

Living longer and prospering?

Designing an adequate, sustainable
and equitable UK state pension system

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Kenneth was an invited expert on longevity for the EU framework ENHANCE project and is a key member of The Complex Environmental Populations Interactions Project which unites key demographers, economists, anthropologists, philosophers and environmentalists to study the range of complex interactions between environmental and demographic change over the first half of the 21st Century. He is also heavily involved in the design of a new set of expert-based population projections for the International Institute of Applied Systems Analysis in Vienna.



Steven Baxter

Steven Baxter leads the development of longevity analytics within Club Vita LLP – the longevity comparison club for occupation pension schemes. He leads a team of statisticians and actuaries in analysing predictors of longevity, emerging trends in later life mortality and the implications of longevity uncertainty on the financial health of pension schemes.

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Executive Summary

The population of the United Kingdom is ageing. Steep declines in mortality in middle and late life mean we have a much better chance of living to claim a state pension, and then to receive it for much longer than has ever previously been the case. Fertility rates have been below ‘replacement level’ for more than forty years – so as we age there are fewer individuals in subsequent generations paying contributions to finance a growing outgo.

The UK state pension system has undergone reforms aimed at addressing this demographic challenge. However, unless we can encourage greater economic activity amongst older workers we risk the state pension becoming unsustainable.

In this paper we identify arguments for further reform to the system owing to:

- the current system being only partially successful in its role as a safety net for people with very low lifetime earnings
- a desire for resilience against the continued ageing of the population

Reform is very much on the political agenda. The Government has already proposed a universal state pensions and has expressed a desire to take a “frank look at the relationship between state pension age and life expectancy”.

We explore ideas for reforms centred round four themes:

- **Incentivising labour force participation:** It is essential to continue to incentivise labour force participation in order to address the demographic deficit associated with increasing longevity within an ageing society.

- **Ensuring sustainability:** Continued reliance on ad-hoc changes to state pension age lacks responsiveness in the face of demographic change.

State pension age (SPA) could be linked to measures of life expectancy or our ability to support an ageing population to provide a more sustainable system.

- **Being realistic about health:** For reform to be effective at improving sustainability we should avoid any decrease in payments of state pensions being offset by an increase in the payment of other benefits, for example unemployment or disability benefit.

By paying particular attention to measures of “healthy life expectancy” when setting state pension age, the risk of substituting state pensions with other welfare benefits can be mitigated.

- **Being equitable:** Reforms to date have tended to focus on changes in national life expectancy to justify increases in state pension ages. However this means that reforms disproportionately reduce the time spent post SPA for those with the shortest life expectancies. These same individuals tend to be those who rely most on the state safety net and for whom the risk of substituting state pension with disability benefit is greatest.

Using different SPAs based upon lifetime earnings or a requirement for a minimum contribution period are ways of reflecting diversity – by direct and indirect means respectively – if we are uncomfortable with the inequity that applying averages can lead to.

1 Foreword

The UK state pension system is about to undergo one of the most significant overhauls since the current contributory system was first introduced in 1948. The Department for Work and Pensions is expected to issue a Green Paper later this year which will propose replacing the basic state pension and a number of means tested state pension benefits with a single universal flat-rate state pension^[1,2].

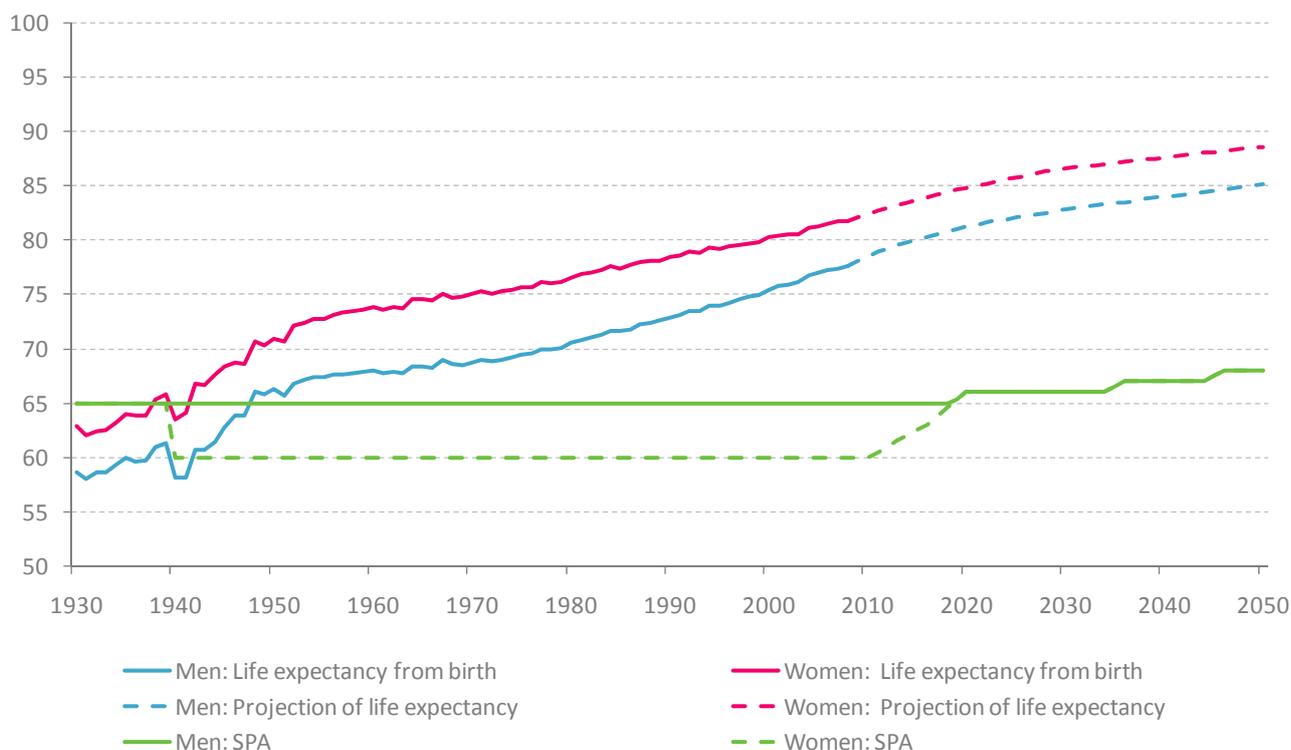
“...we... ..plan to take a frank look at the relationship between state pension age and life expectancy.”

Iain Duncan Smith^[3]

Upon entering Government Iain Duncan Smith suggested we should have a more explicit link between state pension age and rising life expectancy^[3]. The 2010 Spending Review accelerated existing plans to increase state pension age (SPA) meaning that SPA will reach 66 by 2020 for men and women^[4]. Acceleration of the plans to raise SPA to 67 and to then to 68, also seems likely and it is not hard to see why. Figure 1.1 shows how rapidly life expectancy has been increasing to date - and how it is projected to continue to do so - whilst the state pension age increases have lagged behind.

However, just because we can look forward to receiving state pensions for longer than previous generations, it does not necessarily follow that the system is broken and in need of reform. Indeed the foundation of any pensions reform should be a clear

Figure 1.1 Rising life expectancy and changes to state pension age^[5]



understanding of any shortcomings of the current system and a clear set of objectives as to what reform is seeking to achieve. For example:

- does the current state pension system meet the needs of society?
- can we afford the promised level of benefits?
- is the system sustainable in the face of continued increases in life expectancy and an ageing population?
- what changes, if any, are needed in order to ensure that we have a state pension system which is fit for purpose?

We believe that these questions are key to any debate on reforming UK state pensions - a debate that we hope the discussion provided in this paper will help inform.

Our discussions start by seeking to understand the broader perspective of increasing longevity within ageing populations, first globally in section 2 and then more specifically in the UK in section 3. We explore how falling fertility and increasing longevity will increase the burden of pensions on the working population unless reform is enacted. This problem is not unique to the UK – for example all but five of the 33 OECD countries reformed their pensions systems between 2004 and May 2009^[6]. However, we also see in section 3 that the UK is fortunate to be facing a more benign challenge than many other countries.

Nevertheless we demonstrate that reform of the UK state pension system is needed. The current system leaves too many with inadequate state pensions or relying on complex means tested benefits which many are reluctant to claim. In particular, we present a case for the current system failing to provide an adequate safety net for those on very low incomes.

"... we will reward their hard work with a decent state pension that will enable them to enjoy quality of life in their retirement"

Iain Duncan Smith^[3]

Section 3 also presents a case for reform on grounds of sustainability. Most pension systems can continue so long as the population is prepared to accept increased taxation and/or National Insurance contributions in return for the benefits received (or promised). The current UK system is no different in this regard. However, as section 3 highlights, the current system is unlikely to continue to be sustainable without:

- increases in how much we pay; and/or
- increased labour force participation of older workers and women.

Public sentiment also supports the need for change, with one recent survey showing that 70% of individuals believe society will struggle unless the burden of state pensions is reduced^[7]. It is noticeable though that this view is held less strongly amongst those with low income i.e. those most reliant on the state for support in retirement. These individuals also have the shortest life expectancies and so have the most to fear from Iain Duncan Smith's call for an explicit link between state pensions and rising life expectancy. One year less of state pension is, proportionately, a much larger loss for those with short life expectancies.

Pooling of variations in longevity is a fundamental principle of social insurance. However, substantial variations in life expectancy are seen in the UK and we explore these in section 5. For example data from Club Vita shows how the life expectancy of men and women varies by up to 11 years depending on

such characteristics as income and lifestyle. These differences could lead one to question:

“Is the current ‘one-size-fits-all’ approach to reform appropriate?”

In section 6 we consider the Government’s suggestion of a universal flat-rate state pension. We identify substantial merit in the removal of means-testing but also highlight a number of shortcomings which a universal pension would not – in isolation – address. We offer ideas for reforms which could address these other issues, such as reflecting changes in **healthy life expectancy** – i.e. an individual’s ability to remain in work and thus defer retirement – when considering how state pension age should increase. We also explore methods for **reflecting diversity in life expectancy** either directly (via state pension age based on lifetime earnings) or indirectly (via minimum contribution periods) to reduce the potential inequalities which arise from relying on national life expectancy to inform decisions.

The main aim of this paper, however, is to encourage wider debate as to:

“What form should the UK state pension take in order that we may live longer and prosper?”

2 Longevity and ageing populations

2.1 A global perspective

Life expectancies at birth are predicted to rise across the globe reaching 80 (86) years for men (women) in Developed Regions and 72 (77) years for Less Developed Regions (Figure 2.1) by the middle of the century. However this steady increase in life expectancy is also occurring in the context of population ageing, whereby falling fertility rates have led to increasing percentages of older dependants, and falling percentages of economically active workers. The fact that increasing longevity is occurring within populations which are themselves ageing, has clear implications for providing for this longevity.

Most countries of the Developed World are now in the late stages of the demographic transition. Typically associated with economic

development, this is the decrease in both mortality and fertility rates. Mortality rates fall first, including infant mortality, enabling the survival of large birth cohorts into adulthood. Population growth levels off, and the profile of the population ages as late life mortality rates fall and individuals survive to increasingly older ages.

As a result of these increasing life expectancies, it is projected that by 2050 the global number aged over 60 will triple to reach 2 billion. The numbers of those aged 80 and above will show an even greater rate of increase, rising from 69 million to 379 million by 2050.

If we consider this in terms of structural ageing, that is the percentage of older adults, then by 2050 22% of the world's population will

Figure 2.1 Life expectancy by region^[8]



be aged 60 or over, and 4% aged 80 or over, and as indicated in figure 2.2, the Developed Regions will attain around one third of their populations aged 60 or over and 10% aged 80 or over. The UK currently has 22.7% aged 60 and over, predicted to increase to 27.2% by 2030, and 28.8% by 2050.

A more sophisticated approach is to move from considering the total number or percentage of older people, to understanding the proportion of old and younger dependants within a population and the relationship of this to non-dependants. Taking an *age-structural transition* perspective allows us to consider the cohort composition and how this will alter over

time. Three broad groupings may be identified: youth dependants aged under 15; working age population aged 15-64; and elderly dependants aged 65 and over. The combination of these within a population will, to an extent, influence the productivity and economic growth of that population. The UK will thus move from 60% of its population of working age, to 55% by 2050, a smaller fall than the rest of the current EU27 who will experience a fall from 62% to 51% over the same time period.

Taking an age-structural change perspective also allows us to view population change in terms of a shift between providers and

Figure 2.2 Distribution of the population of major areas by broad age groups, 2010, 2030 and 2050 (medium variant)^[9]

| Major Area | Population by age group (%) | | | | | | | | | | | |
|-------------------------|-----------------------------|-------|------|-----|------|-------|------|-----|------|-------|------|-----|
| | 2010 | | | | 2030 | | | | 2050 | | | |
| | 0-14 | 15-59 | 60+ | 80+ | 0-14 | 15-59 | 60+ | 80+ | 0-14 | 15-59 | 60+ | 80+ |
| UK | 17.4 | 60 | 22.7 | 4.7 | 17.2 | 55.7 | 27.2 | 6.2 | 16.4 | 54.7 | 28.8 | 8.6 |
| EU 27 | 15.4 | 62.6 | 22 | 4.2 | 14.7 | 56.0 | 29.3 | 6.1 | 15.0 | 50.8 | 34.2 | 9.6 |
| More Developed regions | 16.5 | 61.7 | 21.8 | 4.3 | 15.4 | 55.8 | 28.8 | 6.4 | 15.4 | 52.0 | 32.6 | 9.5 |
| Less developed regions | 29.2 | 62.1 | 8.6 | 0.9 | 24.0 | 61.7 | 14.2 | 1.6 | 20.3 | 59.5 | 20.2 | 3.5 |
| Least developed regions | 39.9 | 54.9 | 5.2 | 0.4 | 33.3 | 59.3 | 7.0 | 0.6 | 27 | 61.9 | 11.1 | 1.1 |

dependants – the dependency ratio - and how this will typically move from a large percentage of young to large percentage of old dependants during the demographic transition. These ratios comprise:

- Elderly Dependency Ratios (EDR), the number of persons of working age (aged 15 to 64) per person aged 65 or over;
- Youth Dependency Ratios (YDR), the number of persons of working age (aged 15 to 64) per person aged 15 or under; and
- Total Dependency Ratios (TDR), number of those 15-64 with those outside this age range.

The shift in TDR from being dominated by YDR to being dominated by EDR is useful in determining when a population has reached demographic maturity. Europe, including the UK, became mature by this measure in 2000, Asia is predicted to reach maturity by 2045^[10].

The next decade will thus see a rapid shift towards increased EDRs in most industrialised countries. The EU-25 Elderly Dependency Ratio is set to double as the working-age population (15-64 years) decreases by 48 million between now and 2050, and the EU-25 will change from having four to only two persons of working age for each citizen aged 65 and above^[11,12]. Italy, for example, will see its EDR double between now and 2050 to reach 70:100 workers. In contrast the UK will increase only slightly, reaching 67:100. By 2050, the EDR will also exceed 70:100 in Spain and Japan, while remaining below 40:100 in Denmark, Iceland, Luxembourg, Mexico, Turkey and the United States.

2.2 Demographic deficit

There is a widespread assumption that the structural ageing of the European population, will lead to a *demographic deficit*, whereby the population of working age is insufficient to support the increasing proportion of older dependants. This is seen to herald negative implications for both nations and regions^[13]. There are a series of assumptions behind this view which coalesce around two broad themes: demographic decline leads to decline in economic activity, and demographic ageing leads to economic burden due to increased requirement for pensions and health care.

The view that demographic decline leads to decline in economic activity is based on the assumption that declining populations are equated with declining demand which has a negative effect on economic growth and employment. However this is contested by those who argue that in a modern, *industrial* economy aggregate demand depends on aggregate incomes rather than on the number of people, and that in a modern, *open* economy the extent of the markets does not depend on the number of domestic consumers^[14].

In contrast the view that demographic ageing leads to economic burden due to increased requirement for pensions and health care is based on *increased demand* for such services and *reduced capacity* to fund them. In terms of increased demand, it is projected that for EU-25, age-related public spending such as pensions, health and services for older adults, will rise by 3 to 4 GDP points between 2004 and 2050, representing an increase of 10% in public spending^[12]. This will be particularly pronounced between 2020 and 2040. However, it is recognised that public spending

will to an extent be protected by the general move within the EU to transfer responsibilities from governments and companies to individuals.

The other side is the potential reduced capacity of ageing populations to finance pensions and long term health and social care. This is seen to depend both on the growth of labour productivity and on the employment rate. Average annual growth in the EU between 2004 and 2010 was 2.4% and is projected to fall to 1.2% by 2030 due to the reduction in the working age population.

2.3 Solutions?

While the impact of population ageing and the associated “demographic deficit” are still contested, it is now accepted by most governments that some remedial measures will be needed across the EU27. These measures may be approached by altering the age composition of the population through encouraging changes in fertility and migration rates to increase the proportion of young people, and by increasing the productivity of the population by encouraging higher labour force participation rates and extending working lives by altering entry and exit ages.

Fertility

The age structural changes described above have been fuelled by a fall in Total Fertility Rates (TFR), that is the number of children per reproductive women – requiring 2.1 for replacement. In 1950 Europe’s total fertility rate was 2.5 children per reproductive woman, falling to 1.5 by 2010, with projected TFRs between 1.34 and 2.34 children per woman by 2045. Low fertility is now a global phenomenon. In Western Europe, all countries bar France are now below replacement level, and southern

Mediterranean countries are at 1.2 and 1.3. Asia, Singapore and Korea have now fallen to below 1.2, while Hong Kong, at below 1, now has the lowest TFR in the world. Indeed, some demographers have expressed concern that due to demographic inertia, a very low fertility rate could become irreversible^[15].

While, with the exception of France, no EU country is currently pursuing an active fertility promotion policy, research does indicate that increasing fertility can have a strong influence on altering old age dependency ratios. There is a clear compensatory relationship between fertility and migration, whereby an increase in the fertility rate of 0.1 children has about the same effect as an additional 375,000 immigrants per year^[16]. Thus, for example, increasing TFR to 1.6 combined with a migration gain of two million per year yields the same old age dependency rate as a TFR of 2.0 and a migration gain of only half a million.

