Netspar

Network for Studies on Pensions, Aging and Retirement

ISSUE 24
SPRING
2018

NETSPAR MAGAZINE

Living to 120 should be attainable

Longer Life a Side Effect of Medical Advances

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Theme: Hooray for living longer!

LIVING TO BE 100

I do actually hope to live to be 100. Thanks to medical advances and healthier lifestyles, living to this old age is not the exception it once was. The fact that we can now live longer is naturally a great thing, especially if it is in good health. However, the rising life expectancy also further complicates the issues surrounding financing retirement. What do those extra years mean for the ways in which we structure our working lives and retirement? We get more time, but we also have to either work longer or save more for our old age. Ideally, then, people should start thinking earlier about their financial planning for the future.

Netspar is, of course, actively addressing all these new issues prompted by longer lifespans and working lives. Working longer is not for everyone, and the disparities in life expectancy are entrenched. This raises questions about solidarity among various groups of workers, such as between the poorly and highly educated. The new action plan that Netspar presented to its partners in May therefore accords a special place to pre-retirement life stages. It is not just the lifespan that is changing, though: society is in transition, too. What will the labor market of the future look like? What will the impacts of technological developments and the growing power of big data be? These long-term issues will also be addressed. Meanwhile, in the short term, Netspar will obviously continue to focus on the changes to the pension contract – and all of the additional questions that raises.

Fulfilling this agenda will require a further expansion of our areas of research and interconnection between disciplines where needed – all while of course preserving the strong foundation we have built together with our partners over the years. The overall strategy is outlined in our new research program, Netspar NexT, which outlines our course and strategy for the next four years, along with the 2019-2023 Action Plan.

We received valuable input for the new action plan from our Netspar partners, along with the NWO, members of our administrative bodies, program coordinators, and certain Netspar researchers. The evaluations performed as part of the process were all of the same mind. Everyone greatly values what Netspar does, as well as the methods we use: strong on substance, independent, and lacking in bias. We are, of course, proud of this positive feedback and have also taken to heart the points for consideration: maintaining a solid foundation of basic research, effectively involving partners in strategic decisions regarding the research agenda, and safeguarding Netspar's independent identity. To quote DNB President Klaas Knot: "Netspar plays an invaluable role as an honest broker in the pension debate." Our mission remains unchanged: to foster a well-informed debate on pensions and retirement based on facts, so as to make a valuable contribution to financing our 100 year (or longer) lives in the Netherlands.

Casper van Ewijk,
General Director, Netspar

The theme of the thirteenth edition of the Netspar Anniversary Meeting (NAM) was living longer. If a lifespan of 100 becomes the norm, what will that mean for the way we structure our working lives and retirement? Will we face greater uncertainty? Can we share those risks? Living longer is a joy but is also brings challenges for people and institutions.

"LIVING TO 120 SHOULD BE ATTAINABLE"

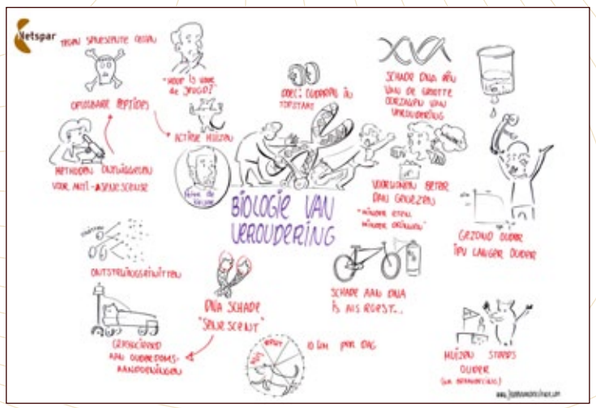
Peter de Keizer, affiliated with UMC Utrecht, estimates that the maximum attainable age for now is 120. He investigates how aging can be delayed in mice. "I expect that within about ten years, we will have remedies suitable for use in humans. Many researchers are working on this topic, and the Netherlands is one of the pioneers in the field," he says.

De Keizer's research focuses on aging cells, which are also called senescent cells. These cells trigger a wide variety of aging processes. His work targets removal of the cells, which increase in number as we grow older. "The quest is to find drugs that eliminate the senescent cells without too many negative side effects," the researcher explains. This has already proven possible in laboratory mice. "They not only live to be older, they remain healthier longer. Their hair doesn't turn gray and they remain more active than mice of their same age who have not had the remedy," he reveals.

