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A Resilient Future of Europe

Strengthening families, work and pensions in face of demographic change

POPULATION EUROPE

THE NETWORK OF EUROPE'S LEADING DEMOGRAPHIC RESEARCH CENTRES

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Content

Editorial

Kate Dearden, Peter Weissenburger
Project Coordinators of the FutuRes Policy Lab, Population Europe

To address challenging situations, science and policy must work together, each making use of their complementary strengths. Science can contribute its capacity to analyse data, while policy brings its expertise in practical application. Since early 2023, the FutuRes project ("Towards a Resilience Future of Europe"), funded by the European Union's Horizon Research and Innovation Programme, has been doing just that.

FutuRes has been examining what makes people and society resilient – and how resilience can be applied to the challenges posed by demographic change. Over the coming decades, the size of older population groups in the EU is projected to increase significantly, and that of younger cohorts will decrease. FutuRes looked at the potential challenges for labour markets, health care, social security programs and inter-generational fairness, and asked how our societies can remain resilience through these changes.

Along with providing the newest scientific research, the project has been in a constant exchange with policymakers in the EU, state governments, and regional authorities. Their feedback has improved the research design, and has been invaluable for translating the findings into policy recommendations.

In total, FutuRes received such feedback, as well as best practice examples, ideas for future scenarios, and pertinent questions in 13 transdisciplinary online events and 2 in-person stakeholder dialogues. In total, more than 1000 stakeholders took part, contributing perspectives from policy, as well as from civil society, the private sector and the media.

This "FutuRes Policy Lab" has been an integral part of the project, and we want to thank all our stakeholders for their time, interest and generous advice. Through the FutuRes Policy Lab, we found that while policymakers of different Member States often work on similar demographic challenges (depopulating areas, growing cities, labour market shortages, inclusion, to name only a few), regular exchange between them is often scarce. Barriers to exchange include the fact that population policy is often decentralized and spread across several government portfolios. The Policy Lab provided an interface for exchange between science and policy and aimed to create synergies where possible.

The discipline of demography can provide a platform for these connections. As stated by member of the FutuRes advisory board Pearl Dykstra in her keynote at a recent Policy Lab event: "One of the strengths of demography is its consideration of levels of analysis. There is the individual level of people's lives: having a child, moving residential location, leaving the labour force, reaching a particular age. The occurrence of such transitions, their timing, and their consequences are shaped by higher-level circumstances: household, family, community, region, nation, and supranational forces."

All of these levels can be entrance points for resilient policymaking. The FutuRes research teams focused on different areas of society that are affected by demographic change: crisis resilience, families, labour markets, and pensions. This discussion paper presents their Key Messages and subsequent recommendations.

We hope that it will give policymakers an overview of the most recent state of the art research on demographic change as it pertains to policy on the EU and member state levels. It can also be a resource for civil society and local governments.

We are looking forward to more fruitful cooperation around this ever more pressing policy challenge and to keeping the conversation going!

The FutuRes consortium

- **Bocconi University (Milan)**
- **SGH Warsaw School of Economics**
- **The University of Southampton**
- **TU Vienna**
- **The Population Research Institute at the Family Federation of Finland (Helsinki)**
- **Population Europe, the network of Europe's leading demographic research centres (Berlin)**
- **VDI/VDE Innovation and Technology (Berlin)**
- **AGE Platform Europe (Brussels)**

Introduction

The consequences of demographic change are difficult to address – but dangerous when left unchecked

Arnstein Aassve
FutuRes Principle Investigator, Bocconi University

These days, demographic change is most often discussed around two concerns. One is low fertility, the second is the pressure on pension systems in ageing societies. These two trends are often presented as an all too simple story: raise fertility – stabilise pensions. This idea is deceptive, as is shown clearly – both by our research in the FutuRes project and by our consultations with stakeholders in the FutuRes Policy Lab. Rather, to make Europe resilient to demographic change, a combination of policy options is most likely to be effective. I will outline these, before they are further explained by my research colleagues in the following pages.

While most people know something about demographic change, I often find a surprising lack of awareness as to the severity of the issue for our welfare states. One reason for this might be that no matter how you tweak it, the most likely solutions sound undesirable: either work longer, or get paid a lot less in your pension. While this outlook can seem discouraging, I want to point out that if we don't take adaptive measures, the risk is that the outcomes will be even less desirable.

Birth rates and ongoing societal crises

One concern often brought up in political debate about demographic change is fertility. Birth rates in Europe have been low overall, and in some countries especially.

This is taken by some policymakers as a call to action. Others will argue that having children is a personal choice, that policy neither can nor should impose it on people – and I agree. But there are more ways to look at it. Childbearing, while personal, is not something people can be left alone with. A lack of support will affect childbearing choices.

We see this in the number of children that people say they want. This number has been consistently higher than the number of children they end up having, thus leaving a gap between desire and reality. This gap has many reasons, biological ones, but also constraints of working life, the cost of living, and feelings of uncertainty about the future – factors that relate to ongoing societal crises. Our FutuRes researchers have been analysing such crisis factors and how they affect the resilience of families and communities. For a deeper dive into this, I recommend the key message "Resilience across the life course is shaped by employment stability, intergenerational support, and socio-demographic factors" (page 8).

These material constraints on childbearing decisions may already be affecting the way we think about families. We see in most recent surveys that the two-child norm is no longer as strong as it used to be. More people than ever feel they might be content with one child. (See my summary of this study, link below: Aassve 2024.)

At this point I like to stop and remember that having children is not a simple choice. A child will be with you forever, and will cost you a lot of money. One can safely presume that if the right policies are not in place to support families with young children, potential parents will be acutely aware of that. They may easily draw the conclusion that having children (or having more children) is simply too difficult. We should not increase pressure by judging such decisions harshly.