Migration

However the impact of migration on the demographic deficit is more complex than simply introducing numbers of young people. Migration has a potentially strong and long-lasting impact on population growth and structure through the interaction between the number of migrants, their relatively young age structure and their higher fertility. Immigration thus has the ability to prevent population decline, maintain the size of the labour force and thus the support ratio, and slow down structural population ageing. There is general consensus that immigration to both the UK and Europe will in the short term achieve immediate increases in total fertility rates, population growth and labour market contribution. However, these are unlikely to achieve full replacement level, are

unsustainable over the longer term, and indeed may eventually contribute to a worsening of the demographic deficit, as the total fertility rates of the immigrant population falls and they age in place. It may also affect the economy via a positive impact on innovation, economic growth, employment in general and welfare, though these are more complex and contested.

Raising retirement ages

Increasing the economic contribution of older workers is an important measure for European and UK governments to consider, given the potential higher levels of educational and health status of successive future cohorts. This is particularly the case in those European countries where early retirement rates are high. However the effects of enhanced workforce participation to age 65 will be realised by 2025, and further extensions to age 70 or older would then be required^[17].

2.4 Longevity within ageing populations

One of the key issues is that the increasing individual life expectancy is occurring within populations in which fertility is falling. Taking a holistic approach, which not only focuses on the “pension crisis” per se, but also addresses the major structural issues arising from ageing societies and associated demographic deficits, is an appropriate way to consider the longevity question. Delaying retirement and raising state pension ages:

- reduces pension longevity for the individual and societies;
- has the potential to tackle issues emerging from the demographic deficit, through the retention of experience and skills held by older workers;

- should in the longer term reduce national public health bills through increasing the well being of its older population through continued usefulness and mental and physical activity in later years.

There is now general acceptance that future cohorts of older men and women, with higher levels of education, skills and training, will be able to maintain high levels of productivity given supportive and conducive working environments^[18]. However, the relationship is not straightforward. Much of the debate around the demographic deficit has ignored the productivity of older men and women in the informal economy. This includes both volunteering in the wider community, and the provision of family care. Indeed recent estimations suggest that the UK’s over 60s were providing up to £4bn in unpaid volunteering and between £11bn and £50bn in unpaid family care^[19]. If raising the state pension age reduces the ability of older men and women to contribute to the informal economy in this way, the economic impact could be significant. Further, the productivity of the working age population could also be reduced as the older carers within the community are removed and placed back in the formal labour market, thus requiring younger workers to undertake increased caring duties.

In addition, there is considerable debate over whether healthy or disability free life expectancy has kept pace with life expectancy. While some predictions for Europe and the US forecast that both men and women in their early 70s can expect to live well into their 80s, enjoying most of those years disability-free^[20], historical data for the UK suggests that for both men and women the increases in ‘healthy life expectancy’ (HLE), and ‘disability-

free life expectancy' (DFLE) in particular, have not kept pace with total gains in life expectancy (figure 2.3). This is important as both of these measures provide an indication of the length of time an individual remains

'healthy' and are thus more closely aligned with an individual's ability to work later in life, and in turn the ability to defer reliance on the state pension to an older age.

Figure 2.3 Disability free, healthy and total life expectancy from age 65 in Great Britain (1981-2006)^[21]



3 The need for reform of the UK state pension system

3.1 Population ageing and the case for pension reform

Most countries in Europe have enacted major reforms to their public pension systems over the last two decades. All these countries have ageing populations and will see large decreases in old age support ratios between now and 2040. Since most public pension systems in the rich industrialised world rely on PAYG ('pay as-you-go') financing - pension payments transfer income directly from current contributors to current pensioners - the main rationale for reform has been preventive, i.e. to ensure that public pensions, and more broadly the public finances, will be able to withstand the pressures exerted on them by the large increase in the ratio of pensioners to workers that is forecast to occur over the next few decades.

It is not their use of PAYG financing *per se* that has made so many public pension systems vulnerable to population ageing, however. What made reform imperative was that most of these schemes had increased their vulnerability to population ageing by improving their generosity to an extent that threatened their longer term sustainability. The cost of these improvements was a massive increase in *future* pension liabilities, and by the 1990s it was no longer possible to ignore it. Not only had public pensions become unsustainably generous, but they positively encouraged early retirement from the workforce. This then was the case for reducing future pension liabilities and ensuring the long-term viability of public pension provision, and it was strongest in those countries where the public system provided a relatively large proportion of total pensioner income through guaranteed benefits that secured a standard of living close to that enjoyed by the working population.

The main aim of many of the recent pension reforms in Europe, as well as many other countries in the OECD, has been to shrink the size of the PAYG 'pillar' and boost reliance on other potential sources of retirement income, i.e. funded pension schemes. This is why governments across Europe have adopted reforms which have the effect of reducing the generosity of benefits for future pensioners – usually by altering *both* the formulae used for the calculation of benefits (sometimes quite radically as with the introduction of notional defined contributions) *and* the basis for indexing or 'uprating' payments in retirement. The second main target for reform has been the age at which people become eligible for pensions. The effect of an increase in pensionable age is not only to reduce future pension liabilities but also (ideally) to increase the number of contributors who will bear the costs of these liabilities. An increase in the pensionable age is therefore a very simple and effective way of offsetting *some* of the increase in the so-called 'system dependency ratio' (the ratio of pensioners to contributors) caused by population ageing.

3.2 The case for pension reform in the United Kingdom

The population of the United Kingdom is ageing, as it is in most of the world's developed countries. The average age of the UK population has risen from 36 in the early 1970s to nearly 40, and is projected to continue to rise at one year per decade. Fertility rates have been below replacement level for more than forty years, and it is generally assumed that they will stay there. Adult mortality has been declining quite rapidly in the last few decades. Steep declines in mortality in middle age and later life mean that men in particular now have a much better chance of reaching retirement age than they did in the

Figure 3.1 Probability of a 25 year old surviving to state pension age^[22]

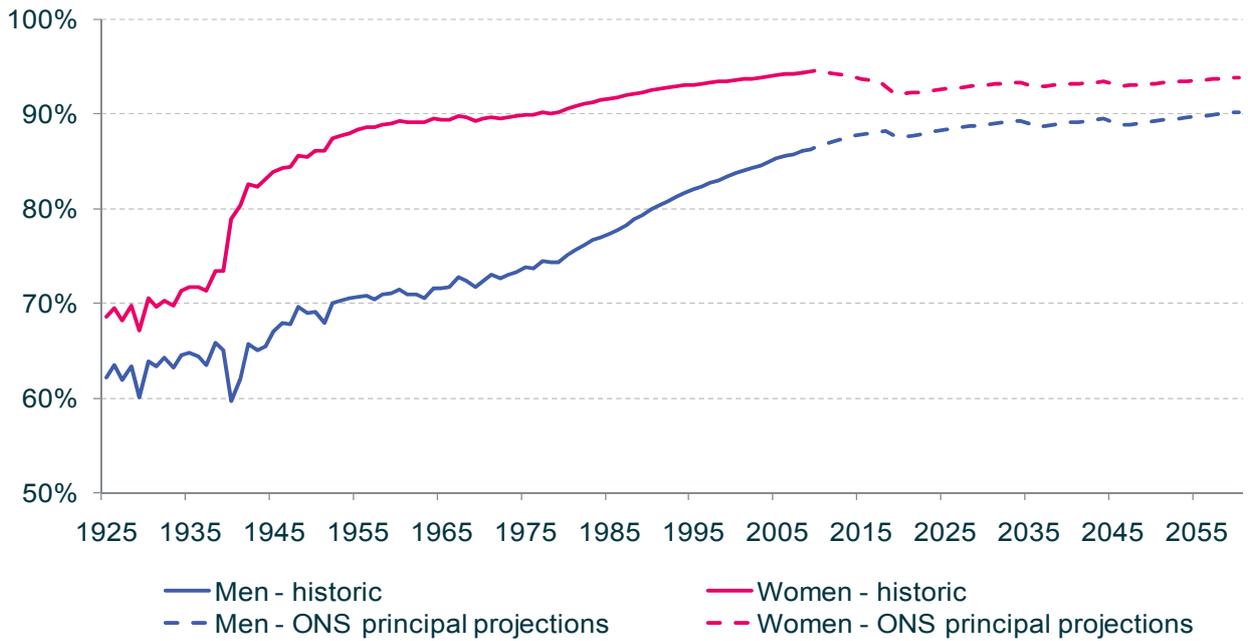


Figure 3.2 Number of men and women reaching state pension age each year^[23]

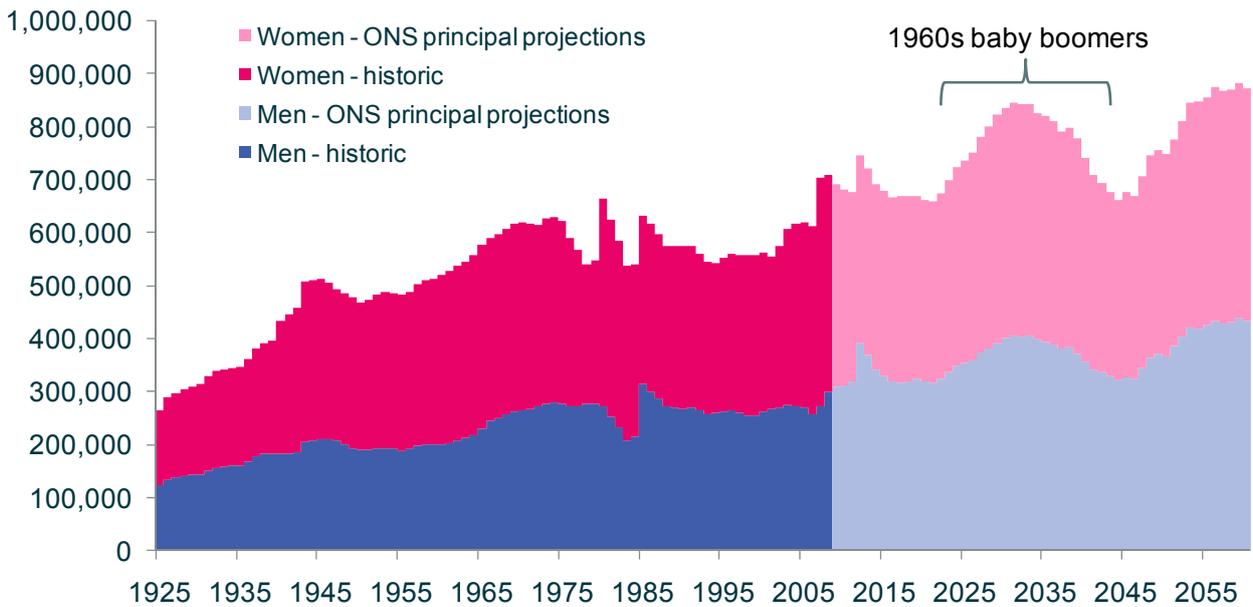


Figure 3.3 Probability of surviving 15 years from age 65 ^[24]

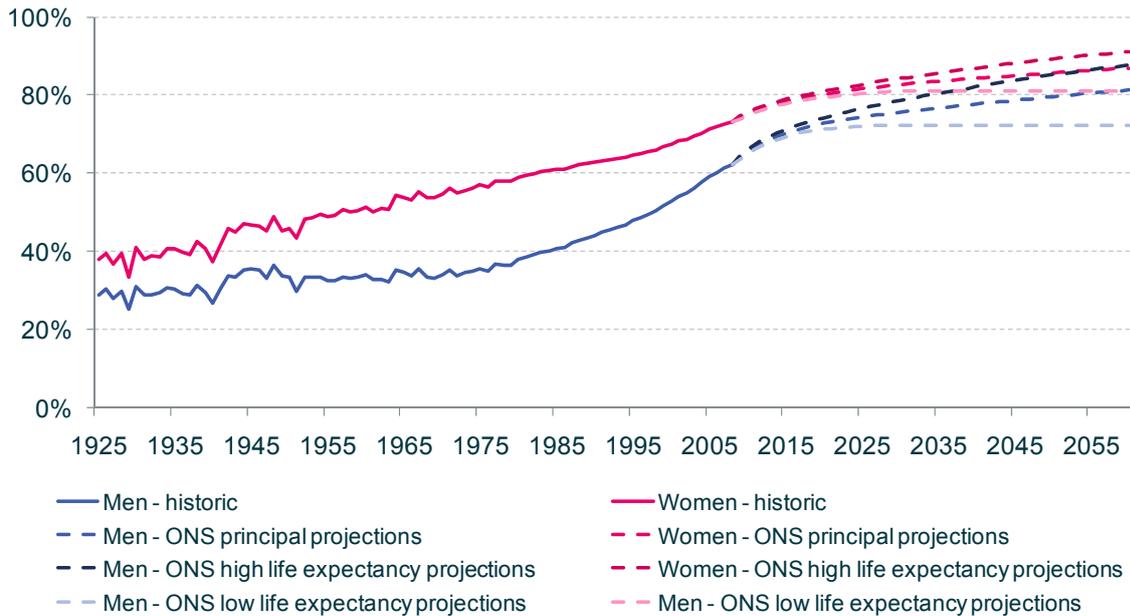
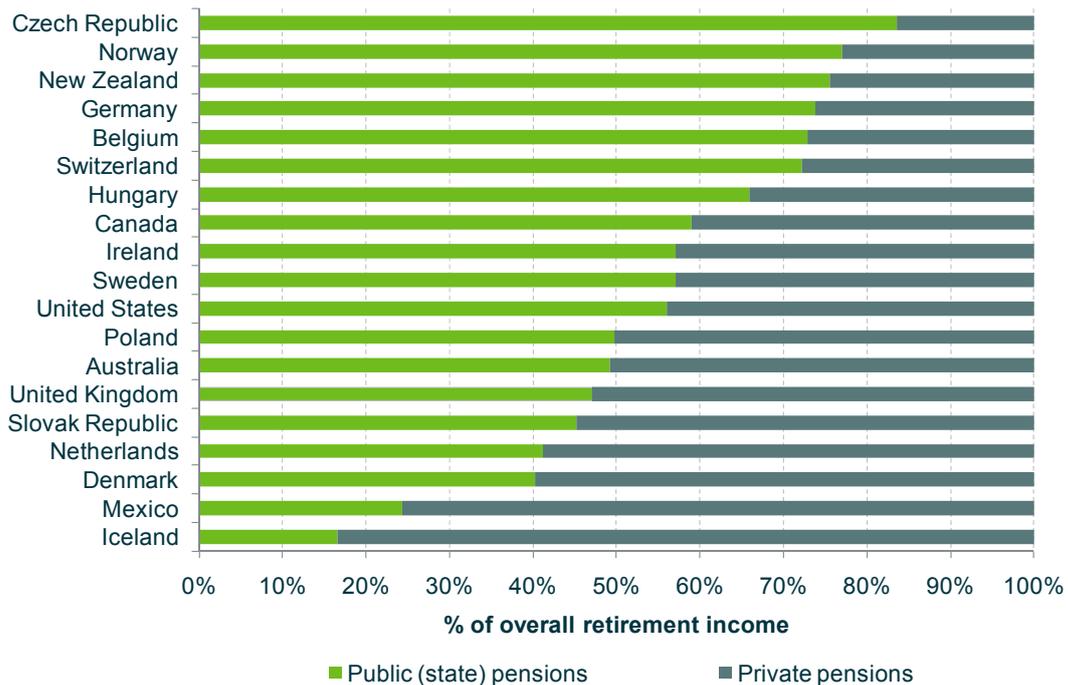


Figure 3.4 Relative importance of public (state) and private pensions in OECD countries ^[25]



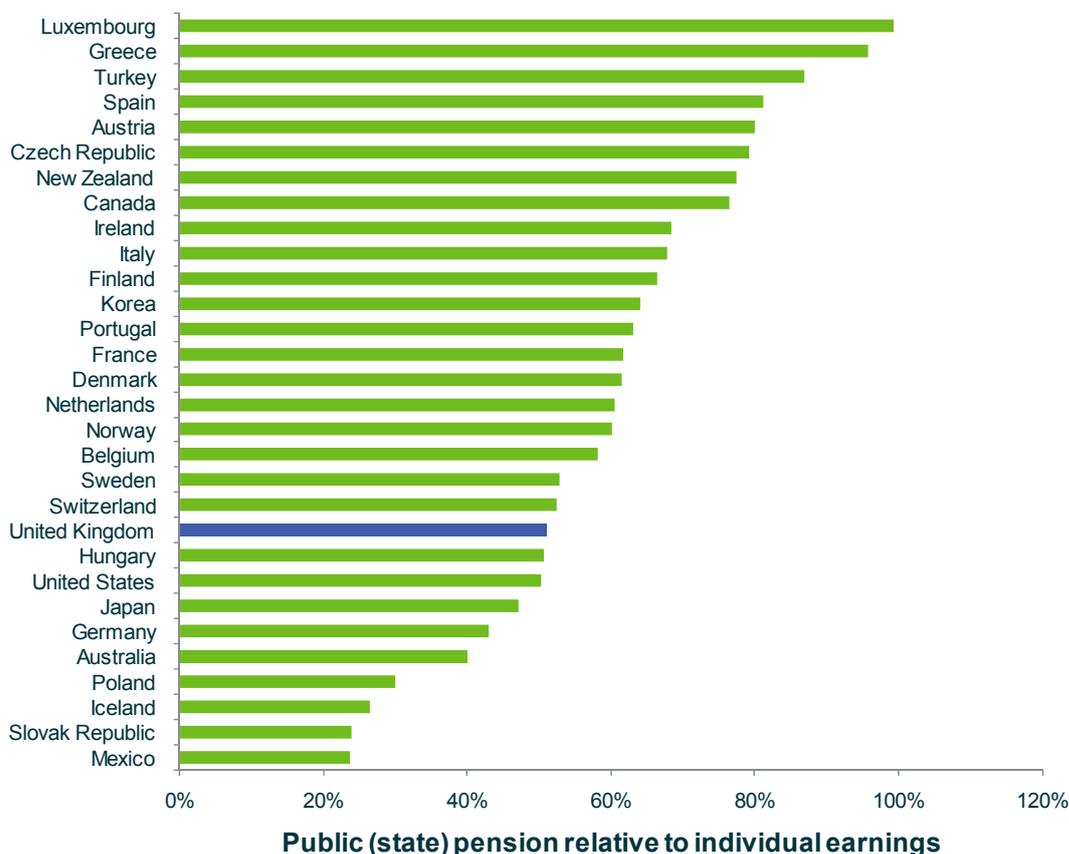
1970s (figure 3.1), and the effect of these improvements in life expectancy on the numbers of people reaching state pension age will be amplified in coming years by the size of the baby boom generations (figure 3.2). Declining mortality in the post-retirement age groups means that the probability of surviving to draw a pension for a substantial numbers of years has also improved dramatically since the 1970s, again more for men than for women (figure 3.3).

