academy of Science and Engineering  
  
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## Foreword

This text is the translation of recommendations that address the opportunities and challenges posed by demographic change and were originally published in German. They were compiled by the Joint Academy Initiative on Aging, a group of scholars, scientists, and practitioners from more than ten disciplines and fields. The Joint Academy Initiative was set up by the German Academy of Sciences Leopoldina (National Academy of Sciences) in collaboration with the acatech – German Academy of Science and Engineering. Its activities were funded by the Jacobs Foundation Zurich. The recommendations were adopted by both academies after separate (and external) evaluations.

These recommendations focus on the impact of demographic aging on the world of work and lifelong learning in Germany. As aging in the context of work and lifelong learning, however, is closely associated with other domains of life such as health, the family, civil society, and politics, those are also covered. Furthermore, the topics of technology, and local communities and regions are explored in relation to aging. Other areas, such as the reform of pension schemes and the health system, have intentionally only received marginal attention, although they are relevant to the societal opportunities and challenges of aging. These issues have already been examined extensively in other settings and with high levels of expertise.

What is special about the Joint Academy Initiative on Aging? First, it was constituted by two academies. Second, it encompasses a truly wide range of disciplines: history, computer science, medicine, neurosciences, economics, philosophy, political science, psychology, law, and sociology as well as regional studies and engineering. Third, within this mix of disciplines all had equal weight and put forth the different perspectives presented in these recommendations. This has resulted in a complex, cross-disciplinary approach that is described in more detail in Part A and affords a systemic view of demographic change. We believe that this is the innovative aspect of our report. Throughout the text the reader will find cross-references to other chapters highlighting the linkages between perspectives.

It is one of the important tasks of academies to provide the best scientific advice to policy makers and public institutions, to companies and civic organizations, as well as each citizen. Prospects and risks of aging are an issue of concern to the general public, and making use of the best scientific findings will help to develop the potential of demographic aging while avoiding its pitfalls. Accordingly, the following recommendations supply information as a basis for public dialogue. The Joint Academy Initiative on Aging was launched in 2005 by Paul B. BALTES, psychologist, gerontologist, and Vice President of the Leopoldina. His ideas

shaped the Initiative well beyond his far too early death in November 2006. The recommendations owe a great deal to him.

The Joint Academy Initiative compiled, supplemented, and weighted the findings of relevant academic research on opportunities and challenges of demographic change over a period of three years (2006–2008). It also consulted other recommendations addressing the consequences of demographic change in the past, such as the parliamentary Enquete Commission's report on demographic change ("Demographischer Wandel," 2002), the German Federal Government's five reports on seniors ("Erster bis Fünfter Altenbericht," 1993–2005), the Expert Commission's report on objectives in policies for elders ("Ziele in der Altenpolitik," 2001–2007), or the Expert Commission's report on funding of lifelong learning ("Finanzierung Lebenslangen Lernens," 2001–2004). A large number of experts from Germany and other countries were invited to workshops hosted by the Joint Academy Initiative. The experts' reports were compiled and are recorded in eight volumes of findings.<sup>1</sup> They document the state of the art in research on the topics presented in these recommendations. This text does not contain any footnotes and bibliographic references. The respective findings and references are contained in the individual volumes of findings (see Footnote 1).

In early 2009, the recommendations were published in German ("Gewonnene Jahre"), and the academies have since embarked on an intensive dialogue with interested parties on facets of aging in the world of work, on lifelong learning, on a facilitative technical environment, on age-sensitive health systems, and on the effects of age stereotypes, among others. Within Europe, Germany is one of the countries with a relatively high life expectancy and a particularly low birth rate. However, aging is a global trend that is making even faster progress in other continents. Other countries' demographic situations and policies have influenced and inspired us. *Vice versa*, we hope our policy recommendations can enrich the debate in other countries.

The signatory members of the Joint Academy Initiative on Aging (and thus the authors of the recommendations) are listed above. A number of further experts from academia and practice contributed to the Joint Academy Initiative's activities and provided advice: Wolfgang STREECK as its member; as junior members: Björn FALKENBURGER, Karsten HANK, Miriam HARTLAPP, Peter U. HEUSCHMANN (until the end of 2007), Hendrik JÜRGES, Claudia VOELCKER-REHAGE, and Thomas ZWICK; as associated members and guests: Norbert BENSEL (until May 2006), Margret SUCKALE (since May 2006), Haug VON KUENHEIM, and Herbert SCHILLER; Ernst BAUMANN, Klaus BECKMANN, and Günter STOCK supported the Joint Academy Initiative as consultative partners. Our thanks go to all of them for their contributions and ideas.

We would also like to thank the research assistants who were involved at various times and in various ways and were partly able to further their own research in this context: Helen BAYKARA-KRUMME, Stephan BEETZ, Kai BRAUER, Dirk BRANTL, Anne DIETEL, Marcel ER-

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1 Vol. 1: "Bilder des Alterns im Wandel," edited by Josef EHMER and Otfried HÖFFE in collaboration with Dirk BRANTL and Werner LAUSECKER; Vol. 2: "Altern, Bildung und lebenslanges Lernen," edited by Ursula M. STAUDINGER and Heike HEIDEMEIER; Vol. 3: "Altern, Arbeit und Betrieb," edited by Uschi BACKES-GELLNER and Stephan VEEN; Vol. 4: "Produktivität in alternden Gesellschaften," edited by Axel BÖRSCH-SUPAN, Marcel ERLINGHAGEN, Karsten HANK, Hendrik JÜRGES, and Gert G. WAGNER; Vol. 5: "Altern in Gemeinde und Region," by Stephan BEETZ, Bernhard MÜLLER, Klaus BECKMANN, and Reinhard F. HÜTTL; Vol. 6: "Altern und Technik," edited by Ulman LINDENBERGER, Jürgen NEHMER, Elisabeth STEINHAGEN-THIESSEN, Julia DELIUS, and Michael SCHELENBACH; Vol. 7: "Altern und Gesundheit," edited by Kurt KOCHSIEK; Vol. 8: "Altern: Familie, Zivilgesellschaft, Politik," edited by Jürgen KOCKA, Martin KOHLI, and Wolfgang STREECK in collaboration with Kai BRAUER and Anna K. SKARPELIS. These volumes were published in German in the series Nova Acta Leopoldina Neue Folge, Deutsche Akademie der Naturforscher Leopoldina, Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart 2009.

LINGHAGEN, Heike HEIDEMEIER, Rainer HEUER, Sandra HUNING, Werner LAUSECKER, Katja PATZWALDT, Elfie REMBOLD, Michael SCHELLENBACH, Anna SKARPELIS, and Stephan VEEN.

The Joint Academy Initiative would like to express its thanks to the Leopoldina und to acatech as well as the Jacobs Foundation for institutional and financial support. We are especially grateful to the late Klaus J. JACOBS, founder of the Jacobs Foundation, and to J. Christian JACOBS, its present Chairman. The study of aging and the necessary bridging of the gap between scholarly research and practice was and remains close to their hearts.

The draft versions of the individual chapters were compiled by the following authors: Chapter D.1 by Josef EHMER, Otfried HÖFFE, Dirk BRANTL, and Werner LAUSECKER, D.2 by Ursula M. STAUDINGER, Heike HEIDEMEIER, Katja PATZWALDT, and Claudia VOELCKER-REHAGE, D.3 by Uschi BACKES-GELLNER, D.4 by Axel BÖRSCH-SUPAN, Marcel ERLINGHAGEN, Hendrik JÜRGES, Karsten HANK, and Gert G. WAGNER, D.5 by Stephan BEETZ, Bernhard MÜLLER, Reinhard F. HÜTTL, and Klaus BECKMANN, D.6 by Ulman LINDENBERGER, Jürgen NEHMER, and Elisabeth STEINHAGEN-THIESSEN, D.7 by Elisabeth STEINHAGEN-THIESSEN, Ulrich BECKER, Otfried HÖFFE, Ulrich KEIL, Martin KOHLI, Georg WICK, and Anne DIETEL, D.8 by Jürgen KOCKA and Martin KOHLI, and D.9 by Wolfgang STREECK. The Joint Academy Initiative discussed, rearranged, supplemented, and revised the draft versions. The signatory members listed above bear the responsibility for these recommendations as a whole. The translation into English was conducted by Michael GARDNER and Julia DELIUS. The editorial process of the English language version of the recommendation was supervised by Katja PATZWALDT with great diligence.

Ursula M. STAUDINGER  
Vice Chair

Jürgen KOCKA  
Chair

For the translation  
Bremen and Berlin, November 2009



## A. Outline

### 1. A Historically New Situation: Opportunities and Challenges

At the beginning of the 20th century, the life expectancy of women in Germany (at birth) was 48 years, and that of men was 45 years. Today, they can expect to live 82 and 77 years, respectively. This gain in years was initially due to overcoming infant and childhood mortality, but for a number of decades, it has mainly been occurring at later stages in life. Life expectancy is now rising markedly among older adults in particular. Around 1900, 60-year olds had another 13 to 14 years to live on average, whereas today, they can expect about 23 further years, 25 among women and 21 among men. This trend is going to continue. Current predictions state that in 40 years' time, on average, 60-year-old men will have another 26 years ahead of them, and 60-year-old women even a further 30 years – in other words, no less than half of their previous lifetime! Whereas in the late 19th century, just 5–6 % of all newborn babies had the prospect of reaching an age of at least 80 years, nowadays, this is the case for almost every second newborn boy and for around two out of three newborn girls. More and more people are reaching very old age with better physical and cognitive functioning. However, trends in labor market participation have pointed in the opposite direction. Since the 1970s, and up to a few years ago, many people opted for an early retirement before the statutory retirement age of 65. Only every fourth 60- to 65-year old in Germany is still gainfully employed. This share quickly drops to just a few percent among the over 65-year olds. However, the trend to take early retirement has been stopped in the last years when subsidies for such schemes were phased out and the official retirement age was raised to 67 years for younger cohorts.

However, the odds of living longer are not equally distributed. For example, a glance at the male recipients of statutory pensions reveals that a 65-year old who has earned little in his previous working life can, on average, expect to live a further 14 years, while an age peer with a high previous income can hope to live another 19 years. There are a wide range of reasons for this unequal distribution of life expectancy. They include different working and living conditions, different health behaviors (in terms of smoking, diet, physical exercise), unequal access to health services, and the impact of childhood diseases on later income attainment. The weight of individual factors with regard to the explanation of survival differences is still under scientific debate.

The increase in life expectancy is one core element of demographic change. The other element, which also started toward the end of the late 19th century, is the decline in births.

Whereas a woman gave birth to around 5 children in late 19th-century Germany, today's average is just 1.5 children.

Rising life expectancy on the one hand and falling birth rates on the other have led to a clear shift in the population's age structure. This shift is going to continue. In 1900, 44 % of Germans were 20 years old or younger, while 48 % belonged to the age groups between 20 and 60 years, and just 8 % were 60 years old or older. In 2006, the corresponding shares were 20, 55, and 25 %. For 2050, it has been estimated that only 15 % of the population will be under 20 years old, less than half will be aged 20 to 60, and just under 40 % will be 60 years old or older. These trends are also reflected in the growing groups of the population with a migration background, albeit with a delay. In some countries, including Germany, these demographic changes are resulting in a higher share of older people as well as a decrease in population size. The latter can be slowed down but not evened out by immigration.

A pessimistic view on population aging foresees a loss of productivity and innovative potential as well as an excessive burden resulting from pension and health costs and a slackening of societal and governmental reform forces. This view will hold true if population aging is not matched by consistent policies and by entrepreneurial, societal, and individual action as suggested below.

To sum things up: What are the *opportunities* that the gains in average life expectancy do offer, and how can they be realized? What *challenges* arise from demographic aging, and how should they be addressed? These are the two central questions that the following recommendations set out from.

The strong increase in life expectancy that has been observed since the middle of the 19th century, and the high and probably still growing average population age are a novelty in human history. This phenomenon has never occurred before. And demographic change is not limited to Germany. It is a European phenomenon and even reflects a global trend. The trend began in Europe and has made particular progress here and in Japan. Within Europe, Germany is one of the countries with a relatively high life expectancy and a particularly low birth rate. Demographic change has already set in on other continents too, and is now making even faster progress there. Today, more people are over 60 years of age than under 15 years in Europe. According to a United Nations forecast, Asia will reach this age distribution by 2040, and the American continent will follow suit a little later. By the middle of the 21st century, there are likely to be more people over 50 years of age than below 15 across the globe. Thus world population growth is set to slow down significantly.

This demographic situation, which is completely new to human history, requires openness, changing attitudes, and new action. Its global dimension suggests to consider experiences gained in other countries. Conversely, the ways in which we deal with the challenges posed by demographic change and make use of the opportunities offered by longer lives in Germany may serve to stimulate other countries.

## 2. Basic Principles

The following recommendations set out from a central hypothesis: Gains in life years represent a *potential* for progress that has not yet been fully exploited. They offer considerable opportunities in terms of individual life concepts, the coexistence of generations, and the viability of society. Currently, however, these opportunities cannot unfold their potential because our notions of aging are guided by antiquated institutional, social, and cultural orders that evolved in the past decades and centuries, when very different demographic conditions prevailed. Still, they have persisted: in deeply rooted habits, in images in our minds or in institutional rules governing how we live together. Many opportunities have already been wasted because of them.

The interdisciplinary Joint Academy Initiative on Aging has compiled the results of relevant academic research on opportunities and challenges posed by demographic change and supplemented and processed them. In structuring and assessing the results, the Joint Academy Initiative was guided by scientific insights, but also by its goals and values – and these were sometimes arrived at after controversial debate among its members.

The Joint Academy Initiative aims to achieve the following *three objectives*:

- First, the possibilities for *individuals* to manage their lives in old and very old age *independently* and *autonomously* should be improved. This requires *personal responsibility* and individual and cultural conditions that open up or maintain a freedom of choice between alternative activities and forms of living. However, support of any individual person's freedom has to be balanced against the good of society as a whole.
- The aim is, second, to create a productive and fair *relationship between the generations* that is based on solidarity, to counter a dissociation of the generations, and to encourage members of different age groups to make contributions to society corresponding to their respective age-specific strengths. In this sense, a *society for all ages* is the goal.
- The third target concerns the securing and strengthening of *development opportunities* for individuals, cooperation between the generations, and the *viability of society* as a whole. The potential of demographic change needs to be unfolded by taking into account both individual and societal conditions – today and in the future.

In pursuing these goals, the Joint Academy Initiative on Aging sets out from the following four assumptions:

- It is not enough to concentrate on the phase of old age alone. Rather, it is necessary to consider the *whole life-course*, the way it is structured today, and the way it could be lived in the future. Childhood, adolescence, as well as middle and late adulthood need to be considered conjointly – widening the perspective to encompass society as a whole. Without societal change, it will not be possible to take advantage of the years gained and master the challenges of demographic change. The increase in the share of older people makes reforms that are already on the agenda all the more urgent. Examples are the improvement of lifelong learning, sustainable working conditions, and career development. Surprisingly enough, an “aging society” could therefore be more dynamic than a young one. We are aware that such a comprehensive approach represents a considerable challenge both in terms of timing and of societal involvement – its implementation requires considerable persistence and hence bipartisan consensus.



- Aging is what we make of it. Behavioral scientists describe this as the *plasticity* of human development, historians and sociologists as the changeability of the human condition. However, plasticity and change depend on individual and collective resources of a biological, cultural, psychological, and social nature. Changing the way we grow old requires interventions both on the side of the individual as well as that of society. Paul B. BALTES introduced the concept of “bio-cultural co-constructivism” to denote this mutual dependency.
- However, the plasticity or changeability of human development and human societies is not infinite. Rather, it moves within certain *limits* that need to be identified. These limits result both from the biology of the body and from the properties of the institutional world. But in the long term, the shifting of these limits and the risks this entails (e.g., in the context of research on life prolongation) will come to the fore of our interest.
- We are aware that institutions and cultural norms can only be changed very slowly and step by step, not least because of arising costs. Since the future cannot be predicted with certainty, a *stepwise approach* does also have advantages. These recommendations aim at making exhaustive use of opportunities to improve, and have been formulated knowing that extant conditions have a strong tendency to prevail. Being urged to abandon what has been regarded as normal, customary, good, and sensible for decades provokes resistance. It needs to be taken seriously and met with new incentives that help making the transition. The Joint Academy Initiative on Aging wishes to contribute to overcoming such resistance by providing the best scientific insights on what is necessary and what is possible when it comes to making the most of longer lives.

### 3. The Focus: Work and Education

The Joint Academy Initiative has mainly examined the prospects of living longer and the challenges posed by demographic change with regard to the domains of work and lifelong learning. These two domains are particularly important for three reasons:

- First, they are of fundamental importance to the individual and to society. Without doubt this applies to *work* in its many forms: from gainful employment to familial and voluntary work in civil society. Work is probably the most important medium bringing people in contact with one another, continuously and beyond the family, via the division of labor and dependencies, but also in social exchange after work. In the modern working society, the rights and duties mutually linking the individual and the community are largely determined by labor and its outcomes. Without *lifelong learning*, productivity is very restricted. In the form of general education and more specialized training and further education, it contributes to determining which of their wide range of opportunities people can realize. Education is both inclusive and exclusive. For individuals and society, basic education, training, further education, and lifelong learning<sup>2</sup> are important investments in the future. *Work and lifelong learning* are important determinants of individual and overall economic productivity. They are crucial to the well-being and living standards of individuals and society alike.
- Second, work and lifelong learning are closely associated with the structure of the life-course and aging. It has been customary to distribute education and work unevenly among the phases of life. This kind of assignment has even served to delimit and define life phases. For example, childhood and youth is frequently associated with (primary) education, while elders are often thought of as “retired” from gainful employment. But such stringent delimitations require renewed assessment and modification. Access to education and work is not only socially unequally distributed but also in relation to age, as reflected in the low rates of participation in the labor force and in training of over 55-year olds. Not only do education and work histories shape social inequality, they also impact on differences between age groups and between generations.
- Third, longevity and demographic aging confront the multifaceted reality of work and lifelong learning with new challenges as well as granting new opportunities. Fundamental changes to the domains of work and lifelong learning are necessary for people’s quality of life to improve – generational segregation needs to be countered and societal productivity and well-being sustainably maintained and enhanced. Not only the distribution of work and education across life has to change, but also the *forms and contents of education and work* need to change accordingly.

There is no doubt that the impact of demographic change on work and lifelong learning cannot be treated meaningfully without considering the linkages with other domains such as health, family, civil society, and politics. However, these domains are dealt with in less detail. First of all, readers are given a summary of the Joint Academy Initiative’s recommendations (Part B). While preparing this volume, it became clear that one central precondition for unfolding the potential of demographic aging is: changing attitudes and overcoming prevalent

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2 Further education refers to all forms of formal learning among adults.

negative stereotypes about aging and old age. Guided by this insight, we have compiled a number of myths about aging in Part C and refuted them on the basis of scientific evidence. When formulating these 15 myths and their refutation we intentionally overstated the case in order to stimulate rethinking traditional images of aging.

In Part D, the Joint Academy Initiative's recommendations on the most important fields of action, are presented in detail. First of all, *Chapter D.1* addresses the different images of aging that exist in our minds today as well as those that have existed in the minds of people in former times and other cultures. The diversity of these images, the power they exert in everyday life and their malleability are highlighted. We call for a revision of such images in the light of nowadays experiences and of desired developments. In *Chapter D.2*, the focus is on aging as an individual process. The ability to learn and be creative into old age and its mutual dependence on biological, personal, and societal conditions is considered. The recommendations aim at redesigning the typical life-course in order to make better use of the years gained. The degree to which the latter can be accomplished is codetermined by the working and educational environment, which is discussed in *Chapter D.3*. We recommend to facilitate and increase the participation of older people in the labor force by introducing new incentive systems as well as employment strategies. The transition between gainful employment and retirement needs to be smoothened. *Chapter D.4* shows that, in terms of competitiveness, "aging societies" need not fall behind, and indicates how this can be achieved.

Then, in *Chapter D.5*, the topography of demographic change is explored and recommendations regarding infrastructure, housing, and regional and local government policies are developed. How modern technology can contribute to maintaining independence and quality of life into very old age and where the economic potentials of age-friendly technologies lie is described in *Chapter D.6*. *Chapter D.7* dispels widespread misconceptions about older people's health and the forthcoming burdens posed to society by the rise of very old age. It stresses the considerable potential of prevention in older age and develops recommendations on mitigating typical health-related legal and ethical problems. With its considerations on care and nursing needs and its plea for a more humane culture of dying, this chapter is also devoted to characteristics of old age that reveal limits of plasticity and of the hopes for a *vita activa*. *Chapter D.8* explains how longer lives and demographic change do not only entail burdens to the family and society. It illustrates new options for cooperation, equilibrium, and solidarity among the generations. Finally, *Chapter D.9* deals with how politics might change in societies with aging populations. It demonstrates that a future "clash of generations" is neither necessary nor probable if the right steps are taken by astute policy-making and particularly by advancing the welfare state.

## **B. Summary**

These recommendations set out from the very positive news that demographic development in the past century has considerably extended human life, and what is more, older ages are also attained in better health. Thus, the potential objection that the gift of prolonged life has not kept its promises is already partly refuted – being old cannot be equated with being ill.

In spite of this, there is still some skepticism about the gift of longer lives. A closer look shows that demographic change does indeed imply a general challenge for Germany. The population is growing older and declining. Can the achievements of the welfare state be maintained and further developed under these demographic conditions? The Joint Academy Initiative answers this question in the affirmative. However, this will only apply if a number of changes are implemented over the next few years. Some of these changes affect every one of us, while others impact on the world of business and the economy, and yet others on politics and government institutions. The recommendations contained in Part D describe these changes and outline ways that they can be realized. However, the risks of demographic change will come to the fore if society, companies, and individuals respond too late or too reluctantly.

The German population is growing older and declining: Is this a threat to productivity and thus also to the continued funding of the welfare state's achievements? And does this call into question the possibilities of people to take advantage of their longer lives and live them to their satisfaction?

Not necessarily: Living standards will not come under threat if the number of employees and their productivity can be raised. This is possible. There are, without question, reserves on the German labor market among the over 55-year olds, among women, and migrants. These reserves need to be activated. In addition, productivity can be raised by targeted investment in education and optimized work organization.

To avoid any misunderstandings: Prolonging working life as recommended does not mean a mere extension of work biographies as they are customary in Germany today. Rather, the emphasis is on changing the conventional division of life into stages of education, work, and retirement, and on the restructuring required in various life domains. This is the fundamental challenge and simultaneously the greatest opportunity that demographic change poses for the individual, companies, and society as a whole. The consequences of the changes required will place particular demands on current elders and those of the immediate future. Special support must be offered to these generations. However, the demands put on today's and tomorrow's older adults should not be used to argue against the introduction of necessary changes.

For the individual, this means: (1) Changing deeply rooted conceptions of lifetime structures and old age. (2) Supplementing the phase of education and training before working life with shorter phases of education and training that are distributed throughout an individual's entire working life. (3) Readiness to carry out different kinds of work in the course of a longer lasting working life. (4) Strengthening individual responsibility for one's own health, provision for old age, and social participation in the course of a longer life.

For companies, this means: (1) Continuous investment in the development of employees' skills and competence of all qualification levels. (2) Employing older adults. (3) Enabling and fostering changes in occupational activities without rises or drops in occupational status.

For society, this means: (1) Overcoming a negatively biased image of old age. (2) A further dismantling of the three-phase structure of life. (3) Facilitating the transition to a new biographical structure for individuals and companies by eliminating counterproductive rules and by temporarily setting incentives to change traditional behavioral patterns. (4) Renewing the intergenerational contract without questioning its achievements. This requires adequately adapted work, employment, and health policies. (5) Institutionalization of opportunities to participate in society alongside paid work, above all in civil society, the local community, and the family.