However, the fact is that low fertility has a major impact on demographic change, and thus relates to the topic of the second political debate: pensions.

Pensions and a scenario of strengthened populism

In pension systems, it is the task of policymakers to even out the balance in terms of contributions from workers and employers going into the system, and payments going out to people who have reached "retirement age". With demographic change, this task is becoming more and more impossible. Some European countries (such as Italy) have experienced low fertility for so long that their pension systems are already unsustainable. More countries will join this struggle in the next 10 to 20 years, as the largest age cohort, the so-called "baby-boomers", enters retirement. Please allow me to refer you to the excellent research on the future of pensions by my colleagues on page 20 (Key Message: "Reforms of pension systems must account for the fact that people age unequally").

Europe's near future is clear: we will be left with a much smaller cohort of working people supporting a much larger cohort of non-working people. Ignoring this reality will have dire consequences. To explain what I mean, I want to present a future scenario for Europe. This scenario is not based on my imagination. It was found to be likely by a transdiscipli-

nary group of European experts who took part in the FutuRes scenario building workshops (de Saussure et al. 2024).

The scenario goes as follows: all people in Europe will eventually understand very clearly that their pension is not going to be as generous as their contributions. They will also understand that the welfare state will provide fewer basic services than it provided to previous generations – specifically health care and education.

I worry that there will be two types of response. Those with more resources will find alternatives in the private sector: private pensions, private health, and private education. Those with fewer resources will feel "left behind". The response by this group will likely be to turn away from the established parties. We already see people feeling left behind today, many of whom are voting for populist candidates. If we cannot deal with the challenges in front of us, I firmly believe that we will see more of this in the future.

The four levers of demographic policy

Herein lies the contribution of demography. We are able to tell with some certainty how the pressures on welfare and pensions are going to evolve in the next 20 to 30 years. Unfortunately, we can see that these will become a lot worse.

What are the courses of action for policymakers? Policy measures are already being put in place, at times with some success. For example, helping young people enter the job market earlier; supporting women's labour market participation, reducing early retirement, to name a few. These are difficult policies to implement – and none of them will fully save the pension systems as we know them today.

With demographic change, one has to think big. Theoretically, there are four levers: the first, as mentioned above, is to "raise fertility", which can be a deceptive promise. I already spoke about how childbearing is a choice that should not be imposed. The other point is that even if one miraculously manages to raise the fertility rate, which is, admittedly, rather unlikely, this will not help pension systems for at least 25 years. Here, political debates around "needing more babies" tend to veer into dishonesty.

The next option is to attract immigrants to work in and to contribute to our societies. Our FutuRes experts find that this does indeed alleviate pressures on both labour markets and pensions in the short run – but becomes less effective in the long-run. Migrants will enter into the same cycle whereby they contribute and then become pensioners.

While the benefits of immigration, like those of raising birth rates, are at times overstated, this does not mean either option should be discarded. When viewed realistically, both are important options to think about for any policymaker.

However, the two remaining policy levers may be more reliable. One is to have people in certain professions work longer, which in the case of certain, less physically demanding jobs, would be possible. Changes to pension ages have been unpopular, but such a step will gain more acceptance if it was very clear that the reform is designed in a way where no one loses out, as we let people work as long as they want. The main issue to tackle here is working environments. We know from our FutuRes citizen consultations that many people feel pushed

out of employment later in their careers, often in favour of younger workers (see chapter "A Europe for all ages – Outcomes of the FutuRes civic engagement process", page 26). Incentives are needed for employers to adapt to an older workforce.

Finally, another pathway is to invest in strategies to best use new technologies to reduce the number of workers needed. The extent of future technological change, specifically automation and AI, is unknown. But we can prepare, instead of letting it wash over us. I want to encourage you to consult the chapter written by our FutuRes experts on labour market policies who discuss options and their respective advantages and risks: "The challenges posed by population ageing to labour markets cannot be solved by immigration nor by job-automating technology alone" (page 14).

The young minority and the bigger picture for Europe's demographic future

I suggest policymakers think about the challenges presented here in the following way: "As demographic change cannot be prevented or ignored, how do we best prepare the younger generation?" For the first time in history, the cohort of young people is now a political minority. Young people innovate, generate new ideas, and fuel a renewal of society. How can policy best help them be resilient, in the sense of: empowered to navigate change without anxiety?

Above, I have sketched short- to mid-term approaches. In the following chapters, you will find further analysis and recommendations. These are based on our excellent research teams' work, and informed by the experts from policy and civil society who joined us in the FutuRes Policy Lab, and to whom I wish to extend my gratitude. I hope that these recommendations will be taken as parts of a larger picture.

Let me end with a final thought: some answers to these issues can only be long term – and they have to involve a substantial reform of education systems. With speedy technological change, education must allow for optimal harnessing of skill, give people more opportunities, and reward continuous learning.