It will be many years before any drugs are approved for use in human beings, though. "The initial trials with people are starting in the U.S.," De Keizer says. "They will take a long time, since people don't age as quickly as mice." He thinks people could live to be 120 years old. "Almost no one has ever lived longer than that. I think that is the natural limit. It would be great if in the future, we could live to be 120 in complete health and then die."

Flexible Retirement

We will be getting more time, it seems, but will also have to either work longer or save more for retirement.



A brief visual summary was made (in Dutch) of Peter de Keizer's presentation. Click to enhance.

Measures taken to boost the system's financial sustainability in light of these trends have included abolishing early retirement, combined with increasing the social security entitlement age. What about the social sustainability, though?

The Netspar project group "Flexible retirement" explored that question and others, explains Professor Marike Knoef, a Netspar board member. "Workers' views on ending their working life vary tremendously. Highly educated people sometimes want to keep working longer because of the sense of self-worth, social contacts, and structure it gives them. At the other end of the spectrum are the poorly educated, who often perform physically demanding work and suffer from health problems. They would rather stop working sooner but lack the financial means to do so."

Too fast?

The linking of the social security entitlement age to life expectancy is expected to result in the entitlement age being increased even further. "The question is whether that might not be happening too quickly given the number of older people leaving the workforce due to health problems. We don't have the answer yet. We are primarily collecting data on health and healthy life expectancy," Knoef says.

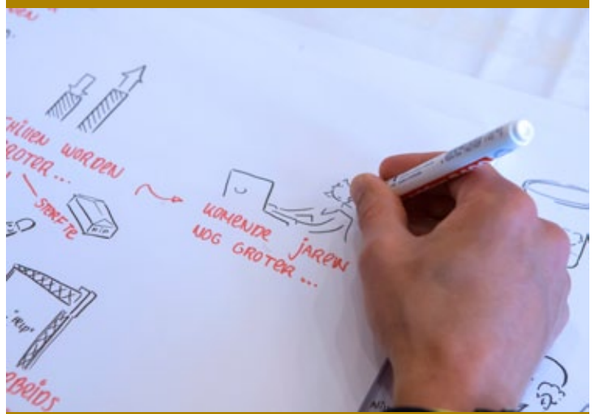
As part of those efforts, the project group studied the difference in life expectancy between people with the lowest and the highest incomes. The study, which is based on data from the tax authorities, reveals that the gap between the two groups is not stable but rather growing. In other research that used levels of education as a starting point, that gap has remained fairly stable. "We cannot yet say, based on these data, what is causing the difference," Knoef points out. "It will require further research."

Long-term Impact

Changes in social programs have a long-term impact, as demonstrated by research performed by Raymond Montizaan, affiliated with Maastricht University. In 2006, pension funds had to eliminate a host of pre-pension plans. To soften the blow, a transitional arrangement was offered to workers born before 1950. Montizaan studied what the repercussions were on civil servants who fell just outside its scope because they were born in the first few months of 1950. This group had to work well over a year longer to receive the same pension entitlements as people who were able to take advantage of the arrangement.
"Among that group, the motivation to continue working was low," Montizaan says. "Their job satisfaction was also lower."

Moreover, the effect was not temporary. "We approached insurers to gain some insight into the medication use by this group, things like anti-depressants and diabetes medicine," Montizaan continues. "The use of such drugs was higher among people whose pension entitlements had been cut than among those who were able to retire early. That shows how these kinds of measures can lead to higher healthcare costs in the long run."

NAM 2018: A Visual Representation



All of the presentations given at NAM were captured in a drawing made at the meeting. You can see these visual representations by clicking on the links below:

Peter de Keizer, The Biology of Aging
Johan Mackenbach, Healthy Aging
Marike Knoef, Flexible Retirement
Raymond Montizaan, Labor Market and HR
Anja de Waegenaere, Sharing Longevity Risk
Theo Kocken, Scenario Thinking

LONGER LIFE A SIDE EFFECT OF MEDICAL ADVANCES

Professor Andrea Maier is a standard bearer in the Netherlands for a longer, healthy life. She has appeared on the popular Dutch television program Zomergasten with her engaging stories about medical advances and the ever-increasing life expectancy. The gains in life expectancy predicted by Maier (1978) raise a host of questions about the repercussions for society. Can we afford it if everyone lives to be a hundred?

Should doctors prescribe anti-aging pills to seniors in good health?

Andrea Maier

"Those are all good questions," says Maier, a professor of gerontology at Vrije Universiteit in Amsterdam. "We gerontologists like to think about those things, but we do notice that these kind of questions are rarely asked of cariologists or oncologists. They fight diseases. We try to prevent them. The side effect of both approaches is a longer life."