If these changes can be successfully implemented, the gift of a prolonged life may keep its promises after all, and the years gained will represent a true gain. Good use and further development of modern information technology is important in this context because it can facilitate self-determined, independent lives in old age.

However, this view of later life as a "*vita activa*" should not distract from care needs or from death and dying. Germany's success of coping with demographic change must also be measured against its quality of care, as well as its culture of dying and death. In a society with a large proportion of old adults suffering and death will come to play a more central role in society. Paying cultural respect and embedding these terminal aspects of life in the midst of society will become testimonies of social progress. Issues such as the living will are gaining significance and require continuous legal and societal debate.

At present, there is a large gap between the new *opportunities* that demographic change over the last century has created and the institutional, social, and cultural *orders* that evolved under former demographic conditions and are now outdated. These recommendations describe important steps to change these orders in the world of education, in companies and the economy, in regions and local communities, in families, civil society, and politics, in people's minds, and in everyday practice. Seemingly basic concepts need to be reassessed. The statistical aging of the population is undisputed, but this does not necessarily result in the "aging of a society." The nowadays widely used term of an "aging society" that often is used to denote the concerns about demographic aging easily becomes misleading. However, an old-age ossification of our society is just as unlikely as the frequently predicted "clash of generations." Still, there is a need for action. Demographic change is increasing the pressure on individuals and culture as well as society and politics to change. It is important to exploit its impetus as a driving force for necessary change. Demographic aging will then in fact contribute positively to social dynamics and innovation rather than "societal aging".

## C.        **Myths about Old Age and their Refutation**

There are many biased and often negative beliefs about old age. They are deeply rooted in our thinking but nevertheless false. They are myths. The Joint Academy Initiative is convinced that one important and indispensable step on the way to making use of the potential contained in longer lives is to revise these myths. In the following, we will present the most prominent myths in a purposefully overdrawn fashion. We think that this presentation is both legitimate and useful precisely because these statements have become so normal and common that many falsely believe that they are true.

*Myth 1: "Old age begins at 65 years."*

*Wrong.* The notion of old age beginning at a certain chronological age may be old but nevertheless remains a social construction. It goes back to antiquity, survived the Middle Ages, and has prevailed in modern times. It is also widespread in non-European cultures. In the past, only very few people knew how old they really were, and the issue was of no relevance to their lives or the working world. With the advent of the modern state, the world of industrial production, and the pension systems of the 20th century, chronological age limits gained practical significance for everyone. Today, they are becoming more and more questionable: They ignore the fact that growing numbers of people are capable of an active and self-determined life at ever older ages.

*Myth 2: "A person's chronological age tells you a lot about him or her."*

*Wrong.* The older we become, the less meaningful chronological age is. Whereas babies' and toddlers' developmental steps only differ by weeks and months between individuals, differences among adults become increasingly larger. Up to adolescence, chronological age allows pretty precise inferences about a person's skills and abilities, but during adulthood the differences between individuals grow ever larger. This is because human development does not consist of a preset program but ensues from the continuous interaction between biological, cultural, and personal influences. In old age, the differences between age peers can be so great that a 70-year old may perform just as well as a 50-year old, but equally, a 70-year old may look and feel just like a 90-year old.

*Myth 3: “Older people can’t learn anything new.”*

*Wrong.* For as long as people live without severe impairment by sickness, they can learn new things. However, learning and changing also depends on the resources and incentives available. Adults will learn especially well if they can recognize a concrete benefit and can apply the newly acquired knowledge. Readiness to learn as an adult also strongly depends on the previous amount of education.

*Myth 4: “Older employees are less productive.”*

*Wrong* (as a generalized statement). Older and younger employees differ in terms of their strengths and weaknesses. While older employees may be physically less strong and respond more slowly, they generally have more experience as well as social and everyday competencies. Productivity depends on how these abilities are weighted and how they match the requirements of a specific job. Scientific evidence from companies in which productivity can be measured using objective criteria shows that the division and organization of labor roughly evens out age-specific advantages and disadvantages. Days of illness do not increase with age, as a widespread prejudice would suggest. While older employees may be absent longer once they are sick, they fall ill less frequently than their younger colleagues. Also, younger and older workers do not differ regarding how often they make proposals on improvements and innovation in a company.

*Myth 5: “Older people don’t want to have anything to do with modern technology.”*

*Wrong.* Older people also like to benefit from modern technology if it makes their life easier and helps them to achieve their goals. Thanks to technical support, many older people can run their own households and cope better with their outside environment. Technology can prevent, delay, compensate for, and mitigate the impacts of age-related losses and restrictions by training abilities, supporting everyday competencies, and monitoring vital functions. It can learn the habits and preferences of users and support them when required. In addition, it is a gateway to the world for people with physical disabilities – more and more older adults are using the internet.

*Myth 6: “Older people are taking jobs away from young people.”*

*Wrong.* For the economy as a whole, the increased employment of older staff does not clash with an increased recruitment of younger workers. On the contrary, the employment of older workers may boost the creation of new jobs and economic growth because it reduces non-wage labor costs owing to lower social-insurance contributions. In contrast, early retirement provisions put strain on younger employees through high social-insurance costs and price-related revenue decreases. Both factors reduce employment. This is also clearly underscored by the fact that in OECD countries with particularly early retirement (e.g., France, Italy), youth unemployment is especially high.

*Myth 7: "Economies with an aging population are doomed to zero growth."*

*Wrong.* Economic growth depends on the growth of the number of employees multiplied by their working hours. By no means does labor productivity fall irreversibly as employees get older (cf. Myth 4). More training and education as well as a better use of machinery and computers can even further improve it. Neither must the number of employees necessarily drop in societies with more elders. Germany, in comparison with other countries, has a low level of employment of women and older people. If the labor force participation rate in Germany were brought up to the level of Denmark and Switzerland over the next 25 years, it would be possible to almost completely offset the changes in the population age structure. Hence, whether we will be able to maintain our current economic growth or venture into zero economic growth in the future crucially depends on our efforts to achieve high employment rates and to improve employees' training.

*Myth 8: "Older employees have to be protected by special regulations."*

*Wrong* (as a generalized statement). Specific protection of those older people who are employed ("insiders") may prove detrimental to precisely those older people who are not employed ("outsiders"). For example, if companies have to assume that older employees cannot be laid off because they are legally protected against dismissal, they will prefer to take on younger staff with weaker protection in order to remain flexible regarding staff numbers.

*Myth 9: "Higher average life expectancy means more sickness and more need for care."*

*Wrong.* Among both men and women, health-related impairments and chronic disabilities in old age have decreased in comparison to earlier times. In the 1990s alone, the average healthy life span beyond the age of 65 years grew by 2.5 years in men and 1.5 years in women. Thanks to progress made in medicine, strokes or heart attacks are survived more frequently. Impediments due to these diseases are becoming rarer, and with modern technical and medical aids, they can be better endured. In spite of chronic illness and/or disability, the quality of life is better than in the past. All in all, the risk of disability has decreased in Germany over the last few years.

*Myth 10: "Prevention and rehabilitation are useless in old age."*

*Wrong.* Prevention and rehabilitation are essential and effective at all ages and especially also in old age. Elderly people benefit enormously from targeted and early rehabilitation following, for example, stroke, heart attack, or a hip fracture. Rehabilitation often prevents long-term disability and need for care. A healthy diet, physical exercise, non-smoking, and protection against second-hand smoking are the pillars of prevention and health promotion. Therefore everything ought to be done on the individual and the societal level to improve dietary habits, increase physical activity and reduce smoking. An individual's level of performance and vitality is not fixed. Rather, they can, and need to be developed, maintained and restored constantly by an active and healthy lifestyle.



*Myth 11: “Aging reduces mobility.”*

*Wrong.* Older people are mobile in a variety of ways, although the purposes of mobility do change. Mobility and activity interact closely with one another. This applies both to everyday forms of mobility and to changing places of residence. However, the mobility needs of older people and the mobility services offered frequently do not match. Thus, older people are condemned to immobility too early, participate too little in public activities, benefit less from services, and live with an infrastructure that is not optimized for a society of all ages.

*Myth 12: “Older people are a burden to their relatives.”*

*Wrong.* All in all, older adults provide more support to their relatives than they receive from them. This is accomplished both financially and via practical support, e.g., by helping in the household and looking after their grandchildren. If intergenerational financial transfers and the monetary value of the practical support are added up, older people prove to be bigger support providers than recipients up to the age of 80 years. Only thereafter does receiving support come to the fore. They make a crucial contribution to younger adults’ lives, often enabling them to enter a profession or start a family. In addition, older people are very much involved in voluntary work.

*Myth 13: “A clash of generations is imminent.”*

*Wrong.* Empirical research shows that neither in families, civil society, nor politics are the differences between generations greater than the cohesion between them. Moreover, everyone wants to reach old age. In a clash of generations, younger people would be fighting against their own future selves.

*Myth 14: “Our society has to adapt to demographic change by establishing policies for seniors.”*

*Wrong.* Policies for seniors have to bear the entire life-course in mind. Because of demographic aging, we have to change the whole system – for everyone’s benefit. For example, if we do not attempt to optimize early educational processes, people will pay for this throughout their lives, right up to very old age. If we do not address the optimization of human potential, and therefore human productivity, the resources to fund health services and pensions in old age will be lacking. By improving the compatibility of careers and the family women’s participation in the labor market and thus productivity can be increased, which in turn provides important resources for old age.

*Myth 15: “Aging societies are incapable of reform.”*

*Wrong.* In fact, the contrary appears to be the case. With a view to a reorganization of the working world, the educational system, social-welfare regulations, etc., demographic aging discloses and heightens the need for reform; it increases pressure to take political action. Once institutions and mentalities take on these challenges instead of blocking them, this will result in an acceleration of innovation and adaptation, and of societal dynamics.

## D. The Recommendations

### 1. Images of Aging: Notions of Old Age and Age Stereotypes

#### *Summary and Recommendations*

Our ideas about old age and aging are fundamental to the roles that older people assume in society. These ideas are expressions of social functions and participation while simultaneously influencing them, they have an impact on well-being, and even on the length of life itself, and they have crucially contributed to the insufficient tapping of the potential of years gained. It is difficult to influence images of, stereotypes about, and discourses on old age because they penetrate social life as a whole, fulfilling important functions of distinction and distribution, delimitation and identification. Nevertheless, it remains true that taking advantage of the opportunities offered by demographic change will require changes of the predominant notions of old age.

- Generally, a critical attitude toward all standardizing notions of, discourses on, and stereotypes about old age is recommendable. The diversity of individual aging must be stressed. Also, people need to be made aware of the historical and future changeability of old age and aging.
- The guiding concept of the “active senior” ought to be supplemented. Gainful employment, voluntary work, family work including caregiving, and further and continuing education need to be included in notions on the spectrum of activities deemed appropriate for older people. However, individual desires for peace and quiet, leisure, and recovery time also need to be respected. The strict separation between the phase of gainful employment and retirement, a standard that only developed in the 20th century, has to be questioned. The aim ought to be the increasing provision of opportunities for phases of education, family life, and leisure in middle adulthood, and in return, better access to gainful employment and education at a later age. It is important to create a flexible balance between learning, work, and leisure in all phases of adult life. The exclusive assignment of learning, training, and studying to youth, work to adulthood, and leisure to old age is of only little benefit to individuals and to society as a whole.<sup>3</sup>

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<sup>3</sup> cf. Chapters D.2, D.3, and D.4.

- The term “aging societies” has to be questioned. After all, it presumes that there is a fixed age limit and is oriented only on chronological, but not on biological and social age. The share of older people can only rise under the precondition that the beginning of “old age” is unavoidably set at 60, 65, or 70 years, without taking into consideration the significantly better physical and mental state of most older people and their increasing life expectancy. If the latter more realistic criteria are assumed rather than chronological age, the numerous people growing “old” will tend to move toward the middle of life regarding their appearance, their desires, and their functioning; and the increase in the share of elders will become no more than a statistical construction. Moreover, concern about the “aging society” or “aging of societies” is often associated with terms like the “superannuation,” “graying,” or even “geriatrification of society.” In order to avoid what is quite obviously a misconception given the true conditions, dispensing with the term “aging society” appears recommendable.
- To highlight the contradictions, it makes sense to identify those fields where there is a tension between prevalent images and true societal processes. In politics, the economy, and the media, there are tendencies of different degrees to make public statements based on positive notions of aging and later life. After all, older women and men make up a growing group of consumers, customers, advertising addressees, and voters. However, such statements holding older people in high esteem are offset by discriminatory practices shaped by depreciatory notions of old age. In the working world in particular, positive stereotypes are frequently counteracted by conscious or subconscious discriminatory practices.<sup>4</sup> Discrepancies between concepts of age and prevalent employment practices need to be revealed.

Efforts made in the areas of law and language can contribute to overcoming negative notions of age and age discrimination practices. Partly, anti-discrimination endeavors in legislation and legal practice have also triggered discourse in society. Political activism among older people and their advocates assume particular importance.<sup>5</sup> Criticism of discriminatory terms and concepts such as “excessive aging,” the “burden of old age,” “graying,” or even “geriatrification” of society can make people sensitive to existing problems and contribute to mitigating them. In cooperation with existing national and international initiatives against ageist discrimination, anti-discrimination strategies have good prospects of success.

Anyone wishing to promote a more positive atmosphere for gainful employment in old age must not only appeal to individual groups of actors but should address everyone involved: entrepreneurs, managers, staff officials, employees’ representatives, trade unions, and above all, older employees and their younger colleagues themselves. Awareness of age stereotypes ought to be strengthened so that individual employees or job-seekers can be faced without prejudice, their individual strengths recognized, and weaknesses handled in a constructive manner. In the light of more recent research results, negative stereotypes regarding older people’s ability to learn and perform need to be scrutinized and revised.<sup>6</sup>

- In the phase of very old age, concrete identification of, as well as changes to, areas in which age stereotypes result in discriminatory, deactivating, or overly compensatory behavior is especially important. Such stereotypes systematically restrict skills and inde-

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<sup>4</sup> cf. Chapter D.3.

<sup>5</sup> See also Chapter D.9.

<sup>6</sup> See also Chapters D.2, D.3, and D.4.

pendence among very old people. This is supported by good evidence from the field of care giving.<sup>7</sup>

- The desires and expectations projected into retirement exemplify how the true scope for action in later life is established at its earlier stages. Forms of living and notions of old age allowing older people to achieve a flexible balance between gainful employment, civic commitment (e.g., volunteering), learning, recreational activities, and leisure draw on their experiences in younger and middle adulthood. Therefore, efforts to change in prevalent images of old age need to address all age groups.

### *Starting Point: Some Terminology*

Notions and images of old age offer normative orientation by fixing assessments of certain ages or the modes of behavior assigned to them. They vary by social status and sex, have a long-term impact historically, and are embedded in different cultures. Age stereotypes serve to classify the self and others. Stereotypes belong to people's "cognitive economy" and help to categorize perceived phenomena. Typically, age stereotypes are ambivalent. Negative ascriptions indicating diminishing abilities and ill health of older people may go hand in hand with positive characteristics such as experience and wisdom. Discourses on age are practices in thought, speaking, and writing that determine what is focused on and what is not. They regulate the topics talked about and are a platform on which normative orientations are newly negotiated, changed, or confirmed. As a rule, discourses on age oscillate between opposite poles (complaining about old age vs. praising it) and express the interests of societal control. Societal expectations vary by the addressees' social background. Participation in discourses on old age also depends on social status. The experiences of many are often drowned out by the articulated talk of the more affluent and educated, and the experts.

All statements on old age – images, stereotypes, or discourses – ascribe properties to old age that distinguish it from prior adult life. This does not match reality: They set out from the perception of factual evidence but simultaneously form clichés and define standards that determine expectations about older and younger people.

It is necessary to distinguish between different dimensions of age. *Biological age* can be divided into bio-cognitive age and biophysical age. The former refers to the domain between maintenance of cognitive functioning and inexorable changes to the brain. The latter describes the impact of the body's physical signs of wear. *Social age* is determined by age-related participation in societal processes and social levels of hierarchy and by age categorization according to people's roles in society. Finally, *chronological age* forms the frame of reference for the other age ascriptions.

### *Notions of Age Across the Centuries*

Many of today's predominant images developed in former times. This includes the structuring of life into phases that are frequently represented as a staircase first going up and then down. Such structuring serves to make the continuous process of life comprehensible in images or discourses by introducing selective and ultimately arbitrary breaks in continuity. This also en-

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<sup>7</sup> See also Chapter D.7.

tails the ambivalence of age notions. Since antiquity, positive and negative images and stereotypes have been closely interrelated in European and non-European cultures and societies.

A historical and intercultural comparison shows much constancy within diversity. The coexistence of, and the linkages between, positive and negative stereotypes of certain age groups (differentiated by sex and social status) are constants. Across epochs and cultures, old age is described as partial retreat from previous activities and from the bustle of the world, entailing a turn to private life, to the interior, and ultimately to the hereafter. A more positive assessment emphasizes the attainment of wisdom and dignity, whereas its counterpart accentuates these changes as an expression of weakness or decline. Ascribing properties to elders and expecting them to behave in certain ways defines their status and their relation to other generations. Accordingly, this allows the legitimization of admiration or contempt, demands for reticence, or the granting of rights.

Since the Middle Ages, old age has been part of a discourse on provision in European history. Old age appeared as a phase of restricted ability to work. To people whose livelihoods were not secured by their property and who depended on manual labor, it was a phase threatening poverty and misery. Older people were regarded as legitimate recipients of care and material support. While support for elders in need evolved from this discourse on provision, it also reinforced the semantic association of “old age” with frailty, dependence, and neediness.

Moreover, since the advent of the modern era, old age has become the object of a discourse on retirement. Following the authors of antiquity, old age was viewed as a phase of peace, leisure and relief from duties, although this “late freedom” was usually not seen as a time of rest and idleness, but as a space for sociability, education, travel, and philosophizing. However, this discourse on retirement initially only included the ruling classes, and only in the 19th century was it extended to the middle classes. In the course of the 20th century it gradually spread to the working class. Retirement for workers was viewed negatively for a long time – as associated with disability and low disability pensions, as a reflection of complete exhaustion, later on also as a pension-supported rightful rest after the toil of work, but still as mere idleness, as “living in a world of inactivity,” as forfeiting functions and roles in society, and as the loss of meaning to life.

In the second half of the 20th century, these discourses on age overlapped one another. The discourse on provision received a new core with the concept of a retirement age guaranteed by the welfare state. Meanwhile the development of the consumer and leisure society opened up the discourse on active retirement, which had originally been restricted to the ruling classes, to all parts of society. The old-age pensioner, relieved from gainful employment, materially secured, healthy, and active, had become the guiding concept of old age. In parallel, especially since the 1970s, age underwent a differentiation. First at an academic level, and later on more generally, it became customary to distinguish between a “third” and a “fourth age,”<sup>8</sup> or between the “young old” and the “old old.” The third age refers to an active phase in life between the retirement from gainful employment and the onset of age-related impairments, whereas the fourth age is the phase of physical and mental decline before death. This differentiation has become obvious in new terminology: the German term “Senior” describes a member of the fit “young old,” and “das Alter” (i.e., “old age”) is increasingly reserved for the fourth age.

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8 The “first age” refers to childhood and youth, and the “second age” to younger and middle adulthood.

Informing ourselves about other cultures is a resource for tackling our present: Even within a culture and an epoch, notions of old age are by no means uniform. Restricting one's view to Western cultures nowadays is counterproductive in an increasingly globalized world. Moreover, intercultural exchange allows stepping back, and realizing the images of old age handed down over generations in the western tradition. Such views are gaining importance because growing numbers of people from different cultural backgrounds are living and aging together in Germany, an immigration country. If there are typical differences in notions of old age between locals' and migrants' milieus, public debate ought to focus on them.

### *Today's Discrepancies*

Many of the images of old age that have been handed down in history and are still effective today do not any more do justice to reality. They ignore the gains in life expectancy, health, and achievement capabilities, even in advanced age, resulting from demographic change over the last century. They overlook the increasing variability of the appearances of old age. Standardizing notions about old age or chronological age limits, such as a uniform retirement age somewhere between 55 and 67 years, fulfill societal functions such as the regulation of generational replacement in the working world. But in view of the increased average life expectancy and the individual diversity of old age, they are becoming more and more questionable.

However, many of the newly evolved notions of old age in the 20th century, such as that of the "active senior," are not doing justice to altered demographic conditions. The spectrum of activities contained in the concept of the "active senior" is restricted. It almost completely excludes gainful employment and training in the working context, while it only insufficiently encompasses engagement in the family and in civil society. Furthermore, distinguishing between two phases of old age once again entails a standardization that does not reflect the individual diversity of aging with all of its opportunities and potential challenges. The progressive shift of problems related to reaching very old age has not reduced existing fears about this phase; rather, it has worsened them. This provides the basis for threat scenarios and biased concepts such as concerns about the "burden of old age" or the "health-care crisis."

While an optimistic notion of old age currently prevails in medicine, psychology, and other sciences, it mainly relates to the younger phases of old age, whereas the very old are attributed diminishing abilities and potential neediness. Notions of old age that deny (1) differences between individuals, (2) differences between early and late old age, and (3) the dynamics of change, result in a distorted perception of reality and can be abused to stir up unjustified fears about the future.

For millennia, both in European and in many non-European cultures, the 60th year of life has been emphasized as the symbolic threshold to old age. In our present society, institutions and individuals still relate to this date. However, surveys have shown that the German public today dates the beginning of old age at between 70 and 75 years. Moreover, most people perceive themselves as around 10 years younger than their chronological age and are biologically 5 years younger than the previous generation. These assessments clearly reflect the tension between outdated notions of old age and demographic change. At the same time, the contradiction with a second fundamental trend of the 20th century is becoming visible: the decline in gainful employment at higher ages and ever earlier retirement. People have become used to ending their working life at around 60 years of age. But frequently, at this age, they feel only 50 years old and set the beginning of old age at 70 years. Subjectively, this results in a

perspective of retirement lasting for 25 years before the old age characterized by diminishing strength, illness, and proximity to death actually begins.

### *Notions of Old Age and Age Stereotypes in the Working World*

A wide range of concepts about old age can be found in the working world, just as all other areas of society. Discourses, images, and stereotypes influence the readiness of older employees to remain gainfully employed as well as that of companies, organizations (e.g., the public services), and personnel managers to continue to employ or take on older people.

At the level of institutions and companies, negative stereotypes about old age prevailed from the beginnings of industrial production well into the 20th century. Often, they already related to people above the age of 45 years, and they frequently presented a reason to dismiss older employees. Only during the last decades have differentiated attitudes been documented in empirical surveys from all areas of the economy, also for Germany. Today, the overwhelming majority of personnel managers state that they by no means generally give older employees a negative assessment. Knowledge based on experience, a high level of discipline and reliability at work, quality awareness, and loyalty toward their company as well as the ability to cope with mental stress tend to be ascribed more to older employees. However, personnel managers tend to attribute characteristics such as creativity, flexibility, the ability and readiness to learn, and the ability to cope with physical stress more to younger employees (see Chapter D.2). Positive stereotypes regarding the level of effectiveness of elders' work coexist with negative stereotypes regarding their ability and readiness to cope with economic and technological change.<sup>9</sup>

The notions of old age among organizations representing employees and trade unions are of equal significance. In the late 19th century, the European labor movements mostly viewed the concept of retirement with skepticism and rejected plans for statutory pension insurance. For good reasons, the workers deemed the notion of many "good years" after the end of gainful employment unrealistic. However, in the 20th century, the development of the welfare state and the reduction of working hours became one of the labor movements' prime objectives. Gradually, retirement from gainful employment in old age, even if it was not forced by exhaustion, became viewed and claimed as a right. This right had been earned by years of productive service for society and was well-justified. On the other hand, it also appeared as a duty, in particular toward younger workers, in times of mass unemployment. Labor organizations have significantly contributed to establishing the upper-class concept of retirement among workers and spreading the idea of an old age free of work. Since then, their chief goal has been the securing of provisions for old age. In Germany at least, countering age discrimination in the working world and campaigning for older people's right to employment have hardly been on their agenda. Creating a positive climate of public opinion for a greater participation of older people in gainful employment requires more intensive debate on notions of old age and age stereotypes among employers, employees, and their representatives.

