Linking state pension age to longevity

Tackling the fairness challenge

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age UK
Improving later life

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Acronyms

DDR	Demographic Dependency Ratio
DFLE	Disability Free Life Expectancy
ESR	Economic Support Ratio
EU-SILC	European Union - Survey of Income and Living Conditions
GDP	Gross Domestic Product
GHS	General Household Survey
GLS	General Lifestyle Survey (known as the GHS up to 2008)
HE	Health expectancy
HLE	Healthy Life Expectancy
ICF	International Classification of Functioning, Disability and Health
IHS	Integrated Household Survey
LA	Local Authority
LE	Life Expectancy
LLI	Limiting long-term illness
OECD	Organisation for Economic Co-operation and Development
ONS	Office for National Statistics
RGSC	Registrar General's Social Class
SAH	Self-Assessed Health
SPA	State Pension Age

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Key Points

Many countries are beginning to link pension age with increases in life expectancy to address the financial impact of an ageing population. In the UK, the 2013 Pensions Bill proposes five year reviews of the state pension age with the aim of maintaining the proportion of adult life spent in receipt of a state pension based on increasing life expectancy. Before the proposals are implemented, there are a number of issues to consider.

- While increasing state pension age appears a natural extension of improved life expectancy the extent to which workforce participation can be pushed into later years is worthy of consideration. Life expectancy is a measure of quantity of life and is significantly longer than measures of quality of life such as healthy life expectancy and disability-free life expectancy.
- While most people will live to state pension age and beyond, they are less likely to reach state pension age in good health – particularly in some areas in the UK.
- Increasing state pension age into ages where disability rates are higher, raises concerns about transferring spending from the State Pension to disability and unemployment benefits.
- Because there are significant variations in healthy and disability-free life expectancy by region and social class, raising state pension age will disadvantage particular groups:
  - In more disadvantaged areas and lower social classes, males born at the start of this century are, on average, unlikely to reach state pension age free of disability.
  - Despite recognition of the need to reduce social inequalities in health, evidence suggests that gaps are continuing to widen.
- The additional benefits tied to the state pension age, such as the free bus pass, will on average, not be available to those from lower social classes until well beyond their healthy life expectancy. Yet it is these people who are likely to benefit most from it.
- Raising state pension age in line with life expectancy could lead to a situation where an increasing number of people are leaving the workforce before reaching SPA because of the need to care for others. Currently, ten per cent of the population provides unpaid care to family and friends and it is a key reason why women in particular aged over 50 leave the workforce.
- While the economic support ratio (ESR) and more recently the "real age dependency ratio" improve on the traditional notion of dependency by taking into account the proportion of people working beyond retirement age, both are still somewhat crude measures for examining the full impact of an ageing population:
  - The ESR does not account for the total contribution of older people in society including providing unpaid care to older people, people with disabilities and grandchildren, and through formal volunteer work.
  - Attempts at estimating the contribution of older people suggest that they contribute more to the economy than they receive in pensions, welfare and health services.
- In any case, greater improvements in the ESR could be achieved by raising workforce participation amongst those aged 50-64 than by an incremental rise in state pension age.
- Whilst increasing state pension age appears to be a logical step to addressing financial challenges of an ageing population, the complex interplay of factors impacting on retirement and workforce participation must be carefully considered.

Recommendations

The ILC-UK recommends that:

- Life expectancy measures should be used with caution in planning for population ageing. The possibility of underestimation of life expectancy needs to be considered.
- Five yearly reviews of state pension age should incorporate examination of developments in healthy life expectancy and disability-free life expectancy as well as inequalities in these measures across different social classes and regions.
- Programs to challenge ageist attitudes in the workplace should be encouraged and developed. These should promote and extend flexible approaches for gradual retirement and improve professional development for older age groups.
- Government should deliver improvements in back-to-work support for older jobseekers.
- As state pension age increases, there must be continued investigation into the reasons for leaving work and retiring. This will help identify whether disability and poor health become a greater barrier to workforce participation as state pension age increases.
- Health promotion strategies should target poorer social classes to ensure reduction rather than increases in gaps between classes in terms of income, education and health behaviours.
- The International Classification of Functioning, Disability and Health from the World Health Organisation should be used as a framework for considering the broad range of factors that impact on health and civic participation to inform policy.
- Further research should be undertaken to examine the real contribution of older people to society and the economy.

Introduction

The substantial increase in life expectancy is one of the great human achievements of the past century. However, increased life expectancy and the ageing of the population, has often been considered a threat to the economy due to the increased size of the retirement population in relation to the working population. From 2007 to 2032, public expenditure on pensions and related benefits is projected to rise from 4.7% of Gross Domestic Product (GDP) to 6.2% (Malley et al., 2011). Linking life expectancy to policy appears a useful strategy for helping to address this imbalance, but will this approach be effective and equitable?

This discussion paper aims to summarise the key issues regarding the use of life expectancy measures in UK policy. Section 1 explores the drivers behind worldwide demographic shifts and the ageing of the population as well as a discussion of how life expectancy is calculated. This is followed by an analysis in Section 2 of how life expectancy has been linked to various policies in the UK, focussing on pension age, but also considering other benefits that have eligibility tied to age or pension status. Section 3 explores alternative measures that take account of health and disability and therefore provide an indication of quality of life rather than just quantity of life. Section 4 considers the link between healthy life expectancy and life expectancy and whether or not increases in life expectancy have occurred with equivalent increases in healthy life expectancy. Section 5 examines the relationships between life and healthy life expectancy and socio-economic status. Section 6 examines how this issue has been addressed in a number of other countries, prior to a summary of the key issues in Section 7 and a set of recommendations in Section 8.

1. Demographic shifts and increased life expectancy

Since the mid-1800s mortality rates have declined steadily in developed counties. Early in the 20th century this was mainly a result of reduced infant mortality. Since the 1960s reductions in mortality in the population over 60 years of age has continued this decline (Crimmins & Beltrán-Sánchez, 2011). Improved nutrition, water sterilization, less crowded living arrangements, antibiotics and immunisation in the early 1900s helped reduce mortality due to infectious disease (Fries, 1980). Chronic diseases are now the major cause of morbidity and mortality.

Life expectancy is calculated by applying age and sex mortality rates to estimate the average remaining years of life for those of a particular age and sex (ONS, 2012a, p. 3). Reductions in mortality, therefore, have been accompanied by increased life expectancies over the last century. Between 1911 to 2010, life expectancy in the UK at birth has increased from 49.4 to 78.5 for men and from 53.1 to 82.4 for women (ONS, 2012b).

In addition to reduced mortality rates and increased life expectancy, developed nations have also experienced a decline in fertility rates. These demographic trends result in an increase in the average age of the population. Globally, it is expected that by 2050 there will be a tripling of people over the age of 60 to reach 2 billion whilst the 80+ population will grow more steeply from 69 million to 379 million in the same period (Harper, Howse, & Baxter, 2011). Projections in England suggest there will be a 39% increase in the population over 65 compared with a 60% increase in the population 85+ over the next 20 years (Jagger et al., 2009). Recent census data also confirm this rapid growth in the oldest groups in society. In 2011, in England and Wales there were 11,700 people over the age of 100, equating to a five-fold increase in 30 years (ONS, 2013d), albeit from a very low base.

Box 1: Cohort and Period Life Expectancies

There are two methods for calculating life expectancy; the period and cohort methods. Both use age and sex mortality rates to estimate life expectancy. The period method assumes that mortality rates do not change over time and uses the mortality rates for the year in which life expectancy is being calculated. For example, "to estimate the average life expectancy of a 65 year old man in 1940, the calculation would use the mortality rates for men aged 65, 66, 67 and so on in 1940." (ONS, 2012a, p. 3). However, as mortality rates have declined, this method has tended to underestimate life expectancy.

The cohort method considers the mortality rate for the cohort being considered. Using the example above, the cohort method would consider the mortality rate for a 65 year old man in 1940 and then for a 66 year old man in 1941. This method is more accurate for measuring life expectancy for populations in the past where mortality rates are known (ONS, 2012a). Given the uncertainty of predicting future mortality rates, the ONS usually uses the period method for estimating life expectancy (ONS, 2012a). High and low variants for each method can be applied, acknowledging the uncertainty of projecting life expectancy.

