# Too poor to retire

## Why younger generations will have to work more, save more or spend less

This report forms part of our series:

Millennial Matters

Rathbones
Look forward

# Too poor to retire

## Why younger generations will have to work more, save more or spend less

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# Foreword

No matter who you ask, young or old, rich or poor, 'leave' or 'remain', the answer is resoundingly pessimistic: young people are likely to be financially worse off than their parents.

Retirement stands out as a particular challenge. When it comes to gloom about the younger generation's prospects, it's second only to home ownership — which, as we will see, also affects retirement prospects. In the UK, 61% of people think younger generations will be worse off in retirement than their parents, while only 10% believe that they will be better off. Such pessimism is new in Britain. As recently as 2003, just 12% of adults thought that their children would not have better lives than their own. Today it's 48%.

We have studied a broad swathe of national and international research into current provisioning for retirement: this pessimism seems warranted. Younger generations simply aren't saving enough to enjoy the same retirement as their baby boomer parents. That's rather disconcerting because we believe there are a number of reasons why they may need to save even more than previous generations to retire in the same manner.

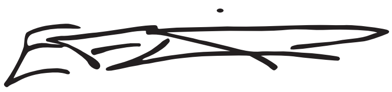
This report presents some uncomfortable truths that will confront us all.

The key question for our clients is, are you, your children or your grandchildren saving enough for the retirement you always hoped you or they would enjoy?

There are steps we can take, and we hope this paper will also encourage some helpful intergenerational dialogue about investing for the future. Now, pensions do not tend to make for the most scintillating dinnertime conversation. We know our limits, but we hope this report may change that. Pensions need to be discussed more: if they aren't, future retirees' golden years may be more like tarnished silver.

The key question for us as investors is, will future retirees be able to maintain previous generations' consumption patterns? Will they need to alter current patterns of work and saving in order to do so and what might be the consequences of that? Or is falling consumption in retirement inevitable?

In other words, will they be too poor to retire?



Edward Smith
Head of asset allocation research

# The savings shortfall

Numerous studies have predicted a large retirement 'savings gap' – the shortfall in current or projected pension provisioning from a benchmark level of retirement income. The figure of 70% of pre-retirement income has become the heuristic benchmark, often termed a 70% 'replacement rate'. Though sometimes criticised for arbitrariness, it is actually supported by the economic and social science literature since the 1960s (Modigliani 1966).

Of course, the definition of pre-retirement income is also contentious (such as the lifetime average or the average in the 10 years before retirement). And some experts prefer a range of replacement rates. The UK Pensions Commission, for example, uses an 80% threshold for those earning the least during their working lives, falling to 50% for the highest earning quintile.

The choice of benchmark can result in significant differences. Add in other variables and the permutations are innumerable. But no matter what assumptions are made, researchers always find a gap – both in the UK and across advanced economies as a whole. In other words, saving needs to increase, pensioner spending decrease, or working lives lengthen.

**Work more, save more, buy less stuff**
As our *Millennial Matters* publications are concerned primarily with younger generations and the impact they are having, research from the International Longevity Centre (ILC) provides the most pertinent delineation of the savings gap. Their researchers calculate the annual savings that someone needs to make in order to generate a 70% replacement rate if they entered the workforce today at the average age of entry. Across advanced economies, if today's savings habits continue, there is a shortfall equivalent to 5% of pre-retirement earnings. In other words, workers need to save an additional $2,015 a year. In the UK, the gap is a little lower at 4% (Franklin & Hochlaf 2017).

Having a saving pattern that falls short of benchmarks is not an especially millennial affliction. Generation X is also way off track. Indeed, in the UK, they are likely to be worse off than millennials because many have gone without the defined benefit pensions enjoyed by their parents, but started work well before enrolment in defined contribution schemes became automatic (Intergenerational Commission 2018).

A report commissioned by the World Economic Forum (WEF) focused on all current workers, not just new entrants, in eight major economies. They found that savings fall short of a 70% replacement rate by a total of $67 trillion, or 150% of combined GDP. That's 6% of GDP per year during the time the median worker has left to retirement (Berenberg 2018). Clearly this isn't just a millennial matter.

The 'intergenerational savings gap', which is the additional savings that a new worker would need to make to match incomes of current pensioners, is even bigger: 12.6% of earnings, or $5,080 a year. Again the UK is lower, at 6%, or around $3,000. European countries fare worst on this basis, due to reforms that have reduced the generosity of state pensions.

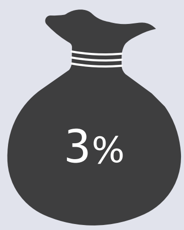
To put it another way, the average new worker in the UK, the US, Canada or Germany needs to save, in total, between 10% and 20% of their income to meet a 70% replacement rate, and between 15% and 25% of their income to match the retirement incomes of previous generations (figure 1, Franklin & Hochlaf 2017). Today, the average savings rate across these economies is much lower at 4.5% (although the underlying data include non-working-age households too). According to a YouGov study, 30% of people aged 45 to 54 – in what should

**No matter how you look at it, the pension savings gap is wide**

Extra savings required to have a decent income* in retirement.


of earnings for the average worker


per year for the average worker




equating to 3% of GDP a year

*The benchmark is 70% of pre-retirement income. Source: International Longevity Centre, Berenberg and Rathbones.

be their prime years of saving – save none of their disposable income (CEBR 2016).

The WEF projects that the savings gap in the eight major economies it studied will widen to over $400 trillion by 2050, from their current estimate of $67 trillion. In other words, saving will need to increase by 5%, or $9.4 trillion a year, just for the funding shortfall to stay where it is today. In the UK, $940 billion of extra saving is required to close the gap (WEF 2017). That's 2.7 times current gross national saving every year for 35 years. Saving needs to start now.