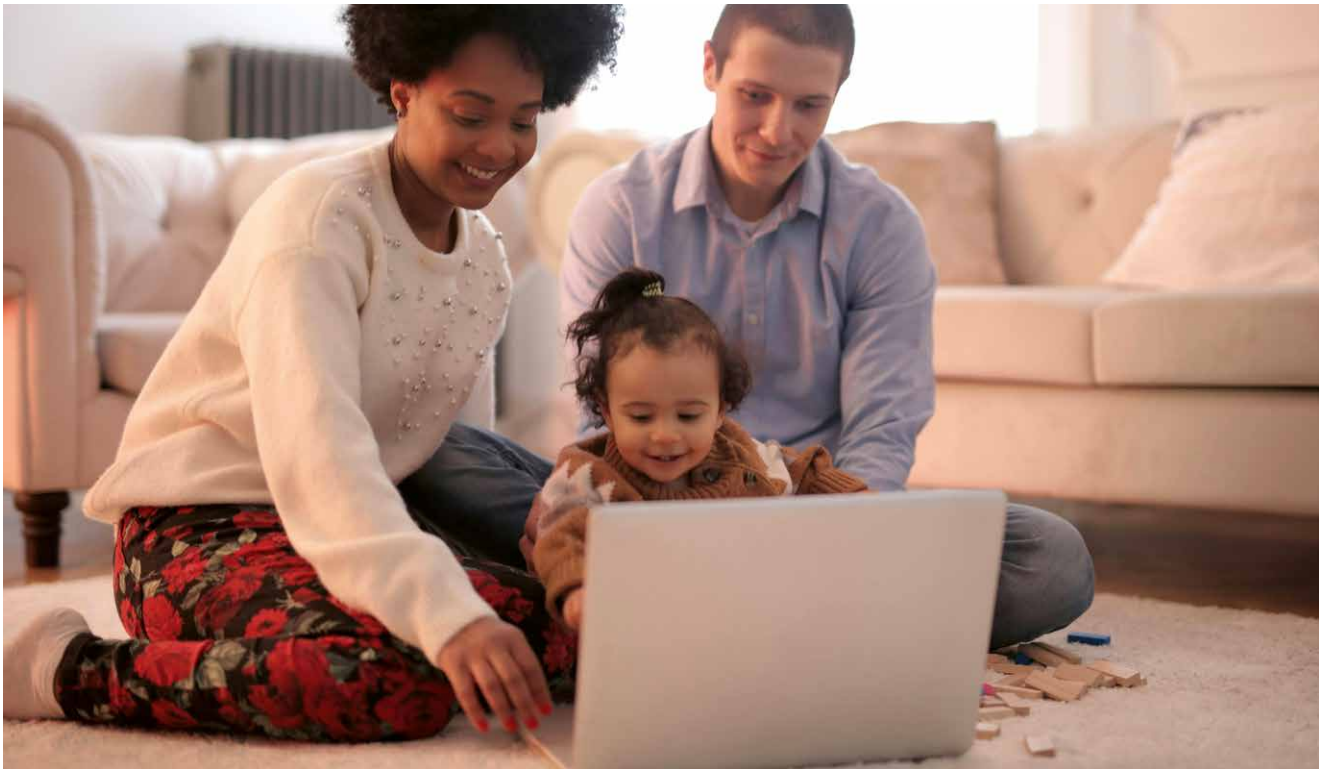
To tackle this long-term challenge, I see the need to establish a routine of policy planning on demographic issues. Challenges that require long term solutions must be dealt with in a way so that the work achieved does not fall victim to the brevity of political cycles.

Further reading by FutuRes

Most people would be equally satisfied with having one child as with two or three – new research. *Article by Arnstein Aassve published in The Conversation (15 February 2024)*

Scenarios on pan-european issues. Strategic foresight document. *Prepared by Marlène de Saussure, Mona Hille & Marc Bovenschulte*

Families and communities



Resilience across the life course is shaped by employment stability, intergenerational support, and socio-demographic factors

Agnieszka Chłoń-Domińczak
SGH Warsaw School of Economics

What are the most relevant factors that policy can support to enable people to cope and adapt? Unpredictable crises, together with the foreseen megatrends, will continue to occur and affect people's lives. Our research identifies strong factors for resilience in two phases of the life course: older age and early adulthood.

Our team conducted analysis of data from the most recent surveys of two leading European research infrastructures: GGP and SHARE. These surveys give valuable insights into people's crisis resilience, as they reflect individuals' behaviours and outcomes around the COVID 19 pandemic, one of the recent major crises of our time. We cross-referenced our analyses with data from the economic recession starting in the late 2000s.

We chose to measure what we deem strong indicators for resilience. In early adulthood, we presume that the realisation of one's fertility intentions (i.e. family plans) in spite of disturbances indicates resilience. In older age, we measured indicators such as well-being.

Results of our researach show that in older age, stable full-time employment in the life-course (between ages 20 and 50), and strong social networks most enhance people's resilience. Meanwhile, fertility resilience in early adulthood is most influenced by education, housing, partnership status, and exposure to life-course disturbances.

Our results also show that intergenerational transfers – both monetary and time-based – play a critical role in building resilience. This means that within communities, money and time resources are reallocated to those who need them in order to cope, and this shows the role which is played by intergenerational solidarity. What such transfers look like, however, differs with context, including gender, regional, and welfare regime differences that shape patterns of giving and receiving support. One of the goals of public policy to enhance resilience should be to best support local networks.

Working definitions

- **Life course resilience** is based on the idea that advantages or disadvantages accumulated over time can significantly impact an individual's resources and ability to cope with challenges in later life.
- **Fertility resilience** describes a situation in which people continue to realise their childbearing plans in spite of economic and social stress. In this case, fertility dynamics remain stable even in times of crisis. Reversely, if there is a lack of resilience, families will decide to postpone or forego their childbearing plans. As a result, fertility trends change or become more unpredictable.
- **Resilience in old age** in the context of our research was measured by the indicators related to individuals' health (physical and psychological), well-being and financial situation.

What did FutuRes find?

In the FutuRes project, my team and I sought to identify what made people more "resilient" at different points of their lives – from establishing partnerships and childbearing, to resilience observed at the older age. Our analysis is based primarily on the data from the second wave of the Generations and Gender Survey (fertility and early stages of the life course), as well as the Survey of Health, Ageing and Retirement in Europe (SHARE).

We followed a resilience framework that looks at different levels of disturbances, resources and outcomes. Disturbances refer to factors outside of individuals' control that may prevent them from realising their aspirations e.g., their parenthood plans. Life-course capital and resources refer to what individuals and societies have that can help counteract these disturbances. Outcomes show how these factors translate to larger demographic trends. The framework distinguishes between levels: macro, meso and micro, as shown in the table page 10.