Public and private pensions in the UK

Despite the similarities in demography, there are large differences between pension arrangements in the UK, and those found in many other

European countries. These are differences, furthermore, that have decisive implications for arguments about pension reform. Although total expenditure on pensions as a percentage of GDP is close to the OECD average (a little over 8%), the scale of pension *provision* that comes from funded occupational and personal pension schemes is relatively high in the UK (figure 3.4). Further, the UK basic pension is not very generous, certainly by European standards. In 2008 the income provided by the state pension was equivalent to about 50% of the gross income of someone with half the national average earnings (figure 3.5). These two features of pension arrangements in the UK are related.

Figure 3.5 Gross replacement rate for safety net pensions across the OECD for those on 'low incomes' (50% of national median earnings)^[26]



Successive governments have been able to maintain a relatively small PAYG ‘pillar’ because the level of saving through contributions to funded occupational pension schemes has been so high.

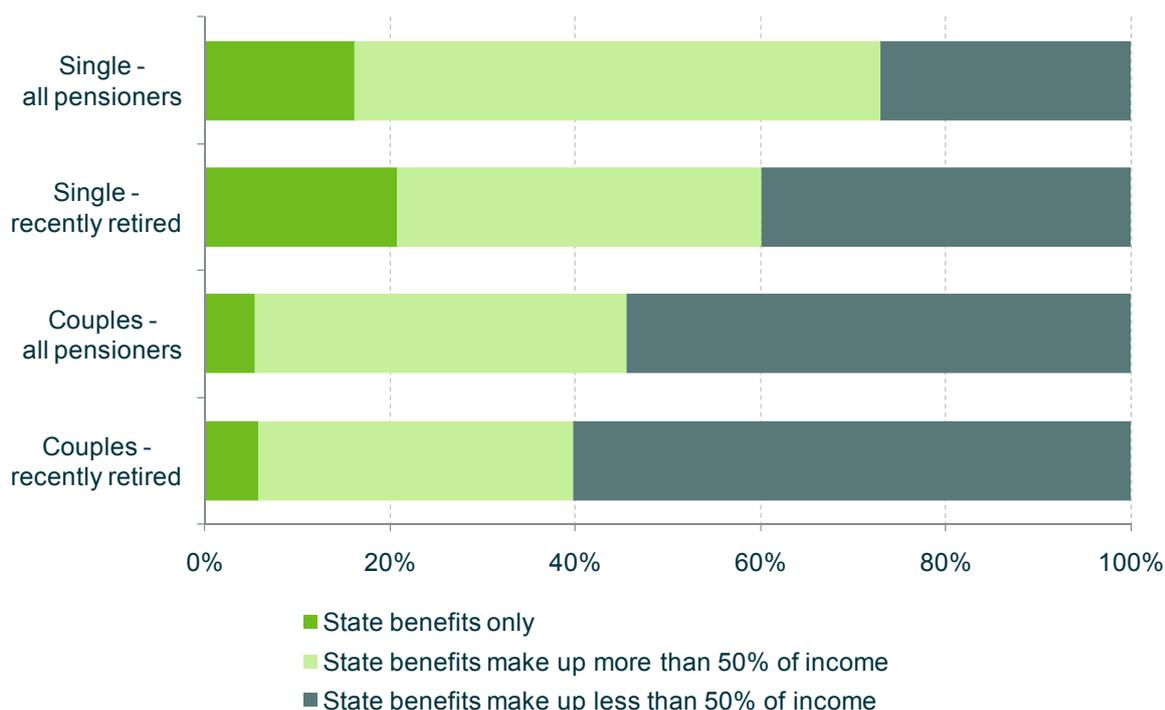
The fact that more than one-third of all pension expenditure comes from private pensions (usually an occupational scheme financed through payroll contributions) is reflected in the high proportion of UK pensioners who derive some income from a private pension scheme. The majority of pensioner couples receive more than half of their total income from private pensions, and the proportion is even higher among recently retired pensioner couples. Single pensioners, on the other hand, who are mostly older women, tend to be more reliant on state benefits (figure 3.6). Pensioners do, however, have sources of income other than pension

benefits, including earnings from employment and various non-pension benefits. Indeed, earnings in 2008-09 accounted for almost as large a proportion of average gross pensioner income as occupational pensions – 19% compared to 25% ^[28].

The present adequacy of state pensions in the UK

Any assessment of the effectiveness of the state pension system has to start from recognition of the fact that the system performs different functions for people with different levels of lifetime earnings (which makes for a degree of tension in the system). People with very low lifetime earnings have little or no pension savings, and are entirely reliant on the State Pension (Basic and Additional) and other state benefits for their income. For them the public system acts as a safety net which guarantees a

Figure 3.6 UK pensioners’ dependency on state benefits^[27]



‘socially agreed’ minimum income. The system is working well if everyone in this position receives

Figure 3.7 Reliance on income related benefits^[29]



the agreed minimum, though clearly the ‘adequacy’ of the currently agreed minimum is open to dispute, in which case it would be desirable to make the system more generous and more redistributive. For people with very high lifetime earnings, on the other hand, the state pension they receive represents such a small proportion of their total retirement income as to be almost completely irrelevant.

For people with lifetime earnings in between these extremes, who are the majority, the state pension makes a significant contribution to their retirement income, and the importance of the contribution increases as their level of lifetime earnings decreases. The function performed by the state pension in this case is not to guarantee a decent minimum, but rather to *help* them with the task of income replacement in retirement, i.e. help them achieve an income in retirement which they would consider adequate in the light of their pre-retirement income.

About one in six single pensioners and one in twenty pensioner couples are entirely reliant on the State Pension and other state benefits for their income (figure 3.6). The proportion of pensioners who find themselves in this position is higher in some socio-demographic groups than others, e.g. women, older pensioners (75+), and those from ethnic minorities^[28]. The level of the Basic State Pension (BSP) is now such that various means-tested benefits – which include Housing Benefit and Council Tax Benefit as well as Pension Credit – are available to guarantee the ‘socially agreed’ minimum for people with low lifetime earnings. These additional income-related benefits are especially important for people whose employment history does not entitle them to the full state pension, though it is by no means only people in this category who are in receipt of income-related benefits. In fact

about 30% of all pensioners receive some kind of income-related benefit, and this includes significant numbers of pensioners with relatively high incomes (figure 3.7). Not everyone, however, who is entitled to receive these benefits, actually claims them. DWP estimate that about one-third of pensioners entitled to Pension Credit, and two-fifths of those entitled to Council Tax Benefit, fail to claim them^[30]. Since the effectiveness of the public pension system as a *safety net* depends on the take-up of income-related benefits, the proportion of the non-claimants who are entirely reliant on state benefits for their income would tell us to what extent the system is failing in one of its main functions. As things stand, we have to say that there is at least *prima facie* evidence that the system does not succeed in ensuring that no pensioner households have an income below the socially agreed minimum.

People who belong to occupational pension schemes expect an income in retirement which exceeds the level guaranteed by the state as a decent minimum. For them, the basic state pension offers a guaranteed return which lays the foundation for additional pension savings. Their ability to secure an adequate income (which will reflect individual differences in lifetime earnings) depends on the benefits guaranteed by the state pension. The guarantee is important: not only is the state pension protected against inflation risks, but longevity risks are born (at least in part) by the taxpayer rather than the pensioner, whereas in the prevailing defined contribution occupational schemes, the risks are born by the employee. How then do we decide whether or not the state pension is performing this function - to help people achieve an adequate income in retirement - effectively? The main criticism that can be made of the system here is that it provides insufficient help to the people for whom it matters

most, i.e. those with relatively low levels of benefits from private pensions. The problem lies with the structure of means-tested benefits and in particular the rate at which Pension Credit is withdrawn from people with additional pension income. It can be argued that the combination of the current tax regime (with modest personal allowances) and means-tested benefits disincentivises:

- *voluntary* pension savings amongst people with relatively low incomes and small private pensions (i.e. £1 spent now is more valuable than £1 saved for retirement);
- potential claimants of Pension Credit (too much trouble for the amount of benefit that would be gained).

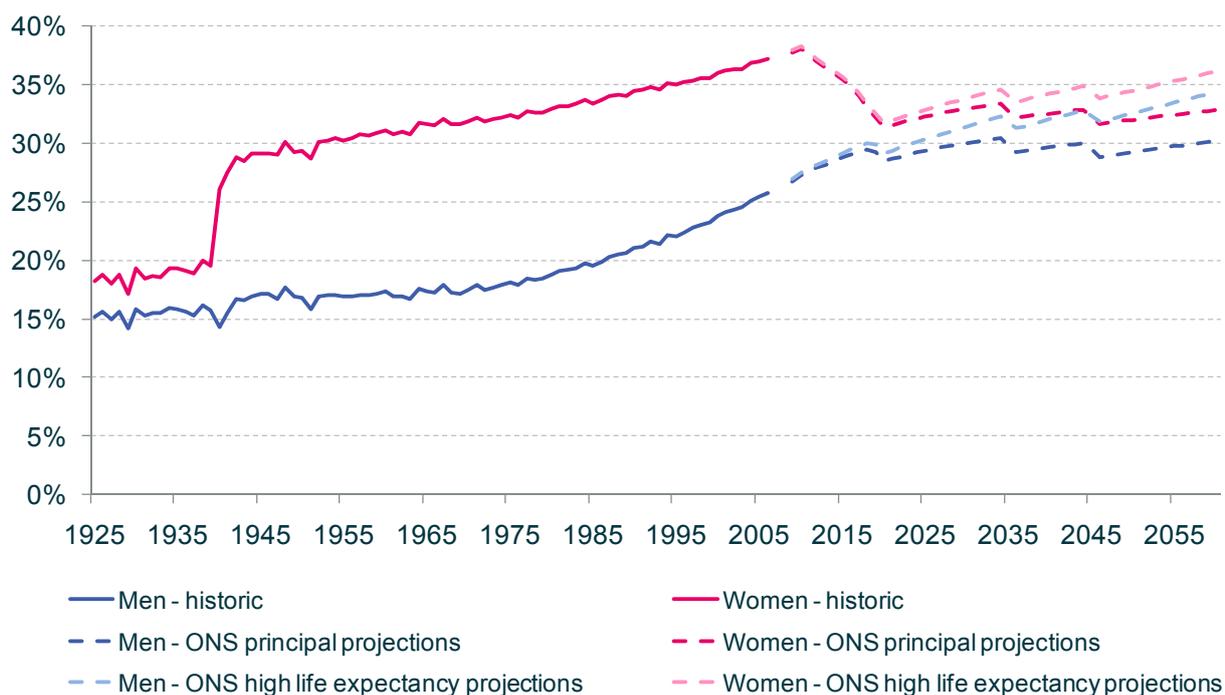
Looked at from this point of view, it is arguable that the relatively low uptake for Pension Credit provides us with *prima facie* evidence that the system's performance of its second main function, helping people to achieve an adequate income in retirement, could be improved.

The financial sustainability of the public pension system in the UK

Continuing mortality declines in later life mean that, in the absence of increases to state pension age, the number of years that people are in receipt of the state pension will increase. However, the planned increases in the state pension age will hold the *proportion* of adult life spent in retirement more or less constant – after the big 'correction' that will follow the increase in SPA to 65 years for women – provided that increases in life expectancy conform to the ONS principal projection (figure 3.8).

As we have already indicated, however, the State Pension is financed on a PAYG basis. The system's financial sustainability cannot be

Figure 3.8 Proportion of 'adult life' (over age 21) spent after state pension age^[31]



guaranteed by ensuring that the ratio of contributory years to pensioner years remains more or less constant for the average worker. What matters is:

- 1 The ratio of contributors to pensioners at any one time.
This is affected by changes in fertility rates that happened several decades ago.
- 2 The index used for the annual uprating in the level of benefits.

One measure of sustainability is whether current contribution rates can be maintained. If benefits are indexed to prices (and no other increase in benefit levels is planned), then the Government's

own estimates^[32] suggest that the system is sustainable (in this sense) *if* we assume constant 2% growth in annual real earnings *and* increases in life expectancy are in line with the ONS principal projections. If, on the other hand, the BSP is uprated in line with earnings growth - or indeed higher as the Government committed to in the June 2010 budget - so that pensioners share in the improved living standards enjoyed by the working population, an increase in contribution rates would be required (unless other changes could be made).

We also note that the Government's estimates were based on the latest projections for future life expectancy available at that time (the '2006-based' projections). Since then the ONS has

published revised projections with increased estimates for future life expectancy. This highlights another argument for reform, namely to make the system robust to emerging evidence on life expectancy. We shall return to this later.

The importance of workforce participation

The State Pension is financed by contributions levied from the working population, and workforce participation is one important area in which the UK is like many other rich industrialised countries. Since the 1960s, the average age of entry into the workforce has increased (for both males and females) and the average age of exit has decreased (for males). Workforce participation among 'working age' males (16-64) has dropped at the same time as it has increased for working age females (16-59). For younger people, delayed entry into the workforce usually means more time spent in formal education, and the consequent improvement in human capital more than compensates for the short-term loss of revenue to the Government. The case with early exit from the workforce among older men is different. The effect is not only to decrease the ratio of contributors to pensioners; there is a waste of human capital as well as a loss of revenue. An increase in the SPA cannot *by itself* guarantee that this capital is utilised rather than wasted, and the potential benefits of any such increase for the sustainability of the pension system cannot be fully realised without increasing labour participation rates among older men and/or women. In other words, the success of reforms targeting the SPA cannot be assessed by considering only the numbers of people in receipt of the state pension. It is also important in this connection to remember that a large proportion of economically inactive older men below retirement age will be in receipt of non-pension benefits. The sustainability of the public pension system is not really improved if a

decrease in payments of one kind of state benefit (pensions) is offset by an increase in the payment of other kinds of non-pension benefits (unemployment or disability benefit) – a 'substitution risk' which we shall return to in section 6.

The impact of population ageing on the ratio between the economically active and inactive members depends crucially on our assumptions about the realities of economic activity in different age and sex categories. As figure 3.9 shows, an increase in state pension age has minimal effect on the decline in the support ratio if the only group to show an increase in workforce participation is the age group between the old and new SPA. In this case, we have assumed that it would increase to the level seen in 55-64 year olds, i.e. a modest increase in workforce participation among people just below the increased SPA. If, on other hand, we are able to reach what are clearly more ambitious targets for labour participation rates, it is possible to offset the effects of population ageing altogether (figure 3.10). This is highlighted by two key scenarios:

- where female labour participation attains the levels currently found in Sweden i.e. small male/female differences (yellow line); and
- where there is no decline in labour force participation at older ages for men or women (blue line).

So, for example, the labour force participation rate amongst older men (aged 50 to SPA) would increase from the current rate of 75% to over 90%.

We can also see from figure 3.10 the risk to sustainability posed were the UK to undergo a structural change to its workforce, reducing labour participation to the rates currently seen in Spain. This highlights the need to at least maintain current labour force participation.

Figure 3.9 Economically 'active' to economically 'inactive' support ratio – without extension to labour force participation^[33]

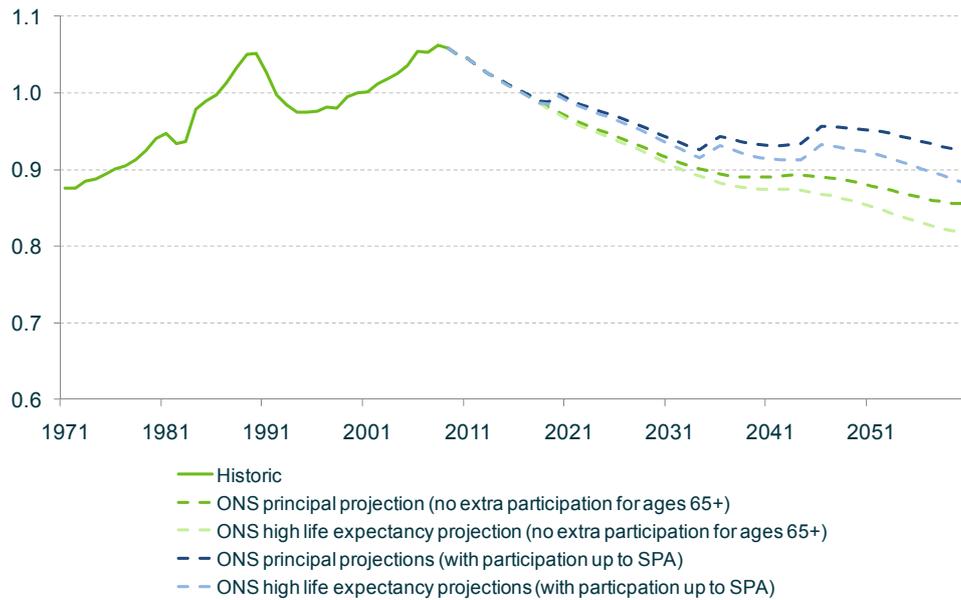
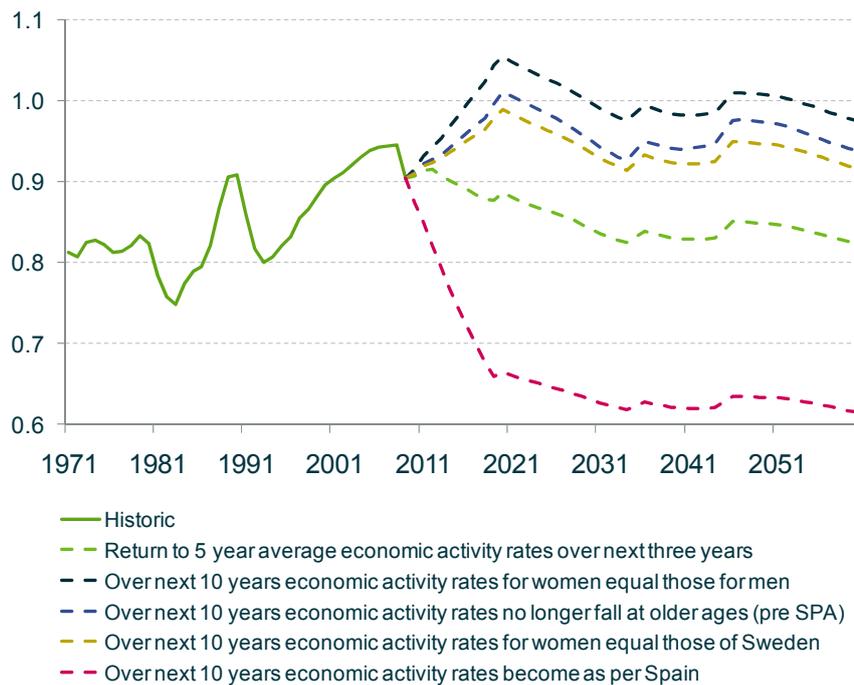


Figure 3.10 Economically 'active' to economically 'inactive' support ratio – with extension to labour force participation^[34]



Corrective reform and preventive reform

We have already suggested that the state pension system is open to criticism for its *current* effectiveness (i.e. in fulfilling its main functions). It also seems likely that the current system is not financially sustainable (even with the planned increases in SPA) in the face of indexation with earnings and continued increases in life expectancy without a substantial hike in contribution rates *or* large increases in labour force participation *or* a mixture of both. What has to be added to this account is, firstly, the political sustainability of the system, which depends on its *continuing* ability to fulfil its central functions in the coming decades, and secondly, its *resilience* in the face of shocks, especially demographic shocks. Even if we think that the case for correcting the system *now* (so that it is better able, for example, to secure a decent minimum for *current* pensioners with no other source of income) is relatively weak, we have to consider the case for acting now to prevent the emergence of serious failings in the ability of the system to fulfil its key functions in the foreseeable future. For example by undertaking preventative reform to be resilient to demographic shocks such as life expectancy increasing faster than anticipated or not achieving the necessary labour force participation.