Maier, who divides her time between Amsterdam and Melbourne, where she is a professor of internal medicine, views old age as a disease. "We designate aging a systemic disease because it manifests itself in various places and its causes are known: an increase in the number of aging cells (see box text) is one of the major factors. That is why we focus on those cells."

Conservative Estimates

The professor expects that medical science will continue to better understand this process and thus also learn how to delay the growth of those cells. That will lead to a steady rise in life expectancy. "Children being born today could live to be 130 years old," says Maier. The predictions made by actuaries remain on the conservative side, according to her. "Those estimates have the life expectancy increase by maybe a weekend per month. But if we manage to slow the aging process, the increase will be much greater," she says.

Whether that will actually be possible remains uncertain. On the one hand, doctors continue to develop new life-extending medicines. On the other, people, such as the Americans for instance, are adopting less healthy lifestyles. "The life expectancy there is stagnating now. That is primarily due to the obesity epidemic which leads to diabetes. The number of older people with diabetes has tripled," Maier points out.

She emphasizes that the difference between being sick or healthy is less strict than people might think. "Take high blood pressure or diabetes, for example. At a certain blood pressure or glucose level, you're considered a patient. If you're just under that, you're healthy. It's all relative. Someone hovering near that limit is less healthy than someone well below it. Being sick is sometimes a matter of numbers."

Importance of Prevention

How old someone lives to be depends on their genes, the available medical care, and their lifestyle. The first two causes are beyond one's control; the last one is not. Although everyone knows that, the general level of interest in prevention leaves much to be desired, according to Maier. "The healthcare system has almost no incentives for promoting a healthy lifestyle. Anyone who gets sick has a right to medical care. Insurers reimburse that care regardless of your lifestyle," she points out.

That is, however, beginning to change little by little. "In lung cancer treatments, one of the major components for some of the patients is that they stop smoking. In the Netherlands, some doctors will tell a patient with knee problems who is also obese that they must first lose weight to be eligible for a knee replacement. Sometimes even that alone solves the problem. In Australia, such a thing would be unheard of. It would be considered discrimination," Maier continues.

Although she believes in more prevention, she understands that it takes a long time for the government to take action. "Look at the anti-smoking regulations. We have known for decades that smoking is bad for your health. Yet the ban on smoking in bars and restaurants was only instituted four years ago." Another problem is the difficulty of convincing people of the benefits of a healthier lifestyle. The consequences of eating too much and exercising too little do not become apparent until years later. "I like to compare it to a car. Just like with your body, you need to maintain it properly. If you don't maintain your car, the consequences become apparent after five years. With your body, it's much later than that."

Maier hopes that more education will help open many more people's eyes. "We need an information campaign.

I'll bet almost no one knows that 12 percent of people in their sixties have diabetes. One in three Dutch people will contract diabetes in their lifetime. Nor do people know that at a BMI of even between 25 and 30, you have an increased risk of diabetes," she exclaims.

More Active Lifestyle

The fact that we are living longer does not mean we need to fear a rise in the number of years plagued by ailments. "People are enjoying greater vitality as they age. The elderly of today are different than those of twenty years ago. They are more active, they travel, they look after their grandchildren, if they have time, and they are using digital media," Maier explains.

One consequence of living longer with fewer physical limitations is that we can retire later, according to Maier. "I've seen how the increase in the retirement age in the Netherlands has been a bitter pill for many people. In my view, that has to do with the type of pension system here. The situation in Australia is entirely different. Workers there build up a savings pot for their retirement. They can then deduct that amount all at once. If they feel they have not accumulated enough, they keep working. There is no fixed retirement age. There are some nurses working at my hospital unit in Melbourne who are almost 80 years old," Maier says.

A wealth of research shows that highly educated people live considerably longer than poorly educated people. What impact will the arrival of anti-aging drugs have on this gap? Maier does not fear this will lead to greater differences. "Those types of drugs are given first and foremost to the people who are suffering the most from aging. That tends to be people with a poor education who have less healthy lifestyles," she points out. "To some extent, people living a healthy lifestyle are being punished. They are not as yet eligible for anti-aging pills." The professor also does not think it is a problem for healthy seniors to have access to those drugs as well. "See it as an investment in your health. After all, we don't have any objections when people spend their money on fruit and vegetables," she concludes.

