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Maximising the longevity dividend



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Summary

We've become accustomed to hearing our ageing population presented as a bad thing. Ageist attitudes are reinforced by policy makers spending more time worrying about the fiscal costs of ageing than exploring how to maximise the opportunities of longer lives. Our public policy response to longevity is too often negative and defensive.

Of course, we can't ignore the impact of ageing on the public purse and the wider economy. But our analysis shows that ageing also brings economic opportunities which are currently being neglected, including the growing spending, working and earning potential of people at older ages. We have found that:

- The next decades will see huge growth in consumption by older people – as there are more older consumers and they spend more on average. Spending by older consumers will rise from 54% (£319 billion) of total consumer spending in 2018 to 63% by 2040 (£550 billion).
- People aged 50 and over are shifting their spending towards non-essential purchases such as leisure. The top three growing sectors for older consumers are recreation and culture; transport; and household goods and services.
- The share of the workforce aged 50 and over rose from 26% in 2004 to 32% in 2018 and could be 37% by 2040.
- People aged 50 and over earned 30% of total earnings (£237 billion) in 2018 and this will rise to 40% by 2040 (£311 billion).

The population is already ageing. But how we age as a society is up to us. We have agency in this process. We can decide what happens next.

If we take action to enable older people, as workers and consumers, we can realise a longevity dividend:

- Tackling the barriers to spending by people aged 75 and over by 2025, could add 2% to GDP a year by 2040.
- If we could support those aged 75 and over to match the spending of 65 to 74-year-olds by 2025, we could add 8% a year to GDP by 2040.

- If the 'missing million' involuntarily unemployed older adults were supported in to work by 2022, this could add 1.3% a year to GDP by 2040.
- If we continued this progress up to 2028, we could add 2% a year to GDP by 2040.

However, these benefits won't be realised on their own. Contrary to the myth of baby boomers dominating public policy, the rising numbers of older people have not been met by significant shifts in public policy. Too often individuals lack the agency to make changes at the level that's needed – income and health inequalities still blight our communities, and ageist practices hold older workers back. We need to take action at a societal level.

The UK Government is starting to respond to these issues – not least through the pledge, as part of its Industrial Strategy, to support innovation to promote healthy ageing to the tune of £98 million; and through the appointment of a Longevity Council. But there's more to be done. We have identified four areas for action:

- **Enable healthy ageing** – we need action to make sure our extra years are healthy years; this includes investment in prevention across the life course, and more effective support to manage long-term conditions at work and in our communities.
- **Address the barriers that exclude older people** – we need action to ensure our high streets are accessible and inclusive, our workplaces are free from age discrimination and the digital divide is closed.
- **Support older people's incomes** – we need to support people to make adequate savings to enable them to make positive choices about work and leisure in later life.
- **Encourage businesses to respond** – businesses need to act now to realise the longevity dividend. Employers need to invest in their workforce in mid and later life to ensure that they can attract and retain the best talent in an ageing society. Service providers and product developers who respond to the changing needs and demands of an ageing population – making sure their products are accessible and attractive – will reap the rewards.

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Introduction

The ageing of our society is often portrayed as a disaster for our economy. But this narrative neglects the potential benefits.

By 2040, the number of people aged 50 and over is expected to increase 21% by 2040, from 25 million to 30 million.¹ This demographic shift is transforming our economy.

Yet the prevailing debate has been overwhelmingly negative.² The former US Secretary of Commerce, Pete Peterson, for example, described global ageing as a 'threat more grave and certain than those posed by chemical weapons, nuclear proliferation, or ethnic strife'.³ We fixate on dire predictions of skyrocketing fiscal costs – namely health, social care and welfare costs – and a decreasing ability to pay for them.⁴

Of course it's true that demographic change has implications for our economy that need to be taken seriously:⁵

- Healthcare costs generally increase as the proportion of older people grows.⁶
- Gains in post-retirement life years increase the demand for welfare payments.⁷
- Increasing life expectancy combined with declining fertility may lead to labour shortages, a factor that may be exacerbated by Brexit.⁸
- A lower proportion of the population are net tax contributors while a higher proportion of the population require more support from the public sector.
- Falls in consumption reduce demand in the economy.⁹

It would be naïve to not consider these economic challenges. However, it is also wrong to ignore older people's positive impact on the economy and the considerable economic potential associated with an ageing population.¹⁰

Of course, blind optimism will not deliver the longevity dividend; taking an overly rosy view of what ageing means for society can incentivise complacency and be counterproductive.¹¹ However, there are enormous opportunities if we can support older people to live healthy lives for longer, stretching the period of productive life and compressing the period of morbidity.¹²

In this report we explore two of these opportunities. First, the opportunity to channel the extensive experience and skills of older people into longer working lives.¹³ Second, the opportunity for businesses to tap into the growing market among older people – by developing new products and services, or adapting existing ones, to meet the needs and aspirations of people in later life.¹⁴

Maximising the opportunities of ageing will bring a longevity dividend that will help balance the impact of ageing on the economy.

Increasing opportunities for older people to spend, work and earn income would:

1. Boost overall GDP directly. Private expenditure accounts for over 60% of aggregate demand and supports a significant proportion of jobs, while earned income from labour is the largest component of income-based GDP.¹⁵
2. Increase revenues from income tax and VAT payments.
3. Stimulate the economy indirectly via the further economic activity earnings and spending generated by boosting consumer demand.¹⁶ Extending working lives may also boost employment opportunities for all ages.¹⁷

It could also have positive impacts on older people's health and wellbeing, which may help to stem the increase in fiscal costs:

1. Longer working lives increase the number of years individuals can accumulate wealth and income while reducing the number of years reliant on pension income. This is likely to boost living standards in retirement and result in fewer people requiring state benefits to supplement their incomes.¹⁸
2. Fulfilling work beyond retirement age can delay death, reduce the risk of developing serious health problems, boost wellbeing, and provide a sense of purpose (although poor quality work can have the opposite effect).¹⁹
3. If older people were to access goods and services that met their needs this could support healthy ageing, enable people to feel 'cognitively young', reduce isolation and loneliness, and support independent living.²⁰

We have agency over these opportunities – they're not set in stone.

As a society we have agency over how we approach ageing – and therefore we have the opportunity to change how it affects our economy. This is too often forgotten. Doomsday projections assume a world of static policy and institutions, with no improvements to the number of years lived in good health or to labour outcomes.²¹ Most long-run fiscal projections also assume that individuals age statically, i.e. that the economic contributions of, say, a 50-year-old in the future will be the same as those of a 50-year-old today.²²

The facts challenge this negative outlook. The old-age dependency ratio has increased for over 100 years while the UK economy has continued to prosper.²³ Unlike increases in youth dependency, the economic effects of increased longevity can be offset by changes in behaviour and policy.²⁴

The average 50-year-old of the future is likely to have a greater economic impact than that of today's average 50-year old.²⁵ However the extent of this impact will depend on the choices we, as a society, make.

*"While daunting, this new set of challenges is not insurmountable. Demographic trajectories are not set in stone, nor are their implications for social, health and economic outcomes."*²⁶ Professor David Bloom

We need a more rounded understanding of how ageing will affect our economy, so we can capitalise on the economic opportunities.

Economic growth is the most widespread way of measuring living standards and the state of the economy, and is closely associated with wellbeing.²⁷

In this report we examine the direct impact on GDP resulting from all spending on products and services by people aged 50 and over; and the way the earned income of people aged 50 and over who are in work affects GDP, which we call the 'longevity economy'.²⁸ We then estimate:

1. The state of the longevity economy today.
2. How this has changed over time and what this could look like in the future.

3. The potential longevity dividend that could be realised if action were taken to increase spending and employment opportunities for people aged 50 and over.
4. The potential benefit to our GDP of getting this right.

Although this analysis focuses on the formal economic contributions of people aged 50 and over, it is important to note that older people also make substantial unpaid informal contributions to society, which also have an economic impact. Older people contribute significantly to the informal economy via volunteering, informal child care and caring activities. There are strong arguments that these should be incorporated into formal measures of GDP.²⁹ Research by Age UK found that the direct monetary value of the informal contributions of people aged 50 and over amounted to £226.1 billion of economic output in 2017 around 11.3% of (2017) GDP.³⁰

Context

Older adults underspend on goods and services.

Previous ILC research found that:

- Consumption steadily flattens out soon after retirement and falls at older ages: the decline in spending appears to be persistent over time and common to most western countries.³¹
- For each year beyond the age of 55, average (equivalised) household spending on food and groceries, eating out, clothing, and leisure declines by approximately 1% - with a 17.1% drop in spending by the age of 75.³²
- It is mainly expenditure on so called "non-essential" items that declines as people get older, while expenditure on essential items remains steady.³³
- Older people's underspending has been called the 'retirement consumption puzzle' – because it tends to occur upon retirement and increase with age. It is a puzzle because it challenges economic theory, which predicts that people will smooth their consumption over their lifetime, anticipating the expected drop in income upon retirement and saving in advance.³⁴ Debate continues as to whether the decline in consumption is consistent with economic theory.³⁵

There are two main theories as to why this consumption dip occurs:

1. Excessive savings prior to or after retirement – uncertainty gives rise to precautionary savings, and imperfections in the capital markets limit households' ability to save and borrow over time.
2. Inadequate savings prior to retirement - a lack of self-control or limited financial capability³⁶, mean that people enter retirement with less than optimal savings and are forced to reduce consumption.

However, the drop in income during retirement cannot fully explain the drop in spending. ILC's research has found that regardless of people's income level, spending still drops as they get older.³⁷ Spending as a share of income also falls at older ages, while savings increase; 80 year olds have been estimated to save an average of £5,870 a year.³⁸ And too often, rather than being invested productively, these savings end up in low-interest bank accounts.³⁹

ILC's research has identified a number of factors which hold back older people's expenditure and can drive excess savings. These include poor health; non-inclusive goods, services, retail areas and neighbourhoods; a lack of innovation in products and services; and a tendency to make precautionary savings.⁴⁰

Recent years have seen a number of government initiatives designed to support older people's consumption and to encourage businesses to respond to the growing older market. These range from supporting moves toward inclusive design to the recent pledge to invest £98 million to support innovation in goods and services as part of the Government's Industrial Strategy Grand Challenge on healthy ageing.⁴¹ Most recently the Government has established a Longevity Council to advise on how best to use innovations in technology, products and services to improve the lives of our ageing population.

There is also a growing body of literature around the increasingly important older consumer market.⁴² And several recent international reports have sought to estimate future expenditure among older consumers in the US and across the EU.⁴³

Employment falls at older ages – but the employment gap is decreasing.