Resilience in early adulthood: Our findings showed that resilience in fertility is shaped by the interaction between life-course disturbances (e.g. job insecurity, financial hardship, health issues) and "resilience markers" (e.g. education, marriage, housing, health). One of the strongest predictors of childbearing and fertility intentions is confirmed to be the stability of partnership and marriage status. Having a stable union is the main precondition for childbearing.

Another significant factor for fertility decisions is a person's educational status. In particular, tertiary education often correlates with lower fertility, especially in the UK and Austria, and

Resilience framework of fertility behaviour

Level	Disturbances	Life-course capital and resources	Outcomes
Macro	• Climate change • COVID-19 pandemic • Economic crisis/recession • Shift in social norms concerning parenthood	• Comprehensive healthcare • Reproductive health services (prenatal care, infertility diagnosis and access to ART) • Well-developed early childcare and education • Full-time schools • Parental leave policies • Flexibility in terms of time and place of work • "Gender egalitarian" policies • Work-life balance policies	• Macro-level fertility trends
Meso	• Changes of local labour markets • Changes in local governance and policies • Natural disaster at the local level • Shift in social norms concerning parenthood	• Heterogeneous social networks • Density of the social network • Social integration • Local family policies • Access to childcare • Quality of educational institutions • Family arrangements • Kinship networks	• Fertility-related behaviour at the family and societal levels
Micro	• Job loss • Health status/infertility risk • Income instability • Dissolution of partnership	• Economic, social & institutional capital – e.g. educational attainment, health status, household composition, household wealth, housing situation	• Individual fertility behaviour

may reduce resilience in the face of disturbances. However, education may not always buffer against adversity: in Finland, we find that lower-educated women with disabilities were more likely to have children than their higher-educated peers.

For any policy, it is relevant to highlight that housing tenure factors into resilience: private rental is negatively associated with fertility, while public housing may support higher fertility in some contexts.

Disturbances like child disability, past infertility, and financial stress reduce fertility intentions. In Austria and the United Kingdom, women who perceived high job insecurity were significantly less likely to have at least one child. This illustrates how economic uncertainty acts as a disturbance to fertility behaviour. However, this impact varies by country and is sometimes moderated by resilience markers.

Resilience in older age: Employment history is a major determinant of resilience in older age. Having a stable full-time employment throughout life is associated with the highest resilience (best health, well-being, financial status), while longer periods of unemployment or fragmented work histories correlate with the lowest resilience.

Individuals with stable full-time employment histories were most likely to be characterised by good health, financial security, and well-being. In contrast, those with long non-employment or fragmented work histories were more likely to experience poor health, depression, and financial hardship. Employment continuity thus presents itself a key driver of resilience in later life.

Further protective factors are education level, partnerships, and strong social networks. There are also important regional disparities: societies in Northern and Western Europe show higher resilience overall, and Southern and Central-Eastern Europe show lower resilience. This shows that macro level resources, related e.g., to the welfare state are important for developing resilience.

Intergenerational solidarity is essential for resilience, especially for cohorts at early and later life stages. In particular, private transfers (e.g. caregiving, financial support) often compensate for gaps in public welfare systems. Gender roles are pronounced in these type of transfers: women provide more time-based care; men more monetary transfers.

Finally, older people who have strong social connections and are satisfied with their social networks are more likely to receive care as well as to provide care to others. We measured people's resilience based on health, well-being, and financial situation to find that resilience clearly influenced caregiving dynamics: those with lower resilience are more likely to receive care but less likely to provide it. There are regional patterns here as well: Northern and Western Europe show higher levels of care provision and receipt, which could be linked to stronger welfare systems.

What are the implications?

First of all, the data indicate which investments in individual resilience are effective at which stage of life. Young adults benefit from education, housing, a stable partnership status, and reduced exposure to life-course disturbances (e.g. job insecurity, financial stress, health issues).

As adults, resilience is strongly linked to stable employment histories, educational attainment, and social networks. As a result, older-age resilience depends on cumulative life-course experiences, especially employment continuity, preventative healthcare, and social connectedness.

Secondly, there is clear potential in strengthening intergenerational support systems. We understand from the research that intergenerational transfers – of both money and time – are essential for resilience, particularly at early and later life stages. Traditional gender roles are pronounced here: women provide more unpaid care; men contribute more financially – which may become relevant e.g. when assessing the possible impact of employment policies focusing on mobilising women's potential.

In general, the effects of the resilience markers analysed in our research varied by country and context. As a result of such regional disparities, policy interventions need to be targeted to local realities.

Policy recommendations

- **General rule of thumb: resilience is cumulative.** It is shaped by life course investments. Government policies can increase societal resilience by supporting education, employment continuity, and caregiving across generations. As a side effect, policies that visibly support people of all age groups can foster intergenerational solidarity.

- **Enhance protective factors.** Governments can do so through life-long learning, employment stability, and housing security.

- **Identify and support vulnerable groups.** Fertility resilience requires targeted support, especially for those facing economic and health-related challenges. Generally, social policies to support resilience are likely most effective when sensitive to national and regional differences. Different levels of government (at the local, state, and EU levels) can compliment and strengthen each other to better tailor welfare policies to demographic realities and regional contexts.

- **Promote lifelong employment** for a fast-changing job market and smooth job transitions.

- **Provide spaces for lifelong learning and social connectivity.** Governments can enhance resilience in ageing populations by helping them connect and learn from each other in different contexts (including non-formal and informal learning).

- **Strengthen both public and private support systems.** Labour and social policies can better promote gender equity in caregiving to avoid to reduce gender inequality in older ages.