Aging Cells Are Troublemakers

Aging cells are central to gerontologists' understanding of the aging process. The older we become, the greater the number of elderly cells – also known as senescent cells – populating our bodies. Senescent cells can no longer divide. They secrete a chemical that triggers other healthy cells into action. The healthy cells rush toward the unhealthy ones because they think they are in trouble, suspecting a latent infection. They race in vain to the aging cells' aid to fight the presumed infection. These intervening immune cells do that by dividing and becoming extra active, thus promoting age-related diseases. "Cell division also increases the risk of cancer. That heightened activity is bad because it causes cells to consume more energy, which adversely impacts organs such as your heart or your eyes. Over time, this battle against latent infections exhausts the body," Maier elucidates.

Researchers around the world have taken up the fight against senescent cells. In the Netherlands, for instance, Peter de Keizer at UMC Utrecht is working on this topic. Maier explains that there are two different ways to tackle senescent cells. "First, there is a new class of drugs (senolytics) that can eliminate the cells. The second method involves preventing the formation of aging cells by improving the functioning of healthy cells," she says. Developing these types of drugs requires a great deal of patience. "The big difference with conventional drugs is that we are planning to administer these to healthy people suffering from the effects of aging. Permission has just been obtained in the U.S. for a large-scale experiment using diabetes medications in low doses on healthy people. We expect that those people will age less quickly than those who do not receive the medication," Maier concludes.

Johan Mackenbach

People with a poor education do not live nearly as long as those with a high education, and the disparity persists despite increases in prosperity. According to Professor Johan Mackenbach, this matter is not receiving the attention it deserves in the efforts to reform the pension system.

DISPARITY IN LIFE EXPECTANCY BETWEEN HIGHLY AND POORLY EDUCATED PERSISTENT AND EXTREME

"The disparity in life expectancy between people from different socioeconomic backgrounds is fairly stable. People have tried to close the gap for years but with zero effect so far," he says. Mackenbach is a professor of public health at Erasmus MC and has been studying mortality, epidemiology, and medical statistics for years.

How big is the difference in life expectancy?

"Figures from Statistics Netherlands (CBS) indicate that people with the lowest level of education live approximately six years less than those with a higher education. Women live longer than men, but the gap between the highly and poorly educated is of the same magnitude. Life expectancy for a poorly educated man is 77, whereas for a man with a college degree, it averages 83 years old."

What about in terms of the number of healthy years? Is there a gap there as well?
"Yes. When you look at the number of years a person lives without significant physical impairments, the disparity between poorly and highly educated people is even greater. People without a good education do not only die sooner, they suffer longer from health problems during that shorter lifespan. That difference is almost three times as great as the difference in life expectancy."

Is the difference growing or is the gap fairly stable?
"In the Netherlands, we have only been able to review the figures since the late 1990s, and in that period, the gap in life expectancy between the poorly and highly educated has been stable."

Is the difference equally great in other countries?
"In every country that tracks these sorts of statistics, people with less education live years less than those with more education. But there are considerable differences between countries. The Netherlands is in the middle, on par with countries such as Belgium and Denmark. In Eastern Europe, the gap is quite a bit bigger than in the Netherlands. In Spain and Italy, though, it is not as big."

Are there any specific causes of death to be blamed for the lower longevity of the poorly educated?
"Not really. People with the poorest educations tend to rank higher on all of the common causes of death than the highly educated, though there are some outliers. Poorly educated people are more prone to dying from lung cancer and excessive alcohol consumption. They are also more frequently victims of tuberculosis or homicide."

The Netherlands is a welfare state with a relatively high standard of living. Why isn't the disparity between the poorly and highly educated smaller in such a society?
"There are three reasons for that. To start with, the composition of the group of people with the poorest education level has changed over the years. People with the lowest cognitive skills have increasingly ended up in this segment. Because of greater access to primary and secondary education, people with more skills have advanced tot higher social ranks.

"In the second place, differences in living conditions remain great despite the efforts of the welfare state. Although the Netherlands does not have such a large gap between rich and poor relative to other countries, the differences are still considerable. It is hard to follow a healthy lifestyle on welfare. At the same time, the disparity in immaterial life circumstances is great. People without much education tend to perform stressful work that adversely impacts health, for example.

"The third factor is that poorly educated people have benefited at a lesser rate from the tremendous advancements in healthcare in recent decades. This is primarily due to the fact that more highly educated people have been more successful at adopting healthier lifestyles. It is more difficult for those lacking in education to change their lifestyle. As a result, the life expectancy of the better educated is rising more quickly than that of the poorly educated."

What are the implications for our pension system?
"To get a handle on that, we looked into the trends in the partial life expectancy for 35- to 80-year-olds. That number represents the future expected life in years of someone age 35 up to the age of 80. For that age interval, someone with little education has another 9 years to live after retirement versus someone with a better education, who lives another 11 years. The figures are slightly higher for women. In other words, poorly educated people have less time, on average, to enjoy their retirement than highly educated people.