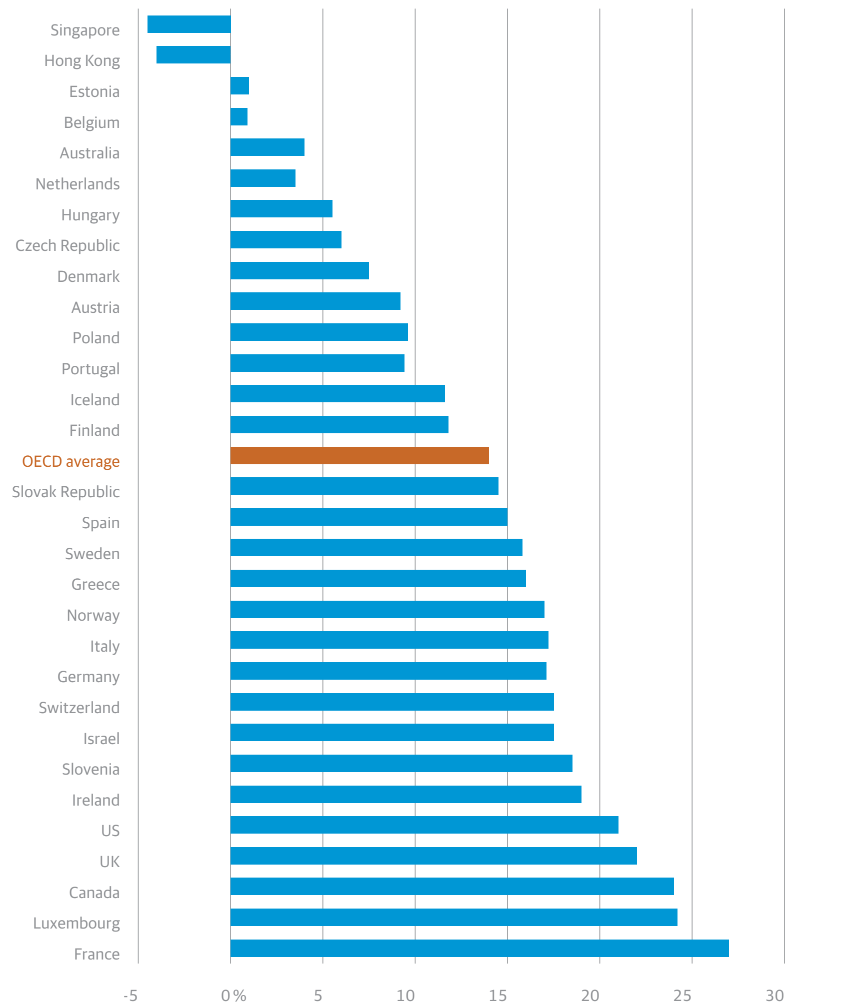
Numerous studies that focus on just one country or just one source of retirement income reach similar conclusions: there's a funding shortfall that's likely to keep growing (cf. VanDerhei 2015; Munnell and Hou 2018). We see three paths from here:

– work more: people retire later, the corollary of which may also be an increase in aggregate saving (see below).
– save more: saving increases today and consumption decreases.
– consume less: saving does not increase today, but consumption decreases tomorrow as workers start to retire on inadequate incomes.

The WEF report sums it up best: 'Given the current long-term, low-growth environment, it is unrealistic to expect that saving ~5% of a paycheck each year of your working life will provide a comparable income in retirement.'

### Figure 1: Intergenerational gap

How much an individual would need to save (% of income) to achieve the retirement income of previous generations.




Source: Datastream and Rathbones.

## Don't blame the young

Let's get one thing straight: millennials are not frittering away their future pensions on heirloom avocados and turmeric lattes. In the UK, people aged 25 to 34 spend less relative to 55- to 64-year-olds than at any time since at least the 1960s. Adjusting for inflation, their consumption after housing costs is barely any higher today than it was in the late 1990s. This pattern reverses the increasing consumption of younger adults in the 1960s, 1970s and 1980s. In other words, it was the baby boomers who ate more prawn cocktails and drank more cappuccinos, extending consumption patterns both in their youth and in their golden years (Intergenerational Commission 2018).

It may be that stereotyping has mistaken consuming more conspicuously for consuming more. There is survey evidence that millennials place more importance on having lots of money and expensive things than older generations (Ipsos Mori 2017). However, millennial avarice is not the reason why they may struggle to retire as comfortably as their parents.

Simply, millennials are paying more for the roofs over their heads, with pay packets that aren't increasing by as much as previous generations'. In the UK, millennials at age 30 are earning less than Generation X did at the same age, in inflation adjusted terms. They are also less likely to be employed on the basis of a secure, full-time contract. Younger millennials are faring worse than older millennials.

The stagnation in real pay since the financial crisis, the longest in 150 years, is making it harder for millennials to start saving more.

Millennials are far from alone in their under-preparation. Generation X may be the most poorly positioned. Broader still, almost a third of US households were at risk of retiring with inadequate income in the 1980s. Today it's 50% (Center for Retirement Research).

# The housing shortfall

If housing wealth were used to provide an income in retirement, researchers calculate that the savings gaps discussed above could be halved. But few retirees draw on property wealth today, while home ownership rates are falling. The Institute for Fiscal Studies found that, if the housing wealth of couples born in the 1940s were drawn upon and annuitised, the number of UK households falling short of the Pension Commission's income adequacy thresholds would fall from one in five to one in thirty (Crawford & O'Dea 2014). Other international studies draw similar conclusions (Mudrazija & Butrica 2017).

However, the whole question of whether owner-occupied housing should be thought of as a source of wealth on which a retiree could draw is a matter of some contention. To date, housing wealth is not drawn on, despite recent windfall gains.

In the UK, very few homeowners move into rented accommodation in retirement. Downsizing is common, and surveys suggest it will become more frequent. But recently, the average wealth released by moves within owner-occupation is just £32,000 (Crawford 2018). And the data is skewed by the fact that the main motivation is often divorce!

Only 2% of households intend to withdraw equity via a 'reverse mortgage' (converting home equity into a monthly income). Even if this were to change, lending criteria are strict and a 65-year-old is not likely to get more than 33% of the value of their home. The average homeowner over 65 has net property wealth of £250,000. A third of that does not equate to many years of income.[1]

Of course, any effort to include housing-based wealth in a broad assessment of the population is misleading because the housing stock is distributed so unequally and the welfare gains from housing have been so contingent on location and social status (Montgomery & Buedenbender 2014).[2]

**Don't bet the house on it**

Indeed, we believe the huge increase in housing costs in some advanced economies, most notably the UK, render retirement adequacy benchmarks too low, and current workers will have to save even more to maintain the consumption habits of previous retirees.

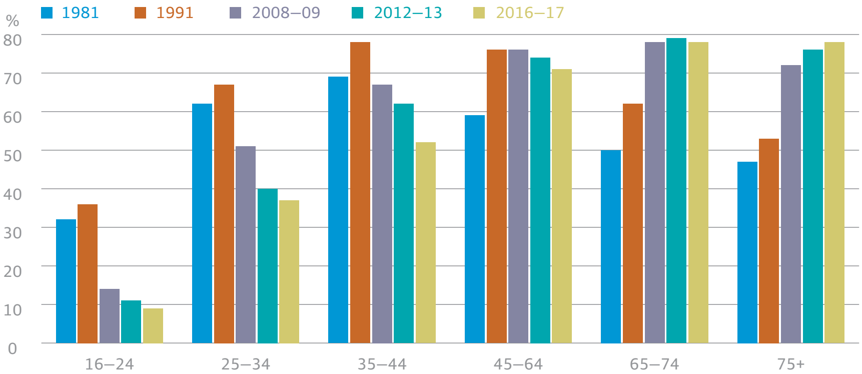
Although a detailed outlook for property prices is beyond the scope of this paper, suffice to say we believe a repeat of the historic gains in the UK and elsewhere is highly unlikely.

The big boom in UK house prices occurred between 1996 and 2006, as mortgages became increasingly easy to obtain and property was 'financialised' (viewed and priced as an investment asset). This made prices much more sensitive to falling real (inflation adjusted) interest rates: as interest rates fell, so too did the primary cost of finance alongside the opportunity cost of holding other assets, causing prices to rise. An exceptionally strong period of real wage growth provided a tailwind, while generous tax policies, the courting of foreign buyers and a lack of newly built homes also contributed to some extent. Some of these trends continued between 2012 and 2017, when prices rose again, especially in London and the South East where supply was particularly lacking.