- **Prioritise building social capital.** Member states and the EU can create a joint vision of how to enhance resilience and intergenerational fairness.

Further reading by FutuRes

Inter- and intra-generational relations in the light of building resilience in the life course. *Research report by Anita Abramowska-Kmon, Agnieszka Chłoń-Domińczak, Michał Taracha, Wojciech Łątkowski & Wiktoria Bąchorek*

Life course employment patterns and resilient adult-stage life courses in selected European countries. *Research report by Anita Abramowska-Kmon, Milena Chełchowska, Martin Piotrowski & Paweł Strzelecki*

Towards resilient early-stage life courses in Europe: resilience markers and fertility behaviour. *Research report by Paweł Strzelecki & Michał Taracha*

Work

The challenges posed by population ageing to labour markets cannot be solved by immigration nor by job-automating technology alone

Emily Barker, Jakub Bijak
University of Southampton

A steady supply of working-age people has been key to the prosperity of Europe in the last century. It has driven economic growth and ensured funding of public social security. Now, significant gaps in the continent's labour markets are the new reality. These gaps stretch from low-skill professions, such as fruit picking and care work, to intermediate trades, such as plumbing, to highly specialised jobs, like medicine and engineering. That the population is ageing, and in many countries starting to show signs of decreasing in size, means that these gaps will continue to grow. To make labour markets resilient under these circumstances will require planning and adaptation.

Strategies that can help supplement Europe's shrinking workforce include scaling up the automation of work (with robots or AI algorithms) and increasing immigration; however, alone, neither will solve the labour market challenges – we explain why on page 16. Here, we discuss additional strategies to strengthen the repertoire of governments managing shrinking workforces. Most importantly, this includes investing in the potential of the domestic workforce.

What did FutuRes find?

To help governments develop strategies tailored to their demographic profiles and economies, our FutuRes research looked at the extent to which job automation (including robots and AI algorithms) and immigration can work in combination with other strategies. For this, we developed economic models to examine several detailed case studies.

In the first study, we find that there is significant potential to mitigate some of the challenges related to population ageing by increasing the work force participation of older workers, especially those aged 65 – 74 years. We developed a model that simulates how two large and linked European economies like Germany and Poland might cope with a shrinking workforce. This model serves as a useful case study to test labour market policies, for two reasons: migration between these countries is quantitatively one of the largest in Europe, with Germany being historically a net receiver of Polish migrants, and labour market automation in these two countries being very uneven.

While our models demonstrate the need for plans that still harness the benefits of migration and automation, they also show that both countries will be helped by investing in older workers (65 – 74) by incentivising them to continue to work. This holds true even if they remain in the labour market part-time. Of course, barriers in the labour market exist, preventing people of that age who wish to work from participating (see more in the Chapter: "A Europe for all ages", page 26) For this strategy to work, these barriers would have to be significantly reduced.

In the second case study we carried out simulations for Germany, Sweden, Italy, and Poland, to model possible futures for typical economies in Western, Northern, Southern and Central-Eastern Europe. The findings confirmed that increasing migration and investing in automation would fill some labour gaps, but regional challenges would remain, alongside labour market problems specific to the different country contexts.

For example, we found that Italy would struggle to fill labour gaps because of its relatively low employment rates and its disproportionately large population of people with low-skill and education levels. Poland's challenge is related to the historically small immigrant population and low levels of automation. We found that increasing the labour force participation rates of women to match those of men offers substantial gains for Italy and Poland, but less so for Germany and Sweden. Sweden and Germany already have high labour force participation rates, especially for people with high education levels, which leaves little room for expansion of the labour force. Still, these countries have significant shortages when it comes to labour for low-skill jobs, for which they are already relying on migrant workers. Our simulations showed that for Germany and Sweden, increases in migration in the short term would still not fully fill the gaps, while investments in new technologies would also only yield short-term gains. Fortunately, we found that increasing the employment rates of older workers (65 – 74) to match that of 55 – 64-year-olds in all four countries further helps fill labour market shortages. Increasing automation levels for jobs (where possible) offers additional help, although there is a risk of small reductions in wages of workers, especially at lower skill levels.

We conclude that if one aims to both reduce pressures on government budgets in countries with a smaller workforce (and tax base) and to maintain living standards across society in the long term, there needs to be an expansion of workplace and private pensions. This would

Why it's not enough on its own

Immigration

It is easy to say "immigrants can fill these jobs shortages", but it is implausible to employ immigrants for all vacancies that existing populations cannot otherwise fill. Putting the political feasibility of exponentially increasing immigration in Europe aside, recruitment and economic incentives (or "wage premiums") vary by job sector and by migrant group. For shortages in more specialised careers, like doctors, for example, it is easier to employ migrants that already have qualifications than it is to educate and ensure work experience domestically. But there can never be enough immigrant doctors to fill the gaps in all countries.

There is also a risk of "brain drain" in countries of origin, especially if people emigrate from other ageing societies. While migration could certainly be better targeted to fill some labour gaps, it is also difficult to predict[1] and therefore is not a reliable mitigation strategy.

Immigration also does not offer a long-term way to stall or reverse population ageing, as migrants often themselves age in destination countries.

Job-automating technology

Whether with robots or AI, there are aspects of jobs across all sectors and skill levels that could benefit from automation. However, it is neither possible nor desirable to automate every job. Robots and AI cannot fully perform care work, and they do not pay taxes. It is more likely that individual tasks will be automated rather than entire professions.