The case for preventative reform has been made strongly by John Hill, one of the members of the Pensions Commission. He argues that because the UK faces “a combination of an ageing population, falling contributions into funded private pensions, and an already ungenerous state system which will become less generous per pensioner”, the pensions system as a whole is unquestionably in need of *preventive* reform^[35]. The Pensions Commission highlighted the severity of the problem of *future* pension adequacy for people around the middle of the

income distribution, and argued that reforms are needed to:

- i) increase the proportion of working people who are saving in a scheme that will enable them to supplement the State Pension; and
- ii) to increase the level of saving among those who already belong to a supplementary pension scheme.

This does not mean, however, that the task of adjusting pension arrangements to population ageing boils down to the challenge of increasing supplementary pension savings through funded schemes. If it is accepted that the current division of labour between the public and private parts of the system should be kept roughly the same, we have still to ask how much and what kind of expansion of state pension scheme is required to enable it to its main functions under future conditions.

The main case for reform of the state pension system in the UK is to be found in the problems associated with continued use of means-testing to secure state benefits that supplement the Basic State Pension, and there is no way of reducing reliance on means-testing without increasing public spending on pensions. The principal arguments for *corrective* reforms are:

- that the scheme is only partially successful in its role as a safety net for people with very low lifetime earnings; and
- the socially agreed minimum is set too low.

If we accept either or both of these arguments, the problem is to find a way of reducing reliance on means-tested benefits that does not undermine the contributory character of the scheme. Should reform aim at enabling some, or

indeed most people with very low lifetime earnings to receive a basic pension which removes the need to claim pension credit? For the Pensions Commission the principal argument for preventive reform was the projected increase in the proportion of pensioners who will be eligible for income-related benefits (especially those who would be reliant on state benefits for all or most of their income). Although the size of this increase will be much reduced by the decision to uprate BSP in line with earnings (as part of the ‘triple guarantee’), it is still arguable that the change in indexing only partially resolves the problem of future pension adequacy for people with average or relatively low lifetime earnings, and that

“without further reform there will be an increase in the proportion of pensioners who will receive less help than they might reasonably expect from the state pension”

– given their participation in what is after all a contributory scheme - in achieving an adequate retirement income.

4 Diversity in life expectancy – a reform challenge

State pensions are a form of social insurance, helping to provide protection against living long without an adequate income. Inevitably though, different individuals have different life expectancies (i.e. the age they might reasonably expect to live to) and so benefit from state pensions for different lengths of time. For example, the diversity in life expectancy seen between regions within the UK is stark and oft quoted.

A new born boy in Kensington and Chelsea can currently expect to live some 13 years and 4 months longer than a new born boy in Glasgow City – with a divide of 16 years and 6 months for girls (Figure 4.1). Part of these differences relate to mortality rates in younger life and child bearing years^[36], and so the differences narrow as individuals reach state pension age. However material differences persist. The men and women of Kensington and Chelsea can, having reached age 65, expect to live ten and nine years longer than men and women in Glasgow respectively.

Looking down the latest list of life expectancies by different areas produced by the ONS^[40], a number of patterns start to emerge – for example whilst those at the very top and bottom may be more urban in nature, rural localities generally appear near the top of the list, and urban localities generally appear near the bottom of the list. Similarly areas near the top of the list tend to be associated with wealth whilst those areas associated with greater deprivation occur near the bottom of the list.

These patterns are not coincidental and are core to the challenges that differences in life expectancy pose to pensions reform. For example any reform measures which are based upon life expectancies – and changes over time therein – of the population as a whole risks

Figure 4.1 Life expectancies from birth, top and bottom ranked areas^[38]



having a disproportionate effect on those with the shortest life expectancies, or for whom life expectancy is increasing at the slowest rate.

In this section we seek to explore these differences and identify some of the key patterns and trends which could influence the current debate on the relationship between life expectancy and the state pension promise.

4.1 The rural and urban divide

The problem of pensioner poverty – and so the potential failing of the state pension system in providing a safety net – is particularly acute in rural areas where a greater *proportion* of pensioners live in income poverty (i.e. incomes below the national average)^[39].

Pensioners in rural communities also face higher costs of living^[43], increasing their need for an adequate safety net. Looking down the ONS' list, we also see that the places with highest life expectancies tend to be rural localities. This is perhaps no surprise. There has long been suggestion of an *urban penalty* i.e. that living in urban localities is associated with shorter life expectancy^[41].

This is supported by analysis of data collected by Club Vita on the longevity experience of pensioners within occupational pension schemes. As locations become increasingly rural so male life expectancy increases (figure 4.2)^[42].

4.2 Deprivation and regional variation

The lowest life expectancies tend to be found in the urban areas and in particular areas with significant concentrations of deprivation. This is particularly relevant when the state pension is viewed as a contributory system which acts as a safety net against a poverty trap in later life, since it is arguably those who live in the most deprived areas for whom the reliance on the state pension is greatest.

It would be easy to assume that the differences in life expectancy between locations can be largely attributed to differences in levels of deprivation. However, joint research between Oxford Institute of Ageing and Club Vita has identified that, whilst life expectancy is substantially lower in deprived areas, there continues to exist significant regional variation in life expectancies for men and women in all bar the least deprived areas. This suggests

Figure 4.2 Life expectancy from age 65 in rural vs urban locations (men, 2006-2008)^[43]

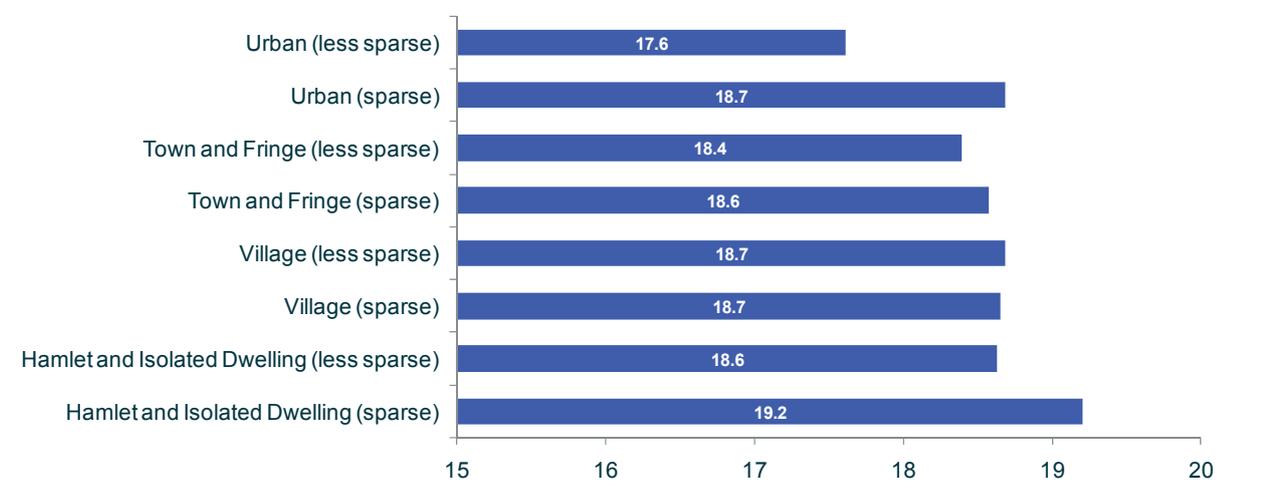
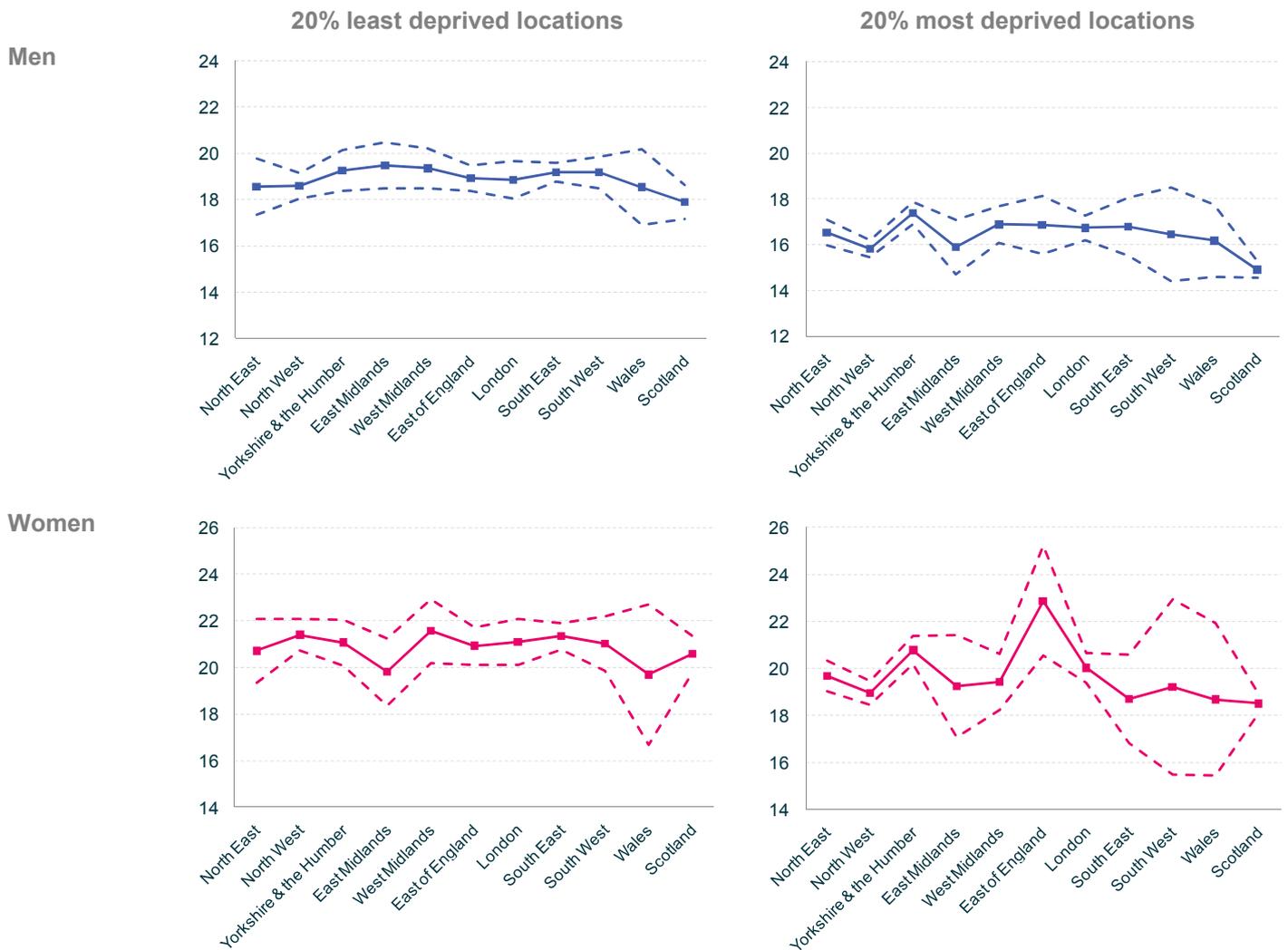


Figure 4.3 Regional variation in deprivation's impact on life expectancy^[44]



that regional differences are due to more than differences in deprivation^[44].

This research is summarised in figure 4.3 which shows life expectancy from age 65 by region for men and women^[45]. In each case:

- We have concentrated on the parts of that region which are within the 20% least deprived UK locations (left hand charts) and the parts of the region which are within the 20% most deprived UK locations (right hand charts)^[46].
- The solid line represents the life expectancy observed within Club Vita's dataset, with the

dotted lines representing the 95% confidence interval for these life expectancies.

- Deprivation has been measured by the Carstairs index, which is based upon four key indicators: social class, lack of car ownership, overcrowding and male unemployment.

The charts highlight how:

- life expectancy is lower in the most deprived locations (right hand charts);
- the life expectancies seen in the least deprived parts of the UK are largely the same across regions (left hand charts);
- the range of life expectancies seen between regions (i.e. in the solid line) is wider in the most deprived parts of the UK (right hand charts) indicating that regional variety remains.

This poses a challenge to any reforms. Is it desirable to avoid a disproportionate impact on individuals in certain deprived areas who are likely to be most reliant on the state? And if so can this be achieved?

Before we can begin to answer this, it is important that we understand more about the differences in life expectancy seen between individuals rather than regions.

4.3 Everyone is different

As individuals we are all different, and it is no surprise we will ultimately each live for different lengths of time. However it is not just regional and deprivation factors that influence how long we live for. Other factors such as health, genetic disposition to different diseases, lifestyle and education all have substantial bearing.

Using detailed data collected on members of occupational pension schemes, Club Vita has

identified the effect that a number of individual characteristics have on life expectancy *in isolation*^[47, 48]. For example:

- **Normal and ill-health retirees** – a pensioner retiring in ‘normal health’ can typically expect to survive between 1½ and 3½ years longer than a pensioner who retires in ‘ill-health’ (i.e. with a known health issue which means they are eligible for enhanced pension benefits).

The effect of retirement health on life expectancy is most pronounced for pensioners that have the healthiest lifestyles and highest levels of affluence.

- **Lifestyle** can lead to considerably different life expectancies. There is a difference of up to 4 - 5 years in life expectancy between the least healthy and healthiest lifestyles.

Club Vita estimate lifestyle by using an individual's full postcode and data provided by commercial providers such as Experian and CACI on the likely lifestyles of individuals living in each postcode.

- **Affluence** can have an additional impact on life expectancy comparable in magnitude lifestyle, although the effect is different for men and women:
 - Men with a history of high salaries (i.e. in excess of £40,000 p.a.) have a life expectancy of 3 - 4 years longer than those with the lowest salaries (i.e. less than £15,000 p.a. in current terms).
 - The effect of personal income is smaller for women than seen for men.

That this is seen amongst the current generation of women pensioners is not a surprise, since many will have limited labour force participation and so affluence may be determined at the household rather than individual level. However, with increased labour force participation, and increased access to workforce pensions, e.g. via removal of part-timer restrictions,

we may see personal income having a more material effect for future generations of women.

- **Occupation** - i.e. whether an individual has carried out a 'manual' or 'non-manual' role - can account for up to ¾ year difference in life expectancy for men and up to 1½ years for women. 'Ex-manual' workers tend to have shorter life expectancies.

The effects described here are independent i.e. to find the combined effect you can add the numbers together as illustrated in figures 4.4 and 4.5. This means that they explain – in aggregate – a spread in life expectancies of over 11 years for men, and almost 10 years in women, as shown in figure 4.6.