But real interest rates cannot fall by another 5%, today's lending criteria are more restrictive since the 2014 Mortgage Market Review, and UK households are suffering the most prolonged stagnation of real pay in 150 years. Average house prices have diverged from average pay to an extent that is difficult to forecast occurring again. Just gathering enough money for a deposit on a first home is now a major feat: in 1995, it took the typical 27- to 30-year-old just three years; today it would take 19 years (Corlett & Judge 2017).[3]

Figure 2: A home to call your own

Percentage of each age group that were owner occupiers.




Source: English Housing Survey, full household sample.

1. In addition to these behavioural and structural impediments to realising property wealth in retirement, perhaps the strongest argument to discounting property's value as a welfare asset is that, if everyone started to sell their homes as they retired, there could be a meaningful shortage of demand, given the demographic profile, and that could cause a collapse in prices.

2. Nearly half of 20- to 35-year-olds who don't own a home have no parental property wealth (Corlett & Judge 2017).

3. This is arguably an underestimate as it assumes 27- to 30-year-olds are able to put aside 5% of their post-tax income, which we know they are not doing.

**Left out in the cold**

UK rates of home ownership have collapsed (figure 2). Almost 60% of baby boomers owned their own home at age 30; that rate has halved to 30% for millennials at age 30. The Resolution Foundation estimates that one in three millennials will never own their own home. The UK stands out internationally, but declining rates of home ownership are also a feature of the US, Southern Europe and Australia (Corlett & Judge 2017).

Whether renting or servicing a mortgage, millennials are spending a greater proportion of their income on housing than any previous generation. At age 30, millennials are paying almost a quarter of their post-tax income for the roof over their head; baby boomers paid a little over 15%. Again such a proportion is high but not exceptional by international standards. Mortgage servicing costs are lower for millennials who have managed a foothold on the property ladder when compared to previous generations, but their mortgage terms are longer, so mortgage costs over a lifetime are higher.

From an intergenerational perspective, rising property prices do not constitute a genuine increase in wealth. Rather it is a redistribution of wealth to today's homeowners from today's non-homeowners (including those yet to be born) who must pay higher rents and/or a higher price to own the same property in the future (Buiter 2008). In other words, the huge wealth gains for older generations have been financed by indebted and/or rent-locked younger generations. This both inhibits other forms of saving among younger generations and increases the income required in later life if living mortgage-free is no longer likely.

Inheritance and bequests may help, but millennials will have to wait until they are 61, on average, before they inherit.[4] If this transfer is needed to buy a home, it will be too late for many to experience the associated benefits of security and lower housing costs later in life. Therefore, it won't allow for higher saving (as housing costs reduce) until just before retirement (Intergenerational Commission 2018).

So the cost of housing has risen vertiginously, while the opportunity to increase wealth through property has diminished: this matters for future retirement incomes.

The idea that housing is a source of welfare in retirement derives first and foremost from the 'income' in-kind — living rent free after paying off a mortgage. The retiree without a mortgage requires a smaller pension. Unfortunately millennials are less likely to approach retirement with any property at all, and those that do are much more likely to have outstanding mortgage debt. As a group, they will receive much less 'income' in-kind and so require much more income from other sources.

As we saw in the previous section, prior generations have not achieved adequate rates of earnings replacement, but housing may have bridged that gap. In other words, it may be more imperative for future retirees to meet these adequacy benchmarks. Once again, we're back to a choice between working longer, saving more today and consuming much less tomorrow.

**Is 'the British dream' now a pipe dream?**

Nevertheless, the dream of home ownership and its use as a retirement asset is alive. Indeed, younger generations are more likely to think they will use property to finance retirement than older ones. According to research by The Pensions & Lifetime Savings Association, '35- to 44-year-olds felt that they will have no choice but to use their property in financing retirement'. This is rather alarming, given that they're far less likely to own any. Almost one in four of the 35- to 54-year-olds who plan to use a home to finance their retirement are yet to own one!

And, despite the extraordinary appreciation in property values, nearly half of UK workers still think that investing in property will deliver among the best returns on offer. In contrast, only 22% would say that about personal pension schemes (HSBC 2017). We are concerned that too many young households are using past performance as a guide to future returns, and ignoring other forms of saving and retirement provisioning as a result.

The evidence already suggests that most households must sacrifice other forms of saving to service a mortgage. A study by the National Institute for Economic and Social Research concluded that households who take out mortgages to buy a home save less for at least the first 10 years of paying off their mortgage than households which either rent or own their homes outright. The consequences in retirement for these mortgagees were 15% lower income than those who rented or were able to buy outright, and a greater likelihood of experiencing financial difficulties (Armstrong et al 2017).[5]

This trade-off between owning a home and saving for a financially secure retirement is particularly troublesome. If millennials are likely to be paying off a mortgage well into their 50s and 60s, and possibly beyond, they will have less money to save for retirement during what have been, to date, prime saving years.

Later house purchases also mean less time to benefit from any rise in real house prices (although it is by no means certain that they will rise faster than inflation over the next 30 years), and there is a greater risk of being placed in negative equity in retirement because of an economic downturn.

There is also evidence that housing wealth is held as an emergency fund for the cost of long-term care towards the end of life. In fact this is one of the main explanations for why so little housing wealth is drawn down (Crawford 2018). So if fewer households have a property on which to fall back, and even fewer are likely to have benefited from the windfall of rising property values, this may also contribute to changing behaviours later in life — again, more working, more saving and less consumption.

4. 'Assortative mating' (people with rich parents tend to marry people with rich parents) amplifies the inequalities and again makes it difficult to generalise inheritance as a source of welfare in retirement.

5. Households that bought a home without a mortgage do not exhibit lower savings rates, and that perhaps suggests this is more about being able to afford a mortgage without sacrificing savings than about people viewing housing as a substitute for savings.

# What's behind the savings shortfall?

**The burden of risk**

By excluding anyone without any pension savings from their analysis, and assuming that a person entering the workforce adopts the habit of the average *saver*, the ILC shows the savings gap shrinks considerably. This highlights just how important it is for workers to start saving as soon as they join the workforce.

However, as defined contribution pension schemes have replaced defined benefits plans (figure 3), and as some countries' state pensions decrease in generosity, the individual now bears much more risk. The burden can be overwhelming. Everyone is now their own investment manager, actuary and insurer, weighing up uncertainty over their future pay, how much to save, which investments to choose, how long they are likely to live, when they should retire, and how to withdraw their savings when they do. In the past, providers of defined benefit plans shouldered these risks, today the individual does. Arguably the greatest intergenerational inequity in retirement is about who bears the risk.

This is very troubling given low levels of basic financial literacy. Only 30% of people surveyed across the world were able to answer correctly the 'Big Three' financial literacy questions developed by academics to test an understanding of compound interest, the impact of inflation and risk diversification (Aegon 2018). In 2015, Ipsos Mori asked people in Britain to estimate how much someone would need to put into a private pension savings pot to get a total annual income of around £25,000 after they retire (around the average pensioner income). The median answer from Britons was worryingly below the true value needed. With the most optimistic assumptions at the time of the study, you would need to accrue £315,000 when supplemented by the state pension, but the median guess in Britain was less than half that value, at £124,000. Millennials were even more wildly out, guessing just £90,000 – at best they could hope for four years of living at the average pensioner income with that savings pot.