Whether and how this happens depends on if automation is suited for a task and if it is economically (and socially) feasible. For instance, jobs with more repetitive tasks that can be automated at low cost are the most likely to be partly or entirely automated. On the other hand, some physical or practical jobs, such as cleaning, are not financially viable to fully automate. For heavy industry and manufacturing, such as steel or car production, automation can take away a lot of the dangerous tasks, while allowing people to utilise the skills that are not easily replicable by machines. Even then, there are limits to scaling-up automation in labour markets due to its expense and society's low trust in its ability.

ensure that younger generations can expect more support beyond their prospective government pensions, which in many countries in Europe already don't cover even basic living costs. It may also indirectly encourage people to stay in the labour force for longer than they would otherwise. This recommendation is based on models with detailed information on existing and future education level needs, age-specific employment dynamics, and simulated age-related spending by governments across Europe until the year 2100.[2]

[1] Barker E. R., Bijak J. Mixed-frequency VAR: a new approach to forecasting migration in Europe using macroeconomic data. *Data & Policy*. 2025; 7: e3. doi:10.1017/dap.2024.82

[2] This study (forthcoming) looks at the EU27, Norway and Switzerland. By the end of the century, nearly 10% of the EU's population could be aged 85+, which has dramatically different implications for government spending than the less than 4% that age group is today. Source: Eurostat (Proj_23np) and authors' calculations.

Together, our FutuRes case studies reconfirmed earlier findings: policies that incentivise immigration and invest in automation can help boost employment rates and fill labour gaps in the short term. However, additional and more durable policy strategies are also needed for societies to be resilient in the face of shrinking workforces in the longer run.

What are the implications?

Population ageing has had, and will continue to have, lasting impacts on society as long as labour market gaps exist and the expected age-related employment ratio (the number of people aged 20 – 64 in employment compared to the number of people aged 65+) is insufficient to maintain balanced public finances.

European countries need to maximise the economic potential of the workforce that they already have, which means better targeting education and skills to the labour market, utilising job-automating technology where it fits best, investing in making labour markets more inclusive, and making education as well as job transitions to "needed jobs" more attractive.

As a key element of this strategy, countries should carefully monitor projected job shortages and design education systems better towards them. This will require changes in thinking and policy. Often, policy visions aim to have a larger portion of the younger generation achieve a tertiary degree;[3] however, this misses an important aspect of what education is about, which is ensuring that people's skills match the demands of the labour market.

Reconsidering education requirements for certain professions and making the ways of achieving them more flexible will likely lead to greater labour market efficiencies. For instance, there are high-skilled careers (such as nurses, journalists, or sports education teachers) that have solid employment prospects and for which tertiary qualifications may not be unnecessary. While having tertiary qualifications means one is less likely to be unemployed, increasing the possibility for training-on-the-job, particularly for younger people, could be a substitute for formal tertiary education that contributes to career credentials while allowing employers to recruit suitable workers.

[3] One goal from the European Council's "EU 2020" policy paper published in 2010, for example, was that "at least 40 % of the younger generation should have a tertiary degree". https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:en:PDF

Policy recommendations

Instead of relying only on migration or job automation, the potential of domestic labour forces should be maximised. Governments, education systems and employers can do this by:

Increasing flexibility

- Develop attractive options for people who wish to work until older ages, for example with reduced hours or in an advisory capacity
- Invest in the skills of migrants and recognise their skills and qualifications, including for those who are not "labour migrants", but who still would like access to the labour market, such as people with refugee status

Making "needed jobs" more attractive

- Regularly update projections of long-term labour shortages, to allow for prioritisation
- Increase the status of care work by improving wages and employment conditions
- Make applied apprenticeships and education an attractive option besides traditional tertiary education
- Promote and steer job automating technology by developing proactive strategies that facilitate and support investment in AI tools and job automating technology

Increasing support

- Help people who wish to transition between jobs or return to the workforce by accessible and attractive support in planning and options for re-skilling
- Improve "matching" between employers and employees, so that the latter are not working below their potential and skill level

Expanding workplace pension schemes

- Implement (higher) tax breaks for pension savings so that people have the incentive to contribute
- Start contributions relatively low, so that younger people are encouraged to "opt and stay in"

Further reading by FutuRes

How robots will change our jobs. *Research Digest, by Emily Barker*

Resilience and vulnerability – Migration, ageing and technological change. *Policy Paper by Emily Barker & Jakub Bijak*

Skills shortage in the EU: Ways towards labour market resilience. *Policy Insight by Jakub Bijak & Emily Barker*

Specification and initial analysis of dynamic model for examining policy resilience. *Research Report by Emily Barker & Jakub Bijak*

To the labour market's rescue: Policy pathways forward. *Policy Insight by Emily Barker & Jakub Bijak*

Pensions

Reforms of pension systems must account for the fact that people age unequally

Alexia Fürnkranz-Prskawetz, Miguel Sánchez-Romero, David Zettler
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Pension systems in Europe need reforms to adjust to current and future demographic realities so that they remain sustainable and fair. One of these realities is that European societies are ageing. While the pension systems in European countries vary in detail, they generally rely on working-age people's contributions to support those who are retired. However, as the old-age dependency ratio continues to rise, policy is faced with a choice: either to increase contributions or to decrease pension benefits to make pension systems sustainable.

Pension reforms are also needed to adjust to the fact that the trajectories of people's working lives, family constellations, their wealth, and other factors are more diverse than when our current pension systems were designed. This means that people face different risks and impacts when it comes to health problems, unemployment, or other shocks that negatively impact their lives. The implication of this is that people "age unequally", but they should still benefit from the pension system equally.

Pension reforms, must therefore, address the fact that people have increasingly diverse life courses. Broad changes, such as increasing the retirement age to improve the overall sustainability of the system, for example, would have different consequences for someone who has faced health crises in their life and thus has had a shorter working life, compared to a person who is fortunate enough to be physically and mentally healthy in older age, and who can even expect a longer length of life. Proportionally reducing pension benefits for all retirees would also have different impacts on people whose pension benefits are close to the poverty line, perhaps due to a long period of unemployment before retirement, compared to someone that has never been unemployed and whose pension benefits are close to or above the average income. Reforms should therefore ensure that both cases receive similar rates of return from the pension system.