Figure 4.4 Impact of different factors on life expectancy from age 65 – men^[48]

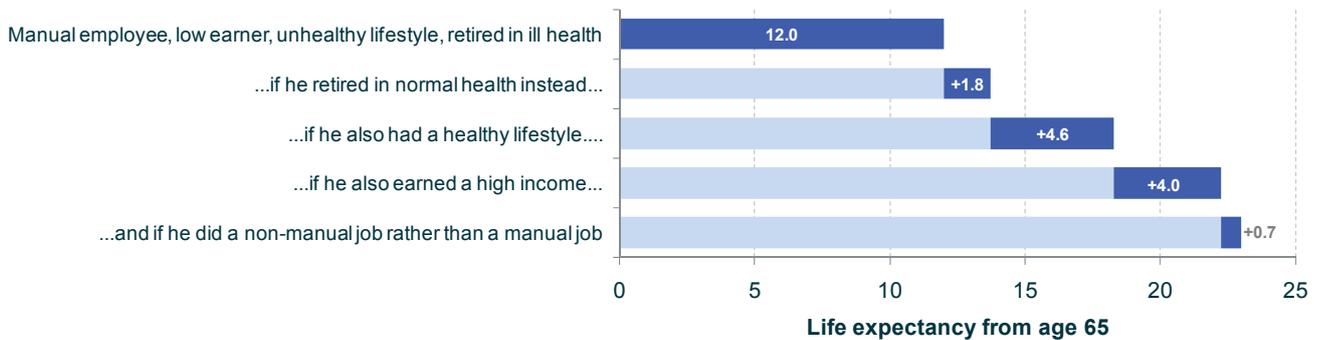


Figure 4.5 Impact of different factors on life expectancy from age 65 – women^[48]

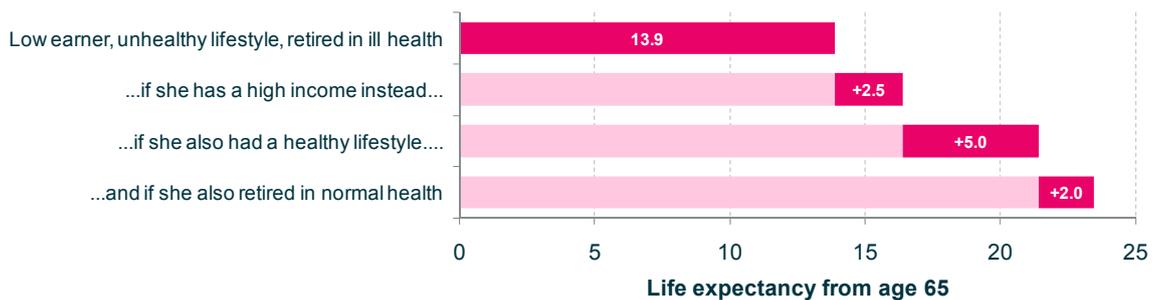


Figure 4.6 Range of life expectancies from age 65 for different combinations of affluence, lifestyle, retirement health and occupation^[48]

| | Lowest life expectancy | Highest life expectancy | Difference |
|-------|------------------------|-------------------------|------------|
| Men | 12.0 years | 23.0 years | 11.0 years |
| Women | 13.9 years | 23.5 years | 9.6 years |

In the context of changes to the state pensions, it is also insightful to consider this in terms of the proportion of individuals aged 65 who can be expected to survive to each older age (figures 4.7 and 4.8). These charts show how the poorer, less healthy individuals die far more rapidly after age 65 (green lines) than either the average

individuals (pink lines) or the longest lived individuals (blue lines). For example less than 1 in 3 of the poorer, less healthy men will survive to age 80 compared to 8 in 10 of the healthier, wealthier men.

It is also worth highlighting that the data collected

Figure 4.7 Impact of different factors on life expectancy from age 65 – men^[49]

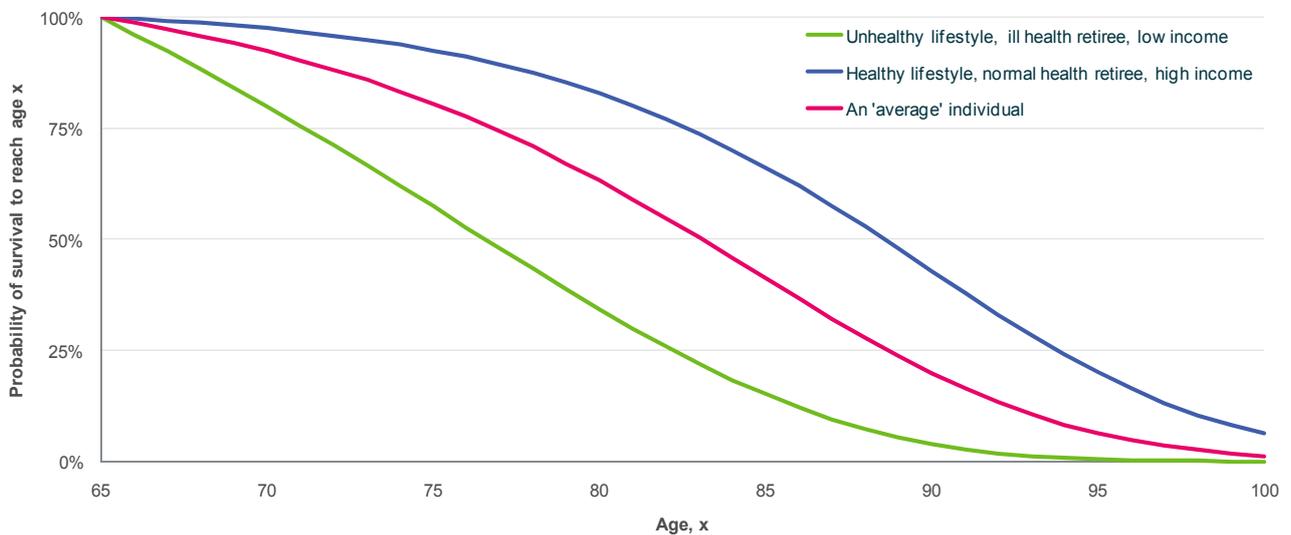
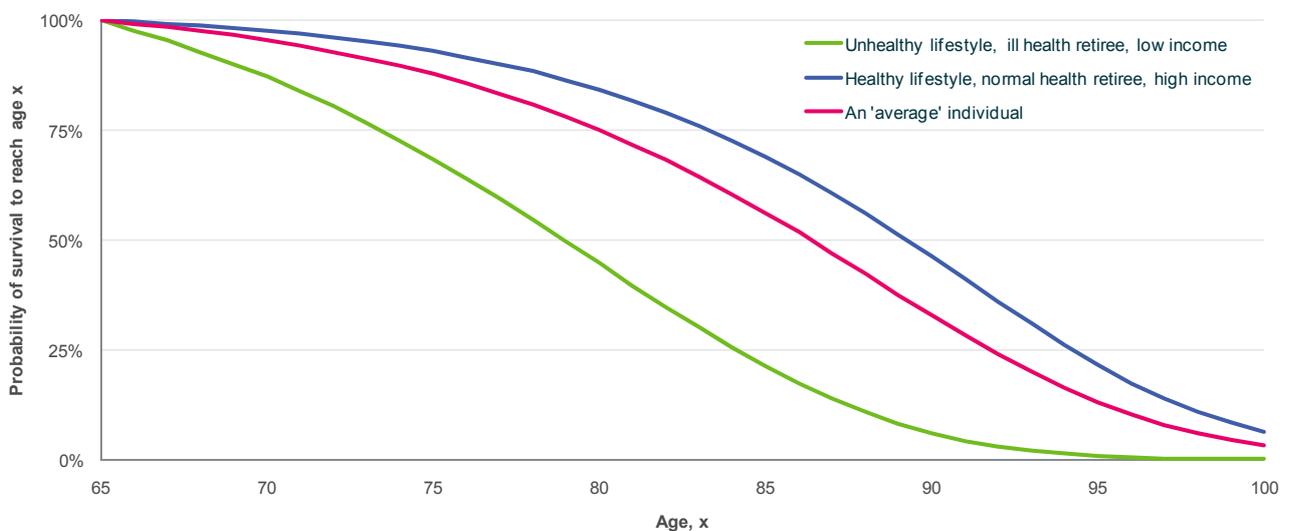


Figure 4.8 Proportion of 65 year old women expected to survive to each older age^[49]



by Club Vita relates to individuals who have been members of occupational pension schemes. This means it represents a 'select' subset of the UK population - namely those who have, at some point in their life, been employed by a company with a defined benefit occupational pension scheme. As such, the extremes described here may be lower than the extremes seen in the UK population as a whole which will include, for example, those who have never been able to work due to poor health.

4.4 Diversity in trends

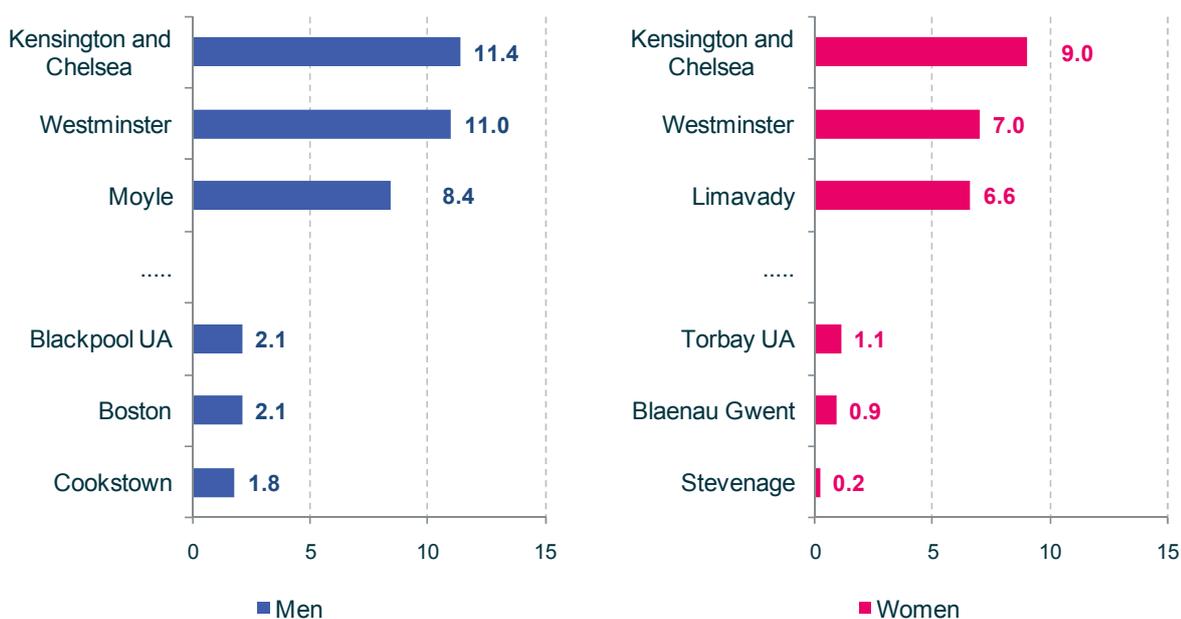
In section 3 we identified how the sustainability of the UK state pension system is sensitive to future increases in longevity. Life expectancy has been steadily increasing over the 20th Century, and is projected to continue to increase (figure 1.1) – but has it been increasing in the same way for everyone? If not, then relying on national life expectancy trends to inform decisions on reform

could disproportionately impact some individuals.

Looking at the increase in life expectancy since 1991 for different regions, we see a considerable range – from 1.8 years to 11.4 years for men and 0.2 years to 9.0 years for women (figure 4.9). It is noticeable that Kensington and Chelsea and Westminster top the lists for both highest life expectancy (figure 4.1) and largest increases (figure 4.9). This pattern has been more widely repeated – there is a positive correlation between those regions which saw the largest increases in life expectancy and those with the highest life expectancies^[50].

Club Vita's dataset also highlights the diversity in trends being seen between different groups of individuals. For example, the pattern of changes in mortality rates amongst pensioners has been significantly different for former manual workers compared to former non-manual workers^[51].

Figure 4.9 Regions with biggest and smallest increase in life expectancy from birth (1992-2008)^[38]



Another difference is how life expectancy appears to have increased slightly faster in recent years amongst the less affluent. Between 1993 and 2008 life expectancy for men earning below £25,000 p.a. in current terms has increased by almost 3 years compared to less than 2½ years for men earning over £25,000 p.a. (figure 4.10).

However, over the longer term increases in life expectancy have been lower for those in the lower socio-economic classes (e.g. unskilled manual workers) than for the higher socio-economic classes (e.g. professionals), as illustrated by figure 4.11.

4.6 Health adjusted life expectancy (HALE)

Life expectancy has been increasing. However, just because we are living longer it does not necessarily follow that these extra years of life are healthy. To the extent that these extra years are unhealthy, individuals cannot reasonably be expected to delay retirement. Given this perhaps we should also be considering measures of ‘health adjusted life expectancy’?

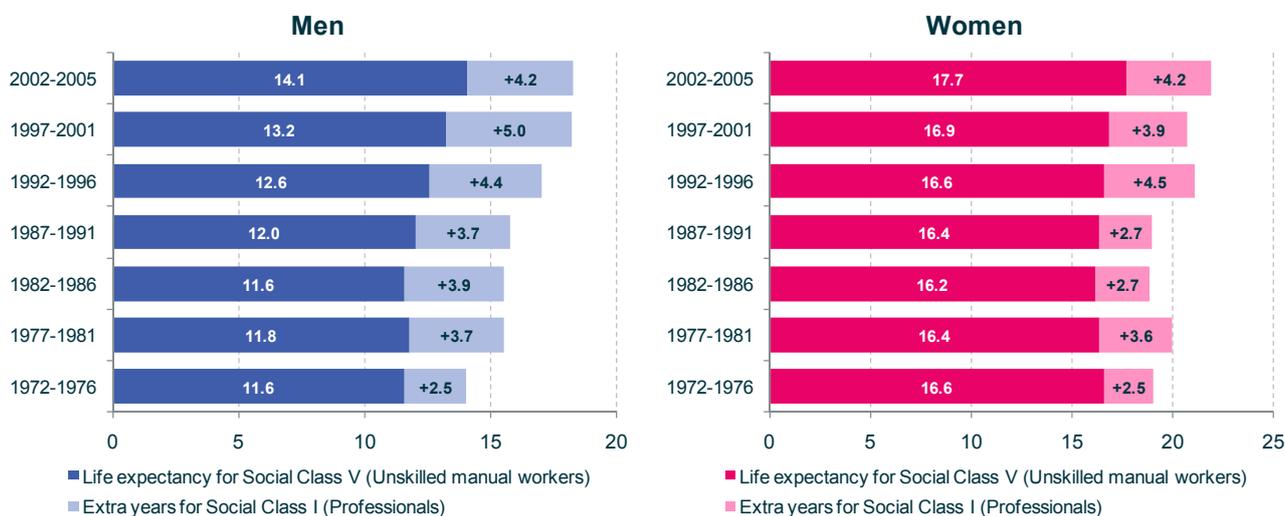
Disability-free and healthy life expectancy

The HALE measures widely used in the UK are ‘healthy life expectancy’ (HLE) and ‘disability free life expectancy’ (DFLE) as calculated by the ONS. Both measures are based upon a combination of survey data (from the General Household Survey covering private households) and census data (to allow for individuals in

Figure 4.10 Life expectancy for men aged 65 by salary at retirement or earlier exit ^[52]



Figure 4.11 Changes in life expectancy from age 65 by social class ^[53]



communal establishments such as nursing homes)^[54].

Two questions are used within the General Household Survey to calculate HLE and DFLE:

- 1 Over the last 12 months would you say your health has on the whole been good, fairly good or not good?
- 2 Do you have any long-standing illness, disability or infirmity? By long-standing I mean anything that has troubled you over a period of time or that is likely to affect you over a period of time. If 'Yes':
 - 2.1 What is the matter with you?
 - 2.2 Does the illness or disability / Do any of these illness or disabilities limit your activities in any way?

HLE has historically been based upon those who answer 'good' or 'fairly good' to the first question. DFLE is based upon those who also answer 'yes' to question 2.2.

Both of these measures provide an indication of the length of time an individual remains 'healthy' so are more closely aligned with an individual's ability to work later in life, and in turn the ability to defer reliance on state pension to an older age. As such they are arguably more relevant to decisions on reforms to state pensions, and in particular to changes to state pension age than total life expectancy.

“We see considerable benefit in paying greater attention to healthy life expectancy when making decisions on state pension age.”

Diversity and trends in healthy life expectancy

We saw in figure 2.3 that HLE has typically exceeded DFLE. This is because some individuals who have a 'limiting long standing illness' (i.e. answer 'yes' to question 2.2) will consider their general health to have been 'good' or 'fairly good' over the last 12 months.

We also saw in section 2 how for both men and women the increases in 'healthy life expectancy', and 'disability-free life expectancy' in particular, have not kept pace with total gains in life expectancy. However, HLE has been fairly stable at around 75% of total life expectancy for both men and women – in other words every extra year of life expectancy post age 65 has resulted in an extra 9 healthy months (and around 7 months extra free of limiting long standing illness or disability).

Further, it is noteworthy that the diversity in healthy life expectancy between regions (and

therefore between individuals) is greater than that in 'total' life expectancy – for example figure 4.12 shows that the gap in healthy life expectancy from age 65 between regions is 6.8 years for men, compared to a gap of 4.9 years for life expectancy. These regional differences have also been increasing over time^[57].

Using healthy life expectancy in Government policy

Governmental strategy has a history of using healthy life expectancy to inform decisions – for example in strategies to tackle poverty, social exclusion, sustainable development and public health strategy^[54]. Perhaps this could be extended so that healthy life expectancy informs reforms to the state pension system? This is a theme we shall return to in section 6. However before moving on to consider possible reforms it is worth noting that the measures of health-adjusted life expectancy currently used have some important limitations.

Figure 4.12 Range of health adjusted life expectancy by local authority and deprivation

| Life expectancy measure | Difference between local authorities with highest and lowest life expectancies ^[55] (England & Wales, 2001) | | Life expectancy measure | Difference between 20% least and 20% most deprived regions ^[56] (England, 2001-2005) | |
|---------------------------------|--|-------|---------------------------------|---|-------|
| | Men | Women | | Men | Women |
| Life expectancy | 4.9 | 5.0 | Life expectancy | 3.6 | 3.0 |
| Healthy life expectancy | 6.8 | 7.5 | Healthy life expectancy | 5.5 | 4.8 |
| Disability free life expectancy | 6.3 | 6.4 | Disability free life expectancy | 4.5 | 4.0 |

For example:

- The calculations are based upon responses to a survey i.e. are self-reported. As such they are:
 - subject to changes in individuals' expectations of health over time and so may not be a true reflection of changes in the prevalence of illness^[58];
 - open to individuals selecting against the state if they are used to guide decision making.

- The calculations are subject to change for example due to:

- changes in the survey question;

e.g. question 1 above was discontinued in the General Household Survey from 2008 onwards. A replacement question is now used designed to harmonise UK HLE calculations with those across the EU. The new question increases the number of possible answers and removes the explicit reference to 'the last 12 months'. The net effect will be to reduce the healthy life expectancy values quoted in future years.

- changes in the nature of the survey.

e.g. the method for deciding who participates in the General Household Survey was changed in 2005^[59]

5 Case studies of international reform

Having identified the potential arguments for reforming the UK state pensions system in section 3, we consider in this section a number of reforms that have been implemented in other OECD countries.

In section 3 we also noted how - despite facing similar challenges with regard to ageing populations as other industrialised countries - the role of the state pension differs in the UK. It is primarily a safety net for those with low lifetime earnings and as an assistance (in combination with the relatively high level of private pension scheme income) in achieving an adequate retirement income. As such the reforms illustrated here demonstrate the 'art of the possible'. Not all of the reforms could be implemented in the UK without fundamentally changing the relationship between state and occupational/private pensions.