One special case is represented by situations in working life where younger people regard older people holding posts as an obstacle to their own aspirations of upward professional mobility and develop negative stereotypes as part of their competitive behavior. Corresponding notions of old age can already be found in antiquity. From the late 19th century on, and

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<sup>9</sup> cf. Chapter D.3 for the relation between stereotypes and companies' recruitment practices.



more in the Anglo-Saxon region than in Continental Europe, large companies in particular attempted to solve this problem with company pensions, that is, relatively early mandatory retirement under favorable terms, in order to facilitate early staff exchange at medium to high levels of the hierarchy and thus open up career options for the following staff generation. Such measures have contributed to a falling employment rate in old age and to the reproduction of negative age stereotypes. From a macroeconomic perspective, it is now obvious that the early ousting of older people from gainful employment need not necessarily lead to easier access to gainful employment for younger people.<sup>10</sup> However, both in individual companies and in other organizations, such as public services, age management strategies for enhanced fluctuation in executive positions and the advancement of younger people without simultaneously limiting opportunities for older people are very much lacking.<sup>11</sup>

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<sup>10</sup> See also Chapters D.3 and D.4.

<sup>11</sup> See also Chapters D.2 and D.3.



## **2. Individual Development Across the Life Span: Development, Learning, and Work**

### *Summary and Recommendations*

Today, we live significantly longer than people did just 100 years ago – and on average, remain healthy for a longer time.<sup>12</sup> In parallel, economic structures and requirements of the labor market have changed. We are living in an information society with a growing share of knowledge-intensive service activities. Pressure on companies to change is high, and both professional and general knowledge quickly becomes obsolete. *One period of education and training at the beginning of life is no longer sufficient to compose a successful working life.*

However, many people have not yet become aware of these economic, demographic, and physical changes. Most continue to orient their life plans and their expectations about old age on what they have observed among previous generations. One significant feature of the life structure that evolved in the course of the 20th century is the sequence of (1) education/training, (2) work, and (3) retirement. Material provision at the end of gainful employment is rightly viewed as one of the social achievements of the 20th century. But will the retired be able to spend this phase exclusively “at rest” in the future, and do they want to? What are the consequences of these economic, demographic, and health changes for the individual?

*On the one hand*, the phase following retirement from gainful employment has become considerably longer thanks to longevity. This trend has been strengthened by subsidizing early retirement, which has very frequently been used to downsize the workforce rather than to protect workers in particularly strenuous jobs. The subsidies have also increased employees’ desire to retire early because for several years – and until recently –, early retirement lowered the factual retirement and pensionable age<sup>13</sup> to below 60 years. In fact, the notion of spending almost a third of life, roughly between the age of 60 and 85 years, on “resting” excludes older people from society. Research has shown that early retirement, especially when not desired, can have a negative impact on individuals’ health and well-being.<sup>14</sup> Longer and healthier lives as well as changes in the working world suggest that older people’s potential ought to be tapped more than in the past.<sup>15</sup> These changes require a differentiated reassessment of the protective function that “retirement” is supposed to fulfill.

*On the other hand*, it has become necessary to continuously add to what one has learned and even learn entirely new things in working life. To date, our school, vocational training, and further education systems as well as companies and individuals have not been well prepared for this requirement. Learning can become a link between individuals’ different occupational activities but also between work, family, and retirement.

In the following, the central recommendations are listed before being specified and discussed in more detail. These recommendations address older cohorts of the present as well as future generations of older adults.

- Given demographic and economic change as well as individuals’ potential in old age, a strictly defined sequence of education – work – retirement is a model ill-fitted to the future

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12 cf. Part A and Vol. 7 of findings, “Altern und Gesundheit,” Kurt KOCHSIEK (Ed.), on aging and health.

13 Referred to in the following as “retirement age.”

14 cf. Vol. 7 of findings, “Altern und Gesundheit,” Kurt KOCHSIEK (Ed.), on aging and health.

15 cf. Chapters D.3, D.4, and D.8.

and to human development. Greater temporal overlap between these three areas needs to be supported.

- Employment in old age needs to be diversified: Depending on older individuals' abilities and wishes, it ought to be possible – and is macroeconomically desirable – for them to remain in gainful employment for longer than current labor law and collective agreements allow, to return to work after a certain time, to be gainfully employed in a new context as a pensioner, or to do voluntary work.
- Agreements with the trade unions are well suited to define the framework conditions of sustainable personnel development. As is already the case in certain branches, they might regulate the organization of work, health care, and qualification schemes.
- Regulations governing lifelong learning that are based on agreements with the trade unions ought to be complemented by state-supported saving schemes for education as well as education loans that are obtainable at every age.
- Further education and training ought to become a regular component of gainful employment. Attending further education and training measures ought to have a positive impact on pension entitlements (which can be covered by the resulting gains in productivity).
- In the future, it will be even more important to interpret working environments as learning environments and design them correspondingly. This also encompasses neglected factors such as prevalent images of old age and the learning climate in a company. It also requires adequate further education of personnel managers.
- The acquisition of skills in the course of working life ought to be made certifiable and transferable.
- Individuals planning their careers and skill development ought to be given the opportunity to consult outside their own company.
- After (even short) periods of leave (mostly women's maternity leave), the return to work should be supported by appropriate qualification programs that already begin during the phase of leave.
- Further education efforts among the long-term unemployed and low-qualified deserve special attention. In order to raise the sustainability of such government investment, measures of this kind ought to be closely linked to jobs.
- Small and medium-sized companies, that significantly contribute to the German economy, may improve their further education and training measures and hence the opportunities for sustainable staff development via branch-specific and/or regional associations.
- Sophisticated quality control of existing educational programs ought to be developed and applied (e.g., DIN standards). This also includes the development of training regulations for educators active in lifelong-learning settings and the implementation of systematic efficiency control measures in the realm of further education.
- The many providers of further education should be more linked, including an increase in the permeability between secondary and tertiary education. Company programs, vocational training, and general further education should be structured such that clients can combine different measures into a larger certificate or degree and can spread them out over time.
- Teaching pupils and clients how to learn and also how to enjoy learning should rank among the top goals from pre-school education to vocational schools and higher education.

- As the efficiency of investments in early education is particularly high, such investments ought to supplement the efforts undertaken in the field of adult education.
- Education in issues of health maintenance and life composition (e.g., knowledge about preventive health care, strategies to optimize longer lives in terms of satisfaction and productivity) ought to be on the curriculum of primary schools. Beginning the practice of health-promoting habits and life-management skills as early as possible is a crucial precondition for a long, healthy, and fulfilled life.

### *Research Findings*

Are there alternatives to the traditional three-phase model of life? Since the 1970s, social scientists have suggested moving from a sequential order to greater permeability between the three central areas of life (education, work, leisure time). In concrete terms, this could mean a more short-term intermingling of, or alternation between, learning, work, and leisure phases. This is already practiced, for example, in the form of parental leave, leave for familial caregiving, or working time accounts (i.e., banking working hours across working life). Such a softening of structures doubtlessly presents considerable challenges to communities, companies, and individuals. Pressure to take action arising from demographic change such as a lack of young blood or the need for people's longer availability to the labor market may accelerate necessary efforts and help implement greater intermingling.

Are people suited for a newly structured life span, especially for longer phases of learning and work – and do they wish to bring about such restructuring? In the following, the capacities and willingness of *individuals* in relation to work and education are at the center of attention. Some of these issues will be taken up again in Chapters D.3 and D.4 from the perspectives of *companies* and the *economy* as a whole.

Certain aspects of cognitive aging begin at a very early stage. For example, the speed of information processing or the ability to coordinate different inputs simultaneously begins to decline between the age of 30 and 35 years. Nevertheless, individuals are indeed able to learn and work for longer years. One reason for this is the compensatory effect of knowledge and experience. The knowledge and experience components of our mind only reach their peak in middle adulthood and then remain stable before showing signs of decline in very old age. For example, with acquired knowledge and accumulated experience, one can make up for the declining speed of reasoning.

A second reason is the fact that our mind continues to bear an astonishing (albeit increasingly reduced) amount of plasticity in old age, that is, an ability to learn, adapt, and be trained. However, different training measures do not have equally broad effects on cognitive functioning. For example, we now know that cognitive processes used to solve a wide range of problems in everyday life flexibly can only be developed by training cognitive control, i.e., the ability to switch between different tasks rapidly. But improving physical fitness also improves cognitive functioning in several different domains. This plasticity not only applies to healthy people, it is also reflected in the impact of therapy and rehabilitation.

So ability is not an obstacle on the way to a more varied life structure. But what about people's desire to achieve this? What do we know about personality development and motivation in middle and older adulthood? Surveys have revealed that roughly from the age of 55 years onwards, work no longer ranks among the top four positions of mental and active "investment" in central domains of life. Family, health, friends, and cognitive functioning now

occupy the first positions. However, this pattern of distribution should not be interpreted as a law of nature; rather, it is just as malleable as cognitive development. To a certain degree, this ranking of interests also reflects the subsidizing of early retirement that has shaped societal reality for decades. It will change once this practice changes. It is possible and necessary to create systems of incentives that strengthen the motivation to learn and also to work.

Findings on personality development in adulthood are also of interest in this context. For a long time, personality psychologists assumed that personality does not change markedly beyond the age of 30 years. It is now known from several longitudinal studies and comparative cultural surveys that people become more emotionally balanced, more reliable, and more agreeable with age, but also less open to new experience. The first three changes belong to the domain of social skills and represent a considerable strength among older people. However, diminishing openness constitutes an obstacle to the readiness to learn and to flexible adaptation. This is why recent evidence that this development does not signify a law of nature is so important. An activating environment that is combined with the teaching of the necessary skills to acquire new content not only stems the loss of openness but even reverses it. In such favorable conditions, older people are very open-minded.

The plasticity of our brains and of human development in general is high. Depending on our contexts (e.g., at work and in leisure time) and our behaviors (e.g., regarding nutrition, physical activity, new challenges), our development or our aging will take a turn for the better or for the worse. This finding gives rise to much hope, but it also means a high level of responsibility for everyone, including those organizing the contexts of work, learning, and more general living conditions for others. Of course, plasticity is limited – at least according to the findings available so far. Individuals move within a framework of possibilities that are restricted by their own basic biological dispositions, and plasticity decreases in the course of aging. But the scientific evidence shows that we have by no means exhausted the range of possibilities, and that in old age too, there is still much scope for development.

### *Consequences for Individual and Societal Action*

The following conclusions can be drawn from these results: *First*, within limits, it is possible to remain healthy and cognitively fit for the years gained. *Second*, this requires learning, working, and living contexts that enable and facilitate making further use of one's own potential and thus benefiting more from the years gained than so far. *Third*, however, it is essential to revise the negatively biased images of the life-course and aging that are alive in people's minds.<sup>16</sup> Such images have enormous influence on the way they plan their lives and take important decisions. They determine what people think they are capable of doing, and they very strongly influence actual functioning and quality of life, and even the length of life itself.

### *Learning for Continuous Occupational Activity, Societal Participation, and a Longer Life*

If learning, working, and leisure time are more strongly intermingled and alternate at shorter intervals than currently is the case, this would make it easier to remain in gainful employment for longer. However, in order to implement this work histories and working environments need to be changed. Learning is not only required when a higher salary bracket is aspired to.

<sup>16</sup> This topic is discussed in detail in Chapter D.1.

Rather, applied knowledge is subject to such strong changes in almost every occupation today that this implies a continuous need for training – a challenge that ought to be addressed and implemented by enterprises.<sup>17</sup>

Learning becomes a precondition for continuous work histories and for maintaining the ability to work into old age. But rapid changes are also occurring outside working life. This is why lifelong learning also represents a precondition for social participation, for democratic empowerment, and engagement in civil society (or civic commitment). In a nutshell, those who have learnt more will live longer! Education helps to benefit from the years gained and to shape them. Continued or lifelong learning is easier than beginning to learn again in old age – but this is also possible, although it does require greater effort.

### *Learning as a Precondition for the Sustainable Utilization of Workforce*

From the entrepreneurial perspective, the dwindling numbers of (young) skilled employees are making it indispensable for companies to retain their experienced staff members for as long, and as productively, as possible. They could enable a prolonged working life, or even one that has been fully used until retirement age, by promoting timely transitions from physically strongly demanding or mentally exhausting activities and generally observing a mix of activities that preserves employability. This type of work organization and staff development is, for example, supported by job rotation (i.e., moving staff among various related activities over a working day or working week) or by opening up lateral careers. The latter allow vocational advancement without climbing or slipping down the company hierarchy, but by pursuing new activities at the same level. Lateral occupational mobility is a possibility to increase job satisfaction and to maintain the ability to work up to the age of retirement and beyond.<sup>18</sup>

Sustainable handling of human resources is comprised of qualification, health management, and work organization. So far, just a small number of companies have decided to pursue this course. Here, collective agreements could be important in setting strategies. With an appropriate mix of activities or the timely move from excessively stressful or monotonous activities, physical and mental wear and tear can be countered and the employability of workers maintained for longer. As a consequence, profession-specific preventive measures and occupational-medicine standards can be developed, and timely further qualification can be ensured. Employees should already be informed about such challenges relating to their profession during their initial training. Here, a potential new field emerges for trade unions, professional associations, and health insurance companies to take on a protective role for employees, in cooperation with the German Federal Labor Agency and the Federal Institute for Occupational Safety and Health. In a similar manner to the “family-friendly enterprise” certificate, a certificate confirming that “This company develops its staff,” could be an important signal to ease “demography-aware” personnel policies.

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<sup>17</sup> This demand is elaborated in Chapter D.3.

<sup>18</sup> For more details, see Vol. 3 of findings, “Altern, Arbeit und Betrieb,” Uschi BACKES-GELLNER and Stephan VEEN (Eds.), on aging, work, and companies.

### *Incentives for Lifelong Learning and Reentering Gainful Employment*

What else can be done to encourage participation in further education? Research tells us that people taking a decision tend to think more in the short term and focus on speedy benefits: Making long-term plans for a longer life represents a challenge. And this really does bear a number of risks for the individual, because demographic life expectancy is a statistic, and not calculated for the individual. This is why societal actors, such as the trade unions, business management, and the government, should emphasize the more long-term perspective and ensure that the right incentives are in place. Via collective agreements on the one hand and government guarantees for education loans and subsidized saving for education on the other, opting for further education could become affordable and attractive for everyone. Education periods beyond initial training should add to pension claims, even if this were to result in a reduction of pension levels in the short term. In the long term, however, such investment in human resources may not only be cost-covering but will likely generate a surplus due to ensuing increases in productivity.

Interrupted work biographies have long been a reality for women caring for their families as well as, or instead of, being gainfully employed. For them, the longer life span means that there is more time “after the family.” Thus, education toward the resumption of work becomes a worthwhile investment, also for the employer. But the option of longer work lives also places paternal leaves in a new light and makes them more feasible. For both women and men, periods of leave and the resumption of work should be specifically targeted for further training. For instance, a share of the parenting allowance could be tied to the engagement in further education. Such improvements in the compatibility of family and work will help to prevent a loss of skills due to prolonged “time-out” periods.

### *Competence-Oriented Staff Development*

All in all, staff development in companies will see careers becoming more dynamic and individualized. Thus additional ways need to be found to develop and maintain attractive activity and career options for all age groups. At the same time measures need to be taken against age discrimination in recruitment, promotion, and qualification. Companies should increasingly be enabled to make skills-oriented decisions that are less guided by expectations regarding “standard work histories” and institutional constraints. In order to meet the requirements of these more strongly individualized and preventive staff measures, further education efforts among staff in the personnel departments and decentralized approaches involving more precise and personal knowledge about individual employees could be helpful. Companies should be supported in this by external actors (e.g., consumer advice agencies, the Federal Labor Agency, etc.), which focus more on employees’ individual interests.

What is equally important for the individual making decisions about education and learning is to be able to demonstrate proof of acquired skills. This is the precondition for occupational mobility. The acquisition of skills should be made visible, certifiable, and transferable. To a certain degree, this also encompasses protecting companies against labor piracy by rivals with the aid of corresponding contractual agreements.<sup>19</sup> Without ignoring existing interests, it could become part of the protective role of trade unions to strengthen the demand for a certification of skills and develop recommendations for its implementation.

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<sup>19</sup> cf. Chapter D.3.



### *Quality in Adult Education*

Skills-based decisions about human resources require valid criteria and correspondingly certified teaching contents. This is particularly lacking in Germany: Adult education is not accredited and is not governed by any standards, with in-house further education often being dealt with informally, without any certificates. This may represent a threat to the quality of education as well as to individual mobility opportunities resulting from education. This is neither in the employers', the employees', nor the state's interest. Criteria may emerge for instance out of international comparison processes triggered through the OECD Program for the International Assessment of Adult Competencies (PIAAC; colloquially called "PISA for Adults").

One important element in quality assurance could be education and training regulations for educators and trainers of adults (for instance in form of a certificate) that promote the professionalization of adult education. A curriculum of this kind obviously cannot refer to the wide range of contents in adult education but has to focus on the pedagogical competencies required for adult education. Sophisticated quality control of existing education programs as well as scientifically sound efficiency evaluations in the area of adult education are very much lacking and ought to be encouraged. Research insights and didactical methods in adulthood as well as relevant psychological insights and knowledge about age-specific requirements ought to be well-represented and obligatory in the training of educators of adults.

General curricula for adulthood should not only react to contextual requirements but also provide preventive knowledge skills. They ought to target health maintenance, development of human potential, and social participation under rapidly changing conditions. Meeting this demand requires systematic curricular considerations. On the one hand, this means that basic training needs to be adapted: Given the very strong habitual components of health behaviors, health education (relating to physical exercise, nutrition) ought to be introduced at a very early stage, in pre-school, if possible. Teaching and learning methods promoting independent and self-regulated learning ("learning how to learn") and emphasizing the enjoyment of new experiences rather than performance are further contents of basic training that need to be reinforced. Moreover, training contents should have the potential to be linked to various job descriptions later on. Maintaining the ability to work at least up to the statutory retirement age and the occupational life-course changes necessary for this ought to be given more consideration in the curricula – in addition to sound basic training (e.g., impartment of general planning skills).

The lack of standardization in the system of further and adult education is not only a constraint on companies' human-resource departments but also on all those with an individual interest in further education. In the current system, the heterogeneity of the programs makes it very difficult to assess the likely yield of efforts made in education. Obstacles to access, a lack of modularized education programs, and the ensuing insufficient potential of education programs to be linked with one another contribute to the unfortunate situation in further education. Vocational coaching, i.e., consulting, can help remedy uncertainty among those weighing up possible aims and orientations of their individual further education by viewing the programs on offer and providing career advice. A new service of this kind could, for example, be a task for consumer centers and labor agencies. State and local governments ought to provide time-limited support to such consultancy services and subsequently evaluate its quality.

### *Education and Social Integration*

The quality of the initial educational certification and qualification obtained remains influential throughout life. It not only has an impact on later employment prospects but also affects further participation in education programs. Individuals acquire crucial prerequisites for lifelong learning at a very early stage in their lives. Moreover, they acquire them more easily and cost-efficiently than later on. The quality of the initial educational qualification is of decisive significance to being successful in life (in terms of work, health, income). However, this should not be taken to mean that investment in education at a later stage is not worthwhile. Rather, in view of productivity maintenance and development in a life that has become longer, it is essential that early education, the initial educational certification and qualification, and lifelong learning complement one another.

People with a low initial educational certification and whose desire to learn has been thoroughly frustrated at school remain excluded from lifelong learning, their development potential in adulthood and old age is under-utilized, and the risk of poverty in old age is increased. The tendency to invest in further education will be higher among people with a higher initial educational certification – and *vice versa*. Thus our current education system contributes to the development of permanent risk groups made up of children of socially disadvantaged families, including a large number of second- and third-generation immigrants. Against this background, needs-based public support for catching up with educational qualifications or acquiring primary education in adulthood could make sense. This includes special support for German-language acquisition among new and poorly integrated immigrants. In the field of further education for the long-term unemployed and unskilled, a public financing model is also necessary for the longer term. However, such further education measures should be pursued in combination with a job. In the past, the sustainability of measures not related to jobs has proved low. Companies should therefore be given incentives to recruit the long-term unemployed or the unskilled and to qualify them for an occupation.

### *Learning, Health, and Development*

Lifelong learning reaches beyond further education in the work context. It is also the prerequisite for becoming active, for instance, as a volunteer, or to identify new areas of self-realization, and more generally for mastering the demands of old age. For example, the kind of insight required from each individual to find out about new models of housing and care should not be underestimated.

Learning, for example through educational travel, has already become an option for many older people to benefit from the years they have gained. However, research tells us that learning as an end in itself, and also learning as a measure to keep the brain fit, is not a sufficient motivation and may soon be too monotonous. Learning will be most sustainable if it is oriented toward a desired concrete goal. Therefore, linking up general further education programs with the requirements of companies, civil society, and local communities is not only relevant for the economy but also for the individual.<sup>20</sup>

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<sup>20</sup> This is also discussed in Chapters D.4 and D.8.



### **3. Aging, Work, and the Company Setting**

#### *Summary and Recommendations*

From a macroeconomic perspective, increased participation of older people in gainful employment is essential for future prosperity.<sup>21</sup> It needs to become an urgent goal of companies and enterprises. This not only means recruiting older employees and retaining them longer. It also involves enabling employees to link gainful employment and periods of leave with one another over a longer time. We recommend that the labor force participation rate of older people in particular be raised by the following measures:

- By enhancing the relative competitiveness of older people in comparison to younger people on the labor market. For companies, the essential factors contributing to this are: lifelong learning,<sup>22</sup> work organization that is conducive to learning and health, as well as a staff and wage policy that makes employment of older employees attractive for companies. Also, facilitating a slow alternating process and fluid transition (instead of an abrupt shift) toward retirement is helpful. Here, part-time work agreements could be linked to partial pensions. However, the precondition is that the partial pensions are calculated in a manner that they are cost-neutral regarding pension insurance. Such a policy must not be abused to subsidize a low-wage sector that exerts pressure on full-employment salaries.
- By making it easier to take up so-called “second careers” in new fields of work or new branches: Regulations on the certification of skills acquired during working life could help to make a new start or to shift to a new branch.<sup>23</sup>
- By replacing steep seniority wages with pay-for-performance components and agreements on repayment clauses if the employer invests in further education of employees.
- Raising retirement age to 67 years while simultaneously raising investment in further education, enabling lateral careers, improved coordination of skills and workplace requirements, health management, acceptance of a fixed retirement age as a calculation basis for pension levels, etc., but facilitating flexible transition by combining part-time employment and partial pensions (taking deductions for earlier retirement into account).

#### *Context*

In this chapter, we concentrate on changes in companies and identifying measures that support and facilitate gainful employment of older people. Voluntary, unpaid work – civic commitment – is treated separately in Chapter D.8. An increase in gainful employment of older people is also necessary to finance the pension system in the long run.<sup>24</sup> Raising the labor force participation rate of older people is important for companies because otherwise, in the course of foreseeable demographic changes, qualified labor will become scarce and they will experience competitive disadvantages in increasingly globalized markets.

It needs to be stressed that from a macroeconomic perspective, increasing the share of older people in the labor force need not be to the detriment of younger people, even though

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<sup>21</sup> cf. Chapter D.4.

<sup>22</sup> cf. Chapter D.2.

<sup>23</sup> cf. Chapter D.2.