What did FutuRes find?

To understand how different options for pension reforms could impact individuals and the resilience of entire pension systems, we built a model with demographic projections and tested four types of pension reforms on Austria, Germany, Italy, and Poland. Austria and Germany run "defined-benefit systems", whereas Italy and Poland operate "defined-contribution systems". It was important to compare countries with both similar and different pension systems because the effects of policy reforms vary depending on the pension system and its generosity.

Types of pension systems modelled

Defined-Benefit System
(i.e. in Austria, Germany)

- Employees' pension benefits are determined by a formula that takes into account the number of years of contribution, average earnings during a specified number of years, and retirement age.
- In a defined-benefit system, employees know in advance the formula of their pension benefits.
- The risk is borne by the pension plan which is balanced through changes in contributions.

Defined-Contribution System
(i.e. in Poland, Italy)

- Employees have an account into which the employer and the employee make regular contributions.
- Benefits are based on the total contributions and investment earnings on the accumulated money in the account.
- The contribution plan is known in advance by employees, while the pension benefit is unknown.
- The accumulated contributions are converted into pension benefits at retirement, which take into account expected remaining years of life.
- In the defined-contribution system, the risk is borne by the individual.

Within each pair of countries, one system is more generous, meaning that it offers a higher replacement rate in terms of what people gain from the pension system compared to what they contribute. (This is the case for Austria over Germany and Italy over Poland.) This is important to note because, without pension reforms, the gap between contributions and pension claims will widen faster in generous systems, leading to increasing government expenditure/debt to finance the gap between contributions and benefits.

We tested options for policy reforms in our model that are designed to: 1) improve the redistribution/fairness of pension systems (these include increasing the minimum pension benefit and implementing progressive benefit formulas), and to 2) improve the sustainability of pension systems in the long-term (these include introducing a sustainability factor and raising the retirement age).

Reform options modelled

To improve redistribution/ reduce societal inequality

- **Increasing the minimum pension benefit**
  >> Increasing the minimum public pension benefit for everyone
- **Implementing progressive benefit formulas**
  >> Setting pension benefit levels at a higher rate for individuals with lower earnings than for those with higher earnings

To improve fiscal sustainability of the entire pension system

- **Introducing a sustainability factor**
  >> Reducing pension benefits so that the contribution rate will not exceed a specific limit
- **Raising the retirement age**
  >> Increasing the age in which people are entitled to receive public pension benefits

We also examined the impacts that these reforms would have on gender and skill-related pension gaps and educational outcomes (meaning how people might be incentivised or not to invest in their education and skills). Our analysis included the impacts on inter- and intragenerational inequality (measured as the difference in the return from contributing to the pension system between and within birth cohorts) and cohort-specific welfare (measured as present value of the stream of future utility values of consumption and leisure for each cohort).

Our findings reveal that reforms that aim to improve redistribution are indeed effective in narrowing inequalities – however, such reforms may have the disadvantage that they slightly reduce labour income growth, by weakening the incentives for individuals to pursue higher education and leaving the labour force earlier. Both of these effects (lower education and earlier retirement) reduce the total wage compensation of employees, i.e. as labour income growth is reduced. In other words, reforms targeting redistribution reduce income inequality in older age but also reduce labour income growth.

When the goal is to improve the redistribution of pension benefits in defined-contribution systems (like Italy and Poland), we found that increasing the minimum pension can signifi-

cantly improve the internal rate of return across all cohorts. This was most effective in the case of Poland, where increasing the minimum pension benefit would significantly reduce the gender and skill pension gap. Women, who face higher risks of unemployment and lower average earnings, would benefit most from this policy. The reform boosts their internal rate of return in the pension system and improves the security of their retirement income. However, this policy may also reduce incentives for women to invest in their education and significantly increase the pension contribution rate requirements for all.

In defined-benefit systems (like in Austria and Germany), we found that redistribution is more effective through progressive benefit formulas. Besides improving the distribution across income groups when they reach retirement, the outcome is that people with shorter lives do not subsidise those who live longer. This is often the situation with current pension systems.

In terms of the reforms that are meant to improve the sustainability of pension systems, we found that when implemented in isolation, they strengthen incentives for people to invest in their education and skills and to participate longer in the labour force. However, they generally entail negative redistributive effects, exacerbating inequalities in society and increasing income inequality among older age groups.

Overall, our research underscores the trade-offs between equity and efficiency when it comes to designing pension reforms. A balanced approach, which combines reforms that improve long-term fiscal sustainability, along with those that better target redistribution, is the most promising path for promoting both inter- and intragenerational fairness. Nevertheless, the effectiveness of specific reforms varies considerably across countries and population groups, highlighting the importance of context-sensitive policy solutions.

What are the implications?

Persistent and increasing inequalities across European societies indicate that the current social security systems are not working for everyone. Inequalities can compound throughout people's lives and in ageing societies, which means that policies to support older people are particularly needed. Enduring unfair labour market opportunities and uneven health risks mean that women and people with lower-skilled professions receive lower rates of return from current pension systems than others. However, the fact that current pension systems perpetuate or even exacerbate inequalities is often missing when potential reforms are communicated to the public.

There is no single pension reform that will meet the needs of all individuals and societies. Rather, designing changes in each country context that balance different goals is the way forward. Our results show that if governments don't start making changes now, inequality will deepen and the social contract between generations will weaken, as younger generations will also receive lower rates of return from the pension system when compared to older generations. This fundamentally jeopardises public pension systems, a key part of European social security structures.