Linking pension benefits with life expectancy

Some pension scheme reforms may improve financial sustainability without improving *robustness* in the face of demographic shocks. If the pensionable age and/or contributions are set today based on current forecasts for mortality and fertility, then the sustainability of the scheme may be threatened should gains in life expectancy turn out to be significantly higher than those forecasts. Something would have to change to put the finances of the scheme back onto a sustainable trajectory. What many OECD countries have done is to adopt reforms that link pension benefits to life expectancy in a way that provides for such a contingency.

Some of the reforms listed below incorporate 'automatic stabilisers'; in others the path of future

adjustments linking pension benefits to life expectancy has been determined in advance, i.e. the primary aim has been to put the system on a sustainable footing in light of what is *now* seen as the most likely future trajectory for life expectancy.

Four different mechanisms are considered:

- 1 Defined contribution pensions and notional accounts.
- 2 Adjusting the benefits in a defined benefit scheme.
- 3 Adjusting qualifying conditions in a defined benefit scheme.
- 4 Flexible retirement age.

Case Study 1: Defined contribution pensions and notional accounts

Italy, Sweden and Poland are all examples of countries that have switched to *notional defined contribution* schemes for part of their public pension provision (usually the earnings-related component). These are PAYG schemes that mimic certain features of funded (defined contribution) schemes. 'Pension wealth' accumulates in a similar way to a capital account (only notionally) and the level of pension in payments is calculated in a similar way to an annuity. In this case, however, it is the government rather than financial markets that set the key rates (i.e. investment returns and annuity rates), which are linked to the growth of the economy with a view to ensuring the long-term financial sustainability of the scheme. The effect is to link pension benefits to life expectancy. As gains in life expectancy increase the period over which the pension has to be paid, the level of regular benefit payments (which make up the 'income stream' derived from the accumulated pension rights) has to fall to offset the increase – much like benefits in occupational DC pension schemes where annuity rates change to reflect latest information on life expectancy.

In Sweden the new system of notional accounts incorporates a 'balance mechanism' which depends on the relationship between the system's assets (the present value of the flow of contributions plus a buffer fund) and its liabilities (the present value of the flow of pensions owed to current retirees and workers). If an increase in life expectancy has the effect of increasing current liabilities to such an extent that they exceed assets, both the rate at which contributions are re-valued (i.e. the notional interest rate) and the indexation of pensions in payment are reduced so as to bring the scheme back into solvency. Individuals can try to maintain the level of their pension payments

either by saving more or retiring later than the Normal Retirement Age, and the level of the Normal Retirement Age is set by a political decision (i.e. the government can increase it if they so choose).

In the context of reform of UK state pensions notional defined contribution schemes would provide a robust mechanism for dealing with demographic change. However the absence of a minimum level of guaranteed income or guaranteed indexation in line with either prices or earnings means that such mechanism would typically need to target benefits above a pure 'safety net' level.



Case Study 2: Adjusting benefits in a defined benefit scheme

Several countries which have retained Bismarckian-type public pension schemes have adopted rules which allow for the reduction of benefit payments in case of demographic shock. In Germany the indicator (called a 'sustainability factor') that will be used for this purpose is not life expectancy, but rather the ratio of beneficiaries to contributors. The indicator triggers adjustments which affect *both* the rate at which current workers accrue additional 'pension points' within the scheme *and* the level of pensions in payment (which means that pensions are no longer fully indexed to earnings growth). It is also important to note that the adjustments can work both ways, i.e. a 'favourable' change in the sustainability factor will have the effect of increasing benefits just as an unfavourable change will reduce them. This suggests that current cohorts of German workers could (in principle) decrease their risk of having their benefits reduced in this way by increasing the fertility of their cohort. Indeed it is not unreasonable to suppose that the choice of this particular arrangement was at least partially guided by the desire to introduce a small incentive to increasing fertility.

The alternative to using changes in the system dependency ratio as a trigger for adjusting pension benefits is to track gains in life expectancy, which is what happens in the reformed public pension scheme in Finland. Reforms introduced in 2005 provided for the indexation of earnings-related pensions to future gains in longevity. The adjustments made to benefits are not intended simply to confer resilience to the scheme in case of demographic shocks. All earnings-related pensions from 2010 will be reduced in line with gains in longevity – whether or not these gains turn out to be unexpectedly high. In other words, total capital costs are controlled at a level deemed to be

acceptable. It is hoped that the reform will provide workers with an incentive to delaying retirement. Although the Finnish scheme has a flexible age of retirement, there are no actuarial adjustments of benefits within the retirement corridor, which runs from 63 years to 68 years.

However, both methods have the net effect of potentially reducing benefit levels. Whilst this is practical where the system provides benefits which comfortably exceed the socially acceptable minimum, such mechanisms may be less appropriate in the UK where the state system provides a modest safety net.

Bismarckian schemes

'Bismarckian-type pension schemes' – so named after the first such scheme introduced by Bismarck in Germany in 1899 – provide an earnings-related benefit and so maintain *relative* status of individuals in old age.



Case Study 3: Adjusting qualifying conditions in a defined benefit scheme

In 2006, as part of a package of pension reforms, the Danish government announced that between 2024 and 2027 there would be an increase in the standard retirement age from 65 to 67 for the state pension, which is a basic pension similar in function to the BSP in the UK. Denmark, however, also has an early retirement scheme (VERP), which was introduced in the 1970s to provide workers in physically demanding or especially fatiguing jobs with a way out of the labour market before the standard retirement age. A similar kind of exemption from increases in the standard age of retirement has been included in recent pension reforms in Poland and Austria.

Rather than abolish the early retirement scheme, which remains popular, the 2006 reforms announced that the early retirement age would be increased from 60 to 62 at the same time as the standard age. It was also decided that further increases in both pension ages should be made if life expectancy continued to increase. In order to ensure that individuals should have time to adjust their plans accordingly, these increases, which will be tied to average life expectancy for 60 year olds, will be announced at least 10 years before they take effect. This means that the increases already announced for 2024-27 will be reviewed in 2015. The size of the increase in average life expectancy for 60 year olds between 2005 and 2015 will determine whether or not the proposed retirement ages of 62 years and 67 years are allowed to stand or should be increased.

A different way of linking adjustments in qualifying conditions for a pension to increases in life expectancy has been adopted in reforms to the French public pension scheme. In this case, what is indexed to life expectancy is not the age

of entitlement to a state pension, but rather the number of years of contributions that are required to be eligible for a full pension. One of the main aims of reforms to the statutory pension insurance scheme (the PAYG earnings-related scheme for private sector employees) enacted in 2003 is to stabilise the ratio between years in employment and years in receipt of a pension (at 2 to 1).

The required number of contributory years to qualify for a full pension, which can be taken no earlier than at the age of 60 years, was only recently increased to 40, and will increase again to 41.5 by 2020. The COR (Conseil d'orientation des retraites^[60]) has recommended further graduated increases in case of continued gains in life expectancy, e.g. the 1990 birth cohort would have to work for 43.5 years to qualify for a full pension, which means that someone born in that year could only retire at 60 yrs if they started in employment before they reached the age of seventeen.



Case Study 4: Flexible retirement age

One of the most significant trends in pension reform in OECD countries in recent years has been the adoption of a flexible retirement age with full actuarial adjustment of pension benefits (unlike in Finland). This has been incorporated within a system of notional accounts (as in Sweden) or forms part of changes made to more Bismarckian-type schemes such as those found in Spain or Austria. Either way the change combines the promotion of individual choice and flexibility with a shift in the costs of choice onto the individual. There are many important design questions to be answered in such flexible age retirement schemes. What should be the earliest possible age of retirement? How long should the 'retirement corridor' be? Should there be an upper limit – not to the age at which individuals may choose to draw their pension – but rather to the age at which pension benefits continue to be readjusted, to reflect increased contributions and/or fewer years with pension benefits?

An increase in the earliest age of retirement generally has a different rationale from an increase in the 'reference age' within these schemes. Historic decisions to phase in an increase in the Normal Retirement Age – from 65 years to 67 years - for the US Social Security pension benefits should help to maintain the scheme's financial sustainability, at least in the immediate future. Proposals, on the other hand, for raising the Earliest Entitlement Age (EEA) have no bearing on financial sustainability. Given that the formula for adjusting the benefits of someone opting to retire at 62 (the current EEA) is already set to be actuarially neutral, an increase in the EEA has no effect on the US Social Security scheme's long-term sustainability. The main reason for raising the EEA would be to protect the pension adequacy of individuals who might be myopic about the future consequences

of accepting the lower benefits that go with earlier retirement.

Arguably the UK has a form of flexible retirement age within the existing scheme since Pensions Credit (in the form of the Guarantee Credit) is payable from age 60. However this early retirement corridor is closing as the minimum age for Guarantee Credit increases to 65 in line with the state pension age for women^[61]. Also, whilst SPA is the default age for starting payment of the Basic State Pension, individuals can choose to retire later and defer payment of the BSP in return for an (arguably generous) uplift^[62].



6 Potential reforms to UK state pensions

In section 3 we identified a need for preventive reform in order to ensure that the current generation of workers have an adequate level of income in retirement. The performance of the current system as a safety net was challenged, particularly with regard to the increasing importance of means tested benefits under the current system, and the low take up rates thereof amongst the lowest income groups.

We also identified how the current system is unlikely to be robust to life expectancy rises beyond those anticipated under the ONS principal projections.

The UK state pension system could therefore benefit from reforms which addresses these issues of ongoing sustainability and adequacy. A natural starting point is to consider the government's existing reform proposal for a universal flat-rate state pension.

6.1 Universal state pension

The Government recently proposed the introduction of a universal state pension^[1]. A Green Paper detailing the proposals was due to be published before the end of 2010. However, this paper has now been delayed^[2]. At the time of writing there are no official details. However, based on announcements made in the media we believe the key features of the proposed universal pension are:

- a flat rate pension, at a possible level of approximately £140 p.w.;
- payable to all pensioners reaching state pension age from a certain point in the future, with a target date for introduction of 2015 or earlier;
- payment is subject to holding a citizenship or residency requirement;
- replaces existing payments under basic state pension, additional pension and means-tested additions.

Since the universal pension is likely to be payable from circa 2015, and then only to new pensioners, any reduction or increase in costs associated with the changes to the system will materialise over the medium to long term. However, it is likely that there will be costs involved with introducing the universal state pension, since:

- the universal nature means that it should be payable to more people;
- average benefit income levels for recently retired single pensioners were, in 2008-2009, £147 p.w. – rising to £193 p.w. for recently retired pensioner couples^[28]. It is likely that these averages would rise under a universal pension of £140 p.w. since:
 - they include disability benefits and other benefits which may not be replaced by the universal pension;
 - there has been a move away from differential rates for couples which would suggest that the average benefit income for recently retired couples may increase to at least £280 p.w.

We noted in section 3 that the Government had estimated that the current system was affordable. However, this was prior to restoring the link to earnings in the uprating of state pensions, and did not allow for the universal state pension. As both of these increase costs, there is an argument that additional reforms will be needed to ensure the ongoing sustainability of the system.

On the positive side, the proposal removes one of the most apparent shortcomings of the current system, namely the reliance on means tested benefits which many of the lowest income pensioners do not collect. However, it only does so for new retirees, leaving many of the current generation of pensioners no better off.

So what scope might there be to improve on the universal state pension model?

Potential shortcomings of the universal state pension

The arguments above and in previous sections suggest a number of areas where the universal state pension (as described here) could potentially be improved:

- 1 It only applies to new retirees

Should a goal be to tackle inadequacy of state pension provision for those currently in receipt of state pensions?

- 2 The universal concept risks disincentivising labour force participation

We saw in section 3 the importance of labour force participation to ensuring the sustainability of state pensions.

- 3 It continues to rely on ad-hoc changes to state pension age to ensure sustainability

If average benefit payments are to increase this is likely to put pressure on the sustainability of the system without either an increase in national insurance contribution rates or further changes to SPA.

Further, there is no robust mechanism for handling unanticipated changes in longevity nor for handling changes in how long individuals are reasonably able to work for.

- 4 It does not reflect the diversity seen in life expectancy

Changes in state pension age have a disproportionate impact on the poorest, i.e. those who have the greatest reliance on the state pension.

In the rest of this section we look at each of these in turn and identify some options for addressing them.

Before we do so it is worth highlighting that the last two issues in the list are general challenges which

apply equally to the current system and a universal state pension. They also have the potential to create a concerning ‘benefit substitution problem’ whereby state pensions are substituted with pre-retirement disability welfare payments. Such a situation would endanger both the sustainability of the system and make any reforms aimed at controlling costs less effective. For example, analysis published in 2010 showed that around 20% of the pensions saving made in raising state pension age is liable to be spent on increased sick and disability benefits^[63].

6.2 Providing for current pensioners

Section 3 identified that many low income pensioners may not be availing themselves of means tested benefits and are potentially let down by the current system. However the universal pension – as currently proposed – will only apply to those reaching state pension age in future years so does little to address this.

Universal pension for all?

The most obvious resolution to this challenge is to consider introducing the universal pension for all pensioners rather than those retiring from 2015.

The Government would face a difficult decision though – what happens if the combined income from the state benefits which the universal pension replaces exceeds the level of the universal pension? If the higher of the two is paid then costs increase, yet if the state pension is to be truly universal would it be politically, and socially acceptable, to reduce the level of state benefits for some of our older population? Assuming the answer to this is no, then the challenge will be to find an acceptable compromise between addressing the potential failings as a safety net and costs.

The universal pension as currently proposed will be phased in gradually via ‘young pensioners’ i.e. those reaching state pension age from 2015 onwards. One compromise could therefore be to

simultaneously phase it in for older pensioners - for example those aged 80 move from current state pensions to the universal pension (if higher), as a replacement for the means tested 'Over 80 pension'^[64].

6.3 Incentivising labour force participation

In order to ensure pensions are sustainable it will be important to maintain (or increase) labour force participation. We saw in section 3 how the numbers of economically active supporting the economically 'inactive' is projected to fall over time unless a variety of measures are implemented. The examples we gave there are labour force participation increases at the older ages; and/or increased labour force participation of women.

A concern some might also raise is that by removing the link between economic activity and contributory state pensions, a universal pension could provide an incentive to early exit from the labour force. If this is a concern (and this is by no means certain) then the universal pension concept could be modified, so, for example, it incorporates a basic universal 'support' level, along with a modest 'reward level' providing a 'top-up' in return for economic or other productive activity.

6.4 Ensuring state pension age responds to changing longevity

In his introduction to the original proposals to gradually increase state pension age to 68 for men and women - put before Parliament in early 2006 as part of a range of reforms - Tony Blair noted we need to "put in place an affordable and sustainable pension system which meets the needs of generations to come"^[65].

However, just four years later the Department for Work and Pensions (DWP) issued a 'call for evidence' on the timing of the first set of increases in *state pension age i.e. the increase to 66 post*

equalisation of SPA for men and women^[66]. Unsurprisingly, the DWP received a large number of responses to the call for evidence – with nearly 400 individuals and organisations responding^[67]. The result of this 'call for evidence' was an acceleration of the equalisation of SPAs (to happen by 2018) with the rise to 66 happening by 2020 rather than between 2024 and 2026^[4].

Somewhat ironically, Club Vita's analysis suggests that since the start of 2006 life expectancy has increased by a year – i.e. the planned increase in state pension age has already been offset by increases in life expectancy. It is therefore perhaps unsurprising that Iain Duncan Smith has stated that: "...we... ..plan to take a frank look at the relationship between state pension age and life expectancy"^[3]. Indeed failure to look at how state pension age will change over time under the pressures of an ageing, longer lived society risks returning to a situation of an unsustainably generous state pension provision.

Individuals need certainty in what their state pension age will be. With 40% of recently retired couples – rising to 60% for single pensioners – relying on the state for over half their income^[28], an individual's ability to retire is heavily linked to the availability of state benefits. Furthermore organisations such as the Pensions Policy Institute have suggested that men typically need five years notice of changes to retirement ages in order to adjust their plans, with women needing longer^[68]. This suggests mechanisms are needed which can automatically adjust state pension age in a way which provides sustainability but with changes being made with notice of at least five years.

So what might a robust mechanism for reflecting changes in life expectancy within the state pension system look like?

As an example, it could follow the Finnish model referred to in section 5, whereby adjustments to

pensions are made based on emerging longevity – any increases in life expectancy from current levels serves to reduce the level of benefit payable. The authors are aware of a number of UK funded occupational pension schemes where this approach has been used to control expenditure on future benefit accruals in the face of rising longevity. However, assuming the primary aim of the state pillar is to provide a safety net, adjustments which reduce the benefit amount are unlikely to be an appropriate reform measure for the UK state pensions system.

Mechanisms for reflecting rising longevity

Given that directly reducing the level of benefit as longevity increases – whilst effective at limiting costs – is contrary to the primary objective of the state system to provide an adequate safety net, what other options are practical?

Assuming that transferring the burden of cost to future generations via increased national insurance contributions is undesirable then the most obvious example is to change the age at which state pension benefits come into payment. Possible mechanisms for doing this include:

1 Link state pension age to **life expectancy**

Under this approach a one year increase in life expectancy would lead to an increase in State Pension Age, either by the full one year or by some specified fraction. This is comparable to the Danish reform described in section 5.

For example it might be desirable to share the benefits of increased life expectancy between extra working and extra retirement. We saw in section 3 that around 30% of adult life is currently spent post SPA (figure 3.8). This suggests a one year increase in life expectancy could equitably be shared 70:30 between extra years in work and extra years

in retirement i.e. every extra year of life expectancy increases state pension age by around eight months.

2 Link state pension age to **healthy life expectancy**

We believe there is substantial merit in using a health adjusted measure of life expectancy as the driver of changes to state pension age. As outlined in section 4 this measure is intrinsically linked to the ability of an individual to continue to work into later life, and so mitigates the ‘substitution problem’ described earlier.

Also, by focussing on healthy life expectancies greater emphasis is likely to be given to narrowing the health inequalities which contribute to the diversity in life expectancies described in section 4.