It is well known that labour force participation rates and employment rates fall at older ages; the gap in the employment rate between 50 to 64 and 35 to 49-year olds was 13.4 percentage points in 2018.⁴⁴ There is a particularly steep decline in the employment rate from the mid-50s to the mid-60s, as people approach the State Pension Age (SPA).⁴⁵ Yet the gap in employment rates between younger and older age groups has steadily been reducing as employment rates among older people have increased in the UK (since 1990) and internationally.⁴⁶ The reasons for these changes are varied. While some older people are choosing to work longer, including beyond traditional retirement ages, others have been forced to do so by financial necessity.

People aged 55 to 64 are most likely to involuntarily exit the labour market – with around one million 'missing' older workers. People aged 65 and over are more likely to voluntarily exit the labour force.

Previous ILC research identified that:⁴⁷

- People leaving the workforce before they reach SPA are more likely to have been pushed out of work involuntarily through a combination of shocks, such as health problems, involuntary redundancy or early retirement, or a lack of support from their employer. Sizable proportions also left work due to needing to care for family members.
- Almost one million people between the ages of 50 to 64 have involuntarily left employment due to these factors.
- Older people are more likely to be made redundant than their younger counterparts. Once out of work, people aged 50 and over remain unemployed for longer, and find it more challenging to return to paid employment than any other age group, which may result in them leaving the labour force altogether.
- Once people have reached the state pension age, the decision to leave work tends to be voluntary.

We can act to remove the barriers to work for older people.

Older workers face a number of barriers to working, which could be removed. These include:

- Limited support for employees with health problems: there is clear evidence that people with long-term conditions and disabilities can continue to work if they are provided with appropriate support by their employers.⁴⁸
- Age discrimination: age discrimination remains a major barrier to working in later life; it particularly affects recruitment.⁴⁹ Despite age discrimination being illegal, it is still prevalent in the UK.⁵⁰
- Lack of flexible work opportunities: the failure to offer flexible working opportunities prevents individuals with health or care needs, and those who need to provide care, from remaining in work.⁵¹
- Lack of training and upskilling opportunities for older workers: failure to offer opportunities for training and development holds older workers back.

Policy makers have introduced a range of measures to try to address these barriers. These range from removing the default retirement age in 2011, to extending the right to request flexible working to all employees with 26 weeks continuous employment in 2014.⁵² Most recently the Government introduced a target to increase the average number of years lived in good health by 2035 and has included plans in its Industrial Strategy to improve opportunities for older adults to train and develop new skills.⁵³

Increases to State Pension Age have driven longer working lives, so far.

One of the key ways to date in which the Government has sought, to address the impact of ageing on the economy has been by increasing the SPA.⁵⁴ The SPA for women rose in 2018 and will continue to rise for both genders to reflect increases in life expectancy.⁵⁵

The Institute for Fiscal Studies found that previous changes to female SPA boosted to the female employment rate, as well as unexpectedly boosting the employment rate of male partners.⁵⁶ However without action to address the drivers of involuntary labour market exit, there is a risk that further increases in the SPA could increase poverty.⁵⁷

There is commitment to extending working lives.

Apart from the benefits to older individuals and the wider economy, there is a strong business case for extending working lives to prevent future labour shortages. The Office for National Statistics projects that by 2040 there will be 368 people aged over the SPA, for every 1000 people aged 16 to the SPA (compared to 300 now) – despite planned future rises in the SPA.⁵⁸

In 2016, Business in the Community set out a target to bring the 'missing million', back into employment. The target calls for employers to increase the number of people aged 50 to 69 in work by one million (or 12%) between 2016 and 2022.⁵⁹ This would require closing the gap in the employment rate between people aged 50 to 64 and those aged 45 to 49, and between those aged 65 to 69 and those aged 45 to 49 (the age at which the employment rate peaks).⁶⁰

Older consumers

Trends in household spending

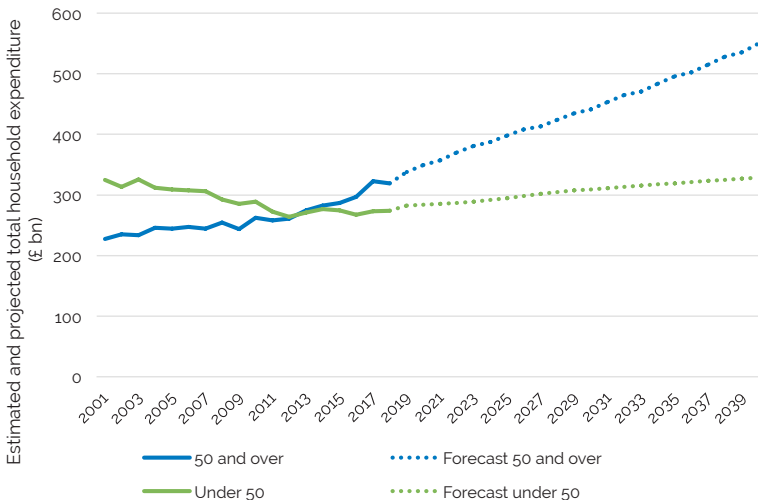
Older households have dominated consumer spending since 2013. Their share of total spending in the UK will rise from 54% in 2018 to 63% in 2040.

By 2040, the number of people in the UK aged 50 and over is expected to increase by 21% - from 25 million to 30 million. This population is increasingly important to our economy: consumers aged 50 and over already spend £319 billion a year (excluding housing; see Appendix): equivalent to roughly 54% of total household consumer spending (Figure 1).

In the coming years, this is projected to grow significantly. By 2040, older households are expected to spend £550 billion a year (63% of total spending). This is £231 billion more than in 2018 and £221 billion more than projected spending by younger households in 2040. This means that by 2040, 63p of every pound spent in our economy would be spent by older households.

Total expenditure is projected to increase more rapidly for older households in the next 17 years than it has done in the previous 17 years (since 2001). This means that an abundance of new market opportunities will be created at a relatively rapid pace.

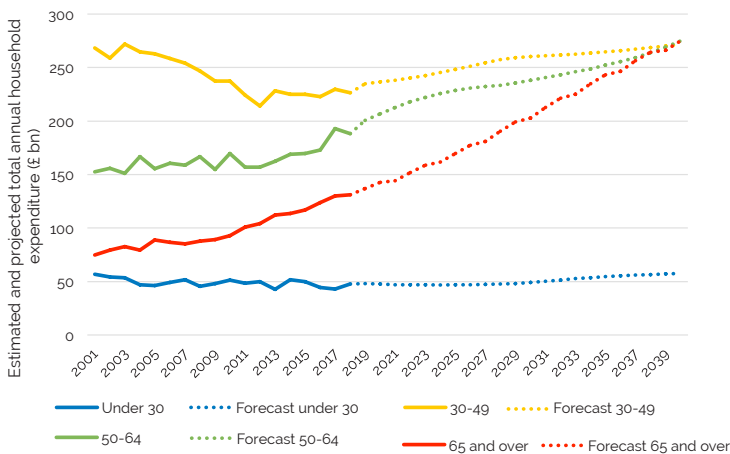
Figure 1: 2001 to 2040: total household spending by age group



Households aged 65 and over are the fastest growing consumer group and are driving the rapid increase in total spending by all older households.

Breaking down the group of people aged 50 and over reveals that retired households are driving the rapid increase in older consumer spending and overall market share (Figure 2). They are reshaping the consumer market. Total spending for households aged 65 and over grew by 75% from 2001 to 2018. This is not surprising given that since 2001, the growth in the number of households has been highest for those aged 65 and over (28%). This picture contrasts to the spending trends for younger households (aged under 50), among which spending fell by 16% over this period and is projected to stagnate in future years.

Figure 2: 2001 to 2040: total household spending, by age group

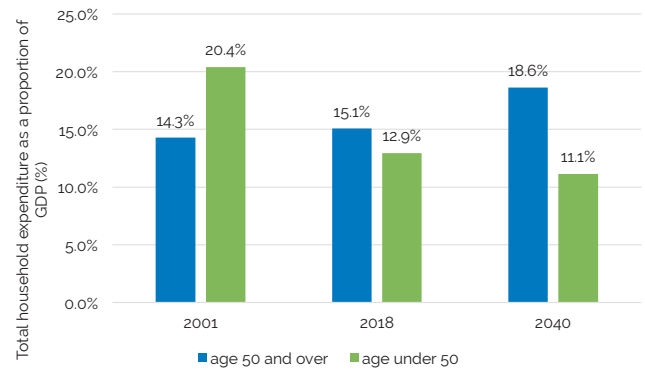


Spending by older households is accounting for a growing share of GDP, while the GDP impact of younger households is reducing.

The rise in spending by households aged 50 and over accounts for a growing share of GDP.⁶¹ It represented 14% in 2001, 15% today and is projected to rise to 19% by 2040, which highlights the longevity economy's growing importance to the economy (Figure 3).

Over the same time period, the GDP impact of households aged under 50 fell from 20% of GDP in 2001 to 13% in 2018; this is expected to drop to 11% by 2040.

Figure 3: Total household spending as a proportion of GDP, by age, in 2001, 2018 & 2040

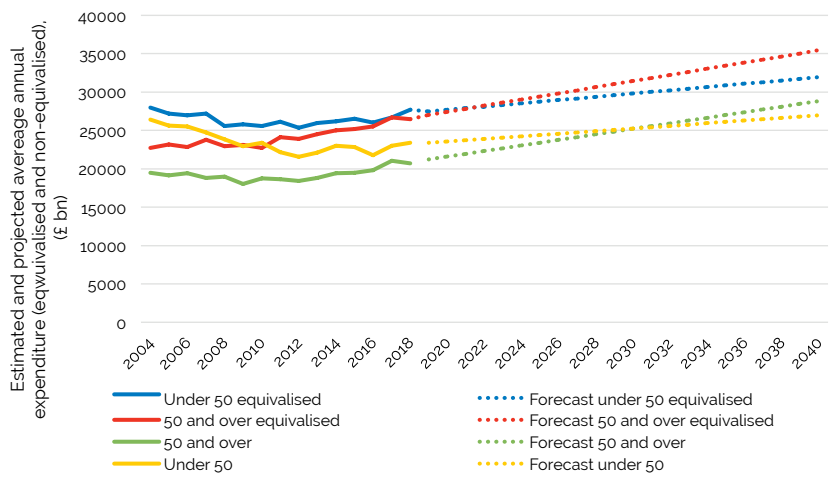


Trends in average household spending

It's not just an ageing population that's driving older consumer spending growth. The average older consumer is also spending more.

Since 2001, average spending by younger households has exceeded spending by households aged 50 and over, but this gap has fallen significantly over time (Figure 4). By 2031, for the first time since 2001, older households are projected to spend more than their younger counterparts. This pattern also holds for equivalised expenditure, which means this cannot be explained by changing household composition (see Appendix).