Underestimating life expectancy can have significant impact on policy. Consider, for example, how projections of life expectancy have altered population projections in the UK. In 1981, the population over 65 years was projected to grow to 12 million by 2036. By 2004, this had been adjusted to 16.5 million by 2036 – a 38% larger population than projected in 1981 (OECD, 2011). Such diverse life expectancy projections create substantial limitations in policy and financial planning for a growing older population.

2. How life expectancy is used in UK policy

Life expectancy is often used by policy-makers and others to both illuminate inequalities in health (Morse, 2010) as well as to inform future policies, such as the pension system. Concerns about the sustainability of the system are linked to changing demographic dependency ratios (DDR); the proportion of people of traditional "working age" (16-64) compared with those not of "working age" including those under 16 and over 65. The ageing of the population has increased the population over 65 in relation to those of traditional working age (though we should not forget that those over 65 still work). From 2013 to 2037 for each person aged 65 and over there will be a decrease in the numbers of people aged 16-64 from 3.25 to 2.39 (ONSf). This is considered to have two negative impacts including a decline in economic activity and a greater need for pensions and health care (Harper et al., 2011). An alternative measure to the DDR is the economic support ratio (ESR) which is the proportion of the population who are working as a ratio of those not working (ONS, 2013b). This measure provides a more accurate picture of the economic impact of ageing by accounting for those over 65 years who continue to be in paid employment, as well as those of working age who are not employed. Improving the ESR can be achieved by increasing workforce participation rates across working age and older populations. Increasing the state pension age) has been a key strategy for increasing workforce participation through encouraging more people to work later in their 60s.

Real age dependency

Another alternative to the traditional dependency ratio or the economic support ratio is the "real economic dependency ratio" (Spijker J & MacInnes, 2013). This takes the number of people with a life expectancy of 15 years or less and divides it by the number of people in employment, no matter their age. In many ways this approach offers the best of both worlds. It takes into account the fact that those over 65 may still be in employment while also providing a measure of the extent to which the number of older people is changing in relation to the number of those in work. Applying real age dependency to the UK yields some interesting results - in stark contrast to the old age dependency ratio, real age dependency has fallen by one-third over the past four decades and will continue to do so until 2020 (cited by Chong, 2013).

65 for men and until April 2010 it was 60 for women. In 1948 period life expectancy at age 65 was 12.6 for men and 15.0 for women. In 2010, this had increased to 18.1 for men and 20.7 for women (ONS, 2012b). The increasing discrepancy between state pension age and life expectancy has led to concerns about the sustainability of the pension system:

> ***"The Government has already taken action to increase the State Pension age to 66 by October 2020 to ensure that the costs of the state pension system remained manageable in light of rising life expectancy. However, life expectancy continues to improve and this draft Pensions Bill contains two key State Pension age measures to ensure the system remains sustainable" (Department for Work and Pensions, 2013a, p. 5).***

Legislation in 1995 aimed to bring the female pension age in line with males by incrementally increasing their retirement age between 2010 and 2020; however in 2011 this was brought forward to 2018 (ONS, 2012a). This was accompanied by further increases for both men and women to 66 by 2020; 67 between 2034 and 2036 and 68 between 2044 and 2046 (ONS, 2012a). However, more recently, the Department for Work and Pensions released a Pensions Bill that will not only see major reform towards a single-tier system, but also bring back the date for increasing the state pension age to 67 eight years earlier (between 2026-2028) (Department for Work and Pensions, 2013a). These increases will help the DDR to be kept close to 3 people of working age (up to new state pension age) for every person over state pension age into the 2030s (Department for Work and Pensions, 2013b).

Commitment to review life expectancy

The Department for Work and Pension's January 2013 White Paper, The Single-Tier Pension: A Simple Foundation for Saving (2013b) outlined the proposed process for reviewing the state pension age every five years. Routine and frequent reviews of state pension age would enable response to increases in life expectancy:

> ***"The Government proposes that future changes to the State Pension age be made with reference to maintaining a proportion of adult life spent in receipt of state pension. This approach, favoured by the Pensions Commission, would mean that each generation could expect to spend broadly the same proportion of their lives contributing to, and receiving, the state pension." (Department for Work and Pensions, 2013b, p. 76)***

In the paper it was proposed that the Government Actuary's Department will be commissioned for each review to analyse whether this principle is being met or whether the state pension age needs to be adjusted. In addition, an independently-led review body will consider a range of other factors that might be important for assessing state pension age. Factors that are expected to be taken into account include; life expectancy by socio-economic status and geographic region, healthy life expectancy, various measures of life expectancy including high and low variants and the labour market's capacity to increase the pool of older workers (Department for Work and Pensions, 2013b). On 5 December 2013, as part of the Autumn Statement, the Chancellor announced that future changes to the state pension age should be based on the principle that people should expect to spend up to one third of their adult life in receipt of State Pension. This implied that the increase of the State Pension age to 68 would be brought forward to the mid-2030s, and the increase to 69 occur in the late-2040s (Autumn Statement, 2013).

A number of other universal benefits in the UK are based on age or tied in with state pension age. For example:

- For the 2013-14 winter those born on or before 5th January 1952 are eligible for the Winter Fuel Payment (Gov.uk, 2013b). The payment is now tied to women's state pension age.
- Households with someone over the age of 75 are eligible for a free TV Licence for their main home address (TV Licensing, 2013).
- Free bus schemes for older people. For example, in England, eligibility for an older person's bus pass is based on state pension age, while in Scotland, Northern Ireland and Wales it is available for residents over 60 years of age.

Those aged 16 years and over and providing 35 or more hours per week of care for a person with substantial caring needs, may be eligible for the Carer's Allowance. You cannot receive Carer's Allowance and the State Pension at the same time (Gov.uk, 2013a). The increasing financial pressures created by an ageing population raise arguments as to the feasibility of maintaining universal payments based on age alone. In contrast, whilst demand for long-term care is also set to increase as the population ages, these services are means and needs tested and do not rely on measures of life expectancy (Malley et al., 2011).

3. Why use other measures of health?

Whilst life expectancy is a measure of quantity of life, it does not provide an indication of quality of life. Other measures that incorporate time spent in good health, or 'health expectancies' add another dimension to life expectancy (Robine et al., 2007). Although concerns have been raised about the subjectivity of self-reported measures, research has shown self-rated health to be a strong and independent predictor of future mortality, even after controlling for objective measures of health (Idler & Benyamini, 1997; Mossey & Shapiro, 1982). Self-rated measures are also attractive given they are easier and cheaper to collect than disability data (Hemmings, 2006). Whilst measures of healthy life are important there are a number of limitations to how they are collected. These are explored in Box 2 below.

Box 2: Healthy Life Expectancy and Disability Free Life Expectancy

In the UK, two forms of self-reported health expectancy measures are commonly used; healthy life expectancy and disability-free life expectancy. From 1980-2010, healthy life expectancy and disability-free life expectancy were obtained in Great Britain through the General Lifestyle Survey (GLS; known as the General Household Survey prior to 2008) (ONS, 2012c). In 2008, the GLS was included in the Integrated Household Survey (IHS) and at the end of 2011 the GLS collection ceased and questions are now available solely from the IHS (ONS, 2012c). In Northern Ireland, measures were collected through the Continuous Household Survey until 2010 when the Department of Health, Social Services and Public Safety Northern Ireland began the annual Health Survey Northern Ireland (HSNI) (ONS, 2012e).

From 2000-2007 healthy life expectancy was measured by asking the question "Over the last 12 months would you say your health has been … good, fairly good, or not good?" Health was defined as a combination of 'good' and 'fairly good' responses. The question was modified in 2005 to be consistent with the EU Survey of Income and Living Conditions (EU-SILC) to become: 'How is your health in general? Would you say it was: very good, good, fair, bad or very bad?' with the first two options combining as an indicator of good health (ONS, 2013e). Adoption of the EU-SILC question, with two out of five response options categorised as good health (rather than two out of three) has resulted in a reduction in the prevalence of 'good' health in the UK (Smith & White, 2009). This change impedes comparisons of healthy life expectancy before and after this change. It does, however, enable

cross European comparisons that show males and females in the UK have healthy life expectancy in the top 30% of 27 European countries (ONS, 2012d).

