



The Future of Ageing



The Global Challenge

Advances in science and technology coupled with large-scale changes in health practices involving improved sanitation, water purification, and a host of lifestyle changes have led to dramatic increases in longevity in developed nations around the world. On a global scale, life expectancies in developed regions are continuing to rise in the 21st century and, although most people assume that there are biological limits on life span, so far there is little evidence that we are approaching them.¹ Because fertility declined across the same years that life expectancies increased, the distribution of age in the global population changed irrevocably. The once-universal pyramid shapes of age distributions of populations in the western world, with many young ones at the bottom narrowing to tiny peaks at the tops, are being rectangularized, reflecting the fact that most

people, not just an exceptional few, are living into old age.

To the extent that the importance of aging societies is recognized at all, anxiety is the typical response. Terms like “grey tsunami” imply that larger numbers of older citizens will become a drain on societies. Concern is warranted. The demographic changes underway are fundamentally altering virtually all aspects of life as we know it. Workforces are becoming older and more age diversified than ever in history. Families are having fewer children, yet four and five generations are alive at the same time. Education has come to predict well-being and even length of life, yet is unevenly distributed, creating heightened disparities across socioeconomic strata accentuating old age outcomes between rich and poor.

Lifespan Limits

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Age Diversified Workforces

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Options and Possibilities

To date, however, the concern has been largely misplaced, with the emphasis on aging as opposed to an emphasis on the cultures that surrounds very long lives. By culture, we are referring to the crucible that holds science, technology, and large scale behavioral practices and social norms. We maintain that the more serious problems concern antiquated social norms and the

lack of cultural supports for people 50 and older, such as medical treatments for common diseases of old age and technologies and services that allow people to age in place, and social norms that encourage life-long participation in communities, families and workplaces. The culture that guides people through life today is a culture that evolved around shorter lives. The urgent challenge

Culture Shift

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Looking Ahead

Rather than move forward by happenstance, we need strategic thinking about how to best use added decades of life. Helping individuals and nations visualize, plan and prepare is essential in order to ensure that longer lives are high quality.

Societal Benefit

85% of Americans aged 65-69 report no health-based limitations on paid work or housework. Similar trends are evident in Europe... Societies that find ways to tap older peoples' contributions will benefit greatly.

Infeasible Retirement

For many, retirement at age 65 is economically infeasible. In the words of Stanford economist John Shoven, "the reality is that few workers can fund a 30 year retirement with a 40 year career". Neither can societies.

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Although predictions about the future are always perilous, we can comfortably predict that life will change and can change such that longer lives improve quality of life at all ages. Unfortunately to date we have been decidedly uncreative about ways to use added years of life. These years have been tacitly tacked on to the end of life, with old age the only stage in life that has gotten longer. Rather than move forward by happenstance, we need strategic thinking about how to best use added decades of life. Helping individuals and nations visualize, plan and prepare is essential in order to ensure that longer lives are high quality.

Changing the nature, timing and duration of work will be key. Individuals and societies must effectively finance very long lives and so far we are doing a poor job. Life expectancy at age 65 for the world's population increased by roughly fifty percent from the 1950s to the present time, while the average age of retirement has remained relatively constant.² Between now and 2030, the number of people in developed countries over the "conventional" retirement age of 65 will increase by more than thirty percent. At the same time, the size of the conventional working-age population in developed countries is projected to decline by four percent. To the extent that nothing changes, the ratio of the working-age population to retirees will steadily decrease in the foreseeable future. Of course, these projections are based on the assumption that people continue to retire at relatively young ages. One obvious, although surprisingly ignored, way to address the challenges posed by the declining number and share of working-age population is to expand the workforce by increasing the workforce participation of older workers and, in some countries, women.

Increasingly, research findings suggest that this is feasible. A substantial majority of people 60 to 70 years of age report that they are physically able to work. A 2014 paper published in the *Journal of Gerontology* found that 85% of Americans aged 65-69 report no health-based limitations on paid

work or housework.³ Similar trends are evident in Europe.⁴ To be sure, the numbers of disabled individuals has, and will continue to, increase in aging societies and it is extremely important to have policies that support people who cannot work. We maintain that the generosity of disability insurance should increase, yet we must recognize that chronological age is a poor predictor of the ability to work. Even at very advanced ages, substantial numbers of people are sufficiently healthy to contribute to workplaces. Societies that find ways to tap older peoples' contributions will benefit greatly.