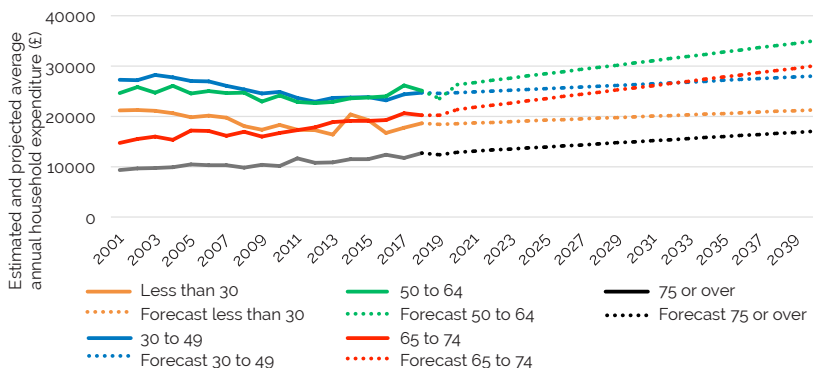
Figure 4: 2001/2004 to 2040: average household spending, by age group



Spending by older households – particularly those aged 65 to 74 - increased during the recession and fell for younger households.

Spending by older households increased steadily throughout the recession years and fell for younger households (Figure 5). Spending by households aged 65 to 74 and 75 and over increased particularly robustly during this period, contrasting with households aged under 49, which were hit particularly hard during the recession.

Figure 5: 2001 to 2040: average household expenditure, by age group



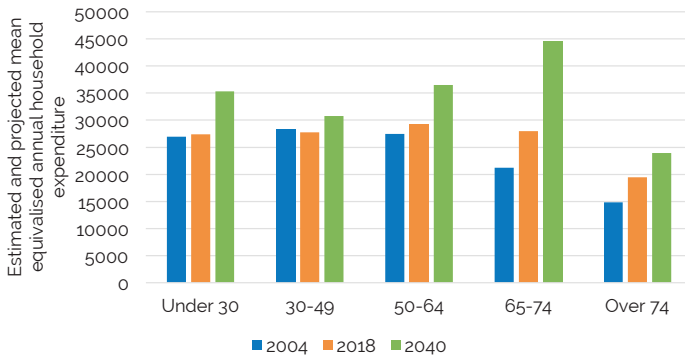
If these trends continue, it would transform patterns of spending across the lifecycle. While spending previously peaked for households aged 30 to 49 by 2040, this could be overtaken by households aged 50 to 64, followed by households aged 65 to 74.

The usual drop in spending in later life is now observed at older ages, but spending still significantly drops after age 75.

These patterns are still found when accounting for household size and composition (Figure 6). While in 2004, spending fell significantly after ages 50 to 64, this drop was negligible in 2018 and by 2040 spending is projected to peak for consumers aged 65 to 74.

The drop in spending that has traditionally occurred after retirement⁶² is now seen at increasingly older ages. However, spending is still projected to drop significantly after age 75 – even by 2040.

Figure 6: 2004-2040: (equivalised) average household spending, by age group



The fact that spending is persistently lower for households aged 75 and over indicates that the 'oldest old' still face barriers to consumption. Focused action to address these barriers for older people could maximise this age groups' spending opportunities.

What's driving the growth in spending?

The projected rapid spending growth among older households is mostly driven by increased spending by the average older household rather than demographic change.

The expected growth in total spending by older households (Figure 7) is mostly driven by rapid increases in spending by the average older consumer, rather than projected demographic change (see Appendix).

Population ageing alone accounts for only £61 billion of the expected increase in household spending by 2040. This compares to a potential gain of £212 billion when increases in average spending among older consumers are also taken into account (where the addition of the latter would add around 5% to GDP).

Figure 7: 2019 to 2040: change in total household spending due to demographic and expenditure changes, by age group

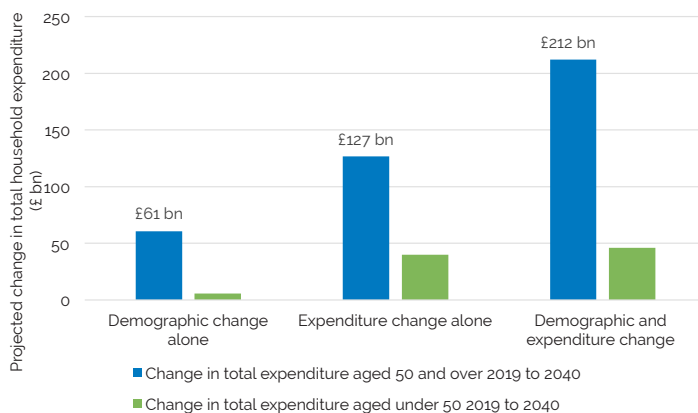


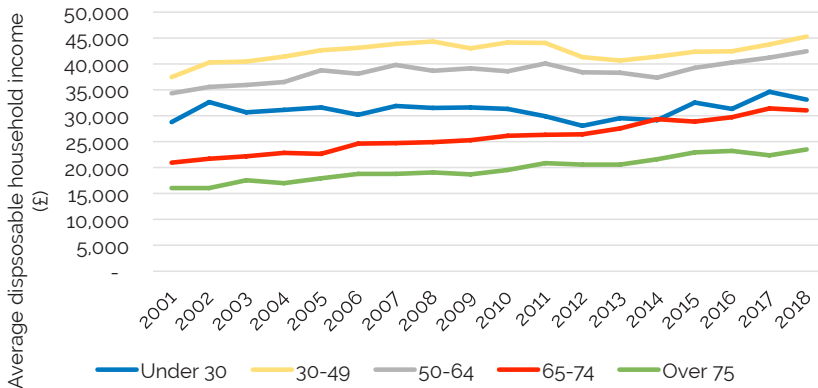
Figure 7 also shows that demographic change is projected to have a negligible effect on future spending by younger households due to population ageing. Ensuring that past trends in spending by older households continue will be important to sustain total consumption as a share of GDP.

Relatively rapid increases in spending power among retired households may partly explain the growth in spending by older households. However, disposable income still remains highest among younger households.

Although disposable income is consistently higher for younger households, the relative spending power of older households has been growing in recent years, which may help to account for the trends in expenditure discussed previously (Figure 8).

From 2001 to 2018, household income grew most for households aged 65 to 74 (by £10,097) and least for households aged under 30 (£4,311) – the same period over which expenditure grew. Similarly, fluctuations in income for other age groups, particularly for households aged under 30, appear to also loosely match variations in household spending.

Figure 8: 2001 to 2018: average disposable household income, by age group



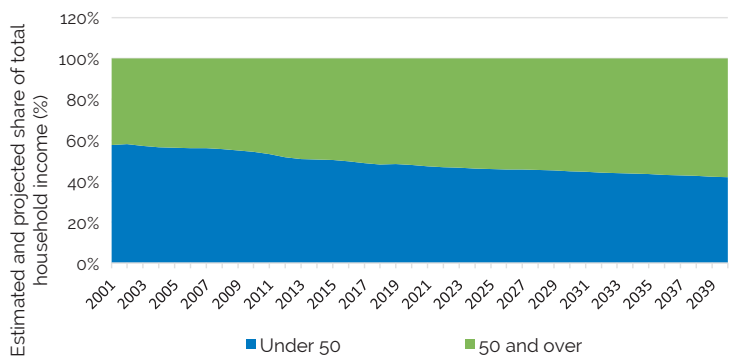
The link between growth in income and increased consumption is important, because it suggests that consumption trends among older people may not be sustained if pensioner incomes are allowed to dip in future years. A key driver of older people's improved incomes has been income from pensions and increased membership of defined benefit schemes, which peaked in 1967.⁶³ Another key factor has been work to reduce pensioner poverty, including the introduction of Pension Credit in 2003 and increases to the State Pension via the Triple Lock, which was introduced in 2011.

However, recent decades have seen a shift away from defined benefit schemes towards less generous defined contribution schemes, making it unclear whether we should assume previous consumption trends will continue.⁶⁴ A particular cause for concern is the fact that the long-standing decline in relative pensioner poverty, has recently started to reverse.⁶⁵ If we are to maximise the longevity dividend, we must continue to take action, both to support people in building up good pensions, and to alleviate pensioner poverty.

The share of total disposable income that belongs to older households outsizes that of younger households – this is projected to rise to almost 60% by 2040.

The share of total disposable income that belongs to households aged 50 and over exceeded that of younger households for the first time in 2017. In 2040 this is projected to reach 58%, as compared to 42% in 2001 and 52% in 2018 (Figure 9).

Figure 9: 2001-2040:share of total household income, by age group

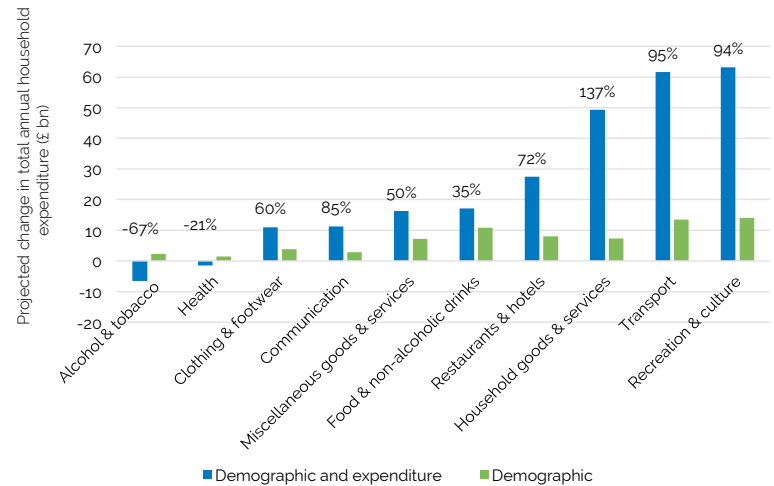


However, these overall trends do not reflect the experience of all older households. There is significant inequality in household income – including among retired households.⁶⁶ Pensioner poverty has also recently started to increase, but only among certain groups, including renters, and people from black and minority ethnic communities.⁶⁷

Sector-by-sector analysis: what do older people spend their money on?

Older households will spend more on recreation and culture, transport, and household goods and services.

Figure 10: 2019 to 2040: change in total spending by households aged 50 and over, by sector



A small number of sectors are projected to see significant growth in spending among older people between 2019 and 2040⁶⁸ (Figure 10).

- Recreation and culture (£63 billion)
- Transport (£62 billion)
- Household goods and services (£49 billion)

However, contrary to some assumptions, spending on health by older households is expected to fall 21% by 2040 (see Appendix) – perhaps reflecting the reality that most older adults will have their need for age-related healthcare met by the NHS. As such, it seems that the often-touted age-related boost for the health consumer market will not be realised without action to grow demand.

Older people's spending choices are shifting, creating opportunities for businesses that innovate to meet this emerging demand.

The growth in spending per sector that is driven by demographic change alone is relatively modest (Figure 10) – instead it's the shift in the ways in which older people are spending that's driving the real growth for some sectors. The market for household goods and services, which includes furniture and furnishings, and services for routine household maintenance, is projected to grow relative to today. There will be opportunities for businesses who adapt their offers to capture these markets.