<sup>24</sup> cf. Chapter D.4.

this may not apply in the context of every single company. If the total of gainfully employed people grows due to an increasing number of older people in the labor force, it will, for example, be possible to reduce social security contributions.<sup>25</sup> As a result, non-wage labor costs will fall. Competitiveness will increase, creating the conditions for additional jobs. Against this background, employing older people can even be conducive to the employment of younger people. However, in order to achieve these favorable effects, a human-resource policy needs to be pursued at company level that integrates older employees, supports the mobility of employees, and maintains their productivity via further education and appropriate work organization.<sup>26</sup>

In order to increase the employment of older people sustainably, the two sides of the labor market need to be considered simultaneously: on the one hand, the *demand for labor*, i.e., managements with a demand for older employees (or not); on the other hand, the *labor supply*, i.e., the older people offering their labor or choosing not to do so. These two sides of the labor market mutually influence each other and may result in different types of equilibriums. At present, labor supply and labor demand in Germany seem to be in equilibrium with a comparatively low employment level of older people. However, a different equilibrium would also be conceivable, with individual needs of older employees and company profitability complementing one another to the benefit of a higher employment rate for older people.

### *Changes in Income Profiles*

Empirical surveys show that older employees are more strongly affected by downsizing or redundancies than younger ones. Furthermore, older employees without a job find it harder to reenter the labor market than younger ones.<sup>27</sup> This is largely due to the fact that wages increase with the duration of employment within a company (seniority principle). Ultimately wages frequently rise as age progresses, so that older employees not only are more expensive for a company than younger ones but also often earn more than what would correspond to their individual productivity at that point in time.

However, all proposals to change such wage profiles need to consider that wage increases with tenure follow company logic and fulfill important organizational functions. On the one hand, they provide an incentive for company-specific human-capital investments: When joining a company, both the employee and the employer invest together, and with time, they both receive revenues from this investment. Second, the increase in income can motivate workers throughout their career in a way a formal contract cannot. Tenure-related wage profiles are therefore justified by increased overall productivity in the long run. These productivity gains are shared by employer and employee, but for good reason, they are timed so that wages tend to rise beyond individual productivity in the second half of employees' working lives. Abandoning the seniority principle, which is absolutely desirable in the interest of better employment prospects for older employees, requires that alternative human-resource management policies serving such incentive functions are implemented.

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<sup>25</sup> cf. Chapter D.4.

<sup>26</sup> cf. Chapter D.2.

<sup>27</sup> See Vol. 3 of findings, "Altern, Arbeit und Betrieb," Uschi BACKES-GELLNER and Stephan VEEN (Eds.), on aging, work, and companies.

One possibility is the incorporation of more variable remuneration elements in wages, i.e., more performance-based pay. Making wages more variable in this manner would have the additional advantage of better consideration of growing differences in individual productivity with age. However, its disadvantage is that it needs to be coupled with individual measurement and control of performance. This in turn presupposes human resource management that specifically targets staff skills and competences.<sup>28</sup> Initially, such individualization is not only expensive but also bears additional conflict potential. The pros and cons of alternative wage incentives need to be very carefully assessed for different types of workplaces and professional groups. For example, more variable pay seems favorable in sales and distribution, since individual performance measurement is rather inexpensive here. On the other hand, for example in the caring professions or in middle management positions, this method would not be adequate because performance measurement would be rather difficult and too costly.

Also, new wage structures can probably not be introduced immediately but only gradually for coming generations of employees. Today's older employees have already done work in the past for income that they expected to increase in the future; in the past, they earned less than their actual productivity input, as this was an advance input for expected future wage increases (in excess of their expected individual productivity).

The problem of financing human-capital investments without adherence to the seniority principle can be solved by repayment agreements for the event of the employees leaving after the company has invested in their human capital. Only if the exodus of expensively trained employees can be avoided, compensated, or offset, will companies take an interest in financing their employees' training.

### *Should the Statutory Retirement Age be Raised?*

As long as seniority wages are prevalent a fixed standard retirement age is needed. As borne out by theoretical and empirical studies, rising income profiles can only efficiently perform their role as an incentive if a precise end point of income is fixed in mutual agreement. Against this background, the legal or collectively agreed setting of a standard retirement age continues to make sense. Therefore, raising the retirement age to 67 is not unproblematic without flanking measures, even though it is politically desirable and economically correct from a macroeconomic perspective.<sup>29</sup> Raising the retirement age to increase old-age employment implicitly assumes that providing financial incentives for people to remain in employment for longer is sufficient. It neglects the employment context described above. It also overlooks companies' lack of interest in simply employing older and more expensive staff for a further two years or even hiring new ones on the same terms if nothing else changes, and particularly if wage profiles do not change at the same time. Against this background, concerns among older employees arising from the political debate on raising the retirement age is based on serious economic considerations.

Nevertheless, raising the statutory retirement age still makes sense. It signifies that older employees can be expected to be productive longer and that they are no less important for companies. Raising the statutory retirement age to 67 years also has the effect that lifelong learning and further education become worthwhile for older employees and their employ-

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<sup>28</sup> cf. Chapter D.2.

<sup>29</sup> cf. Chapters D.2 and D.4.

ers.<sup>30</sup> As soon as both sides know that under normal circumstances they will have to reckon with longer employment, readiness to invest in the productivity of older staff by suitable training measures will develop. Moreover, a higher statutory retirement age may also boost the willingness to switch to a second career in another field – especially if the first job was particularly stressful.

An increased statutory retirement age should be used as a starting point to calculate individual pension benefits. However, the statutory retirement age is not necessarily identical with the age at which employees stop working, rather the length and extent of employment should be set so that it meets individual and company requirements. Above all, this means enabling reemployment as well as a slow and continuous phased withdrawal from employment. Such a phased withdrawal would mean that part-time work is combined with partial pension benefits. Of course, any kind of early retirement, including the receipt of a partial pension, presupposes a deduction in benefits. In order to avoid undesirable bandwagon effects at the expense of the pension system, these deductions have to be proportional to the work foregone due to early retirement. However, the current limit for extra earnings while receiving retirement benefits is too low to make a combination of partial pension and partial work attractive. Today's limit is based on the notion that alongside receiving a pension, paid employment is no longer necessary or desired – a notion that should generally be discarded. At the same time and on the basis of correctly calculated pension deductions, a phased withdrawal over a longer period is possible if partial pensions can be complemented by an adequate partial employment income.

#### *Productivity in Old Age: Lifelong Learning and Systematic Age Management*

In addition to changing wage profiles, competitiveness and employability of older employees in comparison to younger ones can be increased by improving productivity.<sup>31</sup> To achieve this, training measures and lifelong learning are essential for all employees and at every point in their working lives.<sup>32</sup> However, lifelong learning is a necessary, but not a sufficient condition for productivity increases in old age. In-house working conditions, i.e., division of labor, workplace context, and health care, have to be conducive to maintaining employees' productivity potential and their opportunities to utilize it in the everyday work setting. If a workplace prevents the use of new qualifications or does not promote them, even the best training measures will be of little use. Returns to training will be very severely restricted, both on the part of the employees and on that of the employer, if older employees are allocated to activities or workplaces involving products or processes that are being phased out. If that is the case, a lack of willingness to engage in lifelong learning is more than understandable. The problem can be solved by avoiding such slanted concentration of older employees on products or processes that are being phased out. Instead, working environments should aim to encourage continuous learning. Finally, productivity of older employees can also be maintained and sustainably improved by establishing age-heterogeneous and cross-generational teams, at least in innovative and creative workplaces.<sup>33</sup>

<sup>30</sup> cf. Chapter D.2.

<sup>31</sup> cf. Chapter D.4.

<sup>32</sup> For more details, see Chapter D.2 and Vol. 2 of findings, "Altern, Bildung und lebenslanges Lernen," Ursula M. STAUDINGER & Heike HEIDEMEIER (Eds.), on aging, education, and lifelong learning.

<sup>33</sup> cf. Chapter D.4 and Vol. 3 of findings, "Altern, Arbeit und Betrieb," Uschi BACKES-GELLNER and Stephan VEEN (Eds.), on aging, work, and companies.

However, measures aimed at training, education, and at adapting work organization will fall short if they are implemented in isolation. They have to fit in with a company's staff policy structures as a whole. Systematic *age management* means assessing and adapting all staff policy fields regarding their relevance to age. This could be incorporated in diversity management at a higher level to make use of advantages of all types of workforce heterogeneity. Ideally, this begins with staff recruitment, continues through staff qualification and development, includes well-considered (age-) heterogeneous composition of teams, and ensures systematic transfer of experience when employees leave the company. Throughout an entire working life careful handling and preservation of existing human resources is necessary to avoid wearing employees out at an early stage. This includes joint action with employee representatives urging timely further education and training measures, as well as rotating jobs, and changing professional activities.

However, careful handling of human resources does not mean a simple reduction of workload for older employees under the assumption of inevitable age-related decline. Special protective measures will ultimately prove detrimental to those to be protected if, for example, they prevent in-house mobility between different workplaces with different demands and wages.

Such "protective" developments would tend to be more of an obstacle to coping with demographic problems in the long run since they underestimate the plasticity and the continued development of competency among older people, thus forfeiting valuable potential. What is more, the negative age stereotype reflected in such "age-friendly" workplaces also promotes a corresponding self-assessment among employees and can drastically worsen both their performance and their state of health.<sup>34</sup>

In the context of systematic age management, greater flexibility of employment opportunities for older employees is going to gain considerable importance. This refers to greater flexibility for employees, who may wish to reduce, or even raise, their working hours gradually and flexibly. But it also refers to greater flexibility for the companies. For instance, they have to be in a position to allocate older employees to other adequate workplaces. All in all, making employment opportunities more flexible in the interest of both sides should focus on the spatial and temporal deployment of older employees that allows them to attain their respective best productivity. This is mutually beneficial both for companies and for employees. However, flexibility requires a minimum of stability. Thus the appreciation of older employees reflected, e.g., in wages, education programs, and career prospects beyond the age of 50, is crucial to sustainable age management. Transparency and straightforwardness of industrial or collectively agreed regulations is an important additional prerequisite for the employment of older people.

Finally, it is important to make it easier for elder employees to move from one branch to another or to change occupational fields; for example, to shift from the industrial to the services sector. Here, formal proof of qualifications represents a crucial obstacle to access. In order to reduce such mobility barriers, it would be helpful to certify skills acquired during working life, which would then allow for these to be identified and recognized when seeking new work.<sup>35</sup>

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<sup>34</sup> cf. Chapters D.1 and D.2.

<sup>35</sup> cf. Chapter D.2.

*Incentives for Longer Employment*

On the labor supply side, the statutory retirement age plays an important role. However, we know that in Germany, the *de facto* retirement age significantly deviates from the statutory one, in contrast to, e.g., Switzerland, where the official and the *de facto* retirement age almost coincide. The reasons for this are, on the one hand, the low incentives for early retirement in the context of a pension system based on contributions (not defined benefits), and on the other, a good economic and labor market situation.

This focuses attention on the generosity of regulations on early retirement. For several years in Germany, early retirement was linked to such low pension deductions that it was financially attractive to withdraw from working life at an early stage. One was awarded, as it were, a “bonus” for leaving the labor market early in life because the early receipt of a pension was much more valuable than the negligible deductions involved. This trend has since been stopped by slight corrections, but early retirement continues to be attractive for employees. Things are different for the self-employed. They also remain gainfully employed significantly longer on average. Although the share of self-employed is just around 10 %, they represent roughly 50 %<sup>36</sup> of the 65–70-year-olds who are gainfully employed.

In addition to reducing incentives for *early retirement*, positive incentives for *longer employment* can also decrease interest in early retirement. From the employees’ perspective, the choice of longer employment crucially depends on workplaces that match their competences, including appropriate physical, cognitive, and temporal demands and rewards. If workplaces can be made more attractive for older staff, the trend toward an exodus into retirement will diminish. Here, programs for a “human-resource-friendly working world” play an important role. In addition, the already mentioned partial pension could help to slowly scale down workload and working hours rather than abruptly cutting them and thus – hopefully – postpone a complete withdrawal from working life. This would also eliminate the focus on a numerical retirement age (be it 65 or 67 years), which largely determines the notion of old age in Germany today.<sup>37</sup> Gradually, a generally fixed beginning of retirement could be replaced with plans for life that are more strongly individualized or group-specific, without putting a strain on pension insurance schemes. A numerical retirement age would then only act as a point of reference for pension and deduction calculation, and possibly also for pension supplements if people have worked beyond the statutory retirement age.

However, if older employees no longer wish to work in the fields they are used to, or are unable to, a so-called “second career” gains considerable importance. A “second career” starts in an entirely new occupational field; while it possibly begins with lower income, this might be offset by greater prestige and more individual freedom. Taking up second careers could be promoted by more strongly recognizing vocational knowledge and experience in comparison to formal certification.<sup>38</sup> Gaining skills in training and further education cannot start too early in working life.

Individuals and companies mutually depend on the overall economic situation, which is discussed in the following chapter.

<sup>36</sup> See Federal Statistical Office, September 27, 2006.

<sup>37</sup> cf. Chapter D.1.

<sup>38</sup> cf. Chapter D.2.



#### **4. Productivity and Living Standards in “Aging Societies”**

##### *Summary and Recommendations*

Germany needs to take advantage of the life years gained if it is to maintain its position as one of the countries with high living standards. Above all, this means exploiting the opportunity to employ older people:

- A high labor force participation rate is the most important macroeconomic precondition for maintaining the living standard of every individual, be they gainfully employed or not. A higher labor force participation rate than today’s can be achieved by a shorter first education phase (among the highly qualified) and earlier entry into working life, later retirement, and the inclusion of more women in the labor force.
- Special opportunities arise in Germany from the large and untapped labor force potential that older people offer. It is important to recognize that using it is not to the *detriment* but to the *benefit* of the younger people.
- The second economic key to conserving our standard of living is maintaining and raising labor productivity over a lifetime by improved lifelong training and further education, by a sufficient availability of facilitating technical equipment (machinery, computers), and by a working environment that is age-sensitive and therefore conducive to productivity.
- Insights about the labor productivity of older people are just as important. There is no convincing scientific evidence for the widespread prejudice that older employees are less productive than their younger colleagues. Rather, scientific evidence gathered so far indicates that apt division of labor and organization of work can at least even out age-specific advantages and disadvantages, at least up to today’s statutory retirement age (cf. Chapters D.2 and D.4). Therefore, one important task is to question this common prejudice, eliminate stereotypes, and further to develop the art of sharing work among the old and the young.
- In the future, productivity in old age will tend to rise as young people with better school education and better health care grow older. The “compression of morbidity” (i.e., the shortening duration of the phase of serious disability that is due to medical progress and timely preventive health care) is going to increase the productivity of older people because of the healthy years free of functional limitations gained. Moreover, value added by older service providers in an “aging society” will increase of its own accord when older clients appreciate being served by older staff. Finally, a knowledge-based society needs more experience, social skills, and organizational talent, precisely those skills characterizing older employees.<sup>39</sup> These trends promise considerable opportunities for an “aging society.”
- One of today’s important social policy demands is to reintegrate older employees who have become unemployed in the labor market. Germany still appears to be having difficulties with this compared to other countries, although the national action plan called “Perspektive 50plus” points in the right direction. We have the opportunity to learn a lot from abroad, e.g., from Switzerland and Scandinavia. It is obvious that the last still remaining incentives for early retirement, which are once again under controversial debate in politics of the day, need to be eliminated if the opportunities and productivity that old

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<sup>39</sup> cf. Chapter D.2.

age offers are to be taken advantage of. In this context, it is important to note that employing older persons does not mean taking jobs away from younger ones. On the contrary, early retirement increases social security contributions and taxes, making the employment of younger people less attractive. Having a balanced mix of older and younger workers in a changing economy requires sectorial and regional mobility which is costly and should not be taken for granted – especially in Germany. Hence, in-house *age management* is particularly important.<sup>40</sup>

- Finally, value added by voluntary, unpaid work in the family and in civil society must not be forgotten. Thanks to their experience and social skills, older people can make a special contribution to productivity through unpaid activities. Such activities, however, must not displace paid work and cannot replace professional services.<sup>41</sup>

### Context

A growing share of older people in the overall population has unpredictable consequences for people's economic well-being and German society's international status regarding its standards of living. Aging is only one of several factors influencing future economic development. Neither are the impacts of aging unchangeable: they can be partially or totally evened out by higher gainful employment rates or greater labor productivity – or by both.

To an export-oriented economy like Germany's, a key question is whether companies in economies with an aging population can remain internationally competitive. This chapter addresses three core problems at three levels and asks the following questions: From a macroeconomic perspective: will companies located in Germany be able to hold their own as the country's population grows older? From a social-policy perspective: given the demographic challenge, which habits and institutions, particularly those of the labor market, need to be changed so that companies can remain competitive? And from the individual's perspective: how can older people not only retain their jobs in competition with younger people but have better opportunities to develop and apply their experience and strengths to their work contexts?

If we regard the maintenance of our standard of living as the goal of our economic activities, the two key mechanisms involved are the extent of gainful employment and the level of labor productivity. They closely interact at all three levels. Germany needs higher employment and also higher labor productivity to retain a top position in international competition for a high standard of living.

The higher the share of people who are gainfully employed in a country, the bigger the pie will be from which net wages, taxes, and social security contributions can be funded. A country employing fewer people (e.g., due to high numbers of pensioners and of women without gainful employment or late graduation from education and training) will see standards of living drop if the remaining gainfully employed do not succeed in making up for the decline in employment by higher productivity.

Therefore, the second key term is labor productivity. If people in Germany are more productive than those in other countries, it will be easier for them to prevail in international competition. Or they will be able to afford to have the same living standards and also enjoy more leisure time. Roughly speaking, labor productivity measures value added per unit of

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<sup>40</sup> cf. Chapter D.2.

<sup>41</sup> For further details, cf. Chapter D.8.



time in which a person produces goods or services. It will rise if that person can produce more products per unit of time and/or products that are more strongly in demand. High productivity is, in turn, a precondition for high wages and high employment. Can older people still be highly productive? The answer to this question has been debated controversially. It very much depends on the working environment and further education.<sup>42</sup> We see considerable opportunities that have largely been neglected. Moreover, there is the productivity potential of unpaid voluntary work, for example in the family and in civil society, which will be dealt with in Chapter D.8.

### *Living Standards and Demographic Change*

Life expectancy, which has been steadily rising in western societies for decades, and the equally steady low birth rate have two macroeconomic consequences for Germany given low numbers of migrants. The number of gainfully employed is clearly going to drop, and later on perhaps also the size of the overall population. Germany is definitely shrinking as an “economic power,” above all in comparison to league climbers China and India, but also in comparison to established industrialized countries such as the USA, the United Kingdom, and France. Not only are the birth rates higher in those countries, but they are also attracting higher numbers of qualified migrants. However, a numerically small population need not necessarily have immediate and quantitatively significant impacts on individuals’ living standards. Smaller countries are also known to have high standards of living. The problem is merely that of the transition from a high to a low total population, since existing infrastructure will then have to be scaled down and redistributed spatially.<sup>43</sup>

This is why the aging of a population is far more important than a decline in total population. Given the current structures, an aging population will include more pensioners and fewer gainfully employed people because the dynamics of aging will result in shrinking numbers of younger people (i.e., the producers) before the total population size (i.e., the consumers) follows suit. Since labor input represents the most important factor in the production of goods and services, and therefore in generating income and maintaining living standards, demographic aging inevitably poses a threat to living standards.

This can easily be expressed in numbers.<sup>44</sup> If gainful employment behavior were to remain unchanged (i.e., unaltered ages at labor market entry and retirement) and labor productivity were to stay at the same level, the numerical relation between producers and consumers would drop by around a third over the next three decades, and our standard of living would drop by roughly the same percentage, measured in terms of per-capita income, in relation to a situation without aging.

Could this be offset by higher productivity? The increase in the productivity of the German economy, the mean value of which has been around 1.5 % for decades (growth in real terms) would then have to rise by more than half to approximately 2.4 %. This seems unlikely to be achieved. Individuals and individual companies can dramatically improve their productivity, but increases in the productivity of an entire economy are subject to tight economic limits.

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<sup>42</sup> cf. Chapter D.2.

<sup>43</sup> cf. Chapter D.5.

<sup>44</sup> cf. Vol. 4 of findings, “Produktivität in alternden Gesellschaften,” Axel BÖRSCH-SUPAN, Marcel ERLINGHAGEN, Karsten HANK, Hendrik JÜRGES, and Gert G. WAGNER (Eds.), on productivity in aging societies.

There is of course a second option to maintain individual living standards. On an international scale, Germany has a low labor force participation rate of just over 65 %. It is especially low among young people (under-25-year-olds), women (in West Germany), and older people (over-55-year-olds). Regarding the share of older people in the labor force, which is of particular interest here, it is noteworthy that according to OECD statistics, the share was at just 55 % for the 55–64-year-olds in Germany in 2006, while it was at, for example, 65 % in the USA, roughly 67 % in Japan, Switzerland, and Norway, and even 73 % in Sweden. Ironically, the current relatively low labor force participation rate of women, young, and older people represents a great opportunity. If the labor force participation rate of these three groups is raised, it will be possible to make up for part of the demographic changes described above.

This can also be illustrated with a numerical example. If a labor force participation rate of 75 % were to be achieved in Germany over the next 30 years, living standards would fall not by 30 % but by a mere 10 % (in relation to a situation without aging). In concrete terms, this would mean that over the next 30 years, the age at entering the workforce would have to drop by 2 years, while the mean retirement age (in *real* terms) would have to increase by 2 years from 62 to 64 years, at 90 %, the labor force participation rate of women would have to approximate that of men, and unemployment would have to fall to 4.5 %. For Germany, these seem to be large numbers, even if they can be targeted over 30 years. Nevertheless, they are by no means unrealistic – Denmark has attained them, and they have even been exceeded in Switzerland. What is possible for two of our neighbors should also be achievable in Germany.

As a first conclusion it can be stated that productivity increases *alone* cannot offset demographic change. An increase in the labor force participation rate and corresponding changes in work organization and health care are *also* necessary.<sup>45</sup> Conversely, the second conclusion to be drawn is that even a significant increase in the rate of labor force participation to Danish or Swiss levels will not be enough to completely compensate for the consequences of aging either. So the third and most important conclusion is that maintaining our top position regarding living standards requires both: a marked increase in the labor force participation rate and growth in labor productivity. Put in numbers, increasing the labor force by 10 % to the Danish level plus an increase in productivity growth from 1.5 % to approximately 1.8 % per year would compensate for the impacts of demographic change on our standard of living.

Stabilizing our living standards is also the crucial answer to the question how the social security systems – i.e., statutory pension, health, and nursing care insurance – can survive demographic change financially. The already mentioned “pie” of the national product grows with the share of people working in a country and with their labor productivity. It not only finances the net wages but also the taxes and social security contributions that support the social security systems. Therefore, the most important instruments to sustainably finance the social security systems are a higher statutory retirement age, early graduation from education and training, and a higher rate of women’s labor force participation, together with the maintenance and increase of labor productivity.

Chapter D.3 describes how a high labor force participation rate can be attained. Whether the annual productivity increase in an economy with an aging population can increase at a higher rate than before or whether it will show a tendency to decline is a highly controversial issue. As the share of older employees is going to grow, the key to this is maintaining or even increasing the labor productivity of older employees. In the following, the question is: How

<sup>45</sup> cf. Chapters D.2, D.3, and D.7.

can the years gained be used to achieve higher labor productivity? Further insights on this issue can also be found in Chapter D.2.

### *Gainful Employment and Labor Productivity*

The links between age and labor productivity are multifaceted. Relevant studies in medicine, psychology, and gerontology show that as age progresses, those physical and cognitive abilities decline that can be accurately measured in laboratory situations.<sup>46</sup> Observations have revealed that individual peak performance (e.g., records in sports or excellence in the natural sciences) is almost exclusively attained in young years. However, there is also evidence to the contrary, for example in the humanities, where top-level achievement builds on accumulated knowledge and experience.

