PENSIONS POLICY INSTITUTE

PPI

The Future Book: Unravelling workplace pensions

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The Future Book: Unravelling workplace pensions

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Foreword

The Future Book aims to help advance the journey towards better retirement provision in Britain to ensure all individuals can achieve a pension that provides them with the financial foundation for a secure retirement.

With the relatively recent shift to individuals making key saving and investment decisions for themselves, the evidence so far suggests that many households will be unable to maintain their current standard of living when they reach retirement. The advent of auto-enrolment has increased the number of workers saving for retirement, with more active savers now in defined contribution (DC) pension schemes rather than defined benefit (DB). This rise in the number of pension savers is a step in the right direction, but DC plans must continue to evolve in order for them to provide savers with an adequate pension.

Our industry has a responsibility to both highlight current shortcomings and help find better solutions. In this endeavour we call on all stakeholders across financial services, government, employers, and employees to work together to achieve this goal.

The Future Book provides insight into the development of the UK DC pension market and the current behaviours of DC pensions savers. It also highlights the limitations of DC schemes in their current form and addresses how to close some of the gaps.

One of the biggest risks we face is that savers are not putting enough money away and their pension income will therefore be insufficient. Figures in the Future Book indicate the current levels of contributions from individuals and employers are far too low to generate a significant retirement income. We need to encourage individual savers to invest more themselves and look to employers to bear more responsibility.

A further risk is that savers don't realise that their decision where to invest is just as important as deciding how much they save. In fact, their investment decisions will largely determine whether they maximise the potential of the money they are putting away. The wider industry needs to work together to help individuals better understand the implications of their choices. While educating individuals is necessary there is more that can be done to ensure savers' investments work harder.

Our role as asset managers is to reduce the risk that retirees outlive their savings by creating solutions that provide the long-term growth and income they need. More needs to be done to increase the levels of transparency and understanding about the options available, with a clear balance of the returns and risks associated with each.

By capturing current behaviours and trends and projecting future direction, we hope the Future Book will play a role in shaping a fit-for-purpose pension framework going forward.

Dominik Kremer,
Head of Institutional Sales, EMEA
at Columbia Threadneedle Investments

Introduction

Demographic, policy and market changes mean that in future, retirees will be living longer, entitled to the State Pension later, more likely to reach retirement with Defined Contribution (DC) savings (with no or low levels of Defined Benefit (DB) entitlement), and experience flexibility of access to DC savings. Greater numbers of DC savers, coupled with flexibility of access, will increase the levels of risk and complexity that people with pension savings face at and during retirement.

Given the potential risks involved for those retiring with DC savings, and the rapid expansion of the workplace DC market, it is important that a comprehensive compendium of DC research, statistics and longitudinal studies is available to allow observation and reaction to developing trends.

The Pensions Policy Institute (PPI), commissioned by Columbia Threadneedle Investments, is publishing the second edition of its annual DC compendium of research and statistics, "*The Future Book*", setting out available data on the DC landscape alongside commentary, analysis and projections of future trends.

Chapter one describes the state and private pension system in the UK and outlines the main landscape changes over the past few years, focussing mainly on those affecting DC pensions.

Chapter two makes use of available data and PPI analysis to paint an overall picture of the current state of play within the DC market, both on an individual and aggregate level.

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 the role of defaults is changing in a new, more flexible, pensions landscape and what this means for consumers. It also explores relevant international developments.

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

Chapter one: What is the "DC landscape"?

This chapter describes the state and private pension system in the UK and outlines the main landscape changes over the past few years, focussing mainly on those affecting Defined Contribution (DC) pensions.

State Pensions

There are two main tiers to the state and private pension system:

- A compulsory, redistributive state tier; and,
- A voluntary, private tier[1]

State tier	Private tier
The State Pension is compulsory and redistributes money within the UK, from those better off to those less well off.	Private pensions are voluntary for individuals and are intended to redistribute earnings across an individual's life course.
Contributions are compulsory and are paid through National Insurance contributions.	Contributions are voluntary for employees, though automatic enrolment requires employees to pay minimum contributions while enrolled i.e. not having opted out. Employers are required to pay pension contributions for employees who do not opt out.
Before April 2016, the State Pension was made up of the basic State Pension (bSP) and the State Second Pension (S2P). However, Since April 2016 the new State Pension (nSP) was introduced replacing bSP and S2P with a single-tier flat rate pension.	Private tier pensions are structured as either Defined Benefit (DB), Defined Contribution (DC) or Hybrid/risk sharing schemes.
The State Pension is provided by the Government and earned through National Insurance contributions. 35 qualifying years of contributions are required for eligibility for a full rate of nSP (men and women).	Employers either provide private pension schemes or provide access to schemes run by third-parties. Individuals can take out a private pension directly with a pension provider (e.g. the self-employed).

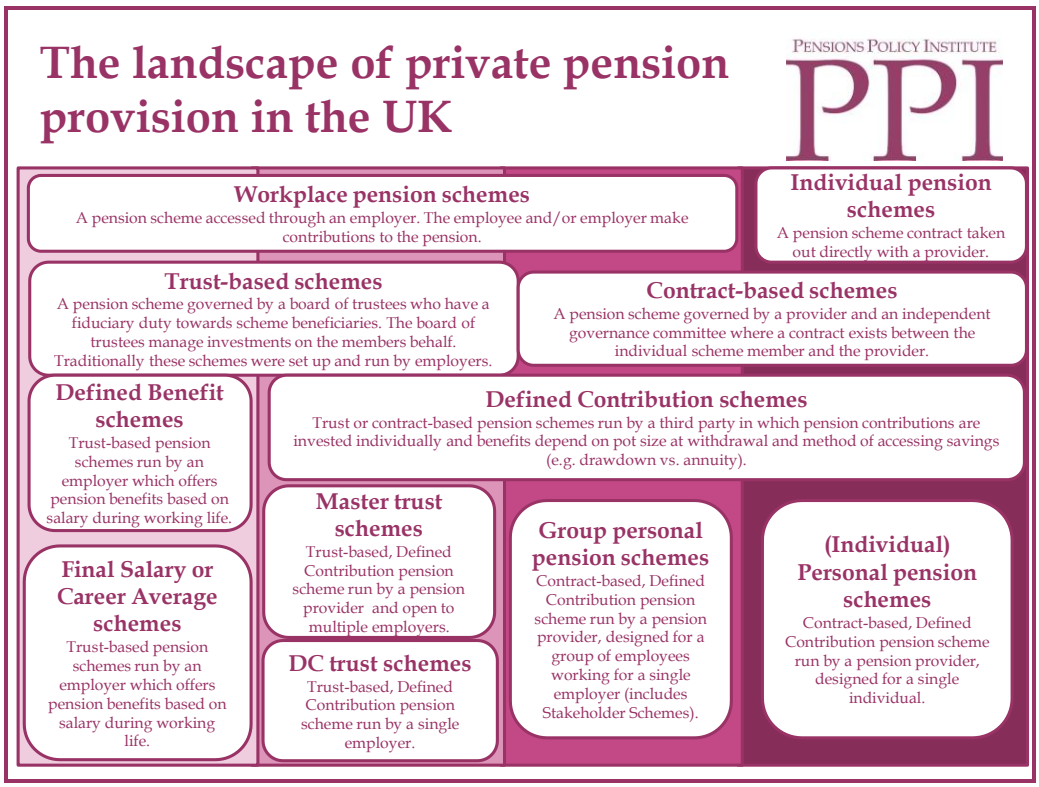
[1] Further detail regarding the UK pension system, see PPI's Pension Primer (2016)

Private pensions are voluntary

Private pension contributions are voluntary though there are elements of soft compulsion through automatic enrolment (introduced in 2012). Benefits from private pension schemes vary, depending on scheme rules and structure.

Private pensions are generally provided through the workplace, though an individual, (for example, someone who is self-employed) can take out a private pension directly with a pension provider. Pensions provided through the employer are called workplace pensions. Workplace pensions can be sponsored and managed directly by an employer (occupational pension schemes) or run by a third-party (personal pensions). Workplace pension schemes can be structured as Defined Benefit (DB), Defined Contribution (DC), or hybrid/risk-sharing schemes (Chart 1).

Chart 1[2]



[2] PPI (2016)

There are many risks associated with saving and accessing pensions

The main pension risk is having insufficient income for an adequate standard of living, as a result of not saving or not saving enough.[3] The other main risks associated with pension saving and accessing pensions are:

- Investment risk – the risk that investments don't generate the expected level of return during the accumulation phase or fare poorly resulting in a reduction of income during the retirement phase.
- Inflation risk – the risk that retirement income doesn't rise in line with price inflation and as a result loses value relative to the price of goods and services.
- Longevity risk – the risk that an individual lives longer than expected which could result in them running out of money.
- Insolvency risk – the risk of the provider or employer becoming bankrupt or insolvent (although this will not always result in the loss of funds given the statutory compensation schemes available, it may involve a reduction in the amount received in retirement).[4]

There are various other risks associated with saving for and accessing pension savings in retirement including:

- excessive product charges;
- poor retirement-income product rates and,
- the risk of needs in retirement changing unexpectedly i.e. health and social care needs.[5]

Different scheme structures involve different balances of risk

- Defined Benefit: in Defined Benefit (DB) schemes the employer bears the investment, inflation and longevity risks.
- Hybrid, risk-sharing: these are called "risk-sharing" schemes because risk is shared more evenly between the employer and employee (or between employees) than in traditional DB or DC.
- Defined Contribution: in Defined Contribution (DC) schemes, the scheme member bears the investment, inflation and longevity risk. There are also Collective Defined Contribution schemes, however the supporting regulations have not been introduced.[6]

[3] PPI (2013)
[4] Blommestein et.al 2008
[5] Blake, Harrison (2014); PPI (2012b)
[6] Collective Defined Contribution schemes (CDC) are DC schemes in which all members' funds are pooled rather than invested individually. The supporting regulations to enable collective benefits to operate have not yet been introduced, so there are currently no CDC schemes in the UK.

Demographic, market and policy changes have caused shifts in the UK pensions landscape

In recent decades there have been many changes to the UK pensions landscape. Most of these changes arise from demographic, market, policy and regulatory factors. All of these factors inter-connect and correlate.

Demographic shifts

- Life expectancy: In 2016, a 65 year old man can expect to live on average to age 86.5 and a 65 year old women to age 88.7. In contrast when the first contributory State Pension was first introduced in 1925, a 65 year old man could expect to live to around age 76.[7]

- Healthy life expectancy: Healthy life expectancy is also on the increase. Babies born in 2009/11 are likely to spend 3.5 years (boys) and 3.7 years (girls) longer in good health than babies born in 2000/02. This means that younger generations should be capable of working longer, on average, than older generations.[8]

- The old-age dependency ratio: The old age dependency ratio represents the number of people over State Pension age (SPa) divided by the number of people of working-age, in order to illustrate how many people may have to work and pay taxes to support each pensioner through the National Insurance system (though not all people over SPa are out of work). Increases in longevity have been coupled with decreases in fertility (birth rates), which has led to an increase in the old-age dependency ratio. This increase affects the ability of tax payers to fund State Pensions and pensioner benefits. In 2016 there are 308 people of SPa or over for every 1,000 people of working age.[9]

Increases in the old age dependency ratio affects the ability of tax payers to fund State Pensions and pensioner benefits and provides part of the Government's rationale for increases in State Pension age.