"The implications of this vary for the various pension pillars. In short, the distribution of the balance between contributions and benefits is progressive in the first pillar (social security) and regressive in the second pillar. In the first pillar, the poorly educated receive relatively more social security compared to the amount of contributions they paid in. Despite living longer, the highly educated are somewhat at a disadvantage here since they will have paid more in contributions due to their higher income. In the second pillar, it is the highly educated workers who profit more. The distribution of the balance between contributions and benefits is more advantageous for them than for workers with a poor education. Moreover, they receive their pensions for a longer period of time, yet in terms of their income, they paid in the same percentage."

What does the picture look like in terms of the number of healthy years lived?
"The picture looks even worse for poorly educated people then. The chance that a highly educated person will reach retirement in full health is much greater than that of a poorly educated person being healthy at the finish line. The reason for that is the higher incidence of health problems among the latter group. They tend to suffer health limitations well before their eligible retirement age, which means they run a greater risk of losing their jobs due to illness. As a result, they often have no healthy retirement years left. Highly educated people, in contrast, can enjoy a number of years in retirement in good health."

The social security entitlement age is being increased over the next few years. Won't that be particularly detrimental for poorly educated workers?
"Yes, it could certainly turn out that way. The Netherlands and Denmark are taking the lead in raising the retirement age. They are instituting radical measures and have already determined that it needs to be increased rapidly. Estimates are that the retirement age in the Netherlands will increase to 71 by the middle of the century.

"That will only be attainable for the more poorly educated demographic if their life expectancy rates increase as quickly as those of the highly educated and if the healthy life expectancy rates for the former group increase especially quickly. That presents a tremendous challenge. I don't see it immediately happening. Not much public health policy is targeted at closing the gap.

"Even as it stands now, the projected increase to an age of 67 and three months presents a formidable obstacle for the poorly educated. It would be much more equitable if the retirement age were differentiated according to level of education or other socioeconomic characteristics."

Number of Healthy Years between 65 and 75 Shrinks

We are growing older, but that is accompanied by an increase in ailment-plagued years. That is one of the research findings made by Dorly Deeg, professor of the epidemiology of aging at VUmc. The Netspar study she is conducting with five other researchers focuses on life expectancy and health levels between the ages of 65 and 75. That life stage was selected because that is exactly the period in which people must often work longer than before. Deeg found that the partial life expectancy with slightly impaired physical health rose more quickly than the general life expectancy for this group. "It is not rising as quickly anymore since many people in that group are reaching 75," she says.

Among men, the life expectancy with slight health problems rose from 3.5 to 5.4 years, and for women, it went from 4.0 to 5.5 years. Older people with slight physical health impairment suffer from at least two chronic conditions, such as diabetes, rheumatoid arthritis, or osteoarthritis. People with physical limitations also fall into this category. People with only one chronic ailment and no physical handicaps are considered healthy. "An example might be heart patients who can live longer thanks to the advances in medical science," Deeg explains.

People with health problems have started viewing their ailments differently over the years. "They tend to feel healthier, personally, even with these conditions than people did in the early nineties," she continues. "That's probably because the prognosis for living with these chronic diseases has improved considerably."

The percentage of people over the age of 65 who suffer from serious physical health impairment has remained fairly stable the past few years. Among men age 65 to 75, the partial life expectancy with such symptoms was 0.6, and among women, 1.3 years.
The study is still underway. "We are continuing to study how the trends we identified progress. In addition, we are examining what factors predict who will continue to work in spite of health ailments and what segment of unhealthy older workers will in fact give up and become incapacitated," Deeg concludes.

Wilbert Ouburg and Wies de Boer

"WE ASSUME A GRADUAL INCREASE IN LIFE EXPECTANCY"

Actuaries are steering clear of speculations about a spectacular increase in life expectancy. Their primary concern is producing a model based on as much historical data as possible that will yield stable outcomes.


Wilbert Ouburg

Ten to fifteen years ago, the new life expectancy projections from the Royal Actuarial Association (AG) were quite a bombshell. They showed a sharp, and unexpected, increase in life expectancy. Pension funds suddenly saw their funding ratios drop by several points. Insurers saw an increase in the value of their obligations. The biannual publication of these figures has continued to be anxiously awaited in more recent years, as well, but the impact has softened.

"That is attributable, among other things, to modifications in the model itself," says Wilbert Ouburg, who has chaired the Mortality Tables Working Group at AG since 2014. "The deviation in actual mortality rates compared to projections has decreased in recent years," adds Wies de Boer, who has chaired the Mortality Research Committee at AG since that same year. "Thanks to improvements in the model, AG has reported stable projections and less extreme departures from the trend these past few years."

