

# The DC Future Book:

In association with  
Columbia Threadneedle Investments

2018 Edition





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# The Future Book: unravelling workplace pensions

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# Foreword

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Columbia Threadneedle is a proud sponsor and collaborator of the Pension Policy Institute's "DC Future Book". Every year, it helps us understand the direction of travel of the Defined Contribution market in the UK and encourages thoughtful discussion around how to ensure our society can look forward to a comfortable retirement.

This year, we asked the PPI to take a closer look at the way people draw down and spend their pension savings, and how this is evolving. Around nine million people in the UK will turn 55 in the next decade. As Chapter 4 shows, these retirees will have less Defined Benefit income to draw on, and they are likely to retire with more debt, live longer and face higher living costs. Some may need to support both older and younger family members.

For many, choosing an investment strategy and withdrawal rate that takes these spending needs into account, while at the same time taking a view on life expectancy and how to protect their nest egg against market turbulence and inflation, will prove overwhelming.

As an asset manager, our job is to invest and grow people's savings, and we have been asking ourselves what we can do to ensure people can draw a sustainable income from their DC pension. The pace of policy change, uncertainty about how the market will develop and the fact that most DC pension pots are still relatively small, are creating barriers to innovation in the post-retirement space.

However, we can't afford to wait. Auto-enrolment for working people has been heralded as a success so far, with nearly 10 million employees in the UK automatically enrolled into occupational pension schemes and opt-out rates as low as 9%. We believe the same principles should apply to those at the point of retirement. For most people, a well thought-out and relatively inexpensive default drawdown product with a preset investment strategy, flexible withdrawal rate and an opt-out option increases the likelihood of achieving a level of income that not only sees them comfortably through retirement, but also meets their changing income needs.



As an industry, we need to work out what a default drawdown investment solution would look like. We envisage a multi-asset fund, where skillful dynamic asset allocation is applied to a well-diversified asset mix. This should deliver robust risk-adjusted returns while at the same time protecting savings against investment sequencing risk. As we move into potentially more volatile times, when a traditional equity/bond portfolio may not guard against financial market drawdowns, a multi-asset approach will be key.

There are encouraging signs that pension decumulation is moving into the spotlight. In 2018, both the Work and Pensions Committee and the Financial Conduct Authority published reports on the UK post-retirement landscape, outlining several potential options, including the provision of default decumulation pathways. We hope that the pensions and investment industry can work together with government and regulators to find a workable solution. With retirement often lasting for 30 years or more, investing pension assets to sustainably meet spending needs must be the imperative.

**Michelle Scrimgeour,**  
**CEO, EMEA, Columbia Threadneedle Investments**

# Introduction

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Current and future retirees will:

- Live longer on average,
- Receive their State Pension later,
- Be more likely to be dependent on Defined Contribution (DC) savings
- Have no, or low, levels of Defined Benefit (DB) entitlement, and
- Flexibly access their DC savings.

These changes increase the number of people facing risk and complexity when accessing pension savings at and during retirement. Therefore it is important that a comprehensive compendium of DC statistics and data is available to allow observation of, and reaction to, developing trends.

The Pensions Policy Institute (PPI) is publishing the fourth edition of its annual DC compendium, “[The DC Future Book: in association with Columbia Threadneedle Investments](#)”, setting out available data on the DC landscape alongside commentary, analysis and projections of future trends.

Chapter one outlines the state and private pension system in the UK and the main DC landscape changes over the past few years.

Chapter two provides an overall picture of the current DC landscape.

Chapter three uses PPI modelling to explore how the DC landscape might evolve in the future both for individuals and on an aggregate level.

Chapter four explores how differences in savings, assets and consumption needs between those approaching retirement and those newly retired might affect the way that people access and use savings.

Chapter five contains reflections on the policy themes highlighted by the report from leading thinkers and commentators in the pensions world.

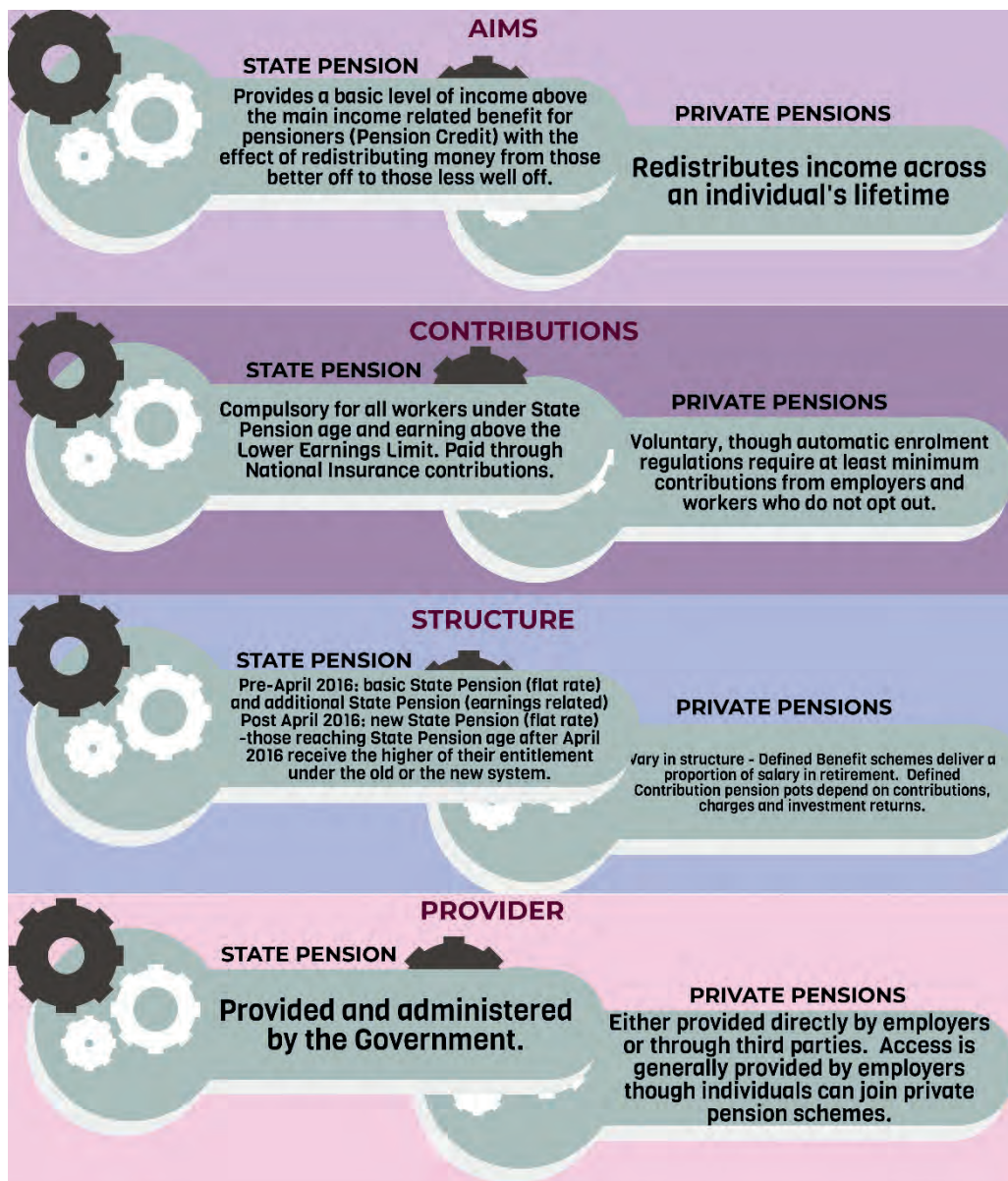
# Chapter one: what is the DC landscape?

This chapter outlines the state and private pension system in the UK and the main Defined Contribution (DC) landscape changes over the past few years.

**There are two main tiers to the state and private pension system (Box 1.1):**

- A compulsory, redistributive state tier; and,
- A voluntary, private tier<sup>1</sup>

Box 1.1: the state and private pension system



1. For further detail regarding the UK pension system, see PPI's Pension Primer (2018)



### There are benefits associated with saving in private pensions

Private pension savings (along with other savings and assets) are used to top up state pension income and improve people's standards of living in retirement. Private pensions provide benefits over other forms of saving:

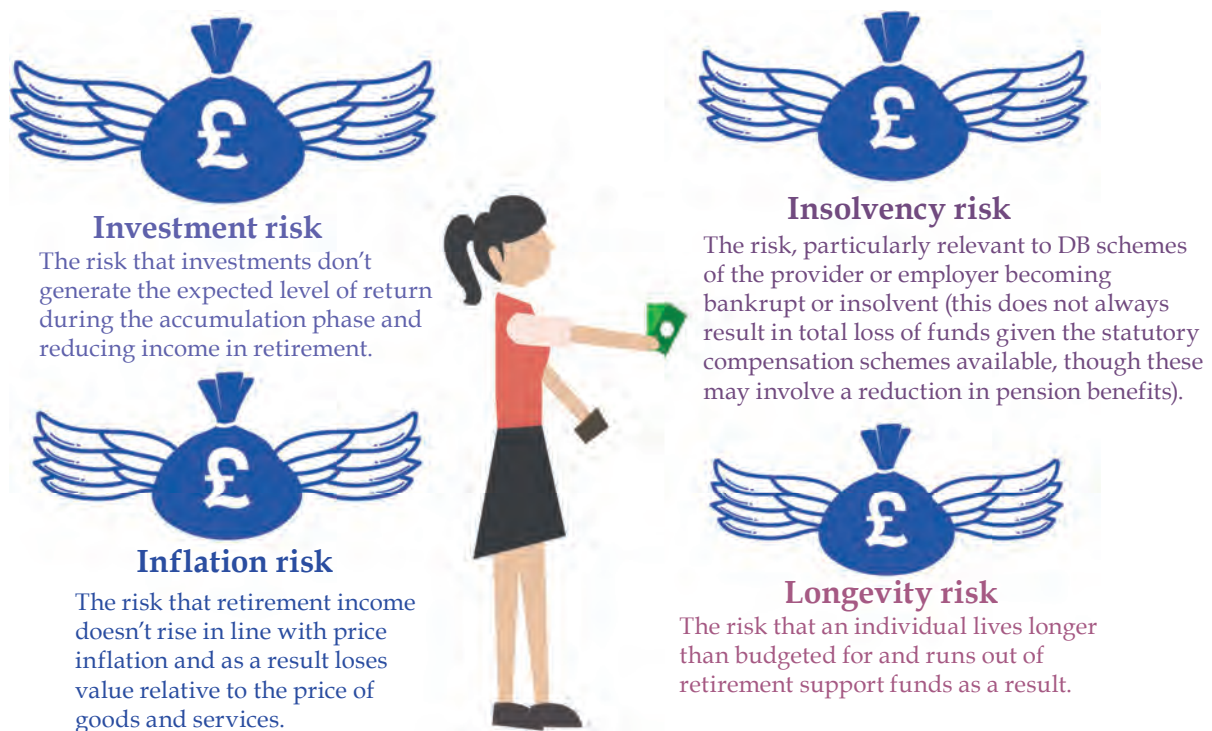
- The long-term nature of pension saving allows for compound interest to accrue over time, which can substantially increase fund sizes.

- Eligible employees enrolled in workplace pensions receive employer contributions.
- Pension contributions and investment returns are given tax relief (subject to certain limits).

### There are risks associated with saving in and accessing private pensions

The most significant pension-related risk is the risk of not saving enough to achieve an adequate standard of living in retirement.<sup>2</sup> Other significant risks are:

Figure 1.1



2. PPI (2013)

There are other risks associated with saving in and accessing private pensions including (but not limited to):

- Making sub-optimal decisions about how to access retirement savings,
- Poor understanding of amount of income required for an adequate standard of living,
- Excessive product charges,
- Poor annuity rates,
- Poor investment strategies, and
- The risk of needs in retirement changing unexpectedly, for example, as a result of developing health and social care needs.<sup>3</sup>

Though there are many risks associated with saving in DC pensions, the low average levels of DC pension savings that people will accrue over the next few decades means that many will be mainly dependent in retirement on income from State Pension, state benefits and any other DB pension or non-pension savings they have.

The risks that people face will be mitigated if they have only a small amount of DC savings and are likely to depend more on other sources of income in retirement. However, those with very low incomes may be quite dependent on small amounts of DC savings if they can use them to supplement a small income or use them up front to pay off mortgages or to make house repairs, which could reduce living costs in later retirement.

### Scheme type has implications for the balance of risk:

Figure 1.2

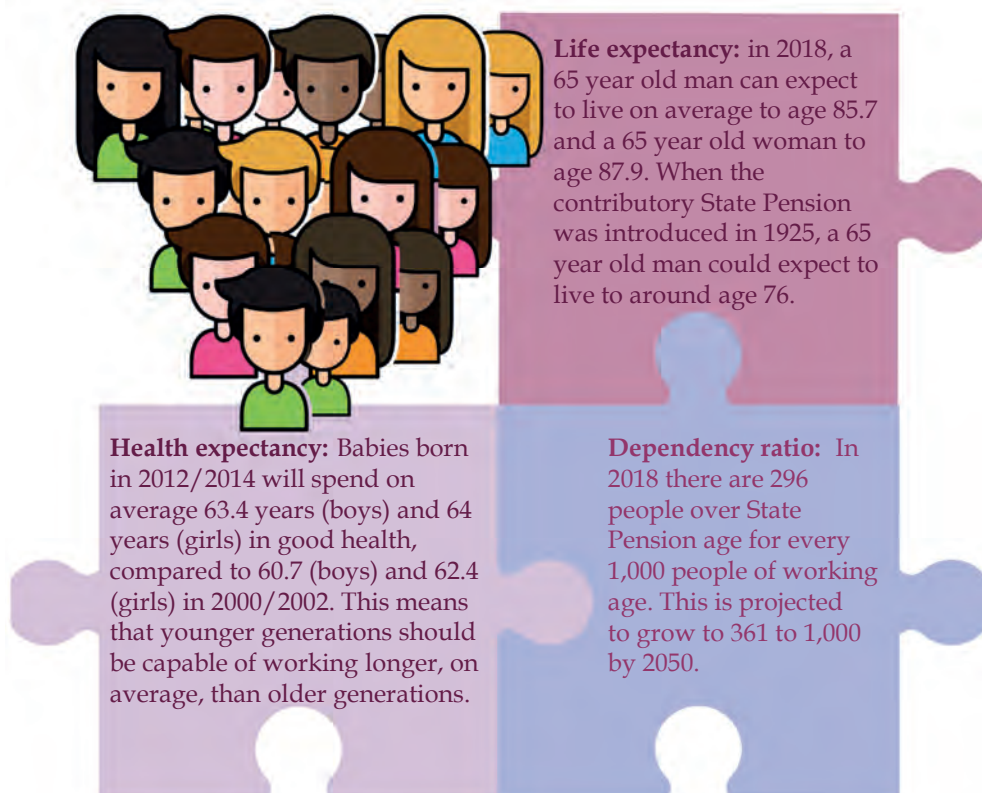


3. Blake, Harrison (2014)

## The pensions landscape has changed over the last few decades as a result of demographic, market, policy and regulatory shifts (Box 1.2-1.5).

### Box 1.2: demographic shifts<sup>4</sup>

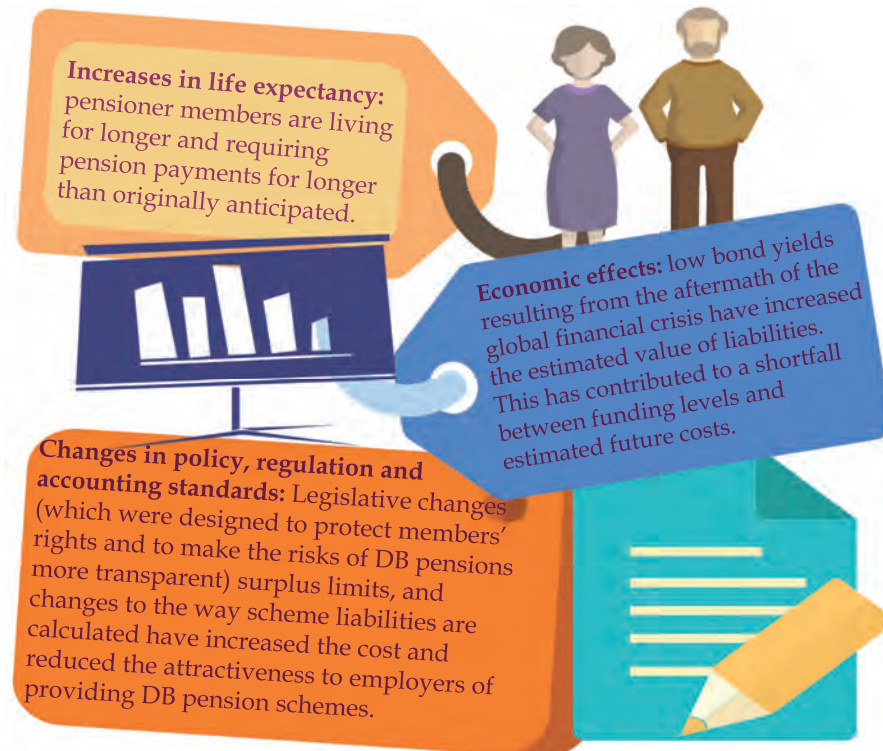
Increases in life expectancy and shifts in the old age dependency ratio affect the ability of people to support their own retirements, and taxpayers to fund state pensions and pensioner benefits. Increases in healthy life expectancy affect the length of time people are capable of staying in work before they retire. These shifts provide part of the Government's rationale for rises to State Pension age.



4. Cohort life expectancy: ONS, 2016-based projections; Dependency ratio: ONS, 2016-based, Table A1-1, Principal projection - UK summary; Healthy life expectancy projections: ONS 2016-based projections, Estimates for 2000-02 are simulations based on original survey data.

## Box 1.3: market changes

Defined Benefit (DB) pension schemes historically dominated private sector pension provision, and continues to be the main source of provision within the public sector. In 1967 there were around 8 million active members in private sector DB.<sup>5</sup> Private sector DB membership has declined to around 1.3 million active members by 2017 by which time over 88% of schemes were closed to new members or both new members and future accruals.<sup>6</sup> Scheme closures can be attributed to several factors:



As DB schemes became more problematic for private sector employers the less risky and generally less expensive DC model became more attractive. As a result of this, and automatic enrolment, the number of active savers in DC schemes has increased rapidly and has overtaken the number of active DB savers. In 2018 there are around 13.1 million active members in DC schemes compared to around 7 million active members in DB schemes, including the public sector.<sup>7</sup>

5. PPI (2012)

6. PPF, TPR (2017) p.4

7. PPI Aggregate model

## Box 1.4: policy changes

**Automatic enrolment:** Automatic enrolment, rolling out in a staged process from 2012 to 2018, requires employers to enrol qualifying employees into a workplace pension. Employees can opt out. For those who stay in, employers are required to make minimum contributions on a band of earnings (£6,032-£46,350 2018/19). Over 9.8m people have been automatically enrolled so far.

**New State Pension:** From April 2016 the basic and additional State Pensions were replaced with a new single-tier, flat-rate pension set at a level above Pension Credit, (£163pw) at £164.35pw for those with a 35 year Nics record.



**Freedom and Choice:** Since April 2015, people have had greater flexibility when they come to access DC pension savings after age 55. Prior to these changes, people with DC savings who could not demonstrate a minimum level of secure income were required to use an annuity or capped drawdown, in order to access DC pension savings.

**Increases to State Pension age (SPa):** The SPa rose for women from age 60 in 2010 to age 65 in 2018. SPa for both men and women will rise to age 66 by 2020, age 67 by 2028 and age 68 by 2039.

## Box 1.5: regulatory changes

- **Charge Cap:** In 2015 the Government introduced a charge cap on default funds used by automatic enrolment qualifying schemes of 0.75% of funds under management. The cap applies to all investment and administration charges. Transaction costs (third-party costs generated when shares are bought and sold on the market) and costs incurred as a result of holding property, are excluded from the charge cap.<sup>8</sup>
- **Independent Governance Committees:** Since April 2015, contract-based pension scheme providers have been legally required to set up and maintain Independent Governance Committees (IGCs). IGCs are responsible for overseeing the governance of contract-based pension schemes, ensuring that they act in the best interests of members and provide “value for money”.<sup>9</sup>
- **New trustee requirements:** Since April 2015, trustees of trust-based DC pension schemes have been required to ensure that default arrangements are designed in members’ best interests; financial transactions are prompt and accurate; and charges and costs are assessed for value for members.<sup>10</sup>
- **Master trust regulation:** The 2017 Pension Schemes Act provides for the introduction of an authorisation and supervision regime for master trusts which will apply to new and existing schemes.<sup>11</sup>
- **Drawdown regulation:** The 2018 Retirement Outcomes Review by the Financial Conduct Authority, suggests a raft of changes as to how people invest in drawdown. Such as, requiring people to opt-in to a strategy of investing all of their drawdown pot in cash and the creation of pre-made investment pathways which drawdown providers will be required to offer new customers who might struggle to make informed investment choices.<sup>12</sup>

### Demographic, market and policy changes affect needs and resources in retirement (see Boxes 1.2-1.5)

The above shifts affect the needs and resources of, and the risks faced by, people at and during retirement. Future retirees will:

- Live longer and take their State Pension later,
- Be more likely to reach retirement with DC savings (and no or low levels of DB entitlement), and have near total flexibility in regard to accessing their savings.
- Face more risk and complexity at and during retirement.

8. The Occupational Pension Schemes (Charges and Governance) Regulations 2015

9. PPI Briefing Note 80 ‘Independent Governance Committees’

10. [www.legislation.gov.uk/ukdsi/2015/9780111128329/pdfs/ukdsiem\\_9780111128329\\_en.pdf](http://www.legislation.gov.uk/ukdsi/2015/9780111128329/pdfs/ukdsiem_9780111128329_en.pdf); TPR (2016), In July 2016, TPR issued an updated DC ‘Code of Practice 13: Governance and administration of occupational trust-based schemes providing money purchase benefits’. The purpose of the DC Code is to ensure trust-based schemes are effectively run, durable and offer value for members.

11. [services.parliament.uk/bills/2016-17/pensionschemes.html](http://services.parliament.uk/bills/2016-17/pensionschemes.html)

12. FCA (2018b)

# Chapter two: what does the DC landscape look like?

This chapter provides an overall picture of the current Defined Contribution (DC) landscape.

## Automatic enrolment

Automatic enrolment requires all employers to enrol eligible employees into a qualifying pension scheme. To be eligible for automatic enrolment an employee must be aged between 22 and State Pension age and be earning £10,000pa or above in at least one job. Those who are self-employed or have several jobs which each pay below the £10,000pa threshold are not eligible.

Employers are required to contribute on behalf of workers who do not opt-out. The minimum required level of contributions from April 2018 is 5% of band earnings (£6,032 to £46,350) though employers and workers may contribute more:

- Employers must contribute at least 2% of band earnings on behalf of workers, though employers may choose to cover the whole 5%.
- Workers whose employer makes only minimum contributions are required to contribute a minimum of 3% of band earnings (though tax relief is applied to contributions, reducing the impact on take-home pay) unless they opt out.

From April 2019, minimum contributions will rise to 8% of band earnings: 3% from employers and 5% from workers.

New employees are automatically enrolled and have a one month window to opt-out and receive back all contributions. People who cease contributing after the opt out period has expired, are not eligible to claim back their contributions. Those who opt out or cease contributing are re-enrolled at least every three years.

## Employees and automatic enrolment

Employees were automatically enrolled on a staged basis starting with the largest employers in October 2012, staging through to small employers and requiring all employers to automatically enrol eligible employees from February 2018.

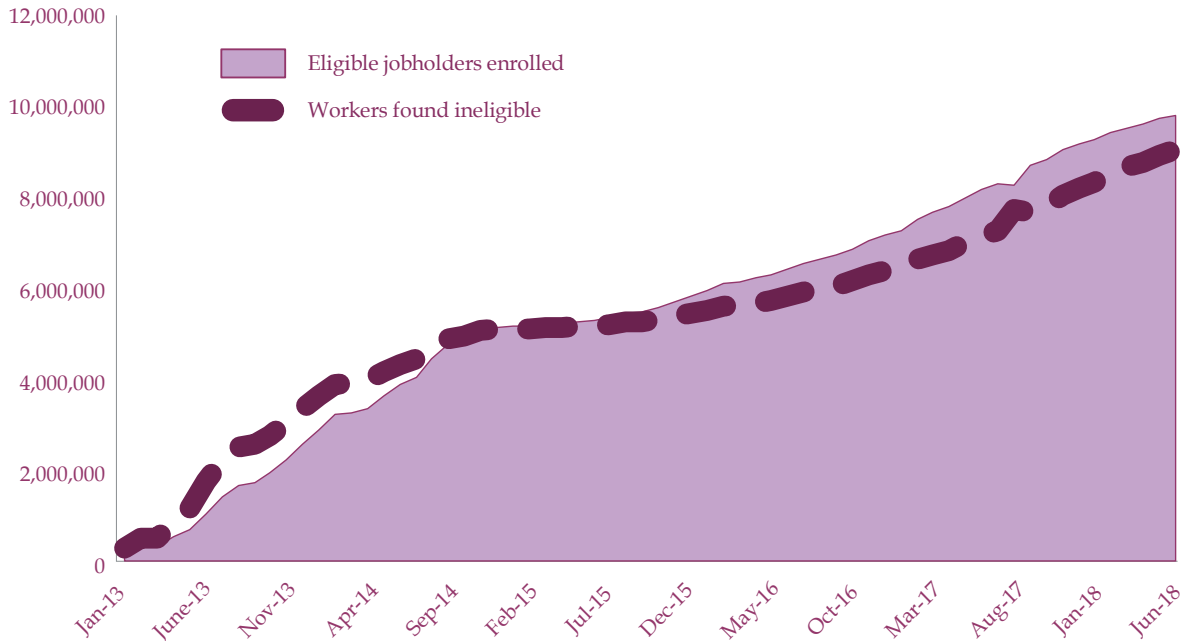
### 9.8 million people were automatically enrolled by June 2018

By June 2018, 9.8 million employees were automatically enrolled. However, a further 9 million were found ineligible due to age or earnings (Chart 2.1).