Policy recommendations

- **Tailor a country-specific pension reform plan as soon as possible:** There is no single pension reform (for instance, increasing the retirement age), that alone will improve sustainability and fairness in current pension systems. Governments need to implement multiple policy changes to balance sustainability and redistribution measures. Scientific research that models how individual behaviour will react to the changes (as well as the macroeconomic outcomes), will help make the best country-specific plans for change.

- **Alleviate inequalities before retirement:** The gender pay gap is translating into a gender pension gap. Working to dissolve the unfair disadvantages that women face in the labour market is therefore relevant for improving social inequality in older ages. Furthermore, pension reforms should better account for the disadvantages that women (and others) face in the labour market, so that these inequalities aren't compounded in retirement.

- **Remember the parts of the whole:** To be the most successful in terms of improving sustainability and redistribution, pension reforms must account for people's diverse life courses and how individuals will react and be impacted by changes. We need models to provide this information since pension reforms concern the future.

- **Invest in communication:** To help gain support from the public for pension reforms, governments' communication strategies should include messaging that addresses individuals' worries about such changes. Communication should highlight the flaws in the current systems, as well as details about how new policies will work better for people (and greater society).

Further reading by FutuRes

Theoretical foundation of the dynamic general equilibrium model with overlapping generations, heterogeneous households and family networks. *Research report by Miguel Sanchez-Romero, David Zettler & Alexia Fürnkranz-Prskawetz*

A Europe for all ages

Outcomes from the FutuRes civic engagement process

Vera Hörmann
AGE Platform Europe

Older persons often find themselves depicted as burdensome, rather than as active contributors to society. In FutuRes, a civic engagement process made space specifically to gather knowledge and ideas from older people. Interested persons were invited to participate in the FutuRes Policy Lab's stakeholder dialogues, and a "Myth Busting" series to counter stereotypes about ageing was created to raise public interest in the research. AGE Platform Europe kept up a continuous exchange with these individuals, voicing their perspectives as older citizens, employees, volunteers, and family carers.

This civic engagement cumulated in a citizen workshop on "Ageism and the next EU Agenda" that AGE Platform Europe organised following the elections of the European Parliament in 2024. More than 130 EU participants joined from over 20 European countries.

What are older people's main concerns about demographic change?

During the FutuRes civic engagement process, three recurring themes were especially important to the participants:

1. Having access to essential goods and services
2. Having their achievements recognised
3. Being active participants in their communities

Different forms of ageism – stereotypes, prejudices, and discrimination against others or oneself based on age – act as a hindrance to all of these. Ageism is still deeply embedded in society and policy. Unequal structures, laws, and norms continue to marginalise older people. Arbitrary age limits restrict participation, e.g. in areas like volunteering and political roles. Ageism, leading to exclusion and loneliness, has consistently been one of the main concerns of older people in Europe.

Recently, exclusion through non-inclusive technologies, lack of access, socio-demographic inequalities, and internalised ageism ("I'm too old for this"), has been added to these concerns. As more and more essential services are moved online, the autonomy of older Europeans is threatened. Or, to quote Julia Wadoux, expert on Age-Friendly Environments at AGE Platform Europe: "When essential services are 100 % digitalised without an offline alternative, older people and others risk being left behind. This can be especially dangerous in areas such as healthcare and banking."

One way to counteract ageism is intergenerational solidarity. To quote one participant of the citizen workshop: "The more we talk to each other, the more prejudices fall away."

Another major concern of the people who participated in the FutuRes civic engagement, which is related to ageism, is their employment. Demographic change results in an ageing workforce, yet many older people face challenges in the labour market as evidenced in AGE Platform Europe's 2023 Barometer on "Empowering older people in the labour market for sustainable and quality working lives". At the occasion of the launch of this report, Sibylle Le Maire, Founder of Club Landoy, a business think tank dedicated to the demographic transition, summarised the challenge as follows: "Making work attractive and the company attractive to all, without setting generations against each other, are real challenges. But they are right to take [them] up, not only for the health, well-being and sociability of older employees, but also for the cohesion and performance of companies."

Climate change was also one of the main concerns expressed during the civic engagement activities. Many people noted the fact that climate-related issues, such as increased heat waves, affect older people disproportionately.

Finally, care: older people have care needs that should be met with high-quality, accessible, affordable care and support, for which many worry there will be a shortage.

Participants in the FutuRes civic engagement process were full of ideas and hopes. Unfortunately, policy agendas are currently under-resourcing efforts to create more age equality. Upcoming EU policy frameworks appear to deprioritise equality issues, including ageism.

AGE Platform Europe will continue to exchange with older people in Europe, voicing their perspectives as citizens, employees, volunteers, and family carers beyond the FutuRes project.

Participants' ideas for creating a more age-friendly Europe

1. **Fight discrimination and stereotypes,** e.g. by adopting an EU action plan to combat ageism and support a UN convention on the rights of older persons
2. **Ensure adequate income** through age-friendly labour markets, minimum pensions and social protection
3. **Expand care,** meaning home- and community-based care, as well as support services for informal carers
4. **Ensure inclusive digital access**, with support and non-digital alternatives for those excluded
5. **Create age-friendly environments** based on the principles of intergenerational solidarity and fairness

Further reading by FutuRes

Fact: Tech developers ignore older people's needs. *FutuRes Myth Bust by Mona Hille*

Overcoming ageism through education, intergenerational exchange, and law and policies: facts and guidelines. *FutuRes research report by Elena Bastianelli, Ilenia Gheno, Magdalena Kocejko, Jolanta Perek-Białas & Cansu Taşdemir*

The EU should build its policies upon the resilience of older people. *FutuRes Policy Insight by Apolline Parel*

Further reading by AGE Platform Europe

Proposal for an EU action plan to combat ageism. *AGE Platform Europe (2025)*

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“It's a positive thing that people are living longer.
We have to recognise that this is an opportunity.”

Certain Futures
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