Institute and Faculty of Actuaries

Beyond the next Parliament

The case for long-term policymaking

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About the IFoA

The IFoA is the UK's only chartered professional body dedicated to educating, developing and regulating actuaries based both in the UK and internationally. The IFoA regulates and represents over 32,000 members worldwide, overseeing their actuarial education at all stages of qualification and development throughout their careers. We set examinations, continuing professional development, professional codes and disciplinary standards for our members.

Foreword

Rt Hon David Heath CBE, Chair – IFoA Policy Advisory Group

The British government doesn't work as well as it could. That is not a party-political comment, nor a slight on the many dedicated civil servants over the years. It is more an assessment shared by many who have been involved in government, or who are intelligent observers on the outside, that the pressures of the immediate make it difficult to take a longer-term and objective view.

Those pressures arising from the quotidian issues of government have been amplified over recent years by the immediacy of factors such as the global economic crisis and the COVID-19 pandemic. Fire-fighting and planning for long-term resilience are not easy to do at one and the same time. However, dealing head-on with entrenched societal issues such as population health, social care, climate change and resource management are also imperatives.

Coupled with the focus on immediate issues are the weaknesses of governmental machinery. It is hard to take a far-sighted view when ministerial appointments are subject to constant churn. For example, since 2010, we are on our fifteenth minister for housing, our eleventh justice secretary, and our eleventh minister for defence procurement. Sometimes key portfolios are shuffled between government departments; energy, for instance, has been in the care of seven different departments since Harold Wilson's short-lived Ministry of Technology. A kaleidoscopic mosaic of ministries is rearranged on prime-ministerial whim, with never an attempt to provide any economic or management rationale for the decisions, let alone parliamentary scrutiny.

In the absence of capacity to identify threats and opportunities on the horizon there can be no appropriate data and intelligence on which to base decision-making when a new situation develops. I remember raising the need for effective viral pandemic contingency planning in a debate I instigated as a backbench MP, way back in 2003. I say this not to suggest I had an unlikely attack of clairvoyance, but rather that I was voicing a concern common to the scientific and medical community. Whether subsequent governments took appropriate preparatory action I will leave to Baroness Hallett's inquiry to determine.

I faced a similar situation as a minister in perhaps the most data-rich department in government – the Department for the Environment, Food and Rural Affairs. This ministry was well informed and well rehearsed in responding to epidemics of animal disease. However, when a new threat to our natural environment, Hymenoscyphus fraxineus or ash dieback, arrived, we were unprepared. The disease had spread across northern Europe steadily for years; its eventual arrival in the UK was inevitable. Yet we had very little data, no easily applied diagnostic tests, no strategy in place and, to be honest, an underdeveloped approach to plant disease across the board. As a minister, it was hard to take decisions without adequate advice, and it was hard for civil servants to give advice with inadequate data and projections of risk.

That is why this prospectus is both timely and necessary. Actuaries, with their specific skill set, are well placed to assess future risk and advocate for long-term policymaking. They take a rigorous, dispassionate and meticulous approach. They are right to lay down a challenge to politicians of all political persuasions to recognise the need to do better, to scan more distant horizons, to prepare for both probabilities and possibilities, and to do so on the basis of evidence, not wishful thinking. I hope it is a challenge that is understood and met.

Introduction

Kalpana Shah, President of the Institute and Faculty of Actuaries (IFoA)

The world has faced a series of unprecedented challenges in recent years. The crowning of 'permacrisis – an extended period of instability and insecurity, especially one resulting from a series of catastrophic events' as the Collins Dictionary Word of the Year 2022 therefore came as no surprise.

From a global pandemic to Russia's invasion of Ukraine and the subsequent economic upheaval felt around the world driven by surging energy and food costs, we have been living in volatile and uncertain times. Add in underlying threats to society such as the climate crisis, the degradation of our natural environment, increasing global inequality and rapidly ageing populations, and the future of our planet can look bleak.

The UK has faced its own challenges in recent years, adapting to its new role outside of the European Union while also contending with a prolonged period of heightened living costs and a stubbornly stagnant economy. Consequently, the UK Government has been forced to 'don its hard hat' and adopt a firefighting mentality, inadvertently lurching from tackling one crisis to another. There is a reason why Harold Macmillan's famous quote 'Events, dear boy, events' rings especially true today.

As a result, there is a feeling in the current UK political zeitgeist that the long view is being overlooked and that the big issues of our times are not receiving the attention they are due. As long-term risk modellers, the actuarial profession is concerned that without a strategic re-focusing on the big picture challenges that society faces, we risk sleepwalking into further danger. But this does not have to be the case. We are fortunate enough to live in a period where we have at our fingertips the data, projections and models telling us about the risks of inaction and short-termism.

We want to encourage politicians and policymakers to focus on the long term, not just the next parliamentary term. We acknowledge that there are big political, economic and structural barriers to doing so. But the prize for overcoming them is greater and future generations will thank us for our foresight. The certainty that long-term policymaking can give to individuals (see the section 'Reforming social care once and for all') and businesses (see 'Going for growth to build a better Britain') has been missing, but the benefits it can bring to the state, the individual and wider society are immeasurable. Improved horizon scanning, risk profiling, resilience and anticipation of future threats are equally welcome by-products.

> "All democracies struggle with taking a longer-term view … from an investment point of view, we desperately need continuity and clarity from government, and I think that means making really difficult choices, whoever is in power.
>
> We have to be really ruthless about where our strengths are … and there are important signals that government can do now that send important signals for the long term,"
>
> **Baroness Camilla Cavendish, Former Head of the Prime Minister's Downing Street Policy Unit**

> "The big challenges of our age, whether it is tackling climate change, managing an ageing population or harnessing the power of AI for good, will by their very nature require long-term thinking. Actuaries are used to analysing issues over a timescale measured in decades, which provides an important counterbalance to the short-termism that can be inherent in the electoral cycle."
>
> **Sir Steve Webb, Partner at LCP and former Minister of State for Pensions**

As we draw nearer to the next UK general election, there is a golden opportunity to reset the policy agenda, with a focus on the long term, no matter who gains the keys to 10 Downing Street.

So why is the actuarial profession speaking up about this? Actuaries are expert problem solvers and strategic thinkers who use their skills to help measure the impact of future events – and to provide suitable solutions or new ways of looking at what many assume are intractable problems.

Governments, businesses and a diverse range of sectors depend on the skills of actuaries to help them model and plan for the future – and increasingly so. In an uncertain world, risk management is in demand more than ever before, bringing an expertise that can help organisations navigate this rapidly evolving landscape. From pensions, insurance and investment to climate and healthcare, you will find actuaries, as long-term modellers, providing solutions throughout the UK's public and private sectors. IFoA members are also increasingly deploying their skills in broader sectors, such as data science and banking.

Our members conduct public-interest work that affects the financial futures of millions of British people, whether it is performing complex and highly specialist analysis to enable pensioners to receive their pensions or ensuring insurance products are priced accurately for customers and businesses. Moreover, actuaries are also essential in the design and implementation of key policy reforms, including the post-Brexit reform of Solvency II and the future of UK retirement provision. Our members also have a deep interest in upholding intergenerational fairness.

The themes identified in this prospectus report touch on these areas (and others). But they also share the need for immediate thinking in the early stages of the next Parliament and a call for subsequent action to ensure the UK is able to meet the challenges of the next few decades.

IFoA members work at the heart of how we address these challenges. They have the skills, knowledge and expertise to help solve these issues and we hope this prospectus encourages a thorough debate on the benefits of long-termism. So let's get back to focusing on the future.

What does the future hold?