Chart 2.1<sup>13</sup>

**9.8 million employees were automatically enrolled and 9 million were found ineligible by June 2018**

Cumulative numbers of workers automatically enrolled and workers found ineligible (since January 2013) by month

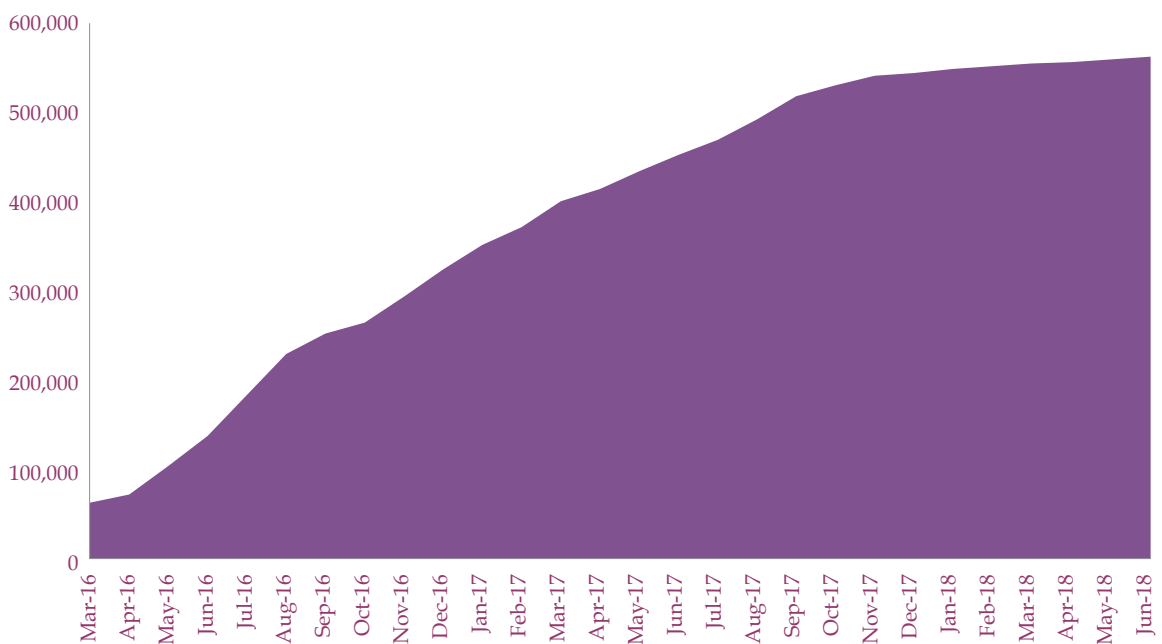


Employers are required to re-enrol all eligible workers three years after they opt-out the first time. By June 2018, 563,000 employees had been re-enrolled (Chart 2.2).

Chart 2.2<sup>14</sup>

**563,000 employees had been automatically re-enrolled by June 2018**

Cumulative numbers of eligible jobholders automatically re-enrolled (since March 2016) by month



13. TPR (2018b)

14. TPR (2018b)



### The most recently recorded automatic enrolment opt-out rate is 9% (2016/17)

People have the opportunity to opt-out and have their contributions returned to them within one calendar month of being automatically enrolled. Opt-out levels have remained low at around 9% in 2016/17 despite fears that opt outs might increase once smaller employers started reaching their staging dates. For their long-term modelling the Government assumes the proportion of automatically enrolled people who opt out, plus those who voluntarily stop contributing after the opt-out period, to average 15% per year (because opt-outs and cessations may rise as minimum employee contribution levels phase up to 5% by 2019).<sup>15</sup>

### Opt-in rates vary by scheme size

Ineligible employees may opt-in to their employer's automatic enrolment scheme. Those earning above £6,032 are eligible for employer contributions, if they opt in, and those earning below are not, though employers may choose to contribute anyway. Some employers automatically enrol all of their employees, including those ineligible.

6% of non-eligible workers are saving in a pension scheme (2016/17) as a result of either opting-in, or a blanket automatic enrolment

policy by their employer.<sup>16</sup> In 63% of schemes where at least some non-eligible employees had been enrolled, the employees had actively asked to join, whereas in 29% of these schemes, it was company policy to enrol every worker. In 9% of these schemes, non-eligible employees joined for another, unstated reason.<sup>17</sup>

### 73% of eligible employees saved in a pension for at least three of the last four years

Some people cease contributing to their scheme after their one month opt-out period has expired. This could be because they:

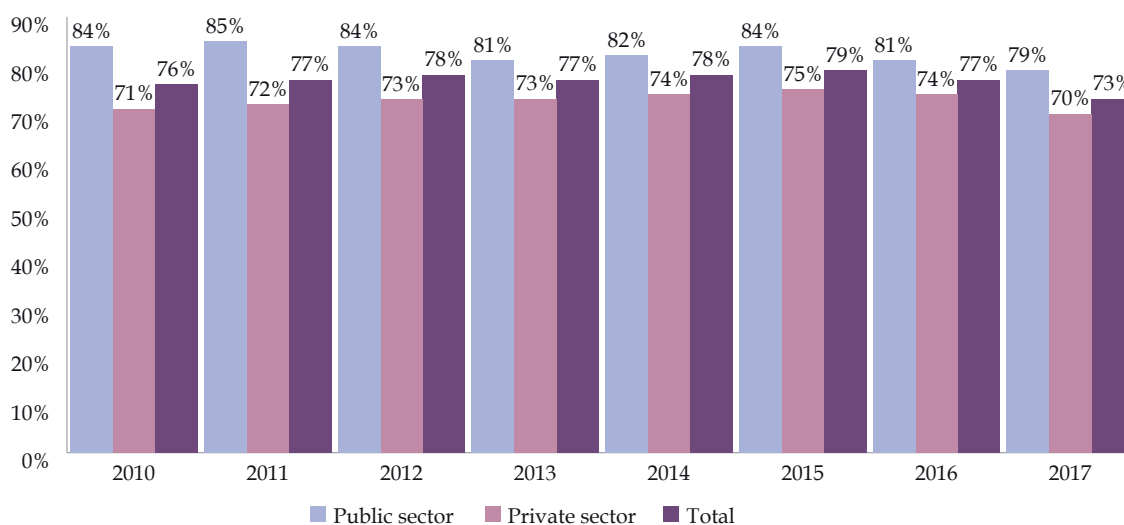
- Leave their current job (they may be automatically enrolled via their next job),
- Fall below the eligible earnings band lower limit, or
- Do not wish to contribute into their automatic enrolment pension scheme but did not opt-out in time.

Therefore it is useful to look at the “persistence rate”: the proportion of people automatically enrolled who contribute regularly into their pension. In order to measure persistency among the eligible population, the Department for Work and Pensions (DWP) tests the proportion of eligible employees contributing into a workplace pension for at least three out of a period of four years (Chart 2.3).

Chart 2.3<sup>18</sup>

### Around 73% of eligible employees persistently saved in 2017

Percentage of eligible employees saving persistently 2010-2017 by sector



15. DWP (2018a)

16. DWP (2018a) Table 5.1

17. DWP (2018a) Table 5.2

18. DWP (2018b) Table 1.13

Persistence in pension saving has fallen since 2016, from 77% to 73%. However, the majority of the decrease is attributable to lack of evidence on particular individuals in the dataset from which the statistics are calculated.<sup>19</sup> Persistence in the public sector declined from 84% to 79% between 2010 and 2017 while it increased for 71% to 74% in the private sector, prior to a drop in 2017. This might be because those not saving in the public sector are more likely to have already opted out once on initially starting their job (as public sector jobs already automatically enrolled employees) and are therefore more predisposed to opt-out again, whereas those in the private sector are less likely to have made a previous opting-out decision.

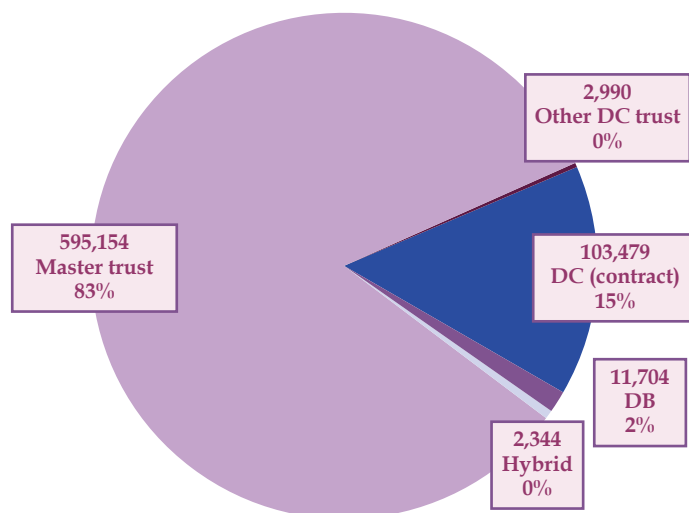
### Scheme type: More than 4 in 5 employers have automatically enrolled their employees into master trust schemes

Employers have a choice into which scheme they enrol their employees. The provision of Defined Benefit (DB) schemes has dwindled in the private sector, and private sector employers are more likely to automatically enrol employees into Defined Contribution (DC) schemes. The use of DC schemes, specifically master trusts, has risen dramatically with automatic enrolment (Chart 2.4).

Chart 2.4<sup>20</sup>

### 98% of employers have automatically enrolled their employees into DC schemes

Automatic enrolment to March 2018 by scheme type



98% of employers have chosen to automatically enrol their employees in DC schemes, up from 97% in 2017. 83% of employers have automatically enrolled their employees in master trust schemes.

### Employers and automatic enrolment

Automatic enrolment has now fully staged and all existing employers should have been through the automatic enrolment process. The number of employers automatically enrolling

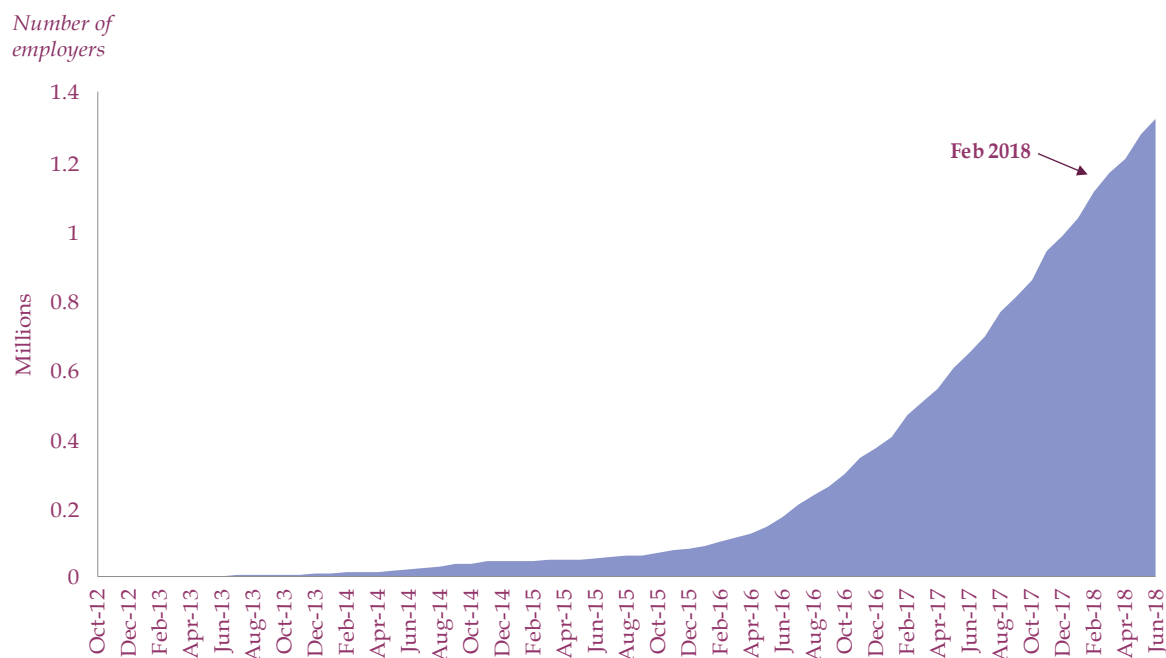
grew exponentially as smaller employers began to stage in 2014. By the end of automatic enrolment staging, February 2018, 1.1 million employers had been through the process. By June 2018, this had risen to 1.3 million (Chart 2.5).<sup>21</sup>

18. DWP (2018b) Table 1.13  
 19. Annual Survey of Hours and Earnings  
 20. TPR (2018a)  
 21. TPR (2018b)

Chart 2.5<sup>22</sup>

## 1.1 million employers automatically enrolled by the end of the staging process and 1.3 million by June 2018

Employers who completed automatic enrolment declarations of compliance by June 2018 (cumulative)



The number of employers going through the automatic enrolment process has increased and therefore you would expect the number of compliance and penalty notices to increase. The number of penalty notices issued by The

Pensions Regulator has increased, from 1,493 in 2014, 3% of employers staged, to 157,386 by the end of March 2018, 13% of employers staged, though some employers will have received more than one of these notices (Table 2.1).

Table 2.1: cumulative number of compliance, contribution and penalty notices issued by The Pensions Regulator (TPR) by time period<sup>23</sup>

	Total notices	Employers staged	Proportion of notices to employers
By end 2014	1,493	43,538	3%
By end 2015	6,667	78,789	8%
By end 2016	44,095	370,432	12%
By March 2017	58,817	503,178	12%
By March 2018	157,386	1,166,156	13%

### 13% of micro employers are unaware of their ongoing automatic enrolment duties

The increase in notices suggests that smaller employers have found compliance more difficult than large employers. This is unsurprising as small employers are less

likely to have pre-existing in-house pension administration systems and are less likely to be aware of their ongoing duties in relation to automatic enrolment.

In 2017, 87% of micro employers, 88% of small and 92% of medium employers were aware of their ongoing duties.<sup>24</sup>

22. TPR (2018b)

23. TPR – compliance and enforcement quarterly bulletins for the relevant periods

24. OMB, TPR (2017), OMB, TPR (2018)

### DC saving levels

Between 2006 and 2018, the median DC pot size increased to £15,000 before decreasing to £9,300 as a result of people being automatically

enrolled and accruing initially small pension pots. Over time, median pot sizes will increase as contributions and investment returns have a chance to embed and grow (Chart 2.6).

Chart 2.6<sup>25</sup>

### Median DC pension savings have decreased as a result of automatic enrolment

Median DC savings between 2006 and 2018 in Great Britain for people aged 16 and over (includes both deferred and active savers)



25. PPI analysis of Wealth and Assets Survey data, 2017 and 2018 data projected using PPI models

## DC asset allocation

The next section explores how assets are allocated within pension schemes.

### Box 2.1: investment strategies

Many asset mixes are labelled as “funds” but consist of several different asset classes which might vary over time. Therefore, it is more accurate to describe asset mixes as “strategies” rather than “funds”, for example high-risk, low-risk or lifestyle strategies (risk level refers to investment risk).

Asset mixes might be labelled as “high-risk”, “low-risk”, “lifestyle” or “retirement-date” strategies, though the structure of each will vary depending on the scheme that is offering it. Most schemes will offer a variety of strategies alongside the default strategy. Descriptions of the main types are given below.

**Default strategies:** The default strategy is the asset mix that members will automatically have their contributions invested in, unless they make an active choice to invest in a different strategy. Charge cap regulations define default strategies more specifically.

**Lifestyling, target-date or retirement-date strategies:** These asset mixes usually involve life-cycle investment strategies which make greater use of more volatile, equity-based investments in order to maximise returns when members are further from retirement age, and increasing use of less volatile assets, for example, cash and fixed-income, as members reach a pre-determined retirement date (or period), on the assumption that they will use their DC savings to purchase an annuity. Some of these strategies use lower risk investments in earlier stages of accumulation in order to accommodate members’ lower risk appetites. Many DC scheme default glidepaths are moving away from the gradual shift into cash and fixed income as members approach retirement, to a glidepath that assumes a move into drawdown. This typically comprises a move into a well diversified multi asset investment strategy, often with a cash component to fund the assumed tax free cash at retirement.

**High-risk, medium-risk and low-risk strategies:** These asset mixes may be used as part of other investment strategies or might be stand-alone. High-risk (investment risk) strategies involve greater use of equities, and other economically sensitive assets, which are more volatile but offer greater opportunity for long-term investment returns. Low-risk strategies are mainly bond and/or cash based. Medium-risk strategies offer a balance between the two.

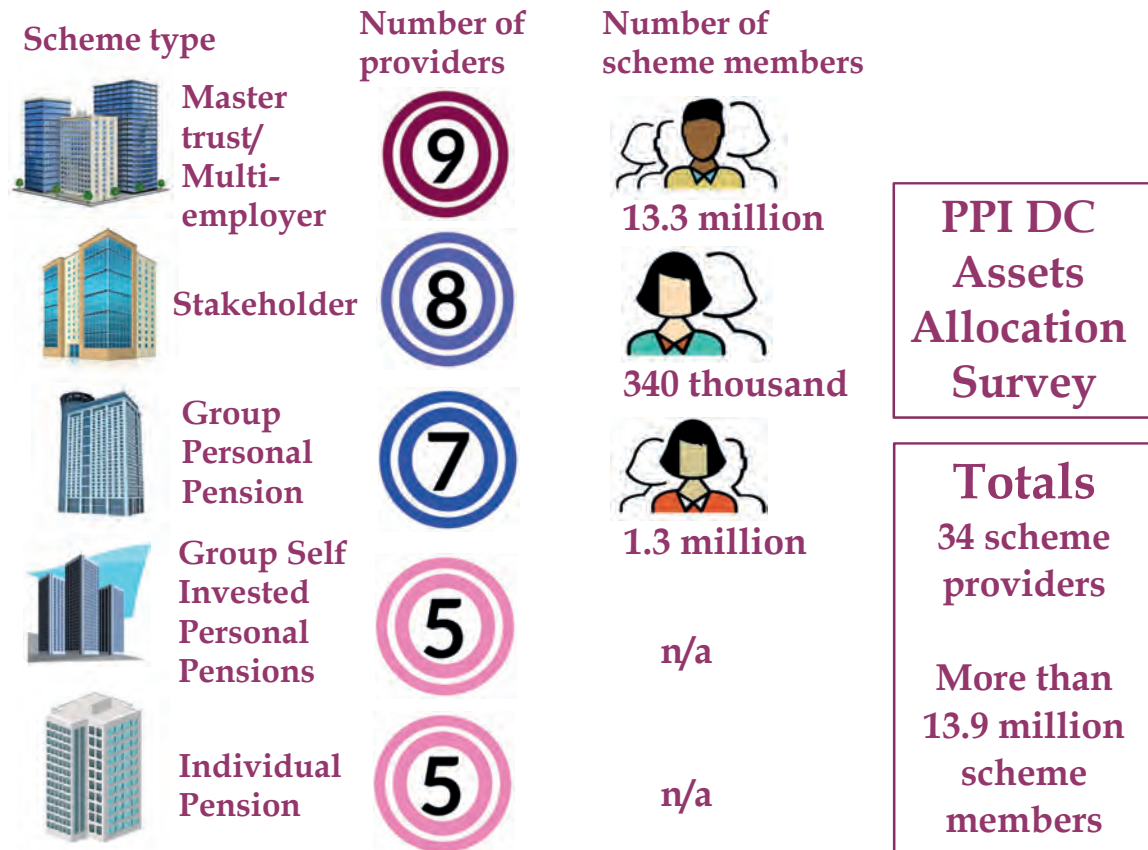
**Diversified (multi-asset) strategies:** These asset mixes are designed to minimise the risk of significant losses during market downturns by investing capital in a variety of asset classes (e.g., bonds, equities, real estate, commodities, infrastructure etc.). Diversified strategies do not generally accrue returns that are as substantial as more heavily equity-based strategies. However, diversified strategies are also intended to be less likely to incur severe losses than strategies heavily invested in equities.

### Default strategy: membership and value

The following data is based on the results of the PPI DC Assets Allocation Survey 2018. The participating schemes collectively contain more

than 13.9 million DC members, representing a large proportion of the membership of DC workplace pension schemes, though some of these people will be members of several different schemes (Chart 2.7).

Chart 2.7<sup>26</sup>



26. PPI DC Assets Allocation Survey 2018

### Members of master trust/multi-employer schemes are more likely to be invested in the default strategy

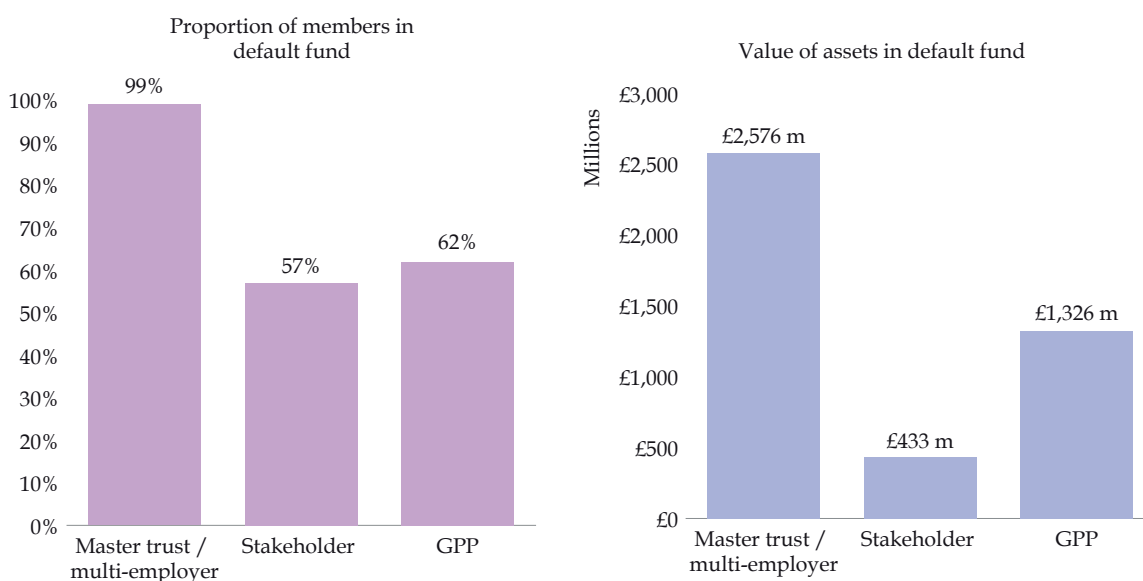
In 2018 master trust/multi-employer schemes had the highest proportion of total members invested in the default strategy at 99% on average. As the majority of members are in the default strategy, the investment strategy

and charges in these will be very important to member outcomes. Large master trusts default strategies had the highest average value of aggregate assets at £2.6bn on average. This is likely to be because the majority of DC savers are in master trust/multi-employer schemes (Chart 2.8). However, this survey covers only a few, relatively large, master trusts. Those with fewer members will have far lower asset values.

Chart 2.8<sup>27</sup>

### Master trusts have the highest proportion of members in the default strategies and the highest average asset value

Average proportion of members and average value of assets in default strategy by scheme type, 2018



27. PPI DC Assets Allocation Survey 2018

### Investment strategies

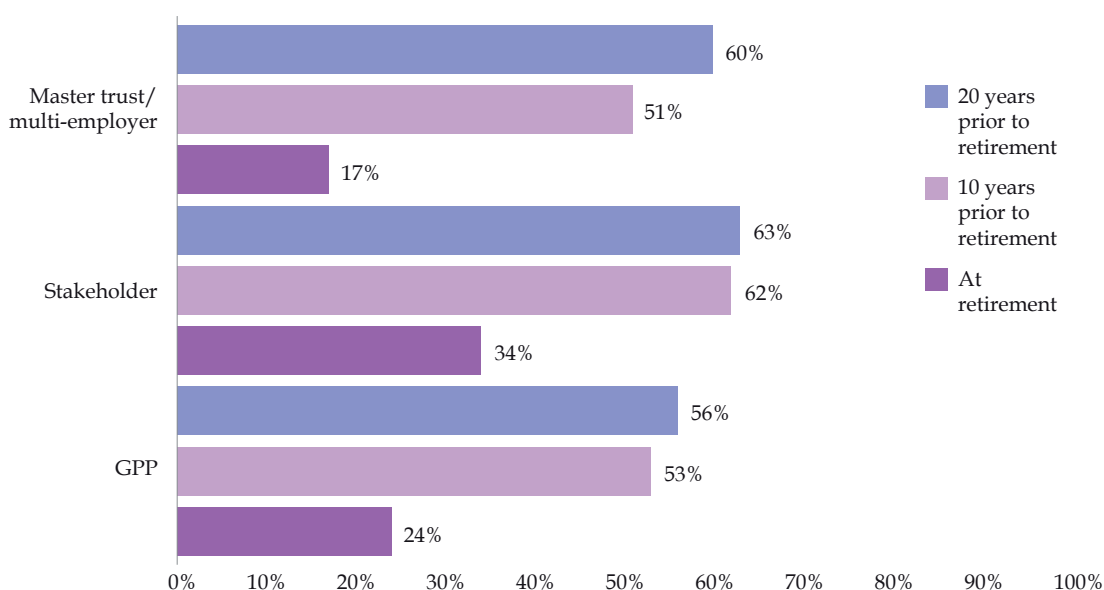
There were a range of default investment strategies used by the different providers, most based around de-risking. The proportion of funds invested in equities 20 and 10 years prior

to retirement has reduced from 2017 when Master trust/multi-employer, stakeholder and GPP schemes had 67%, 79%, and 76% of funds invested in equities on average, 20 years prior to retirement (Chart 2.9).