[7] ONS National population projections lifetables (2014 based)
[8] ONS (2014c)
[9] ONS projections of dependency ratio, 2014

Market Changes

Defined Benefit (DB) pension schemes used to dominate private sector pension provision with around 8 million active members in 1967.[10] However, since the late 1960's there has been a decline in private sector DB provision. In January 2016, there were 1.5 million active members in private sector DB schemes and over 85% of schemes were closed to new members or both new members and new accruals.[11] Scheme closures can be attributed to several factors:

- Increases in life expectancy: pensioner members are living for longer and requiring pension payments for longer than may have been anticipated.
- Economic effects: lower than anticipated performance of equities, and other economically sensitive assets, in which DB schemes were mostly invested, coupled with a longer term economic decline and the accompanying dramatic decline in interest rates.
- Changes in policy, regulation and accounting standards: though the majority of legislative changes have been designed to protect members' rights, or to make the risks of DB pension provision more transparent, the combined impact of these changes has increased the cost and reduced the attractiveness of providing DB pension schemes.[12]

There are now greater numbers of active savers in private sector DC schemes than in private sector DB schemes

As DB schemes became more problematic for private sector employers the less risky 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 2016 there are around 12.3 million active members in DC schemes[13] compared to 1.5 million active members in private sector DB schemes.[14]

[10] PPI (2012a)
[11] TPR (2016f)
[12] PPI (2012a) Pp. 25-29
[13] PPI Aggregate Model
[14] Occupational Pension Schemes Survey (2014)

Policy Changes

- New State Pension: From April 2016 the basic and additional State Pensions were replaced with the new State Pension which is a single-tier, flat-rate pension set at a level above the Guarantee Credit element of Pension Credit, (£155.60 per week for a single pensioner in 2016/2017). The full rate of new State Pension is £155.65 per week for those with a 35 year National Insurance contribution record.[15]

- Increases to the State Pension age: The State Pension age is rising for women from age 60 in 2010 to age 65 by 2018 when it will equalise with men's. State Pension age for both men and women will rise to age 66 by 2020, and age 67 by 2028.

- A further rise to age 68 is currently being independently reviewed: The purpose of the independent review is to make recommendations to the Secretary of State for Work and Pensions on future State Pension age rises.[16]

- Automatic enrolment: Automatic enrolment, rolling out in a staged process from 2012, requires employers to enrol qualifying employees into a workplace pension. Employees have the option of opting out. For those who stay in, employers are required to make minimum contributions on a band of earnings (£5,824 - £43,000 for 2016/17). [17] Over 6.5 million people have been automatically enrolled so far.[18]

- Freedom and Choice: Since April 2015, people with DC savings have had greater flexibility when they come to access their pension savings after the minimum pension age (currently age 55). Prior to these changes, people with DC savings who were not able to demonstrate a minimum level of secure income were required to use a secure retirement income product e.g. an annuity in order to access their DC pension savings.[19]

- The Lifetime ISA: From April 2017, those who are aged between 18 and 40 will be eligible to open a Lifetime ISA (LISA). The LISA was announced in the March 2016 Budget, and will be introduced in April 2017, as a complementary savings vehicle for retirement and the deposit for a first house purchase. The government will provide a 25% contribution on the first £4,000 of contributions in each tax year (i.e. up to £1,000 of Government contribution) up until the age of 50. People can access LISA savings from age 60, or earlier for a first-home deposit (subject to a £450,000 limit) tax-free.[20]

[15] www.gov.uk/new-state-pension/overview
[16] DWP(2016a)
[17] DWP (2015a)
[18] TPR (2016a)
[19] DWP (2014)
[20] HMT (2016)

Regulatory Changes

- Charge Cap: In 2015 the Government introduced a charge cap on default funds used by automatic enrolment qualifying schemes to 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) are excluded from the charge cap.[21]
- 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 schemes act in the best interests of members and challenging providers who are not providing "value for money".[22]
- 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 "good value" for members.[23]
- Master trust regulation: In the 2016 pensions bill it was announced that master trust schemes would have to demonstrate that they meet 'strict new criteria' before entering the market. The bill aims to give the pensions regulator increased regulatory powers over master trust schemes.[24]

Demographic, market and policy changes affect needs and resources in retirement

All of the above factors affect the needs, resources and risks faced by people at and during retirement. Overall, future retirees will be living longer, taking 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. Greater numbers of DC savers, coupled with flexibility, could increase the level of risk people with DC savings face at and during retirement.

[21] The Occupational Pension Schemes (Charges and Governance) Regulations 2015
[22] PPI Briefing Note 80 'Independent Governance Committees'
[23] www.legislation.gov.uk/ukdsi/2015/9780111128329/pdfs/ukdsiem_9780111128329_en.pdf; TPR (2016b), 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 schemes are effectively run, durable and offer value for members.
[24] The Queen's Speech (2016)

Chapter two: What does the DC landscape look like?

This chapter makes use of available data and PPI analysis to paint an overall picture of the current state of play within the Defined Contribution (DC) market, both on an individual and aggregate level.

Automatic enrolment

Automatic enrolment which requires employers to enrol eligible employees into a qualifying pension scheme, is currently being staged in. Employees have a window of opportunity to opt-out and receive back any contributions already made. Automatic enrolment staging began in 2012. Current staging dates are as follows:

- From January 2016 employers with fewer than 30 employees began to automatically enrol;
- From May 2017 employers who came into existence after October 2012 will begin automatically enrolling;
- Under the current timetable all complying employers will have automatically enrolled eligible employees by February 2018.[25]

Employees

To qualify for automatic enrolment an individual must be employed, aged between age 22 and their State Pension age, and earning £10,000 per year or above in a single job in 2016/2017. For employees who are automatically enrolled and do not opt-out, and for some employees who opt in, employers are required to make a minimum 1% level of contributions on a band of earnings. For 2016/2017 the lower level of the qualifying earnings band for contributions is £5,824 and the upper level is £43,000.[26]

The number of automatically enrolled people rose from 5.4 million in 2015 to 6.5 million in 2016

By July 2016, 6.5 million employees were automatically enrolled. However, a further 5.9 million were found ineligible due to age or earnings (Table 1).

Table 1:[27] Numbers of employees automatically enrolled and number found ineligible for automatic enrolment by year (cumulative)

	By August 2015	By July 2016
Employees automatically enrolled	5.4 million	6.5 million
Employees found Ineligible	5.2 million	5.9 million

[25] TPR (2016a)
[26] DWP (2015a)
[27] TPR (2016a)

Automatic enrolment numbers contain some duplication arising from people leaving jobs after being automatically enrolled and being automatically enrolled again in new jobs.

Employers are required to re-enrol all eligible workers three years after they opt-out the first time (Chart 2). At July 2016, 188,000 employees were re-enrolled into an automatic enrolment pension scheme.

Chart 2[28]

Opt-outs

People have the opportunity to opt-out within one calendar month of being automatically enrolled. Opt-out levels have been lower than expected, so far, remaining fairly steady at 9%. The Government currently expects opt-outs to average 15% by the end of 2018 (because opt-outs may rise as minimum contribution levels phase up to 8%).[29]

Those working for the smallest employers have the highest opt-out rates

The Future Book 2015 found that, in 2014, older workers, those in part-time work and women were more likely to opt out.[30] 2015 data shows that those working

[28] TPR (2016a)
[29] DWP (2016b)
[30] DWP (2014)

for the smallest employers and those automatically enrolled into National Employment Savings Trust (NEST) are also more likely to opt out. There may be a cross-over between these two groups (Chart 3).

Chart 3[31]

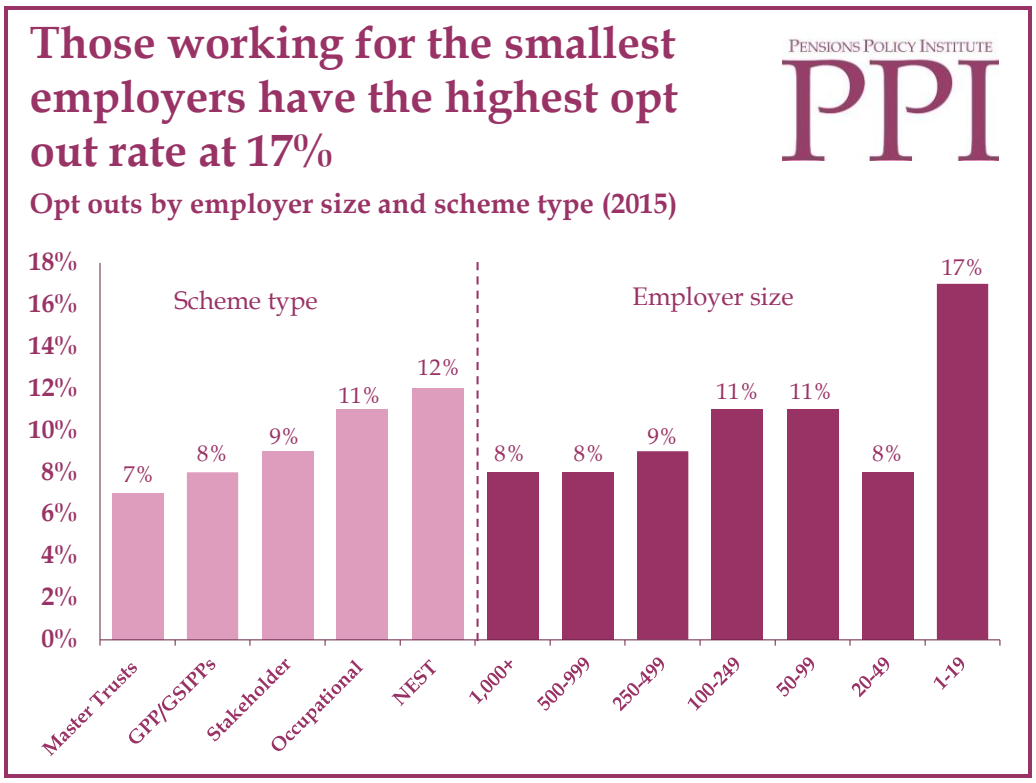


Chart 3 shows that those least likely to opt out are people working for larger employers, who may have already offered a pension scheme to employees, and those automatically enrolled into master trusts other than NEST. Those auto-enrolled into NEST are most likely to be on lower incomes and have no pension saving history and therefore more likely to opt-out of saving due to affordability or lack of trust/interest in pension saving.[32]

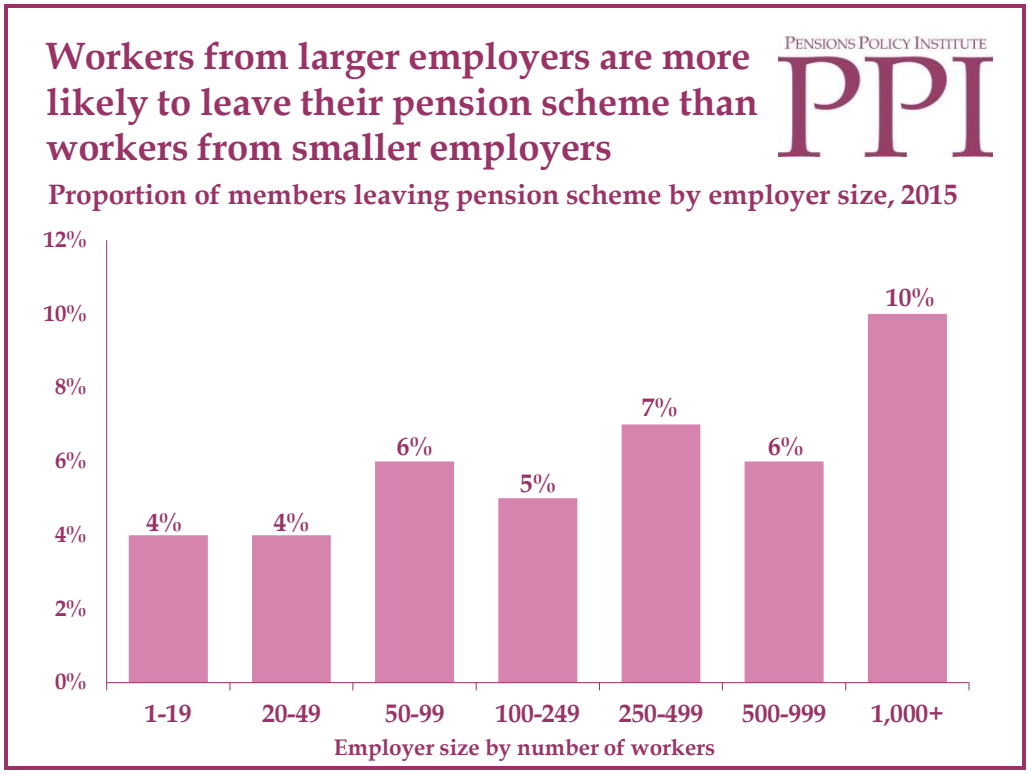
Greater proportions of those working for larger employers left their pension scheme in 2015

Some people may leave their scheme relatively soon after their one month opt-out period has expired, but not be included in opt-out figures. Therefore, it is useful to consider the proportion of people leaving their pension scheme alongside automatic enrolment rates. However, people may also leave schemes because of a change in employment or financial circumstances. It cannot be

[31] DWP (2016b) Table 4.3, "master trusts" does not include NEST
[32] DWP (2016b) The EPP survey is a sample of 3,008 private sector employers therefore out opt rates may not be representative of scheme types in Chart 3. For example, the opt out figure in NEST's 2015/2016 annual report and accounts was 7%.

assumed that all those who leave their scheme are doing so because they do not wish to be automatically enrolled (Chart 4).