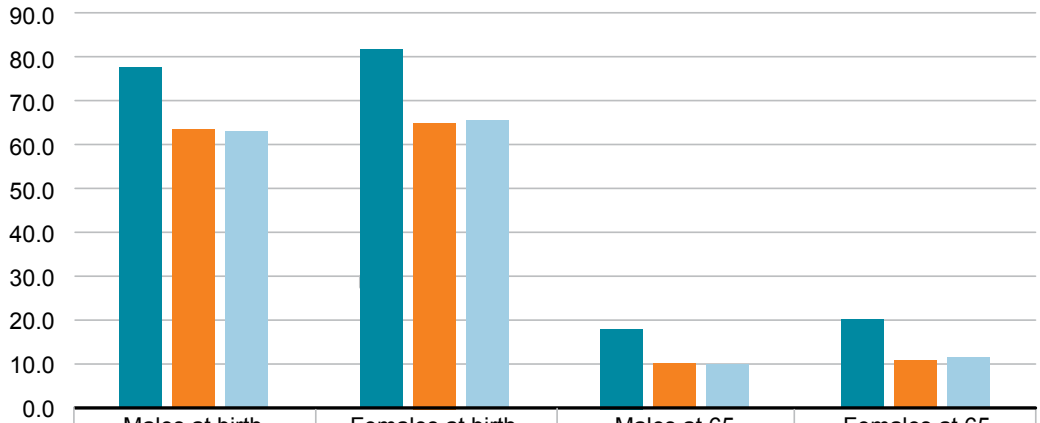
Disability-free life expectancy is measured with the question "Do you have any long-standing illness, disability or infirmity- by long-standing I mean anything that has troubled you over a period of time or that is likely to affect you over a period of time?' (Yes/No). If 'Yes' the respondent is then asked: 'Does this illness or disability (Do any of these illnesses or disabilities) limit your activities in any way?' (Yes/No) (ONS, 2012e, p. 2).

The quality of surveys used for measuring health indicators is important. While life expectancy relies on reliable data in the form of mortality rates, rates of self-rated health based on survey instruments can have limitations. Changes to the method of survey administration, sampling strategy and wording of questions can impact on the quality of data and ability to make valid comparisons over time (Harper et al., 2011). Analysis comparing GLS and IHS health expectancies however, found that changing the survey approach had minimal impact on reported health expectancies (ONS, 2013e).

Surveys also tend to under-represent certain groups in society including ethnic minorities, those in residential care and the oldest people in the population (Hemmings, 2006). The GLS excluded institutionalised older people (Malley et al., 2011) who would have high levels of disability and poor health. To overcome this, data from the GHS was usually combined with census data to provide a more complete picture of health expectancy (Harper et al., 2011).

Figure 1, shows how period life expectancy is considerably higher than both disability-free life expectancy and healthy life expectancy for males and females at birth and at age 65 in the UK. The figure also shows that there are gender differences. While period life expectancy for females at birth is four years higher than for males; for disability-free life expectancy the difference is reduced to 1.1 year and for healthy life expectancy 2.2 years.

Figure 1: Period LE, disability-free life expectancy, healthy life expectancy in the United Kingdom 2008-10; at birth and at age 65 by sex



	Males at birth	Females at birth	Males at 65	Females at 65
LE	78.1	82.1	17.8	20.4
DFLE	63.9	65.0	10.4	11.2
HLE	63.5	65.7	10.6	11.6

Data obtained from (ONS, 2012e)

4. Are we living healthier lives?

Whilst life expectancy has steadily increased for over a century, there is no consensus as to whether this increased quantity of life has been matched by increased quality of life. The concept of "compression of morbidity" was first introduced by James Fries (1980). He argued for an alternative view to the prevailing argument of the time; that increasing life expectancy into older ages would be accompanied by more chronic disease and greater disability. He explained "the amount of disability can decrease as morbidity is compressed into the shorter span between the increasing age at onset of disability and the fixed occurrence of death" (Fries, 1980, p. 133). He described that future goals must be to increase quality of life rather than duration and to postpone rather than just cure disease. More recently, Fries and colleagues (2011) defended the idea of a compression of morbidity by citing various studies that showed that in the decades following the 1980 publication, the rate of disability had reduced more than the rate of mortality. They also argued that compression of morbidity was not inevitable but relied on prevention strategies and healthier lifestyles (Fries et al., 2011). An Austrian study of healthy life expectancy over the period 1978-98 also provided support for the compression of morbidity hypothesis (Doblhammer & Kytir, 2001).

Crimmins and Beltrán-Sánchez (2011) also analysed whether there was a compression or an expansion of morbidity. They examined key causes of mortality in the US. They argued that whilst incidence of heart disease, stroke and cancer had not substantially changed, medical improvements meant that we could detect diseases at earlier stages and improve survival rates. For those over 65, medications have been effective in managing high cholesterol and hypertension, but incidence of these physiological markers had not changed. Only for lung cancer had incidence reduced, largely due to a reduction in the number of people smoking. However, an increase in diabetes incidence was evident and attributed to increasing obesity rates. The trend for increases in healthy life expectancy and life expectancy, may not be on a limitless upwards trend. Olshansky and colleagues (2005) argued that life expectancy could actually start to decline in the US in the first half of the 21st Century if the increasing rates of obesity and diabetes are not reduced. Forecasts predicting life expectancy to continue increasing, may be substantially out of line with reality. In the UK, however, forecast life expectancy increases are higher than most developed countries including the US (Malley et al., 2011).

An alternative model to those of compression or expansion of morbidity is the concept of dynamic equilibrium. This occurs when life expectancy increases may occur with higher chronic disease and higher disability, but that the severity of the disability may be reduced (Jagger et al., 2007). The data presented by Crimmins and Beltrán-Sánchez may be more consistent with a dynamic equilibrium model.

"The government projects that the overall number and proportion of older people in the UK will rise significantly in coming decades. However, there is a debate over whether these people will live longer, healthier lives (the 'compression of morbidity scenario'), longer but more disabled lives (the 'nightmare scenario'), or something in between (the 'dynamic equilibrium scenario')" (Hemmings, 2006, p. 3).

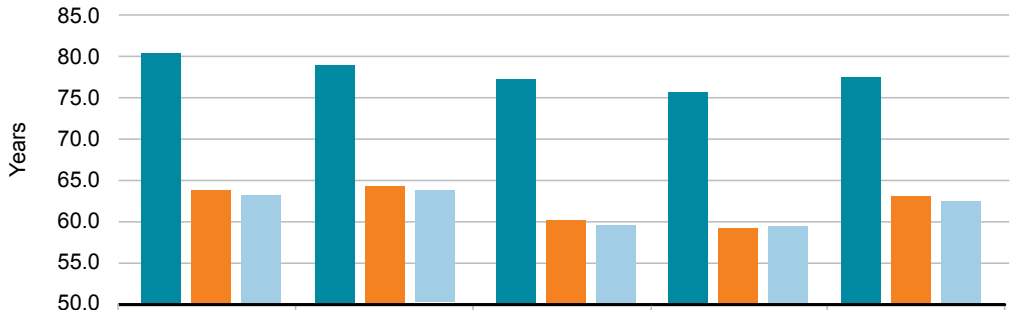
The World Health Organisation's International Classification of Functioning, Disability and Health (ICF) provides a useful framework for understanding some of the issues relating to the debate about compression or expansion of morbidity. It uses a bio-psychosocial model of health integrating medical and social models of health and disability (World Health Organization, 2002). The framework highlights that by modifying contextual factors (such as the social and physical environment, education and attitudes) activity limitations and participation restrictions can be reduced without changing disease prevalence. Contextual factors can also have a direct impact on disease, such as campaigns to reduce smoking levels leading to reduced lung cancer incidence as described above. The importance of social factors is also evident given the higher rates of smoking amongst those of lower socio-economic backgrounds (ONS, 2012a). The Marmot Review provides a framework for reducing social inequalities in health (Marmot et al., 2010). Public policy plays an important role in reducing health inequalities and can influence the extent to which increased life expectancy is paralleled with increased healthy life.

5. Life expectancy, healthy life expectancy, disability-free life expectancy and inequalities in health

So far we have described how life expectancy has increased over time leading to an ageing population and concerns about the economic sustainability of the pension system. As shown in Section 2, moves have been made to more closely link increases in life expectancy with increases in the state pension age (SPA). The previous two sections have explored the limitations of life expectancy as a measure of quality of life and health. Whilst life expectancy may have shown a strong tendency to increase over time, healthy life expectancy and disability-free life expectancy may not show the same rates of improvement. This section presents data examining the differences between life expectancy, healthy life expectancy and disability-free life expectancy in the UK and how these rates relate to state pension age and socio-economic background.