Chart 2.9<sup>28</sup>

### Schemes are reducing use of equities in the run up to retirement

Average proportion of default strategy assets invested in equities in the run up to retirement by scheme type, 2018



A higher proportion of funds are being invested in assets other than equities than previously. 20 years prior to retirement, fixed income and real estate are the most used assets by all schemes, though schemes also move more assets into cash at retirement.

Master trust schemes have increased the use of cash assets at retirement from last year, 27% to 41%, while Stakeholders and GPPs have

dropped use of cash at retirement from 28% and 30% in 2017 to 16% and 14% in 2018. Some results will have changed as a result of using a bigger data pool in 2018 (Table 2.2).

While these investment strategies assume a pre-set retirement date, the actual age at which people retire and access DC savings is unpredictable and will depend on individual circumstances.

28. PPI DC Assets Allocation Survey 2018



Table 2.2: average proportion of default strategy assets by scheme and asset class 20 years prior to retirement, 10 years prior to retirement and at retirement (rtm) (some rows do not sum to 100% due to rounding).

Scheme type	Equities			Fixed income			Cash			Real estate		
	20 yrs	10 yrs	at rtm	20 yrs	10 yrs	at rtm	20 yrs	10 yrs	at rtm	20 yrs	10 yrs	at rtm
Master trust/ multi-employer	60%	51%	17%	27%	35%	38%	2%	3%	41%	9%	9%	4%
Stakeholder	63%	62%	34%	30%	31%	49%	2%	2%	16%	3%	3%	0%
GPP	56%	53%	24%	27%	30%	51%	3%	5%	14%	9%	9%	6%

Scheme type	Infrastructure			Commodities			Private Equity			Other		
	20 yrs	10 yrs	at rtm	20 yrs	10 yrs	at rtm	20 yrs	10 yrs	at rtm	20 yrs	10 yrs	at rtm
Master trust/ multi-employer	3%	3%	2%	1%	1%	1%	1%	1%	1%	5%	5%	1%
Stakeholder	2%	2%	0%	1%	1%	0%	1%	1%	0%	1%	1%	1%
GPP	3%	3%	3%	3%	3%	3%	2%	2%	2%	3%	3%	2%

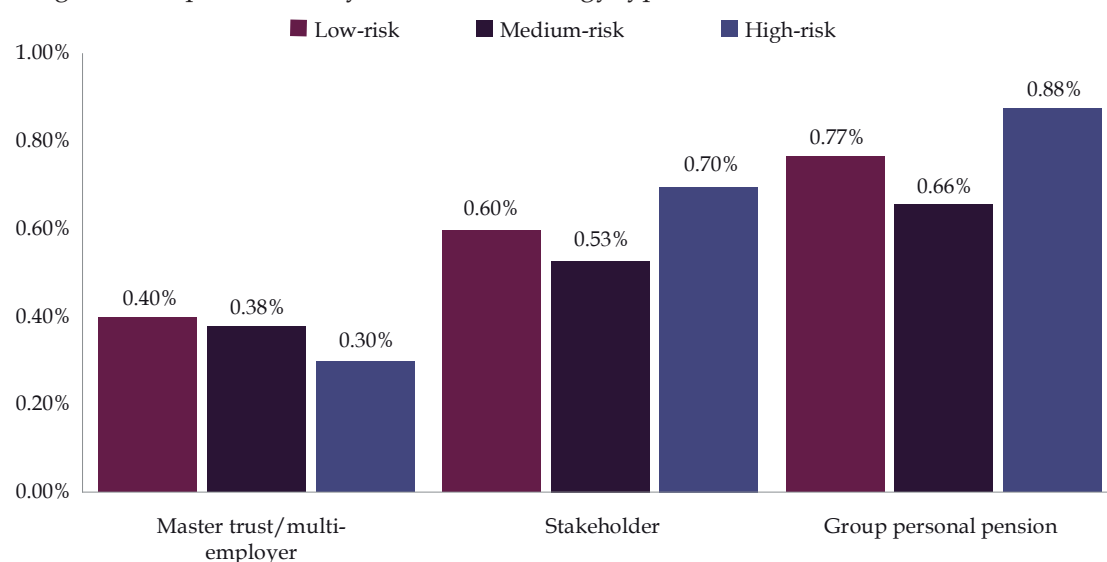
In the 2018 survey, Total Expense Ratios (TERs) in non-default strategies were lower in master-trust/multi-employer schemes due to master-trust/multi-employer schemes being designed with a low cost principle. GPP

schemes charged more than Stakeholder and master trust schemes. All strategy charges were under the charge cap except for high-risk strategies in GPP schemes which were charged at 0.88% on average (Chart 2.10).

Chart 2.10<sup>29</sup>

### Master trust/multi-employer strategies generally have lower charges

Average Total Expense Ratio by scheme and strategy type, 2018



29. PPI DC Assets Allocation Survey 2018

## Contributions

The required level of contributions that employers and workers (who do not opt-out) must jointly make into a pension scheme under automatic enrolment legislation is currently 5% of band earnings (£6,032 - £46,350 in 2018/19).<sup>30</sup> Minimum contributions will reach 8% of band earnings by April 2019.

### What is a sufficient level of contribution?

8% of band earnings may not be a sufficient contribution level to allow people to achieve an adequate standard of living in retirement from State and private pensions alone. A median earner contributing 8% of band earnings into a pension scheme every year from age 22 until State Pension age (SPa) would only have a 50% chance of achieving the same standard of living in retirement that they experienced in working life (from private and State Pension income).<sup>31</sup> In many cases, people will not contribute steadily for their entire working life and would require a higher percentage of contribution to achieve a 50% likelihood of replicating working life living standards.<sup>32</sup>

A median earner might need to contribute between 11% and 14% of band earnings to have a two thirds chance of replicating working life living standards if contributing between age 22 and SPa. For people who begin contributing later or who take career breaks, contribution levels could be as high as 27% for people to have a two thirds chance of replicating working life living standards.

Median employee contribution rates have fallen as a result of more employees joining pension schemes for the first time and paying minimum contributions alongside their employers (Chart 2.11). However, this does not mean that pre-automatic enrolment savers are paying less. As minimum contributions increase, median levels should rise to above 8%. Between 2012 and 2016 mean contribution rates rose by 1.05% (0.45% from employees and 0.6% from employers) as a result of more people saving in pension schemes.<sup>33</sup> The automatic enrolment review in 2017 recommended lowering the lower earnings band for contributions to £0, so people would pay contributions on their first pound of earnings up to the higher rate of the earnings band. The DWP's ambition is to implement this policy in the mid-2020s. If enacted, this change would increase the level of contributions made by those whose employers are contributing at the minimum required level.<sup>34</sup>

30. DWP (2015a)

31. Assuming State Pension is uprated in line with triple lock and that people purchase an annuity with their private pension savings

32. PPI (2013), assumes median earnings at every stage of working, based on Pension Commission replacement rates.

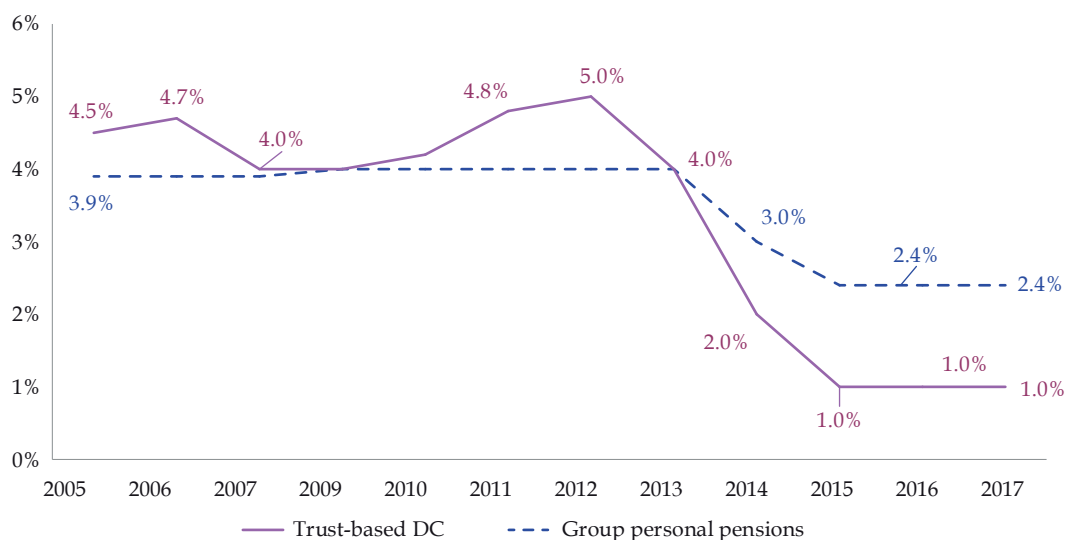
33. IFS (2016)

34. DWP (2017)

Chart 2.11<sup>35</sup>

### Median employee contribution rates in DC schemes are decreasing

Median active member contribution rates to DC pensions by year (DC trust includes master trusts)



Employee contributions have levelled out and should begin to rise now that minimum contributions have increased. By the time minimum contributions reach 8% of band earnings in 2019, median contributions are likely to be above 8%, owing to those who pay more than the minimum.

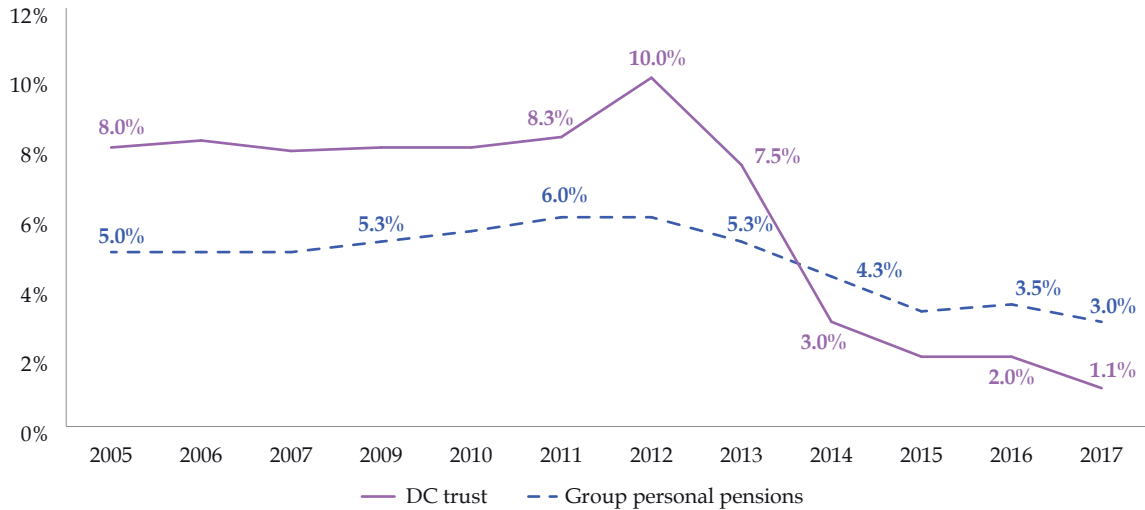
Median employer contribution rates have also decreased since 2012. These should also rise as minimum required contributions rise (Chart 2.12).

35. ONS data analysis by the Resolution Foundation. This work contains statistical data from ONS which is Crown Copyright. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. This work uses research datasets which may not exactly reproduce National Statistics aggregates.

Chart 2.12<sup>36</sup>

### Median employer contribution rates in DC schemes are decreasing

Median employer contributions for active members to DC pensions by year (DC trust includes master trusts)



Median employer contribution rates have decreased from 10% (DC trust) and 6% (GPPs) in 2012 to 1.1% and 3% in 2017. DC trust schemes have seen the biggest drop as master trusts are more likely to be used by employers enrolling employees for the first time and paying minimum contribution levels.

are being automatically enrolled or by changing contribution or scheme terms for new members.<sup>38</sup>

Between 2012 and 2016 the proportion of eligible employees who were in schemes that were being levelled down grew from 6% to 10%.<sup>39</sup>

### Levelling down

Automatic enrolment represents a cost to employers<sup>37</sup> because of the administrative burden of ensuring scheme compliance and employee eligibility and the cost of employer contributions. Employers respond in different ways to increased costs, for example by:

- Raising the price of their products,
- Reducing wage increases,
- Building the costs into their budget without reducing costs elsewhere,
- “Levelling down” their pension offering, either by reducing the percentage they contribute towards existing pension scheme members to match those who

### Accessing DC savings in retirement

#### Annuities

Prior to the introduction of the new pension flexibilities “Freedom and Choice” the majority of people used their DC savings to purchase an annuity. In 2012 over 90% of DC assets being accessed were used to purchase annuities. Overall sales of annuities peaked in 2009 at around 466,000. However, since then, they have been declining.<sup>40</sup>

When the pension flexibilities were introduced, annuity sales declined more rapidly, and have dropped to around 16,000 sales per quarter (Chart 2.13).

36. ONS data analysis by the Resolution Foundation. This work contains statistical data from ONS which is Crown Copyright. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. This work uses research datasets which may not exactly reproduce National Statistics aggregates.

37. Whether they already offered a pension scheme or not

38. DWP (2017)

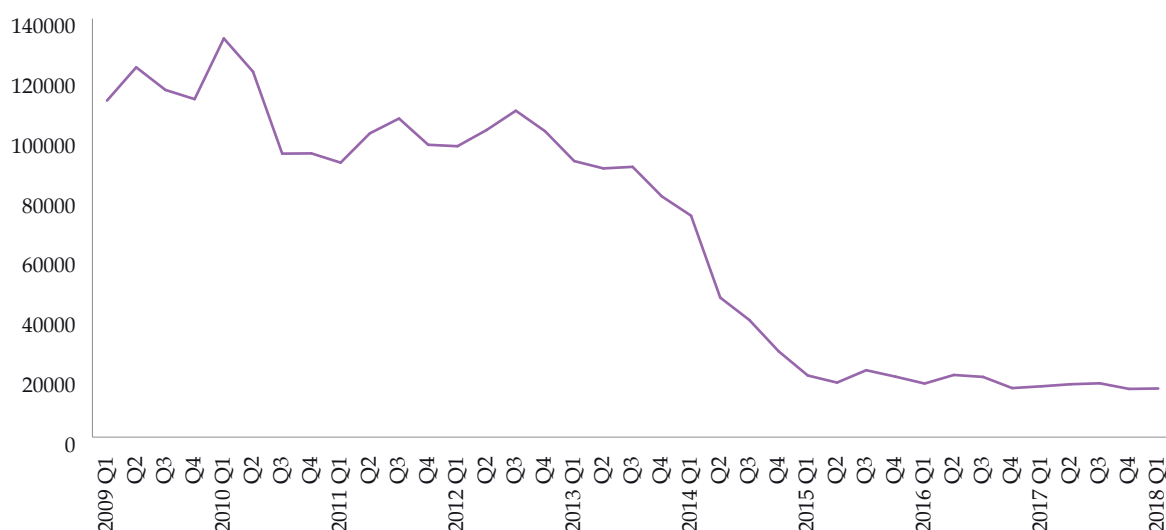
39. DWP (2017)

40. ABI (2015a)

Chart 2.13<sup>41</sup>

### Annuity sales have decreased since 2009 to around 16,000 per quarter

Number of annuities sold by ABI members by quarter



### Income drawdown

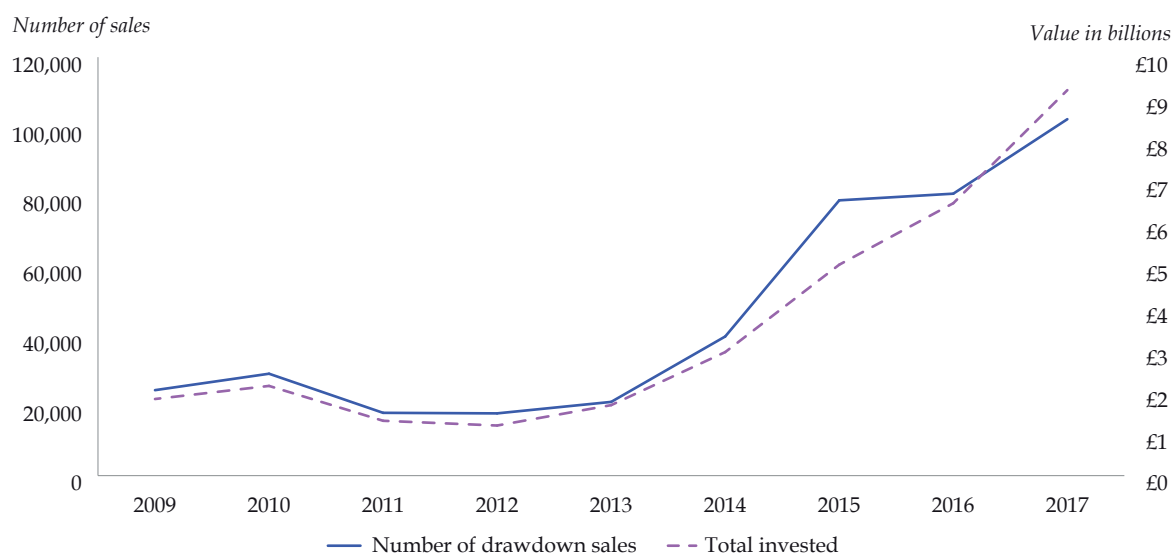
The use of income drawdown was fairly consistent between 2010 and 2014, with around 20,000 new contracts each year.

- In 2014, after the announcement of freedom and choice, the number of sales doubled to almost 40,000 new contracts.
- In 2015 the sales of drawdown products almost doubled again to around 79,000 products.
- In 2016, the number of products sold plateaued at around 80,000
- In 2017, the number increased again to around 100,000 (Chart 2.14).

Chart 2.14<sup>42</sup>

### Drawdown purchases have increased dramatically since the introduction of freedom and choice

Number of new sales of drawdown contracts by year among ABI members and value in drawdown sales



41. ABI statistics

42. ABI (2017); ABI (2016a); ABI (2016b); ABI (2015a); ABI (2015b)

## Lump sums

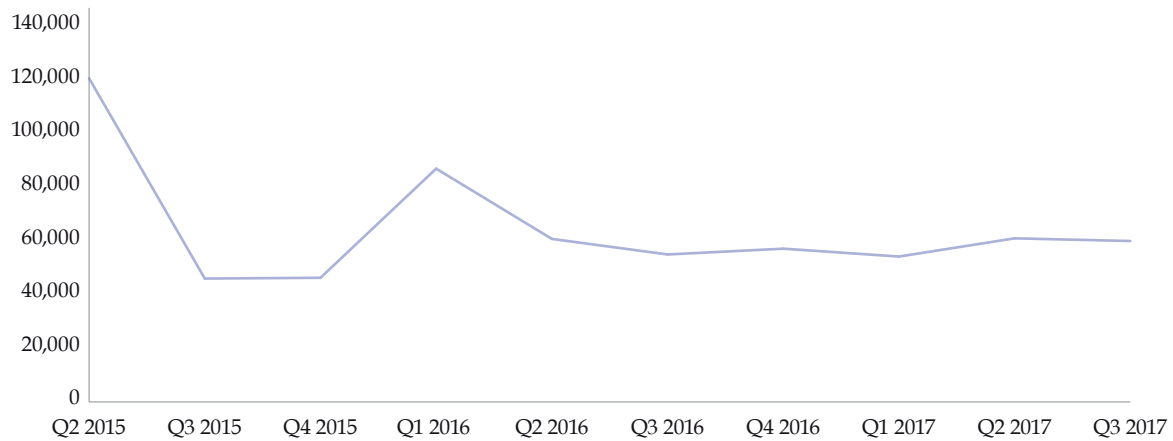
Since April 2015, all those **over age 55** can withdraw cash lump sums from their DC savings, taxed at their highest marginal rate of

income tax, with **25% tax-free**.<sup>43</sup> The number of full (total pot) lump sum withdrawals was initially high at **120,688** in Q2 2015 due to pent up demand, but then decreased to **60,000** in Q3 2017 (Chart 2.15).

Chart 2.15<sup>44</sup>

### There were around 60,000 full withdrawals in Q3 2017

Number of full cash lump sum withdrawals by quarter



There is still a reasonable amount of variability in the number of withdrawals taken each quarter and so it is not yet clear what the overall trend might be.

## DC savings access trends

More people are taking full cash lump sum withdrawals than buying annuities or drawdown products. In Q3 2017, around **60,000** people took full cash lump sum withdrawals, compared to **26,000** drawdown purchases and

**18,000** annuity purchases (Chart 2.16). Current access trends may change as more people start to reach retirement with lower levels of DB entitlement to fall back on.

The ratio of drawdown to annuity purchases may be more drastic than the data recorded below; the FCA reports that twice as many drawdown products are being sold than annuities.<sup>45</sup> The data on access to savings in this report uses information provided by ABI members and does not cover the full drawdown market.<sup>46</sup>

43. Prior to April 2015, only those with DC pots under £15,000, (£18,000 in 2015) could withdraw their entire fund as a lump sum without incurring a tax penalty.

44. ABI stats

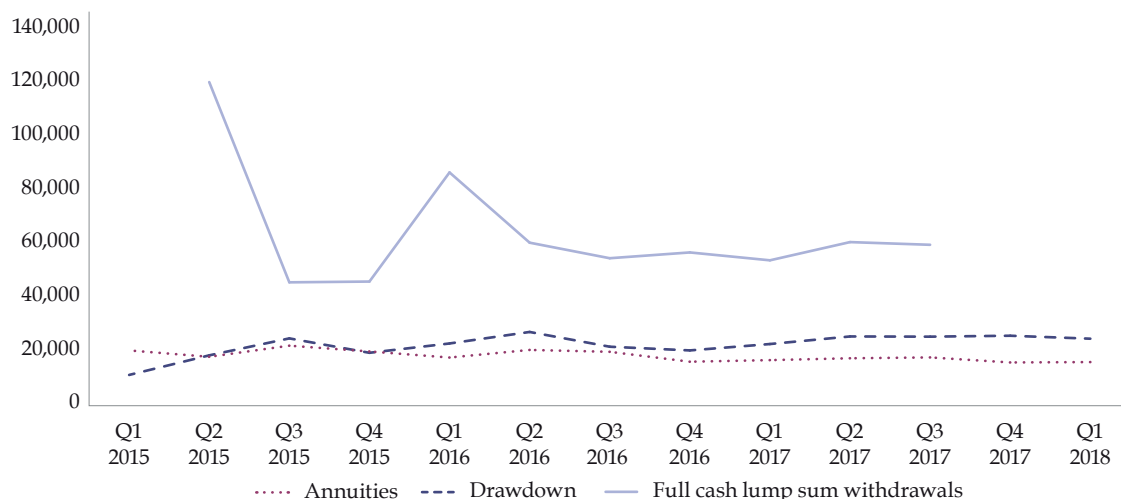
45. FCA (2018b)

46. A few large providers have recently left ABI membership, thereby reducing market coverage

Chart 2.16<sup>47</sup>

### More people are withdrawing money through cash lump sums than through drawdown or annuity products

Numbers of drawdown and annuity purchases and full cash lump sum withdrawals by quarter, ABI members



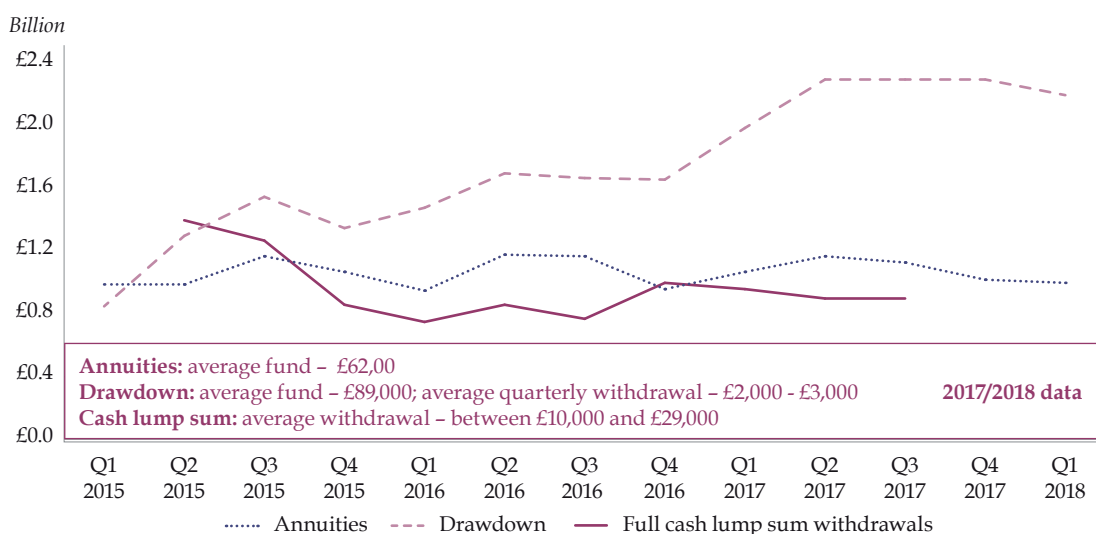
However, those taking out annuity or drawdown contracts tend to do so using larger funds than those taking lump sum withdrawals. In 2017/18, the average fund size used to enter drawdown was £89,000, the

average fund used to purchase an annuity was £62,000 and the majority of full lump sum withdrawals were between £10,000 and £29,000 (Chart 2.17).

Chart 2.17<sup>48</sup>

### People are spending more money on drawdown products than on annuities or lump sum withdrawals

Value of retirement income products and full cash lump sum withdrawals by quarter (billions), ABI members



Source: ABI stats

47. ABI statistics; ABI (2016a)

48. ABI statistics

## DB transfers

Increased flexibility, falls in interest rates, increased Cash Equivalent Transfer Values and bad press associated with some DB schemes<sup>49</sup> have incentivised some people to transfer their DB entitlement into a DC scheme, in order to be able to access their pension savings flexibly. While transferring may benefit some people, there are two main risks associated with transfers from DB to DC:

- **Individual risk:** if people transfer out of a DB scheme when it is not in their best financial interest to transfer.
- **Scheme risk:** substantial transfers from DB schemes could cause schemes to change or review their investment strategies. However, in some cases, transfers out could help scheme funding through reduction of liabilities.