Chart 4[33]



Greater proportions of those working for larger employers leave their scheme than those working for smaller employers. This may relate to higher churn in the workforce of larger employers, as those working for larger employers are less likely to opt out than those working for smaller employers. It is difficult to draw conclusions about the proportion of scheme leavers who are doing so as a response to automatic enrolment and the proportion who would have left their schemes anyway, in the natural course of events.

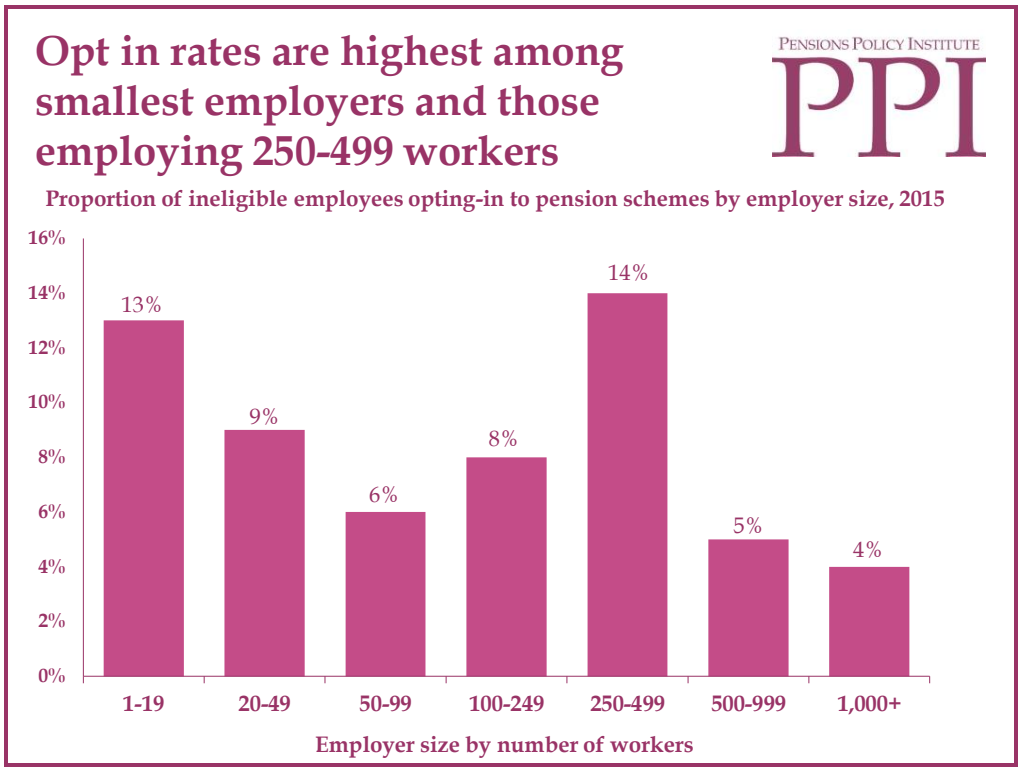
Opt in rates vary by scheme size

Those who are ineligible for automatic enrolment due to age or earnings level may still opt in, once their employer has reached its staging date. (Those earning above £5,284 but below £10,000 per employment are eligible for employer contributions if they opt in. Those opting in with salaries under £5,824 are not eligible for employer contributions under automatic enrolment legislation, though their employer may choose to pay contributions anyway).

[33] DWP (2016b) table 4.1

In 2015, 5% of employees had opted-in to their employer's pension scheme.[34] Opt-in rates vary by scheme size (Chart 5).

Chart 5[35]



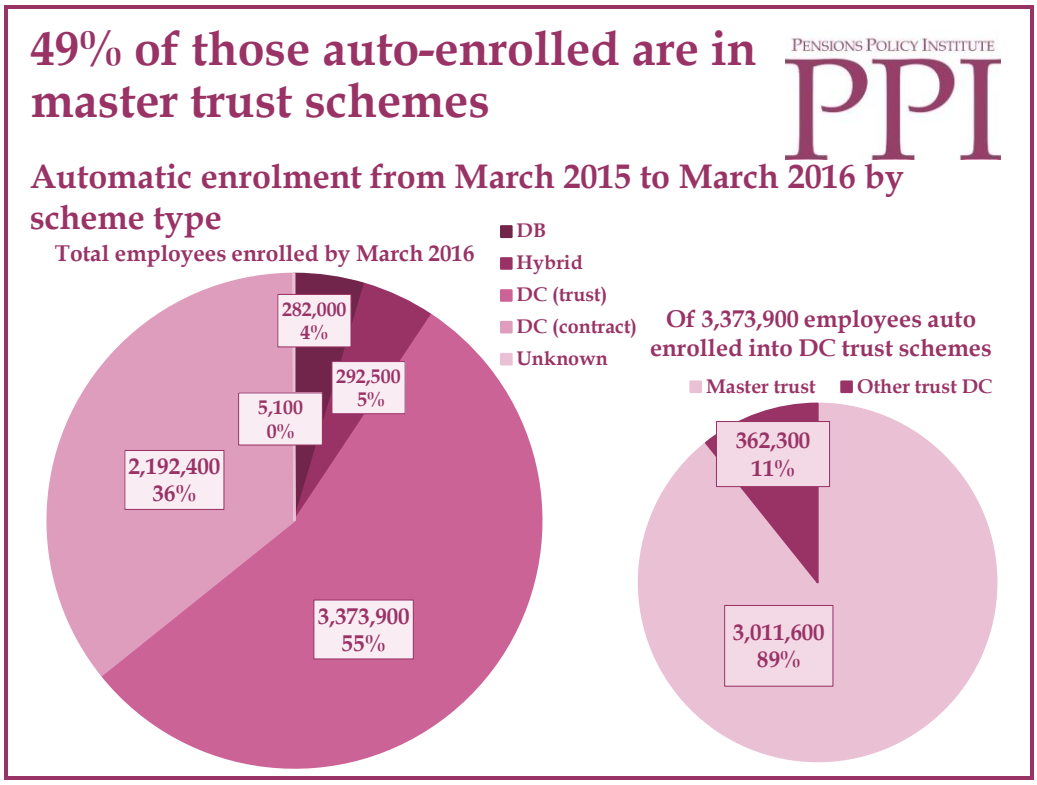
Opt in rates are highest among employers with 250-499 employees and 1-19 employees and lowest among larger employers. Those working for the smallest employers are more likely to opt-in, but are also more likely to be ineligible for automatic enrolment.

[34] DWP (2016b) table 4.2
[35] DWP (2016b) table 4.2

Scheme type: Almost half of those automatically enrolled have been enrolled 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 master trusts has risen quite dramatically with automatic enrolment (Chart 6).

Chart 6[36]



[36] TPR (2016c)

Of 6.1 million[37] workers automatically enrolled by 31 March 2016, 91% were enrolled into DC schemes and almost half, 49%, were enrolled into master trust schemes. 900,000 people were automatically enrolled in the 12 month period between March 2015 and March 2016 and of these, around 590,000 were enrolled into DC trust-based schemes (Chart 7).

Chart 7[38]

Since 2015, there has been an increase in employers automatically enrolling their employees into DC trust-based (+2%) and DC contract-based (+1%) schemes. The number of people being automatically enrolled into DB schemes (-2%) has decreased. The amount enrolled into Hybrid schemes has remained the same at 5%.

[37] 6,145,900 people automatically enrolled by March 2016 (The 6.1 million is lower than the updated 6.5 million figure previously cited, because of the available data for this breakdown)
[38] TPR (2016c) Some numbers in 2016 are lower than numbers recorded in 2015 due to data refinement

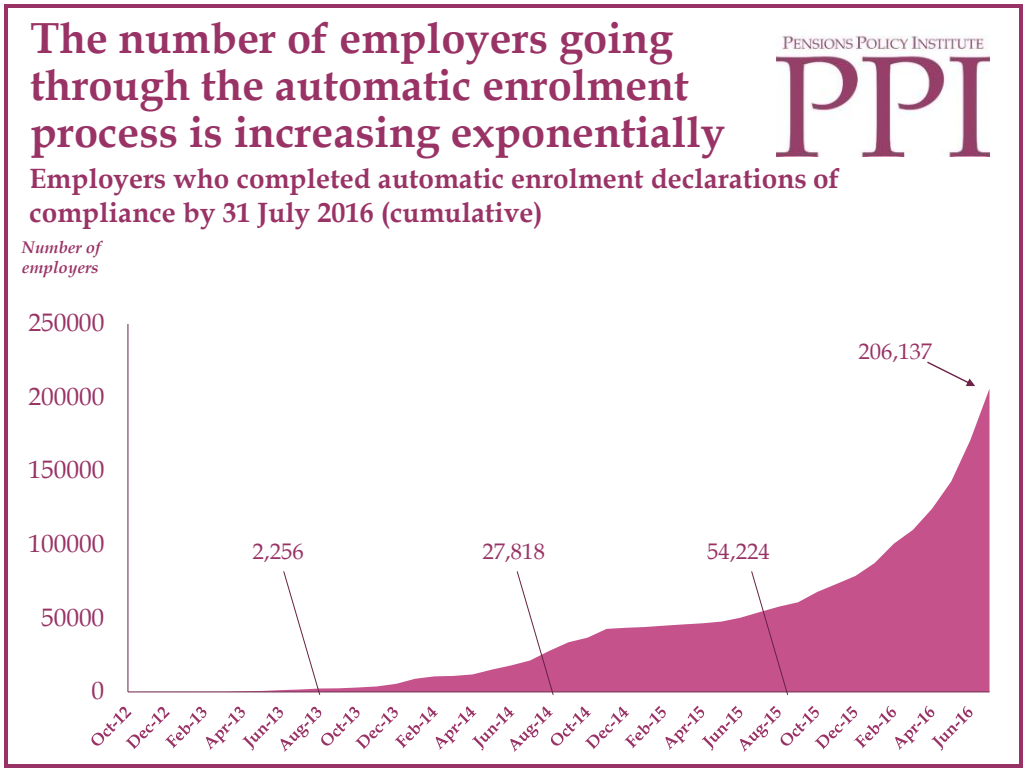
Employers

The majority of employers are small, and as smaller employers start to automatically enrol, the total number going through the process is increasing. The total number of employers who have been through the automatic enrolment process has grown from four employers in the first month (Oct 2012) to 206,137 by 31 July 2016 (Chart 8).

By the end of the automatic enrolment process, around **1.3 to 1.5 million** employers will have been through the automatic enrolment process.[39] Therefore, while automatic enrolment appears to be going relatively smoothly so far, over one million employers have yet to automatically enrol.

There is some indication that some smaller employers are struggling with compliance. In the first two quarters of 2016, there have already been almost twice as many compliance notices, 6,449 issued to employers, as there were in the whole of 2015, (though as far more employers are going through the process, higher numbers of notices would be expected).[40] The Future Book 2017 will be able to give more detailed updates on how smaller employers are behaving.

Chart 8[41]



[39] TPR (2016d)
[40] TPR (2016e), 3,397 notices in 2015
[41] TPR (2016a)

DC Saving levels

Between 2010-2012 and 2016, the number of people aged over 16 in Great Britain with any DC pension savings increased from 16% to 19%, due to automatic enrolment. The median pot size decreased from £15,000 to £14,000 (Chart 9). This is because there are a lot of new entrants to the sample of DC savers who now have small pots due to low contributions and a short time saving.