Older households' spending choices are shifting toward non-essential goods.

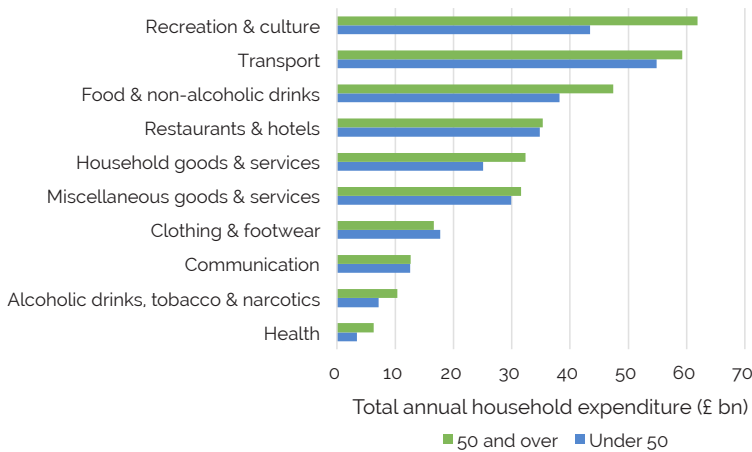
The particularly strong growth in spending on recreation and culture, household goods and services, communication, and restaurant and hotels points to the fact that spending on non-essential items by older households is growing.⁶⁹

Businesses that take account of the older population's increasing diversity, in terms of their characteristics, experiences, preferences and income levels, and tailor their offerings accordingly, will be able to capitalise. The leisure industry, for example, has developed a range of offerings to the older consumer – from luxury cruises through to lower-cost coach trips – and is projected to continue to grow.⁷⁰ But more needs to be done; we know that too many older consumers still feel that businesses do not understand what they want or need.⁷¹

By 2040 older consumers could spend more than younger consumers for all sectors.

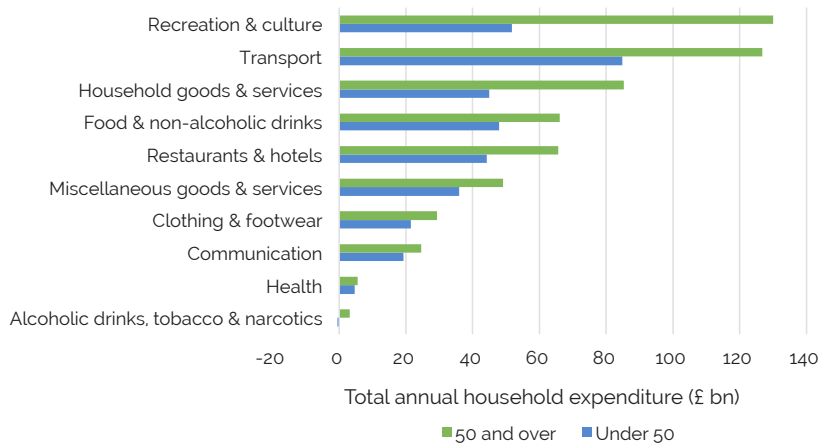
Households aged 50 and over currently spend more on all categories of goods and services than younger households, except clothing and footwear, while spending on restaurants and hotels and communication is similar across age groups (Figure 11).

Figure 11: 2018: total household spending, by sector and age group



However, by 2040, this picture is projected to change. Households headed by someone aged 50 and over are projected to spend more than younger households for all categories of expenditure (Figure 12).

Figure 12: 2040: total household spending, by sector and age group



Sectors like communication have traditionally served younger consumers, but older consumers are projected to be their key customers by 2040.

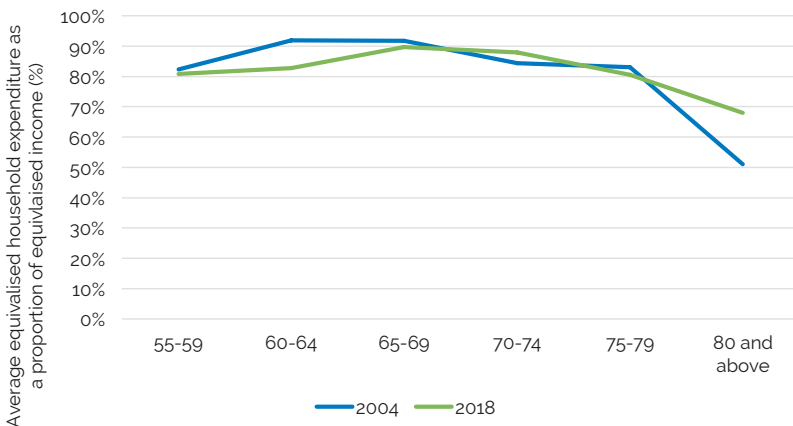
These trends challenge the stereotype that tech is 'just for the young';⁷² while younger consumers dominated the communication sector pre 2018, in the future, this sector's profits may be driven by older users. Businesses in sectors such as restaurants and hotels will also need to shift in response to the changes in their customer base. Although spending on recreation and culture is already dominated by older consumers, this is projected to become even more apparent. By 2040, over 70% of spending on recreation and culture will come from older households.

Opportunities to unlock the spending potential of older consumers

There are opportunities to further increase spending among the oldest in the population.

At present we see substantial drops in older people's spending after the age of 74. These drops cannot be fully explained by lower income, since spending as a share of income drops after this age (Figure 13). These households have the financial means to spend more than they do at present – which suggests a need for action to address barriers.

Figure 13: 2001-2018: average household spending as a proportion of income



Maximising the longevity dividend

The economic impact of tackling the barriers to older people spending their money would be substantial. If households aged 74 and over spent the same share of their income as households aged 65 to 74 by 2025, this would add 2% a year to GDP by 2040.

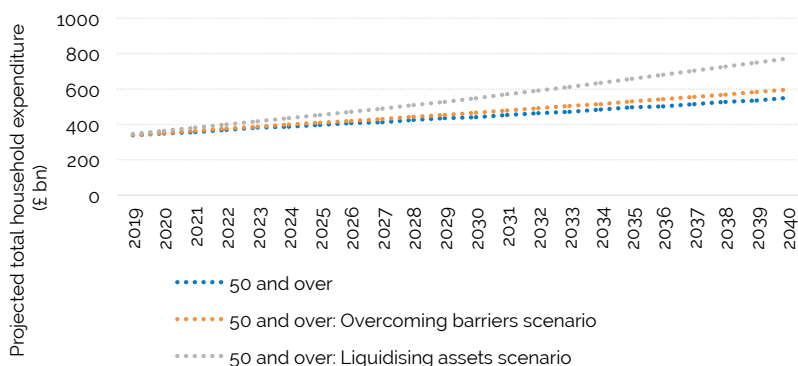
Below we explore the potential impact of increasing spending among the oldest age groups in two key scenarios:

'Overcoming barriers' scenario: we explore the economic gain that could result from bringing down the barriers to older people's consumption.

We consider the economic impact of households aged 75 and over spending the same share of their income as households aged 65 to 74, from 2025. We then explore how this would affect total spending by households aged 50 and over in 2040 (see Appendix).

We conclude that the economic impact would be substantial. This would add £12 billion to expenditure in 2025; and as the population ages, the impact would grow. By 2040, an additional £47 billion would be added to GDP (Figure 14).

Figure 14: 2019 to 2040: total household spending, by scenario



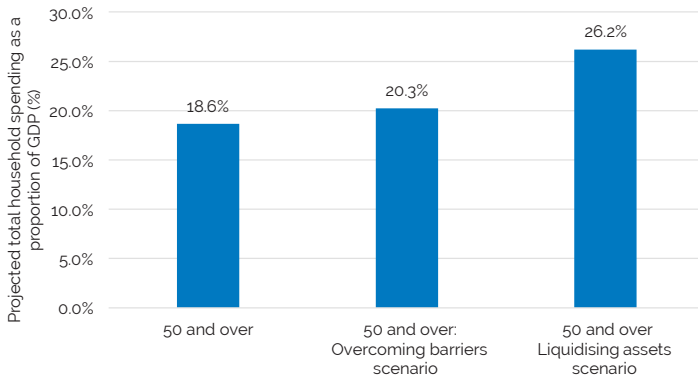
'Liquidising assets' scenario: we explore the impact of closing the gap in (equivalised) spending between households aged 74 and over and those aged 65 to 74 by 2025 (see Appendix).

Realising this scenario would require action to bolster the incomes of people aged 75 and over – including supporting them in liquidising their assets. The over 50s are estimated to hold more

than three quarters of housing wealth, with over three quarters of households aged 65 and over being owner occupied.⁷³ This scenario therefore explores the potential impact of enabling older people to tap into their assets.

The economic impact of this scenario is substantial. This would add £55 billion to expenditure in 2025; by 2040, it could add £223 billion to total expenditure (Figure 14).

Figure 15: 2040: total household spending as a proportion of GDP, by scenario



The impact of these scenarios on GDP is also considerable. Figure 15 shows that by 2040, the overcoming barriers scenario, compared to baseline projections, could add 2% a year to GDP, while the liquidising assets could add 8% a year to GDP.

Older people's consumption can help offset age-related fiscal costs

Expenditure by people aged 50 and over, as a share of GDP, is rising faster than age-related fiscal costs. Sustaining previous spending trends and maximising opportunities for older people to spend would mean that the positive GDP impact of older adults could exceed expected increases in age-related fiscal costs by 2040.

The direct GDP impact of spending (including housing: see Appendix) by households aged 50 and over is already broadly similar to the projected age-related fiscal costs for the UK. The gap in GDP is only 2.8% in 2018 (see Table 1).⁷⁴ Furthermore, while age-related fiscal costs are projected to grow, so is the GDP impact of older adults, which means that by 2040, the GDP impact

of spending is expected to exceed age-related fiscal costs, by around 1.5%. In the overcoming barriers scenario, this difference could rise to 3.1%, and in the liquidising assets scenario the direct GDP impact from private spending by older people could exceed projected age related fiscal costs by 9.1%. However it is important to note that achieving either of these scenarios would require the implementation of a set of public policy actions which may in turn increase public sector spending.

Table 1

	Age-related fiscal costs (% of GDP)	Total expenditure by people aged 50 and over, including housing costs (% of GDP)
2018	22.6%	19.8%
2040 Baseline scenario	24.8%	26.3%
2040 Overcoming barriers scenario	24.8%	27.9%
2040 Liquidising assets scenario	24.8%	33.9%

Unlocking older people's consumer power: challenges and opportunities

Realising the economic gains from increasing consumption by older people will require action to overcome barriers. There are four key areas for action:

- **Enable healthy ageing** – While we are living longer, too many people are living more of these years in ill health, and health inequalities are widening. We need action to make sure these extra years are healthy, so that people can remain active in their communities, spending their money on goods and services that meet their needs. We need to invest in preventative interventions across the lifecourse so that people can stay well and recover quickly. We need to address the inadequacy of our social care system, so that people who need support in later life can still get out and about in their communities.
- **Address the barriers that exclude older people** – If older people are to continue consuming, we need to make it easy for them. We need action to ensure our high streets are accessible

and welcoming to older people – simple measures such as seating, lighting and provision of public toilets are vital. We also need to ensure that older adults are able to access goods and services online. At present, while more older people are online than ever before, too often technology is designed without consideration for the needs of older people.