## The proportion of DB members transferring is increasing

Over **6 million** people are eligible to transfer deferred benefits from a DB scheme and the average amount transferred is around **£250,000**.<sup>50</sup> Those transferring a DB entitlement worth **£30,000** or more are required to take regulated advice before doing so. The proportion transferring is continuing to rise:

- Between 2015 and 2016, the total number of requests to transfer from DB to DC<sup>51</sup> was **three times** higher, than prior to 2015, from

those newly approaching Independent Financial Advisers (IFAs) for the first time, and **two times** higher from existing IFA customers.<sup>52</sup>

- In 2017, the number of transfers was around **10 times** the average number of transfers between May 2013 and April 2014, and the value of transfers was **18 times** the value of those in 2013/14.<sup>53</sup>
- By January 2018, the number of transfers had risen to **13 times** those in 2013/14, and the value of assets, around **£20.8bn**,<sup>54</sup> transferred was **19 times** the amount in 2013/14.<sup>55</sup>

Of those who transferred:

- **89%** took drawdown or a combination of methods,
- **10%** bought an annuity,
- **1%** took cash.<sup>56</sup>

Those with pots over **£500,000** are more likely to take drawdown or combine approaches and those with pots under **£100,000** are more likely to stay in their DB scheme.<sup>57</sup>

49. [www.xpsgroup.com/media/1311/xps-pensions-group\\_member-outcomes-report\\_2019.pdf](http://www.xpsgroup.com/media/1311/xps-pensions-group_member-outcomes-report_2019.pdf)

50. FCA (2018a)

51. DB scheme members with a cash equivalent transfer value of £30,000 or more must obtain independent financial advice before transferring their DB entitlement to a DC scheme.

52. FCA (2016)

53. Willis Towers Watson (2017)

54. XPS Pensions Group (2018)

55. Willis Towers Watson (2018)

56. Willis Towers Watson (2018)

57. Willis Towers Watson (2018)



## Advice and Guidance

### Box 2.2: what is the difference between advice and guidance?

Advice and guidance are subject to different regulatory requirements. The following definitions are provided by the FCA.<sup>58</sup>

**Independent advice:** “An adviser or firm that provides independent advice is able to consider and recommend all types of retail investment products [...] Independent advisers will also consider products from all firms across the market, and have to give unbiased and unrestricted advice. An independent adviser may also be called an ‘Independent Financial Adviser’ or ‘IFA.’”

**Restricted advice:** “A restricted adviser or firm can only recommend certain products, product providers, or both. The adviser or firm has to clearly explain the nature of the restriction. [...] Restricted advisers and firms cannot describe the advice they offer as ‘independent.’”

**Guidance or information:** “If you are only given general information about one or more investment products, or have products or related terms explained to you, you may have received ‘guidance’ rather than ‘advice’. This is sometimes also called an ‘information only’ or ‘non-advice’ service. The main difference between guidance and advice is that you decide which product to buy without having one or more recommended to you.”

A greater cost is generally attached to the provision of independent (or restricted) advice, in return for the adviser or firm taking on some of the responsibility for the outcome of the advice offered. The use of guidance puts responsibility for the final decision making on the consumer, who also bears the risks of making a bad decision. Some financial transactions (such as purchasing drawdown products or transferring DB entitlement into a DC scheme) may require the use of independent financial advice.

The use of advice and guidance is currently undergoing transitions for a variety of reasons:

- The market has changed over the last few years as a result of the Retail Distribution Review, which in 2013 created greater delineation between Independent and Restricted Advice, as well as clarifying and restructuring charging so that more consumers bear total costs upfront. This policy may restrict access to consumers who find the new charging structure difficult to manage.
- The introduction of the pension flexibilities in April 2015 means that some people who previously would have bought an annuity will choose to access pension savings through other means. Some of these people may use advisers at and during retirement to help manage more flexible access methods.
- DC pension scheme members are now eligible for £500 of tax-free employer arranged advice (if their employer chooses to provide this) and may take £500 from their pension pots up to three times, to use for advice.<sup>59</sup>
- Some organisations offer web-based “robo-advice”, which is aimed at people who would benefit from advice but may not have access because they cannot afford (or believe they cannot afford) regulated financial advice. Robo-advice uses algorithms to help answer money-based questions and should allow companies to offer advice more quickly and cheaply.
- The introduction of the new pension flexibilities was accompanied by a new, national, guidance service known as “Pension Wise”. Pension Wise offers free, tailored and independent guidance (online, by telephone or face-to-face; limited to a one-off 45 minute session at present), to those aged 50 or above with DC savings (Box 8). Pension Wise will soon be joining with two other guidance providers, The Pensions Advisory Service and the Money Advice Service, to form a single guidance body which will provide guidance on pensions and other financial issues.

58. [www.fca.org.uk/consumers/financial-services-products/investments/financial-advice/independent-and-restricted-advisers](http://www.fca.org.uk/consumers/financial-services-products/investments/financial-advice/independent-and-restricted-advisers), accessed 07.08.2015

59. HMT, FCA (2016)

Box 2.3: figures for Pension Wise<sup>60</sup>

- Around 20% of those accessing DC savings have had a Pension Wise appointment.
- 46% of those accessing DC savings have received guidance from Pension Wise (through appointments, web chat or using Pension Wise literature).
- 7 million people have visited the Pension Wise website since its launch.

**Fewer people are using regulated advice when purchasing retirement income products, though the use of advice when purchasing drawdown has increased during the last year**

The use of regulated advice for those purchasing drawdown has decreased since 2014, but increased by 4% in 2017:

- In 2017, 55% of those purchasing drawdown products from ABI members used independent advice, a drop from 81% in 2014 but a rise from 51% in 2016.
- The proportion of drawdown purchases made from ABI members without any advice

has also decreased since 2016 from 32% to 26%, but is still almost three times higher than in 2014 when it was 9%.<sup>61</sup>

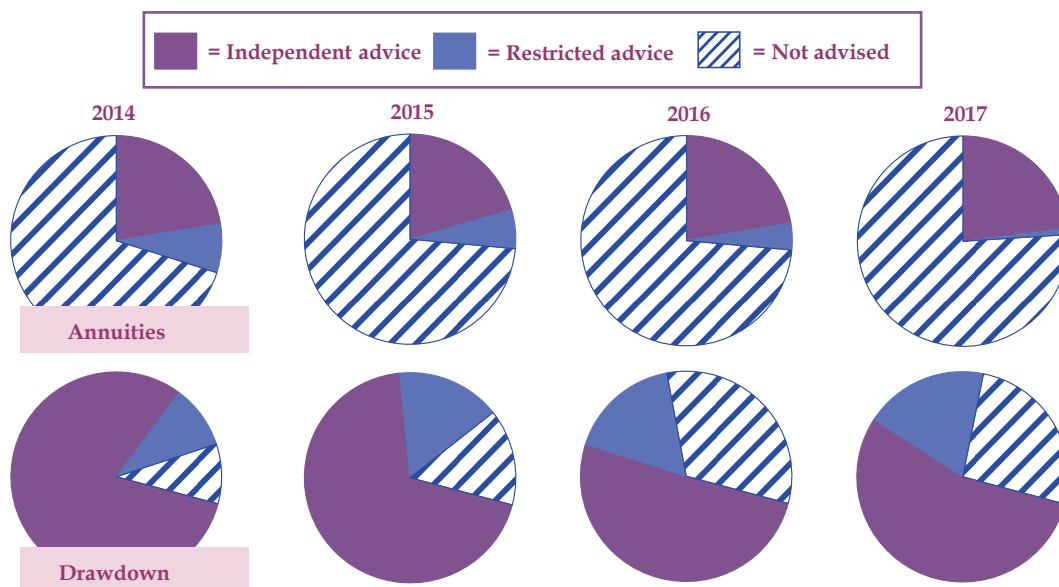
The use of independent advice for annuity purchases remained fairly constant over the past three years at between 20% and 23%, though:

- The use of restricted advice during annuity purchases has dropped from 7% to 1% since 2014, and
- The proportion of people buying annuities unadvised has grown from 70% to 76% (Chart 2.18 & Table 2.3).

Chart 2.18<sup>62</sup>

**In 2017, the proportion of people using independent advice when purchasing drawdown increased by 4%**

New annuity and drawdown contracts sold, 2014-2017, ABI members



60. www.gov.uk/performance/pension-wise; FCA (2018b)

61. The FCA is currently looking into whether more needs to be done to support people in the non-advised drawdown market, FCA (2018b); These numbers conflict with those in the FCA Retirement Outcomes Review June 2018 p14, which says that 31% of drawdown purchases were unadvised and 66% of annuity purchases were unadvised.

62. ABI Statistics - New business full product breakdown by quarters - numbers may not total due to rounding

Table 2.3: New annuity and drawdown contracts sold, 2014-2017, ABI members<sup>63</sup>

	Independent advice	Restricted advice	No advice
<b>2014 Annuities</b>	22%	7%	70%
<b>2015 Annuities</b>	20%	6%	74%
<b>2016 Annuities</b>	22%	4%	74%
<b>2017 Annuities</b>	23%	1%	76%
<b>2014 Drawdown</b>	81%	10%	9%
<b>2015 Drawdown</b>	69%	16%	15%
<b>2016 Drawdown</b>	51%	17%	32%
<b>2017 Drawdown</b>	55%	19%	26%

Purchasing retirement-income products without the use of advice or guidance increases the risk that individuals will not make optimal decisions for meeting their income needs in retirement.

Currently, around a third of those who have used non-advised drawdown are invested in wholly cash strategies rather than strategies with a higher chance for returns. The FCA estimates that around half of these people are likely to lose out as a result of their investment choice. A pot used for an income stream over a 20 year period could pay out an increase in annual income of 37% if it was invested in a mix of assets rather than solely in cash.<sup>64</sup>

The FCA is consulting on a suite of remedies to ensure that people receive more support when they come to access their pension savings:

- Preventing drawdown customers being defaulted into cash investments by requiring an “opt in” for these strategies,
- Requiring providers to offer ready-made investment pathways for drawdown customers,
- Increasing the transparency of drawdown charges,
- Requiring pre-retirement “wake up packs” to be sent at age 50 and in subsequent five year intervals and to include a headline, one-page “pensions passport” document which contains key information as well as prominent risk warnings,
- In addition to the rules requiring annuity providers to provide a comparison of market rates to consumers, they will also need to be able to provide a breakdown of annuities which are tailored to deliver specific incomes and to ask customers health and lifestyle questions in order to determine whether they are eligible for an enhanced annuity, which must then be included in the comparisons,
- Allowing people to access their 25% tax-free lump sum without entering drawdown,
- Holding an event to ‘challenge tech providers and industry to come up with innovative solutions to some of the emerging issues raised in the FCA’s interim report, such as a lack of engagement and shopping around,’
- Requiring providers to provide new drawdown customers with a headline document describing a Key Features Illustration showing potential investment growth and charges in pounds and pence in real terms,
- Requiring providers to disclose actual charges in pounds and pence to consumers on an annual basis,
- Introducing a drawdown comparator tool.<sup>65</sup>

63. ABI Statistics – New business full product breakdown by quarters – numbers may not total due to rounding

64. FCA (2018b)

65. FCA (2018b)

# Chapter three: how might the DC landscape evolve in the future?

This chapter uses PPI modelling to explore how the Defined Contribution (DC) landscape might evolve in the future both for individuals and on an aggregate level.

## The evolution of the DC market depends on many factors

Previous chapters have set out the current state of the DC market and outlined the factors which are likely to lead to changes in the future,

including: automatic enrolment, the private sector move from DB to DC schemes, the use of new pension flexibilities and changes to the way that advice and guidance are used and delivered.

The way that the DC market evolves in the future will also depend on how individuals respond to policies such as automatic enrolment and the new pension flexibilities, as well as external factors such as employer behaviour and the performance of the overall economy.

### Box 3.1: modelling

This report uses the PPI suite of models and data from the ONS' Wealth and Assets survey (Wave 5) to explore how DC assets may change and grow in the future under the assumption that current trends continue. The chapter also sets out the potential range of the distribution of DC assets, under a range of possible future economic scenarios (based on historical data).

The future value of DC assets depends on many variables:

- Employee behaviour - participation and contribution levels.
- Employer behaviour - contribution levels, scheme choice, remuneration decisions.
- Industry behaviour - charges, investment strategies, default offerings, new scheme development (e.g. Collective Defined Contribution schemes).
- Economic, demographic and financial market effects - market performance, inflation, age and size of the working population.
- Policy changes - policy changes which affect pension saving such as taxation, changes to minimum pension age, introduction of new scheme-types, or a policy of auto-escalation of contributions under automatic enrolment.

The model outputs should be viewed as an illustration of a range of potential scenarios arising from current trends, and not a prediction of the future.

The following analysis explores how a continuation of current trends in DC saving could affect the membership numbers and the aggregate value of DC scheme assets in the future.

### How might scheme membership develop in the future?

Under automatic enrolment, employers can choose to use their existing workplace

pension provision as long as it qualifies under regulations. Those without existing provision, or who wish to change their offering for new or existing members, have the choice to set up and run a DB, DC or Hybrid/risk-sharing scheme themselves or to offer membership in a DC scheme run by a third-party. Some employers offer a combination of these.

#### Box 3.2: assumptions

The following analysis is based on the assumptions that:

- All eligible workers are automatically enrolled and 15% opt-out or cease contributing after the opt out period has expired.
- Of newly enrolled workers:
  - 63% are enrolled into a master trust scheme.
  - 37% are enrolled into another, non-master trust, automatic enrolment DC scheme (in reality some of these schemes will be existing pension provision).<sup>66</sup>
- Of employees already saving in existing DC schemes:
  - 80% remain saving in their current scheme.
  - 20% are moved into another automatic enrolment DC scheme or a master trust.
  - DB schemes close at a constant rate, resulting in 80% of private sector DB scheme members' schemes closing to new members and new accruals between 2010 and 2030.
  - The proportion of workers who would have joined the closed DB schemes join private sector DC workplace schemes.
  - Where a member changes jobs and enters a workplace with an existing DC scheme, 80% are assumed to join the new automatic enrolment scheme and 20% are assumed to join the existing DC scheme.

The displacement of members, leaving one type of scheme and entering another (as a result of movements in and out of the labour market or between jobs) results in roughly the same proportions of the workforce in different types of schemes. New members of DC schemes, who may be leaving DB schemes or be newly automatically enrolled, are split between automatic enrolment and existing workplace DC schemes in the proportions outlined above.

### By 2038 there could be around 7.8 million people actively saving in master trust schemes

In 2018, there are around 13.1 million active members in DC workplace pension schemes.<sup>67</sup> Around 6.2 million of these are in master trusts, around 3.3 million are in DC schemes which existed prior to automatic enrolment, and around 3.6 million are in new automatic enrolment DC schemes (not master trusts).

Assuming current trends in scheme allocation continue, by 2038 there could be around 14.1 million active members in DC workplace pension schemes, with:

- Around 7.8 million in master trust schemes,
- Around 1.7 million in pre-existing DC schemes, and
- Around 4.6 million active members in other automatic enrolment DC schemes (Chart 3.1).

66. Based on information about scheme allocation from The Pensions Regulator – does not account for opt-ins or ineligible workers who are automatically enrolled.

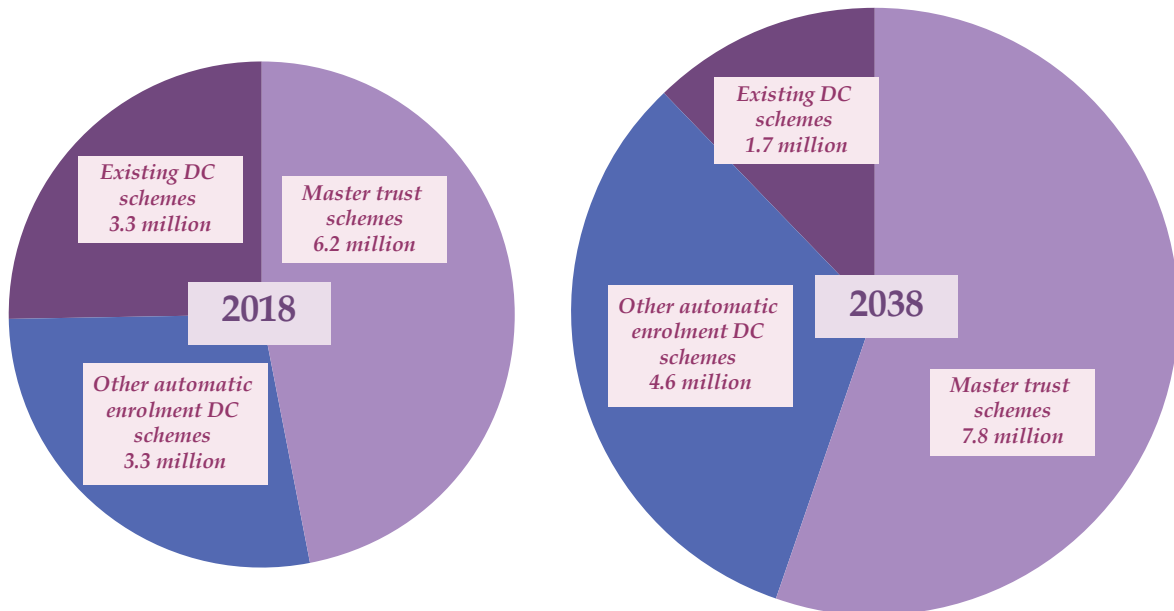
67. PPI Aggregate Model

The number of active members in private sector DB schemes could shrink from 1.4 million in 2017 to 0.5 million by 2038.<sup>68</sup>

Chart 3.1<sup>69</sup>

**In 20 years there could be around 7.8 million active members in master trust schemes**

Active workplace DC by scheme members in 2018 and 2038



**How might DC assets evolve for individuals?**

The 2018 median DC pot value for those aged 16 and over in Great Britain is around £9,300.<sup>70</sup> Automatic enrolment and the shift from DB to DC has resulted in more people saving in

DC pension schemes and accruing initially small pots during the first few years of saving, bringing the median down from £12,000 in 2006/08. Over time, as pots have a chance to benefit from longer periods of investment and contributions, median pot sizes will grow.

68. PPI Aggregate Model

69. PPI Aggregate Model

70. PPI Aggregate Model

### Box 3.3: assumptions

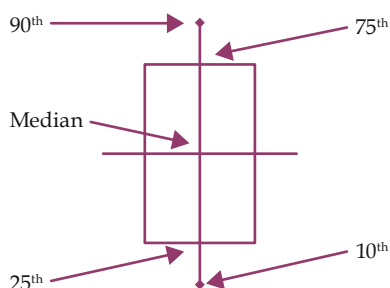
The following analysis is based on the assumptions that:

- Those currently saving in a workplace DC pension (trust or contract based) continue saving at their current level and continue contributing, with their employer, in the same proportions.
- Those who are not currently saving, but are eligible, are automatically enrolled and do not opt-out.
- Automatic enrolment minimum contributions rise in line with the phasing of contributions as set out in automatic enrolment legislation.
- Before charges, investments yield a nominal average 6% investment return (annually).<sup>71</sup>
- Earnings increase by 4.2% per year in the long term (on average).<sup>72</sup>
- Annual Management Charges (AMCs) range between 0.5% and 0.75% depending on scheme type.<sup>73</sup>

Economic assumptions are based on long-term OBR projections.

### Box 3.4: box plots

Box plots allow graphic representation of a distribution of outcomes. The rectangle represents the 25th to 75th percentiles of the distribution while the ends of the vertical line represent the 10th and 90th percentiles. The horizontal line through the middle of the box represents the median.



71. A blend of Office for Budget Responsibility (OBR) returns based on an asset mix to represent typical pension portfolios. The long-term economic assumptions are based on the OBR Fiscal Sustainability Report (January 2017)

72. Based on OBR projections from Fiscal Sustainability Report

73. See the appendix for further detail on assumptions

### Median DC pension pots could grow from around £27,000 to around £59,000 over 20 years

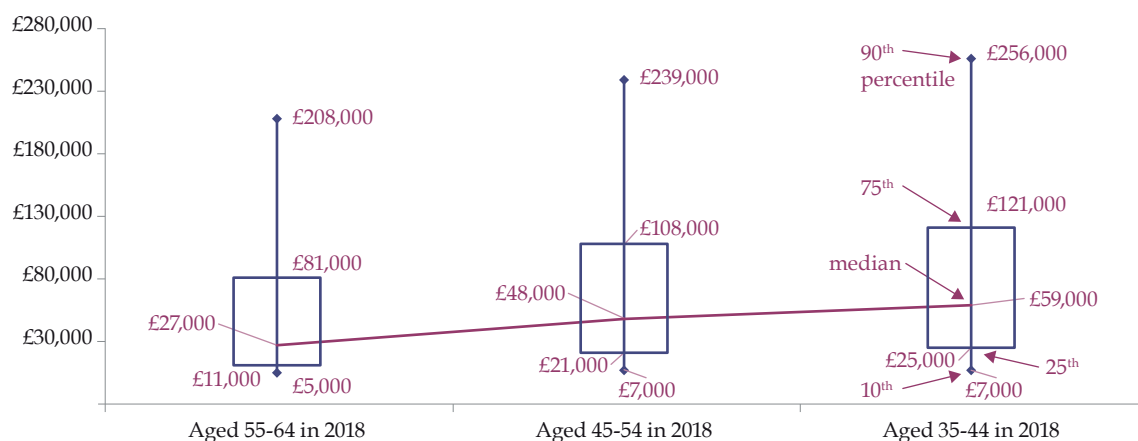
Assuming that those currently contributing to a pension fund with their employer continue to do so, the median DC pension pot size at State

Pension age (SPa) could grow over the next 20 years from around £27,000, (for those aged 55 to 64 in 2018) to around £59,000 (for those aged 35 to 44 in 2018) all in 2018 earnings terms (Chart 3.2).

Chart 3.2<sup>74</sup>

### Median DC pension pots at State Pension age could grow from around £27,000 today to around £59,000 over 20 years

Distribution of pension pot sizes at State Pension age for different cohorts (2018 earnings terms)



A pot of £59,000 could yield an annual income of around £3,100 from an annuity.<sup>75</sup> On top of a full individual new State Pension income of around £8,600 per year, this could yield an annual retirement income of around £11,700. This level of income might not be sufficient to replicate the same standard of living in retirement that people had during working life unless they had a very low income.

The low average levels of DC pension savings that people will accrue over the next few decades means that many will be mainly dependent in retirement on income from State Pension, state benefits and any other DB pension or non-pension savings they have.

### How might the aggregate value of private sector DC assets grow in the future?

The following section explores how the aggregate value of DC assets might grow based on certain assumptions about employee and employer behaviour and under a range of potential future economic performance scenarios.

74. PPI Aggregate Model

75. 65 year old man, level single-life annuity, Money Advice Service comparison toll



### Box 3.5: assumptions

The following analysis is based on the assumptions that:

- All eligible employees are automatically enrolled and existing savers remain saving.
- 15% of automatically enrolled savers opt out or cease contributing,
- Employee/employer contributions vary by scheme type:
  - Those in master trust and other automatic enrolment DC schemes make contributions with their employers on band earnings
  - Existing savers continue contributing at the same rates, on total earnings (if applicable).
- Investment scenarios are a product of the PPI's economic scenario generator (which uses data from Bloomberg). Long-term median rates are taken from OBR Fiscal Sustainability Report.
- Median investment return is dependent on pension scheme and varies between 5.5% and 6%.<sup>76</sup>
- AMCs vary by scheme.

Economic assumptions are based on long-term OBR projections.

### By 2038, aggregate assets in DC schemes could grow to around £783 billion

Assuming that current trends continue, the aggregate value of private sector workplace DC assets could grow from around £398 billion in 2018 to around £783 billion in 2038.

The aggregate value of assets is sensitive to economic performance. If the market performs very poorly, DC assets could stagnate, reaching around £530 billion by 2038. In a very positive market performance scenario, DC assets could grow to around £1,359 billion by 2038 (Chart 3.3).

### Box 3.6: percentiles

The following charts illustrate how a range of economic scenarios could affect the value of DC assets. The values are shown in terms of the likelihood that they will occur:

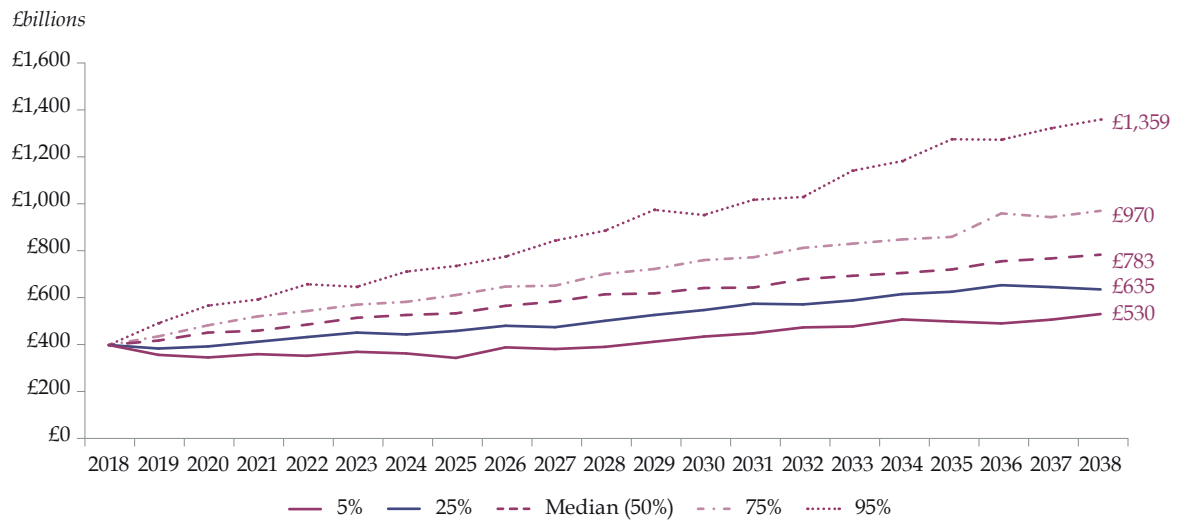
- The 5% line represents the very poor performance end; in the modelling only 5% of outcomes that were worse than presented by this line.
- The 95% line represents the very good performance end; in the modelling only 5% of outcomes that were better than presented by this line.
- The 25% and 75% points represent a 25% probability of relatively poor or relatively good performance respectively.
- 50% (median) is the central projected outcome, based on past performance.