The Mortality Research Committee comprises eight actuaries and two researchers acting in a personal capacity and is the public face of these efforts. Members of the committee present their findings together with the working group members. The Mortality Tables Working Group does the calculations and analytical work behind the scenes. That group has eight members who also operate in a personal capacity. "It's a mix of people from the insurance and pension fields," Ouburg says.

The analysts perform their work in complete secrecy. "The findings are kept secret until the mortality tables are published," Ouburg says. "We will present the results in September of this year," De Boer reports. "We think it's important that all market participants receive the information at the same time. This is, after all, critical information for insurers and pension funds. Publication is once every two years because processing the new figures is such a demanding administrative task for insurers and pension funds. In addition, the model is transparent, and parties can perform their own computations if they want."

Some insurers and pension funds use the AG Mortality Table to calculate their obligations. "They do not have to do that. They could also use the CBS projections or produce their own using their own data. Of course, only the large funds who possess sufficient data could do the latter. We make the projections specifically for insurers and pension funds," Ouburg elucidates. "At the CBS, the mortality tables are a part of their characterization of all the demographic trends."

The AG Mortality Table serves as a starting point for many funds. They revise the projections to fit the composition of their own membership. "A fund with a high white-collar population will set life expectancy somewhat higher than in our Mortality Table," Ouburg points out.

The AG publishes two sets of life expectancy figures: the cohort- and period life expectancy. The first figures are the purest. "In those, we take ongoing improvements in survival rates in the future into account for people being born now," says De Boer. That life expectancy figure will increase in the next 50 years by three to five years. Based on the figures published in 2016, a girl born that year has a life expectancy of 93; for boys, the figure is 90.1 years old.
The period life expectancy tells the mortality percentage for all ages in one particular year and does not take future rises in survival rates into account.


Wies de Boer

The AG Mortality Table presents life expectancy for the Dutch population as a whole, without delineating between education or income levels. "Since 2014, we have also been incorporating data from other European countries in our model, countries like the United Kingdom, France, and Germany. Those are all countries with similar standards of living," De Boer says.

Developments in the Netherlands are compared to trends in those other countries. A basic assumption is that the differences in mortality rates between the Netherlands and these countries will not increase in coming years. "The use of all that data makes the model more stable because we have access to much more information than only the Dutch data," he continues. "As a result, we expect to produce much more stable projections in the future. Any one-time Dutch outliers from the European trend are mitigated by this method."

The actuaries do not investigate the underlying causes of the rise in life expectancy. "It is interesting to think about, but that is not our area of expertise," says Ouburg.

What matters to us are age and gender and the historical trends in death rates that go along with them.

"We do not explicitly incorporate causes of death in our analyses. What matters to us are age and gender and the historical trends in death rates that go along with them. We leave any other data out of the equation, in part because even doctors do not agree about such future scenarios."

"Our basic assumption is that the ever-growing spate of new developments, such as advancements in medical science, will lead to an increase in life expectancy. That increase will be gradual. Our model does not allow for spectacular medical breakthroughs. We cannot foresee such things, and in the past few decades, nothing like that has ever happened anyway," De Boer says.

Transparency

Anyone who wants to check how well the actuaries have done their job can get right down to work. "We offer full transparency about the model, the parameters, and the data we used. You are allowed to create a replica of the model," says Ouburg.

The information AG provides has been expanded in recent years. "We report the uncertainty, the stochastic information. We show the bandwidth within which the projections might deviate by a certain probability," De Boer says. Another recent addition is the correlation in mortality rates between men and women. "We used to present the figures as two separate sets of results. Now, we explicitly use the relationship between mortality trends for men and women in the model. We did that at the industry's request," she adds.

Other European countries have varying methods for making these kinds of estimates. "That has to do with the importance of such projections for them, among other things," says De Boer. "In countries with smaller pension industries, life expectancy has much less of an impact." There is one country that does things exactly like the Netherlands, though. "Belgium recently adopted the Dutch model," Ouburg relates.

Sharing Longevity Risk

Increases or decreases in the mortality rate are never 100% accurate and are thus coupled with uncertainty. This "macro longevity risk" is currently uniformly distributed, collectively. That means that all age groups carry the same level of risk. Researchers Michel Vellekoop and Anja de Waegenaere analyzed an alternative distribution structure in which three separate age groups would each carry a different level of risk. This would allow the group of very old participants – which currently bears the greatest risk, relatively – to be protected to some extent. Read more in Netspar Brief 13: "Shared Interests for Longer."