Labor science uses assessments of superiors to determine productivity in the course of a lifetime. This approach has the weakness that productivity is not measured but “assessed,” so that customary notions of old age and existing prejudices, e.g., regarding apparent declining productivity of older people, tend to be captured. Usually, such assessments suffer from systematic distortions.<sup>47</sup>

At company level, labor productivity can be easily and reliably measured by dividing value added by a company, as stated in its accounts, by the number of working hours.<sup>48</sup> This can be applied to test whether older workforces are, on average, less productive than younger workforces. However, one problem here is that innovative and technology-intensive companies with higher labor productivity tend to have younger workforces. Older staff was often already working for other companies when the innovative, new companies were founded. This leads to spurious correlations in economy-wide surveys of innovation, labor productivity, and workforce age.

Laboratory data on physical and cognitive efficiency and on peak performance do exist in large numbers.<sup>49</sup> However, they cannot be directly transferred to everyday working life. Large parts of the working world have been intentionally organized in a way that individual peak performance is not crucial. For example, assembly lines move at exactly the right low speed to ensure that the majority of workers can work largely without error, since a later correction of assembly faults can prove very costly. Moreover, division of labor will only work on a day-to-day basis if it does not have to rely on the top performance of every individual involved.

What is more, complex professional tasks also require experience, social skills, and organizational talent, which are normally not part of cognitive assessment in the laboratory. These abilities, which are more difficult to measure, tend to grow with age; they only lose their functionality when they turn into inflexibility (e.g., sticking to old customs unwisely) or if they are no longer effective because of considerable cognitive deficits.

The more important the component of experience is for labor productivity, the less and the later the latter will decline as age progresses. For companies and for employment poli-

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46 cf. Chapter D.2 and Vol. 2 of findings, “Altern, Bildung und lebenslanges Lernen,” Ursula M. STAUDINGER and Heike HEIDEMEIER (Eds.), on aging, education, and lifelong learning, and Vol. 7, “Altern und Gesundheit,” Kurt KOCHSIEK (Ed.), on aging and health.

47 cf. Chapter D.1 and Vol. 1 of findings, “Bilder des Alterns im Wandel,” Josef EHMER and Otfried HÖFFE (Eds.), on changing notions of getting old.

48 cf. Chapter D.3.

49 For a summary, see Chapter D.2.

cies, it is quite obviously important to know whether the age beyond which labor productivity stagnates or even drops currently tends to be at 45 or at 60 years. It is not easy to answer this question empirically.

Experience-related productivity of employees strongly depends on the work environment.<sup>50</sup> The art of division of labor is about assigning tasks to those who are best at carrying them out in a team that involves people of different ages. The concept of individualistic productivity as it is repeatedly measured in laboratory experiments does not directly fit into a society based on the division of labor. Rather, productivity has to be measured on the level of teams, entire companies, or entire societies. If the older generation's experience and ideas for new projects encounter an environment in which members of the younger generation implement new ideas with youthful energy, older and very old employees can still be highly productive. Examples here are top executives in culture, politics, and the economy.

An increase in productivity reserves in older age can obviously also be achieved in less spectacular examples, as a range of case studies demonstrate. The largest survey so far on the productivity of teams of mixed ages at work in Germany examines mentally and physically stressful assembly line work in a German truck assembly plant.<sup>51</sup> More than 100,000 measurements made over a period of three years are available. No decline in productivity can be seen in the age range up to 65 years. However, this survey also shows that the division of labor between the young and the old is subtle. A naïve mixing of ages in teams is not enough to attain high productivity. Rather, a shrewd division of labor is required between teams of different ages, each of which is not too age-heterogeneous, since large age differences within teams can result in miscommunication and thus lower productivity. Insurance industry case studies performed in the USA in the 1990s also had similar results. In companies with creative-innovative activities or in innovative branches, age heterogeneity can even have a positive effect that more than compensates for the generally negative effect.<sup>52</sup> Of course these studies contain no statements on employees beyond the age limits that currently apply. However, the factual average retirement age is significantly lower than the limit of observation, at 65 years, while the window for early retirement already opens at 57 years.

It is also important to consider the dynamics of health development. In the USA, it can be demonstrated that the speed at which the average onset of age-related impairment is being shifted to a later age is higher than the speed at which life expectancy is increasing. This is resulting in a "compression of morbidity."<sup>53</sup> There are signs of this in Germany, Denmark, and Japan, too. Thus the point at which the biological processes of decline have a lasting effect on individual labor productivity is going to be postponed into higher old age.

The economic significance of services that older employees can provide is also going to see a dynamic development. For example, there are reports from Deutsche Bahn, a large public transportation company and a large entertainment and household electronics firm that older customers appreciate older service providers. This could result in the aging of the population quasi-automatically causing higher value to be added by older employees through a growing demand for older service providers. Of course these employees have to be well trained and

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<sup>50</sup> cf. Chapter D.3.

<sup>51</sup> cf. Vol. 4 of findings, "Produktivität in alternden Gesellschaften," Axel BÖRSCH-SUPAN, Marcel ERLINGHAGEN, Karsten HANK, Hendrik JÜRGES, and Gert G. WAGNER (Eds.), on productivity in aging societies.

<sup>52</sup> cf. introductory overview of Vol. 3 of findings, "Altern, Arbeit und Betrieb," Uschi BACKES-GELLNER and Stephan VEEN (Eds.), on aging, work, and companies.

<sup>53</sup> cf. Chapter D.7.

constantly made familiar with new technology, so that further education and training will also become increasingly important in the basic service sector.

There is no overall consensus on how company productivity changes with age. Certainly, there is no scientific proof of the typical prejudice that older employees are less productive. Rather, available evidence indicates that age-specific advantages and disadvantages in the economically relevant age range of 55 to 65 years are roughly evened out by experience with the division and organization of labor gathered over time. The argument that the years of life gained cannot be used for a longer working life is not sound.

### *Further Education, Human Resources, and Demographic Change*

The significance of the working environment and further education measures is controversially discussed in labor science.<sup>54</sup> A longer individual life span also requires repeated and active investment in maintaining and developing labor power. The term “human resources,” as the accumulation of all of a person’s abilities, is closely related to the concept of labor productivity and is very helpful in this context. Given otherwise equal conditions, greater human resources will increase employees’ labor productivity as well as citizens’ capability to engage in civil society. Both their labor productivity and their civic engagement are important fields for investment. Human resources are enhanced by further education and experience. But at the same time, skills and knowledge can be forgotten or can become obsolete as a result of societal and technological change. The frequently criticized synonym “human *capital*” can be explained via its analogy to real capital: Training and further education can be understood as investment in human capital. This yields a profit in the shape of higher income and therefore a higher living standard. *Vice versa*, human resources, once they have been gained, can lose value again by lack of practice or by becoming obsolete, so they have to be “depreciated.” A longer individual life span increases the relevance of these investment and depreciation processes. The years gained can only be sensibly utilized by continuously developing human resources and stemming the mechanisms of decline for as long as possible. This also applies to investment in “health resources”: Good working conditions and preventive measures can counter health deterioration.<sup>55</sup> The notion of investment in education and health – and thus an orientation to the future – also needs to be brought to the fore in a society with an aging population. Companies must also be called on to become aware of the significance of demographic change in this context.

### *Productivity of Informal Activities*

The field of unpaid work (ranging from civic commitment, through volunteering, community help, to favors to friends, etc.) also bears a large, but under-utilized potential for productivity. If older people’s engagement increases, these “informal” activities can make an important contribution to mitigating the negative consequences of demographic change on economic development. The advantage and special role of unpaid work becomes especially obvious in fields where the quality of a service is strongly related to the trust between service provider and recipient. This aspect restricts the scope of professional service provision.

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<sup>54</sup> See Chapters D.2 and D.3.

<sup>55</sup> See Chapters D.2 and D.3.

Paid professional provision and unpaid services are not mutually exclusive. In fact, they complement each other. For example, support of professional nursing services by “laypersons” benefits the person cared for – neither professionalism nor empathy and trust are lacking. In return, persons engaged in caregiving without pay can be relieved by professional services. This allows them to monitor the quality of professional services rendered as well as gaining degrees of freedom to provide emotional support, which is so important for patients’ quality of life and cannot be bought. *Vice versa*, however, linking home care with professional nursing also prevents a lack of professionalism and the danger of abuse of patients. Furthermore, it ought to be borne in mind that the level of physical and mental strain arising from years of caregiving in the family is often alarmingly high. Such stress needs to be avoided. New models linking voluntary work with local community services suggest interesting approaches to this problem.<sup>56</sup>

Finally, in promoting and developing this form of productivity, it should be noted that so far, its practice has strongly depended on individual resources such as education, income, and health. The activation of broader sections of the public ought to be considered<sup>57</sup> in order to ensure that it is not mainly people with better education and a higher income who benefit from potential public funding of voluntary work.

However, these restrictions do not call into question the productivity potential of voluntary, unpaid activities in the family and in civil society but point to the conditions that need to be fulfilled for this productivity potential to be tapped successfully and sustainably.

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<sup>56</sup> For more details, see Chapter D.8.

<sup>57</sup> For concrete proposals, see Chapter D.8.

## **5. Aging in Local Communities and Regions**

### *Summary and Recommendations*

Where people age is crucial to how they age. While demographic “shrinking” and the consequences this bears for individual communities and regions are already attracting a relatively large amount of attention in the public and in politics, the topic of aging in its local and regional contexts has hardly been discussed. Making better use of the years gained requires a framework of conditions to meet the needs of an aging population and to motivate elders to participate in developing their environment actively. This is necessary at all levels: region, community, district, neighborhood, and home itself.

- Aging in Germany varies considerably among regions, towns, and local communities and these regional disparities are growing. They require an intensive dialogue on the conditions of aging at local level and on the principle of the equality of living conditions in a society with an aging population. There are two particularly important issues: First, it is essential to accept that the minimum standards of public services will differ more by region than to date. Second, sufficient scope is required at communal and regional level for local communities, public agencies, and private service providers to develop appropriately adapted solutions in concert.
- Forethought and advance provision are needed to find the right place for old age. Making people more aware of this through consultation, incentives, and promotion is an important task.
- The area disparities and regional conditions for aging need to be given more attention in science and politics. Regular surveys (e.g., age monitoring) that include information on local disparities in the conditions of aging are required.
- Towns and villages should be places for all generations. The aim cannot be to develop some of them exclusively for the specific needs of older people. The development of age-homogeneous retirement communities is not recommended for Germany.
- However, it is recommendable for local communities in general to become more sensitive to age-related requirements. Such sensitivities are increasingly becoming a factor contributing to communities’ attractiveness and their prospects for the future. The principles of sustainable regional and urban development and an orientation toward the model of a “city of short distances” are suitable approaches.
- Mobility in everyday life secures people’s participation in societal, political, and economic exchange processes. In old age, slowing perception and reactions as well as reduced physical abilities demand appropriate mobility aids. Assistive technology and access to the internet can be an answer.<sup>58</sup> Their further distribution has to be ensured. Additionally, regarding the aspects of safety and accessibility, an integrated mobility policy is required that brings housing and transport policies closer together at local-community level.
- The home and the residential environment are important places for self-determined aging. Therefore, adapting apartments and providing facilities and furnishing that meet the requirements of older people are not all that is necessary. A residential barrier-free environment and flexible local housing offering homes of various sizes are important, too. The

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<sup>58</sup> cf. Chapter D.6.



availability of new housing models that are suitable for different groups of occupants and phases of life (e.g., residential groups, integrated systems) need to be promoted. Bureaucratic hurdles hindering new models, such as those existing in the German regulations governing residential housing need to be eliminated. An activating residential environment comprised of recreational activities, shopping, and “green” spaces in the vicinity is also desirable.

- Several conditions of aging can be developed locally, i.e., in communities and residential districts. The opportunities this entails are still under-utilized by local communities, companies, associations, and elders. Developing social networks and involving older people in the shaping of their environment need to become important targets of urban and regional development. To this end, it is necessary to strengthen the role of local governments, to provide more scope at urban district level, and to facilitate cooperation among local communities and private organizations at regional level. For example, such cooperation contributes to better qualified candidates for honorary offices in local government,<sup>59</sup> to consultation about new housing forms for old age, and to the development of integrated structures among small and medium-sized companies in the field of vocational further education and training.<sup>60</sup>

### *Regional Disparities in Aging*

Regions and local communities are differently affected by aging (Fig. 1). In Germany, fewer than 16 % of inhabitants are older than 65 years in 13 urban and rural districts, compared to more than 22 % of inhabitants in 29 districts (e.g., in Lower Saxony, the Erzgebirge, or the Eifel). Older inhabitants are also unequally distributed *within* urban and rural districts. Whereas the share of over-50-year-olds is approximately 30 % in individual communities (e.g., Görlitz), it is above 50 % in some urban districts. Average life expectancy among men varies between 71 and just under 80 years by rural district. In addition, regions and local communities are differently suited to accommodating older people: Getting to the next hospital by automobile may take anything from a few minutes to well over half an hour. This is the case, for example, in rural parts of northeast Germany, the Rhön, and the Black Forest. The share of older households at risk for poverty varies regionally between less than 6 and more than 23 %.

Population aging is usually assessed negatively. “Aging” residential areas, local communities, and regions are often regarded as problem zones, with aging seen as a locational disadvantage. The worries of “aging” towns and regions focus on losing competitiveness and being left behind in economic competition.<sup>61</sup> Most of these communities respond with avoidance strategies. Again and again, they draw the conclusion that the changing age structure, so-called “superannuation of the population,” leads to the risk of a “depopulation spiral.”

However, aging is not necessarily linked population shrinkage (cf. Fig. 1). Moreover, a differentiated analysis shows that regions strongly affected by demographic aging and shrinkage are not necessarily the problem regions or structurally weak areas. Demographic aging around Munich coincides with different conditions than those in North Brandenburg. For example, in the rural areas of northeastern Germany and Lusatia (Lausitz), health care has been

<sup>59</sup> For details, cf. Chapter D.8.

<sup>60</sup> See also Chapter D.2.

<sup>61</sup> See also Part A and Chapter D.3.



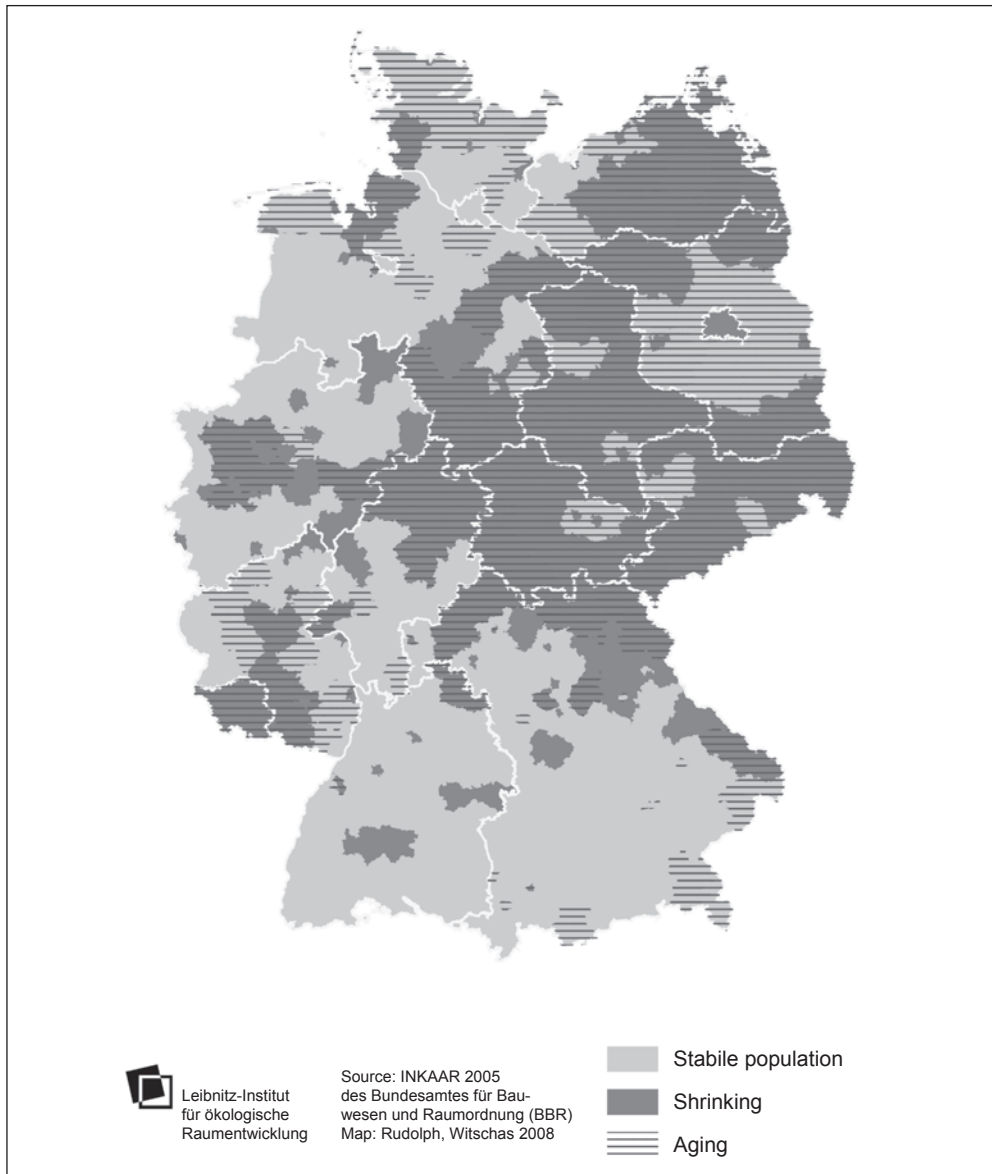


Fig. 1 Types of demographic change by district (2005)

reduced, family doctors are hardly available, and public transport services have deteriorated. What conclusions can be drawn?

Whereas the statistics capture demographic aging on a large scale, the regionally varying conditions of aging and the situations of older people on a differentiated, small scale are not easily identified in the available surveys. Therefore, it is recommendable to extend scientific records so that in future, local disparities in the conditions of aging can be used

to carry out targeted reconstruction of “aging” communities. In order to obtain meaningful results, regional differentiation needs to be broken down to smaller areas than those of the Federal States, age categorization needs to be more fine-grained than the mere grouping of over-65-year-olds, and younger age groups (at least from 55 years onwards) need to be included.

An intensification of the public debate on the possibilities of regional equivalence regarding the conditions of aging is urgently required. First of all, the debate needs to clarify that the goal cannot be *equality* of living conditions, that is, equal standards of provision throughout the country (this neither existed in the past nor is it given today). Second, it has to be understood that in future, public funding will not be available for across-the-board provision for the public as it has been in the past. It will be necessary to differentiate minimum standards in public service provision more strongly by area. In sparsely populated areas with a population that is older than the national average, solutions for health care and local transport supported by private and civic actors will be needed. However, the constitutionally established goal of equivalence, especially regarding socially underprivileged groups or disadvantaged regions, must not be abandoned. Nor must one forget that in structurally weak areas, there is often a particular lack of precisely those private and civic actors who would be required to successfully implement developments based on non-governmental initiatives.

Over the last few years, a highly controversial discussion about shrinking regions, towns, and urban districts has been taking place. Economic development in eastern Germany, which has failed to fulfill hopes, led to a massive exodus of predominantly high birth-rate cohorts, mainly from rural and formerly traditional industrial regions. In western Germany, too, many of the former traditional industrial regions are facing similar problems. Large cities are suffering from suburbanization. The coincidence of demographic and economic shrinkage makes aging in the areas affected particularly difficult. Questions are raised, for example, about who will still be there to look after the older people left behind.

One should be wary of generalizing solutions. The notion of being able to resettle the people still living there to less depopulated regions is just as unrealistic as that of maintaining or enhancing regional attractiveness against all trends. The control of such regional or urban development is only possible to a very limited degree – both for political and for economic reasons. Rather, the local community and societal institutions ought to be strengthened in order to find individually tailored solutions at local level. One also has to realize that generalizing demographic forecasts often fail to capture the potentially very dynamic local developments: Frequently, for example, the demand for skilled labor increases in those regions that people are leaving. Small and medium-sized companies (e.g., in the energy sector, in food production) can establish themselves there as demand increases for agricultural and forestry resources. Also, experience gained internationally (e.g., in Sweden) with maintaining schools, infrastructure, and health care at a high level should be given more consistent attention. It is necessary for the Federal Republic of Germany to determinedly continue to pursue its policies for rural areas, such as the model projects for regional planning of the Federal Ministry of Transport, Construction, and Urban Development and of the Federal Office for Building and Regional Planning.

Where one wishes to grow old is first and foremost an individual and autonomous decision. However, people need to realize that this decision needs to be taken early, under full consideration of its possible consequences. In this decision process, consulting services could contribute to more equal opportunities.

*Aging Sensitivity as a Perspective for all Generations*

The recommendation to find more solutions at local level mainly relies on local communities. Providing an infrastructure and mobility services tailored to older people's requirements, local, easy-access provision of services addressing their day-to-day and medium-term needs, barrier-free housing, and appropriate residential environments are urgent tasks to be addressed by the local community. However, there are further issues, such as providing adequate health care, organizing nursing services, or setting up community centers for exchange. This requires debate about changes in infrastructural development priorities. Innovative organizational concepts, such as new forms of cooperation between public and private promoters, are becoming necessary; long-lived constructional and technical structures have to be appropriately adapted. All this entails costs, some of which may be considerable. It can hardly be assessed to what degree the more than 12,000 local communities in Germany can master these challenges, but beyond innovative communities (such as Radevormwald, Görlitz, or Düsseldorf), there are considerable structural problems in the ways communities are handling age-related challenges.

All in all, handling these challenges has tended to be treated defensively. There is controversy over which concept provides the more promising goal for urban planning: a town specifically meeting the demands of older people or a *generally* "people-friendly" town, i.e., a town that simultaneously, but differentially addresses the needs of the old and the young, families, and others. The latter is the direction favored by many associations of seniors who tend to regard a town specifically tailored to the requirements of older people as a form of stigmatization.

An opposite approach is pursued in the marketing of so-called retirement communities that are developing a profile as residential locations for older people. Some communities, above all small and medium-sized towns, regard the settlement of older groups of inhabitants, especially those on the threshold to retirement age, as an opportunity to develop. In the USA, this has already been a flourishing market for a long time. However, it is subject to specific conditions and regulations there: Age-homogeneous communities are developed under consideration of social status characteristics and lifestyles. It has to be noted that the economic potentials of retirement communities are easily overestimated, that a concentration policy of this kind often distracts from regional structural problems, and that it can lead to a worsening of the living situation of the resident older population (e.g., because of greater accommodation and service costs). Also, the strategies of real estate developers targeting larger residential care home units for older people often have little to do with integrated and therefore viable planning. For Germany, therefore, the recommendation is to avoid such developments.

Urban planning should not aim to create towns or regions that are especially "suitable for old age." Instead, towns and regions that are "aging-sensitive," i.e., communities for all generations, should be the goal. They enable contacts between the generations, stimulate and challenge people, and facilitate civic and neighborhood exchange. Decisions ought to be oriented on the model of a compact city offering a functional mix based on diversity and integration. Since many older people regard rural areas as offering a better quality of life, decentralized models for provision should also be elaborated.

Three central demands can be formulated regarding the local development of an environment adequate for older people:

- Ensuring mobility based on "soft factors" (such as reliability, user-friendliness, safety, image). This includes the "city of short distances" (multifunctionality), a dense network

of short-distance public transport (mobility), and barrier-freedom (accessibility). Another issue is the examination of ways to avoid anxiety, ensure peace, provide time, and create possibilities for retreat.