Chart 9[42]

Median pension savings have decreased since 2010/2012

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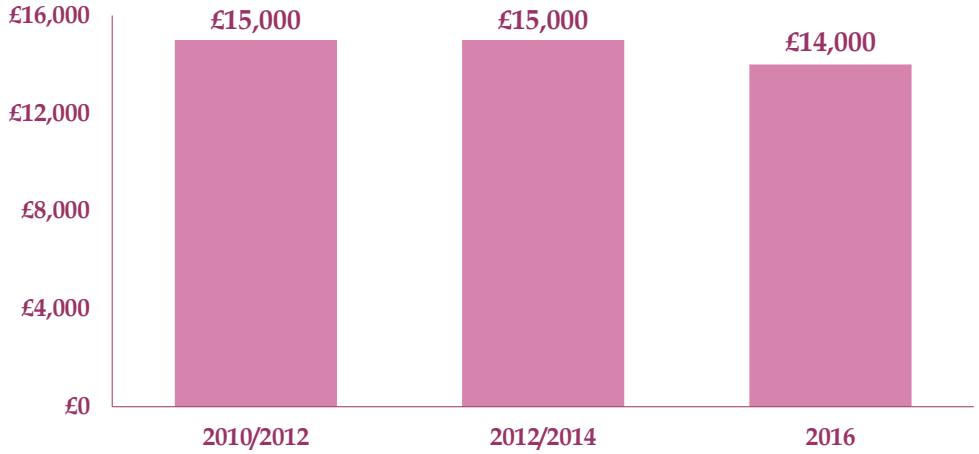
Median DC savings by group in 2010/2012, 2012/2014 and 2016 Great Britain, people aged 16 and over (includes both deferred and active savers)



DC Fund allocation

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

Funds versus strategies

It is worth noting that many asset mixes labelled as "funds" consist of several different asset allocation strategies which can change during the lifecycle of the member. The use of the word "fund" is best viewed as common parlance which allows providers to communicate about investment strategies to scheme members. It is more accurate to describe asset allocations as "strategies" rather than "funds", for example high-risk, low-risk or lifestyle strategies. Most scheme members will be invested in more than one fund at a time. For the purposes of this analysis the term "fund" is used to describe different investment strategies in order to maintain consistency with scheme literature and make comparisons between schemes easier.

[42] ONS (2015)

Fund Labelling

The meanings of fund labels are not consistent between schemes. Different providers and schemes will offer funds labelled as "high-risk", "low-risk", "lifestyle" or "retirement-date" funds, though the structure (such as the proportion of assets invested in equities vs. bonds) of each will vary widely depending on the scheme that is offering it. Most schemes will offer a variety of funds alongside the default fund. Descriptions of the main types are given below.

Default funds: The default fund is the fund that members will automatically have their contributions invested in, unless they make an active choice to invest in a different fund. (Charge cap regulations define default funds more specifically).

Life styling, target-date or retirement-date funds: These funds usually involve life-cycle investment strategies which make greater use of riskier, equity-based investments when members are further from retirement age, and increasing use of "safer" cash and fixed income based investments as members reach a pre-determined retirement date (or period). Some of these funds use lower risk investments in earlier stages of accumulation in order to accommodate members' lower risk appetites.[43]

High-risk, medium risk and low-risk funds: These funds may be used as part of other investment strategies or might be stand-alone. High-risk funds involve greater use of equities, and other economically sensitive assets, which are more volatile but offer greater opportunity for investment return. Low-risk funds are mainly bond and/or cash-based. Medium-risk funds offer a balance between the two and are often used as part of a default fund.

[43] Specifically NEST invests in a higher proportion of lower risk assets during the early accumulation stage compared to the main growth stage. In order to support them in continuing to save by significantly reducing the likelihood of extreme shocks.

DC fund membership and allocation

The PPI conducted a survey with providers of 18 different DC schemes. The following data is based on the results of that survey. The schemes collectively contained more than eight million members, representing over half of the membership of DC workplace pension schemes (Table 2).

Table 2: PPI DC assets survey – number of scheme providers and membership of different scheme types[44]

Scheme type and number of providers participating		Number of respondents reporting levels of membership of each scheme type				
		1,000-9,999	10,000-100,000	100,000-999,999	1m–1.99m	2m-2.99m
Master trust	6	1	2	1	1	1
Stakeholder	5	1	2	1	1	-
Group personal pension	4	-	1	1	2	-
Individual pension	3	1	-	-	2	-

[44] Table 2: Where no number is indicated within the table there were no responses for that specific group

Members of master trust/multi-employer schemes were more likely to be invested in the default fund

100% of all respondents reported that their default fund employed a lifestyle/target date investment strategy. Master trust/multi-employer schemes had a higher proportion of total members invested in the default fund:

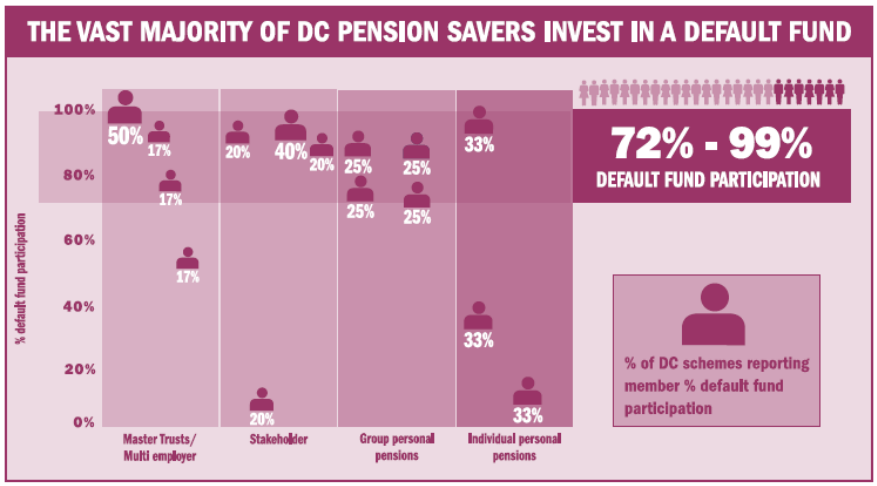
- Of six master trust/multi-employer schemes, three reported that 99% or more of scheme members were invested in the default fund.
- Stakeholder providers reported lower levels of default fund investment, with the most common levels being between 80% and 90% of members.
- Group personal pension providers reported default fund investment of between 70% and 90% of members.
- Individual personal pension providers reported the lowest levels of default fund investment (Chart 10).

Chart 10[45]

Half of master trusts report that 99% of membership is invested in the default fund

PENSIONS POLICY INSTITUTE PPI

Proportion of schemes reporting default fund participation levels, by scheme type, 2016



The total value of assets in private sector DC schemes is around £378 billion in 2016.[46]

[45] PPI Annual DC assets survey
[46] PPI Aggregate Model

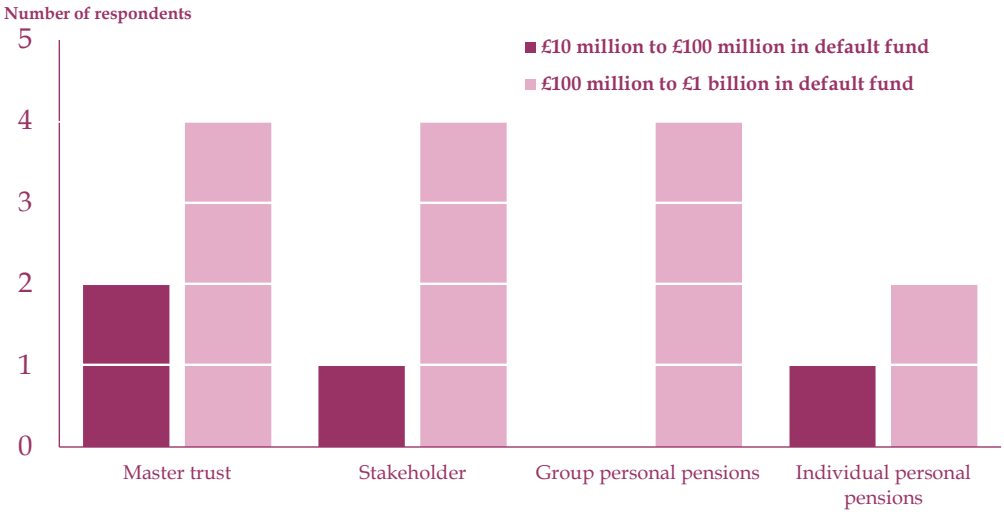
All of the providers reported that their default schemes had more than £10m in assets invested. The majority, 14 out of 18, reported that their default scheme assets were between £100m and £1bn (Chart 11).

Chart 11[47]

The majority of schemes have at least £100m in assets in the default fund

PENSIONS POLICY INSTITUTE PPI

Value of assets in default strategy by scheme type and number of respondents reporting in each range, 2016



[47] PPI Annual DC assets survey

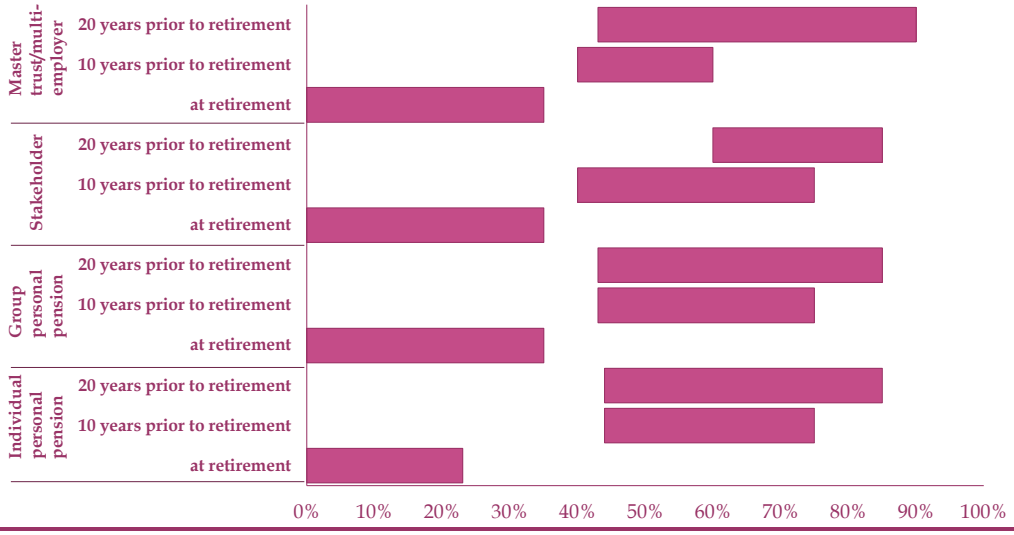
There were a range of default fund investment strategies used by the different providers, though all were based around a de-risking strategy. Though stakeholder investments appeared to be slightly less cautious 20 years prior to a member's retirement date, the range of funds invested in equities were fairly similar across all different scheme types. Master trust/multi-employer schemes had a wider range of investment strategies than other schemes (Chart 12).

Chart 12[48]

35% or less of default fund assets are invested in equities by the time members reach retirement

PENSIONS POLICY INSTITUTE PPI

Range of default fund assets invested in equities in the run up to retirement by scheme type, 2016



Default fund investment strategies vary across schemes, and some schemes are far more conservative than others in the earlier years with under 50% of assets invested in equities. Across the board, default fund investments ranged:

- From 40% to 60% and up to 85% or 90% of assets in equities 20 years prior to retirement age;
- Between 45% and 75% in equities 10 years prior to retirement age, and
- 0% to 35% in equities by the time members reach retirement age.

[48] PPI Annual DC assets survey

Master trust/multi-employers schemes are more likely to invest default fund assets in "other", "or "alternative", investments such as infrastructure or property than other scheme types (Table 3).