Pensions

2020 – 1.7m
85+
2045 – 3.1m

In 2020 it was estimated that 1.7 million people were aged 85 years and over (2.5% of UK population). This is projected to almost double to 3.1 million by 2045 (4.3% of UK population).[1]

£114.6bn

In the ten years since automatic enrolment has been established, 10.7 million people have started saving for their pensions, and £114.6 billion has been saved.[2]

393 pensioners per 1,000 workers

In 2020 there were 280 pensioners for every 1,000 people of working age. By 2070 this is projected to be 393 pensioners per 1,000 people of working age.[3]

By 2070, life expectancy at birth of males and females is projected to reach 92.5 and 94.6 respectively, reflecting improvements of more than 4 years compared to 2020.[4]

60%

60% of people are at risk of missing out on an adequate standard of living in retirement.[5]

4.1m people

4.1 million of the working age population are projected to have a pension income that falls below the Pensions and Lifetime Savings Association recommended minimum level.[6]

Digital

£803.7bn

Ai

The UK AI market is worth more than £16.9 billion, according to the US International Trade Administration, and is expected to grow to £803.7 by 2035.[10]

73%

73% of consumers told the Bank of England they had used cash in January 2022, up from only around half of customers in mid-2020 (although the pandemic influenced this).[11]

£541pa

Currently low-income families pay up to £541 a year more than higher-income households for basic services due to the poverty premium.[12]

6%

In 2031 there are forecast to be fewer than three billion cash payments made in the UK, accounting for around 6% of all payments.[13]

Growth

£100bn

Meaningful reform of Solvency II rules could create the potential for over £100 billion more in investment to social infrastructure and green energy supply.[14]

Net = £400bn

Up to £400 billion of investment is required in green infrastructure by 2030 if the UK is to meet its net zero target.[15]

Social care

1.6m by 2040

By 2040, 1.6 million older people are expected to be living with dementia in the UK, up considerably from 885,000 in 2019.[7]

£14.4bn extra

The Health Foundation estimates that up to an extra £14.4 billion in social care funding would be required to meet demand by 2030/31.[8]

2.5m days

During the 2017/2019 Parliament, Age UK research found that over 2.5 million bed days had been lost due to NHS shortfalls in social care provision.[9]

Climate

$4tr by 2030

To reach net zero emissions by 2050, annual clean energy investment worldwide will need to more than triple by 2030 to around US$4 trillion.[16]

68% less

Since 1970 there has been a 68% decrease in population sizes of mammals, birds, amphibians, reptiles and fish.[17]

+2°C = £8bn

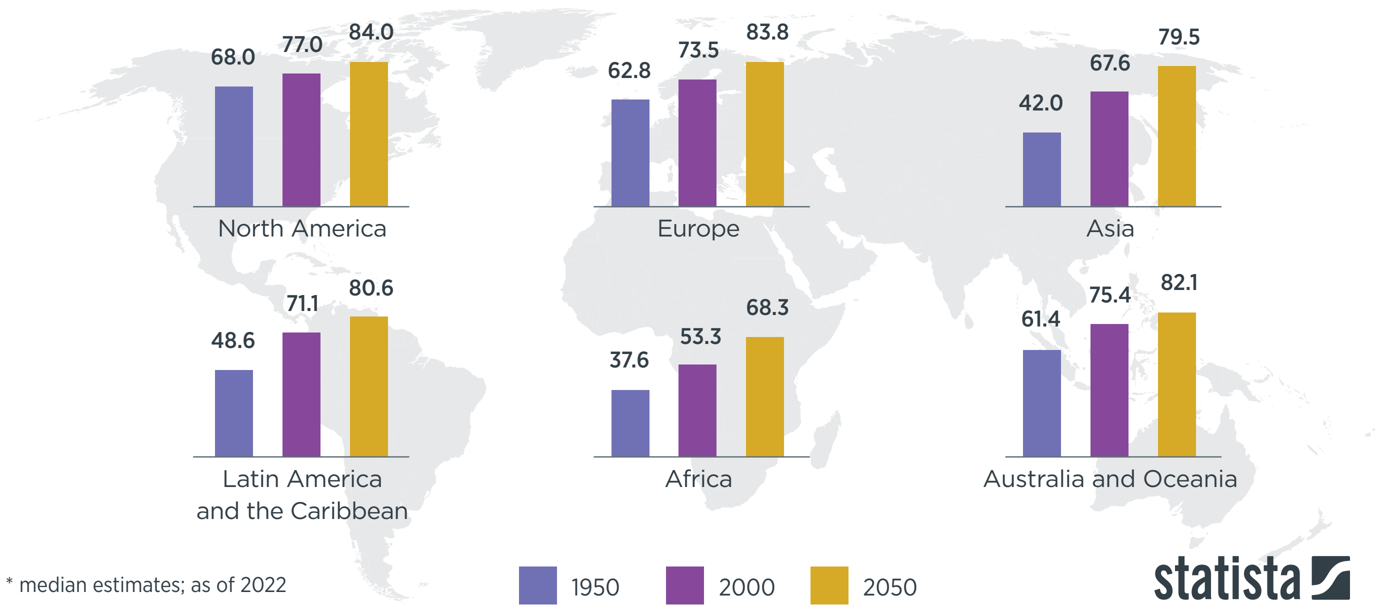
Up to £8 billion in damage could be caused to the UK by 2050 if temperatures rise by 2°C[18]

1: Seizing the longevity dividend

Generally speaking, we are all living longer. Advances in healthcare (including improved immunisation, sanitation and medicine) alongside improved living standards compared to previous generations, as well as changing attitudes to smoking and alcohol, have all contributed to a steady uptick in life expectancy.

Figure 1: Global life expectancy: Closing the gap

Estimated life expectancy at birth for both sexes in 1950, 2000 and 2050, by region (in years)*



* median estimates; as of 2022

Source: World Economic Forum article 'Charted: How life expectancy is changing around the world' (February 2023), authored by Felix Richter (Data Journalist at Statista).

According to the World Economic Forum, global life expectancy at birth for both sexes has improved from 46.5 years in 1950 to 71.7 years in 2022, and is expected to rise to 77.3 by 2050 (see *Figure 1*). Furthermore, the population living to 100 and older is predicted to grow to nearly 3.7 million by 2050, from just 95,000 in 1990.

A study published in 2021, the biological 'hard limit' on our longevity – barring disease and disaster – is as high as 150 years.[1] In the UK, baby boys born in 2020 can expect to live on average to 87.3, with girls expected to live to 90.2. By 2045, cohort life expectancy at birth is projected to increase by 2.8 years to reach 90.1 years for boys, and by 2.4 years to 92.6 years for girls.[2] Likewise, the number of people aged 85 years and over was estimated to be 1.7 million in 2020 (2.5% of the UK population) and this is projected to almost double to 3.1 million by 2045 (4.3% of the UK population).[3]

The fact that we are living longer should rightly be celebrated. But on the assumption that life expectancy will remain high or continue on an upwards, albeit slower, trajectory, the longevity dividend presents us with a raft of questions and policy challenges that developed societies around the world are grappling with. A key question for actuaries is how individuals should finance their increasing longevity and ensure everyone can retire with an adequate pension. Actuaries are at the coalface of the ageing population challenge. Working across the pensions, life insurance, health and social care sectors, IFoA members are central to how individuals manage these risks and have explored this issue in great depth.

The **IFoA's Great Risk Transfer campaign** shines a light on a theme connected to our increasing longevity: the growing trend that sees financial risk that was once managed by the state or large institutions being ceded to individuals. The Great Risk Transfer is a phenomenon that has been taking place over the last few decades but which people have become more aware of in the last few years, manifesting across pensions (as well as insurance, work and care). It poses new challenges to individuals who may not have previously managed the risks that come with greater responsibility, or have the knowledge and skills to do so.

The changing nature of retirement in the UK makes this all the more important. With the decline of defined benefit (DB) pension schemes, the responsibility for investment and longevity risk is increasingly being placed on the individual. While many (but not all) of those in older cohorts are likely to be able to rely on DB pensions to fund some, if not most, of their retirement, younger cohorts will be much more reliant on defined contribution (DC) pensions. Pension freedoms offer savers much more choice and flexibility in drawing down their pension. However, research commissioned by the IFoA, **Freedom and Choice: Public attitudes seven years on**, consistently shows that people are not confident in managing this risk and that they are not always seeking advice and guidance on how to do so.

> "Actuaries are often involved in topics that span decades, such as longevity or adequacy of pensions' provision. For policy to be effective in these areas, it needs to endure over multiple electoral cycles. The IFoA's long-term perspective enables it to identify tectonic shifts, just as it did it in the Great Risk Transfer initiative, and to propose long-lasting solutions."
>
> **John Taylor, President of the IFoA, 2019–20**

In a world where responsibility for funding retirement is increasingly being placed on the individual, there is remarkably little consistent consumer information about how much someone should save into their pension, or what a 'good' pension pot constitutes. As a result, many savers in the UK are sleepwalking towards a retirement that does not meet their hopes and expectations. The IFoA remains concerned that many UK households are not saving enough for later life, are not accessing free guidance or paid-for financial advice, and remain ill-equipped to deal with the risk of running out of money in retirement.

This is backed up by a study from the Department for Work and Pensions in March 2023 which found that 38% of the working age population (12.5 million people) are under-saving for their retirement.[4] Additionally, the Institute for Fiscal Studies calculated that almost a fifth of working-age private sector employees (around 3.5 million people) do not make any pension saving in a given year, and fewer than one in five self-employed people pay into any sort of pension.[5] Addressing this issue will require a long-term, holistic strategy.[6]

UK pensions policy has benefitted enormously from long-termism in the past, demonstrating that it is possible. The 2004 Pensions Commission led to the establishment of automatic enrolment in the UK – arguably the greatest single success in pensions policy in the last 25 years. Automatic enrolment (AE) has been praised for getting more people saving into a pension, with over 10 million new savers now enrolled, something which the IFoA wholeheartedly supports.