It is perhaps unsurprising, therefore, that one third of people globally do not know if they are on course to achieve their desired retirement income (Aegon 2018).

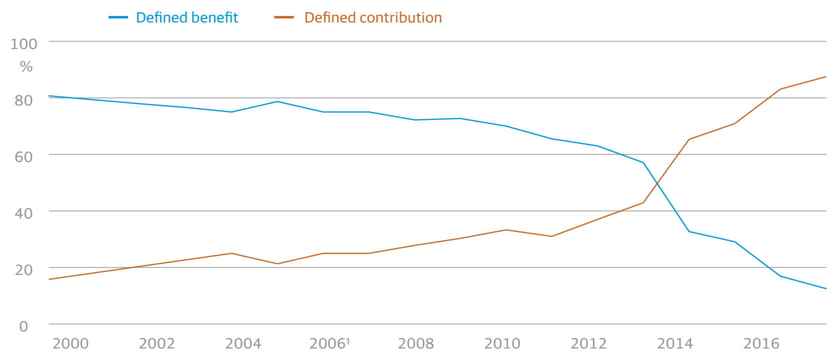
By and large, those already struggling to make ends meet are not those responsible for the shortfall of private sector savings. The more educated worker does not seem to be more educated financially. Of the highest-earning 40–80%, only one in 10 will meet the adequate replacement rate (Finch & Gardiner 2017).

**Longevity**

Between 1950 and 2015, life expectancy in advanced economies rose from 65 to 80 (Franklin & Hochlaf 2017). That means that 2015's newborns can expect to live 80 years. In the UK, male life expectancy has risen from 66 to 79. Longer retirements require more savings.

**Figure 3: Saving for later life**

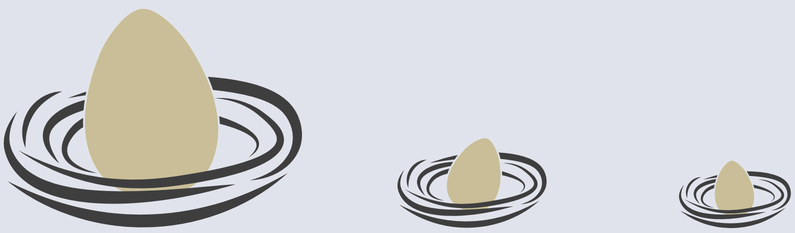
Proportion of active pension scheme participants by scheme type.




[1] Changes to methodology for 2006 onwards mean that comparisons with earlier years should be treated with caution.
Note: This is not a continuous time series.
Source: Office for National Statistics.

**Reality vs expectations**

According to an Ipsos Mori survey in 2015, people in the UK had different ideas about how large their pension pots would need to be for a comfortable retirement.



| £315,000 | £124,000 | £90,000 |
|---|---|---|
| optimistic assumptions | median guess | millennials |

### Investment returns

We're living in a lower-growth world. This isn't the place to dive into financial theory, so we'll be brief. The demographic dividend from rising population growth is behind us, cheaper investment goods have driven down rates of net investment and the developed world is undergoing what appears to be a chronic, not temporary, slump in productivity growth. Lower investment and lower productivity mean lower economic growth, which means less opportunity for companies to increase revenue and that means future returns available on equity investments are likely to be lower than they have been in the past. Added to this is a persistent surplus of desired savings relative to desired investment which makes interest rates available on cash and government bonds much lower than they have been in the past.

Cash, bonds and equities are the bedrock of pension portfolios. If they generate lower returns than in the past, pension pots will grow more slowly over workers' lifetimes and they will need to save more. Allocating more to assets that should generate higher returns would help over the long run (Asian equities or emerging market debt, for example), but with higher potential returns comes a higher risk of loss (see figure 4).

The WEF research referenced earlier modelled different return scenarios. The savings gap in the US would be $1.5 trillion smaller if equities and bonds continued to deliver historical returns – an inflation-adjusted 8.6% and 2.6% respectively, according to their data – rather than the 3.45% and 0.15% assumed by them today.

Lower prospective investment returns are significant, but a much bigger problem is the quantum of people who simply have very low savings to generate any return in the first place.

### Annuity rates

Most academic estimates of savings shortfalls assume that private defined contribution pension savings will be annuitised. Due to rising life expectancy and falling interest rates, annuity rates have collapsed. In 2000, when inflation was similar to today, a 65-year-old male could purchase an annuity with a rate of 8.5% (Cannon & Tonks 2004). Today, annuity rates have settled around 5%. Using the very simple assumptions underpinning the government's PensionWise annuity estimator, a 65-year-old would need a pension pot larger than £350,000 to draw down an income of £20,000 a year until they pass away (approximately 70% of the 2017 median male wage). Using 2000's annuity rate, less than £225,000 would have bought £20,000 a year. Inflation-protected annuities are even more punitive.

Again, this means workers need to save even more to achieve the same level of income in retirement.

Of course, annuitisation is not compulsory and pension pots could remain invested and drawn down. If the investments generate a return greater than 5%, a new retiree may not need to have saved such a large pot. But today, a 5% return involves accepting considerable market risk, and the pensioner is not insured against living longer than anticipated.

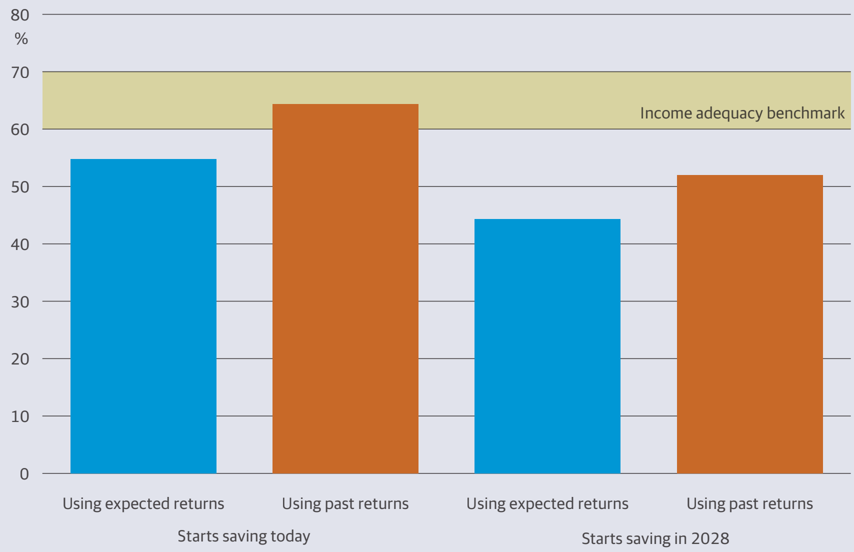
### Student debt and other forms of net wealth

None of the estimates of the retirement savings shortfall discussed above include non-pension financial wealth in their calculations. This is sensible given that it is the most unequally distributed form of wealth, and including it would

**Figure 4: The replacement rate provided by a 25-year-old's pension pot in 2058 at age 65**

This chart illustrates the hypothetical impact of starting to save sooner, as well as the impact of living in a world of lower investment returns. We take a 25-year-old today and project the size of their pension pot in 40 years. The difference between the blue and orange bars illustrates the impact of the returns to a 'balanced' investment portfolio falling from 6.9% to 5.9%.