- Opening up institutions to older people, involving them in the development of housing and communities. This involvement is necessary to achieve an intergenerational mix in towns and regions.
- Emphasizing the immediate vicinity, i.e., enabling people to access important provision functions in their residential environment. This includes a social and cultural infrastructure close to the home as well as neighborhood networks (for integration, activities, and contacts).

### *Aging and Everyday Mobility*

Mobility does not represent an end in itself, but it enables access to goods, services, and social contacts. Physical mobility in the community goes hand in hand with mental flexibility.<sup>62</sup> Older people are not generally less mobile, and do not wish to be. The decline in mobility which can often be observed in old age mainly results from the reduction of work-related mobility, whereas mobility for other reasons (such as travelling) may well grow. However, in very old age, people are more likely to stay at home, their interaction with their immediate environment decreases, and their radius of movement shrinks. Thus accessibility at home, the availability of means of communication, and the proximity of social networks become central issues, as do assistive technology and unhindered access to the internet.<sup>63</sup>

Appropriate assistive technology and traffic facilities need to be provided for people of very old age in particular, and also for younger people with physical disabilities. Older people face greater risks in traffic. This is reflected in the accident statistics, showing that people above 70 years of age are more affected by traffic accidents. Harmonizing and limiting driving speeds in road traffic makes sense because both reaction times and the ability to accurately perceive distances and differences in speed decline with age. Even though there has been a significant increase in the number of older people driving automobiles over the last few years, walking and short-distance public transport continue to play an important role. In towns and urban regions, the latter can usually be organized economically, while special situations and thinly populated areas require additional support through public and private services (e.g., neighborly help).

### *Housing, Housing Models, and the Residential Environment*

Housing conditions should be tailored to different groups of occupants and phases in life. Over the last few decades, considerable constructional adaptations have been carried out, for example by housing associations. However, many residential areas newly developed over previous decades do not meet the demands of growing numbers of older people. Often, there is an insufficient link between housing development and urban planning perspectives.

In making plans for old age, how and where one wishes to live requires careful consideration because the decision affects many other options. Housing property and forms of housing

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<sup>62</sup> For details, cf. Chapters D.2 and D.6.

<sup>63</sup> See also Chapter D.6.

are often thought about rather inflexibly, and necessary changes are postponed for too long. Services offering financial and organizational advice ought to help to make changes before age-related decline has become manifest: Be it moving elsewhere, adapting accommodation to age-specific needs, or even entering a completely new context.

Over the last few years, privately owned housing has been given political support. Many older people prefer it to other forms of accommodation. However, there is a danger that this is simply understood as staying at home, without contemplating the establishment of a supportive immediate environment. The considerable demand for a compromise between one's own home and the need for supportive nursing care has partly led to qualitatively poorer offers of assisted living. Preventing this requires appropriate organizational and financial safeguarding of assisted living.

Housing forms such as communal, cooperative, or intergenerational housing should be more publicized. Such forms of communal living are based on personal affinities and may represent viable alternatives to family settings. They still meet with several reservations, be it that they are avoided as "communes," or because one shies away from too much contact with others, or because the idea of residential property is still based on the private household. The respective interest groups should not pit living in old-age or nursing homes and living at home against each other to a degree that developments in the two areas impede one another. Instead, transitional forms (e.g., day-care centers, senior residential groups, neighborly help) that are suitable to accommodate the various care and support needs occurring in old age have long been developed and can be further elaborated.<sup>64</sup> New models of housing still frequently face considerable bureaucratic obstacles that need to be eliminated. First and foremost, the German regulations governing residential homes and nursing services' billing options need to be mentioned in this context.

### *Networking and Participation in Urban and Regional Planning Processes*

Integrative urban and regional development requires the active participation of different groups of the population, including older people, for example in planning and decision-making, but also in voluntary activities and assuming responsibility for the community. While older people are often the "object" of planning, they are too rarely involved in the planning process as citizens.<sup>65</sup> In contrast to scenarios sometimes described in the media the increasing number of older adults has as yet not lead to a particularistic enforcement of their interests neither in federal, state, nor local politics. On the contrary, participation of elders enhances their interest in the community and intergenerational dialogue.<sup>66</sup>

Turning aging into a more "networked" task of experienced solidarity and linking it with civic engagement will be easiest in the community, at home, or in the more local residential environment.<sup>67</sup> The local creation of more options to take part in developments and assume responsibility is crucial. This has, for example, already been practiced in Berlin by its socially integrative city program for neighborhoods ("Berliner Quartiersmanagement") and elsewhere for years. Establishing advisory councils for seniors is another strategy that many local com-

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<sup>64</sup> See also Chapter D.7.

<sup>65</sup> For concrete examples, cf. Chapter D.8.

<sup>66</sup> For more details, cf. Chapter D.9.

<sup>67</sup> cf. Chapter D.8.

munities have taken up. In this case, the emphasis is not only on involving older people in the development of their environment using their everyday skills, but also on activating their know-how for the good of the community as a whole.<sup>68</sup> The local-community level provides a host of approaches and experience. Promoting best practice, regional cooperation, and a cross-regional exchange of experience are important instruments to make better use of the potential of aging in Germany, and they are by no means expensive, albeit not matter-of-course.

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<sup>68</sup> This notion is further elaborated in Chapter D.8.

## 6. Aging and Technology

### *Summary and Recommendations*

Technology is a friend in old age – this proposition may initially come as something of a surprise. The view that technological change in general, and modern information technology in particular, tends to place unreasonable demands on older people rather than providing support is widespread. In contrast, we believe that modern technology can and will make a significant contribution to aging successfully.

Sensory and cognitive abilities, such as hearing, vision, the sense of balance, attention, and memory, decline in the course of adult life and, to an increasing degree, in old age.<sup>69</sup> Restrictions of physical mobility raise the danger of social isolation. Modern information technology can *prevent, delay, even out, and mitigate* the impacts of these losses by (1) *training* abilities and skills, (2) *supporting* everyday skills and (3) *monitoring* vital functions. It can contribute to elders' being in a better position to continue to lead an independent life, often in their accustomed home surroundings.

In order for technology to satisfactorily perform the functions of training, support, and monitoring, three criteria need to be considered in its development and application: *First*, technology ought to release more cognitive resources than its application requires. *Second*, it ought to adapt to the changing characteristics, preferences, and needs of older individuals. *Third*, it ought to positively influence their cognitive and physical resources.

Technical innovations for successful aging rely on research collaboration between computer scientists, psychologists, engineers, interior designers, architects, area planners, and medical scientists. Most useful technical innovations will assert themselves on the market without any government intervention. However, government can contribute to tapping technological potentials in order to enhance everyday skills in old age more quickly, fairly, and sustainably. In this context, we recommend:

- Government support of longitudinal studies carried out under everyday conditions to enable comparisons of costs of investment in modern technologies with the long-term savings brought about by the maintenance of the ability to lead an independent life.
- Introduction of standards (particularly technical norms) for the employment of flexibly assistive technology in households, public facilities, and buildings.
- Consideration of technical infrastructure for assistive and communication systems in urban and regional planning to achieve aging-friendly and barrier-free environments.<sup>70</sup>

### *The Requirement for Support and Technology*

Over the last few decades, very old age has become a normal part of life rather than an exception. The human life span has become longer and more predictable. This success story is mainly due to the reduction, avoidance, and delay of age-related losses and impairments. *Information technology* is continuing this success story with modern means and thereby assuming a *key role*. These technologies allow the development of devices and environments with

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<sup>69</sup> See also Chapter D.2.

<sup>70</sup> See also Chapter D.5.



flexible assistance properties. They recognize, learn, and actively support their users' and occupants' behavior, activities, and habits. Devices of this kind can be portable and used like mobile telephones, but may also be fully integrated in the material environment and function automatically. The increasing equipping of everyday environments with assistive technology has already changed our everyday lives; take, for example, navigation systems in vehicles. All in all, the opportunities and risks these changes pose for old age are not yet in sharp focus. As will be shown in the following, it is important to consider these opportunities and risks early enough to be able to strengthen desired trends and avoid undesirable ones.

The interaction of thought, attention, and memory, of sensory perception, balance, and gait is subject to changes in the course of adult life. Younger adults only spend a fraction of their cognitive resources on their vision, hearing, or balance control. To a large degree, their perceptual and motor performance controls itself automatically, unless they happen to be engaged in activities with high sensory and physical demands, such as mountaineering. In contrast, older adults need to invest mental resources in vision, hearing, balance and gait when carrying out everyday activities such as crossing a busy road. But unfortunately, it is precisely those mental resources required here, namely controlled attention, working memory, and associative abilities, that diminish especially strongly with aging.<sup>71</sup> The biological process of aging thus makes things difficult because the resources increasingly needed are on the decline themselves. A chief objective of employing technology in old age is to reduce this conflict.

#### *Criteria for the Assessment of Technologically Enhanced Environments*

Aging individuals can continue to make gains, for example, in social status, material belongings, knowledge, and professional expertise. However, other, more biologically-based resources such as physical fitness, health, sensory acuity, and cognitive abilities decrease throughout adulthood, particularly in old age. Even so, many older adults can cope well with their everyday lives because they succeed in adapting their goals to the altered resource situation and in making good use of resources that have become scarcer. Assistive technologies can contribute provided that their application fulfills the following three criteria.

- *Criterion 1: Net resource release.* The operation of technology usually requires an investment of physical and mental resources. It follows that the use of technology is only adaptive if these operation costs are lower than the payoff associated with other changes in processing when using the technology. For example, if using a mobile phone as a diary requires reading complicated instructions, the resource balance of this application will be low, at least initially. Objective and subjective assessments of the resource balance may differ from one another. Both are relevant since perceived usefulness determines the use of the aid more strongly than its objectively demonstrable utility. At least in the medium and long term, the use of assistive technology should bring about improvements in the resource balance. Therefore, when developing and testing technical aids, the conditions under which behavior with such aids requires fewer resources than behavior without them should be observed from the outset. This requires the integration of technological and psychological knowledge.

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<sup>71</sup> See also Chapter D.2.



- *Criterion 2: Person specificity.* Technology can better fulfill its supportive role if it is adapted to the habits, abilities, and preferences of its users. Differences in performance and interests increase with aging. It is important for assistive technology to be adjusted to older users' idiosyncrasies. The earlier in life it is introduced, the easier this adjustment will be. Learning to deal with assistive technology will also be easier if it is introduced before the onset of physical frailty and mental limitations. A high degree of individualization and the early application of technical aids are two sides of the same coin.
- *Criterion 3: Retaining everyday skills and promoting developmental potential.* Comprehensive assessment and prediction of assistive technology's capacity to maintain mental performance and facilitate independent living is only possible if the entire life span is considered and historical change is taken into account. When they reach the age of 80, today's 30-year-olds will use multifunctional mobile devices differently than today's 80-year-olds use mobile phones. Moreover, a stocktaking of the use and risks of technical aids may yield different results depending on whether their effects are observed over a short or a long period. Thus the use of mobile navigation systems in automobiles can help people to reach their destination more efficiently, i.e., faster and with less mental effort, and allow them to make use of their freed-up mental resources to have a conversation or follow an audio book while driving. But it is at least conceivable, albeit not (yet) proven, that the constant use of a navigation system while driving will lead to chronic disuse of navigational and spatial orientation skills and, in the long run, cause a worsening of cognitive functioning. The Seattle Longitudinal Study, for example, showed that cohorts born later were not as good at mental arithmetic as those born earlier, in spite of the fact that generally, the later cohorts' cognitive functioning tended to be better than their predecessors'. Probably, the decline in mental arithmetic was connected to the introduction of pocket calculators in school.

Accordingly, the employment of technology may not only optimize the use of existing resources, but it can also influence the improvement or decline of cognitive functioning in the course of life. As is so often the case, it is crucial to strike the right balance between support and activation. Thus everyday life ought to place demands on learning, memory, and navigational skills and pose challenges that people can cope with. Assistive technologies can specifically tune the degree of support provided to individual users and lower or raise it according to their needs. In this manner, the degree of difficulty in coping with everyday life can be kept in a balance between mental underload and overload that favorably influences further cognitive development in old age. Future generations of older people will be confronted with new kinds of assistive technology. This technology will influence the aging of the brain and behavior in as yet unforeseeable ways. In order to promote performance and avoid decline due to underuse of a person's faculties, both the short-term *and* the long-term effects of employing technical aids should be further considered.

### *On the Way to Individualized Assistive Technology*

At present, the impression often arises that older people have to adapt to the requirements of technology. As a rule, the opposite makes sense and is also technically feasible. Older people are "experts on their own lives," and they have a wealth of knowledge about their personal preferences, habits, and idiosyncrasies.<sup>72</sup> Sometimes, however, it is difficult for them to apply

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<sup>72</sup> See also Chapter D.2.

this knowledge adequately, for example when they are tired, distracted, have to pursue several goals at once, or their senses and body take up mental resources for the reasons explained above. In such situations, *flexibly assistive technologies ought to provide reliable cues* supporting people in keeping track of their goals and performing intended actions appropriately.

Which properties should reliable cues have? Two features are particularly important: appropriateness and distinctness. A cue has a high level of appropriateness if it signals characteristics of the contents to be memorized, or the action to be triggered, as directly as possible. For example, the STOP sign makes drivers stop because in the course of their life, the sign and the action have been firmly associated with one another. But not only should cues fit, they have to be clearly distinguishable as well, i.e., a certain cue should only activate the desired action and not simultaneously a string of competing actions. Also, the distinctness of cues will vary according to person and context. One contemporary example is the ringing of mobile telephones; a ring-tone that was only recently clearly distinguishable from that of other telephones may result in several people unnecessarily groping for their phones just a few days later.

If people create their own cues – intentionally or unintentionally through their prior actions – which are then acted upon by technology, there will be a good chance of high levels of appropriateness and distinctiveness because these cues perfectly correspond to their habits. Assistive technology should set out from the effectiveness of self-generated cues. It should learn its users' habits and preferences and subsequently support them by cues when required. And this has nothing to do with science fiction: The technical prerequisites for devices of this kind that are portable or can be integrated into objects of everyday life already exist.<sup>73</sup>

The supportive role of modern technology is supplemented by its monitoring function in phases of life characterized by special hazards and frailty, e.g., in very old age, in cases of dementia, or during rehabilitation following a serious illness. Examples include pressure-sensitive carpets that record falls, blood-pressure and pulse straps, or navigation gadgets that can register that the user has lost his way and offer assistance. The last of these examples also shows how monitoring and support can act in concert. Individually adapted combinations of support and monitoring can enable older people to live in their homes for longer than would be possible without modern technology.

Empirical surveys have demonstrated without exception that nearly all those interviewed prefer the installation of monitoring functions in their own homes to leaving the environment they are accustomed to. Nevertheless, we are aware that the monitoring function of modern technology in particular conjures up associations with George ORWELL's "Big Brother." The installation and use of such technology represents an intrusion into private space and obviously requires the consent of those being monitored. Also, the corresponding data needs to be protected technically and legally. This requires a new and important field of data protection to be developed.

### *Opportunities and Risks of Modern Technologies for an Aging Population*

The use of modern technology does not inevitably lead to social isolation and reduced social participation. In fact, precisely the reverse applies to people whose physical mobility is strongly impaired. For them at least, modern information technologies represent a "gateway

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<sup>73</sup> See also Vol. 6 of the findings, "Altern und Technik," Ulman LINDENBERGER, Jürgen NEHMER, Elisabeth STEINHAGEN-THIESSEN, Julia DELIUS, and Michael SCHELLENBACH (Eds.), on aging and technology.

to the world” and a forum for social exchange. This is already true for many older adults today; for example, Berlin’s University clinic Charité has been very successful in using the internet for rehabilitation measures (e.g., following a stroke) and for self-help groups, especially among older adults with only limited mobility. Future generations of older people will have grown up with the internet, and they will understand how to use it for many different forms of communication. For these generations, modern information technologies will also represent a particularly important means of social participation.

Modern information technology can be used for cognitive training purposes, as well. However, in spite of the promises made by commercial providers, it has not been demonstrated so far that cognitive training programs can enhance mental *abilities* and thus contribute to retaining everyday skills in old age. (So far, it has only been shown that one becomes more proficient in solving the tasks one has practiced.) Examining the effectiveness of such programs via intervention studies with a subsequent monitoring of progress is an urgent research undertaking.<sup>74</sup> Via the internet, such training programs can be used by people in all age groups. If some of them prove effective, they can contribute to the enhancement and maintenance of cognitive abilities.<sup>75</sup> In addition, easier individualized access to the internet will also increase the benefit of general education programs. This expectation could above all apply to such programs that link cognitive training and communication. Individualized programs to promote physical fitness can be provided via the internet as well; some of these programs have already been shown to enhance cognitive functioning.<sup>76</sup>

The growing share of older people among the general population is also important in *market* terms. Currently, work is in progress in Asia, North America, and Europe on software, appliances, households, and environments with training, assistive, or monitoring functions. Science and industry in Germany ought to extend their research activities in these fields over the next few years.

The Joint Academy Initiative not only sees the opportunities that technology offers for successful aging, it also sees the risks. Modern technology generates new dependencies, and it can aggravate social discrepancies; not everyone will be able to afford every technological aid. Moreover, it is conceivable that the chronic use of technological aids creates a lack of independence by decreasing mental resources through disuse. These risks ought to be taken seriously and scientifically examined.

Technical innovations offer opportunities both for older people and for societies with growing numbers of old and very old people. Technology applied in a flexible and supportive manner can improve the balance between support and challenge in old age, enhance everyday skills, and strengthen participation in social life, with positive effects on performance, well-being, and self-esteem – and it thus has positive impacts on society’s “social productivity.”<sup>77</sup> It can also reduce costs in the health and social security system and create a potential for growth by improving and extending the ability to lead an independent life. Last but not least, the inventiveness of users of technical innovations who are themselves aging will help to ensure that the opportunities outweigh the risks.

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<sup>74</sup> cf. Chapter D.2.

<sup>75</sup> See also Vol. 6 of the findings, “Altern und Technik,” Ulman LINDENBERGER, Jürgen NEHMER, Elisabeth STEINHAGEN-THIESSEN, Julia DELIUS, and Michael SCHELLENBACH (Eds.), on aging and technology, and in particular, Florian SCHMIEDEK et al.’s contribution on using the internet for cognitive training in old age.

<sup>76</sup> cf. Chapter D.2.

<sup>77</sup> cf. Chapter D.4.

## **7. Healthy Aging and its Limits**

### *Summary and Recommendations*

A healthy life style and targeted preventive measures have contributed to reaching old age in much better health. Widespread, life-threatening cardiovascular illnesses such as coronary heart disease now occur significantly later in life and more rarely result in death than in the past. Prevention includes, for example, a healthy diet, physical exercise, strategies to cope with stress, but also early disease detection, vaccinations, and many other measures. Also, thanks to the progress made in medicine and nursing, increasing numbers of older people with chronic illnesses and functional impairments are now reaching very old age, often with well-being and in dignity.

- In order to promote healthy aging, prevention needs to be strengthened at every stage of life, including very old age. Many of the dominant diseases in old age can be avoided by influencing the main risk factors preventively, or their occurrence can be delayed.
- Prevention is a task for society as a whole. In order to make prevention effective, structural prerequisites in the legislator's responsibility are required. For example, the ban on smoking ought to be followed by a ban on trans-fatty acids, such as those contained in hydrogenated food fats. The conditions for health-conscious behavior ought to be created for all people independently of their social status.
- However, prevention also is a task for everyone. It is part of people's responsibility for their own health. It ought to start as early as possible and is most effective if preventive contents are already integrated in school and family-centered education programs and are learnt at an early stage.<sup>78</sup>
- An "aging society" needs a strong system of geriatric medicine with cross-disciplinary as well as discipline-specific elements. This includes the further development of structures for geriatric medicine as well as intensified training in geriatric medicine as part of medical school and in medical staff's further education. Graded structures of provision need to be strengthened in particular.
- In order to be able to assess the demand for support in old age accurately, it is necessary to establish the state of old and very old people's health and quality of life in a more differentiated manner than has been the case so far, e.g., through the obligatory introduction of a broad-based and longitudinal aging survey.
- The role of family doctors with experience in geriatrics should be enhanced. Quality-based remuneration should be aimed for to improve the quality of treatment.
- The use of state-of-the-art technology in care, treatment, and nursing of older people is indispensable.<sup>79</sup>
- Dealing with dying and death ought to be a natural part of life for older people, but also for society as a whole. Toward the end of life, people ought to be confident that they can die in dignity. The topics of dying and death ought to be discussed much more openly and in public.

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<sup>78</sup> cf. Chapter D.2.

<sup>79</sup> cf. Chapter D.6.

- In order to reduce uncertainty about patients' intentions, legal regulations on the meaning, form, and compiling of living wills should be introduced.

### *Healthy Aging*

The aging process progresses differently in each person. Cells and organs within an organism also age at different rates. Individual aging with all its facets partly depends on genetic disposition, which, as yet, cannot be changed. However, it is also crucially shaped by a number of environmental factors that have an effect via gene activation and deactivation. These factors not only impact on the aging process but also on the individual risk of illness. Some of them, like physical exercise, diet, and smoking, can be influenced individually. Favorable framework conditions in society, such as a suitable health-care infrastructure or the ban on smoking, provide the foundations for effective individual prevention and can contribute to evening out social discrepancies in the availability of health knowledge (behavioral prevention). The early forming of health awareness at school is especially important. Other factors, such as pollution or work environments ought to be remedied predominantly at the societal level (workplace prevention). Comparatively high mortality and morbidity rates in the lower income groups ought to prompt a special intensification of preventive health care in these strata of the population.

Aging is not a disease. However, the functional reserves of the organs (such as the heart, lungs, kidneys, liver, vascular, and immune system, etc.) decline by an average 1.5% from roughly the 30th year of life onwards. This makes the healthy organism increasingly prone to disease as age progresses. Nevertheless, this physiological tissue aging process should not be equated with illness per se. Moreover, it significantly varies in its progression and degree and does not progress uniformly inter- and intraindividually. Differences among individuals increase with age. Thus in late old age, aging has made different progress in every individual. Also, physiological parameters, such as the heart rate, muscle power, and lung function, have changed positively from generation to generation. The biological functioning of a 60-year old today corresponds on average to that of a 55-year old of the preceding generation. Although it is not pathological in itself, the aging process nevertheless leads to functional losses that increase the risk of illness and may have an unfavorable effect on the course of a disease. For example, many older people have poorer vision and hearing, and the progressive loss of muscle mass results in a decline of strength and mobility, with both factors increasing the risk to fall.

Older people can adapt more or less on their own to some of these losses, while other losses can be compensated for by aids. Regular and targeted physical and mental exercise also has a positive influence on the aging process.<sup>80</sup> For example, physical training slows down the decline in muscle mass and bone density, improves the supply of oxygen to tissues and organs, trains the heart and the circulation, stimulates metabolism, and counteracts obesity. However, the adaptation and compensation abilities of the healthily aging organism will at some point reach its limits, even under optimal conditions.<sup>81</sup> Then, even minor disturbances of the physical equilibrium can lead to diseases. Also, acute diseases in old age have more far-reaching effects than at younger ages. As psychological resilience decreases, life satisfaction and a positive attitude toward life can decline and depressivity can increase, but this process usually sets in only a few years before death.

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<sup>80</sup> cf. Chapter D.2.

<sup>81</sup> cf. Chapter D.2.