76. A blend of Office for Budget Responsibility (OBR) returns based on an asset mix to represent typical pension portfolios. The long-term economic assumptions are based on the OBR Fiscal Sustainability Report (January 2017)

Chart 3.3<sup>77</sup>

**By 2038, aggregate assets in DC schemes could grow to around £783 billion (median outcome), compared to £398 billion in 2018**

Aggregate value of private sector DC assets in the UK, by year, under different possible scenarios of investment return under 1,000 randomly generated scenarios (2018 earnings terms)



**Employee and employer behaviour, and government policy, will all affect the aggregate value of DC pension schemes in the future**

The aggregate value of private sector workplace DC schemes will vary not just as a result of economic fluctuations, but also as a result

of employee and employer behaviour and government policy. There are an unlimited variety of possible ways that these agents could behave in future, and each would have a different effect on the aggregate value of DC assets and the value of a member’s pot at retirement.

77. PPI Aggregate Model: refer to modelling annex for more details on the methodology

# Chapter four: how might the next generation of pensioners access and use their savings?

This chapter explores how lower savings and assets and higher consumption needs for those approaching retirement compared to those already retired might affect the way people access savings, use products and invest in the future.

## Retirement consumption patterns are evolving

Peoples' needs, and the way that people use income to meet those needs in retirement has evolved due to increases in:

- Longevity, increasing the length of retirements,
- The amount of pension saving people reach retirement with,
- Variety in retirement expenditure needs as people are more likely to:
  - Undertake leisure activities during early retirement,
  - Provide ongoing financial support to family members,<sup>78</sup>
  - Live with a long-term health condition or provide care for someone with a long-term health condition.<sup>79</sup>

Historically, many people worked until they were physically incapable of doing so. However, due to the above factors, retirement has evolved for many into a period of 20 years or more without paid employment<sup>80</sup> and, therefore, effected corresponding changes in consumption. Retirement consumption patterns are likely to continue evolving as future generations reach retirement with different

savings portfolios, levels of inheritance and housing equity, as well as variations in household structures and a variety of consumption needs.

## There are varying theories regarding pensioner consumption patterns, with each holding true for some pensioners

Since the 1950s, economists have believed that people smooth consumption across their lifecycle by borrowing when young, saving while middle-aged, and spending while retired. Alongside consumption smoothing was the belief that people generally spent similar amounts at all times during their lives, including during retirement.<sup>81</sup>

However, within the pensions policy landscape there has been a long held belief that there is a "U-shaped consumption curve" in retirement. This U shape refers to a consumption pattern which involves:

- High spending during the early years of retirement, when pensioners prioritise leisure activities and seeing friends and family, and perhaps refurbish their home,
- A reduction in spending during the mid to late 70s, when reduced mobility prevents pensioners from engaging in leisure and social activities to the same extent leading to a reduction in discretionary spending, and
- An increase in spending during the 80s when pensioners develop care needs and need to increase spending on care and accessibility.<sup>82</sup>

78. Prudential Press Release, 13 April 2018, "2018 Pensioners Bankrolling Three Generations" [www.pru.co.uk/press-centre/2018-pensioners-bankrolling-generations/](http://www.pru.co.uk/press-centre/2018-pensioners-bankrolling-generations/)

79. Brancati *et. al.* (2015) p. 3

80. Brancati *et. al.* (2015) p. 3

81. Wagstaff, C. (2018) p.19

82. Wagstaff, C. (2018) p.19

### Currently, consumption tends to decline during retirement, on average

Consumption patterns vary between households and, for some, consumption will peak and trough over time, remain even, or might even rise steadily during retirement. Taking the average level of consumption can mask differences in spending between households. However, the average can also highlight over-arching trends and convey information regarding trends in the experience of pensioners.

The average consumption among current pensioners (using data from 2003 to 2013) shows that consumption, as measured by a percentage of household income, drops at the beginning of retirement (from what it was during working life) and then continues to gradually decline during retirement regardless of income level.<sup>83</sup>

The reasons behind the general decline in consumption are that as households age they:

- Reduce spending on non-essential items and maintain spending on essential items.<sup>84</sup>
- Reduce spending on transport, clothing and footwear.<sup>85</sup>
- Spend very little on leisure.<sup>86</sup>

- Sometimes underspend because they are saving to leave an inheritance for their children. On average people believe that they have a 70% chance of leaving a bequest of £50,000 or more.<sup>87</sup> Presumably, these bequests include housing wealth.
- Save a larger proportion of income, most notably from age 75, potentially as a result of spending less.<sup>88</sup>

### The sources that people expect to use to support retirement change as people age

As people age their expectations of using State Pension and private pension income to support retirement increases, and their expectations of using other sources: non-pension savings, housing, inheritance and other property decreases.<sup>89</sup> This could mean that as people age it becomes clearer to them that they will not have as much prospective income from non-pension sources as they might have planned on when they were younger.

#### Box 4.1: modelling assumptions and caveats

This chapter uses modelling from the Wealth and Assets Survey Waves 1 and 5 to explore differences in wealth between different cohorts. Data is taken from the survey on the current wealth positions of those aged 55 to 64, 65 to 74, and 75 to 84 in 2018. The wealth of younger cohorts is projected forward to what it might be when these cohorts reach the ages of 75 to 84 and presented in current earnings terms. These projections take account of asset and house price growth, pension contributions and people taking 25% tax-free lump sums and spending down pensions wealth. The projections are unable to take account of changes in household circumstances (for example, bereavement) or financial needs (for example, long-term care) and behavioural aspects which could affect the wealth levels and distributions within each cohort. Therefore, these projections should be viewed as an illustration of potential wealth differences between cohorts rather than actual projections of future wealth.

83. Brancati *et. al.* (2015) p. 14

84. Brancati *et. al.* (2015) p. 20

85. Brancati *et. al.* (2015) p. 21

86. Brancati *et. al.* (2015) p. 24

87. Brancati *et. al.* (2015) p. 41

88. Brancati *et. al.* (2015) p. 14

89. Crawford (2018) p. 4

### Future pensioners will have lower levels of pension savings and are more likely to be in debt, though State and Private pension income may increase back to current levels by the 2050s

Future retirement incomes will decline as a result of reductions in Defined Benefit (DB) provision in the private sector and the abolition of the facility to accrue entitlement to a state, earnings-related pension since 2016. Those reaching retirement over the next few decades will have lower than average private pension savings than older cohorts.

The median private pension savings (from DB and/or DC), for those aged 55 to 64 in 2018 will be around £71,000 by the time they reach the age of 75 to 84, for those aged 65 to 74 in 2018, it will be £76,000 by the time they reach the age of 75 to 84, compared to £85,000 for those currently aged 75 to 84 (Table 4.1). Pension savings includes DC saving and the value of remaining DB entitlement. Younger cohorts are more likely than older cohorts to have any pension savings, but tend to have lower levels of pension savings per person, on average than older cohorts.

Table 4.1<sup>90</sup> Median pensions savings and proportion with any pension savings for different cohorts when they reach ages 75 to 84 in 2018 earnings terms

Cohort	Median pensions wealth at ages 75-84	Proportion with any pensions wealth at ages 75-84
Age 55 to 64 in 2018	£71,000	77.8%
Age 65 to 74 in 2018	£76,000	72.7%
Age 75 to 84 in 2018	£85,000	70.8%

Pensioner income may rise again to current levels around the 2050s owing to increases in DC income arising from contributions made to automatic enrolment pots over significant periods of time plus the compounding effects of investment returns in these accounts, and to increases in the value of State Pension income arising from maintaining the Triple Lock.<sup>91</sup> However, if the Government does not retain the Triple Lock, any increases in pensioner income will be more gradual or may not occur at all unless there are other policy changes.<sup>92</sup>

Over the next few decades pensioners will reach retirement with slightly lower levels of other, non-pension, wealth and assets to those

currently in retirement. Those aged 55 to 64 in 2018 are likely to have a median level of non-pensions wealth and savings of £44,000 when they reach the age of 75 to 84, compared to £57,000 for those aged 65 to 74 in 2018 and £46,000 for those currently aged 75 to 84. These figures are net of debt and successive generations are more likely to have debt. 3.9% of those aged 55 to 64 are likely to be in debt at age 75 to 84, compared to 2% of those aged 65 to 74 and 0.9% of those aged 75 to 84 today (Table 4.2).

90. PPI distributional model using Wealth and Assets Survey data, unable to disaggregate DB and DC due to survey data conflating the two once an individual is retired

91. Inflationary measure by which the value of the State Pension is increased each year by the greater of the increase in earnings, CPI or 2.5%

92. DWP (2015b) p. 8, Chart 2

Table 4.2:<sup>93</sup> Median non-pensions savings and proportion in debt for different cohorts when they reach ages 75 to 84 in 2018 earnings terms

Cohort	Median non-pensions wealth	Proportion in debt
Age 55 to 64 in 2018	£44,000	3.9%
Age 65 to 74 in 2018	£57,000	2%
Age 75 to 84 in 2018	£46,000	0.9%

Those aged 65 to 74 in 2018 are currently shown to have higher non-pensions wealth and savings than those in other cohorts, potentially due to these people benefiting from Freedom and Choice and being able to take lump sums from their DC savings and funnelling them into other products.

Non-pensions wealth is spread quite unevenly in the 55 to 64 cohort. In 2014/15, 10% of 55 to 64 year olds had negligible amounts of non-pension wealth, while the richest 10% on average had more than £1 million.<sup>94</sup>

**Future pensioner incomes may be reduced as more pensioners live alone**

The proportion of pensioners living alone has increased as a result of divorce becoming more prevalent at older ages and increased longevity leading to widows and widowers living for longer. Living alone tends to decrease income due to the loss of a partner’s pension and reduce living standards as a single person requires more than half of the income of a couple to maintain the same living standards.<sup>95</sup>

Bereavement can have a significant impact on household income. More than half (58%) of people report lower levels of household or disposable income following a bereavement, and a third (35%) say their savings are lower than before. Those aged over 65 are most likely to experience a decline in their overall income as a result of bereavement.<sup>96</sup>

**People reaching retirement over the next decade may struggle to maintain the same consumption patterns as current pensioners**

Future pensioners may need to spend a higher proportion of their income than previous generations as a result of several factors, including:

- More pensioners renting in retirement,
- More pensioners providing care for family members,
- Pensioners may need to cover more care costs,
- More pensioners providing ongoing financial support to family members.

**Future pensioners are more likely to rent in retirement, thereby increasing living costs**

While most pensioners currently own their own home, future pensioners are more likely to reach retirement with an unpaid mortgage or living in rented accommodation. This is because fewer people are buying houses and those who are, are buying them at older ages. The average age of individuals buying their first home has gradually increased, from age 23 in the 1960s to age 30 in 2016.<sup>97</sup>

Of those aged 55 to 64 in 2018, around 50% are likely to own their homes outright at age 75 to 84, compared to 73% of those aged 65 to 74 in 2018 and 75% of those aged 75 to 84 in 2018.<sup>98</sup>

93. PPI modelling using Wealth and assets Survey data

94. Crawford (2018) p. 4

95. ONS (2017)

96. Royal London & Dying Matters (2016)

97. Halifax (2017) First-time buyer review; PWC (2015) Outlook worsens for ‘generation rent’: Only one in four to be homeowners by 2025

98. PPI distributional model using Wealth and Assets Survey data

The need to pay rent dramatically increases living costs in retirement. People who rent in retirement will need to accumulate around 70% more in DC savings<sup>99</sup> to achieve the consumption levels that they could have achieved if they owned their homes outright.<sup>100</sup>

Housing wealth will also be lower for younger cohorts as a result of fewer people owning their own homes in retirement, though some will inherit housing wealth from their parents. The median housing wealth for those aged 55 to 64 in 2018 could be around £139,000 when they reach the age of 75 to 84, compared to £151,000 for those aged 75 to 84 in 2018. The proportion

of people with housing wealth remains relatively stable across the three cohorts (Table 4.3).

The below analysis does not contain assumptions regarding use of housing wealth to pay for long-term care nor does it account for bereavement. Bereavement could increase housing wealth for individuals who were previously joint owners but subsequently become the sole owners of housing they shared with their partner. Therefore, these numbers should be considered an illustration of cohort differences rather than a projection of actual housing wealth.

Table 4.3<sup>101</sup> Median housing wealth and proportion with any housing wealth for different cohorts when they reach ages 75 to 84 in 2018 earnings terms

Cohort	Median housing wealth at ages 75-84	Proportion with any housing wealth at ages 75-84
Age 55 to 64 in 2018	£139,000	79%
Age 65 to 74 in 2018	£154,000	81%
Age 75 to 84 in 2018	£151,000	79%

### Future pensioners may depend more on inherited wealth

As future pensioners reach retirement with lower levels of State and Private pension income, they may depend more on other sources to top income up to an adequate level. One potential source of retirement income that people might use in later retirement is inherited housing wealth.

The modelling below illustrates the potential housing wealth that may be available to leave as inheritance by different cohorts, though the modelling does not account for future behaviour. The modelling:

- Is on a household basis,
- Assumes average life expectancy,
- Considers housing wealth remaining once all of the property's owners have died,
- Considers all housing wealth, including housing not used as a main residence,

- Allows for paying off mortgages on main residences,
- Takes account of those households that have used equity release but is unable to account for those who might use equity release in the future,
- Includes the impact of equity release and debts secured against other properties,
- Does not account for downsizing or housing wealth being used to fund long-term care.

### Households headed by someone aged 55 to 64 in 2018 may have a mean average of around £310,000 in housing wealth to leave at their death

Assuming that people who have not spent down housing wealth, do not subsequently do so, households aged 55 to 74 in 2018 could leave around £310,000 in housing wealth at death, compared to £250,000 for those aged 75 to 84 in 2018 (Table 4.4).

99. Or around 50% more for social renters

100. Royal London (2018) *Will we ever summit the pension mountain?*

101. PPI Distributional Model using Wealth and Assets Survey data. House prices are assumed to grow in line with OBR projections for seven years and earnings subsequently

Table 4.4<sup>102</sup> Value of remaining household wealth after death of all owners (assuming average life expectancy) in 2018 earnings terms

Cohort	Mean housing wealth at death of all house owners (including those with no housing wealth)	Proportion with any housing wealth at death
Age 55 to 64 in 2018	£310,000	75%
Age 65 to 74 in 2018	£310,000	77%
Age 75 to 84 in 2018	£250,000	76%

The above analysis, assumes that those in the younger cohort, who have not already taken equity release, do not access housing wealth before their death. However:

- There is evidence that the use of equity release is becoming more widespread, with double the number of people using it compared to five years ago.<sup>103</sup>
- Some pensioners downsize during retirement releasing, on average, around £14,000 in equity. The amount released through downsizing increases with age from around £4,000 on average for those aged 50-59 to around £49,000 on average for those aged 80 and over.
- As people age they are more likely to sell their owner-occupier house and move in with family, a care-home or into rented accommodation. If current trends continue, around 14% of those who own a home at age 50 will sell it before their death.<sup>104</sup>

Therefore, the mean amount of housing wealth left at death for younger cohorts is likely to be lower than shown in Table 4.4.

Assuming that these three cohorts have similar amounts of housing wealth, the amount spent down in retirement (through downsizing or equity release) could be in the region of £60,000 (£310,000 - £250,000). If this income were used to top up pension income over a 30 year retirement it could provide an extra income of around £2,000 per year.

### People are more likely to provide care at older ages

One of the results of increasing longevity is that multi-generational families are becoming more common and more working-age people, mostly women, are finding themselves needing to provide care both for children, parents, or even grandparents, at different times during their lives. In 2012, there were around 2.4 million people providing care to an older person with disabilities and to their own children.<sup>105</sup>

Caring at older ages is becoming more common. The proportion of women aged 50 to 64 providing care rose by 13% between 2001 and 2011. Providing care at older ages often leads to giving up work or reducing hours, ultimately leading to saving less into private pensions.<sup>106</sup> The need to provide care can also mean that during the early years of retirement people are spending time and money on providing care to older parents.

### Pensioners may also need to fund their own care in future

The problem of how to fund pensioner care is growing in urgency as the proportion of those over State Pension age continues to grow in relation to those of working age. The Government is currently exploring potential avenues for sharing the costs of care with pensioners. New products may become available, such as long-term care insurance, which allow people to plan ahead for care.

102. PPI Distributional Model using Wealth and Assets Survey data. House prices are assumed to grow in line with OBR projections for seven years and earnings subsequently

103. Equity Release Council (2018); Around 15,000 new customers in 2012 to just under 40,000 in 2017.

104. Crawford (2018) p. 6

105. Carers UK (2012)

106. Carers UK (2012)



It seems likely that pensioners with more than a minimum level of savings, assets and incomes will need to cover a portion of their own health and care costs in future, and potentially for a longer time as a result of longevity increases.<sup>107</sup> Social changes, in which more people are given formal care at home by their children, rather than in care homes, would reduce the costs of care for individuals and the state, though this social change would require carers to be in a position to give up the time and resources required to give care.

### Older people are paying more money in gifts and support to family members

The rise of multi-generational families has coincided with an increase in the economic difficulties faced by younger people who are more likely to struggle with increased university fees, finding suitable employment and buying property. As a result, many people approaching retirement are making monetary gifts to children, grandchildren and sometimes parents who may also be struggling. Around a third of people (31%) who have plans to retire in 2018 are providing financial support to extended family members. Of those providing support, the average amount is £4,300 per year, around £360 per month, though around 20% expect to provide more than £500 per month to family members. The most common recipients are:

- Children (56%)
- Grandchildren (25%)
- Parents (8%)
- Grandparents (2%)<sup>108</sup>

Not all future pensioners will be financially prepared for retirements with potentially lower income and increased consumption needs.

### Some future retirements could be characterised by confusion and unpreparedness

Retirement is increasingly viewed by many as a time of leisure:

- As people age they are more likely to associate “leisure” with quality of life: 24% of those aged 65 compared to 15% of those aged 15 to 25 are more likely to do so.<sup>109</sup>
- 51% of 46-65 year olds plan to travel more in the “long-term future”, compared to 23% of their parents’ generation when they were the same age.<sup>110</sup>

Those approaching retirement tend to have conflicting beliefs regarding how they will spend their income. Many of those who expect to have a leisure filled retirement are also concerned about running out of money. Only 23% of those with DC savings today believe that their state and private pension will provide them with an adequate retirement income and around half (51%) of those aged 30-45 are worried about their finances in retirement. Some pensioners are likely to be confused about how to assimilate contradictory desires and needs into a comprehensive income and consumption plan.<sup>111</sup>

Some future pensioners will be unprepared for how to meet their financial needs in retirement because of the following reasons:

- Many people avoid thinking about the potential health and care issues which may arise during retirement and the correlating expenses. This reluctance is often supported by an erroneous belief, held by 54% of people, that care services will all be provided free by the state.<sup>112</sup>

107. Royal London (2018b)

108. Prudential Press release, 13 April 2018, “2018 Pensioners Bankrolling Three generations”

109. Brancati *et. al.* (2015) p. 10

110. Brancati *et. al.* (2015) p. 10

111. Brancati *et. al.* (2015) p. 10

112. Brancati *et. al.* (2015) p. 9-11

- Many of those approaching retirement consistently underestimate their own life expectancy. Men aged 50 to 60 underestimate their life expectancy on average by around two years, and women by four years. In particular, too few people expect to live until a very old age. Among those aged between 30 and 60, 9% of men and 10% of women expect to live until at least age 90. Official estimates suggest that 18% of men and 29% of women in this age group will live until at least age 90.<sup>113</sup> This indicates that some people might not be making plans to provide themselves with an income for as long as they will actually require one.
- Those approaching retirement are also characterised by a lack of planning, with 3 in 5 of those aged 55-70 yet to make a financial retirement plan.<sup>114</sup>

### Future pensioners may struggle to meet their needs in the current environment

Over the next few decades pensioners are likely to have lower incomes and higher consumption needs. Those with DC pension savings, or who transfer DB entitlement into DC schemes will face more decisions when they access their DC pension savings. This has the potential to allow people to use their savings in a way that could better suit their needs and preferences. However, it has also introduced new challenges, complexity and risk. The following issues will affect those accessing DC savings in retirement:

- Decisions about how to access retirement savings are complex and require people to make trade-offs between a number of factors, in particular security and flexibility.
- People could see their retirement income, as well as their likelihood of exhausting their pot and their ability to leave bequests vary considerably based on the decisions they make at and during retirement.

- Despite the complexity of these decisions, there is a significant group of individuals who do not use guidance or advice and are therefore at risk of making sub-optimal decisions.<sup>115</sup>

For many people, the primary purpose of accessing DC saving will be to provide themselves with an income in retirement. However, as people reach retirement with more complicated consumption needs, some will place a higher value on flexibility regarding:

- When they access their pension savings (before and during retirement),
- How much income they are allowed to withdraw,
- Whether they are able to continue to grow their savings during retirement, and
- Whether they are able to leave any remaining savings as inheritance after their death.

Generally, the more flexibility a pension savings access method allows, the more the individual is exposed to income-related risks during their retirement. Over the next few decades, people will start to reach retirement with higher levels of DC savings and lower levels of DB entitlement. This trend will strengthen the significance of the security/flexibility trade-off and the impact that decisions have on retirement outcomes.

Uncertainty surrounding longevity poses difficulties for people trying to make their savings last throughout retirement. Purchasing some form of income security, for example an annuity, is generally the best way of preventing a pot from being exhausted, though market innovations could build more security into existing products. The use of hybrid products, which allow people to combine flexibility with security may grow in popularity as people reach retirement with higher levels of DC savings.

113. Crawford & Tetlow (2012)

114. Brancati *et. al.* (2015) p. 9-11

115. PPI (2018)

## Withdrawal rates will affect adequacy and security

People are increasingly using their DC savings to invest in drawdown or to take cash lump sums. Those who invest some or all of their income into a drawdown product, or withdraw lump sums directly from their pension savings, would benefit from a withdrawal rate which:

- Meets their consumption needs,
- Allows for inflationary increases which raise the cost of maintaining living standards,
- Does not deplete the pot before death.<sup>116</sup>

Those without sufficient savings might need to make a choice between meeting consumption needs and protecting their pot from running dry.

There is no consensus on what a sustainable withdrawal rate might be; the optimal rate will vary between people based on their needs and resources. However, there are some accepted “rules of thumb” for how much people should aim to withdraw in order to sustain their pot throughout their retirement. The main rule of thumb cited in the UK, and internationally for a 30 year retirement, is to make an annual, index-linked 4% withdrawal of the original fund size.<sup>117</sup> Market commentators have also suggested basing the withdrawal rate on individual factors such as the investment approach, likely length of retirement, market yields and the expected returns of the investment strategy. For example, the following approaches have been suggested for a 30 year retirement, using drawdown products and based on historic and prospective market conditions in specific years:

- A starting withdrawal rate of 2.8% increased by inflation annually, in 2016,<sup>118</sup>
- A starting withdrawal rate of 1.9% to 2.2%, index linked for the same pot in 2017 after asset prices rose and returns were expected to be lower.<sup>119</sup>

The above withdrawal rates reflect market conditions in 2016 and 2017. OBR expects that market conditions will improve over the next decade. In ten years, gilt yields are projected to be higher so that someone accessing pension savings in the future could potentially withdraw at a starting rate of around 3.5%, rising with CPI and sustain their pot throughout retirement, assuming average life expectancy and a pot invested 60% in equities and 40% in bonds.<sup>120</sup>

## Adaptive withdrawal rates may help protect pot sizes and allow people to meet changing consumption needs

The approach of a single withdrawal rate has been criticised for not taking account of:

- Unexpectedly high inflation increasing the costs of living,
- The danger of low or negative investment returns in the early stages of retirement reducing the pot size to a point where it is difficult to regrow the fund through returns without reducing contributions or limiting withdrawals, and
- Consumption needs varying during retirement.<sup>121</sup>

Adaptive withdrawal rates which respond to fluctuations in the value of the pot as well as changes in consumption need have been suggested as an approach to sustaining funds during retirement. These might require more costly active management by both the fund holder and the provider unless automatic response mechanisms can be built into drawdown products.<sup>122</sup>

116. Wagstaff, C. (2018) p.26

117. Wagstaff, C. (2018) p.26

118. 40% stocks, 60% gilts

119. Wagstaff, C. (2018) p.27

120. PPI (2018)

121. Wagstaff (2018) p.26

122. Wagstaff (2018) p.27

## The way pension savings are invested during retirement will affect the ability of pensioners to meet consumption needs

The key aim of retirement income strategies will generally be to provide a consistent rate of return to support income withdrawal and desired consumption while protecting the retirement income fund from being depleted as a result of market losses.

Some investment managers aim to shift funds into less risky assets as pensioners age in order to avoid funds depleting at older ages as a result of market corrections. However, moving funds into less risky assets can also minimise the opportunity for market returns that would increase the pot size.

Another approach to minimising investment risks and maximising returns is through investing in diversified assets:

- Based on a historical study, a diversified investment strategy over the same 44 years (1971 – 2015) could have delivered average returns of around 4.62% annually, compared to 2.6% for a gilt fund, though these returns would depend on how the strategy was managed.
- A pot invested entirely in equities could have generated higher average returns of around 4.67% but also higher potential for loss as equities experienced an annual volatility of around 15.21% during this time, compared to 11.78% for a diversified strategy.
- The gilt fund provides more security with a lower volatility of 10.12% but far less opportunity for return than a diversified or equity strategy.<sup>123</sup>

These returns are based on the same 44 years of economic data and do not allow for differences in charges between different product types. If the same investment strategies had been employed over different years they would yield different results and the difference in returns between the equity and diversified portfolios might be wider.