The difference between the respective pairs of blue and orange bars illustrates the impact of delaying saving for 10 years. Clearly, starting to save early is very important if you plan to retire with an adequate income, but lower investment returns will mean that even young savers are still unlikely to retire at 65 with an adequate income.




Source: Money Advice Service and Rathbones.

*We take today's median income by age cohort and assume that a 25-year-old progresses 'up' the ladder with experience accordingly. In addition to this experience uplift, we assume a 3% rate of wage inflation across the board. We assume a 25-year-old starts with a savings rate of 5%, which increases linearly to 15% by age 50.

significantly distort the aggregate.

Even so, the intergenerational progress of total wealth is just as gloomy. In the US, the ratio of wealth to annual income for 41- to 43-year-olds is around one (their total wealth is equivalent to their annual income). That's a third lower than the average ratio for 41- to 43-year-olds observed in the 30 years before the financial crisis. Even more strikingly, every successive five-year cohort in the UK since those born in the mid-1950s accumulated less wealth than their preceding five-year cohort had done at the same age (figure 5). Again, this makes meeting those replacement rates more important than ever before.

The growing stock of student debt outstanding is a particular source of concern. In the class of 2017/18, a student at an English university who takes out a full student loan will graduate with £51,700 of student debt. Even students with parents in the top 10% of earners will leave university with debts, on average, totalling £43,000. Average debt has more than doubled since the system changed in 2011 (Belfield et al 2017).

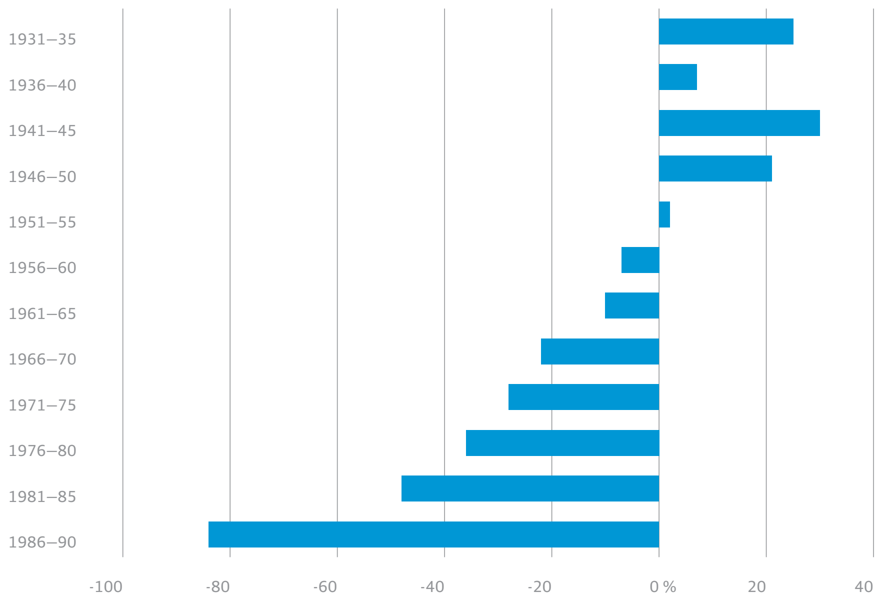
England now has the highest university tuition fees among advanced economies, but fees are relatively high and rising in the US, Japan, Korea, Canada and Australia too. The average 2016 American college graduate accumulated $37,000 in student debt, 6% more than the previous year's class (Chamie 2017).

Research in the US, where student debt has been a burden shouldered by young graduates for a long time, clearly shows that student debt holds back savings. Among graduates who participate in a pension plan, those with student debt accumulate 65% less retirement wealth at age 30 than those without student debt – after accounting for background, college quality and so on (Rutledge et al 2016).[6]

£51,700
the amount of debt a student at an English university in the class of 2017/18 will accumulate by graduation if they take out a full student loan

**Figure 5: Household wealth patterns are shifting**

Every successive five-year cohort in the UK since those born in the mid-1950s has accumulated less wealth than their preceding five-year cohort had done at the same age.




Source: Resolution Foundation.

6. Median retirement assets accumulated by 30-year-old graduates is zero – most graduates save nothing in their early working lives. The overriding reason for the savings shortfall is the number of people not saving anything, rather than simply saving too little.

# The government shortfall

We've seen how a savings shortfall makes it likely that younger generations will either be working longer, saving more or consuming less than their predecessors. We've seen that housing wealth is unlikely to plug this gap. Is there anything governments can do about it?

One of the most piercing details of the WEF calculations is that three-quarters of today's $70 trillion savings gap rests with governments, accounted for by their unfunded state pension liabilities and public employee pension schemes (figure 6). As we shall see, today's politicians are sleepwalking into an intractable policy dilemma. Indeed, some politicians are even still trying to win votes by promising to reduce the state pension age!

**The pie is shrinking**

Government finances rely on taxing workers. In the UK, 44% of government revenues come from income tax and national insurance (Miller & Roantree 2017). A rising ratio of non-working to working population (the 'dependency' ratio) is therefore highly problematic for government treasuries.

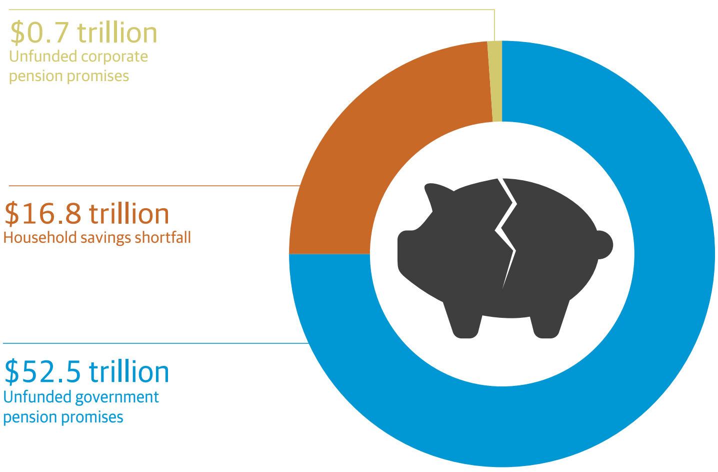
The UK's dependency ratio troughed 10 years ago. Even though it is not set to rise quite so steeply as other global regions', UN population projections suggest that in 25 years there will be two dependants for every worker, compared with a near one-to-one split today. Even if we modernise the definition of working age to 20 to 69, the pattern is similar (Rathbones 2017).

The declining tax base is even more problematic when considering that older people command more government spending. The UK's Office for Budget Responsibility (OBR), in its 2018 Fiscal Sustainability Report, predicts public pension-related spending will increase from 7.9% of GDP today to 9.0% 30 years from now, equivalent to an extra £25 billion a year in today's terms. Upward pressure on health care and adult social care is larger still. Net age-related spending rises from 20.5% of GDP today to 26% of GDP in 30 years, equivalent to an increase of £107 billion a year in today's terms.