Table 3: ranges of default fund investment by scheme type

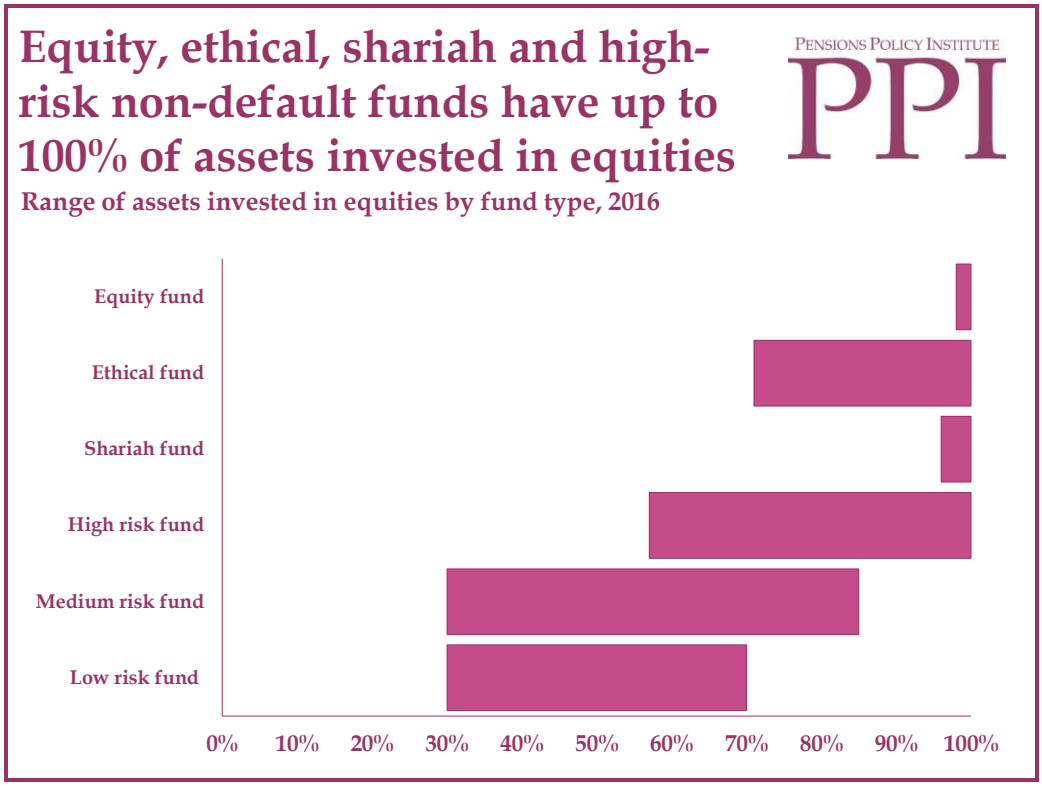
	Years before retirement	Equities	Fixed income	Cash	Other[49]
Master trust/ multi-employer	20 years	43%-90%	0%-40%	0%-9%	0%-30%
	10 years	40%-60%	20%-60%	0%-9%	0%-30%
	retirement	0%-35%	30%-75%	25%-75%	0%-30%
Stakeholder	20 years	60%-85%	10%-40%	0%-13%	0%-2%
	10 years	40%-75%	15%-55%	0%-13%	0%-2%
	retirement	0%-35%	35%-44%	25%-31%	0%-1%
Group personal pension	20 years	43%-85%	15%-40%	0%-9%	0%-24%
	10 years	43%-75%	18%-40%	0%-9%	0%-24%
	retirement	0%-35%	33%-75%	25%-33%	0%-12%
Individual personal pension	20 years	44%-85%	15%-24%	0%-9%	0%-24%
	10 years	44%-75%	18%-30%	0%-9%	0%-24%
	retirement	0%-23%	33%-75%	25%-33%	0%-12%

[49] Table 3: E.g. property or infrastructure

There is a relatively wide range of investment strategies between schemes in non-default fund investment strategies though equity and Shariah funds are predominantly invested in equities and some ethical and high-risk funds invest up to 100% of funds in equities. Medium and high risk multi-asset funds tend to have the widest range of investment strategies between providers with:

- 30% to 85% of assets in medium-risk funds invested in equities and
- 57% to 100% of assets in high-risk funds invested in equities (Chart 13).

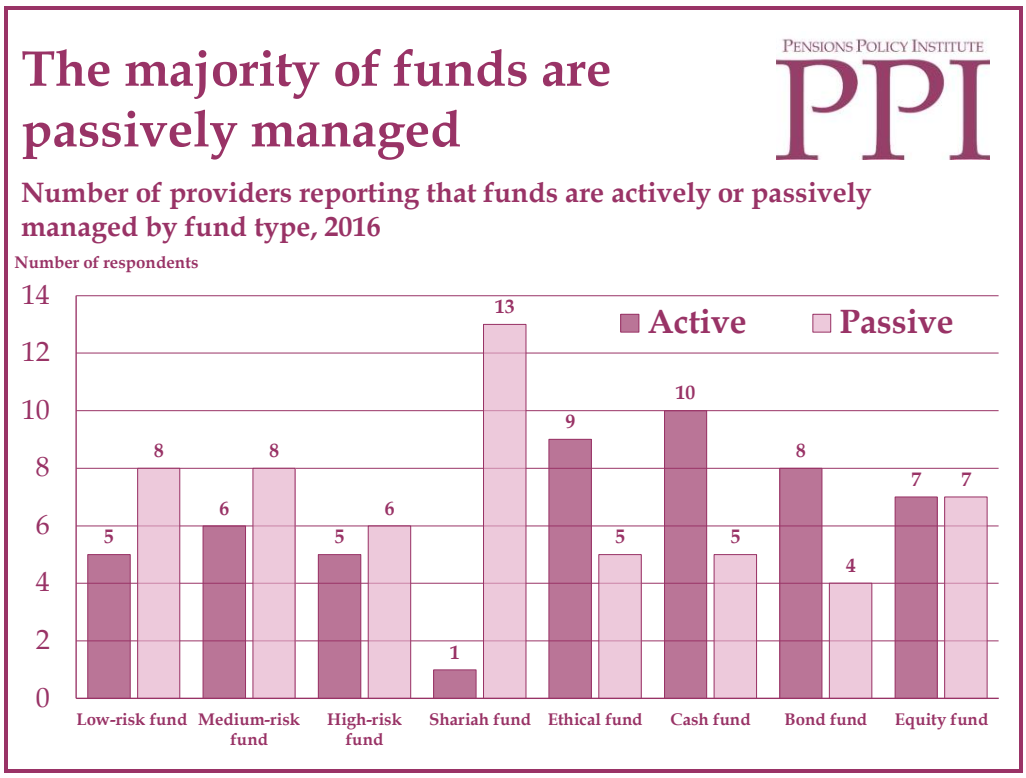
Chart 13[50]



[50] PPI Annual DC assets survey

The majority of blended funds and Shariah funds are passively managed. Active management tends to be dominant among ethical funds and cash and bond funds. (Chart 14).

Chart 14[51]



[51] PPI Annual DC assets survey

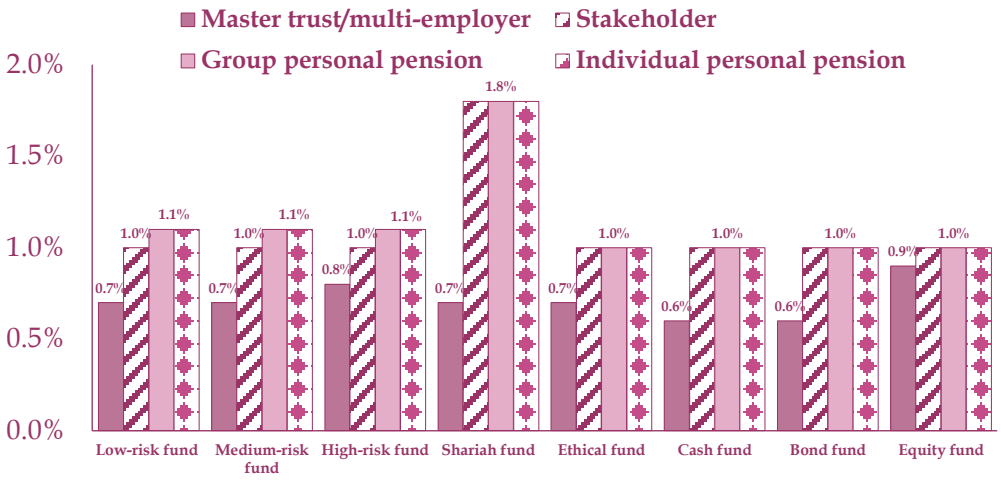
Non-default fund charges (using the Total Expense Ratio measure (TER))[52] tend to be fairly consistent between scheme types except for in master trust/multi-employer schemes whose TERs tend to be lower. This may be a function of shared costs between higher numbers of members in these schemes. Shariah funds had the highest TER's despite being the least likely to be actively managed. This may be related to equity funds involving more market costs than others. All the other non-default funds tended to have TERs of around 1% except for master trust/multi-employer funds which ranged on the whole between 0.6% and 0.7% with slightly higher TERs on high-risk and equity funds (Chart 15).

Chart 15[53]

Master trust/multi-employer funds have lower charges than those in other DC schemes

PENSIONS POLICY INSTITUTE PPI

Highest reported charges by scheme and fund type, 2016



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 being phased in to reach 8% minimum total contributions on band earnings (£5,824 - £43,000 in 2016/17)[54] by 2019. Current employee/employer contributions are below this on average.

[52] Ratio between total costs of the fund and total assets, TER therefore encompasses all costs including Annual Management Charge and transaction costs
[53] PPI Annual DC assets survey
[54] DWP (2015)

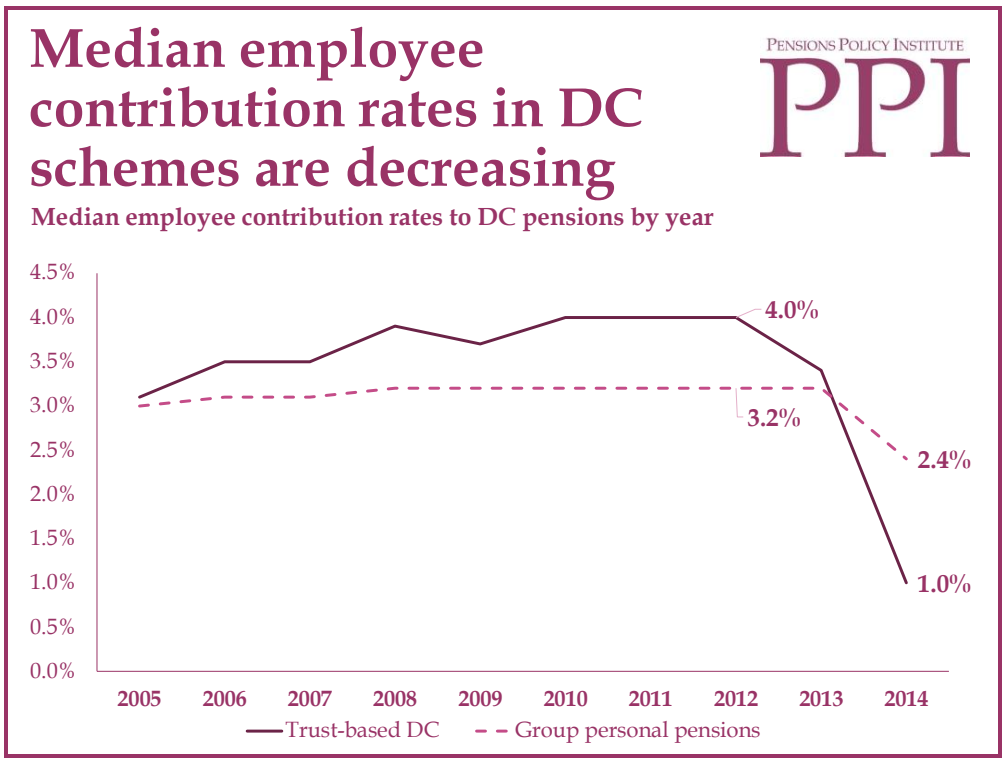
What is a sufficient level of contribution?

Contributions of 8% of band earnings may not be sufficient for members to achieve an acceptable standard of living in retirement. A median earner contributing 8% of band earnings into a pension scheme every year from age 22 until State Pension age would only have a 50% chance of achieving the same standard of living in retirement that they experienced in working life (using private and State Pension income).[55] 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.[56]

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.