### *Morbidity in Old Age*

Often, older people will develop not just one but several illnesses (multimorbidity) that mutually amplify each other in their unfavorable effects. Nevertheless, severe restrictions to everyday life are not inevitable. Most of these illnesses are chronic and therefore require treatment until death. In addition, they can result in functional restrictions going as far as a need for nursing care. The list of diseases in old age is headed by atherosclerosis and its consequences, such as coronary heart disease, heart failure, and stroke, and is followed by illnesses affecting the musculoskeletal system (above all osteoporosis, osteoarthritis, muscular atrophy, and rheumatic diseases, all involving chronic pain), malignant diseases, and various forms of dementia. There are several reasons for the accumulation of certain groups of illnesses in old age while others develop more rarely. On the one hand, risk factors such as smoking, hypertension, obesity, lack of physical exercise, disorders of fat and glucose metabolism, and bad diet contribute to the development of cardiovascular diseases, cerebrovascular dementia, and some malignant diseases, such as lung or colon cancer. Thus, atherosclerosis with all its consequences, illnesses of the musculoskeletal system, and lung and colon cancer could be avoided through preventive health care, or their occurrence could at least be delayed until very old age.

The increase in malignant diseases in old age is also a consequence of the immune system's aging because its control, monitoring, and repair mechanisms to prevent the development of tumors become less efficient. Screenings are of crucial importance for the timely detection and treatment of malignant diseases. The body's own resistance also declines significantly. This results, in later old age, on the one hand in greater vulnerability for infections and on the other in increases in auto-immune diseases such as rheumatoid arthritis or blood and liver diseases in later old age.

Furthermore, health in very old age is determined by a dramatic increase in dementia. While fewer than 5 % of 70-year-olds suffer from a dementia-related condition, around a third of 90-year-olds are affected. Alzheimer's dementia is the most frequent disease of this type by far. Although no cure has been found so far, it can be controlled in its progression. In this field, very little is known about possible preventive measures and there is an extensive need for research. Cerebrovascular dementia, in particular, develops on the basis of atherosclerotic vascular changes. In this case, hypertension is regarded as the chief risk factor. Drugs controlling blood pressure can therefore reduce the risk of developing dementia. Dementia in very old age is the most important reason for the loss of independence and the need for nursing care.

### *The Compression of Morbidity*

The increase in life expectancy and rising multimorbidity in later age provokes the following questions: How can the medical treatment and nursing of old and very old people be achieved in terms of personnel and funding? And how can it be ensured that quality of life persists into very old age in spite of restrictions and disabilities? A possible solution may lie with the concept of "compressed morbidity," according to which special preventive measures postpone the beginning of disease so far into later old age that this reduces (compresses) time between the onset of frailness and death. It has already been shown that in the USA, in spite of a considerable lack of public preventive health-care programs, the disability rate has dropped by an annual 2 % over the past 25 years, whereas mortality has decreased by just 1 %. More health-conscious behavior among the population and a reduction in smoking have resulted in postponing the onset of diseases or disability to a later age. Studies from the United King-



dom and France arrive at similar results. The tendency toward a compression of morbidity can also be observed in Germany. Data from the Augsburg register of myocardial infarctions (“Augsburger Herzinfarktregister”) suggest that the occurrence of potentially life-threatening cardiovascular diseases, particularly coronary heart disease, has been shifted to older ages.

### *The Significance of Prevention*

Between 1980 and 2002, life expectancy among men in Germany rose by just under 6 years and among women by just under 5. The fall in age-specific mortality from cardiovascular diseases most strongly contributed, accounting for about half, whereas the share of the decline in cancer mortality was just a tenth. In western countries, mortality from myocardial infarctions drops annually by 2–3 %. Two thirds of this decline is attributed to a reduction in the incidence of heart attacks and one third to their more rarely being fatal. If myocardial infarctions do not lead to death, this is due to better medical care, whereas their rarer occurrence is a sign of successful prevention and/or spontaneous changes in the way people lead their lives. In Finland, for example, thanks to a national prevention program, the mortality from coronary heart disease in the period from 1969 to 1995 was reduced by 65 % among 35–64-year-old men throughout the country, and even by 75 % in the region of North Karelia.

The earlier preventive strategies are applied in the course of a lifetime, the more effective they can be. If possible, preventive knowledge ought to reach children, adolescents, young adults, and their families. This is why school- and family-centered education programs have to address prevention at an early stage.<sup>82</sup> Company health promotion at the workplace also plays a crucial role.<sup>83</sup> A large share of gainfully employed adults benefits from prevention, safety, and health protection in the workplace.<sup>84</sup>

It has now been proven that taking up a healthier lifestyle is still worthwhile in older age, which means that health promotion remains the primary preventive strategy even in old age. Corresponding programs show that giving up smoking, changing diet, losing weight, and regular and targeted physical exercise as well as a lowering of blood pressure and blood lipids will also reduce the general risk of falling ill in old age, improve health status, and as a result, decrease health costs. The results of major epidemiological studies indicate that by changing habits alone, 90 % of diabetes mellitus type II (“adult-onset diabetes”) incidence, 80 % of coronary heart disease incidence and 70 % of strokes could be avoided. Prevention is also, and above all, a matter for the legislator. An initial, important move in the right direction has already been made by banning smoking in public institutions, means of transport, and restaurants. Further steps, such as the reduction of trans-fatty acids in hydrogenated food fats following the example set by Denmark, ought to follow.

### *The Role of Family Doctors*

Family doctors assume a key role in improving older people’s health. It is up to them to recognize and treat risk factors and pathology at an early stage by regularly checking blood

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<sup>82</sup> cf. Chapter D.2.

<sup>83</sup> cf. Chapter D.3.

<sup>84</sup> See Vol. 6 of the findings, “Altern und Technik,” Ulman LINDENBERGER, Jürgen NEHMER, Elisabeth STEINHAGEN-THIESSEN, Julia DELIUS, and Michael SCHELLENBACH (Eds.), on aging and technology.

pressure, blood lipids, and blood glucose. The results of major prospective, population-based surveys such as the German Federal Health Survey (“Bundesgesundheitsurvey”) or the MONICA-KORA Study demonstrate considerable improvement potential. They show that hypertension in Germany is only identified in half of those affected. Just 30 % of men and 51 % of women with hypertension receive any treatment, while a reduction in blood pressure below 140/90 mm Hg, which conforms to guidelines, was identified among less than 10 % of the diagnosed cases of hypertension. Whereas Germany occupies an unfortunate top position on an international scale regarding the frequency of hypertension, the diagnosis and treatment rates in countries such as the USA and Canada are significantly higher, at 70 % and 58 %, respectively. In order to improve the quality of family-doctor health care in this regard, it is worth considering quality-based remuneration in addition to regular training on guidelines. Early and determined treatment of hypertension is one of the most effective preventive measures against atherosclerosis and cerebrovascular dementia.

Family doctors also play a key role in diagnosing and treating disorders in lipid metabolism. It is important to regularly control cholesterol as one of the main risk factors of atherosclerosis and, should this be necessary, lower it by changing the patient’s diet and with drugs. In addition, due to the decline in the immune response, infections, especially those of the respiratory and digestive systems, also significantly increase in old age. Moreover, the response of older people to vaccinations steadily worsens: Their immune response to vaccines is weaker and does not last as long. This is why it is especially important to prevent infectious diseases among older people by more effective vaccines and new vaccination strategies (e.g., vaccinations at shorter intervals).

Since the chronic illnesses of old age are, for the most part, caused by a number of factors and only some of the risk factors can be influenced preventively, early diagnosis by family doctors and specialists assumes special importance. The control function that the family doctor plays can be significantly supported by cooperating with other professional groups active in preventive health care such as physiotherapists and nursing staff. Therefore, their position needs to be strengthened, too.

### *Demands on the Health System*

With a greater preventive health care effort, including the application of across-the-board screening programs, many older people will remain healthy for longer in future. Nevertheless, due to the increase in the share of older people in the population, the health system in Germany faces the task of making structural adjustments to adapt to an increase in the number of old and very old patients, many of whom will be suffering from several, mainly chronic diseases simultaneously. This is why, in addition to preventive health care, geriatric medicine will play a key role in future. Geriatric medicine deserves an appropriate status in medical school and in the education of nurses. It ought to include geriatrics as well as specialized medical aspects and belong to the obligatory part of teaching curricula and exam catalogues in all medical education and training courses. The position of geriatric medicine can also be strengthened by introducing a specialization in geriatrics in Germany. In addition to better training of medical staff in geriatric medicine, it is important to promote geriatric departments in general hospitals and enhance out-patient and partial in-patient health-care provision. In principle, a greater permeability among the structures is desirable in order to enable more adequate treatment for older people with chronic illnesses (including chronic pain conditions) than this is



possible in departments of acute medicine. Unlike acute medicine, geriatric medicine does not necessarily primarily pursue a curative approach. Rather, its efforts center on maintaining independence and quality of life as well as on limiting functional losses.

### *Increasing Life Expectancy and Care Risk*

Several authors have now demonstrated that the number of people in need of care due to a rising life expectancy need not automatically increase. Between 1991 and 2003, the risk of needing care actually dropped in Germany, which is another indication of the compression of morbidity. Contrary to other claims, a further *decrease* in care risk is to be expected over the coming years and decades. However, statements on health trends among the older population are not uniform. The care risk and the onset of permanent disability seem to be moving into later old age, whereas chronic diseases, pain syndromes, and depression are already on the increase among the “younger old.”

Although chronically ill older people are now being better cared for than in the past thanks to modern medicine, their treatment does cause costs. In order to be able to reliably estimate the costs of treating and caring for elders, it is necessary to carry out a more differentiated assessment of their health. Therefore, a national aging survey ought to assess illness, disability, and quality of life in old age, including people beyond the age of 85 years, independently of whether they live in private households or nursing homes.

### *Quality of Life and Loneliness*

Most people want to live a long life, provided, however, that they will be able to spend it largely in good health and remain integrated in society. This raises the issue of differences in quality of life by age group.

Since early times, philosophical ethics has distinguished between *pure* life, or put bluntly, sheer survival (*zên*), and something approaching the concept of a quality of life, *good* and successful life in good fortune (*eu zên*). According to this notion, *good* life figures as an improvement of *pure* life, but not as an alternative. The meaning of a good life or the quality of life depends on the phase of life in question: A young person's quality of life is not greater or less than, but different from an older person's, whose quality of life will in turn differ from that experienced in late old age.

Research tells us that as a rule, older people adapt their expectations and attitudes to life to their age in order to achieve well-being. This belongs to what is referred to as the resilience of old age. It includes giving up the carefree storming ahead of earlier years and considering life retrospectively, but also taking a future-oriented perspective, as well as setting goals and standards in accordance to one's own possibilities.<sup>85</sup>

Cognitive, sensory, and motor losses entailing or resulting in a greater need for care and having to rely on others, restriction of mobility, and the passing on of old friends must not be trivialized. However, unlike many crisis diagnoses, even in late old age, loneliness is by no means the rule. For most older people, the family continues to represent a strong immediate social environment, and people without children or partners create a close network of friends and companions. Among over-80-year-olds, however, the death of a partner tends to be fre-

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<sup>85</sup> See also Chapter D.2.

quent. This mainly affects the women, 77 % of whom are widowed in comparison to 33 % of the men. However, the relationships with the following generations are maintained. Just 10 % of the over-80-year-olds have no living children, and 20 % do not have grandchildren.

In Germany, it has become an exception to live with one's descendants. This occurs more rarely than in the South European countries, but still more often than in Scandinavia and the Netherlands. Usually, however, one child lives near at hand. On average, this is also reflected in a high frequency of contact with one's children.<sup>86</sup>

Although these findings paint a positive picture of family cohesion in Germany, this is not the whole truth. Family contacts cannot completely compensate for the lack of verbal and emotional exchange with peers, in the village, the neighborhood, the seniors' club, or in the church parish. Many of the topics that concern older people and that they would like to talk about meet with little interest among younger people, be it telling each other about their ailments or thinking about the hereafter. Younger people are in the thick of life and often avoid older people's troubling questions. And anyone not listened to will no longer ask and not wish to burden the young. This is why the issue of quality of life toward its end is always also one of appropriate communication and accompaniment, which includes openly addressing our transience and death.

### *Dignity and Autonomy at the End of Life*

#### Living Wills

People's decision on where they want to die should belong to the complex of dying in dignity. This should also include their decision about the types of treatment they wish to subject themselves to, or not. This self-determination right is fundamental to our legal system. Thus no attending physician has the right to ignore his patient's will. It follows from this that so-called passive euthanasia, i.e., not taking any life-prolonging measures if the patient so desires, is exempted from punishment.

Although there is general agreement on these principles, their realization meets with difficulties once the right of self-determination can no longer be exercised, e.g., owing to unconsciousness limited capacities to understand or make oneself understood. How should the patient's will be determined then? A solution suggesting itself is an advance directive in which a mentally competent patient makes decisions on future treatment, covering the event of not being able to do so later, in a so-called "living will." In it, the patient can decide whether or not, and to what extent, he wants medical measures to be taken in more closely circumscribed situations of illness. However, there is currently considerable legal uncertainty about this: In the concrete case of illness, the legally binding character of such a declaration previously deposited by a patient who is no longer able to take a decision is doubtful. Uncertainty among physicians and nursing staff often leads to the deposited will not being followed because of indecision. Even if medical laypersons in particular cannot truly anticipate the situation in which their decisions may come into effect, a living will nevertheless reflects its author's general attitude. Here, astute legislation ought to create legal clarity for patients' benefit. It is recommendable to legally define the requirements on the certainty and the form of advance health-care directives. Drawing up a living will presupposes comprehensive information and counseling. Even

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<sup>86</sup> See also Chapter D.8.

regular confirmations and adaptations cannot rule out that a patient would decide differently at a later date. Circumstances that have subsequently changed regarding personal matters or treatment options need to be considered. This is why a confirmation procedure makes sense. The physician and the nursing staff ought to be obliged to form their own judgment and, whenever possible, to consult the patient's relatives and other close associates.

However, patients can also transfer their right to self-determination to one or several trusted persons with a durable power of attorney. These appointees would then make binding decisions on the implementation, omission, or termination of medical measures in the event of the respective patient's inability to make his wishes known.

### **Towards a Culture of Death and Dying**

Basically, humans are aware that they are mortal, but they usually suppress this knowledge. Philosophy has referred to the art of dying (*ars moriendi*) ever since its beginnings. This implies neither the thoughtless handling of life nor weariness of it. In this case, "art" means an ability that one can and must learn since it is not innate and does not develop automatically. It is the ability to attain a higher level of composure combined with the willingness both to recognize mortality and to know that death can already occur "in the midst of life." Moreover, it is the ability not to hold onto life when the time has come and to accept its end. In fortunate cases, people have "had enough of their life" and have enjoyed it to the full. A recollection of the elements of an art of dying could help develop a culture of dying, which has become essential for a society with an aging population.

First and foremost, the culture of dying concerns the *person dying*, who might be advised to learn such composure. However, culture is also required on the *social side*, graded according to personal closeness. People ought to learn how to deal with older persons, frail persons, and, ultimately, dying persons in a "natural manner," that is, neither sentimentally nor insensitively, but with empathy. It goes without saying that such empathy will be different among people who are very close from those who are further away or are strangers.

The culture of dying also has a *spatial dimension*: Wherever possible, people ought to be able to die in their own environment, i.e., at home. However, the reality is different: Most people die in hospital, in nursing homes, in palliative wards, or in hospices. This is often not due to the relatives being unprepared for death and preferring to have as little to do with this as possible; instead, the circumstances at home do not always allow people to die in peace and dignity. Since the handling of dying and death has increasingly been pushed to the periphery of society over the last decades, many relatives lack both confidence and experience as well as the necessary readiness to get deeply involved with the dying person and the end of his life. Part of the medical culture of dying is that the staff (physicians and nurses) do not end their support once they have realized that a patient has entered the irreversible process of dying. Even though medical treatment may no longer help, the person dying must not be left alone. In addition to the obvious tasks of securing vital functions and mitigating distressing symptoms, emotional support must not be forgotten. For example, someone ought to stay in the room with the dying person, hold his hand, and comfort him.

This topic should not be excluded from *public discourse*. Even though people are increasingly dying at a very late age, we need to move death and dying back into the midst of society where it belongs as a natural and integral part of life. In all its aspects, the culture of death and dying means no less, but also no more, than the ability to show respect for a person who is dying and whose dignity must not be violated.

### *Outlook*

Life expectancy has risen significantly in Germany over the last decades. Everything indicates that it will continue to rise over the next years. This is why the quality of life is at the center of medical care for older people. Health lays the foundation for quality of life. In this context, health does not necessarily mean being entirely free of disorders but that, with a physician's assistance, a person can muster the strength to live with his health restrictions in dignity and with satisfaction or, as Paul B. BALTES put it: "The aim is to develop preventive and corrective treatments to at least lessen the maladies of [very old age], even if it is not possible to eliminate them completely."

Maintaining autonomy and independence should be at the heart of medical care for older people. Medical progress suggests future positive developments in this field can be hoped for, also thanks to the development of innovative technical aids.<sup>87</sup> Nevertheless, if older people do not take a high level of responsibility for their health, they will not experience satisfying outcomes of such progress. However, people should remain aware that this not only applies to old age, but throughout their entire life. To an increasing degree, people living health-conscious lifestyles, preventing avoidable illnesses, and keeping physically and mentally fit have good prospects of aging healthily. Nevertheless, the precondition for this is continued equal access to the necessary medical and technical facilities for everyone.

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<sup>87</sup> cf. Chapter D.6.

## **8. Aging, the Family, and Civil Society**

### *Summary and Recommendations*

Demographic change over the last few decades has mainly opened new opportunities for the family and civil society. While average life expectancy in good health has risen, the average retirement age has dropped. The period between the beginning of retirement and withdrawal from active life due to waning strength, illness, and need of assistance has grown considerably: On average, 15–25 years can now be expected. Even if the departure from gainful employment will be delayed in the future<sup>88</sup> and part of the time after working life will remain devoted to rest, leisure, and increasingly, education, some of the years gained in later age can be used for activities in the family and civil society.

The striking increase in the average length of life has made longer lasting family relationships across *more than two generations* normal – they used to be an exception. Although they seldom occur in one and the same household, mutual contacts, support, and solidarity in multi-generational families are more characteristic today than tension and conflicts. In families, there are no signs of a future “clash of generations.” In terms of intergenerational support, the younger people are predominantly the takers, while their elders are the givers. However, friction does occur: too much strain because of growing care needs, multiple responsibilities (children, work, caregiving), conflicts about rights and duties.

Social engagement (or civic commitment) – unpaid, voluntary, “honorary” activities in associations and self-help groups, church and charitable organizations, citizens’ and neighborhood initiatives – is also practiced by older people in a multitude of forms. It has increased in recent years and can be further developed. The growing number of older people represents a large and increasing resource to be challenged and encouraged. Civic commitment can be beneficial to the general public. It is also useful for older individuals to increase their quality of life because social engagement offers many different options and thereby can be easily made compatible with the needs and abilities of older adults; much more so than many forms of gainful employment. Civic commitment offers a wide range of opportunities to maintain and develop competencies after working life, to be recognized and integrated in society, and to interact with members of other age groups.<sup>89</sup>

Our recommendations are aimed at strengthening the family in carrying out its tasks for the “weaker” generations and at activating – voluntary – commitment of older people in the family and civil society. Active solidarity in the family is to be maintained, and the civic potential of an aging population is to be better utilized.

- The “strong” generations within the family ought to be motivated to help, and be supported in, helping the “weaker” generations (e.g., adults in the transition to retirement as helpers of younger adults or of older people in need of care). In particular, assistance is required to alleviate the risks to caregivers (too much stress, health problems, loss of professional qualifications), e.g., by the availability of outpatient care services or qualification programs. Women are mostly the ones under particular strain in families. All approaches specifically integrating men in family duties and caregiving should be promoted.

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<sup>88</sup> As reflected in Chapters D.2, D.3, and D.4.

<sup>89</sup> cf. Chapter D.4.

- New ways to reconcile family activities and work (e.g., family leave not only for young parents, but also for people in middle adulthood allowing care of elders or grandparenting) should be developed. In this context, flexible working hours for caregivers are preferable to their leaving gainful employment for several years.
- The ability of families to carry out such tasks has to be supplemented by public services, be it financial or institutional assistance, by incentives to utilize professional services via the market (e.g., extended tax deductibility) as well as by voluntary services (e.g., neighborly help). The aim is to organize – also self-organize – individualized and flexible mixes of different types of services, and this ought to be facilitated by consultation as well as cross-linking between the family and public services. The Danish model of an effective linkage of civic and community care services includes interesting ideas regarding decentralized provision in old age without resorting to the conventional old-age or nursing home.<sup>90</sup>
- In order to promote involvement in civil society among older people, those abilities and services that older people can contribute in particular ought to be weighted more strongly:<sup>91</sup> by creating adequate opportunities to work in commercial and public institutions, by advertising and urgent appeals to join in, by remunerating expenses, by publicly recognizing voluntary work. Volunteers should be received and responded to in a way that shows them that they are the active party to be supported by administrative services, and not vice versa.
- Promoting a new culture of voluntary work aims to ensure that civic commitment already begins early in life. Those who have gathered such experience in early and middle adulthood will be more willing and able to engage in civil society in old age.
- Civic commitment has to be prepared and accompanied by special qualification programs. Conversely, the prospects of voluntary work can be used to motivate people to take up further education and training. Promoting organizations active in this field ought to be linked to their qualification programs for volunteers.
- Similarly as family and work life need to be better reconciled, new models ought to be developed and promoted to improve the compatibility of gainful employment and voluntary work. In addition to the legislator, company policy is called upon to facilitate compatibility, for example through adequate part-time agreements.
- Local governments and other public agencies ought to see to it that contact and information points are set up for older people's interest in civic commitment to dock onto. The aim should be an organizational structure in the form of a loose framework in which voluntary engagement can develop in a self-organized way.

Putting these recommendations into practice requires new ideas as well as determined commitment on the part of older people, demand and encouragement among younger people, the ability to self-organize and combine initiatives, as well as public support. This costs money. It is well invested because it promotes activities in the family and civil society that serve individual welfare while strengthening society's human resources and cohesion. It will be all the more possible to raise the necessary funds if economic performance can be enhanced by increasing productivity and gainful employment, as proposed in Chapters D.3 and D.4.

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<sup>90</sup> See Vol. 8 of the findings, "Altern: Familie, Zivilgesellschaft, Politik," Jürgen KOCKA, Martin KOHLI, and Wolfgang STREECK (Eds.).

<sup>91</sup> cf. Chapter D.2.

### *Point of Departure*

A rising life expectancy on the one hand and a falling birth rate on the other have resulted in an increase in the share of older and a decrease in the share of younger age groups in the population. This is often interpreted as an “aging of society” that is currently perceived in Germany as bearing more problems than prospects.<sup>92</sup> Apprehension usually arises on account of the changing demographic proportions between older and younger people. Concerns first of all refer to how the care requirements of the growing number of older people can be met. Provision of care, which traditionally, and until today, mainly occurs in the family, threatens to result in bottlenecks for numerical reasons and because of the increasing employment rates of women. Consequences are an excessive strain on gainfully employed adults (above all women), a neglect of older people, transfer of the “burden of old age” to institutions outside the family, and further financial demands on the welfare state, thus encumbering younger people. There is a general fear that demographic change could result in new imbalances, tension, and conflicts between the generations. Sometimes, there is talk of a forthcoming “clash” or even “war of generations,” of a future “uprising of the elderly,” with older people no longer wishing to be marginalized, and conversely, of younger people refusing to address public issues and withdrawing from the burden of financing the ever more expensive welfare state and the domination by the older people benefiting from it.

These widespread problem accounts and fears of the future do have a rational core but they are strongly exaggerated. Exclusively concentrating on the problems and dangers of demographic change leads to a distorted image that neglects the new opportunities that it holds as well. The opportunities encompass, in particular, prospects for cooperation in families and for civic commitment among older people both for their own benefit and for society as a whole.