This is not the place for a disquisition on fiscal sustainability, but we must acknowledge the link between ageing, spending and taxation when we consider future consumption patterns.

Figure 6: Global retirement savings shortfall ($ trillion)

Three-quarters of today's $70 trillion savings gap rests with governments.




Source: World Economic Forum.

**Political suicide**

Borrowing to meet the increases in age-related spending set out by the OBR would see the UK government's net debt rise from just over 80% of GDP today to 140% of GDP 30 years from now, and again to a staggering 280% by 2068. Stuck between a rock and a hard place, governments have three options: borrow, reduce the generosity of public welfare or raise taxes. All three are likely to amplify the shortfall of retirement savings in the private sector.

An exponential path for public borrowing would likely raise interest rates, crowd out private investment and lower real wage growth, even in the UK, where net debt starts from a relatively low base by international comparison.

Reducing public healthcare spending in Europe is political suicide, so if governments were to reduce welfare spending, the onus would fall on pensions. Indeed, many EU countries are already slashing their budgets. Public pensions across the region now replace 46% of pre-retirement income, down from 51% in 2009 (despite a dire outturn for workers' pay) and a further 7 percentage point cut is in the pipeline. By 2060, EU countries will have cut a third from the average state pension payment.[7]

But most EU countries started from a position of relative generosity, in stark contrast to the UK. Only seven out of 27 advanced economies spend less on pensions relative to their GDP than the UK. Only five have higher rates of pensioner poverty and no others replace so little of pre-retirement incomes

7. Setting this in the context of today's populist political insurgents, we are deeply concerned. One of the key explanations of why populist extremists gathered so much support in Germany in the early 1930s but failed to gain much of a foothold in the UK is that in Germany benefits were cut by more than wages fell during the depression while they were maintained in the UK (Eichengreen 2018).

(Franklin & Hochlaf 2017).

Raising the state pension age (SPA) is an option for many countries. The UK Parliament has already expedited changes to the SPA and these are already factored into the OBR's alarming calculations. The current plan is for the SPA for men and women to rise to 66 by 2020, 67 by 2026/28, 68 by the mid-2030s, and 69 by the 2040s.

Higher taxation seems unavoidable, especially in the UK. Higher income taxes would reduce private consumption among workers.[8] But will today's workers tolerate higher taxes, considering that the intergenerational contract that promised incrementally improving living standards has been broken and that services offered to previous generations have not been offered to them? Furthermore, higher income taxes will make the already tall task of saving privately for retirement even harder. No wonder then, that taxes on unearned wealth are featuring more and more prominently in public policy debates across the political spectrum.

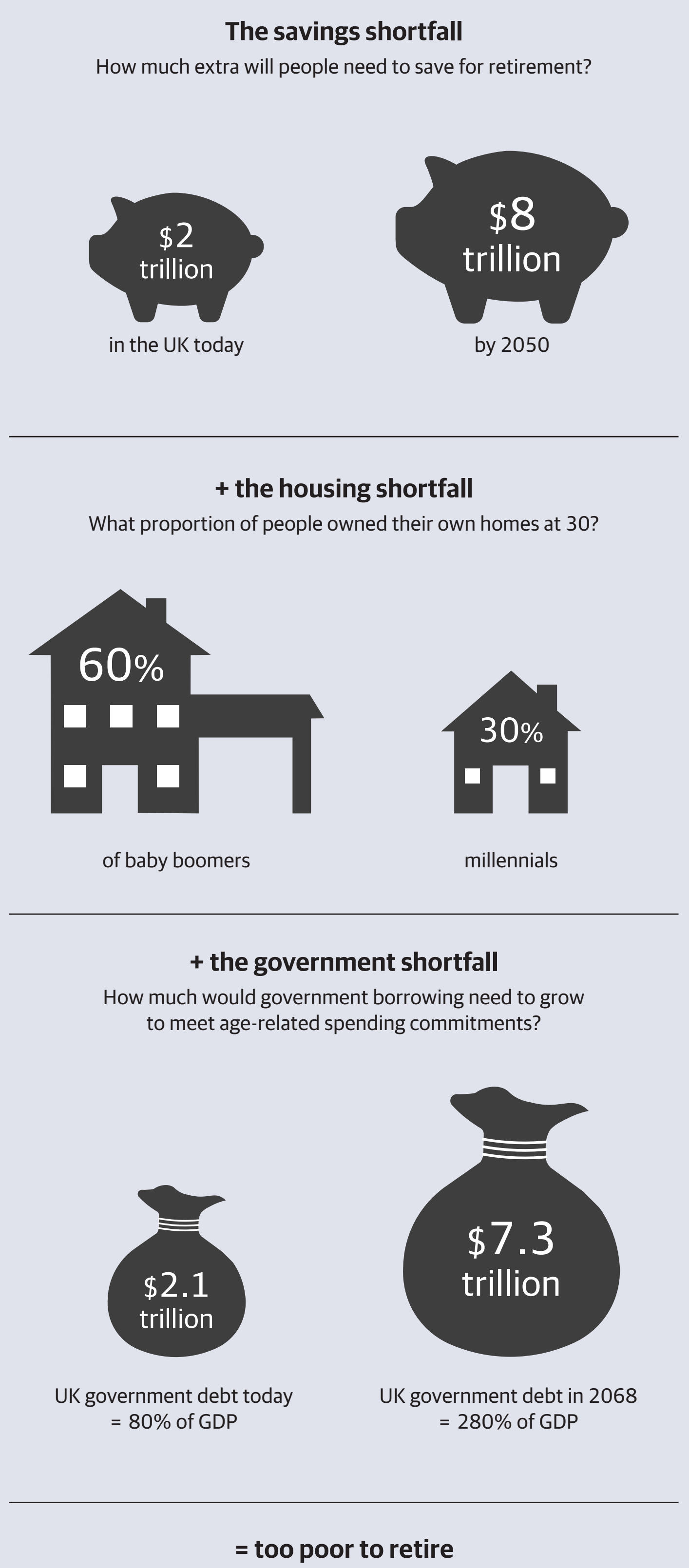
Governments do have fourth and fifth options. They could facilitate more inward migration and delay rising dependency ratios; or they could consider radical ways to increase productivity, recruiting the economy to grow their way out of future deficits.[9] We are not optimistic about either the ability or willingness of most major political parties across the developed world to do either.

In short, we should expect a combination of higher government borrowing, less generous public pensions, and higher taxation. Longer working lives are a near inevitable corollary.

8. If levied to directly fund pensioners' incomes, they may affect the distribution of consumption more than the aggregate amount. But higher taxes to fund healthcare for the elderly lowers aggregate household demand.

9. To name a few broad areas: investments in basic research; public–private university partnerships for applied research; large fiscal disincentives for corporate short-termism; accounting changes to highlight and reward genuine wealth creation not rent-seeking; and unprecedented adult education.

### Bringing it all together in the UK




Source: WEF, Resolution Foundation, OBR and Rathbones.