Going into the next Parliament, one unanswered question is how much automatic enrolment contribution rates should increase: the answer to which will have significant, long-lasting implications for savers for the coming decades. The stark reality is that current minimum contribution rates of 8% (3% from employers and 5% from employees) are unlikely to be sufficient for many individuals to secure the standard of living they may want or expect.

The IFoA recognises that changing consumer behaviours can be difficult and that, often, it is more pragmatic and effective to change the financial system to make it work better for consumers and society. The IFoA strongly urges the next government to review the minimum AE contributions, and to consider carefully how overall saving could be increased, noting that there are various ways of achieving this other than by simply increasing the employee and employer percentages. We acknowledge that there are several ways to tweak the structure of AE contributions and that these too should form part of such a review. Initiatives such as the Institute for Fiscal Studies Pensions Review in partnership with abrdn Financial Fairness Trust and recent work by the Work and Pensions Committee through its inquiry on saving for later life are good starting points for government.

Increases in savings levels will depend on consumers' individual decisions, but the signals they receive from relevant institutions are likely to have a significant influence on those decisions. Employers can play an important role by paying more than the minimum, eg on a matching basis. If enough employers did so, this would help to create a public shift in the perception of 'normal' or 'adequate' contributions, albeit on a voluntary basis.

In advance of this, there is a clear need to raise awareness of the importance of pension saving, and the potential impact of under-saving on individuals' lifestyles and wellbeing when they retire. At present, there is no consistent public narrative or nationally recognised amount to help individuals understand how much they need to be saving into their pension each month to secure a 'good' retirement. The IFoA's ***Savings goals for retirement*** report aims to address this.

Our analysis is based on the Pensions and Lifetime Savings Association's Retirement Living Standards, which set out the cost of three distinct lifestyle levels of retirement: Minimum, Moderate and Comfortable. We have identified three savings goals, linked to these three living standards:

1. People saving at the minimum level mandated by automatic enrolment, and with a full National Insurance record, should be on track to achieve the 'Minimum' retirement living standard.
2. Someone on average full-time earnings will need to save around a quarter of their income (26%) to be on track to achieve the 'Moderate' retirement living standard.
3. Someone aiming to achieve the 'Comfortable' retirement living standard will need to save more than double what they'd need to save if aiming for a 'Moderate' living standard.

Great Risk Transfer Pensions Recommendations[7]

Pension Wise

We recommend that the Financial Conduct Authority should set a specific and ambitious target to achieve a significant increase in take-up by individuals of Pension Wise appointments before accessing their pension.

Pensions Dashboards

We recommend that the Money and Pensions Service Dashboard Steering Group should give high priority to how retirement income will be estimated and presented in a consistent way on dashboards, taking account of the wide range of products in the market and assumptions adopted.

Adequacy of pension contribution rates

We recommend that the government should reinvigorate its public messaging around minimum pension saving levels – particularly through workplace auto-enrolment pension schemes – to ensure that consumers are not lulled into a false sense of security as to whether their pension saving will be adequate to achieve their retirement income goals. In doing so, government should use expertise and evidence on testing behavioural responses to different messages and channels, to identify those that are most effective in impacting saving behaviour.

Decumulation Pathway

We recommend that the government consider the introduction of default decumulation pathways as an option for all, and as a safety net for savers who cannot, or will not, engage with the decumulation process when entering retirement. Ideally, this would cover not only contract-based pension schemes but also trust-based pension schemes, since the latter may increasingly provide decumulation solutions.

These savings goals indicate that people need to be saving well above the automatic enrolment minimum if they are to achieve a 'moderate' standard of living. This is defined as 'being able to access a range of opportunities and choices, have a sense of security and the option to do some of the things that they would like to do'. The IFoA is concerned that people are not on track to achieve this and might not be aware of the problem or what they need to do to address it.

When compared to the AE minimum contribution levels, the figures in our report are high – and during the current cost of living crisis may be both unpalatable and unfeasible to many. However, we believe they are robust and demonstrate the need for an urgent debate among policymakers, employers, commentators and the pensions industry, and that individuals need to act.

While recognising that these numbers will appear daunting to many people, we believe it is in the public interest to show savers of all ages the impact that under-saving will have on their eventual retirement prospects, but also to advocate for solutions.

Naturally, the next UK Government will need to address the adequacy question as part of a wider pensions strategy for the UK that also considers big questions such as the sustainability of the State Pension and the triple lock. There are many promising interventions that will support the current and next generation of savers, such as pensions dashboards, alongside sources of information and guidance, for example Pension Wise. The foundations are in place to support greater pensions adequacy; we need to build on what is already there. IFoA members are well-placed to inform the debate around these issues and stand ready to share their knowledge and expertise.

2: Reforming social care once and for all

Reform of adult social care in England is long overdue. For over two decades, despite a litany of green and white papers, commissions and expert panels, successive governments of all parties have failed to instigate meaningful reform of a system that has been in a constant state of crisis.

The pressures facing the health and social care system are well documented and are largely driven by the UK's changing demographics. Consequently, it is increasingly likely that more and more people will require long-term care in later life. The uncertainty of a complex funding system that is frequently promised reform makes it difficult for many individuals to understand and plan for potential social care costs that they will be expected to meet. For those with the most severe care needs, these costs can be eye-wateringly high: the UK Government estimates that one in seven adults aged 65 faces lifetime care costs of more than £100,000.

While life expectancy has improved, improvements in healthy life expectancy have not. Between 2017 and 2019, females could expect to spend around 20 years in poor health (24% of their lives), with men spending 17 years in poor health (21% of their lives),[1] up from 18.1 and 15.4 years respectively since 2000–02.[2] Research also suggests that the prevalence of multi-morbidity (the presence of two or more chronic conditions) is forecast to rise, not just in the retired population, but in younger age groups as well. COVID-19 will continue to exacerbate the pressures already placed on the social care system and the NHS.

The level of funding within the care system continues to be an ongoing concern. Despite the Autumn Statement 2022 pledging up to £2.8 billion in 2023–24 and £4.7 billion in 2024–25 to help support adult social care and hospital discharge,[3] this is dwarfed by a social care system that has long been under-resourced as local authority budgets fail to keep pace with rising costs and the demographic pressures of rising numbers of older and disabled people with complex care needs. In 2021–22, total spending by local authorities on adult social care was £2.5 billion more in real terms than in 2010–11. However, this increase reflected extra short-term funding during the COVID-19 pandemic. Immediately prior to the pandemic, spending per head had, in fact, fallen compared to 2009–10.[4] Meanwhile, the old-age dependency ratio, or the number of people of pensionable age for every 1,000 people of working age, is projected to rise from 292.37 in 2023 to 372 by 2043.[5] Combined, these trends point towards increased pressure on public services, as the number of people using these services exceeds those paying into the system through general taxation.

Pressures on the social care system are only going to increase. The National Audit Office estimates that between 2018 and 2038 the total costs for care are projected to rise by 90% (to £18.1 billion) for adults aged between 18 and 64, and by 106% (to £37.7 billion) for those adults aged 65 and over.[6] Likewise, a 2021 report from the Health Foundation found that by 2030–31 up to an extra 627,000 social care staff would be needed to improve services and meet need – a 55% growth over the decade and four times greater than the increases of the past ten years.[7]

Shortcomings in social care provision are also placing a significant burden on the NHS. During the 2017–2019 Parliament, research from Age UK found that over 2.5 million bed days had been lost in the NHS due to shortfalls in social care provision. Over the same period, these delayed discharges cost the NHS a total of £587 million, or £27,000 every hour.[8] This should not be seen as older people creating a 'burden' on health and care services, but as evidence that the system is inadequate.

Changing societal attitudes towards the older population and new family dynamics are also significant factors. Compared to traditional structures four or five decades ago, families tend to be more geographically spread, therefore care is often provided by the partner, who is also elderly. The number of 'informal' carers is rising too. Carers UK estimate there could be as many as 10.6 million individuals providing informal care in some form.[9] Consideration therefore needs to be given as to how best to support partners and/or families to provide care at home for a longer period, in order to reduce the pressure on public services and to give individuals a better quality of life. The inevitable strain this will place on the intergenerational contract only emphasises the difficult questions facing policymakers around who should and who is able to pay to fund the increasing demand for care.

Actuaries have been involved in quantifying and managing long-term care risk in the insurance context since the 1990s, but were assessing mortality, morbidity and investment risk long before then. Over recent years, IFoA members have produced a number of research reports on the sustainability of adult social care funding; in particular, analysing the costs for self-funders and the balance between state and personal funding.