- **Support older people's incomes** – Older people's consumption has increased on the back of improved incomes, but these trends won't continue unless we act. We are already seeing signs that pensioner poverty levels are starting to creep back up, so action is needed now. We need to continue encouraging pension savings, building on the positive strides made through auto-enrolment, encouraging people to save more, and addressing gaps in coverage. We also need to ensure older people have access to the information, advice and guidance they need to invest and disinvest wisely through their lives.
- **Encourage businesses to respond** - Businesses that adapt their offering to respond to the needs and preferences of an ageing society will reap the rewards. There is enormous potential for work on inclusion, adapting products and services to better meet the needs of an ageing consumer base. There are also opportunities for innovation, developing new products that can serve new markets that are opening up in ageing society. Government can help by providing support to businesses to help them understand the opportunities of ageing and supporting innovation to meet these needs.

Older workers

Trends in work in later life

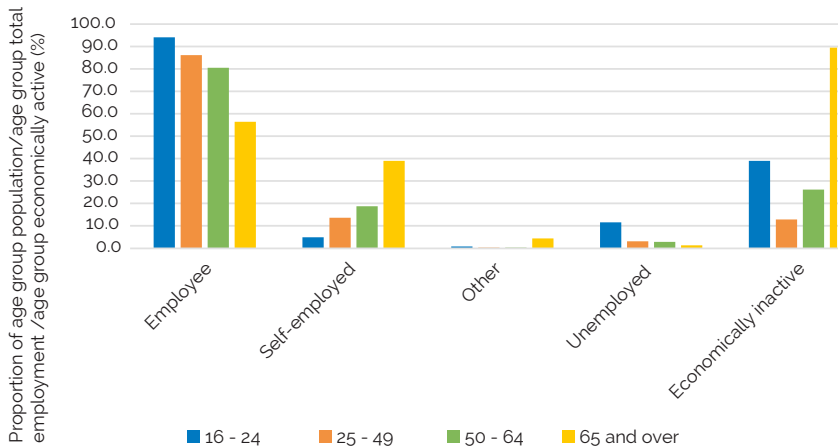
Not only is the cohort of people aged 50 and over transforming the economy with their spending, they are also contributing by working longer, and continuing to earn and spend wages.

The self-employment rate is highest for people in later life.

Around 10.3 million people aged 50 and over are currently working in the UK (in 2019). Among those who are economically active, unemployment rates are lower than any other age cohort, at less than 3% (Figure 16). Less than 30% of people aged 50 to 64 are economically inactive, lower than the rate for individuals aged 16 to 24. However, substantially higher proportions are economically inactive among those aged 65 and over.

Among those aged 65 and over that remain in work, nearly 40% are self-employed (which can take many forms, including entrepreneurs and freelancers, gig economy workers or contractors) – a notably greater proportion than any other age group.⁷⁵

Figure 16: 2019: proportion of total/employment category population by employment status and age group

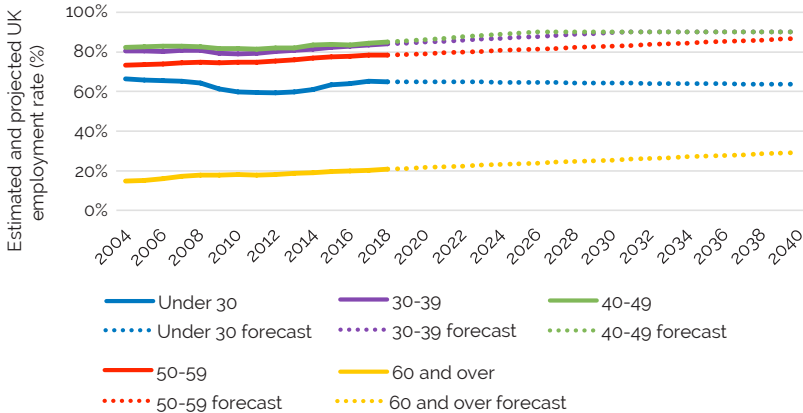


Note: economic inactivity rates are the percentage of the age group population. Unemployment rates are the percentage of the age group economically active. Employment sub-types (e.g. employee, self-employed, other) are a percentage of age group total employment.

More people are choosing to work in their 50s, 60s and beyond.

People aged 50 and over are increasingly working for longer.⁷⁶ From 2004 to 2018 employment rates for people aged 50 to 59, and 60 and over, increased relatively quickly. Projecting forward, by 2040, the gap in employment rates between people in their 40s and 50s will shrink considerably (Figure 17 and see Appendix).

Figure 17: 2004 to 2040: employment rate by age group

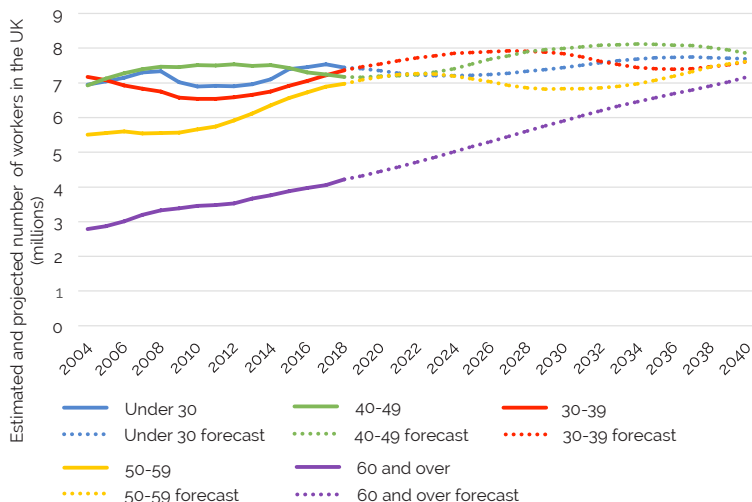


The workforce is ageing rapidly, with significant growth in the numbers of people aged 60 and over who are working.

The combination of relatively rapid increases in employment rates for older workers and the increase in the number of people aged 50 and over means that the workforce is ageing fast. Since 2004, workers aged 50 and over have been the fastest growing segment of the workforce. Most notably, the number of workers aged 60 and over has increased particularly significantly – by around 80% over the time period (Figure 18). The share of the workforce aged 50 and over is rising fast. While in 2004, only 26% of workers were aged 50 and over, this is currently 32% and is projected to rise to 37% by 2040.

This ageing workforce needs to be embraced as an opportunity: there are benefits to an age-diverse workforce, and myths about productivity falling at older ages are not backed by evidence.⁷⁷

Figure 18: 2004 to 2040: number of workers by age group

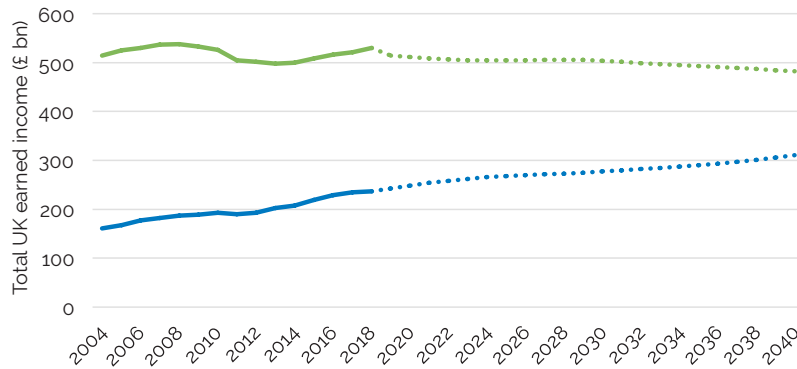


The impact of older workers on the economy

The earnings generated by people aged 50 and over account for a growing share of total earnings – rising from 30% in 2018 to 40% by 2040.

The economic footprint of the cohort of people aged 50 and over is growing substantially – as they work for longer, they are generating increasing amounts of earned income. Since 2004, total earned income generated by people aged 50 and over has risen fast, while earnings by younger age groups fluctuated over the same period (Figure 19). People aged 50 and over are expected to account for a growing share of total income, rising from 23% in 2004 (£161 billion) to 30% in 2018 (£237 billion). If past trends continue, by 2040 40% of total income (£311 billion) would be produced by individuals aged 50 and over (see Appendix).

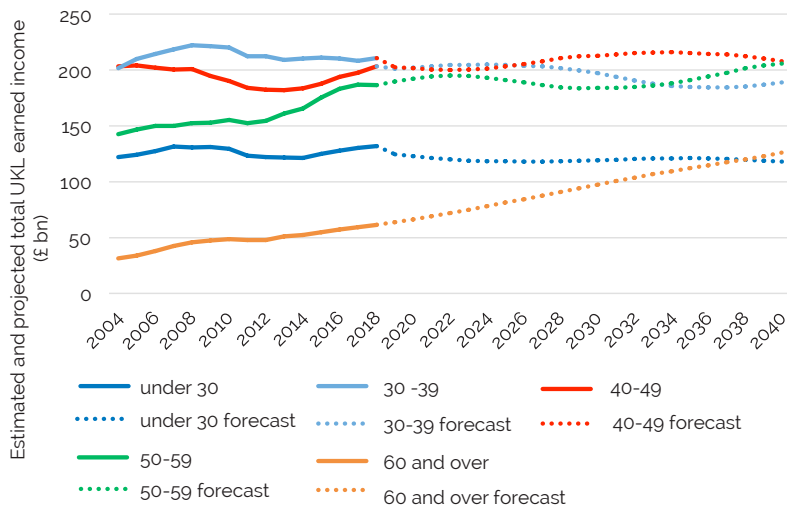
Figure 19: 2004 to 2040: total earned income, by age group



The earned income of people aged 50 and over is catching up with that of younger age groups. By 2040 the gap in earnings between people in their 40s and 50s may disappear.

Breaking this down by age group, we see that total earnings have increased most significantly for people aged 60 and over. By 2040, the earnings of people aged 60 and over may exceed those generated by people aged under 30, for the first time since 2004 (Figure 20). Similarly, in 2004 the gap between total earnings generated by individuals in their 40s and 50s was £59 billion, but by 2040 this gap is projected to disappear.