Figures 2 and 3 below show period life expectancy, disability-free life expectancy- and healthy life expectancy by country at birth in 2008-10 for males and females respectively. While period life expectancy for males exceeds the current state pension age of 65 by at least 10 years, healthy life expectancy and disability-free life expectancy do not reach state pension age in any countries in the UK (Figure 2).

Figure 2: Period life expectancy, disability-free life expectancy, healthy life expectancy at birth by country, 2008-10, Males

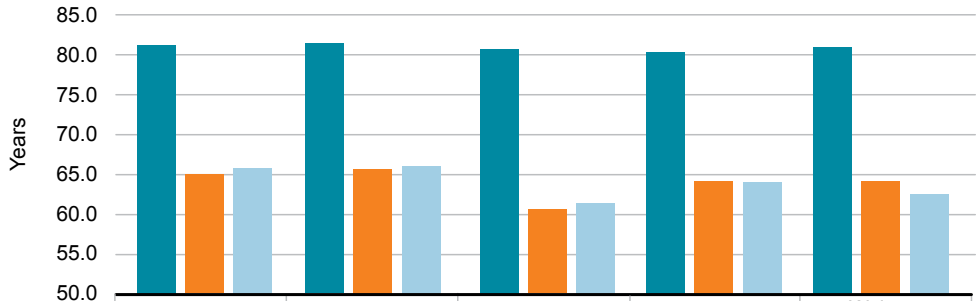


	United Kingdom	England	Northern Ireland	Scotland	Wales
LE	78.1	78.4	77.0	75.8	77.5
DFLE	63.9	64.8	60.2	59.3	63.6
HLE	63.5	64.4	59.2	59.8	63.0

Source: (ONS, 2012e)

For females, period life expectancy is considerably higher than for males and exceeds 80 in all UK countries (Figure 3). While healthy life expectancy and disability-free life expectancy may rise in the next few years, state pension age (which will also rise) is likely to exceed healthy life expectancy and disability free life expectancy for many – particularly for those living in Northern Ireland, Scotland and Wales.

Figure 3: Period life expectancy, disability-free life expectancy, healthy life expectancy at birth by country, 2008-10, Females



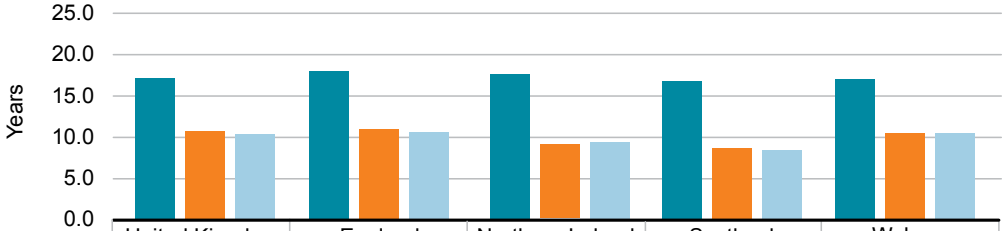
	United Kingdom	England	Northern Ireland	Scotland	Wales
LE	82.1	82.4	81.4	80.3	81.7
DFLE	65.0	65.5	61.3	64.5	64.2
HLE	65.7	66.4	61.9	64.1	63.0

Source: (ONS, 2012e)

Whilst examining data on at birth period life expectancy can help explain mortality rates for the year in question, it is of limited use in understanding the likely future health of those at retirement age. An alternative approach may be to examine healthy life expectancy and disability-free life expectancy projections for 20 year olds in the 1970s - those who are due to retire in the near future – but measures of healthy life expectancy and disability-free life expectancy do not stretch back this far. Another approach is to use more recent data for those in ages closer to retirement. For these reasons data tends to be available for those at birth as well as those at age 65. Figure 4 and Figure 5, therefore, include the period life expectancy, disability-free life expectancy and healthy life expectancy for males and females at age 65. This data, however, also has limitations for policy analysis as it only includes a biased sample of healthier people who have survived to age 65. However, by using both at birth and at 65 data we can get a better picture of healthy life in older ages. Importantly, it shows that there are substantial differences in healthy life expectancy by region, and particularly at local authority level.

Figures 4 and 5 shows that for those who reach the age of 65, males and females in all countries on average will reach age 70 in good health and free of disability. But women aged 65 in England are, on average, likely to remain healthy for nearly two more years than those in Wales.

Figure 4: Period life expectancy, disability-free life expectancy, healthy life expectancy at 65 years by country, 2008-10, Males



	United Kingdom	England	Northern Ireland	Scotland	Wales
LE	17.8	18.0	17.3	16.6	17.5
DFLE	10.4	10.7	9.2	9.0	10.3
HLE	10.1	10.3	9.5	8.6	10.3

Source: (ONS, 2012e)

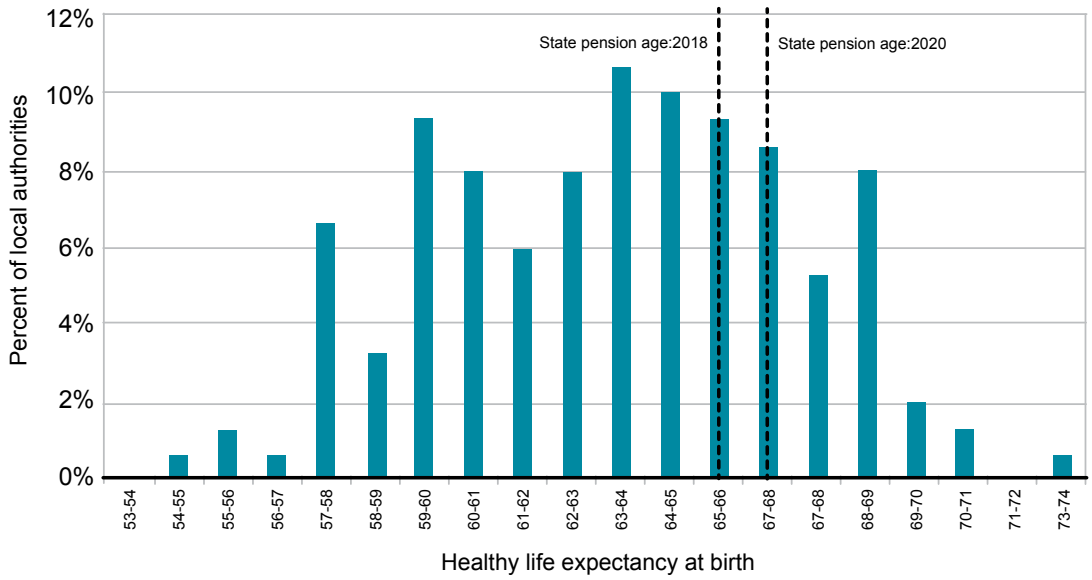
Figure 5: Period life expectancy, disability-free life expectancy, healthy life expectancy at 65 years by country, 2008-10, Females

	United Kingdom	England	Northern Ireland	Scotland	Wales
LE	20.4	20.6	20.1	19.2	20.2
DFLE	11.2	11.3	9.4	11.1	11.3
HLE	11.6	11.8	10.8	10.8	10.0

Source: (ONS, 2012e)

At local authority level the differences in healthy life expectancy become even more apparent. Figure 6 shows the extent to which female healthy life expectancy at birth differs by local authority. The chart shows the proportion of local authorities with average healthy life expectancy falling within specific age bands. Across the whole of England, this varies from just over 54 years of age in Tower Hamlets to over 72 years of age in Richmond Upon Thames. As the figure illustrates, healthy life expectancy across a large proportion of local authorities falls below current and future state pension age. Therefore there are likely to be substantial differences in the extent to which people reach state pension age in good health by local authority. For many local authorities, state pension age is likely to come significantly after a large proportion of those eligible for a state pension have developed health problems. Further increases in state pension age will exacerbate this issue. It is worthwhile pointing out that the figures below are just for England. There is evidence to suggest that parts of Scotland, Wales and Northern Ireland have even lower healthy life expectancy than Tower Hamlets. A report from 2004, estimated that at birth healthy life expectancy in Glasgow City was just 46.7 years and in North Lanarkshire it was 46.8 (Clark, McKeon, Sutton, and Wood, 2004).