2018		2038
Care for adults 18-65	→	Cost 90% up - £18.1bn
Care for adults 65+	→	Cost 106% up - £37.7bn
2021		**2030-31**
Care staff	→	627,000 extra needed

It is evident that social care requires urgent attention and action to address the funding challenges set out earlier. While the UK Government has committed to more funding in the next Parliament, fundamental reform is needed across the system to fix the problems facing it and to future-proof it against the pressures it will inevitably face as the population continues to age.

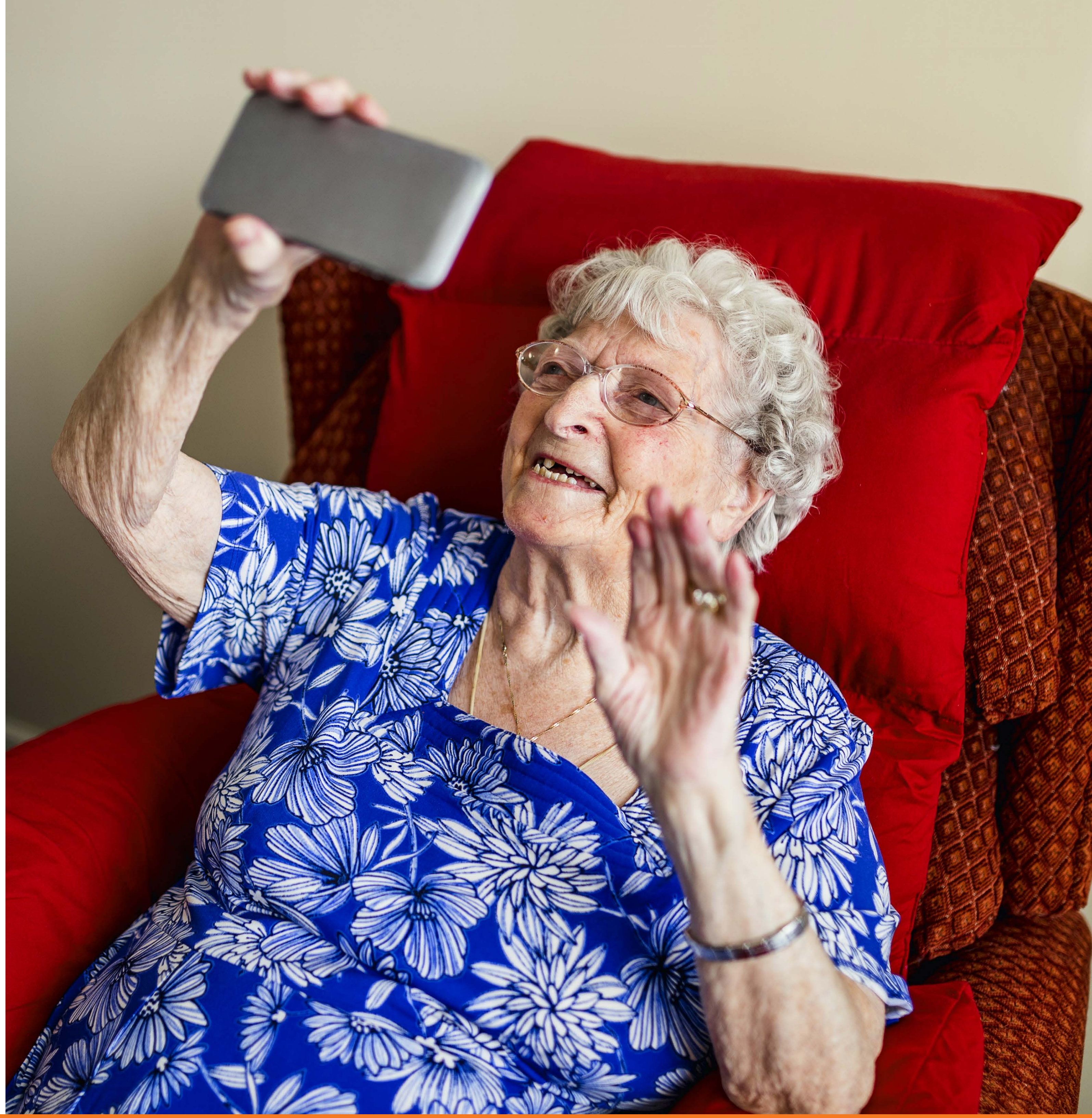
In light of this, we believe the UK Government should consider the following principles to ensure the next Parliament marks the beginning of the end of the road to reform:

It is essential that the next government sets out a clear strategy for tackling social care in both the short and the long term. Older generations requiring care should not fall victim to another decade of political inactivity. We urge policymakers to make reform of social care a priority in the next Parliament, to ensure recipients of care (and their families) are treated with dignity in a system that is fair, sustainable and affordable.

Principles for Reform

- Efforts should be made to improve the public's understanding of the risks and costs associated with social care (as well as the solutions) and to clearly outline who is responsible for meeting any potential needs, i.e. the state or the individual.
- Given the diverse needs and circumstances of those requiring care, the government should consider multiple funding solutions. These might include one (or more) solution(s) for those already in retirement or with care needs, and one (or more) for the working population with potential future care needs.
- A combination of approaches will avoid exacerbating issues around intergenerational fairness. We would caution the government against asking younger generations to bear a disproportionate amount of the costs of supporting future older generations, particularly given the projected shrinking tax base over the coming decades.
- It is unlikely that there will be a universal 'silver bullet' product solution. However, there are a range of both insurance and savings-based financial products that already exist on the market that could be suitable for certain parts of the working population, depending on their wealth, assets, risk appetite and health. These include immediate needs annuities, life insurance-style 'care riders', income from retirement savings and equity-release products.
- The government should consider how it can help remove any existing barriers associated with the use of insurance and savings-based products and solutions, particularly for those who are able to self-fund, as well as how older people could effectively and efficiently use the wealth they may have accumulated through property and pension assets.
- The government should introduce as soon as possible a more generous means test to widen access to the state-funded system of care and to reduce the disincentives to save for those with lower levels of assets.

> "We hope that our profession's expertise, through the lens of our public interest remit, will provide an objective and impartial assessment of the options facing the government, in order to achieve truly long-term, sustainable reform that ensures our ageing population is adequately cared for in old age."
>
> **Jules Constantinou, President of the IFoA, 2018–19, and former member of the government's social care green paper expert panel**



3: Protecting our planet for generations to come

Climate change, driven by human activity, is happening more quickly than expected, with impacts already being felt by billions.[1] This damage will become more severe as the climate continues to warm. The impacts of climate change are global and systemic. There are significant risks – and beyond risk, uncertainty – for the biosphere and the functioning of our societal, economic and financial structures.

Addressing climate change is the quintessential example of an issue that requires a long-term view, with action needed immediately to ensure our planet's survival. If policymakers do not grasp the nettle early in the next Parliament, the planet faces an extraordinary challenge. The UK demonstrated great leadership on the international stage when it hosted COP26 in Glasgow. It needs to back up the leadership demonstrated then with action now. This section highlights the ways in which IFoA members can support the action that is required.