Figure 20: 2004 to 2018: total earned income, by age group

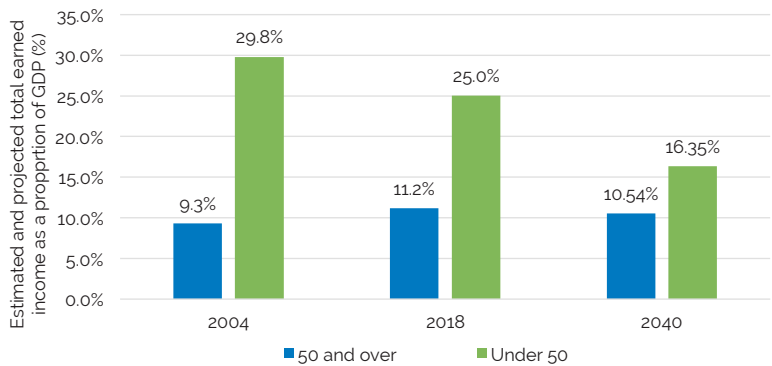


The earnings of people aged 50 and over account for a growing share of GDP.

Since 2004, earnings generated by people aged 50 and over have contributed to a growing share of GDP – this is projected to stabilise from 2018 to 2040 (Figure 21). At the same time the earnings of people at younger ages are expected to account for a falling share of GDP as they make up a diminishing share of the workforce.

If we want to maintain the health of the economy, we will need to ensure that more older people can work productively.

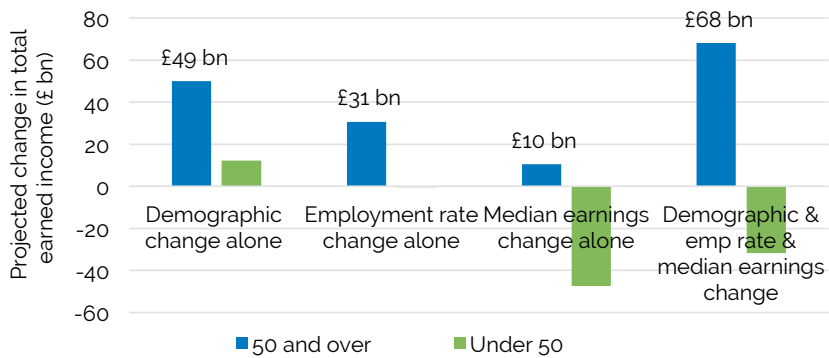
Figure 21: 2004 -2040: total earned income as a proportion of GDP



What's driving this change in earned income?

Demographic change is the key driver of this increase in earned income among people aged 50 and over. The rising numbers of older people choosing to work, and an increase in median earnings among older workers are also significant.

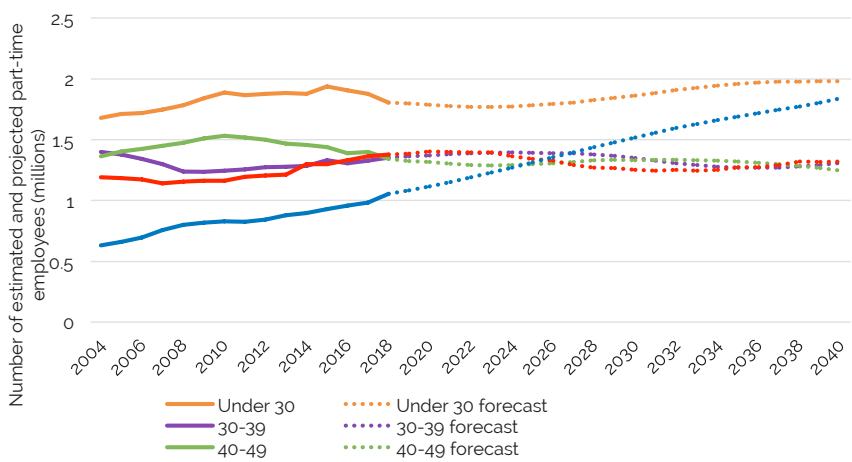
Figure 22: 2019 to 2040: change in total earned income due to demographic, employment rate and median earnings changes, by age group



Older workers are increasingly working in part-time and self-employed roles.

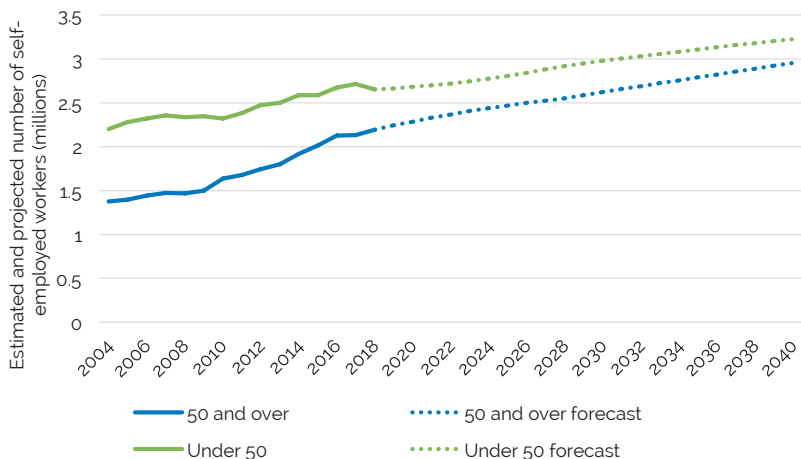
Recent years have seen relatively rapid growth in the number of older workers in part-time and self-employed work. By 2028, more people aged 60 and over will work in part-time employment than in all other age groups, except those aged under 30 (Figure 23). Similar trends are seen in the self-employed workforce; since 2004 the number of older self-employed workers has increased significantly. If these trends continue, by 2040 the number of people aged 50 and over that are self-employed will nearly have caught up with the number of younger self-employed workers (Figure 24).

Figure 23: 2004-2040: number of part-time employees, by age group



Employers who wish to benefit from the experience of older workers may need to adapt their employment offer to fit this growing need for part-time roles.

Figure 24: 2004-2040: number of self-employed workers, by age group



Self-employment takes a number of forms – but there is evidence that at least some of the increase in self-employment in later life is driven by an increase in entrepreneurship. The number of working entrepreneurs aged over 50 is rapidly increasing; they are expected to dominate the self-employed workforce by 2024.⁷⁸ Studies have shown that businesses run by people aged 50 and over last longer and employ more people than start-ups run by younger entrepreneurs.⁷⁹ Factors that may contribute to the relative success of older entrepreneurs could include better access to capital, more established credit ratings, stronger networks and the benefits of life experience.⁸⁰ The cohort of people aged 50 and over are increasingly important drivers of UK growth.⁸¹ However, at present, there is a lack of targeted support for older entrepreneurs.⁸²

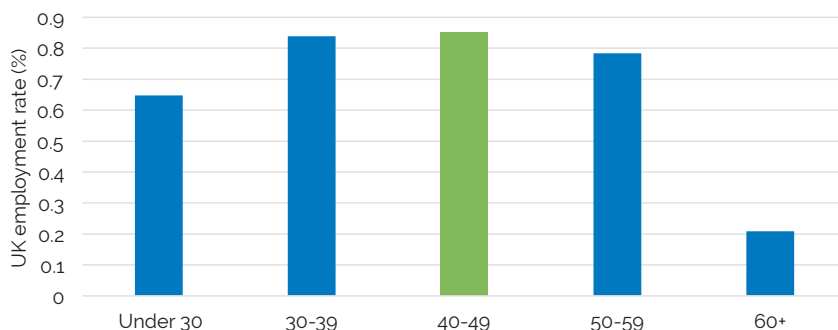
At the same time, there is a darker side to these trends. For some older people, self-employment is a response to a lack of other suitable work, due to age discrimination, inflexible hours, etc.⁸³ Older people are increasingly working in the 'gig economy', and in some cases this is to the detriment of their earnings and their wider wellbeing.⁸⁴ Action may therefore be needed to ensure that older workers are not forced into self-employed work, and to ensure that when they choose self-employment they are safeguarded from exploitation.

Increasing employment rates among older workers

There are considerable opportunities to further increase employment rates among older adults.

Employment rates for people aged 50 to 59 and for those aged 60 and over significantly lag behind the peak employment rate for people aged 40 to 49 (Figure 25).

Figure 25: 2018: employment rate, by age group



UK employment rates for people aged 55 to 64 also lag behind OECD countries with similar economies.⁸⁵ These realities, combined with the findings from ILC's work on the 'missing million', who are involuntarily out of work, mean that there are considerable opportunities to increase employment for older people.

Maximising the longevity dividend

Achieving the Business in the Community targets for older people's employment by 2022 could add £36 billion a year to GDP (1.3% of GDP) by 2040. If progress continued beyond the targets to 2028, we could see a further £58 billion (2% of GDP) added to the economy a year by 2040.

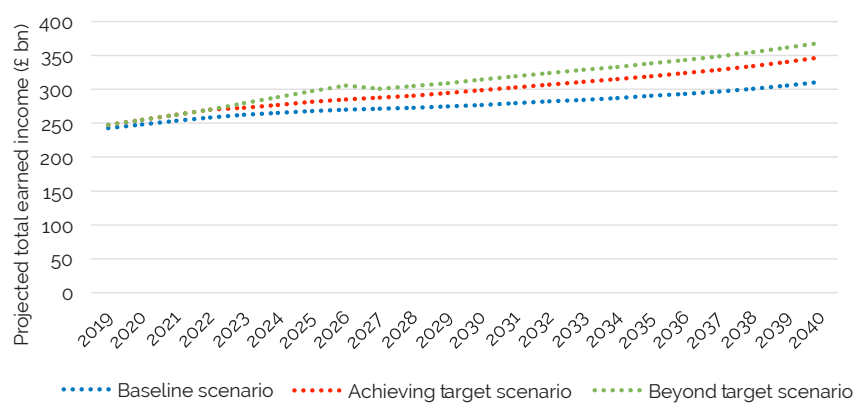
The 2016 Business in the Community targets for older workers set an ambition to close the gap between the employment rate for those aged 50 to 64 and the peak age group (45 to 49) by a third, and the gap between those aged 65 to 69 and the peak age group by a quarter (reflecting the likelihood that the employment rate for people beyond SPA will remain lower).⁸⁶ Achieving this target would mean tackling involuntary unemployment, by increasing the number of older people in work by one million. However, if current trends continue, those targets will not be met.⁸⁷

We know the actions that need to be taken to support people back in to work in later life and our analysis demonstrates the prize for doing so. We have considered two possible scenarios to explore how enabling more older people to work will affect earned income, and subsequently GDP (see Appendix):

'Achieving target' scenario: we explore the impact of achieving an adapted version of the Business in the Community target by 2022. This is to close the gap between the proportion of people that work full-time and part-time aged 50 to 64 and 65 to 69, relative to the peak rate.