The future can not be fully predicted by statistical models, says Theo Kocken. He argues for scenarios that include unexpected, non-linear developments and daily life. The overall conclusion is that pension funds need to study longevity in greater depth. "The existing system is not designed to accommodate a much higher life expectancy," he points out.

Theo Kocken

"DEMOTION AND PART-TIME RETIREMENT ARE INEVITABLE"

"Imagine that the average lifespan increases from 105 to 110 years of age thanks to medical advances. What should the retirement age be in that case?" It is just one of the questions Theo Kocken puts forward. These are the types of questions that arise as one tries to form a picture of the future. "I expect that the retirement age will increase to nearly 80," he continues. "Millions of people will then have to continue working until that age. That has tremendous repercussions for the general population, businesses, and the government. It's a good idea to start thinking about that now."

Kocken has been leading pension managers in this type of scenario thinking for two years. "It's a broader, more qualitative form of scenario thinking than the standard quantitative stress tests," he explains. These scenarios should not be confused with predictions about the future. "I have no idea," he exclaims. "These are plausible worldviews based on current technological breakthroughs."

Scenario thinking helps managers find ways to handle likely future circumstances. They can then use that experience to change tack in advance of such developments, contends Kocken, a professor of risk management at VU and co-founder of Cardano. "For instance, it was a missed opportunity for us not to have thought earlier about the accelerated rise in life expectancy," he continues. "If we had done so ten years ago, we would now have more solutions for people in physically demanding jobs, for example. It is much more difficult to institute measures at this point."

That demonstrates the usefulness of scenario thinking. "By living through the effects of, say, technological, economic, or ecological changes, you will be better prepared than parties that fail to do so and are surprised by them. Those worldviews have to be scenarios you can anticipate, however. You can conceive of an asteroid hitting earth, but that is not an event you can prepare for," says Kocken.


Theo Kocken

The Process

"We do not show up with a couple of ready-made scenarios," Kocken says about his process. "It is important for the participating managers to be closely involved in conceiving of the possible worldviews. Otherwise, those scenarios have no life. They are collectively determined mental models."

That conversation about possible worldviews is a useful exercise in and of itself in his experience. "Through that process of mental modeling you draw more out of the group. Managers can contribute knowledge, for example, that doesn't otherwise fit in traditional quantitative economic models – the kinds of insight about political developments, say, or the impact of robotization that can't be captured in figures," he says.

Greatest Challenge

The greatest challenge for the pension industry will be the continuing rise in life expectancy, according to Kocken. "Funds need to prepare for that, because the current system is not designed to accommodate a much higher life expectancy. A full pension starting at around age 70 is unaffordable in a world in which we live decades longer. On the other hand, you will always reach a point at which you can no longer work. Imagine that you don't completely stop working until you're 85. In that case, older workers could purchase a deferred annuity for later starting at age 60. Then, they know they can count on a fixed benefit from that point on. Until that time, they can live off their income from work, supplemented with a partial pension," he explains.

Another point of concern is the allocation of the pension fund buffers. These are intended to help funds absorb shocks in the financial markets. "Sharing the increase in life expectancy with one another yields much greater economic gains than sharing financial market shocks," Kocken asserts. "So, if you are going to keep buffers, they should be used to compensate for the impact of that increase."

Two Scenarios

Kocken developed two scenarios for the Netspar Anniversary Meeting on Longevity on April 12 that revolved around the rising life expectancy. An unavoidable consequence in both scenarios is that we will need to work longer. The main difference concerned the position of older workers in the labor market.

Kocken drew a distinction in his presentation between a cohesive society and a contract society. In a cohesive society, concern for one's fellow countrymen is of great value. In a contract society, the harsh laws of economics prevail. "Those are two worldviews, each with its own advantages and disadvantages. You mustn't confuse them with an ideal society," he warns. "That usually looks entirely different."

The contract society is a consequence of pervasive globalization. Trump's protectionist doctrine does not gain any traction. Competition between countries actually becomes fiercer. Companies must monitor costs and productivity ever more assiduously. That irritates older workers who stay on the job longer, despite their declining productivity, especially once they pass the age of 70. "For that reason, in that scenario, employers will only hire older workers at a lower salary or based on a fixed price for the services delivered. The contract society diverges the most from today's society. Demotion is a given in such a society, whereas it is still almost unthinkable now," Kocken says.