A pot used to generate an income stream over a 20 year period could pay out an increase in annual income of 37% if it was invested in a mix of assets rather than solely in cash.<sup>124</sup>

The appropriate investment strategy for a pensioner will depend on their particular needs and resources and on the value that they place on returns and security respectively. For those who wish to minimise investment risk while maximising return, a diversified strategy might give them the best outcome. However, not many pensioners will know how much investment risk their savings can withstand. For example, 32% of drawdown investors are not even aware of how their fund is being invested.<sup>125</sup>

## Ready made investment pathways could help people avoid making poor investment decisions

One way of protecting people who might not know how to balance investments in the way which best meets their own needs, and who do not use advice or guidance to make this decision, would be to offer some sort of guided investment pathway. This strategy reflects the FCA work around requiring providers to offer ready-made investment pathways for drawdown customers.<sup>126</sup> The appropriate investment pathway will vary depending on customers' needs and resources. Some people, with sufficient savings, may benefit from an investment strategy which allows for variable expenditure and security, for example, a drawdown product combined with a deferred annuity so that people can vary withdrawal rates while maintaining a level of security and longevity insurance.<sup>127</sup>

Others, with a limited amount of savings or life-limiting illnesses might require greater security and could benefit from investing all of their DC savings into an annuity or an enhanced annuity. Those with supplementary, secure sources of income, such as DB pensions, might find that investing most or all of their DC savings through a drawdown product is the best way of meeting variable expenditure needs while also benefiting from the security of their income from other sources.

123. Wagstaff (2018) p.34 data from Cass Business School, Clare et al (2017) p. 28 tables 4 & 5

124. FCA (2018b)

125. FCA (2018b)

126. FCA (2018b)

127. Wagstaff (2018)

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## Chapter five: reflections on policy

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Chapter five contains reflections on the policy themes highlighted by the report from leading thinkers and commentators in the pensions world.

Writers include:

- Chris Wagstaff  
Head of Pensions and Investment Education  
Columbia Threadneedle Investments
- Chris Woolard  
Director of Strategy and Competition  
Financial Conduct Authority (FCA)
- Jane Vass  
Director of Policy & Research  
Age UK
- Abraham Okusanya MSc, CFP, AFPS  
Founder  
FinalytiQ



**Chris Wagstaff**  
**Head of Pensions and Investment Education**  
**Columbia Threadneedle Investments**

## Don't let retirement penury become the default

Many people retiring today are faced with making complex financial choices about how to access their Defined Contribution (DC) pots and how best to make their savings work for them throughout retirement. However, at this point in their lives, peoples' financial literacy and cognitive ability has often started to decline and decision making is largely based on life experience and gut feel. Therefore, calls for raising engagement levels at retirement are misplaced. Indeed, if these retirees are to be prevented from sleepwalking into retirement penury, a different approach is required. By combining the flexibility and income security most desire, a well-governed, auto enrolled decumulation default, that largely sidesteps active engagement, could be the solution.

## The challenges to informed decision making

On average, those in the UK aged 55 today who, post freedom and choice, are now eligible to access their DC pension pots, are expected to live to their mid- to late-80s. However, around 9% of these male and 14% of these female 55 year olds are expected to receive their 100th birthday telegram.<sup>a</sup> Despite this, on average, those in their mid-50s today will fail to remain in good health much beyond their mid-70s.<sup>b</sup> Some, however, will enjoy good health well into their twilight years while others will succumb to poor health, or morbidity, much earlier in life.

In addition to taking account of the vagaries of longevity and health longevity, when making a decision about how and when to best to utilise one's pension pot, individuals also need to formulate a view on what retirement might look like and when that might occur. Indeed, for many, retirement is no longer a one-off event with a well-defined destination point. Rather, people are increasingly adopting a phased approach to retirement, with some choosing to continue to work well past State Pension age.<sup>c</sup> Couple that with having to contend with often unforeseen changed circumstances, whether health, family or financial, and the considerable cognitive impediments to informed decision making, which typically compound with age, and you have *the* most difficult of life's financial decisions.<sup>d</sup>

Moreover, most people are ill equipped, let alone sufficiently engaged, to determine how best to achieve a good financial outcome at and in retirement, given the alarmingly low level of basic numeracy and financial literacy amongst the UK adult population; the complexity and multiplicity of the decisions to be made; deeply engrained behavioural biases that incorrectly frame decision problems and focus on the short term; the lack of frames of reference and a paucity of guidance to evaluate complex choices; and a widespread unwillingness or inability to pay for financial advice. Additionally, this comes at a time in many people's lives when increased risk and loss aversion leads to sub optimal investment choices and a reluctance to engage with those technologies that can facilitate the decision-making process.

- a. What are your chances of living to 100? Office for National Statistics. 14 January 2016. See: <https://visual.ons.gov.uk/what-are-your-chances-of-living-to-100/>.
- b. Healthy life expectancy at birth and age 65 by upper tier local authority and area deprivation: England, 2012-2014. Office for National Statistics. 10 March 2016.
- c. According to the OECD, about 20% of those aged 65 to 69 in the UK are in paid employment. Many others are self employed. See: OECD Pensions at a Glance 2016: OECD and G20 indicators, OECD Publishing, Paris. Chart 7.6.p.160. Also see: Learning from our elders. Schroders Global Investor Study 2017.
- d. Financial Advice Market Review. Final Report. Financial Conduct Authority and H M Treasury. March 2016. p25. According to Nobel prize winning economist Bill Sharpe, this decision is "the nastiest, hardest problem in finance."

Of course, the potentially dire consequences of inertia, making a wrong decision, indecision or failing to adequately engage at and in retirement, not to mention making decisions without the full set of facts, will compound over time as Defined Benefit (DB) pension entitlements disappear, people start receiving their state pension ever later in life and increasingly become solely reliant on their DC pensions pots to support their desired standard of living in retirement. For many, this will extend to 30-plus years. Indeed, recent research suggests that only 69% of 55 to 64 year olds believe their pension pot will last for the full term of their retirement, with 26% failing to hazard a guess as to the likely duration of their retirement.<sup>e</sup> Given that over nine million people in the UK will turn 55 over the next 10 years, this is a situation that simply cannot be allowed to persist.<sup>f</sup>

### The post-freedom and choice story so far

Post freedom and choice nearly £20bn has been accessed from over 1.5 million DC pots.<sup>g</sup> Of these, 55% of, mainly smaller, pots have been fully encashed, principally by those aged under 65. While there is limited evidence of people using their encashed retirement savings recklessly, with almost all having other retirement income to draw upon, some would have needlessly suffered a considerable income tax charge. Additionally, those 32% putting their fully encashed pots into a cash savings account will likely experience compromised, and often tax-inefficient, investment returns.<sup>h</sup>

However, given that the fundamental premise of any pension system is to provide a secure long-term income stream to meet spending needs in retirement,<sup>i</sup> perhaps of greater concern is the increasing numbers of people opting

for the flexibility of income drawdown over inflexible and ultra low yielding annuities, which are often seen as a longevity gamble. Prior to freedom and choice this sustainable income objective was largely met with over 90% of DC pension pots being annuitised. Today, however, with complete flexibility as to how DC pension assets can be accessed from age 55-plus, this figure has fallen to under 12%. Moreover, 31% of income drawdown contracts have been purchased without advice, compared to 5% before the freedoms, while 94% of non-advised retirement product sales are made to consumers who do not shop around for their annuity or income drawdown contract.<sup>j</sup> Not only that, securing a sustainable income stream has been further compromised by one third of non-advised drawdown consumers investing wholly in cash, with a further third not knowing where their money is invested.<sup>k</sup> Couple this with mounting evidence that a sizeable minority of DC retirees are drawing down their pension savings at an unsustainable rate, and you have all the ingredients for a retirement to endured and not enjoyed.<sup>l</sup>

### Addressing the risks to achieving a good retirement outcome

If people are to achieve the flexibility and income security most desire by opting out of purchasing an annuity, they must somehow navigate their way around longevity risk, investment sequencing risk (poor/negative returns occurring early in decumulation) and unexpected inflation, otherwise they will fail to secure a sustainable level of income withdrawal that meets their desired standard of living in retirement.

The most pressing problem is that most people simply do not know what is feasible and realistic at and in retirement. Intuitively

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- e. Planning for retirement: Are people joining up the dots? Columbia Threadneedle Investments and YouGov. February 2018. Of the survey's 838 UK adults aged 55+, 328 were aged 55 to 64.
  - f. In 2018, the UK's 50-54s cohort is the biggest at 4.76m people (7.2% of the UK population), followed by the third largest cohort, the 45-49s at 4.45m people (6.7%). PopulationPyramid.net.
  - g. Flexible payments from pensions: July 2018. HMRC. 31 July 2018; Retirement Outcomes Review: Final report. FCA. June 2018. FCA data covers the period April 2015 to September 2017.
  - h. See: Retirement Outcomes Review: Interim report. FCA. July 2017.
  - i. For an analysis of spending needs in retirement, see: Generating retirement outcomes to be enjoyed and not endured. Chris Wagstaff. Columbia Threadneedle Investments. February 2018. pp.19-25.
  - j. FCA (June 2018). op.cit.
  - k. FCA (June 2018). op.cit. p.22 and p.32.
  - l. A J Bell. The Pension Freedoms Engagement Gap. December 2017. p.3. Average total savings of those surveyed was £118,000.

this would seem to suggest dramatically increasing levels of engagement from what is currently a very low base. However, such calls are misplaced. Indeed, as noted earlier, we should be mindful of older generations often experiencing a decline in financial literacy and cognitive ability and a tendency to shy away from using those technologies that facilitate decision making. Additionally, as people grow older so their decision making is founded upon life experience and gut feel. Very little can change that, aside from properly supporting people throughout the entire at and in retirement planning and implementation process via informed guidance and trusted advice, perhaps with subtle behavioural interventions.

### **For most, the answer lies in being defaulted to the default**

Given this, there is a groundswell of opinion, post-pension freedom and choice, that most people will never truly engage with the complex decisions to be made at and in retirement. Rather than make an active choice, they might instead prefer a default option or an off-the-shelf investment pathway.<sup>m</sup>

Given the success of auto enrolment in the accumulation stage, one idea that continues to gain traction, which we support, is auto enrolling people at the point of retirement into an institutionally-managed income drawdown default. Such a fund could manage both investment and longevity risks and, in so doing, offers a sustainable inflation-linked withdrawal rate (SWR),<sup>n</sup> perhaps with an explicit charge cap,<sup>o</sup> that contains costs without compromising the economics and performance of such an arrangement. Indeed, for most people, given the cognitive and structural impediments to raising engagement levels, a well thought out, relatively inexpensive default, with options to finesse the default's parameters and the provision of opt-outs for the engaged, is the best possible option. After all, these defaults would sidestep the enormous decision making burden

at the point of retirement, while providing the desired flexibility and the income security most retirees need.

So what might an auto enrolled, appropriately charge-capped, default decumulation solution, that combines flexibility with income security, with options and opt outs, comprise? Taking account of likely future retirement ages, longevity and morbidity assumptions, while keeping things simple, might mean setting an initial 20- to 25-year default SWR at an appropriate level, maybe initially between 3 and 3.5%, perhaps with a 1.5 to 2% minimum income underpin, based on the 15 year gilt yield (and possibly supported by phased annuitisation), coupled with a 20 to 25 year deferred annuity providing longevity insurance and provision for, say, a bequest of maybe 10%. Of course, the more engaged, who are better able and willing to make their own decisions could opt out and, with lower cost regulated advice, create their own bespoke solution.

However, in allowing a degree of flexibility, which in itself would require more accessible guidance and lower cost advice, the default could be finessed at set times and within certain parameters to meet individual preferences. So, the term of the income withdrawal and the vesting of the deferred annuity could be flexed up or down by up to, say, five years, the SWR by up to 1.5% and the bequest by perhaps 10%. Of course, the extent to which each feature could be flexed would, in some cases, be constrained by the flexing of the other features, the individual's age and the size of the remaining pot.

Unsurprisingly, underpinning good decumulation default design and the need to support a SWR is equally good default investment fund design. This is best performed by those multi-asset funds with genuinely skilful and dynamic asset allocation and active fund management being applied to a genuinely well-diversified asset mix. In targeting a deliverable inflation-plus absolute return objective, while minimising volatility

m. See: FCA (June 2018). *op. cit.*; Mercer (2017), Melbourne Mercer Global Pension Index, Australia Centre for Financial Studies, Melbourne.

n. For an analysis of what constitutes a sustainable fixed real withdrawal rate, see: Wagstaff (2018). *op.cit.* pp.26-27 and pp.34-35.

o. Although the FCA in its Retirement Outcomes Review final report didn't advocate an explicit cap on fees in decumulation, the high fees associated with income drawdown is well illustrated in: Member outcomes under freedom and choice. XPS Pensions. August 2018.



and sequencing risk, these funds provide a smoother returns experience than that for equity and equity/bond portfolios and a prospectively better outcome per se than that offered by with-profits, CPPI or overlaying an equity portfolio with put options. Crucially, unless hit by a completely anomalous event, a multi-asset fund-derived SWF set at an appropriate level shouldn't be compromised when financial markets turn tail.<sup>p</sup>

## Conclusion

In a world of freedom and choice, the decumulation stage for those seeking flexibility and income security and opting for income drawdown, as opposed to inflexible and ultra low yielding annuities, must successfully navigate a myriad of largely unquantifiable risks.

Therefore, if retirement is to be enjoyed and not endured, all stakeholders, including the government, regulators, product providers, asset managers, consultants, and financial advisers, must step up their thinking as to the design of genuinely fit-for-purpose default investment pathways. Indeed, without the provision of high quality, behaviourally robust, well governed and appropriately regulated defaults, with appropriate and transparent fee structures, that provide a secure long-term real income stream and longevity insurance, supported by the provision of accessible frames of reference, guidance and low-cost advice throughout retirement, people are at considerable risk of sleepwalking into retirement penury.

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p. Wagstaff (2018). op.cit. pp.34-35.



**Chris Woolard**  
**Director of Strategy and Competition**  
**Financial Conduct Authority (FCA)**

**Intergenerational differences and what they mean for DC pensions**

Demographic shifts and economic trends over the last 30 or so years have remade the social contract across the generations – from the difficulties younger people face getting on the housing ladder, to the need for older people to pay for care for longer.

Pensions, mortgages and long-term savings markets are particularly affected by these changes, and Defined Contribution (DC) pensions in particular will be key to the financial wellbeing of the UK population in retirement.

The FCA does not control these changes and the question of how to deal with the challenges they bring is obviously not for a financial regulator to lead. But these intergenerational differences do affect and determine our actions and

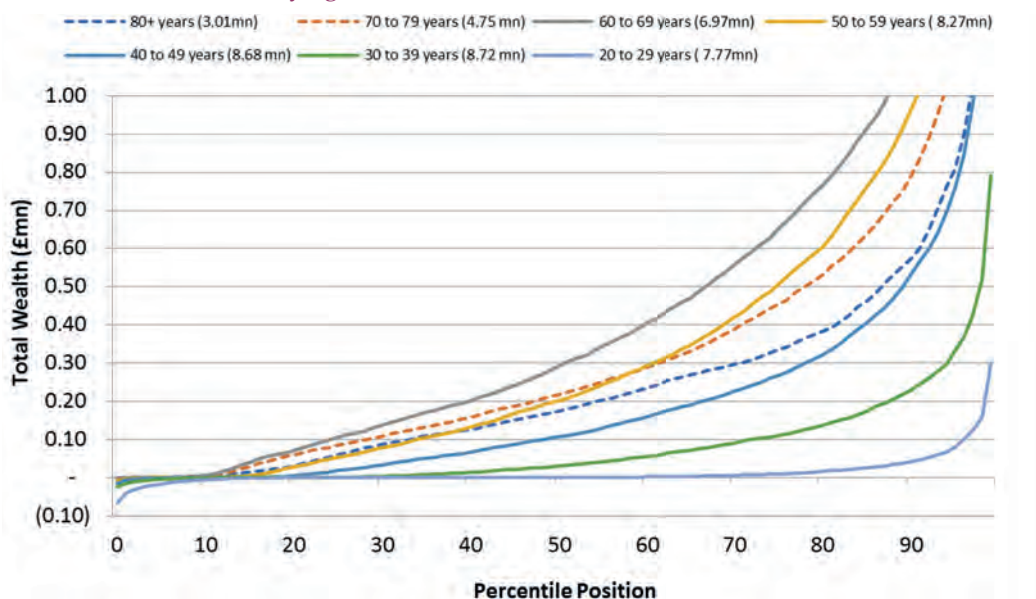
interventions. We are committed to improving the outcomes for consumers who will be more reliant on their DC savings through various pieces of work. Here, we outline the steps we’re taking to do this and why we think it is so important.

**Older generations are wealthier than younger ones**

The distribution of wealth between generations varies considerably, with older generations seemingly better-off than younger ones.

In many ways, this is not surprising. We would expect most young people to start their financial lives with either no wealth or with debt (some of it from student loans). As they go into the workforce, they start to accumulate wealth, which increases gradually until retirement and then begins to diminish.<sup>a</sup>

Chart 5.1: Total wealth by age



Source: FCA analysis of ONS data in the Wealth and Assets survey

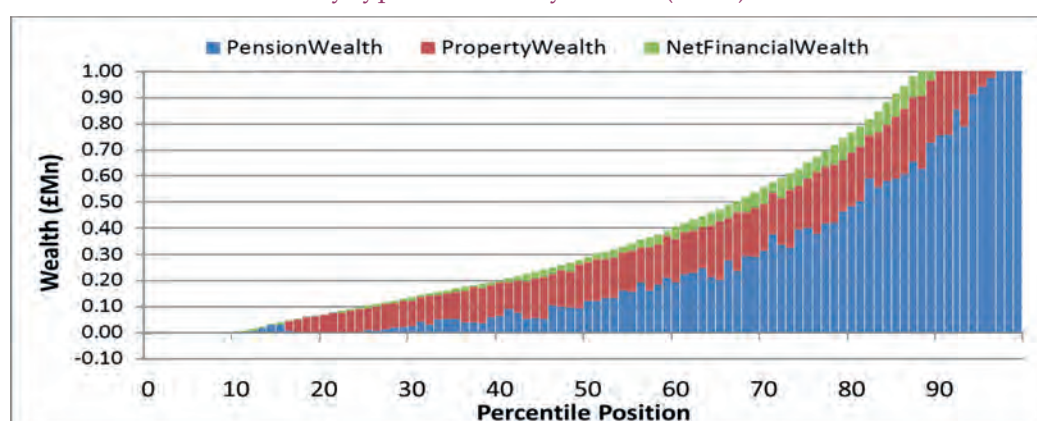
a. As Chart 1 shows, the wealth for age groups 70-79 and 80+ is lower than that of the 60-69 and 50-59 year olds (for the most part). This is largely due to a gradual reduction in their pension wealth after retirement.

Our Financial Lives Survey confirms this expectation. We found that 23% of UK adults between the ages of 25-34 are over-indebted, 63% of them have unsecured debt, including in SLC loans (student loans), 19% have no cash savings at all, and the mean cash saving is £11,000. In comparison, people aged 55-64 are in

a better financial state, with 11% over-indebted, 35% with unsecured debt, and mean cash savings of £37,000.

We should also remember that there are many people who do not accumulate any wealth at all, across all age bands. These people are expected to rely solely on the state pension in retirement.<sup>b</sup>

Chart 5.2: Accumulated wealth by type for 60 to 69 year olds (6.97m)



Source: FCA analysis of ONS data in the Wealth and Assets survey

### Future generations are unlikely to be as wealthy

While this may have been the general outlook for older generations, it seems that younger generations will not be able to accumulate nearly as much wealth. As Chart 5.2 shows, much of the total wealth accumulated by older generations comes either from pensions, thanks to the generous Defined Benefits (DB) schemes they enjoy, or from their homes, because of increasing house prices over the last few decades.

The vast majority of younger generations do not have a DB pension. Active membership in private sector DB schemes has been gradually declining, down from a high of 8 million enrolled in 1967 to only 1.3 million in 2016.<sup>c</sup>

At the same time, house prices have been increasing steadily since 1980,<sup>d</sup> making it more difficult for people to get on the housing ladder.<sup>e</sup>

This is the outlook for younger generations, but the effect is likely to be felt earlier. As PPI's analysis in this book suggests, even those aged 55 to 64 today will have lower pension savings when they reach age 75 to 84 than current older cohorts.

### This means younger generations working longer

These changes and intergenerational differences could mean that younger generations will need to work for longer and retire later. Indeed, the State Pension age is already expected to rise gradually.<sup>f</sup> They might also need to lead more modest lifestyles in comparison, both during working life and in retirement.

We expect these changes to also affect how consumers use their DC pension pots, now and in the future. For many people retiring

- b. The data underlying charts 1 and 2 excludes the state pension accumulation. Even people who have accumulated no private wealth may have accrued State Pension entitlement.
- c. Office of National Statistics estimates; <https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/pensionsavingsandinvestments/bulletins/occupationalpensionschemesurvey/uk2016#main-points>
- d. House prices have increased 7% per year since 1980 and the percentage of 25-34 year olds who own their own home has withered from 67% in 1991 to 36% in 2014 (Office for National Statistics).
- e. The Resolution Foundation estimates that while it would have taken a typical household in their late 20s about 3 years to save for an average-sized deposit in the 1980s, it would now take 19.
- f. Under the current law, the State Pension age is due to increase to 68 between 2044 and 2046, but the government has announced plans to bring this timetable forward, therefore increasing it to 68 between 2037 and 2039.

now or soon, DC pensions are not a major source of income in retirement. But they will be in the future. We found that DC pots that were accessed were mostly small (88% below £30,000), and nearly all (94%) those who fully withdrew had other sources of retirement income in addition to the State Pension, often in the form of DB pensions.

Younger generations are unlikely to have the same luck. For them, DC pots will be a key source of income in retirement, alongside the state pension. With the decline in DB pensions, we expect DC pension pots to grow significantly as they become the main route for pension savings, and as contributions from auto-enrolment continue to grow. The Pensions Institute estimate that by 2030 workplace DC schemes will hold £1.7trn, five times the £340bn held in 2015.<sup>g,h</sup>

### What this means for us as a regulator

Dealing with these intergenerational wealth distribution challenges is the role of democratically elected governments, not that of the FCA. But we as a financial regulator do have a role to play.

We cannot do our job effectively without considering the wider social context in which we work. As the importance of DC pensions continues to grow, so does our focus as a regulator on the pensions market. This has been a priority for us for several years, and pensions and intergenerational issues are a cross-sector priority in our 2018/19 Business Plan.

Our aim for the pensions market is to make sure that consumers have the best outcomes possible in retirement, and we have lots of work underway aimed at this.

The Asset Management Market Study we completed in June 2017, and the Platforms Market Study we are currently working on, aim to improve competition in these markets. The benefits of better competition in these markets will also positively affect the retirement income market.

In the pensions market, we are working with The Pensions Regulator (TPR), to set out a strategic approach to the pensions and retirement income sector as a whole, both trust and contract based.<sup>i</sup> We are also continuing our work on non-workplace pensions,<sup>j</sup> to better understand whether competition is working well in the market for these and whether we need to go further to protect consumers.

Our Retirement Outcomes Review (ROR) looked at the pensions market in detail and examined how the market is evolving following the introduction of pension freedoms in April 2015. We focused in particular on consumers who do not take regulated advice. While many consumers have welcomed the freedom to access their savings in ways they previously couldn't, they need further support to make the most of that flexibility. Many consumers were not sufficiently engaged in their pensions, and were at risk of making poor decisions as a result which can significantly reduce their retirement income.

We also found that many non-advised consumers ended up in investments that may not be right for them, including in cash. The potential effect of that is huge. Consumers could increase their pot size by up to 37% over 20 years, by investing in a mix of assets rather than in cash.

We found that many consumers were not shopping around or switching providers, resulting in low competitive pressure on price. Indeed, fees and charges varied significantly between providers. Again, the effect on future retirement income is significant, as consumers could be up to 13% better off by choosing a cheaper provider over an expensive one.

We are responding to these findings by consulting on a package of remedies to improve consumer engagement, promote competition and protect consumers from poor outcomes. These include a potential remedy that holding cash can only be an active choice by the consumer, and potentially requiring that providers introduce 'investment pathways', which give simple choice structures that help consumers make better decisions.

g. Assessing value for money in defined contribution default funds, 2014; <http://pensions-institute.org/reports/ValueForMoney.pdf>

h. Asset Management in the UK 2015-2016: The Investment Association Annual Survey, 2016; <http://www.theinvestmentassociation.org/assets/files/research/2016/20160929-amsfullreport.pdf>

i. We published our Call for Input in March 2018 and are planning to publish the Strategy later this year.

j. [www.fca.org.uk/news/press-releases/fca-seeks-feedback-non-workplace-pensions](http://www.fca.org.uk/news/press-releases/fca-seeks-feedback-non-workplace-pensions)

In all this different work, our aim is unified – we want to ensure that consumers have the best outcomes possible in retirement. This goal will be influenced by an array of factors – from economic trends to demographic shifts – that are not in our power to control.

And this intergenerational question will define policymaking for years to come. But even if we can't control all the factors, where we *can* act we're committed to taking timely, targeted action that makes a real difference in consumers' lives.



**Jane Vass**  
**Director of Policy & Research Age UK**

### The crisis for social care could be a crisis for pensions

'My mother said something to me years ago. She goes money – options, no money – no options. That's dead right that is and it's come back to haunt me in my retirement really.<sup>a</sup>

Pensions policy is never just about the money, it's about the choices this gives you in later life, as this quote from some recent Age UK research<sup>b</sup> makes clear. Yet unless we have a fair, sustainable and long-term solution to the crisis in social care, the uncertainty and potential high financial demands of care have the potential to undermine much of the progress there has been in the pensions arena, and there will be no improvement in the financial resilience of our older population.