Figure 6: Distribution of female healthy life expectancy at birth across local authorities, 2009-2011



Source: Office for National Statistics (estimates for those from 2009-2011) and own calculations

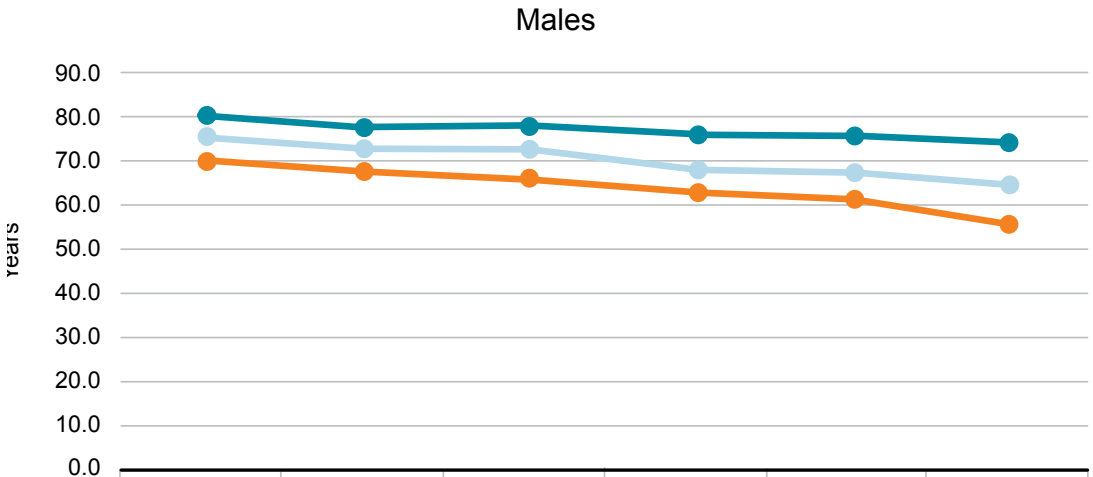
The impact of social class

Within countries there are also substantial differences in life expectancy and healthy life expectancy according to social class. White and Edgar published two reports that considered life expectancy (period or cohort not specified) compared with disability-free life expectancy (White & Edgar, 2010a) and healthy life expectancy (White & Edgar, 2010b) in 2001-03. Their analysis incorporated data from the 2001 census with the Office for National Statistics (ONS) Longitudinal Survey that surveys 1% of the English and Welsh populations. This enabled them to look at life and health expectancies according to two socio-economic variables. The first was the six Registrar General's Social Class (RGSC) categories (Professional categories: I-Professional; II Managerial & technical/intermediate, IIIN Skilled non-manual and Manual categories: IIIM Skilled manual, IV-Partly skilled and V-Unskilled). The second indicator was whether a Local Authority (LA) area was in the 'Spearhead' group' defined by the Department of Health as the most deprived LAs in England based on LE, cancer and cardiovascular mortality rates and Index of Multiple Deprivation (n=70 LAs) (White & Edgar, 2010b).

Figure 7 (males) and Figure 8 (females) show the life expectancy, disability-free life expectancy and healthy life expectancy for the six different RGSC categories in England. The findings show a number of interesting points. First, in contrast to the previous figures in this report, the gap between disability-free life expectancy and healthy life expectancy is greater, showing that healthy life expectancy was at least six years higher than disability-free life expectancy for all categories of gender and social class. This finding indicates that there was a proportion of the population who indicated they had a disability whilst rating their health as good or fairly good. This can be explained by the change in survey questions introduced in 2005 described above. Since the change, the ONS have recognised that while disability-free life expectancy and healthy life expectancy measure different elements of health, nationally they have been very similar (ONS, 2013e). Therefore, if the more recent definition of healthy life expectancy had been used for this data, it would have shown lower levels of healthy life expectancy, and figures closer to disability-free life expectancy.

Secondly, the data shows a clear downward trend according to RGSC. Those in lower social classes have lower expectancies of life, disability and health. Differences between classes are also accentuated for healthy life expectancy and disability-free life expectancy compared with life expectancy. For example, males at birth in the highest social class (1-professional) can expect 6.7 additional years of life compared with males in the lowest social class (V-unskilled), but differences for healthy life expectancy jump to 12.5 years and for disability-free life expectancy 13.4 years. For females the pattern is similar with a 6.8 year gap in life expectancy between social class I and V, which increases to 11.4 years for healthy life expectancy and 11.2 years for disability-free life expectancy. Therefore, social class differences become more evident when considering healthy life compared with life expectancy. This finding has been observed in other studies in the UK and Europe (Jagger et al., 2011; Rasulo, Bajekal, & Yar, 2007). Few studies have presented change of healthy life expectancy and disability-free life expectancy over time. An ONS report examining life expectancy at birth in England and Wales found that as life expectancy increased between 1982-2006, the gap in life expectancy between the most and least disadvantaged groups did not improve but actually increased from 4.9 to 5.8 for males and from 3.8 to 4.2 for females (ONS, 2011).

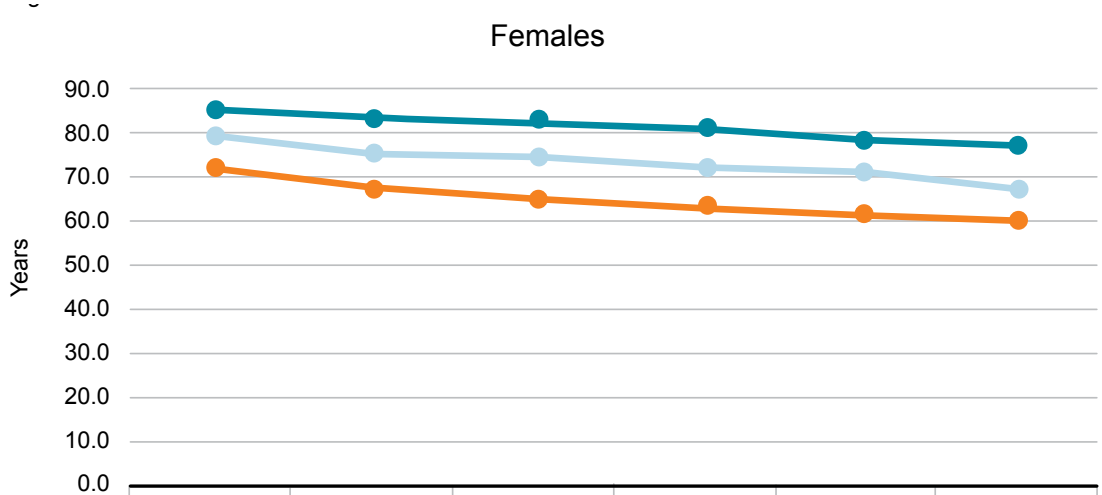
Figure 7: Life expectancy, disability-free life expectancy, healthy life expectancy in England at birth, 2001-03 by RGSC for males



	I	II	IIIN	IIIM	IV	V
LE	80.2	78.9	78.4	76.4	75.9	73.5
DFLE	70.2	67.1	65.9	62.1	60.8	56.6
HLE	76.7	73.9	73.0	69.3	68.1	64.2

Data sourced from (White & Edgar, 2010a, 2010b)

Figure 8: Life expectancy, disability-free life expectancy, healthy life expectancy in England at birth, 2001-03 by RGSC for females



	I	II	IIIN	IIIM	IV	V
LE	85.5	82.8	82.2	80.6	79.9	78.7
DFLE	71.6	68.4	67.9	64.2	62.7	60.4
HLE	80.0	76.6	75.5	71.9	70.8	68.6

Data sourced from (White & Edgar, 2010a, 2010b)