Employee contribution rates are falling, on average, as a result of more employees joining pension schemes for the first time and paying minimum contributions alongside their employers (Chart 16).

Chart 16[57]

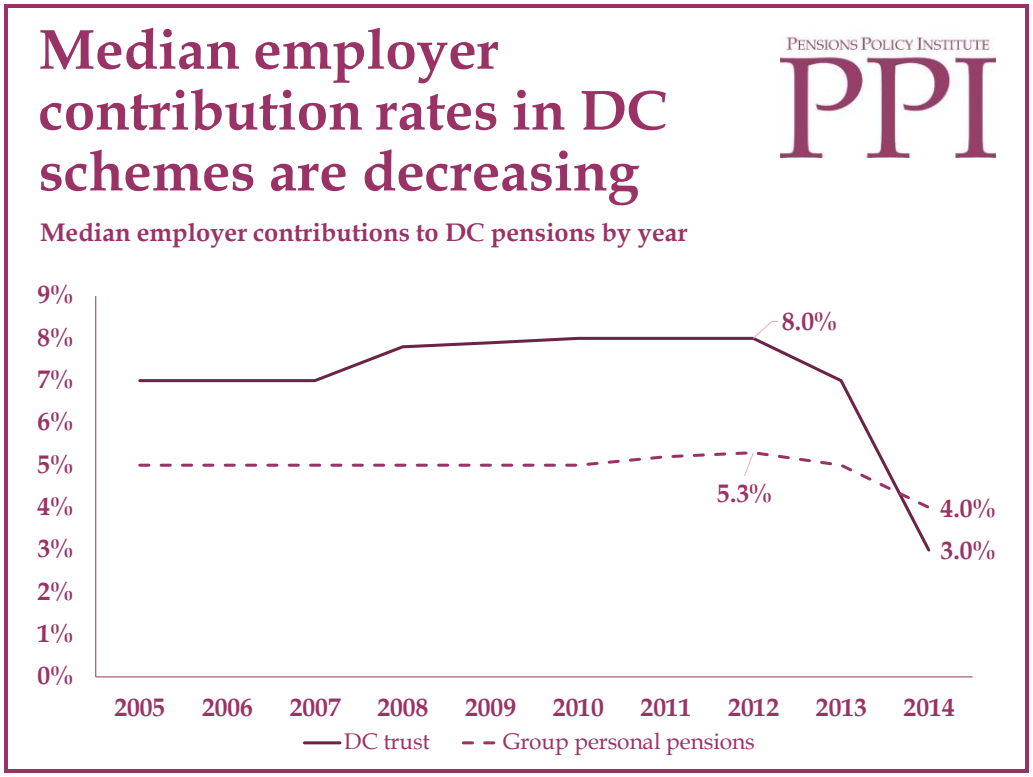


[55] Assuming State Pension uprated in line with triple lock
[56] PPI (2013)
[57] ONS (2014a)

Employee contribution rates dipped from 4% and 3.2% (GPPs and DC trusts) in 2012 to 1% and 2.4% in 2014. The median is likely to increase again once higher contribution levels are phased in through automatic enrolment.

Median employer contribution rates have also decreased since 2012 (Chart 17).

Chart 17[58]

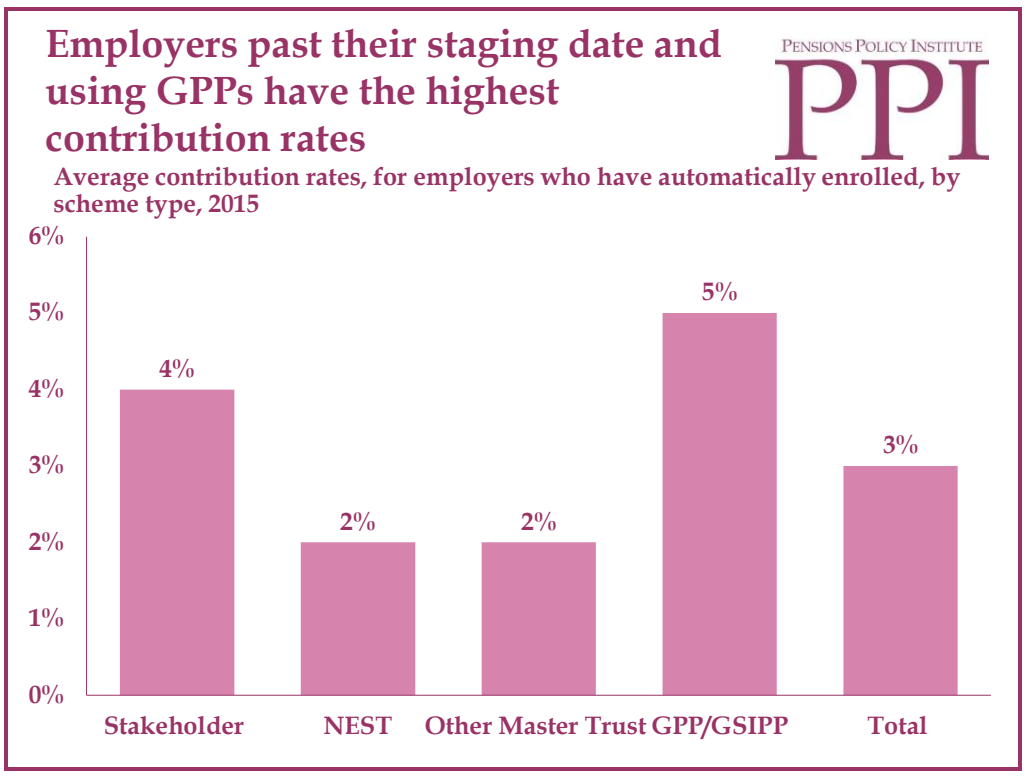


Median employer contribution rates have decreased from 8% and 5.3% (DC trust and GPPs) in 2012 to 3% and 4% in 2014. DC Trust schemes have seen the biggest drop due to automatic enrolment as master trusts are more likely to be used by employers enrolling employees for the first time and paying minimum contribution levels than GPPs.

Further breakdowns by scheme type show that employers using master trusts are currently paying the lowest contribution rates, and that employers using GPPs are paying the highest. As GPPs existed before stakeholder and master trust schemes, it is likely that many employees in these schemes have been in them for a considerable period of time and are therefore receiving higher than average pension contributions, at levels which were standard at the time they joined their scheme (Chart 18).

[58] ONS (2014a)

Chart 18[59]



Levelling down

The introduction of automatic enrolment represents an additional cost to most employers (whether they already offered a pension scheme or not) because of the administrative burden of having to ensure scheme compliance and employee eligibility and the volume of contributions being paid by the employer. Employers can respond in many different ways to increased costs. Some may raise the price of their products, reduce wage increases or build the costs into their budget without attempting to reduce costs elsewhere.

Some employers may respond to the extra costs by "levelling down" their pension offering, either by reducing the percentage they contribute towards existing pension scheme members to match those who are being automatically enrolled or by changing contribution or scheme terms for new members.[60] Between 2012 and 2014 the proportion of schemes levelling down grew from 6% to 8%.[61]

[59] EPP Survey (2015)
[60] DWP (2015b)
[61] DWP (2015b)

In 2015, 66% of employers reported incurring additional costs from automatic enrolment. Of these employers:

- **81%** do not plan to make any changes to their existing pension scheme or contribution rates;
- **15%** plan to make changes to their pension scheme either through reducing contributions on offer or altering scheme structure (e.g. from DB to DC);
- **4%** plan to make reductions to their existing members' contribution rates.

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.[62]

When the pension flexibilities were introduced annuity sales declined more rapidly, but have recently levelled out at around 20,000 sales per quarter. 6% of those accessing DC savings in 2015 purchased an annuity (Chart 19). Between Q2 of 2015 and Q1 of 2016 the average amount invested in an annuity is £52,500.[63]

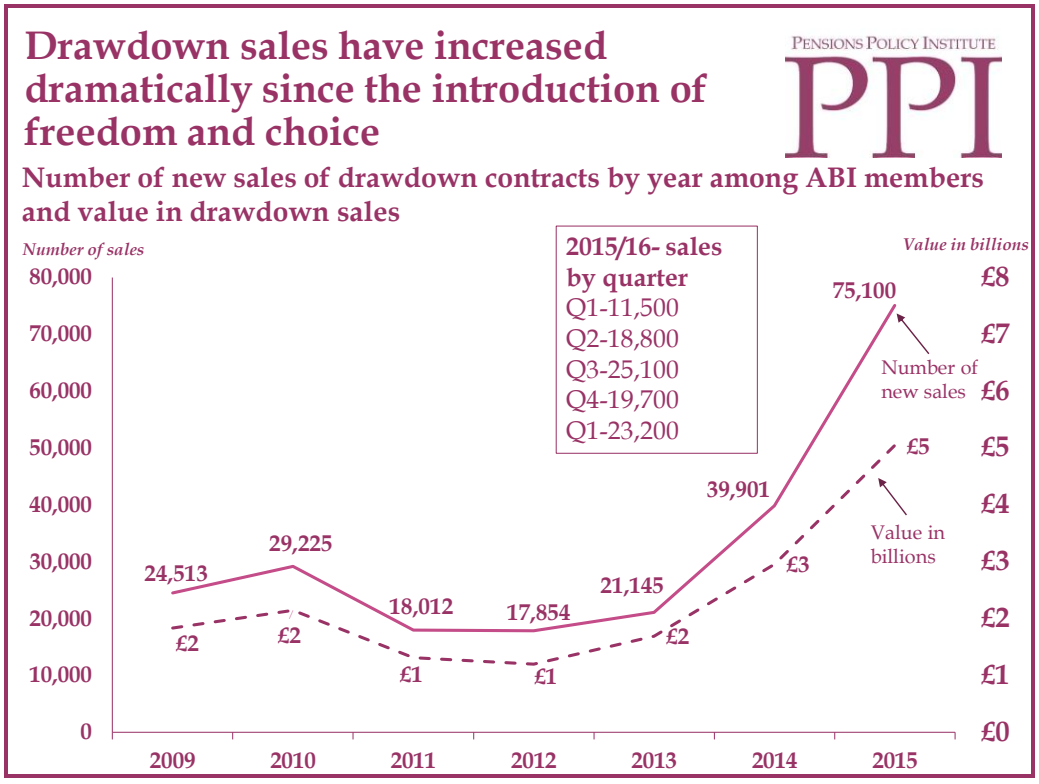
Chart 19[64]

[62] ABI (2015a)
[63] FCA (2015)
[64] ABI statistics

Income drawdown

The use of income drawdown was fairly consistent between 2010 and 2014, with around 20,000 new contracts each year. However in 2014, the number of sales doubled to almost 40,000 new contracts (Chart 20). In 2015 the sales of drawdown products almost doubled again to over 75,100 products as a result of pent-up demand following the introduction of the pension flexibilities. Drawdown products were predicted to grow in popularity and have done so, with around 20,000 contracts per quarter in 2015, similar to the numbers of annuities sold. By Q1 2016, £6.1bn had been invested in 90,700 drawdown products; an average investment of £67,500.[65]

Chart 20[66]



Lump sums

Until April 2015, only those with DC pots under £15,000, or £18,000 in 2015, could access their entire fund as a lump sum without paying a tax penalty.[67] Since April 2015 (and the introduction of the new pension flexibilities) all those with DC savings have free access to their DC savings at/or after age 55, with