Although the idea of longer working lives often meets resistance, evidence for the benefits of work to individuals is growing. Arguably, the most obvious reason to work longer is the financial benefit. For many, retirement at age 65 is economically infeasible. In the words of Stanford economist John Shoven, "the reality is that few workers can fund a 30 year retirement with a 40 year career".⁵ Neither can societies. In recent years, it is becoming clear that remaining active and engaged in work is also associated with physical, socioemotional, and cognitive benefits. Studies of healthy aging suggest that older adults who are engaged have lower mortality rates, are less likely to experience various physical and mental illnesses, and are more likely to have a strong sense of identity and well-being.⁶ Working longer also has protective effects against cognitive decline,⁷ ostensibly by providing a mentally engaging environment where workers can "use it" so they don't "lose it." Research suggests that both paid and unpaid work are associated with enhanced well-being, delayed disability, decreased mortality risk, and onset of fewer diseases and associated functional impairments.^{8,9,10,11} New models of working longer can relieve some of the pressure to save large sums of money for extended periods of leisure. Importantly, working longer can mean working differently. Many workers would be happy to exchange decades-long retirements in old age for four day work weeks, regular time off for sabbaticals, retraining, and part-time work when children are young as well as at advanced ages as people fade into retirement.

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Proposed Way Forward

From a societal perspective, there is a pressing need to make use of the human capital represented in older people. General knowledge and expertise increase with age, as do emotional stability and the motivation to invest in important activities. If appropriately utilized, older populations can benefit national and global economies. Yet the clarion call to workers today is about saving for increasingly long retirements, instead of actively planning to work longer. In the US, the responsibility for saving has shifted to the individual, reflecting the move from defined benefit plans to defined contribution plans. Unfortunately, the change has resulted in considerable under-saving for retirements. In a 2014 Retirement Confidence Survey, only 64% of all workers age 25 and older reported that they and their spouse had saved at all for retirement, a decrease from 75% in 2009.¹² Overall, 60% of workers report that they have less than \$25,000 in total savings and investments, with over one third reporting less than \$1,000 in total savings.¹³ If appropriate steps are not taken, there could be catastrophic economic implications to both individuals and societies, as low retirement savings could lead to major strains on economies.

For those who have inadequate retirement savings, the most obvious solution is to work longer. This approach may hold benefits that extend beyond income to include better physical health and cognitive functioning. One major potential barrier, however, is that employers remain ambivalent about older workers. Currently, most employers' view older workers as expensive and sometimes less productive than younger workers. Research findings increasingly suggest that the latter reflects stereotypes more than evidence. The productivity of workers tends to increase with age. This is especially true for knowledge workers, yet blue collar workers also can retain (and perhaps increase) productivity.¹⁴ One study that measured the performance of more than 400 McDonald's restaurants across the UK found that restaurants that employed mixed-age workforces, including workers age 60 and above, delivered an

average increase of twenty percent in customer satisfaction levels compared to less age diverse workforces.¹⁵ Moreover, there is a net benefit of intergenerational teams on workplace productivity, including a broader range of skills and experience across the workforce, increased mentorship opportunities and skills transfer, a reduction in turnover, and increased staff morale.^{16,17} Companies that adapt to older workers' needs using cost-efficient measures such as flexible work arrangements, workplace modifications, and on-the-job training can benefit from age diversity in the workforce.¹⁸ BMW's older worker production line at Dingolfing is an example of how thoughtful design of blue-collar workplaces can support high levels of productivity in older workers. The company collaborated with its older production workers to tailor one of its most labor intensive manufacturing lines to an average worker age of 47. The resultant line reached its production goals with defect rate and worker absenteeism meeting or exceeding the levels achieved by "younger" lines.¹⁹ The cost of older workers is a real issue for employers. By leveraging older workers as source of human capital, employers can better manage their talent, facilitate knowledge transfer to younger workers, and help older workers slowly phase into retirement. Offering bridge jobs or flexible work arrangements such as flex hours and part-time work will allow employers to retain the expertise of older workers while reducing costs.^{20,21}

Working Longer

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Cost of Older Workers

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Impacts and Implications

The Bigger Opportunity

In the case of older populations, predictions about economic disaster change to discussions of economic growth if people remain productive into advanced ages. Rather than a problem, we may be experiencing one of the greatest opportunities ever in history to dramatically improve quality of life at all ages.

Dire predictions that a "Grey Tsunami" will overwhelm economies with unproductive societies harken back to Thomas Malthus' 1798 "Essay on the Principle of Population". There, Malthus predicted that growing populations would outrun the food supply, leading to poverty and starvation. The prediction did not foresee the development of agricultural technologies that greatly increased food production. In the case of older populations, predictions about economic disaster change to discussions of economic

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Lead Expert – Prof. Laura Carstensen

Fairleigh S. Dickinson Jr. Professor in Public Policy, Professor of Psychology, Director, Stanford Center on Longevity.