### *Family*

The marked prolongation of life expectancy has resulted in a normalization of longer lasting relationships between the generations. The time shared by generations has strongly increased. In 1940, one in seven children aged 10 years in the USA still had all four grandparents, while in 2020, this will already apply to every second 10-year old. Thus the prospects of inter-generational contact over more than two generations have become much greater in today’s developed societies than they were in the young, rapidly growing populations 100 or 150 years ago.

Relationships with the following generations are also maintained in old age. While direct cohabitation with one’s descendants has become rarer and is mostly not desired, a child usually lives in the immediate vicinity, and a high contact frequency can be observed.

This results in opportunities to cooperate and provide mutual assistance, even after the children have left their parents’ home, and frequently over more than two generations. In Germany, over a quarter of those aged 50 years and above supported their descendants financially in 2004, and half of them provided other assistance, e.g., by looking after their grandchildren. Conversely, around a fifth of the parental households received support from their adult children. This reflects broad solidarity among the adult generations. Looking at the entire transfer

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<sup>92</sup> cf. Part A and Chapter D.1.



of resources between the age groups and generations in the family, it becomes clear that the younger people are predominantly the takers, while the older people are predominantly the givers – probably unlike in former times. This includes the age group up to the 70- – 80-year olds, whereas the relation is reversed among the over 80-year olds.

But even the very old are not generally or even mostly in need of care.<sup>93</sup> Moreover, one should not hastily assume that the continued increase in the number of very old people predicted for the future will necessarily result in a linear growth of the need for care. There is a tendency – which will probably continue – for the average onset of care requirements to shift back in time significantly in the course of rising life expectancy. Several research findings even indicate that the average duration of the phase of age-related illness and dependency is declining (“compression of morbidity”<sup>94</sup>).

Intergenerational relationships in families have always been conflict-laden. It is difficult for families to reconcile solidarity and individual autonomy. Cross-generational assistance and services may themselves become a source of conflict, for example in disputes over inheritance or when dealing with relatives in need for care. When intensive nursing care is required, caregivers may be overtaxed and see their own goals restricted.<sup>95</sup> This applies more to women than to men; even today, the lion’s share of caregiving is carried out by women. They are therefore particularly endangered by excessive strain and forced postponement of their plans for life.

For the large majority, however, there are more benefits than costs from family relationships across generations. Over two thirds of the care services for older people are currently provided within the family. The welfare state takes this for granted, but is responsible for creating and maintaining adequate conditions for families to continue caregiving as well as ensuring equal opportunities for both sexes. Support, both material and in the form of professionalized services, as well as new models improving the compatibility of work and family help families to provide such care services. Usually, family caregiving is more cost-effective than services offered by the market and the state. Moreover, it can create additional value in terms of personal bonds and social integration.

However, some developments indicate a decline in the potential for family solidarity in the future. Over the next few decades, the number of older people’s children will drop, and that of older people without children will grow. While childless people are also often engaged in the welfare of the weaker generation, this tends to happen more indirectly, for instance via civic commitment and foundations. The share of divorced families will also increase; and divorce usually entails a weakening of a child’s relationship with one of the parents – mostly the father. If geographical mobility continues to rise, contact between parents and their adult children will be increasingly complicated by spatial distance, although the rapidly developing information technologies are opening up new prospects for “closeness at a distance.”<sup>96</sup> On the part of older people, readiness to miss out on things in life for the benefit of adult children may also decline in future generations. But whether older people will continue to be the givers in intergenerational relationships mainly depends on their economic situation. If the welfare state were to cut back its services for older adults, this would accordingly curtail

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93 cf. Chapter D.7.

94 cf. Chapter D.7.

95 See also Chapter D.4.

96 cf. Chapter D.6.



their ability to support their descendants. Public services must concentrate on cases where social disadvantages threaten to arise because of an absence of family networks or insufficient familial help. Demographic change can result in an increase in such shortcomings in family solidarity in the future. In addition to public support, civic services and organized self-help are required.

### *Civil Society*

Civil society is the world of self-organized initiatives, movements, networks and organizations, associations and self-help groups, neighborhood initiatives and non-governmental organizations, i.e., the field of activity between state, family, and market. Civic commitment (or engagement in civil society) follows neither the logic of the market nor the logic of government administration. It consists of unpaid, voluntary activities reaching beyond the private sphere and ranges from assistance in pre-school programs for children with a poor knowledge of German, caring for elders in the neighborhood, through the honorary post in a sports club, to campaigning for nature conservation or human rights in non-governmental organizations.

Civic commitment has a long-standing tradition in Germany, although some of it has been closely intermeshed with the state (e.g., funding of welfare associations or benefiting from tax concessions). Over the last few years, this commitment has increased and found new, freer, and more flexible forms. However, it remains unevenly distributed: Members of the middle classes are more involved than those of the lower classes, gainfully employed people more than the unemployed and middle-aged more than older adults. But civic commitment among older people has grown at a disproportionately high rate over the last few years. According to the results of a survey on volunteers, 37 % of the 60- – 69-year olds in Germany were active in 2004, compared to 31 % five years earlier. Other results suggest that up to a further 25 % of these age groups – i.e., approximately 2,000,000 people – would be willing to engage in such activities if a good opportunity presented itself. While one arrives at somewhat different results using other definitions, data from other countries such as the USA, the Netherlands, or Sweden where overall access to civic commitment is more open and greater participation is typical, also suggests an increasing tendency for voluntary, unpaid work to be performed by older people outside the family. An as yet largely untapped potential also appears to exist among the growing age groups of the over 55-year olds. The reasons for this general tendency are older people's improved state of health, the increased demand for their services, the growing societal recognition of civic commitment, and the special conditions of the last few decades: The "baby-boomers" who are now becoming older have gathered more experience with societal involvement than the cohorts of the past. It is a known fact that previous experience is one of the crucial preconditions for getting involved in old age.

Currently, civic commitment among older people still occurs most frequently as voluntary activity in clubs and associations, above all in sports clubs, church parishes and religious communities, and also in social and charitable organizations. However, civic commitment is gradually becoming more diversified. For example, it can also be found in organizations campaigning for humanitarian aid, human rights, and minorities. Numbers of local, publicly funded seniors' offices and volunteer agencies are on the increase. But an astonishing diversity of independent groups are also developing in older people's immediate vicinity where the "young old" are assisting the "old old" in need of care with their everyday affairs. Experiences gathered here often represent pioneering achievements in a societal field that has

only recently begun to develop. The outcomes are likely to belong to everyday life for older people in the future. Model projects in Germany – focusing, for example, on older people’s self-organization (“Selbstorganisation älterer Menschen”), being active in old age (“Aktiv im Alter”), and elders’ experience-based knowledge (“Erfahrungswissen älterer Menschen [EFI]”), all initiated by the Federal Ministry for Family, Seniors, Women, and Youth – have proved stimulating and supportive. Some of these initiatives explicitly refer to cross-generational cooperation (focusing on housing for a mix of generations, “Mehrgenerationenhäuser,” or volunteer services of all generations, “Freiwilligendienste aller Generationen”), countering the sometimes observed tendency for older people to keep to themselves when volunteering.

Civic commitment among older people benefits both society and the individual. On the one hand, Germany has to rely on new impulses from the civic space between the market, the state, and the family. The growing number of healthy, willing, and able older people offers great potential in this context. On the other hand, civic commitment offers people a wide range of opportunities to maintain and develop their skills, enjoy social recognition and integration as well as establishing links with members of other age groups after retirement. More recent studies show that it enhances well-being and health and will even contribute to prolonging life, as long as one has been well prepared for such an activity. Civic commitment also fits in with older people’s possibilities and needs because it is usually not subject to the pressure that is so characteristic of large areas of gainful employment. While there are tendencies to “professionalize” voluntary work regarding the requirement of skills and commitment, individuals still have more scope to select and shape the right amount of engagement than they would have in gainful employment. It is often limited to just a few hours a week or month. One important motive for such civic commitment is “to be of use,” i.e., to experience the recognizable effect of one’s own contribution on the success of a project. This sense of achievement will be all the more probable the better one is prepared to perform the respective task, e.g., through specific qualification. On an international scale, it is clear that wherever age discrimination is legally and socially punished, expectations regarding the productivity of old age are greater and older people are correspondingly more active in voluntary work.

However, it is necessary to warn against exaggerated expectations. The positive aspects of strengthening civic commitment – intrinsic motivation, often a personal closeness to the recipient of services, or a better knowledge of the specific circumstances – can also be the flipside of a lack of professionalism and absence of quality assurance. Voluntary work, e.g., caring for the sick, can quickly put too great a strain on older people in particular.<sup>97</sup> It also has to be borne in mind that civic commitment presupposes resources such as education, good health, and a secure income, which are unevenly distributed. This is one of the reasons why people from the middle classes are more active in this field than those from the lower classes.

Older people’s civic commitment has to be voluntary. It has to be conceived in a manner ensuring that it does not clash with gainful employment and state welfare services. Rather, understood correctly, it presupposes them, it can be promoted by them, and serves to supplement them. For example, support of professional nursing services by “laypersons” is advantageous to those being cared for because this means that they have to forego neither professionalism nor empathy. Family members nursing others are relieved of strain by professional services. At the same time, through their involvement, they can monitor the quality of pro-

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97 cf. Chapter D.4.

fessional services and help to ensure qualitatively high-value provision via the market. This also applies at local-government level, as several studies show: With their many volunteers, organizations need the support of local authorities just as much as the latter are relieved by such organizations.

Civic commitment allows the assumption of societal responsibility outside – but not in opposition to – the market, state, and family. If the necessary scope is created for this, and crystallization cores and organizational structures, as well as qualification opportunities and public incentives in various forms are provided, considerable social gains can be expected.

### *Conclusion*

The period of life between retirement from gainful employment and the phase of old age characterized by waning strength, illness, and growing needs for care has expanded immensely. These years gained can be utilized for different preferences: for new forms of gainful employment, involvement in the family and in civil society, other activities, education, entertainment, leisure, and resting. Voluntary unpaid engagement of older people in the family and civil society has grown. It can be of considerable benefit to individuals and their quality of life, as well as to society as a whole – as a supplement, and not as a rival, to the services provided by the market and the state, but flanked, supported and limited by the latter. It can help master the undeniable challenges of an aging population and make better use of the years gained. Older people's familial and civic commitment is work, even though it is not gainful employment. It contributes to a gradual new weighting of market, state, family, and civil society.

However, such commitment presupposes financial security of the phase of life following gainful employment. With the development of provision for old age, previously widespread poverty in old age has been successfully restrained. It has to remain ensured in future, given a later start and a reduced level of public pensions.<sup>98</sup>

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<sup>98</sup> cf. Chapter D.9.

## **9. Aging and Politics**

### *Summary and Recommendations*

For some years, there have been repeated speculations about the presumed effects of altered demography on politics: on the probable outcome of elections, party politics, and the role of interest groups in society. Will the political lines of conflict and the topics of political dispute, the distribution of power among groups in society, and the use of public funds be different in future because of demographic change? Could we even be heading for a demographic usurpation of power by older people? Could this be accompanied by the immunization of an – allegedly hypertrophic – welfare state against necessary reforms? Could the welfare state even be turned into a self-service instrument for a new class of people being provided for, whose growing numbers make it ever more difficult to outvote?

A sober glance reveals that young and older people do differ in their political behavior and preferences regarding the welfare state. However, a political polarization between the generations is not apparent, and the prospects are good that policies can help to avoid this in future. With respect to the welfare state, demographic change has not prevented substantial reforms, probably also because they have not focused on abandoning social solidarity but on adapting it to changing conditions. There is no indication that democratic politics may not be in a position to ensure that things stay this way.

- A political majority of elders conscious of their power and interests, aiming to defend provision claims against necessary reforms of the welfare state is not on the horizon. There is no reason to infringe on the civil rights of the growing older population for the sake of our society's viability.
- The comparatively high political participation of older people is also a result of high political non-participation among younger people. It is not due to an especially marked consciousness of interests but mainly reflects a sense of civic duty, the wish to act and to be recognized as a full member of society like any other. The political integration of the older generation is a social asset that ought to be treated with equal care as social bonds in the family.
- With the increase in retirement age, formal and informal age limits for the assumption of elected posts in politics ought to be dropped in order to symbolically emphasize older people's capacities and their full membership of the political community.
- In spite of demographic change and the high participation rate of the older generation in elections and organizations, the danger of a political exclusion of the oldest people in particular is by no means ruled out. In a democracy with an aging population, pressure groups addressing the special interests of older citizens should not only be accepted but welcomed and supported.
- The so-called "aging of society" should not be used to launch polemic attacks on the welfare state. Not only does the polarized rhetoric about "selfish old-age pensioners exploiting society with the aid of the welfare state" lack any reasonable basis, but it could trigger precisely those conflicts that it purports to warn of.
- Far from aggravating the intergenerational conflict so far, the welfare state has constrained it. This is also because as yet, it has generally been adapted to changing conditions successfully via stepwise reforms in spite of shifting demographics. An increase of the average length of working life, a partial privatization of the provision for old age, and an

extension of minimum security in the pension system are politically feasible if the parties continue to behave in a responsible manner and the burdens are aptly distributed in time and under social aspects.

- Legal and other measures to combat discrimination against older people at work, in politics, and in society are urgently required. They have to ensure that the invitation to the growing number of older citizens to continue to participate in economic and social life becomes credible.
- The renewal of the post-war intergenerational contract necessitated by demographic change must not call into question the cultural achievement of eliminating poverty in old age. Not only is this compatible with making use of some of the years gained for a longer participation in gainful employment, but it even requires it. The same applies to the necessary expansion of personal responsibility for old-age provision. Also, safeguarding the cohesion of an “aging society” has to be prepared at an early stage with the aid of suitable labor, employment, and preventive health policies. And a society with a high share of older citizens has to offer them a wide range of opportunities to responsibly participate in the production of their affluence outside gainful employment – within the limits of their abilities. One of the major integration tasks for the future will be to take steps to prevent the classic “role loss” in old age and offer elders roles in which they can constructively participate in society – as citizens via political involvement and as members of civil society via civic commitment.<sup>99</sup>

### *Political Behavior*

Our optimism is based on state-of-the-art research on the political behavior of older citizens. This can be summarized as follows:

- Older citizens take part in elections more than younger citizens do. This increases their share of the electorate beyond their growing demographic weight. Older citizens are even more over-represented in the membership of political parties than they are in the electorate. Their share within trade unions is also steadily increasing. On the other hand, the majority of older citizens still stay away from citizens’ action groups and other unconventional forms of political participation, which are dominated by the younger generation.<sup>100</sup> In addition, the trade unions are losing influence, and the significance of party membership is decreasing in today’s media democracy. When candidates are selected for elective offices, the aging of party membership does not become apparent: in spite of all demographic changes, politicians aged over 60 years are still regarded as ready for retirement. Although there are more and more older party members, they run young candidates and elect them.
- Not all older people go to the polls; in spite of the opportunity to choose a candidate by postal vote, participation in elections rapidly declines among the very old. With rising retirement age and older people’s growing involvement in gainful employment, the share of older voters who are not in retirement is increasing.
- The high participation of older people in elections and organizations is not a consequence of their age but can be traced back to generation-specific shaping and experiences; in other

<sup>99</sup> cf. Chapter D.8.

<sup>100</sup> cf. Chapter D.8.

words, it is a “cohort effect.” Young people’s hesitation to join political and trade union organizations these days contributes at least as much to older people’s over-representation as their comparatively high engagement.

- Cohort effects also have an impact on voting. In old age, most people elect the party that politically shaped them in their younger years. Whereas the “Adenauer generation” predominantly voted for the CDU/CSU in old age, the “Brandt generation” will tend more toward the SPD after retirement. Of course, nothing is known about how today’s young people, whose party allegiances are much weaker from the outset, will vote when they reach old age.
- A polarization between young and older people can not be observed in current electoral behavior. While it is true that some people will vote more conservatively when they get older, there are also large numbers of conservatives among younger people. Not all older people are conservative or become conservative as time progresses. As a group of voters, older people are just as heterogeneous as young people are. Moreover, they do not only belong to the group of older people, but to several other groups as well. In reality, the social and political differences within the groups of the old and the young are bigger than the differences between them. Income, level of education, social background, class membership, place of residence, etc. are more important than, or just as important as age is in voting. This corresponds to the public’s perception: In interviews, the conflicts between rich and poor, foreigners and nationals, employees and employers, and East and West Germans are partly assessed as considerably more serious than those between young and old.
- To elders, the welfare state is neither the only, nor for the most part, the most important political topic. Environmental, economic, foreign, and education policies are considered just as important as social and pension politics.
- Young and old share many interests in the welfare state, and for a number of topics, it is even the young people who are interested in extensive welfare state services. For example, a lower retirement age tends to be more in the interest of future pensioners than of current ones and is indeed hardly less desired by younger than by older people. The young also value high pensions because they spare them from providing material support for their parents. Part of old-age pensioners’ income is also handed on to the younger generation as a gift or inheritance. The young are also aware that later on, they will draw a pension, too.

The high level of participation in elections and organizations among the older generation is, all in all, an expression of continuing identification with the political community and not of a particularly marked consciousness of age-related interests. This is confirmed by the fact that so-called “gray” parties, which only address older people, have remained peripheral to the political landscape in Germany. The self-concept visible in the older people’s political behavior of themselves as citizens with civic duties is an important resource for social cohesion that ought to be carefully nurtured by politics. What is dangerous for democracy is not so much the engagement of older people but the current apathy of young people.

### *Demography and the Welfare State*

The number of votes is not the only factor deciding a group’s political influence. For a long time, the farmers were an example. What society concedes to a group also depends on its symbolic assets, with those of the rural areas and its inhabitants being quite a suitable comparison to those of the older generation. Just like society accepted the farmers’ demand for

protection against rapid modernization as justified for many years, the overwhelming majority of citizens in the European welfare states regard the prevention of poverty in old age as a cultural achievement and an undisputed objective of government policy.

In this context, one should not overlook the fact that demographic change over the last 15 years has not stood in the way of continuous and, by and large, drastic reforms of the welfare state – for example raising the statutory retirement age, freezing the pension level, and partially privatizing the provision for old age. What has contributed to this is that so far, both major parties in Germany have successfully avoided entering any competition for old-age pensioners' votes, probably because they have a vested interest in the ability of the state to act. This also applies given the postponement of the revised pension formula for two years by the Grand Coalition, which resulted in a pension increase of 1.1 instead of 0.6 % in 2008. Owing to the simultaneous increase in pension contributions to the nursing insurance, and given an inflation rate of more than 3 %, the bottom line here was a further significant drop in income in real terms for pension recipients.

In the past and today, the German welfare state has not aggravated, but on the contrary mitigated the conflicts between generations. Further social policy adaptations to the changing demography are necessary, but also possible, and they are becoming obvious irrespective of the changing composition of the electorate. Many members of the older generation have a keen interest in maintaining the welfare state; however, this has not resulted in any blockade of policies so far, neither in Germany nor abroad. Things do not have to stay this way; attempts to present older people's concern about social security as illegitimate could result in the latter concentrating on a selfish assertion of their interests, which could stifle politics. However, examples of such developments have not occurred so far.

In the Scandinavian countries, where reforms of provision for old age have partly made greater progress than they have in Germany, no political conflicts have arisen between the generations. As experience there shows, it is important to phase adaptation measures over a longer period and to distribute new burdens widely. Moreover, the social security of the growing number of older people must not be left solely to social policy and the welfare state. For example, combating future poverty in old age has to start with education and further education policies and with a labor market policy that ensures continuous employment with reasonable wages as far as possible.<sup>101</sup> Irregular employment, unemployment, and low wages are resulting in poverty in old age in the current pension system; if they cannot or are not to be prevented, pressure will grow for a greater integration of elements of basic social security in the pension system. A successful policy of correcting social imbalance in the employment system is the best precondition for preventing poverty in old age and thus for maintaining the welfare state and social cohesion between young and old.<sup>102</sup>

The so-called "aging society" will be in the best position to solve problems resulting from demographic change if it engages in as little "politics for older people" as possible. Actual politics for older people will be the more successful and better enforceable the more it is integrated in general politics. Health politics, family politics, labor development politics, regional politics, and other fields of politics have to be designed in a manner allowing them to adapt to an aging population as a whole. Since everyone has to envisage aging, this by no means appears unrealistic, even though it may sometimes require political courage and leadership.

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<sup>101</sup> cf. Chapters D.2, D.3, and D.4.

<sup>102</sup> cf. Chapter D.4.



### *A Policy of Inclusion*

An astute policy supports older people's identification with society. Indeed, the majority of older people feel responsible for society and its future beyond their own lives, as is not only reflected in their rejection of "gray" parties but also in their constant assumption of family duties, for example, in the form of material support of the following generations.<sup>103</sup> Politics can and has to see to it that the sense of responsibility among the older generation continues to encompass society as a whole. The ageist rhetoric that can sometimes be heard nowadays is nothing but a new version of an old rhetoric against the welfare state. It could evoke precisely the polarization between the generations and precisely the generation-specific interests of which it purports to warn. The same applies to denying citizens over a certain age the right to vote or conceding parents an additional, proxy right to vote for their children.

Political conflicts between the generations are mitigated by family bonds and living close to each other. In contrast, segregation and discrimination result in the formation of antagonistic interests. In referenda in the USA, older people in Florida's retirement communities speak out against higher expenditure on education more often than age peers who have remained in their original social context. In a mixed society with lively social relationships, the danger of special interests forming among the older generation that are politically difficult to integrate is low.

"Aging societies" in particular require a policy and culture of social integration and civic inclusion. Older people must not be presented as a threat to the viability of society but must and can be entrusted with civic duties, especially in the family and the local community.<sup>104</sup> In return, society can ensure an active policy preventing discrimination against older people like the corresponding policies that are gradually establishing themselves for women and immigrants. One of the central political promises of modern times, the comprehensive and equal inclusion of all members of society, also has to apply to the growing number of older people and has to be credibly represented by German politics. In the USA, campaigns against ageism, in analogy to political and societal steps against sexism and racism, are making an important contribution to prevent dividing politics and society between young and old. In Europe, the anti-discrimination policy urged by the European Union could force the national states to address discrimination against older people more effectively than in the past.

The inclusion of older people in society should also be reflected in political institutions. The effectiveness of special representations of older citizens at local-government level (advisory boards for seniors, "Seniorenbeiräte") has always been limited. Neither do they appear to be necessary because older people, unlike foreigners and younger people, are already represented in the political parties beyond their numerical weight in the population. Instead, in selecting their candidates for public offices, the parties should take the circumstance more into account that the number of capable and willing older people is constantly increasing. The age limits for politicians that factually apply today and can be traced back to the political "youth culture" of the 1960s appear to be obsolete, not least because they set a bad example for the working world and civil society. Here too, the USA can be considered exemplary.

Gray parties will be without prospects as long as older people wish to identify with the society that they are part of beyond the end of their lives. However, pressure groups representing older people are to be expected. For a democracy granting its citizens the basic right of

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<sup>103</sup> cf. Chapter D.8.

<sup>104</sup> cf. Chapter D.8.



freedom of assembly, elders getting organized to represent their interests should as such be no cause for concern. It is up to parties and governments to ensure that pressure groups do not block politics. In working democracies, pressure groups draw the attention of politics toward problems that it might otherwise overlook. Furthermore, they serve the government as a counterpart in negotiations in which the limits of what is feasible can be sounded out and credibly communicated to the group members. This is why pressure groups are not only legitimate in a parliamentary democracy but also indispensable.

What is going to count in German politics in the next few years and decades is that the interests of people in care, of residents of senior homes, of people suffering from dementia, and of other people whose independence is restricted are effectively and authentically represented in the political process. This can only be accomplished if those affected can speak for themselves whenever possible. The aging of the population reminds us that social cohesion cannot be based solely on interests but is, on principle, also a matter of solidarity and morality.

**The Recommendations are based on eight edited volumes, published in German. All findings referred to in the Recommendations are detailed in a scientific manner in the following publications.**

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