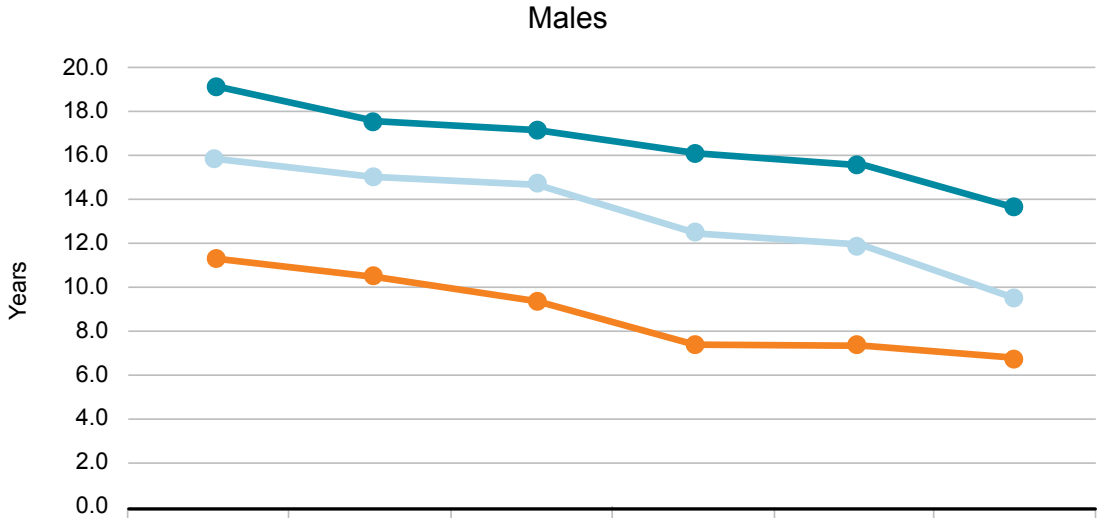
These figures support the finding that higher social class has the effect of compressing morbidity relative to lower social class. This can also be demonstrated by considering the proportion of life spent in good health. For males in social class I they can expect that 95.6% of their life is spent in good health and 87.5% free of disability compared with males in social class V who can expect 87.3% of their life in good health and 77.3% free of disability. For females in social class I, 93.7% of their life can be lived in good health and 83.8% free of disability compared with 87.2% and 76.8% for females in social class V.

In 2001-03, we can see that life expectancy at birth is consistently above the state pension age for all classes for men and women. However, on average, men in the three lowest social classes

born at the start of this century are not expected to reach even the current state pension age of 65 free of disability. Given the steady increase in female state pension age over the coming decade - rising to 65 by 2018 and 66 by 2020 - if the rates of disability do not change over the period then on average women from the three lower social classes will fail to reach state pension age free of disability. Given the change in definition of healthy life expectancy, that brings it closer in line with disability-free life expectancy, it is also likely that more women will not reach state pension age before reaching their healthy life expectancy either.

Figures 9 and 10 also show life expectancy, disability-free life expectancy and healthy life expectancy in England by RGSC for males and females at age 65. The patterns are similar as at birth, with clear health and life expectancy benefits for those in higher social classes.

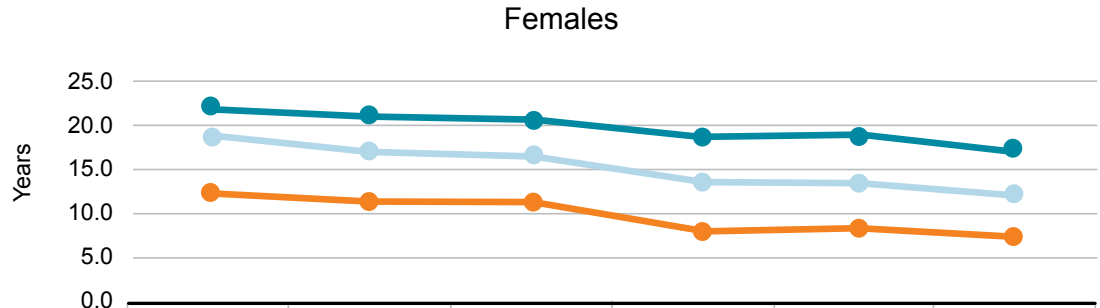
Figure 9: Life expectancy, disability-free life expectancy, healthy life expectancy in England at 65 years, 2001-03 by RGSC for males



	I	II	IIIN	IIIM	IV	V
LE	18.3	17.9	17.4	16.0	15.7	13.9
DFLE	11.6	10.4	9.9	7.9	7.9	6.3
HLE	16.2	15.0	14.4	12.3	12.0	9.8

Data sourced from (White & Edgar, 2010a, 2010b)

Figure 10: Life expectancy, disability-free life expectancy, healthy life expectancy in England at 65 years, 2001-03 by RGSC for females



	I	II	IIIN	IIIM	IV	V
LE	22.7	21.3	20.2	18.7	19.1	17.6
DFLE	12.6	11.5	10.9	8.8	9.1	8.1
HLE	19.2	17.5	16.3	14.0	14.3	12.8

Data sourced from (White & Edgar, 2010a, 2010b)

White and Edgar also compared Spearhead (disadvantaged) local authorities (LAs)s with non-Spearhead LAs in England. Again they found that rates of life expectancy, healthy life

expectancy and disability-free life expectancy were lower in disadvantaged areas, even when matching for RGSC (ie professionals had poorer life and health expectancies in Spearhead LAs compared with professionals in non-spearhead LAs). However, they also found that being in a higher RGSC appeared to buffer the impact of living in a poorer LA. After accounting for social class and LA, men had more years of life spent in good health and free of disability than women, with the exception of males in the lowest social class living in a Spearhead LA (White & Edgar, 2010a, 2010b).

6. How life expectancy is used in pension policy in other countries

Across the OECD, countries are raising state pension ages as life expectancy increases. By 2050, the average pension age will rise from 63 for men and 62 for women to almost 65 for both sexes (OECD, 2011). A number of countries in the European Union have linked pension benefits with life expectancy including Spain, Italy, Czech Republic, Denmark, Greece and the Netherlands (European Commission, 2012). Sweden has recently introduced a recommended retirement age. Their pension system has a flexible retirement age which gives people the freedom to combine work with a pension so that exit from the workforce can be based on individual circumstances. The system has a number of defining ages including the earliest age people can draw an old-age pension (currently aged 61), an age limit guarantee of a pension and other benefits (currently aged 65), an age limit in which employers are allowed to end someone's employment (currently aged 67) and a minimum age for supplementary occupational and private pensions (currently aged 55) (Swedish Commission for Longer Working Life and Retirement Age, 2013). The Swedish government has proposed to increase these ages between 2015-2019. Introducing a recommended retirement age aims to guide those who are unsure about the best date to retire. The recommended retirement age will be adjusted annually according to average life expectancy at age 65. This will be calculated by the Swedish Pensions Agency and applied from 2019. The recommended retirement age will effectively replace the age limit guarantee.

France has introduced a direct link between life expectancy and years of contribution. Previously, eligibility for a full public pension required 40 years of contribution. Starting in 2012 the years of contribution have increased in line with life expectancy so that the ratio of time spent receiving a pension is kept constant to time spent working (OECD, 2011).

7. Summary

More countries are now beginning to directly link pension age with increases in life expectancy to address the financial impact of an ageing population. In the UK, the Pensions Bill proposes five year reviews of the state pension age with the aim of maintaining the proportion of adult life spent in receipt of a state pension based on increasing life expectancy. While there has been recommendations that these reviews incorporate healthy life expectancy trends, this has not been specified as a requirement of the reviews in the Bill. While the UK has made significant steps to link life expectancy to policy, some argue that the increases are not sufficient. There are even those who have called for a long-term goal in the UK to increase state pension age to 75 (Ellis, 2013).