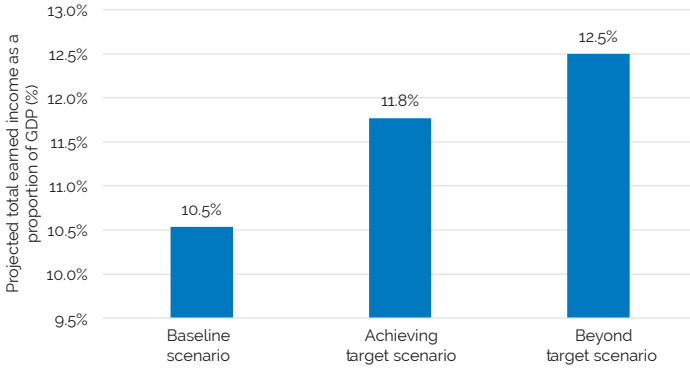
'Beyond target' scenario: we explore the impact of achieving those targets by 2022, then continuing progress in employment rates to 2028.

Figure 26: 2019 to 2040: total earned income ages 50 and over, by scenario



These scenarios could generate considerable economic gains. If the “achieving target” scenario is achieved, the total earned income generated by people aged 50 and over by 2040 could increase by £36 billion or 1.3% of 2040 GDP (see Figures 26 and 27). If the “beyond target” scenario is achieved, this could add £58 billion to total earnings or 2% to GDP a year by 2040.

Figure 27: 2040: total earned income as a proportion of GDP, by scenario



Working longer can help offset age-related fiscal costs

As with consumption, the GDP impact of older people's earnings is rising, along with growing age-related fiscal costs – but at a slightly slower pace. Maximising opportunities to work could enable older people's positive GDP impact, to help offset the projected growth in fiscal costs.

Similarly to the picture with consumption, the GDP impact of total earned income plus the market value of informal contributions (see Appendix) from people aged 50 and over is only marginally lower than current estimated age-related fiscal costs – with the current gap around 0.1% of GDP (Table 2).

Although age-related fiscal costs are projected to grow, so too is the GDP impact of the earnings of people aged 50 and over, such that the gap is only projected to rise by 2.9 percentage points. But if we achieve our ambitions to support more older adults to work (the 'beyond target' scenario) the gap would fall to 1%. However, it is important to note that achieving either of these scenarios would require the implementation of a set of public policy actions which may in turn increase public sector spending.

Table 2

	Age-related fiscal costs (% of GDP)	Total earned income + informal contributions aged 50 and over (% of GDP)
2018	22.6%	22.5%
2040 Baseline scenario	24.8%	21.8%
2040 Achieving target scenario	24.8%	23.1%
2040 Beyond target scenario	24.8%	23.8%

Enabling older workers: challenges and opportunities

Achieving the economic gains from extending working lives will require action to overcome the barriers that prevent older people from working. We recommend action to:

- **Enable healthy ageing** – The links between health and work are well established. Good work not only helps bolster our incomes, it can also help us stay healthy and connected. But we need to do more to help people to age well and to stay healthy at work, and to enable people who acquire long-term conditions and disabilities as they age, to continue working. This will require proper support for occupational health and for work as a health outcome across the health system. We also need action to enable people to juggle work and caring – with jobs that are flexible by default. And we need better support for people to return to work quickly, whether they take time away to care for others or to address their own health needs.
- **Address the barriers that exclude older people** – Ageist attitudes continue to be rife in the workplace, creating barriers to older people's careers and stopping companies from attracting the best talent. We need to tackle age discrimination in the workplace and encourage age-diversity and a positive approach to ageing at work across all employers. Publishing data on company age profiles could be one way to start changing the conversation on age.
- **Support older people's incomes** – When work is a necessity, not a choice, it puts older people at risk of exploitation. Good work supports healthy ageing, but low-quality jobs can put people's health at risk. We need to ensure that our pensions and benefits systems incentivise and enable longer working

lives, giving people the security of adequate incomes in retirement so that they can make positive choices around work

- **Encourage businesses to respond** – Businesses who invest in their workforces in mid and later life will attract and retain the best talent in an ageing society. Employers can take action, including reviewing their policies on flexible working and training to ensure that people are able to flex and adapt their careers across the lifecourse. Some employers are already experimenting with introducing mid-life interventions (often known as mid-life MOTs) to support staff in mid and later life to plan for fuller working lives, and sending a powerful signal about the value of age-diverse workforces.

Conclusion

The longevity economy is growing, and transforming society. Instead of fixating on the fiscal costs related to demographic ageing we should focus on the considerable economic opportunities associated with our growing older population.

We have seen that the economic impact generated by people aged 50 and over is growing rapidly as they spend and earn more – and accounting for an increasing share of GDP.

People aged 50 and over already dominate the consumer market and their market share is projected to increase substantially. Business will need to innovate to serve their evolving tastes and preferences, as they choose to spend more on leisure activities like recreation and culture, and non-essential items. Sectors that have traditionally served younger consumers will have to adapt to a predominantly older consumer base.

We will also need to prepare for a rapidly ageing workforce; people aged 50 and over are working longer than ever before, in some cases past the SPA, generating a growing share of earned income. Employers will therefore need to learn to retain older workers and utilise their extensive experience and talents.

Ageing presents enormous opportunities for our communities and for our economy. But there is no room for complacency. The choices we make now will determine whether we age well as a society, or whether we face challenges.

While older adults are already asserting their changing preferences in their choices around work and consumption, individuals cannot drive the change we need in isolation. Too many older people's lives are blighted by poor health, too many face barriers to participation in work and the community, and too many people lack security in retirement. However there is plenty that can be done by Government and by businesses to change things.

We have agency over the future as a society – the decisions we make in Government, in businesses and in communities will determine the size of the longevity dividend.

If we can overcome the barriers to older people working and continuing as consumers we will see substantial economic gains, which will grow over time as the population ages. This would also help to offset projected rises in age-related fiscal costs.

To achieve this, we need action to enable healthy ageing, to address the barriers to consumption, to support older people's incomes and to encourage businesses to respond.

We need to be ambitious; the economic prize is large. We can't afford to miss out.

Appendix

Methods

1. Projection method

In this analysis expenditure, employment and earned income data is projected up to 2040 using the Exponential Triple Smoothing method (ETS), which is a widely used forecasting method in the literature.

For projections on expenditure, though reported from 2001, data is forecasted from 2011, since from 2007-2010 the expenditure data is especially volatile. Any important differences in the trends when projecting from 2001 rather than 2011 are noted.

2. GDP (estimated 2001, 2004, projected 2018, 2040)

GDP estimates for the years 2001 to 2018 were sourced from the ONS [Accessed 17 Aug. 2019]. Data was in 2016 prices, and was converted to 2018 prices using the ONS GDP deflator.⁸⁸ The projections of GDP from 2019 to 2040 were sourced from the OECD, in 2010 prices [Accessed 17 Aug. 2019]. This data was converted from dollars to pounds using a 2010 exchange rate and converted from 2010 prices to 2018 prices using the same ONS deflator. The deflator was projected from 2018 up to 2040 by applying the projected annual UK GDP deflator growth rate sourced from the OBR [Accessed 20 Aug. 2019].

The ONS Living Costs and Food survey data used to measure expenditure differs to the expenditure data often used when calculating consumption as a proportion of GDP. Similarly the measures we use for earnings cannot be compared to national measures of earned income as a proportion of GDP, because our estimates assume that self-employed earnings equal employee earnings. This was because more commonly used measures were not broken down by age.

Calculations on expenditure

3. Main data sources: expenditure

Average weekly household (HH) expenditure data by age of the household reference for the UK was sourced from the Living Costs and Food survey⁸⁹ for the years 2001 to 2018 (prior to 2001 the data is not comparable with later years). These expenditure tables also contain weights on the number of households for each age group by year, which were often used in this analysis.

For most of this analysis spending on housing, including rent, mortgage payments and bills was excluded, since spending on housing tends to fall at older ages, making it hard to fairly compare spending patterns by age.

Mean equivalised household expenditure was obtained via a data request from the ONS⁹⁰ for the years 2003/4 to 2017/18 from the Living Costs and Food survey (data that crosses over two years is referred to by the year ending the period, e.g. 2018 refers to data from 2017/18).

The number of UK households by age of the household reference person from 2001 to 2018 was sourced from the Living Costs and Food survey expenditure tables. Since the ONS don't publish household projections at the UK level, data on the projected number of UK households from 2019 to 2040 was compiled from the following sources: the ONS,⁹¹ National Records for Scotland,⁹² the Northern Ireland Statistics & Research Agency⁹³ and the Welsh Government.⁹⁴ The data for England, Scotland, Wales and Northern Ireland, was summed to gain a total for the UK. Projections for the number of households for Wales and Northern Ireland, however, are not broken down by age. To resolve this, data from the 2011 census (downloaded using NOMIS, July 2019) on the number of households by age of the household representative in Wales and Northern Ireland was used to estimate the proportion of households in each age group in 2011. This proportion was then assumed to continue in future years. The proportions were then multiplied by the total number of households in Wales and Northern Ireland in future years, to estimate the number of households by age. As age groups did not match across data sets we applied weights. Data for total spending is not estimated for households aged 75 and over due to a lack of age breaks in the projected data for Northern Ireland and Wales.

Total household spending by sector was calculated using average weekly household expenditure for the UK for different commodity/service categories from the Living Cost and Food survey household expenditure tables by age of the household reference person.

Mean household income by age of the household reference person for the UK was obtained via a data request from the ONS⁹⁵ for the years 2000/01 to 2017/18 (published September 2019).

Equivalised disposable household income by age of the

household reference person was obtained via a data request from the ONS.⁹⁶

4. Average annual household expenditure by age (time series: 2001 to 2018, projected: 2019 to 2040)

A weighted average was used on average weekly household expenditure data to estimate average weekly expenditure for households headed by someone aged 50 and over, and other broader age groups. We excluded average spending on the 'other' and 'housing (net) fuel and power' categories (see 3). Data was then multiplied by 52 to estimate average annual expenditure. This data was then deflated to 2018 prices using the CPI index. The data from 2011 to 2018 was then projected up to 2040.

5. Mean equivalised household expenditure (estimated: 2004 to 2018, projected: 2019 to 2040)

Equivalisation uses the modified-OECD scale. Equivalised expenditure was adjusted to exclude housing costs (e.g. council tax and mortgage payments). Expenditure figures were deflated to 2017/18 prices using the consumer prices index including owner-occupiers' housing costs (CPIH), and excluding Council Tax.

6. Total annual household expenditure by age (estimated: 2001 to 2018, projected: 2019 to 2040)

Total annual housing expenditure from 2001 to 2040 was calculated by multiplying average estimated and projected annual household expenditure for each year, excluding housing costs (see 3 and 4), by the estimated and projected number of households in the UK. Total expenditure for households aged under and over 50 were created by aggregating estimated and projected total spending by more detailed age groups.