As this edition of the DC Future Book is launched, we are awaiting the publication of yet another Government consultation on social care in England, following numerous consultations, commissions and inquiries over the past 20 years. There are no winners from the current system: 1.4 million older people in England are living with an unmet need for care, local services are being squeezed as more than half<sup>c</sup> of local authority spending is going to pay for care, and the CMA recently concluded that many care homes are not in a sustainable position.<sup>d</sup> And nobody gets a free ride: even

the people with critical needs and low assets who get full state support have to contribute a large part of their income – indeed people in residential care will have to contribute all of their income towards the home's fees except for £24.50 a week.

Harnessing social care to pension saving in some way has been proposed as a way forward and for a lucky few their pensions will cover their care costs. However, as the DC Future Book makes clear, many people will struggle to achieve their expectations of a decent retirement income, let alone pay more for care. It is unrealistic to think that people on the median private pension savings (£71,000 by age 75 for people aged 55 to 64 in 2018), will be able to pay for more than the minimal amount of care themselves, given that the average cost of a care home for a self-funder was nearly £44,000 a year in 2016.<sup>e</sup> Families cannot pick up much of the strain, as shown by recent research by the Social Market Foundation,<sup>f</sup> without a self-perpetuating circle of disadvantage: more people caring = fewer people saving.

The same applies to proposals to fund care through ISAs – this is merely moving the deck chairs on the Titanic, as increasing the incentives may marginally increase saving for the better-off, but will do very little for those at the middle and bottom of the end of the income distribution.

- a. [www.ageuk.org.uk/globalassets/age-uk/documents/reports-and-publications/reports-and-briefings/money-matters/rb\\_jan18\\_financial\\_resilience\\_qualitative\\_research.pdf](http://www.ageuk.org.uk/globalassets/age-uk/documents/reports-and-publications/reports-and-briefings/money-matters/rb_jan18_financial_resilience_qualitative_research.pdf)
- b. The research, funded by the Money Advice Service, was undertaken as part of Age UK's ongoing support for the Financial Capability Strategy, under the aegis of its In Retirement Steering Group which is dedicated to understanding how older people can be better supported to manage their money well in their later years.
- c. [www.nao.org.uk/press-release/financial-sustainability-of-local-authorities-2018/#](http://www.nao.org.uk/press-release/financial-sustainability-of-local-authorities-2018/#)
- d. <https://www.gov.uk/cma-cases/care-homes-market-study>
- e. <https://www.gov.uk/cma-cases/care-homes-market-study>
- f. <http://www.smf.co.uk/wp-content/uploads/2018/07/Caring-for-Carers.pdf>

Age UK is clear that some level of risk pooling will be needed to solve this conundrum, so that the unlucky few who have to pay really significant costs are protected: one important principle that older people and their families wanted to see in the Government's Green Paper was responsibility shared across society. However, the recent direction of private pension policy (characterised by the end of forced annuitisation and the decline of Defined Benefit (DB) schemes) has been away from collective approaches.

Others have suggested harnessing the power of inertia through auto-enrolment. This has been proved to be highly successful with pensions, but the behavioural drivers are rather different for care. We know that we are likely to reach pension age and we expect to receive some benefit from any pension savings we build up (particularly since these can now be drawn in cash from age 55). On the other hand generally we would rather not think about the prospect of needing care, and we have little idea of whether we will benefit from paying into a care plan. This means that care insurance is only likely to be successful if it is compulsory, which doesn't sit well with the ability to opt-out. It also introduces a major disconnect with Scotland, which has free personal care.

This is not to say that there isn't a role for a social care insurance scheme during people's working lives, but it needs to sit comfortably alongside pension saving. We may be able to draw lessons from experience overseas: for example, Japan has fused together a system including general taxation, age-based insurance premiums, and user co-payments as part of a positive vision of an ageing society.<sup>g</sup> No country has the silver bullet, but looking at the savings and care ecosystem as a whole seems an important lesson to learn. And, as we know from pensions auto-enrolment, even the most successful reforms take time to take effect.

## Retirement income pathways

Wherever we end up on care, there is also unfinished business in pensions reform. The DC Future Book highlights the increasing uncertainty facing people in retirement: more people likely to be in debt in their late 70s, more people renting, more pensioners providing care, and more pensioners living alone. Age UK's recent research on financial resilience<sup>h</sup> (funded by the Money Advice Service) confirms this and also shows the behavioural impacts: the conceptualisation and language of 'planning ahead' didn't resonate with those we talked to, given their uncertainties about the future, and in particular the unpredictability of potential health and care needs.

Although the flexibility introduced with 'freedom and choice' is welcome, most of us will benefit from a clear framework as a starting point. Therefore Age UK is very supportive of the investment pathway concept floated by the FCA in its Retirement Outcomes Review, but believes that the 'pathways' need to go much further to include suitable types of product. This would not preclude anybody deciding to 'go it alone', but would mean that people who do not feel confident in doing so at least have a ready-made option (or range of options) to use. This needs to be accompanied by defaulting people into impartial, independent pensions guidance on an opt-out basis prior to accessing their pension.

## State pensions remain the bedrock

The shift to DC, where 'pots' are expressed in terms of tens of thousands of pounds, may well be giving people a false sense of security about their future. The DC Future Book tells us that median DC pension of £59,000 at State Pension age for people aged 35-44 now, together with the full flat rate State Pension, will amount to an annual income of only £11,700. While some people will have DB savings to fall back on, others who have to leave the workforce early may have to use their DC savings to tide them over before they even qualify for their State Pension.

g. [https://www.ageuk.org.uk/globalassets/age-uk/documents/reports-and-publications/reports-and-briefings/care-support/rb\\_aug18\\_international\\_comparison\\_of\\_social\\_care\\_funding\\_and\\_outcomes.pdf](https://www.ageuk.org.uk/globalassets/age-uk/documents/reports-and-publications/reports-and-briefings/care-support/rb_aug18_international_comparison_of_social_care_funding_and_outcomes.pdf)

h. <https://www.ageuk.org.uk/latest-news/articles/2018/april/financial-sector-urged-to-rethink-how-it-helps-older-people/>

Small wonder that, according to a 2018 Briefing from the PPI<sup>i</sup> that Age UK was pleased to support, pensioners in the bottom half of the income distribution are reliant on the State Pension for more than half of their income. While younger pensioners have higher incomes, the briefing showed that for all cohorts the State Pension becomes increasingly important over the course of their retirement. The State Pension will remain an essential form of income for many people, for many years to come. The 'triple lock' should be considered in the context of future pensioners' needs, not just current pensioners.

### Looking forward

In conclusion, it is crucial that the pensions industry engages with the debate on social care, because whatever the outcome of the Government's Green Paper, proposals for funding care need to sit comfortably alongside the pensions system, both during the savings phase and during retirement. However, it also has unfinished business of its own, to ensure that people are guided down sensible pathways in retirement. And any policy discussion needs to remember that the State Pension remains the bedrock on which private pensions are built, and that private and state pension systems need to work together effectively.

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i. <http://www.pensionspolicyinstitute.org.uk/briefing-notes/briefing-note-104---dependency-on-the-state-pension-through-retirement>





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<https://finalytiq.co.uk/speaker-page/>

### **Retirement Spending Pattern: Implications for Retirement Income Sustainability**

How does a typical expenditure pattern change in retirement? The answer to this question is central to retirement planning. It is not only how much money one needs to accumulate for retirement, but also crucial to estimate what a sustainable withdrawal rate really is.

Sadly, we have no crystal ball, but neither does the retiree. And while it's important to ask financial advisory clients about their hopes and aspirations for retirement, most retirees have no idea how their rates of expenditure will change as they get older. Thus, insights into how retirement expenditure patterns change over time are crucial to establishing how much savings a person requires at retirement and how long a savings pot will last.

To do this, we must turn to data on how expenditure changes during retirement. The data does have its limitations, but it's most certainly a good starting point for retirement planning assumptions and is most certainly more effective than plucking figures out of thin air (an approach the industry has been far too comfortable with).

A number of studies offer valuable insight into what a typical retirement spending pattern might look like.

The first is a paper by the International Longevity Center (ILC, UK) titled *Understanding Retirement Journeys: Expectations vs. reality.*<sup>a</sup>

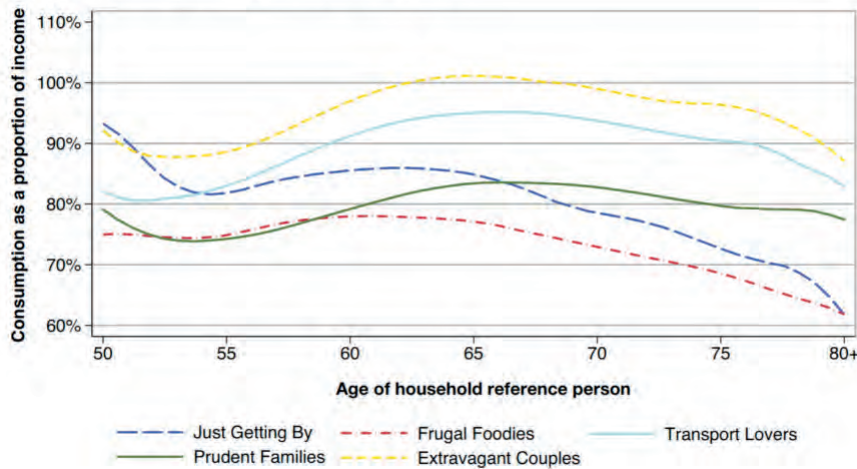
In this paper, Dr. Brancati and her colleagues conducted a detailed analysis of two large datasets, the Living Costs and Food Survey and the English Longitudinal Study of Ageing (ELSA) to gain insight into income and expenditure patterns of the elderly. The research found that spending in retirement declines progressively in real terms. As people get older, they spend less. A household headed by someone aged over 80 spends, on average, 43% less than a household headed by a 50-year-old. And when you include the amount of money people pay for their mortgage as household expenditure, then the decline becomes even steeper with households headed by someone aged 80+ spending 56.4% less than households headed by a 50-year-old.

Amazingly, this trend remains even when accounting for different lifestyles. The authors note that even the "Extravagant Couples" – those who spend nearly 40% of their total expenditure on recreational goods and services – spend more than their income in the first decade or so of retirement, as do those who are "Just Getting By", while the "Prudent Families" and "Frugal Foodies" consistently spend below their income over the duration of retirement.

a. Brancati, C., Beach, B., Franklin, B., and Jones M., (2015) *Understanding Retirement Journeys: Expectations vs reality*. International Longevity Centre, UK, Dec. 2015  
[http://www.ilcuk.org.uk/index.php/publications/publication\\_details/understanding\\_retirement\\_journeys\\_expectations\\_vs\\_reality](http://www.ilcuk.org.uk/index.php/publications/publication_details/understanding_retirement_journeys_expectations_vs_reality)

Figure 5.1: Age-based consumption by consumer segment

Figure 1: Consumption by consumer segment



Source: ILC (2015) Understanding Retirement Journeys: Expectations vs. reality

Contrary to widely-held beliefs within the pension industry, the research found that the average retirement expenditure patterns in retirement do not in fact follow the so-called U-shaped path, i.e., consumption does not dramatically rise at the start of retirement or pick up towards the end of life to meet long-term care related expenditures. The researchers note:

*‘Our findings suggest that typical consumption in retirement does not follow a U-shaped path – consumption does not dramatically rise at the start of retirement or pick up towards the end of life to meet long-term care related expenditures. At this point, it should be noted that our data is restricted to households only and therefore excludes those actively living in care homes who may be paying for it from their remaining assets. Yet we can explore the extent to which care expenditures eat into household budgets across different ages. Analysis of the data suggests that even for the 80+ age group, only a minority (6.4% of households) are putting money towards meeting long-term care needs. This doesn’t mean that U shaped consumption in retirement is a misnomer, but perhaps implies that it is atypical.’*

While the two datasets used in the research are restricted to households only and therefore excludes those actively living in care homes who may be paying for it from their remaining assets, the research explored the extent to which care expenditures eat into household

budgets across different ages. Analysis of the data suggests that even for the 80+ age group, only a small percentage (6.4% of households) allocate money towards meeting long-term care needs. This doesn’t mean that the U-shaped consumption theory is false, but perhaps just indicates that it is atypical.

The findings above are reinforced by a number of other studies. In particular, a study<sup>b</sup> in the US by Morningstar’s head of retirement David Blanchett examined the RAND HRS (Health and Retirement Study) dataset, which is a panel household survey (combining both cross-sectional and longitudinal data) specifically focused on the study of retirement and health among individuals over the age of 50 in the United States.

The author notes that “while research on retirement spending commonly assumes consumption increases annually by inflation (implying a real change of 0%), we do not witness this relationship within our dataset. We note that there appears to be a “retirement spending smile” whereby the expenditures actually decrease in real terms for retirees throughout retirement and then increase toward the end. However, overall, the real change in annual spending throughout retirement is clearly negative.”

b. Blanchett, David, Estimating the True Cost of Retirement. Morningstar, 2013 [http://corporate.morningstar.com/ib/documents/MethodologyDocuments/ResearchPapers/Blanchett\\_True-Cost-of-Retirement.pdf](http://corporate.morningstar.com/ib/documents/MethodologyDocuments/ResearchPapers/Blanchett_True-Cost-of-Retirement.pdf)

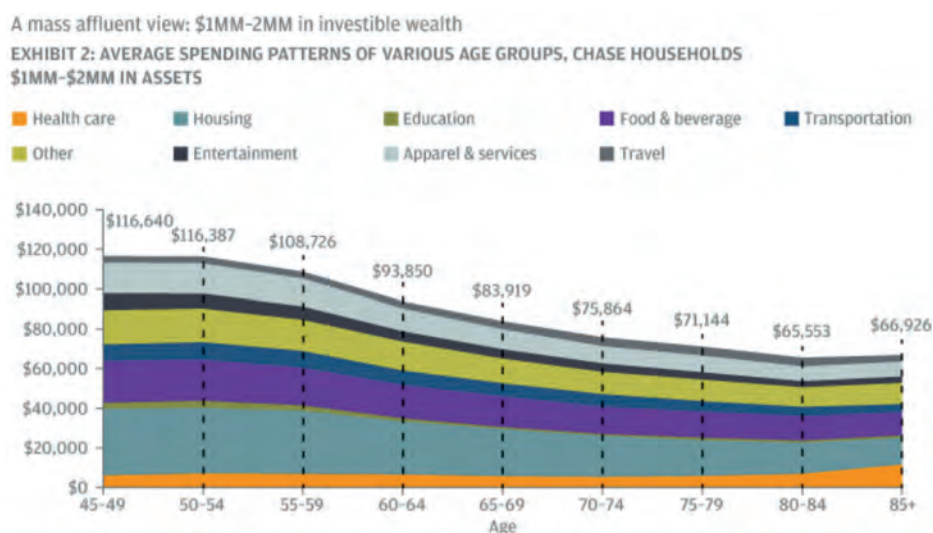
A common theme emerging from these pieces of research is that expenditure seems to decline progressively as people get older. Financial advisers, who tend to serve the wealthier end of the spectrum often argue that the picture is different for high net worth households. But is that the case?

Not according to a research by JP Morgan Chase<sup>c</sup> (2015) who examined the data on spending patterns for 613,000 U.S. households

led by men and women age 55 and up, who have debit and credit card relationships with Chase.

The research found that, even for HNW households in the US (over \$1million in investable assets), spending in retirement tends to decline as people get older. Care costs jump in later life but are compensated for by declines in other discretionary expenses.

Figure 5.2



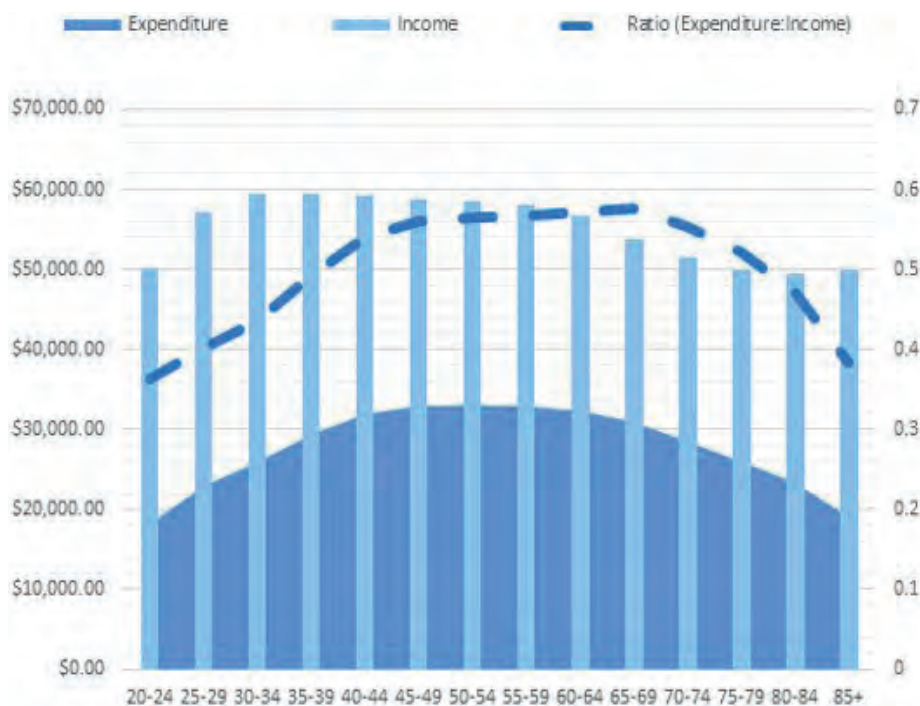
Source: J.P. Morgan Chase. Based on Chase credit card, debit and DDA mortgage payments from 9/2012-8/2013.

The report notes that “the drop in spending at older ages holds across wealth levels. (The chart above) illustrates the average spending patterns of various age groups for Chase households with \$1 million– \$2 million in investable assets. We looked at retiree spending at \$2 million–\$5 million and \$5 million-plus wealth levels, and the same patterns can be seen, with only minor variations.”

Finally, a recent research<sup>d</sup> in faraway Australia, by actuary firm Milliman further reinforces our UK and US-based sources, showing that retired couples’ expenditures fall by more than one-third as they move from early retirement (age 65 to 69) into older age (85 yr+). Data shows the low, mid and high-income retirees all experience similar declines in expenditure throughout retirement.

- c. JP Morgan Chase (2015) Spending in Retirement  
<https://am.jpmorgan.com/us/institutional/library/retirement-spending>
- d. Gebler, Jeff (2018) Falling retirement spend driven by behaviour, not declining income | 06 August 2018  
<http://au.milliman.com/insight/2018/Research-Falling-retirement-spend-driven-by-behaviour--not-declining-income/>

Figure 5.3



Importantly, the research also suggests that the decline in spending is driven by behaviour and not declining income. In other words, the declining spending in retirement isn't because retirees are forced to adapt to lower income. Instead, this tends to be a behaviour change that goes hand-in-hand with aging.

**How wealth changes in retirement**

When Pension Freedom was introduced three years ago, politicians and industry commentators feared that retirees would blow their retirement savings with little regard for their future needs. The media whipped up a frenzy about retirees splashing out on Lamborghinis and cruises, only to fall back on state benefits. If only someone had bothered to look at the data on how wealth tends to change during retirement, they would have saved us all the pointless aggravation.

Thanks to recent research<sup>e</sup> by the IFS, it appears that people are doing the exact opposite of what the industry feared. They are in fact spending too conservatively in retirement. The study looked at how property

and non-pension-financial assets (savings, investments, etc.) are drawn down within three cohorts of retirees aged between 69 to 91 over the 12-year period between 2002 and 2015.

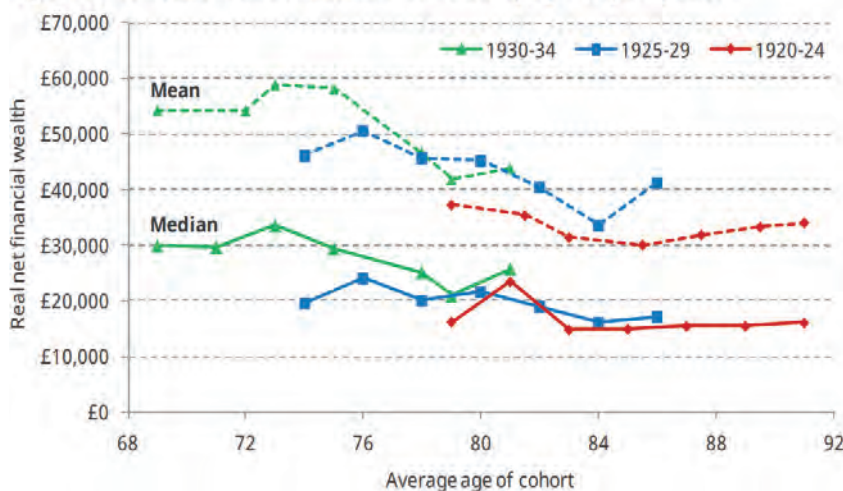
Median real net financial assets declined by 14% for the youngest cohort born between 1930-34, by 13% for the next cohort born between 1925-29, and by 1% for the oldest cohort between 1920-24.

Rowena Crawford, the author of the brilliant report noted that 'assuming that the rate of drawdown at a given age does not differ between generations, this observed behaviour suggests that, on average, real net financial wealth is drawn down by (at most) 17% between ages 70 and 80, and 31% between ages 70 and 90. This is significantly slower than the decline in remaining life expectancy between these ages. Office for National Statistics projections indicate that expected remaining life declines by 75% between ages 70 and 90 for both men and women. This suggests that, unless there are large costs at the end of life (and Section 5 will show that for many that is not the case), the majority of financial wealth among those currently retired is set to be bequeathed rather than used to finance retirement spending.'

e. Rowena Crawford (2016) The use of wealth in retirement: Institute of Fiscal Studies <https://www.ifs.org.uk/uploads/publications/bns/BN237.pdf>

Figure 5.4

Figure 4. Mean and median net financial wealth by age, 12-year panel



Of course, those who are retiring today may have a somewhat different spending pattern than the generations before them, due to the fact DB pensions will form a smaller part of their income, compared to the previous generations. And this gap is only going to widen. Nonetheless, the research provides important insights into how spending patterns change during retirement.

The implications of this is that the current spending rate would leave retirees with nearly 70% of their real financial wealth by the age of 90! And that's excluding property, which is generally by far the largest constituent of a person's assets.

### Care and end-of-life costs

One important aspect of retirement expenditure is how financial wealth changes in later life. The report shows that from age 84 to 91, median financial assets remained fairly level. This again contradicts the aforementioned U-shape theory or J-shaped spending pattern in retirement. There is just no sign of a sporadic rise in living costs in later life for most people. The author notes, 'the EoL<sup>1</sup> (End of Life) data suggest that in England there are not such large expenses on average. Just 6% of individuals faced some out-of-pocket costs for medical treatment outside the NHS in the last year of life. We do not have data explicitly on social care expenses, but the EoL data do tell us that only around 7% of individuals received assistance with daily activities from a privately paid employee in the

run-up to death. Some 21% did stay in a nursing or residential home in the last two years of their life (32% of these stayed for six months or more), but not all of these individuals would have paid for this care privately. The majority of individuals (82%) did not have full insurance for funeral costs, but the median out-of-pocket cost for funeral expenses was only £1,700 in 2002–03 (though this is increasing over time). Plainly speaking, the worrying spectre of unmanageable care costs are somewhat of a bogeyman.

For those who do end up needing to fund care, property wealth remains a valid source of funding. The paper shows that over a third of homeowners at age 50 would willingly move by age 70, and over half would move by age 90, which granted is an above-average life span. However, within the study group, a small number of people stated financial reasons as the sole motivation to move. Adding to this, only 1 in 5 retirees end up selling their homes before age 90, without buying another one. For those aged 80 and over, an average (median) of £49,000 is released in the process of downsizing.

### So what?

The more cynical reader may be reading this thinking 'so retirees spending less as they get older, big deal?'. The substantive point here however, is that spending too little is as big of a problem as spending too much. We need to provide adequate guidance to enable people to spend both comfortably and confidently

1. English Longitudinal Study of Ageing's End of Life Survey.

in retirement. As Bob Dannhauser, CFA insightfully noted, *“retirement portfolios can fail us in two ways: living cautiously might “leave too much on the table” when our money outlasts us, but spending too much can mean running out of money before we run out of life.”*

Financial advisers and product providers will play a crucial role in helping people to establish a withdrawal framework that is not only sustainable but also provides the maximum level of sustainable spending. This framework needs to take account of how a person’s expenditure is likely to change during their lifetime. It also needs to account for extraordinary individuals with non-conventional spending patterns.

Understandably, this is no easy task, but the traditional withdrawal rate framework that assumes that withdrawal will increase in line with inflation through the retirement period needs to change. Instead, the assumption should be that spending will fall by between 1 to 2% a year in real terms throughout retirement. This may also have implications for retirement product illustrations and financial planning services.

Regulators and policymakers should be interested in how retirement expenditure

changes because this will inform evidence-based policy-making around sustainability of retirement income. Some regulatory changes might be required to ensure that retirement income product illustrations are suitable. More generally, the government should be interested in ensuring that retirees spend freely and safely during retirement, not only to maximize tax take but also to boost spending within the economy.

The implications for retirees is that they can afford to spend more in the early part of retirement in full knowledge that their expenditure will fall as they get older. Some retirees may realize that they can afford to retire on less of a pension pot than previously thought. The end result of doing so will ultimately be greater happiness and confidence for retirees!

For years, the industry has indoctrinated retirees into thinking that their costs of living in later will go through the roof in later life. However, life is for living and retirees need to bear in mind when planning for retirement that ‘you can’t take your money with you when you go’.

# Glossary

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**Active member:** Pension scheme members making current contributions.