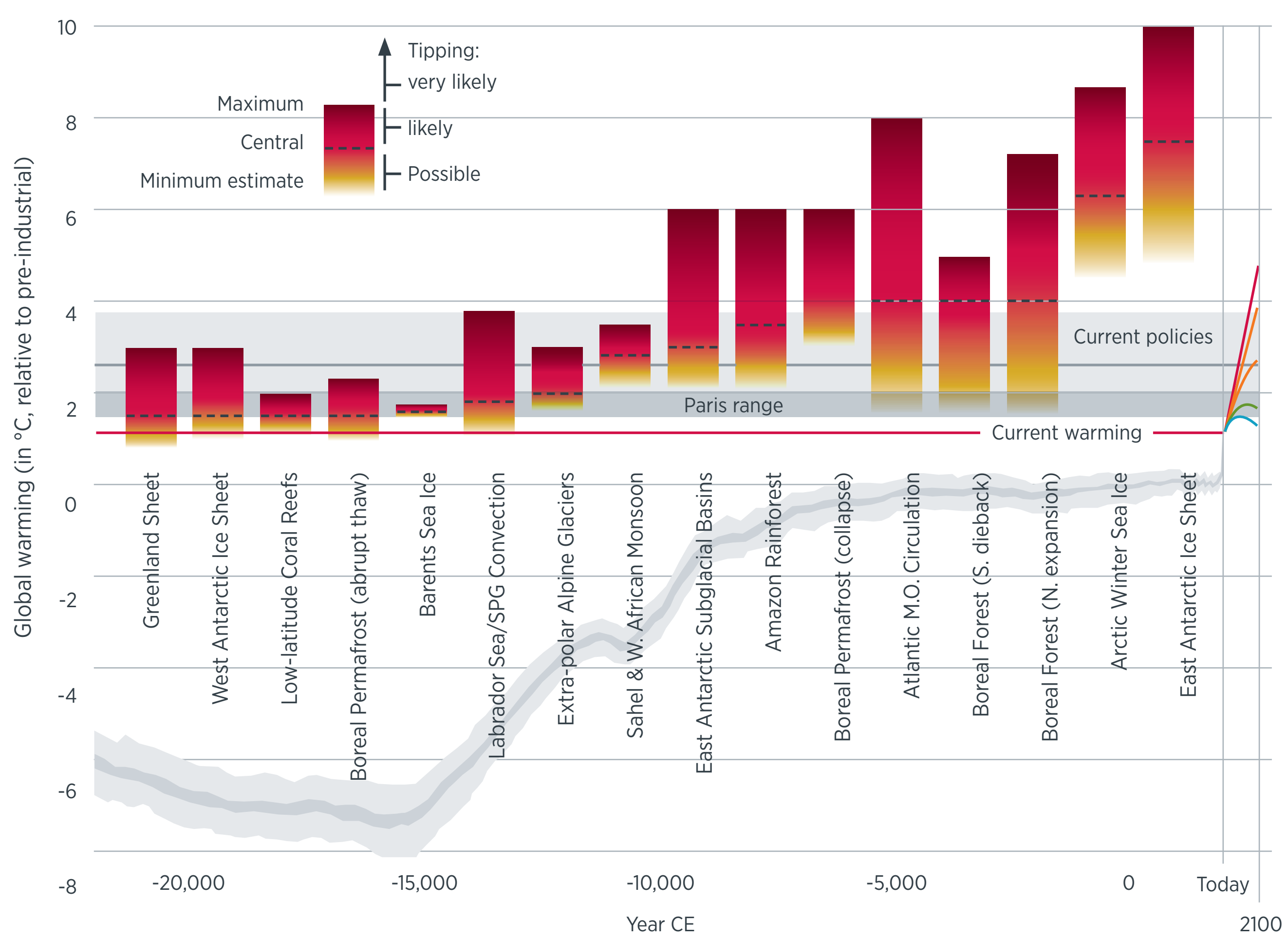
Climate change is a risk-management problem on a global scale. Analysis shows that although we have the solutions needed to mitigate climate change, we are not currently taking action fast enough to avoid the catastrophic impacts that would be experienced if we allow global temperatures to continue rising. Tipping points mean these impacts are closer than we previously thought. Hence, climate change is a material risk to our planet and, ultimately, our survival.

Actuaries have spent more than two centuries developing techniques for managing risk and uncertainty over long timescales. Our members can inform the policy debate on how risk-management techniques can be applied to the climate-change problem, including how to plan for the low-probability, high-impact risks of climate breakdown. These "tail risks" are complex, poorly understood and too often sidelined in policy formulation. Actuaries have always had a public interest duty and we are determined to contribute our professional skills and insight to this debate, not just now but in the years to come.

In the last year, IFoA members, in collaboration with the Climate Crisis Advisory Group (CCAG) and Exeter University's Global Systems Institute, have authored two major reports to inform thinking, and action, on climate policy.

Our first report **Climate Emergency: Tipping the odds in our favour** calls for policymakers and stakeholders to take a risk-management approach to identify, measure and mitigate the effects of further temperature rises. This will support the broader effort to build resilience and climate adaptation into national and international systems as extreme events become more frequent.

Figure 1: The likelihood of tipping points being triggered for different global warming temperatures



Source: McKay et al, Exceeding 1.5°C global warming could trigger multiple climate tipping points, 2022. Reproduced with permission.

Our second report **The Emperor's New Climate Scenarios** examines the limitations and assumptions in relation to climate-change scenario modelling practices in financial services, focusing on hot-house world scenarios of 3°C or more of warming. It demonstrates how current techniques exclude many of the most severe impacts we can expect from climate change, such as tipping points and second-order impacts – they simply do not exist in the models. The consequence of this is that the results emerging from the models are far too benign, even implausible in some cases. It's as if we are modelling the scenario of the Titanic hitting an iceberg but excluding from the impacts the possibility that the ship could sink, with two thirds of the souls on board perishing.

The cost of delay is high. Failure to take timely action on emissions is likely to lead to more costly and disruptive remedial action at a later date, as well as earlier and more severe climate impacts. Early action on emissions will improve future options and allow more time for more effective adaptation to future adverse climate impacts.

We support the '3Rs' of CCAG. We need to **Reduce** emissions, **Remove** greenhouse gases from the atmosphere and **Repair** the Earth's natural carbon cycles. Climate action needs to recognise nature as an important ally, embed justice and equity as central objectives, and ensure we adapt to the changing climate we already face.

Private finance has a critical role in financing climate mitigation and adaptation. We recognise the opportunities of climate action and the transition to net zero. We are neither climate doom-mongers nor climate appeasers. As a profession, we are long-term probabilistic thinkers and advisers who see it as part of our public duty to help humanity avoid the risk-management failure that climate breakdown would represent.

Biodiversity

The IFoA also recognises the significant social, economic and financial risks posed by biodiversity loss. Biodiversity loss is intrinsically linked with climate change. Climate change has already altered terrestrial, freshwater and ocean ecosystems at a global scale. Unique ecosystems are expected to be at high risk in the very near term at 1.2°C global-warming levels due to mass tree mortality, coral reef bleaching, large declines in sea-ice dependent species and mass mortality events from heatwaves.

> "Actuaries have played a huge role in enabling critical societal solutions like pensions and insurance. We have an equally important responsibility to now play an active role in addressing the sustainability challenge – where our long-term thinking, financial system understanding, risk management mindset and probabilistic reasoning combine powerfully to complement climate science and communicate risks clearly to regulators and policymakers."
>
> **Sandy Trust, former Chair of the IFoA Sustainability Board**

The potential impacts of biodiversity loss are global and systemic. The loss of biodiversity threatens the health of ecosystems that provide services to the economy, including animal pollination of food crops, natural water treatment and fertile soil, and has significant implications for the population's health, longevity and the entire financial system. The World Economic Forum estimates that US$44 trillion, or over 50% of global GDP, is moderately or highly dependent on nature, and ranks biodiversity loss and ecosystem collapse as its fourth greatest risk over a 10-year time horizon in its 2023 global risks report.[2]

The risks associated with the destruction of the environment and loss of biodiversity are hard to quantify due to their long-term, uncertain and intangible nature. Mitigating this risk is urgent. The IFoA supports the aims of the UN Convention on Biological Diversity, which sets out to conserve global biological diversity, the sustainable use of its components and the fair and equitable sharing of its benefits. We support the aims of the 2022 Kunming-Montreal Global Biodiversity Framework and seek to support our members in the achievement of its goals and targets.

The IFoA is a signatory of the Sustainable Finance Education Charter, the UN's Principles for Responsible Investment, and the UN's Principles for Sustainable Insurance. We will continue to work with these and other organisations, such as the Taskforce for Nature Related Financial Disclosures (TNFD), to better align the finance system with an understanding of biodiversity risk.

Actuaries can play a key role in shaping future financial systems and leading positive changes for the management of these risks. We are a profession specialising in risk management, and climate change is one of the greatest risks facing our world today. Mitigating this risk is urgent. Future outcomes are uncertain, but the best value insurance premium that society can pay is to reduce our emissions today. We look forward to working with all stakeholders on this shared objective in the next Parliament.

As part of the IFoA Biodiversity Commitment published in July 2023, the IFoA will:

- Advocate for the development of effective policy frameworks worldwide and methods for managing biodiversity risk including by understanding the unintended consequences of the concept of natural capital and different valuation metrics.
- Use the actuarial skill set and influence to help equip the wider global financial services markets to fully incorporate biodiversity risk.
- Support actuaries in their understanding of biodiversity risk through a set of think pieces, webinars, educational resources and blogs.
- Advocate for better disclosure of consistent and robust information about biodiversity risk by corporates and other market participants.
- Support collaborations between its members and other organisations to help develop and align national and global financial systems with a just, sustainable economy that manages biodiversity risk and seeks to enhance the natural environment.