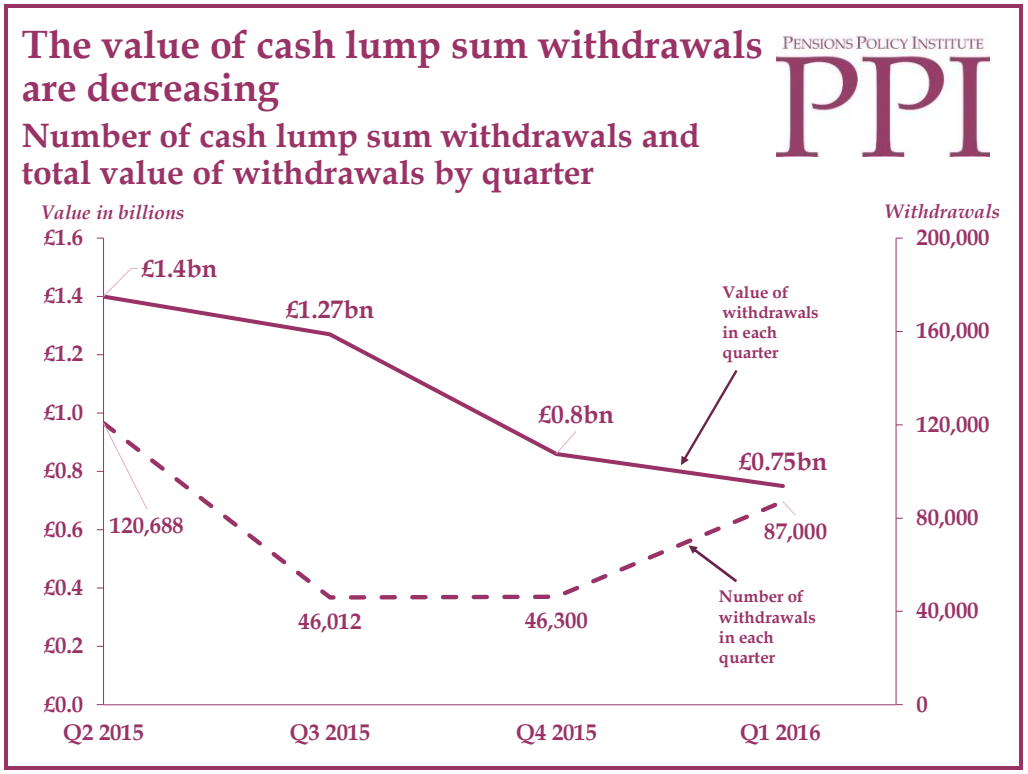
[65] ABI (2016)
[66] ABI (2016)
[67] Under trivial commutation rules

withdrawals taxed at their marginal income-tax rate and with 25% of the amount withdrawn tax-free.[68]

From April 2015 to March 2016:

- Over 300,000 DC savers withdrew lump sum payments from their savings
  - Q2-120,688 withdrawals,
  - Q3-46,012 withdrawals,
  - Q4-46,300 withdrawals
  - Q1-87,000 withdrawals.[69]
- The total value of lump sums withdrawn was £4.3billion
- The value of the average lump sum withdrawal was £14,333[70] (Chart 21).

Chart 21[71]



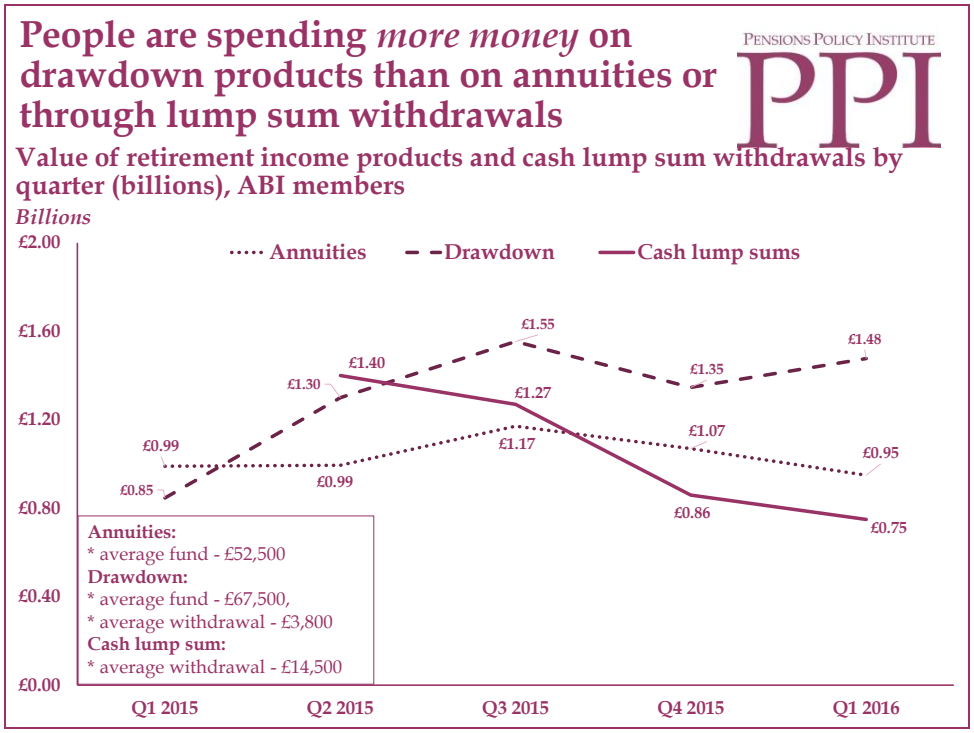
The number and value of cash lump sum withdrawals has decreased since the initial demand following the reforms. In Q2 of 2015 when the reforms were implemented, cash lump sum withdrawals were at their highest at 120,688, withdrawals worth a total £1.4bn. Since then the amount withdrawn has

[68] ABI (2016a)
[69] ABI (2016a), ABI (2016b) ABI (2015). Number of withdrawals in each quarter calculated by subtracting the figure in 2015 press release (166,700) lump sum payments and Q4 2015 (213,000) and 300,00 in Q1 2016.
[70] ABI (2016)
[71] ABI (2016), ABI (2015),

reduced in each quarter. 87,000 withdrawals worth a total of £750m was withdrawn in lump sums in Q1 2016.

People have spent more money on drawdown products over the last five quarters (Q1 2015 - Q1 2016) than they have on annuities or through cash lump sum withdrawals (Chart 22).

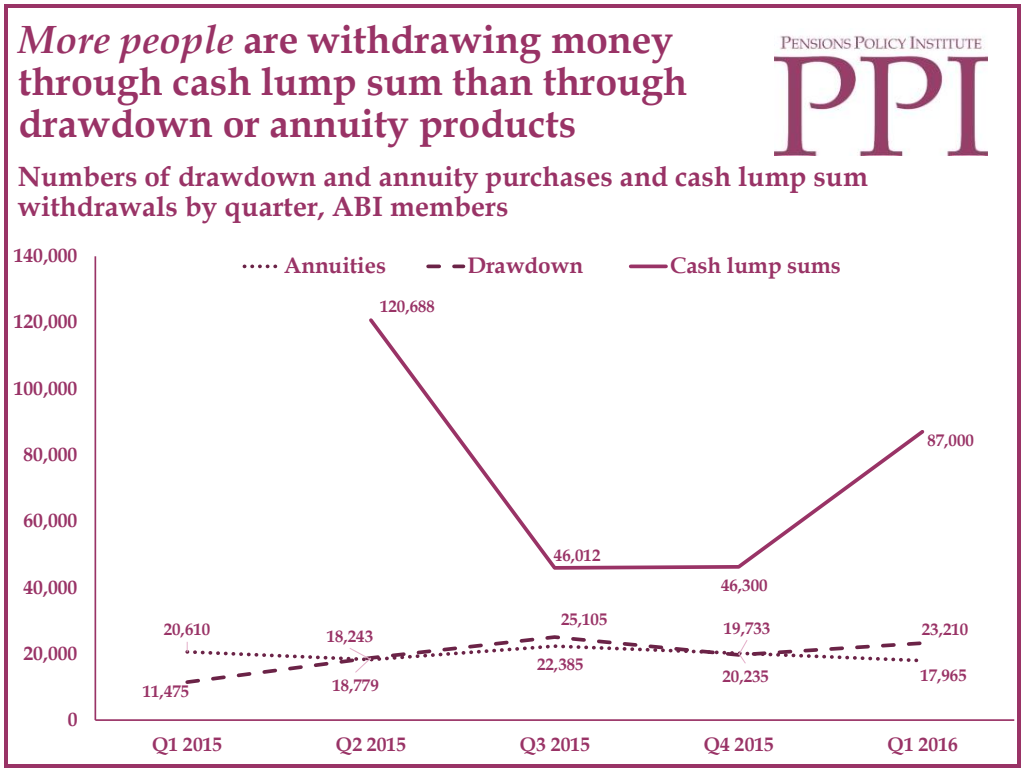
Chart 22[72]



[72] ABI statistics; ABI (2016a)

However, far more people are accessing DC savings through cash lump sums than through drawdown or annuities (Chart 23).

Chart 23[73]



DB transfers

The increased flexibility of access to DC pensions has encouraged some people to transfer their DB entitlement into a DC scheme, in order to be able to withdraw their savings flexibly. While transferring may be the right decision for some people with DB entitlement, there are two main risks associated with transfers from DB to DC:

- The risk to the individual: if people transfer out of a DB scheme when it is not in their best financial interest to transfer.
- The risk to DB schemes: if a substantial level of transfers from DB to DC take place this causes schemes to change or review their investment strategies. In some cases, transfers out could help scheme funding through reduction of liabilities.

Since the introduction of the pension freedoms, the total number of requests to transfer from DB to DC[74] has tripled from new customers of independent

[73] ABI statistics

[74] 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

financial advice firms, and requests from existing customers have more than doubled.[75]

Advisers have been raising concerns about insistent customers who want to transfer despite receiving advice against it.[76] Following these concerns, the Financial Conduct Authority (FCA) asked advice firms about their approach towards 'insistent customers' and found that:

- 29% offer advice on transferring and are prepared to transact against advice;
- 10% offer advice but are not prepared to transact against advice;
- 60% of advisers don't offer advice about transferring.[77]

The advisers who won't give advice (60%) or do offer advice, but are not prepared to transact against it (10%) did express concerns that customers might complain to the Financial Ombudsman as result of decisions not to transfer a client's DB entitlement.[78]

[75] FCA (2016)
[76] FCA (2016) p.3 Abbreviations used in the paper
[77] FCA (2016)
[78] FCA (2016)

Advice and Guidance

What is the difference between advice and guidance?

Advice and guidance are different services and are subject to different regulatory requirements. The following definitions are provided by the FCA.[79]

Independent advice: "An adviser or firm that provides independent advice is able to consider and recommend all types of retail investment products that could meet your needs and objectives. 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. If you are not sure you should ask for further information, but some examples of restricted advice are where:

- The adviser works with one product provider and only considers products that company offers.
- The adviser considers products from several – but not all – product providers.
- The adviser can recommend one or some types of products, but not all retail investment products.
- The adviser has chosen to focus on a particular market, such as pensions, and considers products from all providers within that market.

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 which the adviser or firm take on some of the responsibility for the effect of the advice offered, and will advise their client on the path most suited to their individual circumstances. The use of guidance places more responsibility for the final decision making on the consumer, who also bears more of the risks of making a bad decision. Some financial

[79] www.fca.org.uk/consumers/financial-services-products/investments/financial-advice/independent-and-restricted-advisers, accessed 07.08.2015

transactions (such as purchasing some 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 likely to change in the future 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 advice to some consumers who might find the new charging structure more difficult to manage.
- The introduction of the new pension flexibilities 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.
- The introduction of the new pension flexibilities was accompanied by a new, national, guidance and information scheme known as "Pension Wise". Pension Wise offers free, tailored and independent guidance and information (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 1: Figures for Pension Wise, published July 2016[80]

Since the launch of Pension Wise in early 2015 there have been 2.91m visits to the website and around 82,000 completed incidences of guidance. 72% of these were face to face appointments and 28% were telephone appointments.

The customer satisfaction score from user feedback is currently 89%, though there is little available data yet on the choices people make after receiving guidance or on what the financial outcomes of these choices are.

The financial services industry and the regulator are investigating new methods of providing advice

The financial services industry is investing in research on technologically driven alternatives to financial advice and guidance known as robo-advice. This 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 online and should allow companies to offer advice more quickly and cheaply.

The Financial Advice Market Review (FAMR) was launched in August 2015 by the FCA to examine how financial advice could better work for consumers.[81] The

[80] www.gov.uk/performance/pension-wise
[81] FCA (2015)

results led to further consultation about merging Pension Wise and The Pensions Advisory Service (and closing the Money Advice Service as some of their services overlapped) to form a single guidance service. The outcome from this consultation is yet to be published. Another recommendation emerging from the FAMR was to introduce a Pensions Advice Allowance. This would work by allowing people to take £500 tax-free from their defined contribution pension pot for the purchase of financial advice. The tax-free amount would be in addition to the tax-free lump sum available when their pension pot is being accessed and would be available before the age of 55. The Government are currently consulting on the design of the Pensions Advice Allowance.[82]

Fewer people are using regulated advice when purchasing retirement income products

The use of regulated advice for those purchasing drawdown or annuities is decreasing.