3 Link state pension age to a measure of sustainability such as **support ratios**

The state pension system should aim to be sustainable in the face of an ageing population. In Section 3 we measured this in terms of ‘support ratios’ – the proportion of individuals who are ‘economically active’ (i.e. employed, or able to be employed) relative to the ‘economically inactive’ (i.e. the retired, the under 16s and those not able to participate in the labour market).

One approach could be to target keeping this ratio constant at a level which is believed to be economically sustainable. For example it might be decided that having one economically active person per economically inactive person is sustainable.

Alternatively increases in longevity can be reflected by changing the number of years of contributions required to be eligible for a full state pension (and having a minimum age for receipt of the full benefit),

akin to the system adopted in France. We will return to this possible mechanism later.

Examples of the different approaches

Perhaps the easiest way to explore these different mechanisms is via some examples. In order to illustrate the features of the different mechanisms the following four examples have been considered:

Example A: '1 for 1' based on life expectancy

Under this example:

- state pension age changes are determined by considering the increase in life expectancy since a specified reference year;

For the purposes of illustration we have assumed a reference year of 2008. However, an earlier year could be used if the Government wished to reduce the level of time typically spent in receipt of state pensions.

- state pension age increases are calculated based on the average increase in life expectancy for men and for women.

This means that the state pension age – once equalised – would remain the same for men and women. The authors believe that European equality legislation is such that the government would find it politically difficult to return to different SPAs for men and women now they have started on the route to equalisation.

Example A in numbers:

Suppose that:

- Average life expectancy at age 65 in 2008 is 19 years
- In 2030 the latest information (probably relating to 2028) is that life expectancy has increased to 22 years

Then:

- An announcement would be made in 2030 that State Pension Age will increase to 68 from 2035.

Example B: '1 for 1' based on healthy life expectancy

This example works in a very similar way to example A, but uses increases in healthy life expectancy to determine state pension age increases.

This has the desirable feature of avoiding increasing state pension age when **health** (as opposed to life expectancy) has not materially improved – i.e. if people are living longer as a consequence of postponing death, but the extra years are spent in poor health.

However it runs the risk that *total* life expectancy may increase faster than healthy life expectancy. In which case the increases in state pension age may be insufficient to maintain a stable system – a point we will return to.

Example C: Keeping proportion of adult life spent over SPA at 30%

Under this example, the proportion of 'adult life' spent over state pension age is targeted to be broadly constant at 30%. In effect this means that each extra year of life expectancy is broadly split 70:30 between extra time before and after SPA; or or equivalently for every 10 months life expectancy increases, state pension age increases by 7 months.

Here 'adult life' is treated as age 21 and over, reflecting the fact that the majority of life pre age 21 is currently spent in education.

Example D: Maintaining a stable support ratio of approximately 1

Under this example the state pension age changes are set to target a stable support ratio of 'economically active' to 'economically inactive' of 1.

The state pension age for 2020 (for example) would be set five years in advance (i.e. in 2015) so that – based on latest available economic and population

projections – the support ratio in 2020 is projected to be 1.

We have used a support ratio of 1 purely for example as it broadly reflects the average level seen over the last 40 years. A higher target would require more economically active people and so result in larger increases to state pension age than illustrated here; whilst a lower target would result in smaller increases in state pension age.

6.5 Comparing different approaches to setting State Pension Age

Figures 6.1 and 6.2 compare the four examples introduced above, in terms of:

- 1 **Impact on the individual:** How the state pension age would change over time
- 2 **Sustainability:** How the support ratio of economically active to economically inactive would change over time

For ease of comparison we have also assumed – purely for the purposes of illustration – the same choice for a number of key decisions in each of the four examples.

| Design Decision | Assumption made |
|--------------------------|---|
| Notice period | 5 years i.e. the increases taking effect in 2025 are announced in 2020 |
| Timing of implementation | 2019 i.e. the first change would be announced in 2014 to take effect in 2019 (the first year after SPAs have been equalised for men and women) |
| Gender equality | Yes i.e. once equalised state pension ages for men and women will stay the same |

In order to be able to illustrate support ratios we also need to make assumptions about labour force participation. We know from section 3 that if we successfully expand labour force participation – either for amongst the older (50+) population or for women then support ratios will remain fairly stable under currently planned increases to state pension age. For the purposes of illustration we have considered what happens if this expansion does not happen, and instead current rates of labour force participation continue. However, to smooth out the effects of the current recession we have assumed that over the next three years labour force participation returns to the current five year average. We also assume a modest increase in labour force participation between old and new SPAs i.e. current labour force participation rates at ages 50-64 extend up to the increased SPA.

Naturally if labour force participation is successfully increased amongst older workers or continues to increase amongst women then the support ratios would be higher and – by design - state pension age would increase more slowly under Example D. In other words Example D could incentivise policies which encourage opportunities for older workers.

We can see that:

- All the examples suggest that SPA would need to increase to 66 in 2019 i.e. broadly in line with the Government's plans to accelerate this planned increase

We note that larger initial increases in SPA would be suggested if a reference year earlier than 2008 had been used in examples A and B, or had a higher support ratio been targeted in Example D.

Figure 6.1 How state pension age (SPA) could change in future^[69]

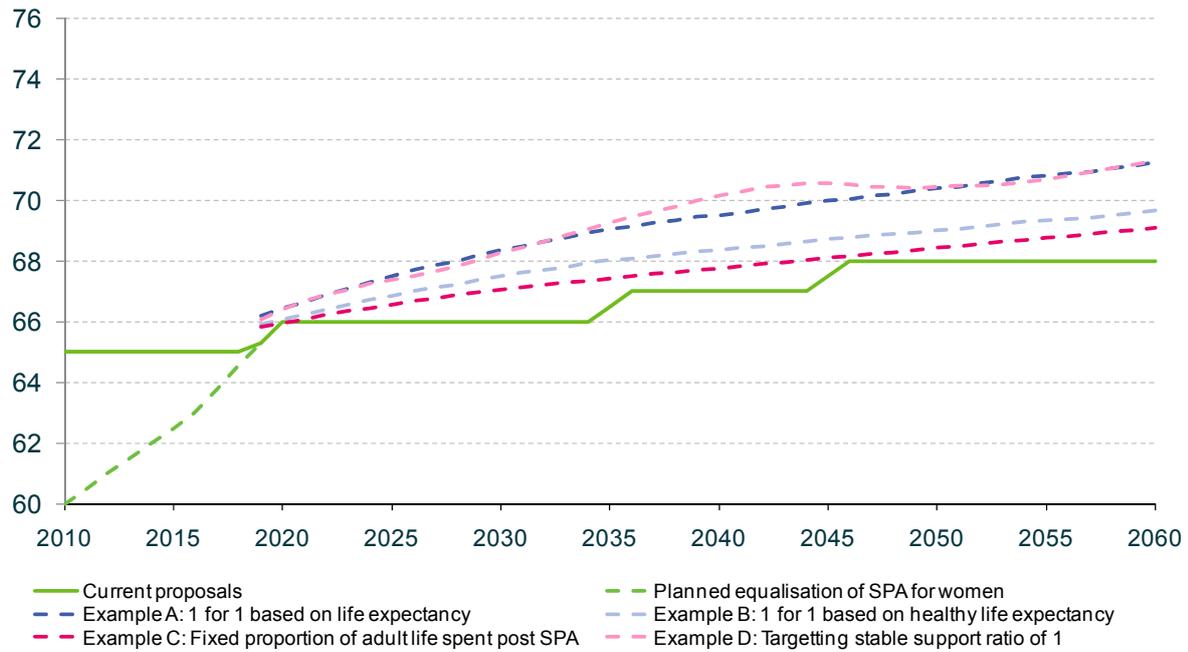
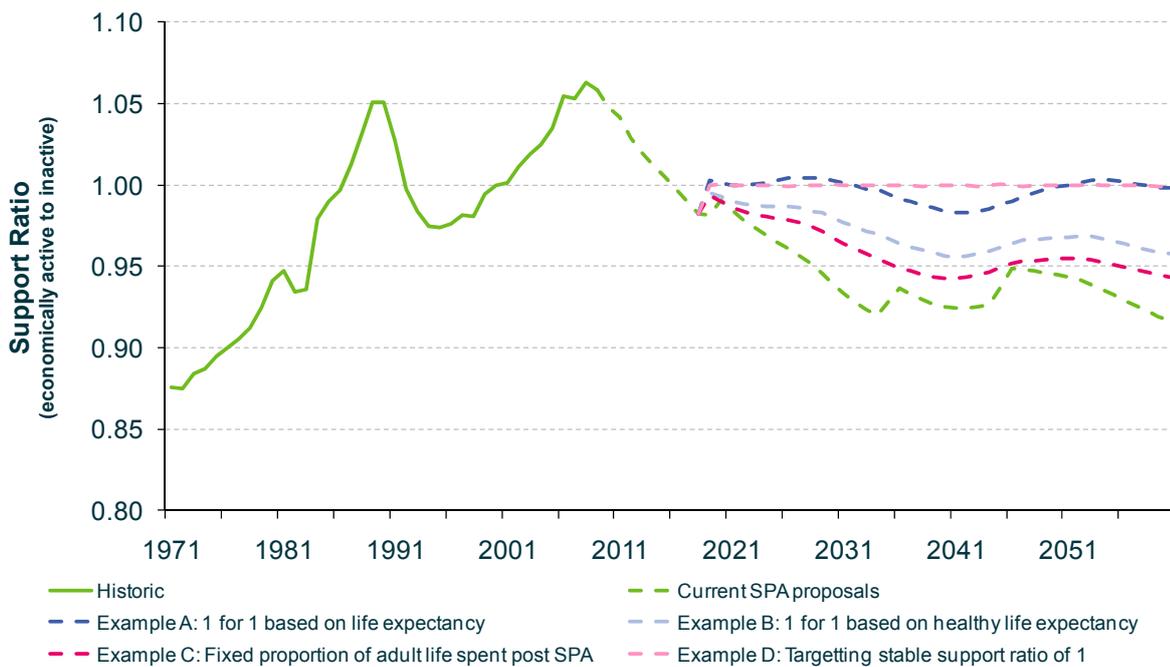


Figure 6.2 Sustainability of the state pension system under different approaches to setting SPA^[70]



- After 2019 all four examples give consistently higher SPAs than currently planned.

“Based upon these examples it could be argued that SPA should increase to between 68 and 70 by 2040...
...and between 69 and 72 by 2060.”

- Targeting a support ratio of 1 (Example D) has a similar effect to allowing SPA to increase fully in line with increases in life expectancy (Example A):
 - A direct link to life expectancy creates a support ratio which oscillates around 1 as successive baby boomer generations reach SPA; whilst
 - Targeting a stable support ratio converts this to a volatile SPA with the potentially undesirable feature that – in the absence of deliberate smoothing – SPA can increase one year, decrease the following year, before starting to increase again.
- The approaches where SPA is driven by increases in healthy life expectancy (Example B) or a fixed proportion of adult life being spent post SPA (Example D) result in slower increases in SPA than Example A. This is unsurprising as each year of increase in life expectancy leads to less than a one year increase in SPA.

Consequently the support ratio decreases over time for both examples and the sustainability of the system may remain a challenge.

- The state pension age increases and support ratio changes are similar for examples B and D:
 - This is unsurprising since healthy life expectancy has been assumed to remain a stable proportion of life expectancy of 75% (as per figure 1.1)
 - In other words each additional year of life expectancy leads to an increase in SPA of 0.75 years under Example B and around 0.7 years under Example D

What happens if life expectancy increases more rapidly?

In section 3 we identified that one potential weakness of the current system is that it lacks resilience to unexpected rises in life expectancy. It is natural therefore to consider how SPA would change under our four examples as the mechanisms react to these increases in life expectancy.

We see from figure 6.3 and 6.4 that:

- State pension ages would increase much more rapidly than currently planned in response to this faster increase in life expectancy.
- By 2060 all four mechanisms would be suggesting an SPA of over 71.
- In the absence of a response to faster than anticipated increases in life expectancy the support ratio would be lower under the current proposals.
- The support ratios for all four examples have remained at comparable levels to those seen in figure 6.2. This is because state pension age has automatically changed in response to the sustainability challenge posed by faster than anticipated increases in life expectancy.

Figure 6.3 How SPA could change if life expectancy increases more rapidly^[71]

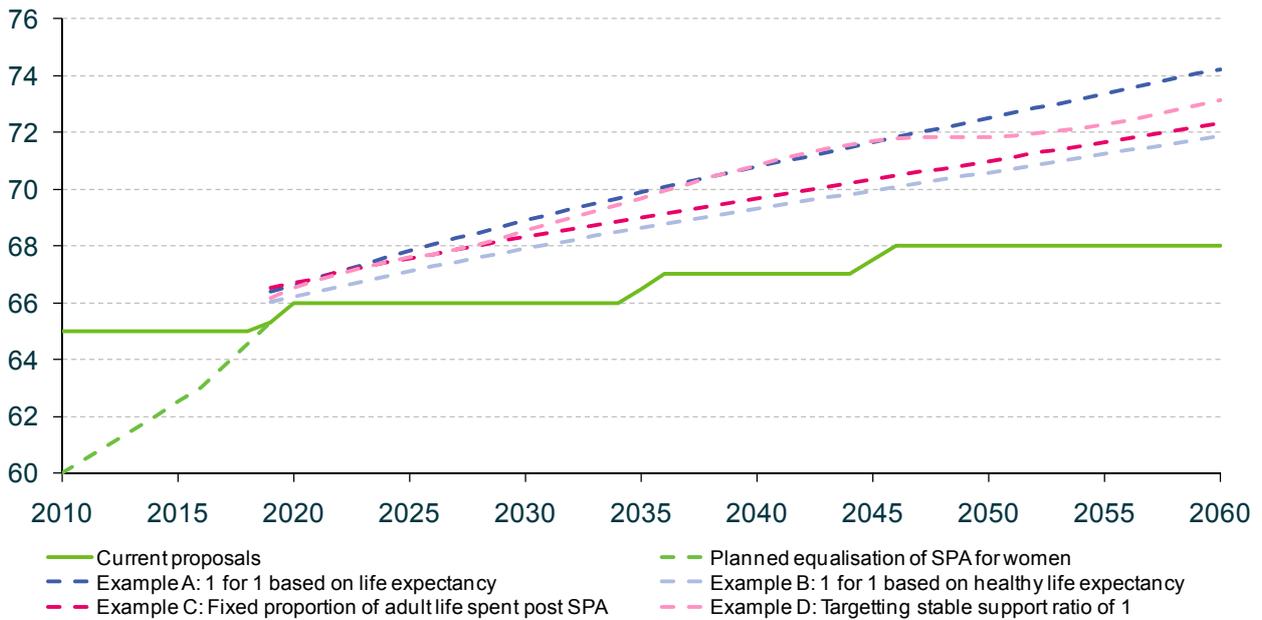


Figure 6.4 Sustainability of the state pension system if life expectancy increases more rapidly^[72]

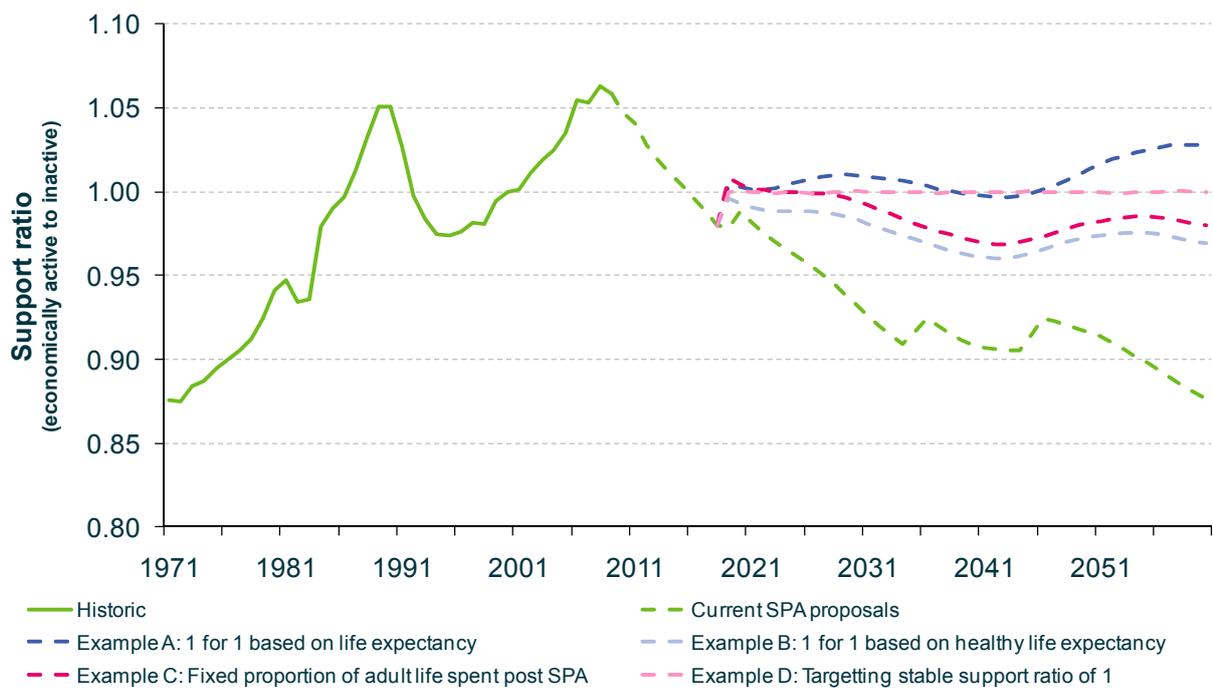


Figure 6.5 Different SPAs depending on health outcomes^[73]