4: Going for growth to build a better Britain

As the Global Infrastructure Investor Association neatly puts it, 'modern infrastructure keeps cities moving, lights on, homes warm, children educated, populations healthy and rural communities connected. It's crucial to quality of life as well as to successful economic development'.[1]

> "The financial services sector is undergoing fundamental transformation: the transition from cash to digital payments, the integration of ESG risks into investment strategy, and the improvement of access to productive assets such as infrastructure. The objectivity and long-term financial modelling skills of actuaries promote both strong risk management and financial resilience, creating benefits for the individual and society as a whole."
>
> **Clara Hughes, Chair of the IFoA Finance and Investment Board**

However, globally, there is a backlog of infrastructure projects. In 2020 annual investments in infrastructure, combining public and private-sector financing sources, were around US$2.7 trillion, leaving a gap of US$0.7 trillion. The gap is even larger if 2050 net-zero emissions commitments are considered, as it is estimated that around 60% of emissions come from the energy and transport sectors.[2] In the UK, a similar investment gap exists and we risk becoming globally uncompetitive. Research from the Institute for Public Policy Research estimates that between 2006–2021 the UK contributed £562 billion less to business investments than other comparable wealthy countries.[3] This half-a-trillion-pound spending shortfall ranks the UK behind all other G7 countries, and puts it 27th out of the 30 OECD nations, with only Poland, Luxembourg and Greece investing less.

So why does this matter? Infrastructure investment is critical in driving growth and integral to supporting the UK economy. With the UK's existing infrastructure becoming older – some of it well over a hundred years old – we are at risk of not being able to support our growing, and ageing, population.

Over the longer term, the effects of climate change could also have a major impact on the availability of energy and natural resources, particularly water. The potential impacts of climate change make adaptations of existing infrastructure essential to delivering national resilience. The availability of housing, especially in the UK, is a longstanding issue. Against this background, investing in infrastructure represents an opportunity to re-engineer the UK's delivery and consumption of these and other essential resources and services, putting the adoption of new technologies at the heart of the debate. However, in light of recent economic pressures, the capital to support such infrastructure investment is in short supply. The UK Government, private and institutional investors, and UK citizens, all face difficult questions and choices – but short-termism must not prevail.

Although infrastructure projects help to generate economic growth, there is often a shortage of available capital to get them off the ground because that growth is only in the future. Cuts to capital expenditure are easier to make than cuts that will affect existing resources or services, and which will be felt immediately by voters. When economic conditions are tough, governments have less available capital and a harder challenge in selling higher taxes or infrastructure charges to the public, so the supply of public–private projects decreases.

Even though there is evidence that infrastructure development can promote growth and job creation, governments may be forced to defer such funding until the national balance sheet looks healthier. Although governments may be partially able to finance infrastructure projects, given their capital constraints they also need to attract investment from the private sector. What then prevents private investors from viewing infrastructure as an attractive asset class in which to invest?

One possible reason is that many large infrastructure projects do not get off the ground because government and institutional investors have a different perception of the risks and returns associated with these kinds of projects. A government's return thresholds might be lower than private sector thresholds for viable infrastructure investments. However, the government does not have unlimited capacity to finance projects at low costs since its cost of funding can become considerably higher in certain circumstances. A government might therefore choose to seek a reasonable amount of private-sector financing to support overall infrastructure needs, but it should only do so with a realistic attitude which recognises that, in order to invest, the private sector will need to be able to achieve a reasonable return. The IFoA, through its Infrastructure Working Party, has been engaging with various stakeholders including the UK Infrastructure Bank, the Association of British Insurers and the Infrastructure Projects Authority, about ways to make public–private partnerships more attractive for both investors and public authorities.

Two other reasons may exist for lack of private investment appetite. First, for many investors it is important to have a sustainable 'pipeline' of infrastructure projects so that this asset class can fit into a coherent, long-term investment strategy. Second, investors are more likely to commit funds to a project if it is 'bankable', meaning that it meets the requirements of the financier for them to provide capital. Potential financiers – banks or companies – need to see evidence of a project's feasibility. This is not always just in narrow financial terms but can also be in terms of social, economic, technical, environmental and administrative factors. There should also be a clear sense of the project's purpose and objectives. In relation to project proposals, a UN report has noted that 'understanding the requirements of a financier is therefore key to being able to leverage investment from one'.[4]

The impact of Solvency UK

Insurers and pension funds can play a pivotal role in stimulating economic growth and development by investing in essential infrastructure assets. However, the rules that dictate how much capital insurers must hold to meet claims has often been seen as a barrier to greater investment.

Solvency II is an EU directive, retained in UK law, that regulates the insurance industry and outlines the amount of capital that insurance firms must hold to reduce the risk of insolvency. Following the UK's departure from the European Union, the UK is now exercising its freedom to move away from EU regulatory standards.

The transition from Solvency II to 'Solvency UK' provides a once-in-a-generation opportunity to turbocharge much-needed investment in key infrastructure projects, in such a way that it will support the UK's bid to be net zero by 2050. The regulatory reforms currently underway to adapt the previously pan-European regime to a bespoke UK model will allow insurance firms the ability to invest in said projects with greater ease and with greater capital. The Association of British Insurers estimates that meaningful reform of Solvency II rules could create the potential for over GBP£100 billion more in investment to social infrastructure and green energy supply over the next ten years.[5]

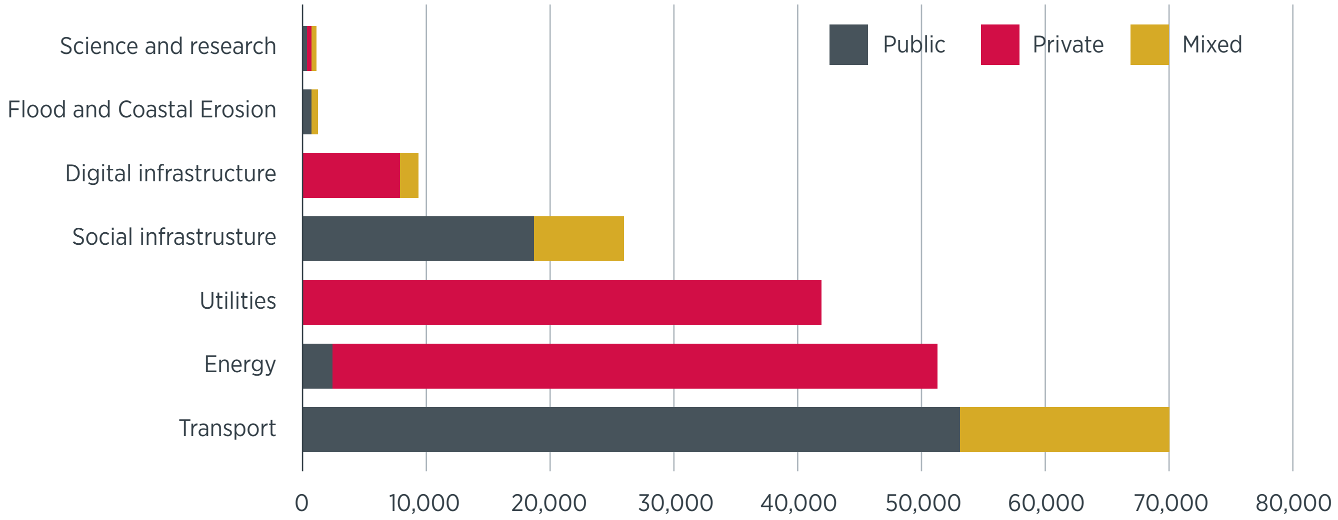
In doing so, it will enable billions of pounds to be invested in projects that will support our race to net zero, drive growth and create the kind of infrastructure required to address wider issues, such as the UK's housing crisis. The IFoA fully supports the UK Government's underpinning objectives of its review of Solvency II, including the need for a prudential regulatory regime which fosters innovation and international competitiveness, appropriate policyholder protection, soundness of firms, and facilitates long-term infrastructure and 'green' investment. Getting the balance right in these reforms will be essential in providing confidence for long-term investment.

How can the government address the infrastructure investment gap?

The UK Government has a key role to play in making particularly large or complex infrastructure projects attractive to private investors, from regulatory mechanisms to full government guarantees. For example, the UK Infrastructure Bank offers guarantees to qualifying infrastructure projects backed by the Sovereign Infrastructure Guarantee (SIG). The SIG is an agreement between the Bank and HM Treasury that allows the Bank to issue sovereign-equivalent guarantees to qualifying projects, which can enable private-sector investment, reduce barriers to investment, aid the scaling of proven technologies, increase market capacity and address liquidity issues. The guarantees can also cover construction risks, such as credit to cover replacement costs for a failed contractor.

The government also dictates the pipeline of infrastructure projects that are deemed important to implement over the next few years (see *Figure 3*). This gives the government strategic influence over the types of project it wishes to prioritise.