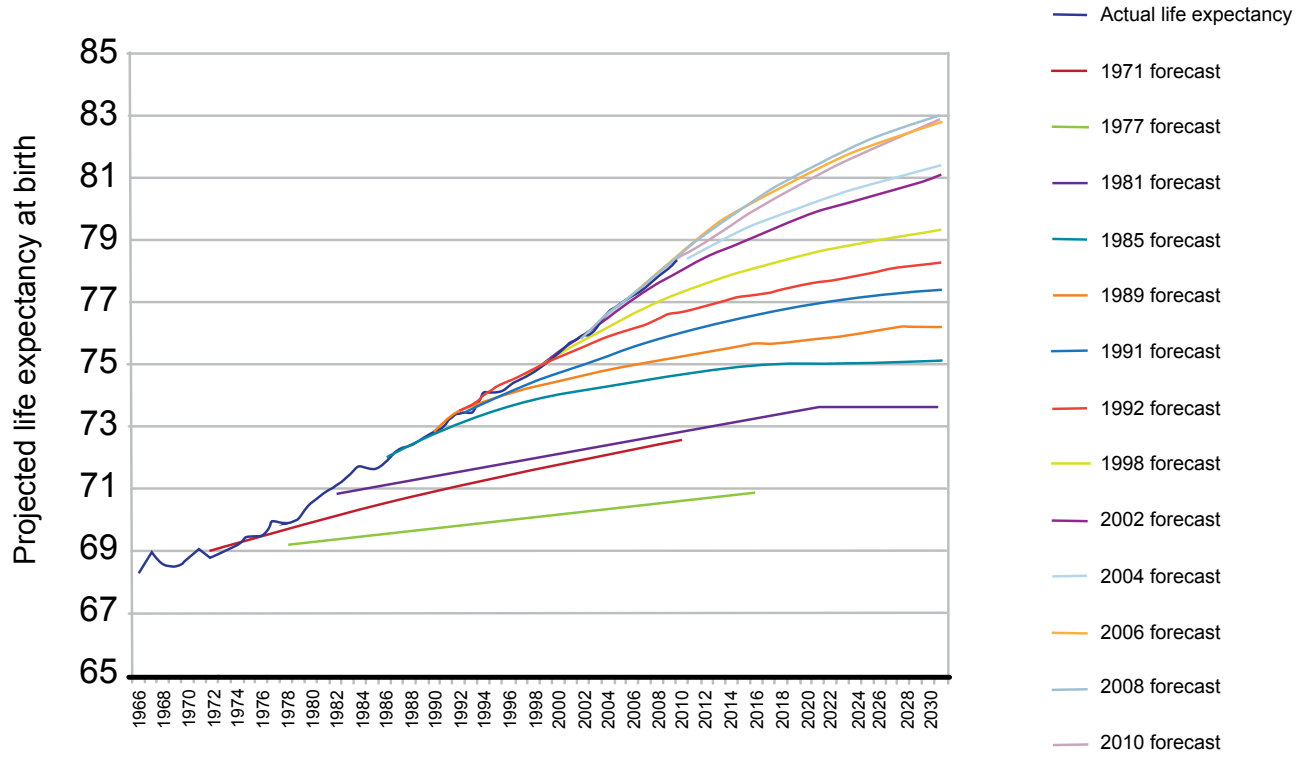
While the goal of linking life expectancy to policy is to reduce the financial impact of an ageing society, there are a number of issues to be considered. Each of the following issues will be explored in this final section of this discussion paper:

- Poor predictive ability of life expectancy.
- The interaction between state pension age and increasing workforce participation
- Disability-free life expectancy and healthy life expectancy measures show greater social inequalities than life expectancy.
- Economic Support Ratios (ESRs) not accounting for the economic contribution of those not in the workforce.

7.1 Life expectancy can be a poor predictor of life span

While life expectancy is an important predictor of demographic change, relying on future projections of life expectancy is not without limitations. As described above, both cohort and period life expectancy measures have limitations with wide variations in modelling future life expectancy projections and underestimation of increases in life expectancy (see Figure 11 showing ONS revisions to life expectancy since 1971). It is estimated that using the principal life expectancy variant (the most plausible) public expenditure on pensions and related benefits is projected to rise from 4.7 per cent of GDP in 2007 to 6.2% in 2032. If we consider high or very high projections of life expectancy, however, the percentage of GDP by 2032 rises to 6.4% and 6.8% respectively (Malley et al., 2011). The history of underestimating life expectancy increases could lead to the temptation to use higher variants of life expectancy for planning and therefore to increase state pension age even more rapidly than current plans (Lindquist & Wadensjo, 2009). Some also argue that an assumption of continued increase in life expectancy may not occur, particularly given the context of increasing rates of obesity and diabetes.

Figure 11: Upward revision to projected life expectancy at birth for males by year of forecast



Source: Office of National Statistics and International Monetary Fund

7.2 The interaction between state pension age and increasing workforce participation

Associated with living longer and healthier lives, our ability to work longer has also increased. In recent decades the workforce participation rate for those over state pension age in the UK has increased from 753,000 (7.6% of the population) in 1993 to 1.4 million (12% of the population) in 2011 (ONS, 2012d). There have also been increases in the average age of retirement for men and women (ONS, 2013a). Possible explanations for these increased participation rates include improved health, wanting to contribute to society, necessity due to financial pressures or changing attitudes of employers. Recent analysis of the impact of the increased state pension age for women from 60 to 61 in 2010 found an increase of 7.3 percentage points in employment rates amongst women aged 60, equating to an additional 27,000 more women in the workforce (Cribb, Emmerson, & Tetlow, 2013). There was also evidence of an improved employment rate amongst their male partners with an increase of 4.2 percentage points equating to an addition 8,300 males in employment.

While increasing state pension age appears a natural extension of improved life expectancy, the extent to which workforce participation can be pushed into later years is worthy of consideration. Life expectancy is a measure of quantity of life and is significantly longer than measures of quality of life such as healthy (healthy life expectancy) and disability-free life expectancy (disability-free life expectancy). Data presented in Section 5 illustrated that while people on average are likely to live to state pension age, they are less likely to reach state pension age in good health.

"Both of these measures [disability-free life expectancy and healthy life expectancy] 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." (Harper et al., 2011, p. 31)

Increasing state pension age into ages where disability rates are higher also raises concerns about transferring funds from the State Pension to disability and unemployment benefits; the 'substitution risk' (Harper et al., 2011).

Analysis by Harper and colleagues (2011) shows how greater improvements in the Economic Support Ratio could be achieved through increasing workforce participation rather than simply increasing the state pension age. They demonstrate that increasing the state pension age by one year (for example from 65 to 66) may slightly increase workforce participation for those aged 65, but that this would not significantly alter the ESR. Increasing workforce participation for those aged between 50 to state pension age would have a much more significant impact and could offset the effect of ageing. In their modelling, the most effective strategy would be to increase female workforce participation to the rate of males, followed by keeping male workforce participation rates at levels consistent with those younger than 50 (Harper et al., 2011).

Increasing workforce participation rates for those aged 50 to state pension age has a number of challenges including age discrimination and lower training opportunities for older workers (OECD, 2011). Using data from early in the 21st Century, exit of the workforce for men aged 50-64 in OECD countries was primarily due to retirement, unemployment or disability. Countries with lower pension ages tended to have a higher proportion exiting the workforce due to retirement whilst in the UK the largest proportion of males in this age group left the workforce due to unemployment and almost 20% due to disability (OECD, 2011). Removal of the Default Retirement Age in the UK in 2011, so that employers could not forcibly retire someone after 65 without objective justification, was a positive step.

Only examining data for those aged 50-64 is limited when looking at reasons for retirement. Findings from a survey conducted across Great Britain found that the majority of people under the age of 60 retired due to ill-health, but that after age 60, 56% described retirement as an inevitable/natural decision (McNair, Flynn, Owen, Humphreys, & Woodfield, 2004). These findings support the notion that state pension age provides a signal, or a societal norm about when people expect to retire (ILC-UK, 2013; McNair et al., 2004). Recent data on reasons for retirement and links to socio-economic status are limited. Those in occupations with poorer working conditions and lower incomes, however, may have financial pressures to remain in the workforce, but poor health may force them to retire (Berry, 2010). Strategies for challenging ageist attitudes in the workplace, improving working conditions, offering flexible approaches for gradual retirement and improving professional development in later ages could all have significant benefits for improving workforce participation (ILC-UK, 2013).

Another important factor in relation to workforce participation rates is the provision of unpaid care to family and friends who have a long-term illness or disability. For women in the 50-state pension age age group, this is a higher reason for exiting the workforce than for men (OECD, 2011). The 2011 census showed that 5.8 million people across England and Wales provide unpaid care to family and friends with long term illness and disability, accounting for 10.3% of the population (White, 2013). Local authorities with higher proportions of their population with a disability also have higher proportions of carers (White, 2013). For men and women, those aged 50-64 are most likely to provide care. In this age group, 23.5% of English and 25.6% of Welsh women provide care compared with 16.8% and 18.8% of males respectively (ONS, 2013c). For both men and women, providing more than 10 hours of care per week leads to significantly lower levels of employment for those aged 50 to state pension age compared with those who

do not provide care (King & Pickard, 2013). The age group most likely to be providing 20+ hours of care for a parent includes those aged 45-64. To keep up with the ageing of the population, all else being equal, there would need to be a doubling of the number of people under age 65 providing at least 20 hours of care per week by 2041 (Pickard, 2008). Pressures to provide care, particularly for women, therefore, provide significant barriers to increasing workforce participation in those over 50 years of age. The negative impact of providing care on health is also likely to reduce carers' capacity to return to work in the future.