# When I'm 84

Rising life expectancy, decreasing home ownership, unfunded government spending, lower investment returns and inadequate private saving are making it less and less likely that younger generations will retire when their parents did. If the current savings shortfall were to be eradicated without any changes to saving behaviours, public disbursements or stronger investment returns, the average retirement age would need to increase from 63 to 68 across advanced economies. In the UK, it would need to increase from 63 to 70 (Franklin & Hochlaf 2017). Is this possible and would it make life even tougher for future generations?

Although just 21% of 65- to 69-year-olds in the UK participate in the workforce, in the US 32% do (figure 7). In South Korea, the participation rate is around 47% and in Iceland it's 52%, so clearly institutions and culture can play a huge role in facilitating longer working lives (OECD data).[10]

Certainly more and more people recognise the need to work later in life. In a worldwide poll by Aegon, 57% of workers envisioned a delayed retirement or a prolonged transition where they continue working at least part-time. In the most recent British Social Attitudes Survey, more than a third of 18- to 24-year-olds and roughly a fifth of 25- to 34-year-olds expected to retire in their 70s. Only 10% of people aged 70 to 74 work today.

### Willing... but are they able?

On the face of it, there appears plenty of scope for older people to participate more in the labour market if they had the incentive to do so. Around 80% of British men in their mid-50s are employed, but this falls sharply to just 35% of men in their mid-60s. For women, there's a greater fall, from 75% to 25%. The average age of leaving the labour market has risen over the past two decades, and the employment rate among over 50s has increased, but it is still lower today for men than it was before 1970.[11]

Three quarters of workers in their 50s would like to still be in work in their early 60s (DWP 2017). That said, many may be willing but unable to work. There are almost one million unemployed 50- to 64-year-olds that are willing, or would like, to work, but a recent study suggests that 26% of them are ready to contribute. There is a clear need for proper employment support to be put in place (Franklin & Hochlaf 2017).

Retirement decisions are influenced considerably by the state pension age, even though compulsory retirement is now illegal, so increasing it should help. Among retirees over 65, 57% cite 'reached state pension age' as the key reason for leaving work when they did. Research by the Institute for Fiscal Studies backs up the theory that raising the SPA should induce behavioural change. The employment rate among 60-year-old women rose by 7.3 percentage points when the female SPA rose from 60 to 61; it also had the unexpected effect of boosting the employment rate of male partners by 4.2 percentage points (Cribb et al 2014).

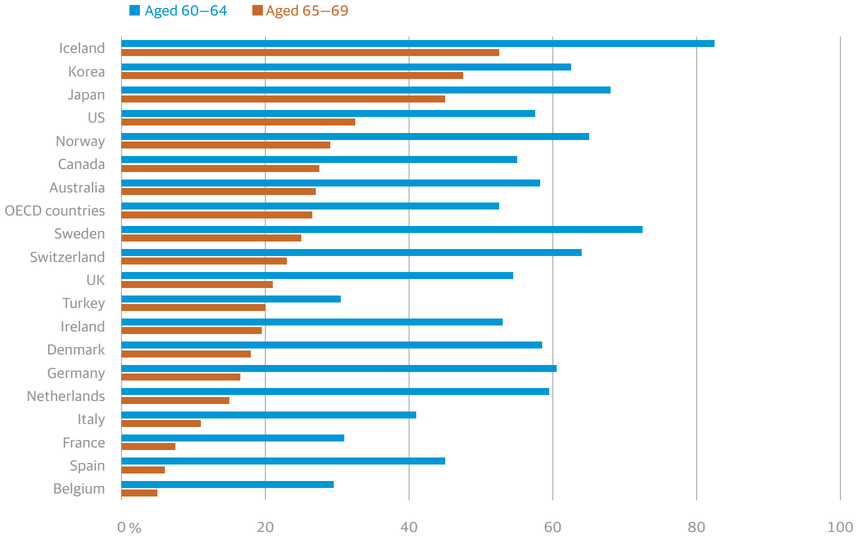
### Does longer life = better life?

Yet we cannot escape the fact that working lives are lengthening by less than total life expectancy, and this is in part due to ill health. So will the increasing need or will to work be matched by the ability to work?

EU data tells us that, while life expectancy is still going up, the number of healthy years expected after 65 hasn't

**Figure 7: Working in later life**

Labour force participation rates are increasing for older people around the world.




Source: Datastream and Rathbones.

10. However, the data suggests countries with lower government expenditure on pensions and elderly care have higher old-age participation rates.

11. Indeed employment rates among 50- to 65-year-olds were driven lower in the 1970s and 1980s not so much because of rising prosperity or changing societal attitudes, but because of the government's misguided incentivisation of early retirement, based on erroneous assumptions about the old crowding out the young (more on that overleaf), as well as industrial decline and increasingly generous incapacity benefits. Today, the regional spread of investment is broadening, benefits are being squeezed and the current government is raising the state pensionable age (SPA). Together with the financial imperative discussed in this paper, one would expect older employment rates to go on to far surpass levels observed in 1970.

risen for over a decade. Obesity rates have doubled in the US, England and France since 1990 and show no signs of slowing, and this impacts working lifespans more than total lifespans. A study from the Oxford Institute of Population Ageing found that obesity reduces life expectancy by 1.5 years but reduces healthy life by 6. Figure 8 shows that the 'disability-free' life expectancy has actually fallen across the UK, especially among women, who are now expected to have fewer years free from physical or mental impairment than men.

Of course, with the right policies, some individuals could be supported to overcome health barriers and remain in, or return to, the workplace. And, indeed, over the past 10 years the increases in older male employment rates have coincided with a decrease in the proportion reporting they are economically inactive due to being sick or disabled.

Caring responsibilities could also limit the ability for older people to work. Evidence suggests that caring for over 10 hours a week has a substantial negative effect on employment: only 56% of all 50- to 64-year-olds who spend over 10 hours per week providing informal care are in employment compared with 74% of males and 64% with no caring responsibility (DWP 2017).

Carers UK estimates that there will be a 40% increase in the number of carers needed by 2037, totalling nine million carers (Carers UK 2015). In London the economic contribution through informal care is estimated at around £14,600 per older caregiver annually, amounting to a total of £4.6 billion (Barrett et al 2013). If workers haven't saved enough to retire, they are unlikely to be able to afford private carers for too long either.

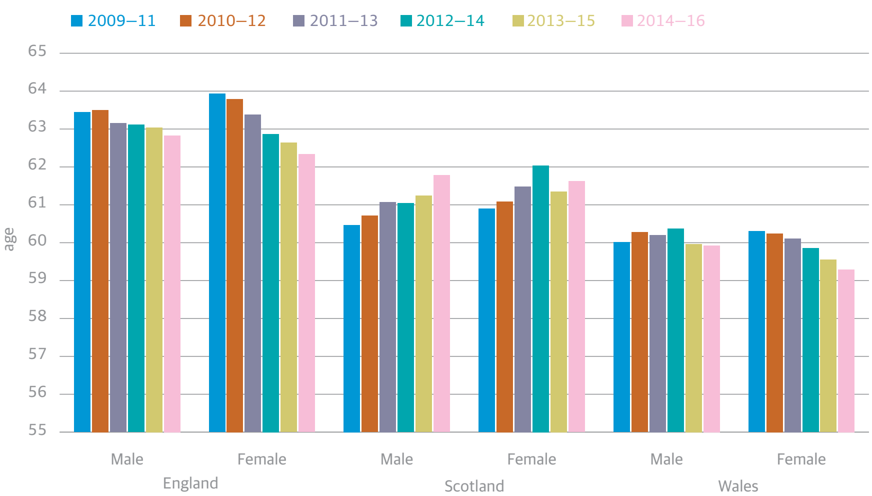
Employment practices must facilitate more flexible working. Without them, the increasing need for carers will be extremely difficult to manage and this would have a serious impact on the workforce. It would also put future households 'too poor to retire' in an impossible situation. Currently, only a third of employers have a formal, written policy or an informal, verbal policy in place to support carers in their workplace (Thomson 2018).