Figure 3: Funding mix of planned investments in the pipeline from 2021/22 – 2024/25 by sector (£'m)



Contains public-sector information licensed under the Open Government Licence v3.0. Specifically, Chart 6 from the Infrastructure and Projects Authority report 'Analysis of the National Infrastructure and Construction Pipeline 2021'

Electoral pressures can sometimes lead elected representatives to have much shorter time horizons than infrastructure investors; this can make investors wary, even when seemingly generous government support is on offer. For example, in 2015 the UK Government reduced subsidies for householders to install solar power. The government explained that the market was establishing itself and its costs were falling, hence the decision reflected the desire for 'a low-carbon energy sector that can stand on its own two feet rather than relying on subsidies'. While a reasonable rationale, the wider problem is that investors value political stability and struggle to factor political uncertainty into their long-term decisions.

One further role for government is to make the investment process easier by simplifying administration as far as possible, facilitating access to projects for the maximum possible range of investors, and ensuring that potential investors have adequate and accurate information. Such measures would allow investors to make more accurate assessments of the risks involved.

Actuaries' training and practical experience gives them a deep understanding of problems involving finance, risk and long-term horizons. This makes them well-placed to study some of the issues discussed in this section. However, since few actuaries are infrastructure specialists, collaborative efforts between actuaries and non-actuaries are likely to be most effective. We therefore look forward to working with colleagues across the industry and political spectrum to identify the right levers with which to drive growth across the UK through long-term infrastructure investment projects.

Recommendations for government

- To develop a sustainable 'pipeline' of infrastructure projects so that this asset class can fit into a coherent, long-term investment strategy.
- Policy should recognise that institutional investors differ from the public sector in how they perceive the risks and returns associated with potential projects.
- Funding models should recognise that investors with greater risk appetites will tend to get involved in projects at an earlier stage than investors who are more cautious.
- Now that the UK Infrastructure Bank is well established, it has a major opportunity to reverse decades of underinvestment and promote long-term planning and greater certainty for investors.
- The government and the Prudential Regulation Authority should take full advantage of UK regulatory changes to promote more infrastructure investment by insurance companies.

5: Keeping pace with rapid digital transformation

We are living through a period of rapid digital and technological change. The sheer amount of data being produced and processed boggles the mind. More data has been created in the past two years than in the entire previous history of the human race.[1] Much of this data is being recorded in new ways and advances in technology mean that it can be stored and analysed much more quickly than in the past.

Technology can now perform tasks in ways akin to sci-fi films: from AI-powered artificial insects or 'RoboBees'[2] developed for use in crop pollination in farming or disaster management, to computer software that can now predict the outcome of the Oscars with 90% accuracy.[3]

In the financial services sector, the opportunities presented by the proliferation of data and digitalisation are exciting, for both the customers our members serve and IFoA members themselves, including improved access to information, innovation, personalisation and automation, to name just a few. Practical examples include the rise in the number of home gadgets connected through networks to each other, all generating data and communicating with us, such as in-home heating systems making efficient use of energy within 'smart' homes. Technology is also transforming fitness regimes with the increasing popularity of wearable devices that monitor exercise regimes and provide data on wellbeing. Insurers are already seeing opportunities from these particular examples applied to home and health insurance.

But there are also challenges, particularly around questions of regulation and ethics. Recent advancements in artificial intelligence (AI) and its potential power further emphasise the need for these debates. This section considers some of these issues and identifies where actuarial thinking could support current and future policymaking in this exciting space, which is destined to have far-reaching consequences over the coming decades.

Artificial intelligence (AI)

The use of AI is already offering a range of societal benefits, from increased accuracy in risk assessment and greater data cleansing to automation of routine tasks. AI could also help provide wide-ranging societal benefits, such as climate-change risk modelling and analysis, and in healthcare settings to tackle cancer.

However, it can also generate or exacerbate a range of challenges, which are very relevant to the wider public interest. One potential challenge with a regulatory definition of AI is that given the ongoing rate of technological progress it may become invalid, irrelevant or outdated quite quickly. A further challenge is if an AI definition adopted were too complex, specific or constraining, it could restrict the scope of corresponding regulation and may also create potential loopholes. As an alternative, we suggest devising a simple, broad principles-based description of what is meant by AI.

One key general risk is that firms may use AI outside their 'zone of competence' and inadvertently open themselves up to a range of unintended consequences. This is plausible given the rate of technological progress in AI, or where there is a dependency on external parties in procuring AI infrastructure.

Specific key risks also include:

- **An increase in financial and insurance exclusion** – a potential downside of the greater accuracy in risk assessment.
- **Conduct risk** – i.e. unfair treatment of customers by an algorithm because there is a bias within it.
- **Modelling risk** – i.e. a model is so complex it becomes opaque to model users.

Furthermore, AI could also be associated with discriminatory decisions, including in respect of individuals with protected characteristics. Although such discrimination could be inadvertent, this does not lessen any consumer harm. One potential mitigant of bias in models and their data would be for firms to undertake robust testing, although there may be a limit on how much testing can be accomplished every time a model is updated.

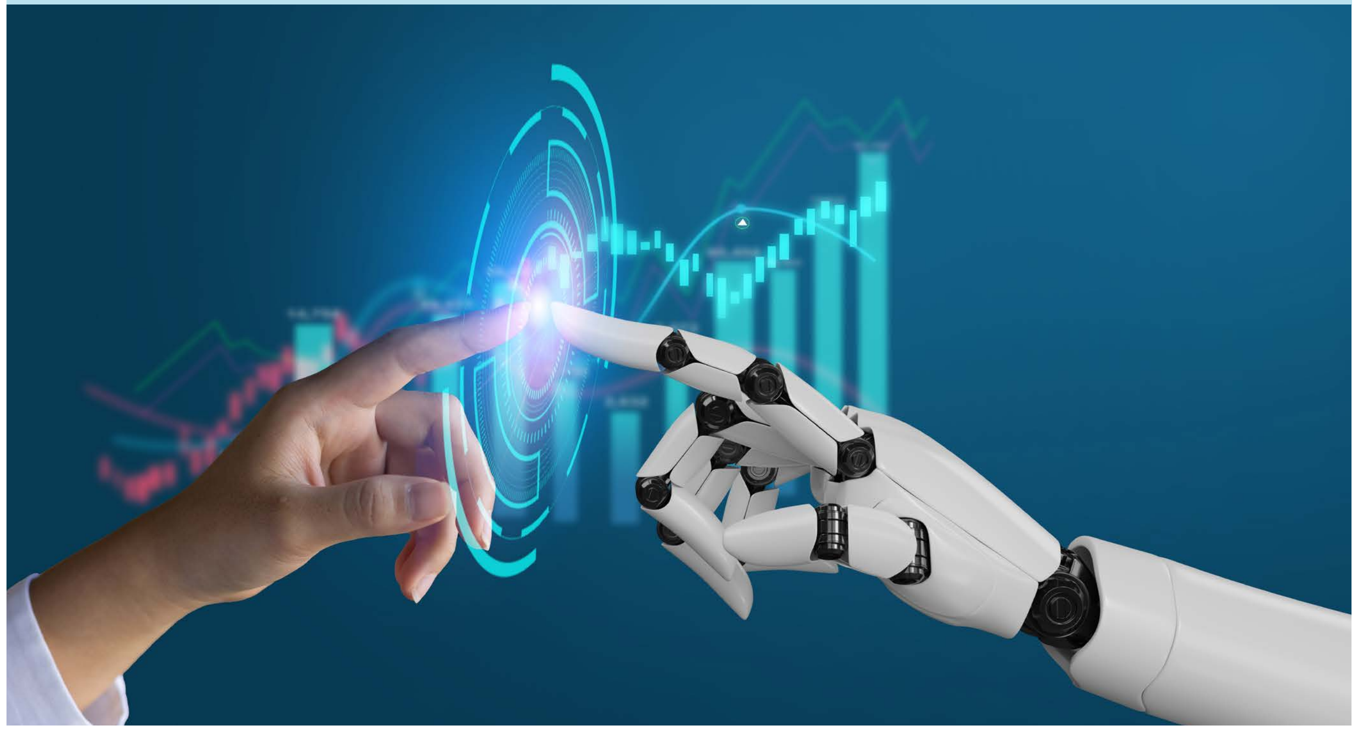
Debates around the regulation and ethical use of AI are likely to be driven by the continuing rapid pace of evolution in this space. Although we have not identified any current regulatory barriers, it is important that any regulatory framework for AI balances proportionate management of risk with encouragement of innovation. We welcome the UK's ambition to become a world-leader on AI and support the regulatory approach it is adopting. We hope our members' insights can usefully inform this approach.