In a cohesive society, competition is less intense. "Ironically, the cohesive society is, to a certain extent, a result of the protectionism Trump has reintroduced. When trade blocs isolate themselves to greater degrees and pursue self-sufficiency, competition decreases. At a macro level, that leads to less prosperity, but on a national scale it can lead to greater cohesiveness. Although older workers are less productive, they can continue to work for the same salary. You can look to aging Japan for an example," he points out.

Some of the consequences of getting older are the same in both worldviews. "We tend to still think in terms of three stages: learning, working, and retirement. That model fades away. Things become less linear. Learning, working, and retirement overlap more. You keep learning until a fairly advanced age to keep your human capital up to speed and retrain for other industries. Nor will saving for retirement and then living off those savings continue to be the set template for everyone. There will be times when you work less or not at all and need more time for, perhaps, caregiver tasks," Kocken hypothesizes.

These sorts of future visions should serve as a wake-up call to unions, he thinks. "They will have to accept that demotion – we need to come up with a nicer term for it – is unavoidable. Older workers need to think about a second career that might last decades. Trade unions could help them with this. They need to rediscover themselves and redirect their energies toward maintaining human capital," he concludes.

The contract society diverges the most from today's society. Demotion is a given in such a society, whereas it is still almost unthinkable now.

STUDENT PROFILE BART DEES

Recent graduate Bart Dees landed in the Netspar network more or less by chance: "As I was earning my bachelor's degree in business economics, I was seeking more of a mathematical challenge. I found that the Master of Science in Quantitative Finance and Actuarial Science (QFAS) had the greatest quantitative depth. And in Tilburg, QFAS is strongly associated with pensions and retirement. So, Netspar quickly became part of the picture."

Bart Dees

"I started attending the Netspar meetings to keep my options as open as possible. It didn't feel like a burden at all: the guest speakers are very interesting, and company visits are very useful! Through Netspar, I got a lead on NN Investment Partners, which is where I pursued my internship, with Theo Nijman, Netspar's scientific director, appointed as my supervisor."

"Sometimes you just have to get lucky in terms of what comes along"

Satisfaction

"Halfway through my master's program I couldn't decide between doing an internship or pursuing a research master's right away. I opted for the former because I also wanted some corporate experience. My internship was a great experience! I could focus on my research but also felt like part of the organization. It felt great to gain the confidence to be part of the team and to see genuine interest in my research. I presented the results to people of importance in the industry; that gives you a real sense of satisfaction."

Life Events

"My assignment consisted of two main questions: what are the potential individual economic gains from the further individualization of the pension contract? And, on track toward more personalized pensions, to look at heterogeneity in replacement rates among high, medium, and low incomes. Along the way, the second research question mutated, and I started looking at life events, such as becoming unemployed, purchasing a home, divorce, etcetera. What influence do these changing conditions have on a personalized pension contract in terms of saving and dissaving decisions and investment policy? It's all relatively complicated material that raises many interesting issues. The first research question remains relevant though. One of my findings, for instance, is that it is more advantageous for people who own a home to contribute less money in premiums if they are able to later cash in on that housing capital."

Fantastic

"I set up a framework with certain assumptions for the calculations. If the results turn out to be interesting for policy, these assumptions can be made more complex to better match reality. There might be possible implications for institutional policy. For instance, the ability to use your own home as a supplemental pension is not currently regulated by law. Many interesting questions remain unanswered. And I get to sink my teeth into them over the next few years: I am going to be pursuing an industrial doctorate at Netspar and NN. It's fantastic that I can further pursue my research in a doctoral program. Sometimes, you get lucky in terms of what comes along, and everything works out."

PAPERS AND PROJECTS

This page shows projects and recently published papers from the Netspar series that are related to the theme of this Magazine. Netspar knows Industry-oriented papers and Academic Papers. More papers and all PDF versions can be found at www.netspar.nl.

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Hooray for living longer!

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Uncertainty over the life cycle: implications for pensions and savings behavior
Marike Knoef, Mauro Mastrogiacomo, Raun van Ooijen, Rob Alessie

Colophon

Netspar Magazine is published by Netspar, the Network for Studies on Pensions, Aging and Retirement. Netspar Magazine is distributed digitally. To subscribe or unsubscribe, contact Netspar.

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Graphic design
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Network for Studies on Pensions, Aging and Retirement

Netspar, the Network for Studies on Pensions, Aging and Retirement, is a 'think tank' and knowledge network. Netspar is dedicated to promoting a wider understanding of the economic and social implications of pensions, aging and retirement. Expertise from scientific research is used to transfer knowledge through publications, events and education. With that, Netspar actively contributes to the social dialogue between policymakers, scientists and pension and insurance practitioners.

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