7.3 Disability-free life expectancy and healthy life expectancy measures show greater social inequalities than life expectancy

The impact of state pension age coinciding with average healthy life expectancy and disability-free life expectancy is more likely to disadvantage those from poorer socio-economic backgrounds. Workforce participation in older ages is higher amongst those in more affluent southern areas of the UK (ONS, 2012d). As shown in Section 5, in more disadvantaged areas and lower social classes, males born at the start of this century with average disability-free life expectancy will fail to reach current state pension age free of disability. Despite recognition of the need for reducing social inequalities in health, evidence suggests that gaps are not narrowing, but are increasing (ONS, 2011). The Longevity Science Advisory Panel explored a range of lifestyle factors that impact on life expectancy and are also related to social class. For example, they demonstrated that while smoking rates had dropped from 1974-1998, the rates were higher amongst those in manual occupations across this period. In addition, those in non-manual occupations reduced smoking rates to a greater degree than manual workers. Therefore, despite positive societal moves towards lower smoking rates, the gap between manual and non-manual workers' smoking rates widened (Wanless, Pattison, McPherson, Haberman, & Blakemore, 2011).

Reducing social inequalities in health, therefore, is another important strategy for increasing workforce participation in older age groups. Those in lower social classes are the first to be impacted by poor health and the need to exit the workforce due to disability. Increased efforts to improve detection and prevention of conditions most strongly related to health inequalities are needed so that people reach state pension age in a state of good health, regardless of social class (Marmot et al., 2010).

7.4 Economic Support Ratios (ESRs) fail to account for the economic contribution of those not in the workforce

While the ESR or, alternatively, the "real age dependency ratio" may be meaningful for assessing the economic impact of an ageing population, it doesn't account for the full economic contribution of those who are not part of the workforce. Many older people care for other people and many people aged 50 to state pension age cannot remain in the workforce due to caring roles. Even the more useful measures of dependency therefore fail to consider the financial impact of transferring this unpaid care to the formal care system. In 2011, the economic contribution of people providing unpaid care to frail older people and people with disabilities was £119 billion, higher than the annual cost of the entire NHS (£99 billion in 2009-2010) (Buckner & Yeandle, 2011). Therefore while ESR is clearly an important tool, its limitations should not be taken be taken for granted.

Another factor that has not been examined in this paper is the increasing number of older people caring for grandchildren, thereby enabling mothers to contribute to the workforce. Supporting women to return to work will also help reduce the gender inequalities in pension

incomes that persist today. Older people also contribute to society through formal volunteering work. According to the Community Life Survey (Cabinet Office, 2013), in 2012, 31% of those aged 50-64, 30% of those 65-74 and 27% of those 75 years and older formally volunteered at least once a month. An attempt to quantify the economic impact of older people for the Royal Voluntary Service found; "Taking together the tax payments, spending power, caring responsibilities and volunteering effort of people aged 65-plus, it calculates that they contribute almost £40bn more to the UK economy than they receive in state pensions, welfare and health services" (Brindle, 2011). There is need for further research to more accurately reflect the contribution of older people to our society and the economy.

8. Recommendations

It is recommended that:

- Life expectancy measures should be used with caution in planning for population change and the possibility of underestimating life expectancy needs to be considered.
- Five yearly reviews of state pension age should incorporate an examination of changes in healthy life expectancy and disability-free life expectancy as well as inequalities in these measures across different social classes and UK regions.
- Programs to challenge ageist attitudes in the workplace, improve working conditions, offer flexible approaches for gradual retirement and improve professional development in later ages should be promoted and extended.
- As state pension age rises, there must be continued investigation into the reasons for leaving work and retiring. This will help identify whether disability and poor health become a greater barrier to workforce participation as state pension age increases.
- Health promotion strategies should target poorer social classes to reduce health inequalities.
- The International Classification of Functioning, Disability and Health from the World Health Organisation should be used as a framework for considering the broad range of factors that impact on health and civic participation to inform policy.
- Further research must be undertaken to examine the real contribution of older people to society and the economy.

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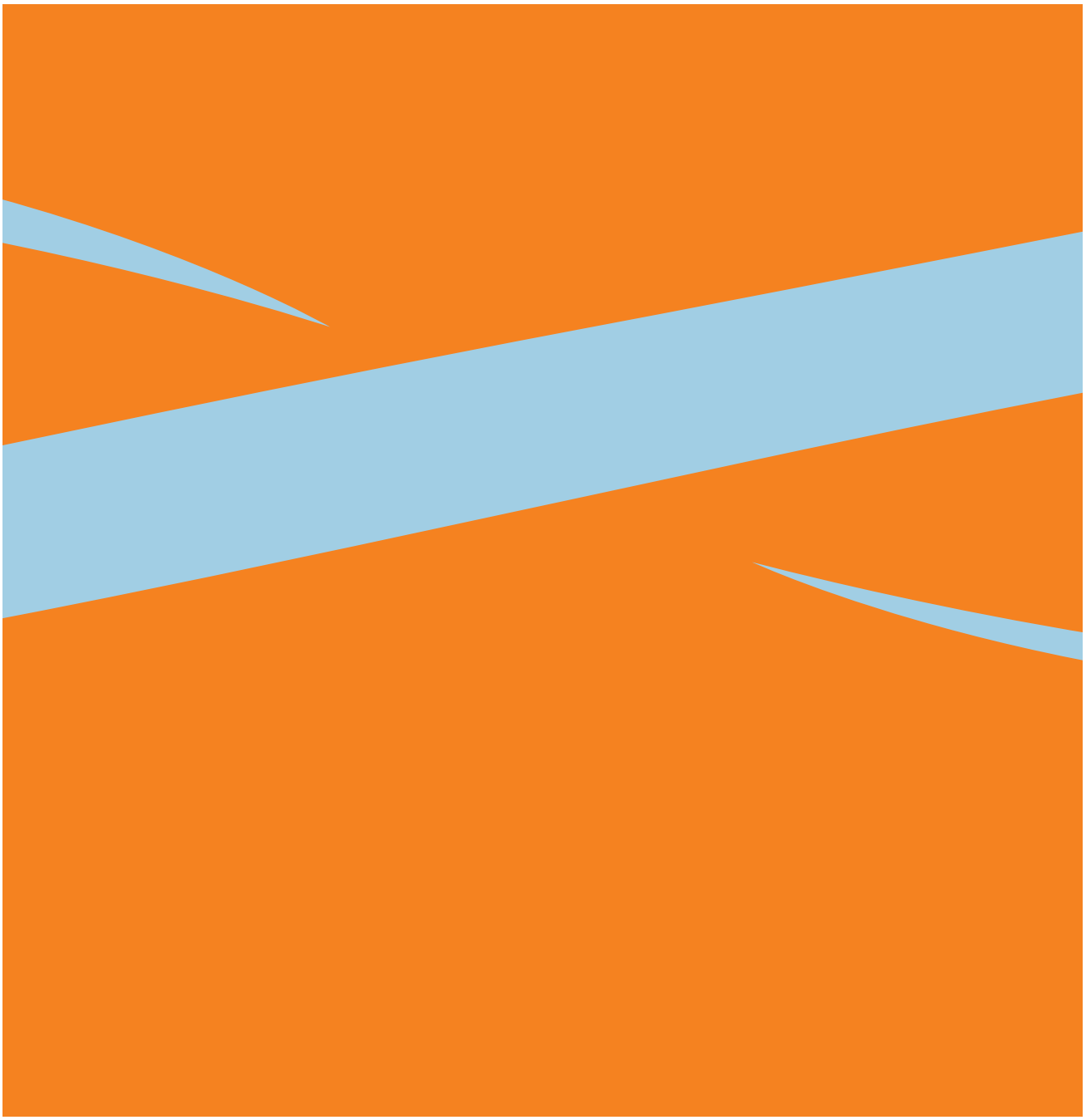

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