Data science

For such a transformative concept, data science is often not well defined or understood. This does not seem to inhibit its influence, but reflects the shifting, evolutionary nature of the concept. Data science describes a broad multidisciplinary field that uses scientific methods, processes, algorithms and systems to extract knowledge and insights from structured and unstructured data. It employs techniques drawn from many fields within the context of mathematics, statistics, computer science and information science. The 'data sciences' include, or associate with, more focused disciplines: AI, big data, data analytics, data analysis, data mining, machine learning, robotics, data visualisation, predictive modelling and deep learning.

Data science skills combine domain expertise, programming, software tools and knowledge of mathematics and statistics to extract desired insights from data – insights that can be translated into tangible and quantifiable business value, such as market intelligence, risk assessment and executive decision-support.

> “Advancement in the field of AI and availability of enriched data is continuing to increase model accuracy, resulting in improved business results. While these innovations are exciting and more than welcome, this should accompany understanding of the models and their implications among decision makers, supported by robust validation. Practitioners must leverage algorithms for equitable social impact alongside improved performance.”
>
> **Atreyee Bhattacharyya, Chair of the IFoA Artificial Intelligence and Automation Working Party**



The impact of data science on enterprise operations is everywhere to be seen. Affordable, high-performance computer power brings data science applications within reach of the commercial mainstream. Digital disciplines once regarded as exclusive specialisms are bursting onto digital transformation agendas across all vertical sectors.

Actuaries, whose professional skills are predicated on the analysis of data to assess and predict outcomes, occupy a unique position. In many ways their job roles anticipate the outcome-shaping capabilities data science provides and puts them in pole position to turn disruptive change to their ultimate advantage. Similarities between actuaries and data scientists mean that there’s been growing consideration of how – and where – the two skill sets intersect.

For some time, actuaries have been applying data science to a range of insurance developments, including telematics devices in motor insurance, wearable fitness devices in health and care insurance, and advanced risk management in life insurance. Similarly, insurers have long gathered data to understand the nature of the risks they are exposed to, while data science, in conjunction with advances in computing power, offers a step-change in risk analysis by being able to understand these risks in much more detail and on a continuous basis. This offers benefits to insurers and consumers alike, with the potential for better consumer targeting and product design, improved risk assessment and pricing, tailored consumer engagement, and claims management, including avoidance of fraud.

However, the rise of data science is generating a range of potential concerns in insurance, whether unintended or otherwise. As insurers are able to recognise risks in finer detail, the level of cross-subsidy between policyholders could decline. It is also possible that some policyholders could find insurance harder or more expensive to obtain (this is explored in greater detail further on in this section).

There are also wider issues relating to data ownership, transparency, ethical pricing and fairness. With personal data being gathered in increasing volumes, there is also a risk that insurers could be perceived as being overly intrusive and acting in ‘Big Brother’ fashion.

Given the potential ethical and wider public interest issues arising from the increasing use of data science, it is important to consider the regulation of professionals working in this field, be they actuaries, data scientists, risk managers, or otherwise. The IFoA regulates its members to ensure the public interest, while supporting business and innovation. As data science grows in importance, the IFoA will continue to review its regulatory framework to ensure that as public-interest issues evolve, the regulation and education of actuaries remain fit for purpose.

Individualised risk pricing

Advances in technology and a growing sophistication in data-science techniques, have enabled insurers to set premiums that are more reflective of a consumer’s individual risk profile. This is a shift away from the ‘traditional’ concept of risk pooling which, until recently, has been fundamental to insurance. By combining the risks of all policyholders into a risk pool, the premiums of lower-risk policyholders cross-subsidise higher-risk policyholders who are more likely to make a claim.

Across a range of insurance products, there has been a trend away from broad risk pools and toward more granular pricing based on an individual’s specific rating factors (i.e. their risk characteristics). Risk-based pricing offers a range of benefits for consumers, including the potential for consumers with a lower-risk profile to be offered a lower premium. It can also have the additional benefit of incentivising positive behaviours that reduce risk and benefit society as a whole, for example discounts on motor insurance for safer drivers. Insurers report that risk-based pricing has enabled them to innovate to provide insurance to certain consumer segments that may have previously been excluded from the market.

While there are a range of identifiable benefits, a move towards individualised risk-based pricing and away from risk pooling also creates a range of negative outcomes for low-income and other vulnerable consumers. Low-income consumers are more likely to be offered a higher premium, or be refused insurance altogether, as a result of the higher risk they present. For example, consumers living in an area with a high crime rate are likely to be charged higher premiums for household and motor insurance, because they are assessed to be at greater risk of their house being burgled or their car being stolen. These consumers are also less likely to have the means to be able to reduce their risk. As a result, those arguably most in need of insurance are forced to opt out of cover, reduce cover, or self-insure’.

IFoA members have considered this shift in great detail in our joint report with Fair By Design, **The hidden risks of being poor: the poverty premium in insurance**. This explores the issue in depth, shines a light on a complex topic and seeks to provide recommendations to address the issue constructively in collaboration with government, regulators and industry partners. Given the increasing granularity of risk pricing, we expect this issue to manifest itself more widely and potentially in other sectors beyond insurance.

There are many further topics with wider implications affected by the pace of change in this space. Yet the consistent theme throughout is that technological progress will bring opportunity and challenge simultaneously. Over the course of the next Parliament and beyond, we are likely to see further advances in technology capabilities. We need to be thinking collectively and internationally about the implications of these advancements to ensure they serve the whole of society positively. Achieving consensus on the ethics and designing the necessary yet nimble regulatory frameworks now will go some way to ensuring the benefits of progress can be felt by all.

Conclusion

> "Actuaries are influential in that we understand a lot of the engine room of the finance industry, so we should be able to influence things through that … what we are good at is risk management, what that should mean is that we don't focus on what will happen, but we focus on what could happen."
>
> **Louise Pryor, President of the IFoA, 2021–22**

It would be naïve to think that the next five years will not be as eventful or disruptive as the last and there is no guarantee that any new crises will not emerge. Nevertheless, the next government – whoever they may be – faces a daunting in-tray. There are some truly 'big ticket' items for parliamentarians to consider, each with deep implications for society and planet alike.

Most policy challenges are not single issues. The majority are complex and interdependent, often intertwined with other 'wicked problems' and therefore more difficult to make progress on. Finding solutions to these challenges will require government (along with regulators, policymakers and others) to be agile, work across departments and/or silos and focus on multiple interventions over time rather than searching for 'silver bullet' solutions. How we address climate change provides a useful example, where policy solutions are needed right across Whitehall, not just through the Department for Energy Security and Net Zero.

Organising the state and galvanising society in such a way that it is able to absorb the inevitable shocks caused by external events, while maintaining an eye on the long term, will be critical to ensuring we shift to a more strategic approach to issues with long time horizons. The issues identified in this prospectus simply cannot be addressed properly without the mindset advocated throughout.

The creation of the Future Generations Commissioner in Wales is a good example of policymaking innovation that could be replicated by a future UK-wide government, to maintain a meaningful focus on the long term and centralise any required activity recommendations.

WELL-BEING OF FUTURE GENERATIONS

The Well-being of Future Generations Act (2015) requires public bodies in Wales to think about the long-term impact of their decisions, to work better with people, communities and each other, and to prevent persistent problems such as poverty, health inequalities and climate change. The **Future Generations Commissioner**, Derek Walker, acts as a guardian for future generations, encourages public bodies to take account of their long-term impact, and monitors their performance in doing so.

We know other organisations have thought deeply about this issue too, not least the Institute for Government through its *Better policy making* report.[1] It is clear there is a growing consensus that civil society functions better when the long term is put at the heart of policymaking. Others will be better placed to opine on some of the specific solutions needed to address the more entrenched structural barriers that prevent our political and other institutions from embedding long-termism. Mindset change, however, is equally as important as reforming structures, and we encourage all policymakers to embrace the challenge of taking the long-term approach.

With this in mind, in the run up to, and after, the general election, the actuarial profession would like to engage with parliamentarians, policymakers and other stakeholders who share our desire for a return to the long view. We want to hear from like-minded individuals and organisations about the issues that require a more strategic, long-term approach, and ideas for how we can instil this ethos into our policymaking.

If you'd like to share your thoughts on how to tackle these long-term challenges, please reach out via **public.affairs@actuaries.org.uk** and we would be delighted to discuss this further.

We hope this prospectus induces debate on the topics set out (and others) about the compelling case for a return to policymaking that thinks ahead. There will be other issues equally as important and deserving of focus, but this prospectus sets out our suggestions for tackling those issues where actuarial expertise can help address policy challenges that policymakers have often regarded as 'too politically difficult' or not having sufficient short-term electoral benefits. As risk modellers, actuaries can bring unique insights to tackle these long-term challenges and are on-hand to inform the next UK Government's approach to the many complex issues that will extend beyond the next Parliament.

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