7. Projected total household expenditure by age, by category of expenditure (2019 to 2040)

A weighted average was used on average weekly household expenditure by commodity/service category to estimate average weekly expenditure by commodity/service for ages 50 and over and under 50. This data was then annualised by multiplying by 52 and then deflated to 2018 prices using the CPI index for each commodity/service (COICOP) category. The data from 2011 to 2018 was then projected up to 2040. This data was then multiplied by the number of projected households to calculate total spending. As some of the data on education spending is missing for people

aged 50 and over, this category was omitted from the analysis. When the projections on spending for health are made from 2001, expenditure on health is projected to increase slightly up to 2040 for people aged 50 and over, although this increase is lower than for all other categories. When it is projected from 2011, spending is expected to decrease slightly for this age group. Non-essential categories that are discussed in this section include: recreation and culture, restaurants and hotels, alcohol, miscellaneous, communication, and household goods and services.

8. Mean disposable household income by age (2001 to 2018)

Mean disposable household income (see 3) was deflated to 2017/18 prices using the consumer prices index including owner-occupiers' housing costs (CPIH), and excluding Council Tax. Disposable income was adjusted such that the amount of council tax or rates paid by a household was not subtracted from gross income, to make this comparable to average household expenditure data.

9. Share of total household income by age (estimated 2001 to 2018, projected 2019 to 2040)

Total disposable household income was calculated by multiplying estimated and projected average household income by age by the estimated and projected number of households in the UK for the years 2001 to 2040 (see 3 and 8). The share of total household income was estimated by dividing total household income for each age group by total household income for all age groups and multiplying by 100.

10. Equivalised spending as a proportion of equivalised income by age (2004 to 2018)

This was calculated by taking mean equivalised household spending as a proportion of mean equivalised household disposable income from 2004 to 2018 (see 3).

Equivalised income figures were deflated to 2017/18 prices using the consumer prices index including owner-occupiers' housing costs (CPIH) and excluding Council Tax. Equivalisation uses the modified OECD scale.

11. Deconstruction method (what's driving the growth in spending power from 2019 to 2040?)

The projected change in total expenditure up to 2040 by age due

to the isolated effect of expenditure projections was calculated by assuming that 2018 population estimates by age remain constant, and only projected expenditure trends by age occur up to 2040. The isolated effect of population projections on the projected change in total spending was calculated by assuming that 2018 expenditure estimates by age remain constant, and only projected demographic projections occur up to 2040. The isolated impacts of expenditure and demographic change do not add up to the total change in expenditure - this is because these changes interact.

This analysis was also undertaken from 2001 to 2018, where different patterns were found; demographic change was found to be the strongest driver in the change in total expenditure for people aged 50 and over across the time period.

12. Scenarios

For the overcoming barriers scenario average household expenditure and disposable income from 2010 to 2018 by age was projected up to 2025, and the expenditure data was divided by household disposable income over the period, to calculate the share of income consumed. We then assumed that expenditure by households aged 75 and over increased by an incremental amount from 2018 to 2025, such that by 2025 the share of income consumed by households aged 75 equalled the share consumed by households aged 65 to 75. We then projected this data from 2011 to 2025 up to 2040. A weighted average, which includes spending by people aged 75 and over, using 2018 weights of the number of households by age in the expenditure tables (see 3), was then used to calculate spending by people aged 50 and over up to 2040. Total spending was then calculated by multiplying average household spending by the total estimated and projected number of households up to 2040, by age.

For the liquidising income scenario we added incremental equal amounts of average household spending from 2018 to 2025 for households aged 65 to 74, such that this new target gap was achieved by 2025. The subsequent steps were the same as for the overcoming barriers scenario.

Calculations on employment and earned income

13. Main data sources: employment earned income

Data on UK **employment rates, the number of people employed overall, full, time/part-time/self-employed/employee status,**

and the total population by age group from 2004 to 2018 was sourced from the ONS Annual Population Survey (APS) – regional, while labour market status by age was downloaded from NOMIS [Accessed 16 July 2019]. This data was then aggregated into the broader age-groups used throughout our analysis. Data for figure 16 was also taken from the same source for 2019, Apr 2018-Mar 2019, [Accessed 16 Nov 2019].

To calculate UK **population projections from 2019 to 2040**, the year-on-year growth rates of ONS population projections were applied to the ONS APS population counts up to 2040 [Accessed 16 July 2019] to estimate a smooth series, since ONS population projection estimates are systematically higher than the population data from the APS data. This assumes that the future growth rates in the population estimates in both sources are the same.

Data on UK **weekly full-time and hourly earnings from 2004 to 2018** was sourced from the ONS Annual Survey of Hours and Earnings (ASHE) [Accessed 20 July, 2019]. Part-time earnings were then calculated from hourly full-time earnings excluding overtime (due to the lack of data on part-time earnings by age group), by multiplying hourly full-time earnings by 16.3 (the average number of hours worked per week in part-time employment).⁹⁷ Given the lack of robust data on self-employed worker earnings, we assume their earnings are equal to employee earnings.

Estimates and projections of UK **age-related fiscal costs** are sourced from the European Commission⁹⁸ as a percentage of GDP from 2018 to 2040.

14. Employment rate by age group (estimated 2004 to 2018, projected 2019 to 2040)

Data on the number of people employed was divided by the total population to estimate the employment rate by age group. The data from 2004 to 2018 was then projected up to 2040. Given that for the latter years of the projected data, the employment rate exceeded 90% for some age groups (e.g. 99% by 2040), this data was capped at 90%, since levels above this are rarely/if ever seen.

15. Number of workers by age group (estimated 2004 to 2018, projected 2019 to 2040)

The estimated and projected UK employment rates were multiplied by the estimated and projected number of people for each age group from 2004 to 2040 to calculate the number of workers (see

13 and 14). Projecting the employment rate first rather than number of workers directly, enabled ONS population projections to be incorporated into our projections.

16. Number of part-time employees by age group (estimated 2004 to 2018, Projected 2019 to 2040)

The proportion of the total population working as part-time employees from 2004 to 2018 was calculated by age group and projected up to 2040. These proportions were then multiplied by the estimated and projected population for each age group (see 13) to calculate the number of part-time employees from 2019 to 2040.

17. Number of self-employed workers by age group (estimated 2004-2018, projected 2019-2040)

The proportion of the total population that are self-employed from 2004 to 2018 by age group was calculated and projected up to 2040. These proportions were then multiplied by the estimated and projected population to calculate the projected number of self-employed workers from 2019 to 2040 by age.

18. Total earnings by age group (estimated 2004 to 2018, projected 2019 to 2040)

The proportions of the total population in each age group that are full-time employees/self-employed workers, part-time employees/self-employed workers were first calculated from 2004 to 2018 and projected up to 2040. Particularly volatile years in the full-time proportions data (for age groups 'under 30' between 2007 to 2016), were replaced with equal increments for the projection. Since earnings differ significantly for part-time and full-time workers, they need to be calculated separately. Splitting the analysis by self-employed/employee status ensures that unpaid trainees and family workers are not included in the employment data. Weighted averages were used to estimate the proportions for people aged 50 and over, and people aged under 50. These proportions were then multiplied by population estimates and projections to calculate the number of workers in the UK by employee/self-employed/part-time/full-time status. The total number of part-time and full-time workers was estimated by summing the self-employed and employee data.

Part-time and full-time weekly earnings, were multiplied by 52 to calculate annual earnings. Annual earnings were deflated using the ONS CPIH index to 2018 prices. Weighted averages were used to

calculate earnings for age groups that match the employment data using population counts from the APS employment tables, and the official ONS mid-year population estimates when the population counts in the APS were not sufficient. Median part-time and full-time earnings were then projected up to 2040. Particularly volatile years in the part-time earnings data (for age groups 'under 30' from 2010 to 2012 and '30-39' from 2009 to 2012) were skipped out from the projection. Finally, full-time and part-time annual earnings estimates were multiplied by the number of full-time and part-time workers and summed together to estimate total earnings by age over the time period.

19. Deconstruction method, what's driving the growth in total earned income (2019 to 2040)

The isolated effect of the proportion of the population employed by self-employed/employee/full-time/part-time status on the change in total earned income up to 2040 was calculated by assuming that both 2018 population estimates and median earnings (full-time and part-time) by age remain constant, and only projected employment proportion trends by age occur up to 2040. The change in projected total earned income by 2040 as a result of the isolated effect of population change, was calculated by assuming that both 2018 median earnings and employment proportion estimates by age remained constant, and only projected population projections occur. The isolated effect of changes to median earnings on the projected change in earned income was calculated by assuming that both 2018 population estimates and employment proportions by age remained constant, and only projected median earnings trends by age occur up to 2040. This analysis was also undertaken from 2004 to 2018, where the same patterns were shown to occur.

20. Scenarios

For these scenarios we used an adapted version of the Business in the Community (BIC) targets which aim to remove gaps in general employment rates by 2022 between older workers and people in the peak age group for employment.

For full-time workers we assumed the targets would be met when the gap between the proportion of people employed aged 50 to 64 and 45 to 49 had reduced by a quarter and when the gap between the proportion of people aged 65 to 69 and 45 to 49 had reduced

by a sixth. For part-time workers aged 65 to 69 and 45 to 49 we assumed the targets would be met when the gap reduced to a third. No target was applied for part-time workers aged 50 to 64, since this is already projected to be achieved.

The proportion of the total population that are full-time employees by age from 2004 to 2018 was calculated as well as the gap in the proportions between people aged 50 to 64 and 45-49 (and 65-69 and 45-49) in 2018. We then estimated what the proportion of full-time employees for people aged 50 to 64 (and 65-69) would need to be in 2022 to have achieved the target and calculated equal increments in the proportions for these age groups from 2018 to 2022, to achieve this. The updated proportions from 2004 to 2022 were then projected up to 2040. A weighted average was used to calculate the age group '50 and over', based on older age groups affected by the scenario, using 2018 APS population data. This data was then multiplied by the total population for each age group to calculate the number of full-time workers over the time series and then multiplied by median full-time earnings to calculate total earnings by age group up to 2040. The same process was then undertaken for part-time employees, self-employed full-time workers and self-employed part-time workers. Finally, total annual earnings for workers by age group and full-time/part-time/self-employed/employees status were summed together to estimate total earnings across the time period.

21. Age-related fiscal costs (estimated 2018, projected 2040)

Spending on housing was included in the estimates and projections for total expenditure in table 1. The GDP impact from the baseline and additional scenarios excluding housing costs (see 5 and 11) were then added to the baseline GDP impact of total spending by people aged 50 and over in 2040 (including housing costs), to calculate the scenario estimates used in table 1.

For the estimates of earned income as a proportion of GDP in table 2, estimated informal contributions by people aged 50 and over were added to total earned income estimates and baseline projections and scenarios (see 17 and 19) since these contributions boost the formal economy.⁹⁹ It is assumed that the economic value of informal contributions (if remunerated) calculated by Age UK¹⁰⁰ as a proportion of GDP in 2017 (11.3%), remain unchanged up to 2040.

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