**Active Management:**<sup>128</sup> The management of assets (for example, equities, gilts) in which the skill of the fund manager is used to select particular stocks at particular times, with the aim of achieving higher than average returns for the assets in question.

**Annuity:** A financial product that pays an income for a pre-determined period of time, generally from the date of purchase until the date of the annuitant's death.

**Automatic enrolment (AE):** A policy requiring employers to enrol eligible employees into a workplace pension scheme. Employees have the right to opt out of the scheme. Employers (and usually employees) must pay at least a minimum level of contributions into the scheme if the employee does not opt out.

**Bonds:**<sup>129</sup> Loans made to an issuer (often the government or a company) which undertakes to repay the loan at an agreed later date.

**Charge Cap:** The Occupational Pension Schemes (Charges and Governance) Regulations 2015 introduced a cap on the charges of default

strategies used for automatic enrolment of 0.75% of funds under management. The cap applies to all scheme and investment administration charges. Transaction costs (third-party costs generated when investments are sold and bought on the market) are excluded from the charge cap.

**Compound interest:** Interest is paid on the total fund, including the initial investment and the interest that has accumulated.

**Contract based scheme:** A pension scheme accessed either through an employer or individually, offered and run by a third party pension provider (for example, an insurance company). Funds are owned by the individual with a contract existing between the individual and the pension provider.

**Contributions:** Money, often a percentage of salary, that is put into a pension scheme by members and/or their employer.

**Default Strategy:** The investment strategy in which members will automatically have their contributions invested in if they do not make a choice.

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128. <http://www.thepensionsregulator.gov.uk/glossary.aspx>

129. <http://www.thepensionsregulator.gov.uk/glossary.aspx>

**Defined Benefit (DB):** an employee sponsored pension in which benefits are calculated based on years of contributions and salary (generally average or final salary).

**Defined Contribution (DC) Pension Scheme:** A trust-based or contract-based pension scheme that provides pension scheme benefits based on the contributions invested, the returns received on that investment (minus any charges incurred) and the way the savings are accessed.

**Department for Work and Pensions:** The DWP is the government department responsible for welfare and social security, including pensions, working age benefits, and disability services.

**Dependency ratio:** A measure showing the number of dependants (the very young, and those over State Pension age) relative to the working age population.

**De-Risking:** Reducing exposure to high-volatility assets in favour of assets with lower volatility but reduced opportunity for high returns.

**Drawdown:** A retirement income product which allows people to continue to invest their pension savings and receive investment returns while also drawing down an income.

**Enhanced Annuity:** An annuity that offers a higher rate for individuals who have a shortened life expectancy due to health or lifestyle factors for example, smoking, cancer, or heart disease.

**Equity:**<sup>130</sup> Shares in a company which are bought and sold on a stock exchange. Owning shares makes shareholders part owners of the company in question and usually entitles them to a share of the profits.

**Equity Release:** A product which allows people aged 55 and over to release lump sums or income from housing equity, to be paid out of their estate on death.

**Financial Conduct Authority (FCA):** The organisation which regulates firms and individuals (including financial advisers) that promote, arrange or provide contract-based pension schemes.

**Freedom and Choice/ Pension Flexibilities:** Previously, those with savings of a certain level were required to purchase a secure retirement income product in order to access their DC savings. The new pension flexibilities “Freedom and Choice” loosened restrictions so that those over the age of 55 may withdraw DC savings in any amount they like, taxed at their marginal rate, with 25% tax free.

**Gilts:**<sup>131</sup> Bonds issued by the UK Government, which have a fixed interest rate. If they are index-linked, the value of the gilts increases each year with inflation, alongside the value of interest paid.

**Group Personal Pension (GPP):** An arrangement made for the employees of a particular employer to participate in a personal pension (DC) scheme on a grouped basis.

**Group Stakeholder Pension (GSHP):** A personal pension (DC) that was required to meet certain legislative conditions including an Annual Management Charge (AMC) of no more than 1.5%, though these schemes are now subject to the 0.75% charge cap. Prior to the workplace pension reforms, employers with five or more employees who did not already offer a pension scheme were required to offer a GSHP.<sup>132</sup>

**Healthy Life Expectancy (HLE):** An estimate of how many years an individual is expected to live without illness.

**Independent Financial Advisor (IFA):** IFAs provide tailored advice and recommendations that take into account individuals’ circumstances.

**Independent Governance Committees:** Since April 2015, providers of contract-based pension schemes have been legally required to set up and maintain an Independent Governance Committee (IGC). IGCs are responsible for overseeing the governance of contract-based pension schemes and ensuring value for money.

**Inflation:** A measure of the change in the general level of prices of goods and services.

**Master Trust:** A DC pension scheme, governed by a board of trustees, offering the same terms to multiple employers and their employees.

130. <http://www.thepensionsregulator.gov.uk/glossary.aspx#s21610>

131. <http://www.thepensionsregulator.gov.uk/glossary.aspx#s21610>

132. But were not required to offer contributions



**Member:** A general term for an individual who has built up entitlement in a pension scheme.

**Office for Budget Responsibility (OBR):**

The OBR was created in 2010 to provide independent and authoritative analysis of the UK's public finances. It is one of a growing number of official independent fiscal watchdogs around the world.

**Office of National Statistics (ONS):** The UK's largest independent producer of official statistics and the recognised statistical institute of the UK.

**Passive fund management:**<sup>133</sup> The management of assets, eg equities, gilts, that replicate the performance of a given index, eg FTSE100, FTSE350, with the result that the assets in question move almost exactly in line with the chosen index.

**Pension Pot:** A general term for the amount of money accumulated for retirement.

**Personal Pension:** Individual pension arrangements organised directly between an individual and a pension provider.

**Robo-Advice:** An online service that provides automated algorithm-based financial advice, typically without the use of a human financial planner.<sup>134</sup>

**State Pension:** The public pension provided by the UK Government to people from State pension age with sufficient years of National Insurance entitlement.

**State Pension Age (SPa):** The age when people can claim their State Pension. SPa is increasing and depends on an individual's birthdate.

**The Pensions Regulator (TPR):** The organisation which regulates trust-based pension schemes and the administration of work-based personal pension schemes.

**Transaction Costs:** Third-party costs generated when investments are sold and bought on the market.

**Triple lock:** Inflationary measure by which the value of the State Pension is increased each year by the greater of the increase in earnings, CPI or 2.5%.

**Trust Based Pension Scheme:** A Defined Contribution or Defined Benefit pension scheme taking the form of a trust arrangement, governed by a board of trustees who owe a fiduciary duty to members.

**Uncrystallised fund:** A pension pot which is still in its original scheme and has not been withdrawn to purchase another product, such as an annuity or drawdown. Withdrawing has the effect of "crystallising" the pot's value as it will no longer grow in that scheme.

**Uncrystallised fund pension lump sum (UFPLS):** Withdrawals taken from a pension pot which is still in its original scheme.

**Volatility:** Volatility describes the range of gains and losses that a particular fund is likely to experience. A fund which has potential to experience high losses and gains has a high volatility and a fund with potential for low losses and gains has low volatility. In many cases volatility and returns are viewed as a trade-off, with funds incorporating higher levels of volatility in order to achieve higher returns. However, a high level of volatility exposes funds to the risk of high losses.

133. <http://www.thepensionsregulator.gov.uk/glossary.aspx#H>

134. [www.investopedia.com/terms/r/roboadvisor-roboadviser.asp](http://www.investopedia.com/terms/r/roboadvisor-roboadviser.asp)

# Technical Appendix:

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The modelling for this report considers the projection of an individual using the PPI's Suite of Pension Models, using a stochastic approach of economic assumptions. The economic scenarios are generated using the PPI's Economic Scenario Generator. The models used are detailed below. Results are presented in 2018 earnings terms.

## The pensions system

The pension system modelled is as currently legislated. The triple lock is assumed to be maintained. Individuals are assumed to be members of a Defined Contribution (DC) occupational pension scheme.

## General assumptions

Investment returns are modelled stochastically with curves generated by the PPI's Economic Scenario Generator (ESG). 1,000 scenarios were produced providing values for equity returns, bond returns, cash returns, CPI and earnings increases each year for each scenario. The assumed median values for each of these values are listed below:

CPI: 2%

Earnings: 4%

Equity return: 8%

Bond Return: 4%

Risk-free Return: 2%

## Other economic assumptions

Other economic assumptions are taken from the Office for Budget Responsibility's Economic and Fiscal Outlook (for short-term assumptions) and Fiscal Sustainability Report (for long-term assumptions).

## Asset allocation

Unless otherwise specified, asset distributions are assumed to be 56.7% invested in equities, 33.3% invested in bonds and 10% in cash such that the median return is 5.7%. These assumptions are consistent with those used across the PPI modelling suite and are the result of consultation with the PPI's Modelling Review Board, which consists of a number of experts in the field of financial modelling.

Fund charges are assumed to be 0.75% for existing workplace DC schemes,<sup>135</sup> and 0.5% for other DC/master trust schemes set up for automatic enrolment.<sup>136</sup>

Earnings growth and other economic assumptions are taken in line with Office of Budget Responsibility (OBR) assumptions,<sup>137</sup> derived from their 2018 Fiscal Sustainability Report. The earnings band for automatic enrolment contributions and minimum salary assumption are assumed to grow with average earnings.

### The Economic Scenario Generator

The PPI's Economic Scenario Generator (ESG) is used to produce randomly generated future economic scenarios based upon historical returns and an assumption of the median long-term rates of return. It was developed by the financial mathematics department at King's College London. It is used to test how the distribution of outcomes is influenced by the uncertainty of future economic assumptions.

### Key results

The model generates projected future inflation rates, and earnings growth

- Inflation rates
  - Future CPI increases and earnings inflation rates
- Investment returns
  - Returns are produced for the major asset classes of equity, cash and gilts

This produces nominal returns which can be combined to produce investment returns for a more complex portfolio.

### Application of output

The output of the ESG is a number of economic scenarios which are employed by the PPI's other models to analyse the distribution of impacts on a stochastic economic basis.

### Key data sources

The specification of the model is based upon historical information to determine a base volatility and future assumptions to determine a median future return:

- **Historical returns:** Historical yields and returns as well as inflation measures are used to determine the key attributes for the projected rates.
- **Future returns:** Future returns are generally taken from the Office for Budget Responsibility (OBR) Economic and Fiscal Outlook (EFO) to ensure consistency with other assumptions used in the model for which the economic scenarios are being generated. Volatility can also be scaled against historical levels.

### Summary of modelling approach

The six identified risk factors modelled are:

G	Nominal GDP
P	CPI
W	Average weekly earnings
Y <sup>l</sup>	Long-term yields
Y <sup>s</sup>	Money market yields
S	Stock returns

Using these variables, a six dimensional process,  $x_t$  is defined.

$$x_t = \begin{bmatrix} \ln G_t - \ln G_{t-12} \\ \ln(P_t - \ln P_{t-12} + 0.02) \\ \ln W_t - \ln W_{t-12} \\ \ln(e^{Y_t^l} - 1) \\ \ln(e^{Y_t^s} - 1) \\ \ln S_t \end{bmatrix}$$

Where t denotes time in months.

The development of the vector  $x_t$  is modelled by the first order stochastic difference equation:

$$\Delta x_t = Ax_{t-1} + a + \varepsilon_t$$

135. Average charges for trust-based schemes are 0.71% and for contract-based schemes 0.95%, DWP (2012b), and a 0.75% charge cap will be introduced for any DC default funds being used for automatic enrolment from April 2015 onwards.

136. Equivalent Annual Management Charge for multi-employer/Master trust schemes such as Legal and General's Worksave, NEST and The People's Pension.

137. OBR (2018)

Where  $A$  is a 6 by 6 matrix,  $a$  is a six dimensional vector and  $\varepsilon_t$  are independent multivariate Gaussian random variables with zero mean. The matrix  $A$  and the covariance matrix of the  $\varepsilon_t$  were determined by calibrating against the historical data. The coefficients of  $a$  were then selected to match the long-term economic assumptions.

It follows that the values of  $x_t$  will have a multivariate normal distribution. Simulated investment returns will, however, be non-Gaussian partly because of the nonlinear transformations above. Moreover, the yields are nonlinearly related to bond investments.

The first component and third components of  $x_t$  give the annual growth rates of GDP and wages, respectively. The fourth and fifth components are transformed yields. The transformation applied ensures that the yields are always positive in simulations. Similarly the second component gives a transformed growth rate of CPI. In this case, the transformation applied ensures that inflation never drops below in  $-2\%$  the simulations. This figure was selected to be twice the maximum rate of deflation ever found in the historical data.

## PPI Aggregate Model

### Overview of Aggregate Modelling of Private Pensions

The PPI Aggregate Model links changes in the UK population, the labour market and economic assumptions to project forward private (and state) pension savings. Population projections are taken from 2016-based figures published by the ONS.

Current distributions of individuals across pension scheme types are taken from the Lifetime Labour Market Database (LLMDB)<sup>138</sup> a panel dataset of 1% of UK National Insurance records. The workforce data includes numbers of individuals and average earnings split by age, gender and earnings band. The data are further split between public and private sector contracted-out schemes and those who are contracted-in to the State Second Pension (S2P).

### Initial Conditions

In the base year of projection (2010), individuals with private sector pension arrangements are split between public and private Defined Benefit (DB) schemes and workplace Defined Contribution (DC) schemes. 17.5% of working individuals are assumed to be members of DC workplace pensions and 32.1% of individuals are assumed to be members of DB workplace schemes.<sup>139</sup> 73.2% of those in DB schemes are assumed to work within the public sector,<sup>140</sup> leaving 8.6% of the workforce in private sector workplace DB schemes.

The workforce not initially enrolled in public sector DB, private sector DB or private sector workplace DC, are considered as the eligible population for automatic enrolment. This includes individuals not in workplace pension schemes who contribute to personal pensions.

Stocks of existing assets for DB schemes and workplace DC schemes are split across cohorts by contribution levels. Initial stocks of workplace DB assets were assumed to be £890 billion in the base year.<sup>141</sup> It was assumed that the stocks of DC assets in 2010 were £275 billion.<sup>142</sup>

### Movement of individuals between schemes due to decline in DB schemes

The proportion of individuals in each scheme is not stable over time: the proportion of the total workforce who are enrolled in a private sector DB scheme is assumed to decline by 80% between 2010 and 2030 and these individuals are moved into the existing DC workplace schemes.

### Movement of individuals between schemes post automatic enrolment

From 2012, employees in the private sector without workplace DC provision are placed in a scheme to represent automatic enrolment, which is split further into master trust schemes and other DC schemes, assuming 63% are automatically enrolled into master trusts and the remaining into other DC schemes. Individuals are enrolled in proportion to the

138. Data from LLMDB 2010-11

139. ONS (2013a)

140. Average proportion of males and females employed in public sector COSR schemes according to LLMDB 2010-11

141. TPR (2012) The Purple Book Chapter 4 Table 4.1 Assets discounted to the base year.

142. Workplace DC assets taken from ONS (2012) Table 3, adjusted for decumulated assets.

likely number of employees becoming eligible each year due to staging of their employers. Similarly, during the staging period, employees in existing DC schemes who become eligible for automatic enrolment either remain in the existing scheme or are moved to a new automatic enrolment workplace DC scheme (again split into master trusts and other DC schemes in the same proportions as mentioned above). It is assumed that 80% of existing members remain in their current scheme, and 20% are expected to move to the new automatic enrolment scheme. New members to DC schemes who have an employer with an existing scheme either join the new automatic enrolment scheme (80%) or join an existing DC scheme (20%).

Overall, after 2012 the private sector workforce is assumed to contribute to either private sector DB pension schemes, DC schemes which were existing prior to automatic enrolment, DC which were set up for automatic enrolment, or schemes set up for those that are eligible for automatic enrolment that did not contribute before the implementation of automatic enrolment. It is assumed that 14%<sup>143</sup> of the workforce change jobs from year to year, which causes individuals to shift from existing DC schemes into new DC automatic enrolment schemes over time.

## Contributions

Contributions are taken as a percentage of total earnings for employer provided schemes (both existing schemes and those set up after automatic enrolment) and are taken across band earnings for individuals automatically enrolled who previously were not saving. The earnings band is taken to be £6,032 to £46,350 with an earnings trigger of £10,000 (all in 2018/19 terms).

When automatically enrolled, individuals and their employers are assumed to contribute at the minimum levels required under automatic enrolment legislation (phased in from a combined contribution of 2% of band earnings in 2012, rising to 8% of band earnings in 2019 in accordance with existing regulations) unless otherwise stated.

## PPI Modelled Projection of Wealth and Assets Survey Data

The projection of pension wealth at retirement has been calculated by age cohorts based upon current pension wealth and level of saving.

### Base data

These projections are based upon wave 5 data from the Wealth and Assets Survey (WAS).

The WAS is a longitudinal survey that interviewed across Great Britain; England, Wales and Scotland (excluding North of the Caledonian Canal and the Isles of Scilly). Wave five achieved around 20,000 household interviews in the period July 2014 to June 2016.

Personal data:

- Age band, used to assess cohort
- Sex, used to assess retirement age
- Income, used to assess automatic enrolment eligibility

Scheme data:

- Pension scheme wealth
- Scheme type
- Contribution style
- Contribution level for employee and employer

Individuals have been rolled forward to 2018, subject to earnings growth, pension wealth growth and automatic enrolment.

### Model assumptions

Assumptions used are consistent with the aggregate model unless stated otherwise, economic modelling is deterministic using the central economic returns.

- Behaviours are unchanged over the accumulation period, contribution levels remain constant.
- To assess potential retirement outcomes it is assumed that an individual will not opt-out of automatic enrolment.
- Imputed values in WAS are assumed to be appropriate.
- All results are stated in 2018 earnings terms.

### Projection of current pension wealth

Current pension wealth is expected to grow in line with the PPI's economic basis subject to fund management charges.

143. Average annual workforce churn. DWP (2010) p49

## Projection of current pension contributions

The current level of regular employee and employer contributions to occupational DC schemes are projected assuming that the individual remains in work and is subject to earnings increases. Tax relief is applied to the contributions where appropriate based upon current rules.

## Projection of future automatic enrolment pension wealth

Individuals are assumed to commence automatic enrolment contributions subject to not already making regular contributions to a pension scheme and being in suitable employment and eligible for automatic enrolment.

## *Additional Wealth Analysis*

The wealth modelling for chapter 4 is based upon Wealth and Assets Survey (WAS) data and projections have been undertaken consistently with projection of current pension wealth (above) and the PPI's suite of pension models.

## Projection of wealth

The most current wealth data, Wave 5, from the WAS has been considered. This covers interviews 2014-16. The Wave 1 dataset (interviews 2006-08) has been used in conjunction with more recent data to understand the progression of the distribution of wealth in recent years. The data has been considered by 10 year cohorts and weighted to be representative of the Great Britain population.

## Pension wealth

Current pension wealth is expected to grow in line with the PPI's economic basis subject to fund management charges. At retirement individuals are expected to withdraw a tax-free lump sum, however this is not projected to contribute to other wealth types. To value a pension in payment an annuity factor is calculated which is dependent upon economic circumstances. This makes comparison with historical pension wealth subject to fluctuations derived from economic conditions at the time. The calculation of residual pension wealth at ages 75-84 it is based upon an income level which is not subject to longevity concerns. Where an individual choose to drawdown at

a different rate this may be used to preserve a higher or lower amount of pension wealth, or may have resulted in pension wealth being exhausted. The effect of these behaviours may be to further skew the outturn to higher pension wealth with a lower degree of coverage.

## Housing wealth

Housing wealth is based upon current property wealth. Property wealth is assumed to increase in line with OBR projections which trend to long-term earnings inflation. Property wealth is assumed to be divided equitably within a pensioner unit. Outstanding mortgages amounts upon their primary residence are assumed to be paid off by State Pension age, without reference to other wealth accrual. The transfer of property wealth to a surviving spouse has not been included in the projection. This would have the effect of increasing an individual's property wealth as they would now have sole ownership of the wealth. The impact of funding long-term care has not been taken into consideration in the projection of property wealth.

## Other wealth

Other wealth is split between financial wealth and physical wealth. These have been subject to inflation over time, however the shape of the distribution has not been changed by the projection. The data appears volatile across time and cohorts. Use of the projection data should be treated with care as there is a great deal of uncertainty in the outcome.

## *Limitations of analysis*

Care should be taken when interpreting the modelling results used in this report. In particular, individuals are not considered to change their behaviour in response to investment performance. For example, if investments are performing poorly, an individual may choose to decrease their withdrawal rate and vice versa.

Monte Carlo simulation can be a powerful tool when trying to gain an understanding of the distribution of possible future outcomes. However, in common with other projection techniques, it is highly dependent on the assumptions made about the future. In this case, the choice of distribution and parameters of the underlying variables, the investment returns of equities, gilts and cash are important to the results.

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# References

- Association of British Insurers (2017), ABI Press release, 11 April 2017 “The new retirement market: the evolution continues” ABI, London
- Association of British Insurers (2016a), ABI Press release, 15 August 2016 “ABI pension freedom statistics - one year on factsheet” ABI, London
- Association of British Insurers (2016b), ABI Press release, 28 March 2016 “ABI pension freedom statistics - one year on factsheet” ABI, London
- Association of British Insurers (2015a), ABI Press release, 03 November 2015 “£4.7 billion paid out in first six months of pension freedoms” ABI, London
- Association of British Insurers (2015b) ABI Press release, 15 July 2015 “Industry figures reveal more than £1.8 billion withdrawn in first two months as consumers exercise new pension freedoms” ABI, London
- Blake, D. Harrison, D. (2014) *Independent Review of Retirement Income Consultation Paper Pensions Institute* Cass Business School
- Barton (2017) House of Commons Briefing Paper, number CBP 7706 *Home ownership & renting: demographics* House of Commons Library
- Brancati, U. Beach, B. Franklin, B. Jones, M. (2015) *Understanding retirement journeys: Expectations vs reality* Prudential, International Longevity Centre (ILC)
- Carers UK (2012) *Sandwich Caring* Carers UK
- Crawford, R. Institute for Fiscal Studies (IFS) (2018) *The use of wealth in Retirement, IFS Briefing Note BN237* IFS
- Crawford, R. Tetlow, G. (2012) *Expectations and experience of retirement in Defined Contribution pensions: a study of older people in England* IFS
- Department for Work and Pensions (DWP) (2018a) *Employers' Pension Provision Survey 2017* DWP
- Department for Work and Pensions (DWP) (2018b) *Workplace Pension Participation and Savings Trends of Eligible Savers Official Statistics: 2006 to 2017* DWP, London
- Department for Work and Pensions (DWP) (2017) *Automatic Enrolment Review 2017: Analytical Report* DWP, London

- Department for Work and Pensions (DWP) (2015a), *Review of the automatic enrolment earnings trigger and qualifying earnings band for 2016/17: supporting analysis* DWP
- Department for Work and Pensions (DWP) (2015b) *Pensioner income projections* DWP, London
- Equity Release Council (2018) *Spring 2018 Market Report* Equity Release Council
- Financial Conduct Authority (FCA) (2018a), *Improving the quality of pension transfer advice CP 18/7* FCA
- Financial Conduct Authority (FCA) (2018b), *Retirement Outcomes Review Final report CP 18/7* FCA
- Financial Conduct Authority (FCA) (2016), *FCA survey of forms providing financial advice* FCA
- Her Majesty's Treasury (HMT) Financial Conduct Authority (FCA) (2016) *Financial Advice Market Review: Final report DP15/5* FCA
- Institute for Fiscal Studies (IFS) (2016) Presentation from Launch event of research funded by the IFS Retirement Saving Consortium and the Economic and Social Research Council *Automatic enrolment: the story so far* IFS
- OMB Research Ltd., The Pensions Regulator (TPR) (2018) *Ongoing duties survey – Autumn 2017* OMB, TPR
- OMB Research Ltd., The Pensions Regulator (TPR) (2017) *Ongoing duties survey – July 2017* OMB, TPR
- Office for National Statistics (ONS) (2017) Article: *What has happened to the income of retired households in the UK over the past 40 years? A closer look at the growth and distribution of income for retired households over the past 40 years.* ONS
- Pension Protection Fund (PPF) The Pensions Regulator (TPR) (2017) *The Purple Book: DB Pensions Universe Risk Profile 2017* PPF
- Pensions Policy Institute (2018) *Evolving Retirement Outcomes* PPI
- Pensions Policy Institute (PPI) (2013) *What level of pension contribution is needed to obtain an adequate retirement income?* PPI
- Pensions Policy Institute (PPI) (2012) *The changing landscape of pension schemes in the private sector in the UK* PPI
- Royal London (2018a) *Will we ever summit the pension mountain?*
- Royal London (2018b) *Royal London Policy Paper 19: Is it time for the “Care Pension”?*
- Royal London & Dying Matters (2016) *Losing a partner: the financial and practical consequences – Part 2*
- The Pensions Regulator (2018a) *Automatic enrolment: Commentary and analysis: April 2017 – March 2018* TPR
- The Pensions Regulator (2018b) *Declaration of compliance report July 2012 – end June 2018* TPR
- The Pensions Regulator (2016) *Code of practice no.13: Governance and administration of occupational trust-based schemes providing money purchase benefits* TPR
- Wagstaff, C. (2018) *Generating Retirement Outcomes to be Enjoyed and not Endured* CTI
- Wellbeing, Health, Retirement and the Lifecourse (WHERL) cross-research Council consortium (2017) *The Wellbeing, Health, Retirement and the Lifecourse project*, PPI, Age UK, DWP, KCL, UCL, Manchester University, University of Toronto, ESRC, MRC
- Willis Towers Watson (2018) *DB member choice survey 2018* Willis Towers Watson
- Willis Towers Watson (2017) *DB member choice survey 2017: the rise of pension flexibility* Willis Towers Watson
- UBS Asset Management (2016) *The right ingredients: Pension Fund Indicators 2016* UBS
- XPS Pensions Group (2018) *Member outcomes under freedom and choice* XPS
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