Lead expert on the Future of Ageing

Laura L. Carstensen is Professor of Psychology at Stanford University where she is the Fairleigh S. Dickinson Jr. Professor in Public Policy and founding director of the Stanford Center on Longevity. She is best known for socioemotional selectivity theory, a life-span theory of motivation. For more than twenty years her research has been supported by the National Institute on Aging and she was honored with a MERIT award in 2005. Her most current empirical research focuses on ways in which motivational changes influence cognitive processing. Dr. Carstensen is a fellow in the Association for Psychological Science, the American Psychological Association and the Gerontological Society of America. She has chaired two studies for the National Academy of Sciences, resulting in noted reports *The Aging Mind* and *When I'm 64*. She is a member of the MacArthur Foundation's Research Network on an Aging Society and serves on the National Advisory Council on Aging to NIA.

Carstensen has won numerous awards, including the Kleemeier Award, The Kalish Award for Innovative Research and the Distinguished Mentorship Award from the Gerontological Society of America, as well as the Master Mentor Award from the American Psychological Association. She was selected as a Guggenheim Fellow in 2003. In 2011, she authored *A Long Bright Future: Happiness, Health, and Financial Security in an Age of Increased Longevity*. Carstensen received her B.S. from the University of Rochester and her Ph.D. in Clinical Psychology from West Virginia University. She holds an honorary doctorate from the Katholieke Universiteit Leuven, Belgium.





Lead Expert – Ken Smith

Senior Research Scholar and Director, Mobility Division

Lead expert on the Future of Ageing.

Ken Smith is a Senior Research Scholar and Director of the Mobility Division at the Stanford Center on Longevity. He works closely with faculty colleagues to determine where Stanford expertise can best be used to drive change. Ken brings a broad background of over 20 years of management and engineering experience to his role, including positions in the computing, aerospace, and solar energy industries. He developed a special expertise in working closely with university faculty to develop projects while at Intel, where he was deeply involved in the creation and management of their network of university research labs. He serves on the Advisory Council for AgeTech West. Ken holds a B.S. in Mechanical Engineering from the University of Illinois with an M.S. from the University of Washington.



Lead Expert – Dominika Jaworski

Dominika Jaworski - Social Science Research Assistant

Lead expert on the Future of Ageing.

Dominika Jaworski is part of the Stanford Center on Longevity's Financial Security Team, which connects an array of academics, practitioners, employers, and policy-makers in an interdisciplinary effort to help employees and individuals have more financial security. She supports the translational research and project management needs of the Center. Prior to joining the Center, Dominika was part of a team at the Wharton School that developed a financial wellness and investing organization for Philadelphians. Dominika received an MS in Social Policy from the University of Pennsylvania and a BA in Political Science from McGill University.



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About Future Agenda

Context – Why Foresight?

In an increasingly interconnected, complex and uncertain world, many organisations are looking for a better understanding of how the future may unfold. To do this successfully, many companies, institutions and governments are working to improve their use of strategic foresight in order to anticipate emerging issues and prepare for new opportunities.

Experience shows that change often occurs at the intersection of different disciplines, industries or challenges. This means that views of the future that focus on one sector alone have limited relevance in today's world. In order to have real value, foresight needs to bring together multiple informed and

credible views of emerging change to form a coherent picture of the world ahead. The Future Agenda programme aims to do this by providing a global platform for collective thought and innovation discussions.

Get Involved

To discuss the future agenda programme and potential participation please contact:

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Future Agenda 1.0

The Future Agenda is the world's largest open foresight initiative. It was created in 2009 to bring together views on the future from many leading organizations. Building on expert perspectives that addressed everything from the future of health to the future of money, over 1500 organizations debated the big issues and emerging challenges for the next decade. Sponsored globally by Vodafone Group, this groundbreaking programme looked out ten years to the world in 2020 and connected CEOs and mayors with academics and students across 25 countries. Additional online interaction connected over 50,000 people from more than 145 countries who added their views to the mix. All output from these discussions was shared via the futureagenda.org website.

Future Agenda 2.0

The success of the first Future Agenda Programme stimulated several organizations to ask that it should be repeated. Therefore this second programme is running throughout 2015 looking at key changes in the world by 2025. Following a similar approach to the first project, Future Agenda 2.0 builds on the initial success and adds extra features, such as providing more workshops in more countries to gain an even wider input and enable regional differences to be explored. There is also a specific focus on the next generation including collaborating with educational organizations to engage future leaders. There is a more refined use of social networks to share insights and earlier link-ups with global media organizations to ensure wider engagement on the pivotal topics. In addition, rather than having a single global sponsor, this time multiple hosts are owning specific topics either globally or in their regions of interest. Run as a not for profit project, Future Agenda 2.0 is a major collaboration involving many leading, forward-thinking organisations around the world.

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