If older workers prolong their working lives on a part-time or flexible basis, the increase in older-age employment in terms of hours worked may be much less significant than the increase in headcount would suggest.

In sum, today's younger generations are likely to work for longer out of financial necessity rather than willingness, and there already appears to be an increasing willingness to work among older generations. There are questions over the ability of older people to work, especially considering the need for carers. Health is also a concern, but although healthy life expectancy has stagnated, it is already much longer than the average working life.

**Figure 8: Live long and prosper**

Disability-free life expectancy has fallen for some groups over the past few years.




Source: Datastream and Rathbones. Dates represent years expectancy was measured.

### The 'lump of labour' fallacy

So if people remain in work for longer, will that mean fewer jobs for younger generations?

In short, no. Although it sounds plausible in theory, there are many empirical studies that refute the idea that the old take jobs from the young. It has been a hot topic among researchers since the financial crisis when youth unemployment rose alarmingly in many countries. The weight of evidence strongly suggests that the greater employment of older people actually leads to better outcomes for the young. The patterns are consistent across gender and levels of education. This isn't about the 'price' of young workers adjusting either: there is no negative relationship between older workers' employment and young workers' wages (Munnell and Wu 2012).

Research findings are consistent across the world. Using data spanning almost 50 years, from 22 advanced economies, an OECD study found that old and young workers are complements to one another rather than substitutes (Kalwij et al 2010).

We have evidence running the other way too. The Job Release Scheme of 1977–88 which facilitated early retirement in the name of raising youth employment prospects had no positive impact. Similar schemes to increase youth employment in Germany, Denmark and France were also found to be unsuccessful (Banks et al 2008).

The idea that there is a finite number of jobs to go round is referred to as the 'lump of labour' fallacy by economists. It has been around since the 1850s; it has been referred to as fallacy since the 1890s (at the time, counteracting concerns about women entering the workforce). Employment is not a zero-sum game, rather it will expand if there are more workers contributing to the economy. Older workers tend to be more productive than the young, and are paid more accordingly. More productive, higher paid workers beget more productive capacity and more consumption and that begets more jobs elsewhere.

It is for this reason that countless studies suggest raising the participation rates of older workers also raises GDP. For example, research by the National Institute for Economic and Social Research (NIESR) shows that adding one year to everyone's working life in the UK could increase GDP by 1% a year, equivalent to £18 billion in 2015 when the study was carried out. Of course, if older workers are working for longer in order to save more, as we predict, then aggregate demand may increase by a smaller magnitude than previously estimated, and the number of new jobs created may not be quite as large.

The impact is likely still positive. It is possible that, if older workers' productivity falls below that of younger workers, the lump of labour theory may not be so fallacious. But this is rather farfetched. Although productivity gains decelerate with age, and there is even some evidence that it decreases in the last years of working lives (Dostie 2011), older workers are still considerably more productive than the young (Eichhorst et al 2014). Importantly, wage increases also decelerate with age (although a little less so than productivity).

### The self-fulfilling prophecy of productivity

Furthermore, age-declining productivity may be a self-fulfilling prophecy. If a worker anticipates early retirement, that worker will be less eager to invest in training to prevent productivity from deteriorating. If an employer expects a worker to retire early, that employer won't have an incentive to invest in them either. In the UK, only 15% of 60- to 69-year-olds either want or expect any workplace training (Thomson 2018). But patterns of training and productivity may shift with workers' attitudes towards a later retirement.

Importantly, the number of people in their 40s seems to be the key for innovation and change. The median age of those responsible for innovation in the US has been remarkably stable at around 48, whereas the median age of managers who adopt their ideas is lower at around 40 (Feyrer 2008). Those aged 40 are not likely to be crowded out by older workers, and we should breathe a sigh of relief that this cohort is not set to peak in the UK until 2033 and globally until 2096.

On the other hand, older workers have a significant amount of specialised, even firm-specific, knowledge that they find difficult to transfer to new roles or new companies. When good, older workers are let go during a downturn, the older among them undergo a permanent loss of human capital and the economy a permanent loss of productivity (Fujita & Fujiwara 2014). In the UK, the long-term unemployment rate for those aged 50 years and over is higher than for both younger and middle-aged groups (DWP 2017). Therefore, higher old-age participation may lead to a higher 'natural' rate of unemployment, and it could mean that employment takes longer to recover after a recession.

Finally, any lingering concerns must be set against current demographic projections. The UK population of 20- to 29-year-olds is set to decrease by 500,000 over the next 10 years. In Europe, the contraction is even more severe. Put another way, if we hold current age-specific rates of labour force participation in the UK constant, the total workforce will increase by just 0.1% a year over the next 10 years. To create more jobs, we need more workers.

## Conclusion: a longer, harder road ahead

The research and data drawn upon in this paper clearly suggest that younger generations are likely to be less comfortable in retirement than their predecessors. They are more responsible for their welfare and must bear risks previously shouldered by defined benefit pension plan providers. Yet they don't seem prepared. To make matters worse governments aren't ready to fund large increases in the number of state pension beneficiaries either.

While it goes too far to pronounce younger generations 'too poor to retire', 'too poor to retire at the same age as their parents' seems fair.

Over the long run, we envisage some combination of higher taxation, longer working lives and higher rates of saving. The long-term growth rate of household consumption will suffer as a result. Aggregate consumption growth will slow as future retirees will have less adequate resources than their predecessors. Indeed, the median UK pensioner's income is already higher than the median worker's.

Whether individuals save more today in order to meet adequate rates of income in retirement, or continue as they are and cut back dramatically later on is difficult to say and in no small way dependent on government policy. In the UK, for example, auto-enrolment has gone a long way to improving the prospects of millennials, but it is not enough.

As resistant as your audience may be, we encourage our readers to discuss pensions with younger friends and family members.

Investors need to adjust down their projections for growth in the market for consumer goods and services in developed markets, if they have not done so already. Retailers are already challenged by technological disruption but concerns about the overall growth of household consumption are rarely heard.

On the other hand, the opportunity for financial services companies is considerable. Estimates of the additional savings it would take to close the 'savings gap' are many times even the largest investment manager's assets under management (WEF 2015). Those that find innovative ways to engage young savers stand to do especially well.

There is also an opportunity for firms offering new technology and business services to facilitate the flexible working that would enable participation in the workforce later in life.

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