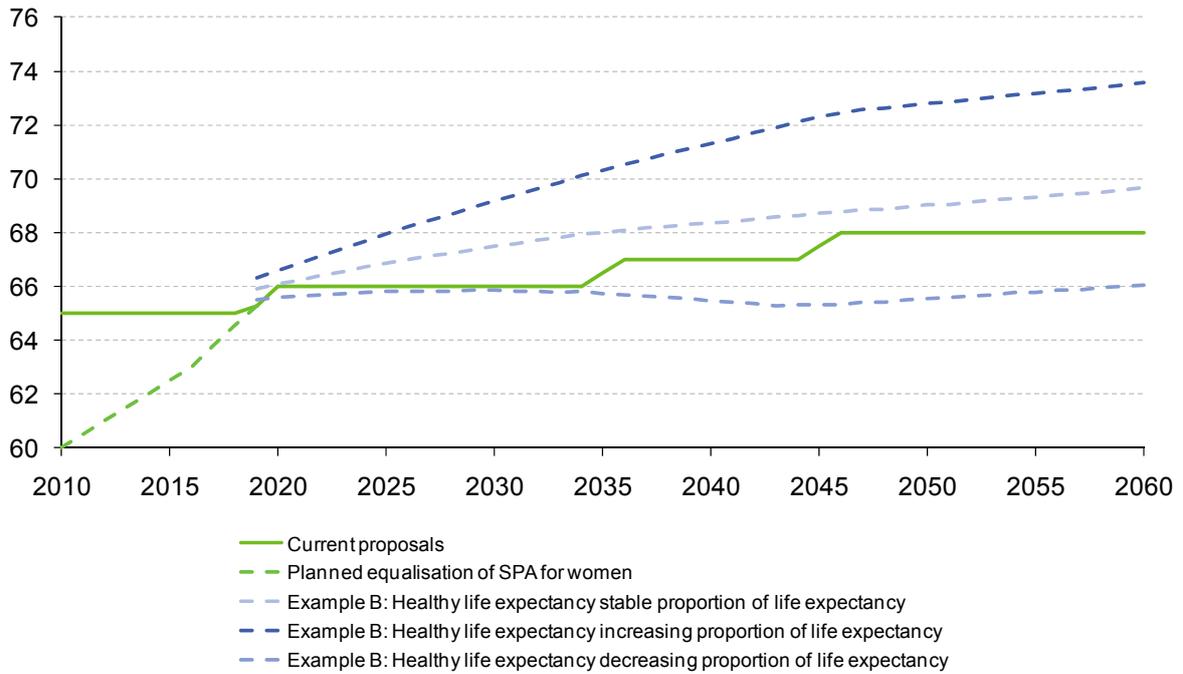
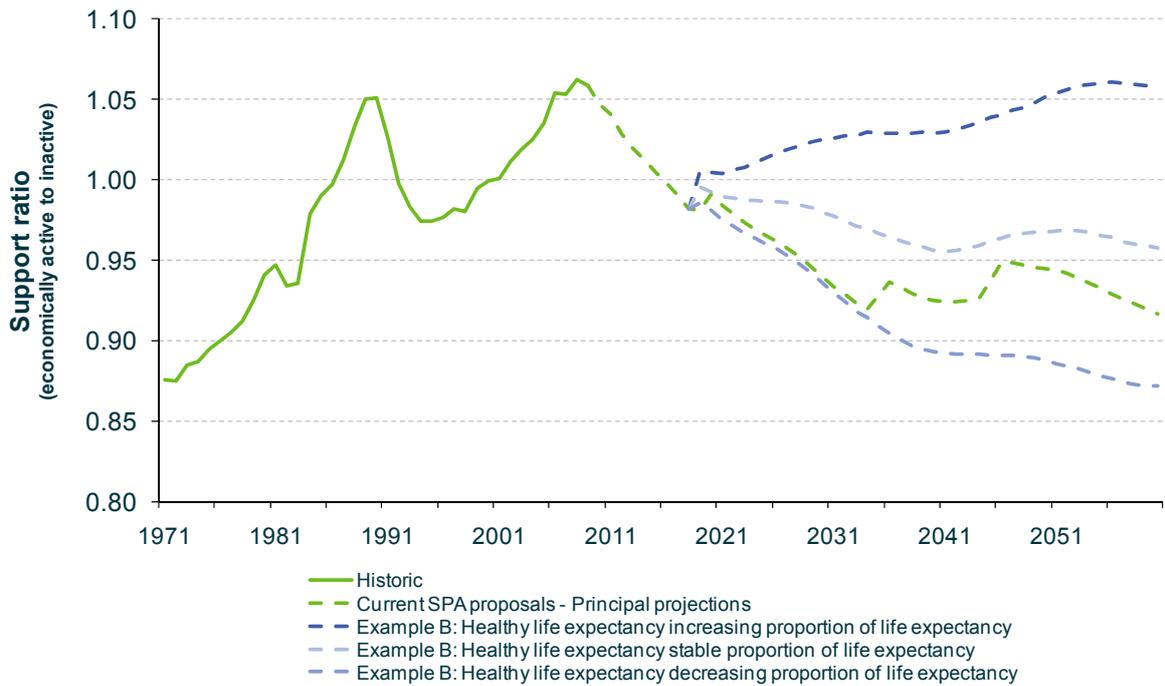


Figure 6.6 Support ratios where SPA depends on health outcomes^[74]



Of course life expectancy could also fall in which case it is possible that SPA need not increase any more rapidly than currently planned.

What happens if healthy life expectancy increases slowly?

In the preceding analyses Example B has been based upon projections where healthy life expectancy stays a stable proportion of total life expectancy. In practice this means every year of increased life expectancy leads to nine extra months of healthy life expectancy.

However, there is no guarantee that the historic pattern on which this assumption is based will continue. Instead:

- extra years of life expectancy could be increasingly dominated by poor health; or
- future focus could be on extending healthy life expectancy in which case healthy life expectancy could be an increasing proportion of total life expectancy.

Figures 6.5 and 6.6 compare the previous results for Example B to two alternative scenarios; one where healthy life expectancy is a declining proportion of total life expectancy (decreasing from 75% to 60% over the next 30 years) and an increasing proportion of total life expectancy (increasing to 90% over the next 30 years). We can see that:

- where healthy life expectancy catches up with life expectancy, state pension age rapidly increases,...

...however by more than would be needed to keep a stable support ratio

i.e. in such a scenario the increases to state pension age suggested by this mechanism could possibly be relaxed

- where healthy life expectancy slows down relative to life expectancy, state pension age does not increase beyond 66,...

...but the support ratio would fall substantially in this case

i.e. in such a scenario affordability constraints may make it necessary to retain the larger state pension age increases currently planned, accepting that a substantial part of the cost savings from state pensions would be offset by increased disability and welfare benefits. In practice we imagine the challenges posed to the state by the increasing burden of poor health associated with this scenario would be far wider reaching than simply state pensions.

6.6 Early payment in ill health?

In practice, an approach which uses healthy life expectancy would pose the additional challenge of requiring the creation of a robust and reliable measure.

Of particular concern amongst the weaknesses identified in section 4 is the potential moral hazard of the current survey based approach – individuals would be incentivised to respond as being in poor health to avoid increases in state pension age.

“The current absence of a reliable measure of healthy life expectancy should not be seen as an excuse to avoid collecting robust information to inform future policy decisions.”

In the meantime we accept that despite its philosophical appeal, it may not be practical to use

healthy life expectancy as the primary mechanism for informing state pension age changes.

If one of the alternative mechanisms described earlier were used, then concerns may remain over the ability for individuals to continue to work into later life, and in particular up to any revised state pension age.

One way to provide a safety net for these individuals could be to emulate the system currently used in UK private sector schemes, whereby pension can be paid early in the event of **demonstrable** ill health. To do this would potentially increase costs and so any eligibility conditions would need to be strictly applied to ensure ongoing affordability.

Possible features of an application to UK state pensions could include:

- ill health **verified** by GP against criteria specified by Department of Health;

A verification mechanism is needed to prevent 'abuse' of the system. GPs will naturally have their patients' best interests at heart and so guidelines would need to be provided to avoid different individual outcomes based upon doctors exercising their discretion.

- **no uplift** to payments reflecting shorter payment period;

Within the private sector benefits are often uplifted to provide a generous benefit, reflecting the likely costs of short term medical care, and curtailed life expectancy. The state does not need to replicate this, not least because it will be the 'safety net' provider of the medical care.

- a **minimum age** the benefit can be claimed from.

i.e. early payment of the benefit could only be made from age 65 (say).

6.7 Reflecting diversity in life expectancy

Another potential criticism of the current system of ad-hoc changes to SPA is that they apply equally to all. The same changes to state pension age apply to those individuals with a life expectancy of 12 years to those with a life expectancy of 24 years. Those with the shortest life expectancies - namely the poorest and so those with greatest reliance on the state pension - lose a greater proportion of their total benefit income. (See 'The Jim – John – Joe conundrum' opposite for further exploration of this issue).

A fundamental tenet of the state pension system in the UK is that it is a form of social insurance. Since insurance serves to pool risk of adverse outcomes (in this case living long without an adequate income) for protection (i.e. income) there will always be some winners and some losers when SPA changes.

“As a society are we comfortable with the inequity that applying averages can lead to?”

If the answer to this is no, then we should ask ourselves: Is it possible to design a system where state pension age directly reflects diversity in life expectancy? In doing so we would also reduce the “substitution risk” whereby state pension age rises yet many individuals who would previously have collected state pension have it replaced in part or in full by payment of disability benefits instead.

One way to address this could be to allow SPA to increase differently for different broad groups, perhaps based on the predictors of individual life expectancy identified in section 5.

The Jim – John – Joe Conundrum

Jim, John and Joe are three gentlemen with very different longevity characteristics.

Jim: Jim earns in excess of £50,000 p.a., has a healthy lifestyle and no known medical conditions. Based on the analysis of section 4 he can currently expect to live 23 years from age 65.

Joe: In contrast Joe earns a national average wage of £25,000 p.a. and has an average lifestyle. He can currently expect to live 18 years from 65.

John: John has a low income of £15,000 p.a., has an unhealthy lifestyle and suffers from a number of medical conditions which may limit his ability to continue to work beyond age 65. Sadly John can only expect to live for 12 years from age 65.

The planned increases in State Pension Age are likely to hurt John most. For every year State Pension Age increases, John sees an 8% reduction in how long he can expect to enjoy retirement. In contrast Jim sees a barely 4% change in how long he can expect to enjoy retirement.

Given the reliance lower income individuals have on the state safety net (section 3) we know that John is less likely to be able to afford to retire before state pension age. Yet, whilst John may not be able to afford to delay retirement, his poorer health may also mean that he is unable to continue to work later into life. For state pension reform this leads to a “substitution effect” whereby by increasing state pension age John no longer claims state pension, but instead claims disability benefits.

If state pension reforms focus solely on “average Joe” - using changes in an average person’s life expectancy to drive changes in state pension age then there is an additional “inadequacy risk”. This arises if longer term inequalities in how life expectancy is improving (i.e. increasing) persist into the future.

By way of example suppose that life expectancy is currently increasing at a rate of:

- 1 year in every 10 for less healthy, poorer individuals like John
- 2 years in every 10 for “average Joe”
- 3 years in every 10 for healthier and wealthier individuals like Jim

Then what happens when the current generation of Jims, Joes and Johns approach retirement in some 50 years time?

If these example trends persisted then in 50 years the national life expectancy would be some ten years higher. Under a ‘1 for 1’ approach using national life expectancy and state pension age may have increased to 75 to reflect this.

For Joe this is fine – his life expectancy has also gone up ten years and so he still can expect to enjoy around 18 years in retirement.

For Jim, all is rosy; his life expectancy has increased even more to 28 years.

However, for John, who is most reliant on the state safety net, retirement is looking increasingly mythical. His life expectancy has only increased by five years and so he can now only expect to live for seven years after retirement. For individuals like John, the state pension system risks being inadequate - with the state benefits appearing to be inequitably enjoyed by those who have least reliance on their safety net. Furthermore this inequality exacerbates the risk of a “substitution effect”.

Of course, there is no guarantee that such trends would persist – but if they do then linking state benefit decisions to averages introduces both “substitution risks” and “inadequacy risks” where those who rely most on the state safety net are liable to struggle to reach state pension age, and in the meantime increase expenditure on alternative disability based welfare benefits.

By using metrics which reflect healthy life expectancy and/or diversity in life expectancy the state system would be better able to provide more equitable outcomes and mitigate the risks posed by our Jim-John-Joe conundrum.

Not all of these predictors are practical to use. For example regional or postcode-based factors would be open to individuals selecting against the state, by moving to a different part of the country for a short period of time in order to benefit from a lower state pension age. However one possible predictor which could potentially be used is an individual's earnings.

Could state pension age be linked to lifetime earnings?

One possible framework for linking state pension age to lifetime earnings could be carried out using national insurance records:

- different SPAs apply to different earnings bands – say <£15k, £15-30k, £30k+;
- SPAs reflect the life expectancies for these different groups;
- individuals are allocated to earnings bands based on career average (inflation adjusted) earnings up to say age 55;

The use of career average earnings avoids risk that a single year's pay rise causes individuals to move bands and so giving a dilemma between pay rise and later SPA. It also allows for individuals who have intermittent earnings histories. Using earnings up to a certain age ensures that notice can be provided to the individual of their SPA band in order to plan for retirement.

- Earnings history taken from national insurance records.

Not everyone has a national insurance contribution history. For these individuals a 'default' group could be chosen with various different approaches.

In practice there could be an initial overhead with ensuring that death records are linked to national insurance records (to enable life expectancy calculations). However the authors believe that a facility to do this may already exist. The greater

implementation challenge is likely to be in communicating the changes, and in setting up the infrastructure to administer differential state pension ages.

Requiring a minimum number of years

Alternatively, diversity in life expectancy can be reflected through indirect means.

One example is a system which requires individuals to accumulate a certain number of years of 'credits' before they become eligible for full state pension. In many ways this is similar to the accruals mechanism of the current basic state pension. However, if:

- credits started from when an individual entered the workforce (rather than crediting higher education); **and**
- a high number of credited years were required than under the BSP e.g. 45; **and**
- the number of years required to be eligible for state pensions is linked to average life expectancy (akin to the example of the French public pension system discussed in section 5)

then those who choose to defer entering the workforce (e.g. those who go on to higher education) will find their state pension age is later. The higher life expectancy associated with education and affluence is thus indirectly reflected. Further, this could serve to stabilise the ratio of years contributing (i.e. in employment) to years benefitting (i.e. in receipt of pensions), for example at the current 70:30 ratio used in example B earlier.

In order to incentivise continued work force participation amongst the over 50s – especially amongst the mid income bracket - the system would also need to have a minimum age at which benefits could be paid. To ensure continued

sustainability the earliest retirement age would also need to be periodically reviewed – for example in line with healthy life expectancy. Thus we would effectively have an amalgam of two of the examples seen earlier, namely examples B and C – with the earliest retirement age for which benefits can be taken from linked to healthy life expectancy (Example B), yet targeting a certain proportion of life in receipt of state pensions (Example C) through the use of a minimum contributory period.

Like any new system there would be implementation challenges, for example how to handle those who leave school early and have no immediate employment. To introduce this approach would also require the political will to effectively reverse the recent reductions in the number of contributory (or credited) years required for a full basic State Pension from 44 years for men and 39 years for women to 30 years for both.

6.8 Summing up...

In this section we have considered the Government's suggestion for a universal flat-rate state pension. Whilst we identified substantial merit in the proposal to remove means-testing we also highlighted how a universal pension might increase the cost of state pensions, and risk disincentivising the labour force participation required to keep the state pension system sustainable. Both the current system and a universal pension also lack robustness to ongoing demographic changes if we continue to rely on ad-hoc increases to state pension age.

We have offered some ideas for reforms which could address these issues:

- 1 Mechanisms for **adjusting state pension age** in light of demographic change – for example through a direct link to changes in life expectancy or through our ability to support an ageing population.
- 2 Reflecting changes in **healthy life expectancy** – i.e. an individual's ability to remain in work and thus defer retirement – when considering how state pension age should increase.
- 3 Methods for **reflecting diversity in life expectancy** either directly (via state pension age based on lifetime earnings) or indirectly (via minimum contribution periods) to reduce the potential inequalities which arise from relying on national life expectancy to inform decisions.

Ultimately the decision as to what reforms to make will need to strike a balance between providing an adequate safety net at an affordable and sustainable cost, and trying to treat contributors in as fair and equitable a manner as is practical. We hope that the ideas and discussion provided here inform the forthcoming debates on the structure of UK state pensions.

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In 2008 we asked a simple question “Surely there has to be a better way for pension schemes to predict the life expectancy of their members?”

Well there is, and the result is Club Vita – the only company dedicated to providing longevity services to occupational pension schemes in the UK. We work with over 100 of the UK’s biggest pension schemes and their advisors and our analysis helps to control the longevity risk faced by funds totalling over £150 billion.

By pooling the data of all the pension schemes we work with we have created the biggest, richest dataset of its kind. We have detailed information on over 5m members of occupational pension schemes including over 1.7m pensioners and dependants. Our records span deaths back to the mid 1970s, with the vast majority of our 530,000 death records from the early 1990s onwards. This gives us almost 20 years of detailed insights into emerging patterns in longevity, by such factors as health, wealth, occupation and lifestyle.

Our skilled team of longevity consultants, pensions experts and statisticians are recognised throughout the industry. Our team helps companies across all industries understand the unique longevity characteristics of their pension schemes and the consequences of how they are likely to change over time. Our techniques and expertise have also been applied to help banks and insurance companies wishing to understand longevity risk.



Established in 2001, the Oxford Institute of Ageing is a multi-disciplinary research institute based at the University of Oxford, which explores societal ageing and demographic change. The focus of the research is to understand how an ageing population affects work, family and social networks, political, economic and consumer behaviour, health and social support. Institute academics also work with colleagues in government and policy making to help develop the economic, political and social structures that are needed in order to take advantage of the opportunities that a mature society will bring. The Institute has a strong multidisciplinary approach, our researchers being drawn from demography, economics, philosophy, history, anthropology, political science, psychology, statistics, sociology, public health and medicine.

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It is designed to be a general summary of topical longevity issues and it is not specific to the circumstances of any particular employer or pension scheme. The views and analyses expressed in this report are based upon information in the public domain. The issues discussed are complex and the analyses and conclusions will vary depending on the assumptions used. In light of this the report is intended to be used to stimulate debate on these issues and should not be viewed as definitive analysis on the topic. The information contained is not intended to constitute advice, and should not be considered a substitute for specific advice in relation to individual circumstances. Where the subject of this document involves legal issues you may wish to take legal advice. Club Vita and the Oxford Institute of Ageing at the University of Oxford accept no liability for errors or omissions. Club Vita LLP is a limited liability partnership and is registered in England and Wales with registered number OC338406 and Oxford Institute of Ageing at the University of Oxford.

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