- In 2015, 69% of those purchasing drawdown products used independent advice, a drop from 81% in 2014.
- 20% of those purchasing annuities used regulated advice in 2015, a drop from 22% in 2014.
- The vast majority of people (74%) purchasing annuities in 2015 did so unadvised and 15% of those purchasing drawdown products did so without regulated or restricted advice (Chart 24, Table 4).

[82]www.gov.uk/government/consultations/introducing-a-pensions-advice-allowance/introducing-a-pensions-advice-allowance-consultation

Chart 24[83]

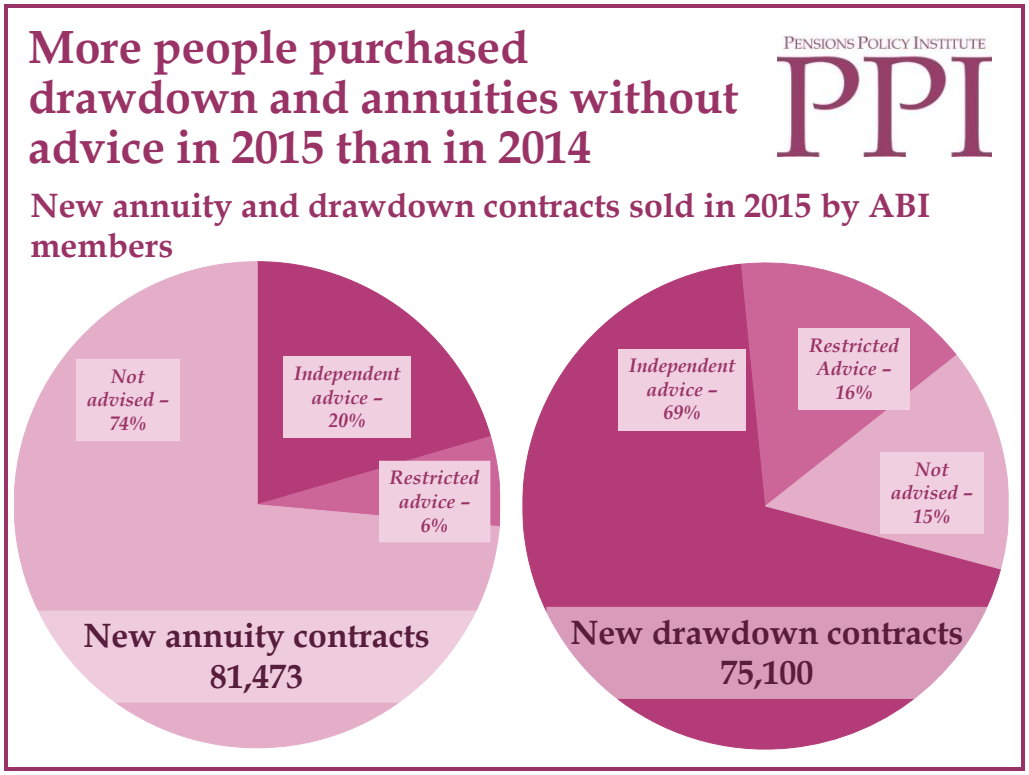


Table 4:[84] Advice attached to product sales in 2014 and 2015, ABI members

Type of advice attached to sale of product	2014		2015	
	Annuities	Drawdown	Annuities	Drawdown
Independent advice	22%	81%	20%	69%
Restricted advice	7%	10%	6%	16%
Not Advised	70%	9%	74%	15%

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.

[83] ABI Statistics – New business Full product breakdown by quarters, 2015
[84] ABI Statistics – New business Full product breakdown by quarters, 2014

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

The 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 Defined Benefit (DB) schemes to DC schemes, the introduction of the 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.

This chapter explores how the DC market may change and grow in future

This chapter uses the PPI suite of models and data from the ONS's Wealth and Assets survey (Wave 4) to explore how DC assets may change and grow in the future under assumptions that current trends continue and using assumptions about variations in employee behaviour. The chapter also sets out the potential range of distribution of DC assets in the future, under a range of possible future economic scenarios (based on historical data).

The distribution and value of DC assets in the future depends on many factors:

- 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 analysis is intended to provide insight about the impact that certain behaviours and trends could have on the level of DC assets, rather than providing a firm prediction.

How might DC assets change and grow in the future?

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

How might scheme membership develop?

Under automatic enrolment, employers can choose to use their existing workplace pension provision as long as it qualifies under automatic enrolment legislation. 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 their workers membership in a DC scheme run by a third-party. Some employers may choose to offer a combination of these, offering different options to different categories of workers.

Assumptions

The following analysis is based on the assumptions that:

- All eligible workers are automatically enrolled and 15% opt out
- Of newly enrolled workers:
  - 57% are enrolled into a master trust scheme.
  - 43% are enrolled into another, non-master trust, automatic enrolment DC scheme (in reality some of these schemes will be existing pension provision).[85]
- No non-eligible workers or self-employed people are assumed to opt in
- 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, apart from new members of DC schemes who are split between automatic enrolment schemes and existing workplace DC schemes in the proportions outlined above.

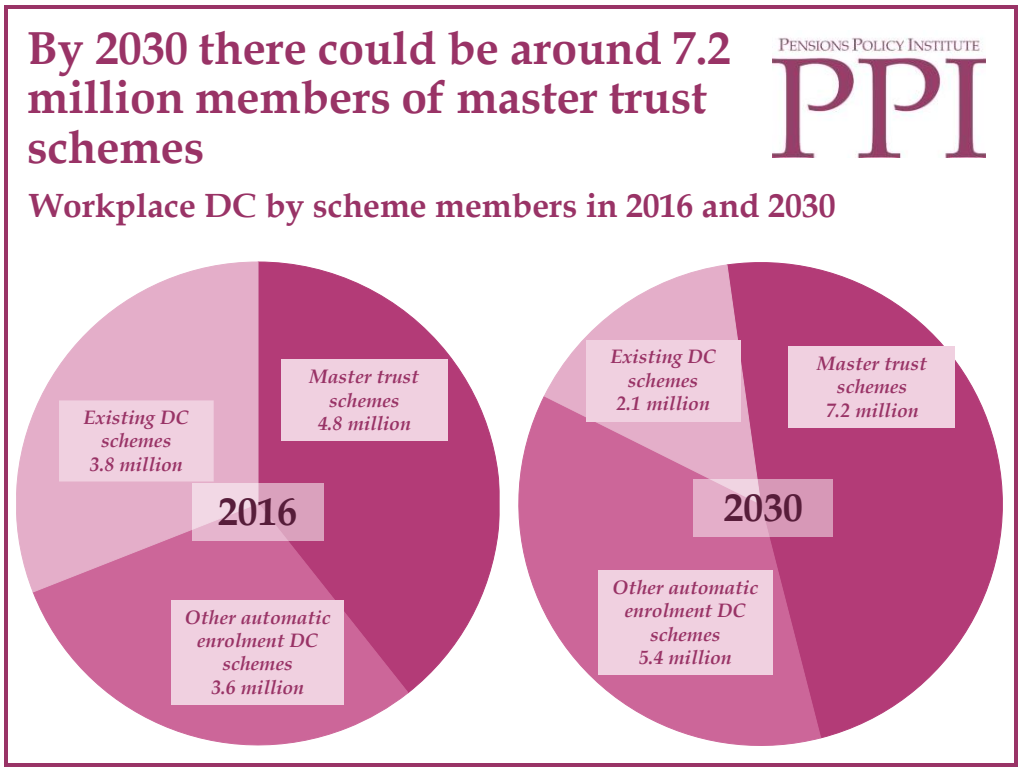
[85] Based on information about scheme allocation from The Pensions Regulator

By 2030 there could be around 7.2 million people saving in master trust schemes

In 2016, there are around 12.3 million active members in DC workplace pension schemes. Around 4.8 million of these are in master trusts, around 3.8 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 2030 there could be around 14.7 million active members in DC workplace pension schemes, with 7.2 million people saving in master trust schemes, around 2.1 million in pre-existing DC schemes and around 5.4 million people in other automatic enrolment DC schemes (Chart 25). The number of people in private sector DB schemes could shrink from 1.5 million in 2016 to 0.5 million in 2030.[86]

Chart 25[87]



How might DC assets evolve for individuals?

The 2016 median DC pot for those aged 16 and over in Great Britain is around £14,000, a drop from £15,000 in 2015.[88] Automatic enrolment and the shift from DB to DC is resulting in more people saving in DC pension schemes and

[86] PPI Aggregate Model
[87] PPI Aggregate Model
[88] PPI Aggregate Model

accruing initially small pots during the first few years of saving, bringing the median down. Over time, as pots have a chance to benefit from longer periods of contributions and the increase in average contributions rises to or above the minimum required level to 8% of band earnings, median pot sizes will grow again.

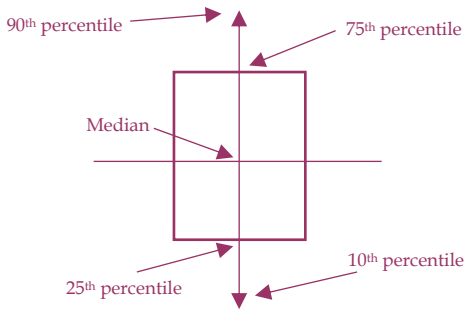
Assumptions

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, funds yield a nominal average 5.7% investment return (annually).[89]
- Earnings increase by 4.5% per year (on average).
- AMCs range between 0.5% and 0.75% depending on scheme type.[90]

Box plots

The next chart is a box plot. 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 box represents the median.



[89] A blend of Office for Budget Responsibility (OBR) returns based on an asset mix to represent typical pension portfolios. The OBR cancelled the publication of the July 2016 Fiscal Sustainability Report (FSR) as a result of uncertainty following the outcome of the EU referendum. Therefore the long term economic assumptions have been maintained from the previous OBR FSR publication (June 2015).
[90] See the appendix for further detail on assumptions

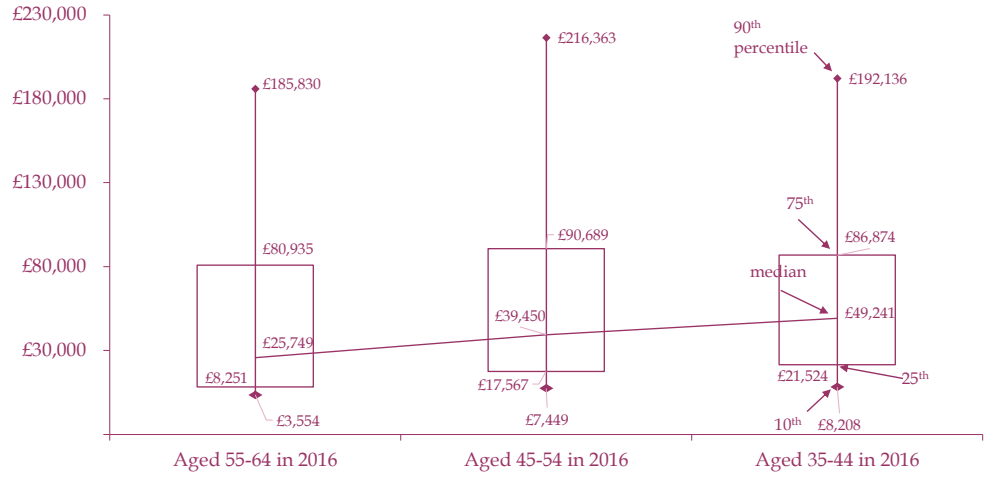
Median DC pension pots could grow from around £26,000 to around £49,000 over 20 years

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, in 2016 earnings terms, from around £26,000, (for those aged 55 to 64 in 2016) to around £49,000 (for those aged 35 to 44 in 2016). This represents an increase of around 52% over 20 years (Chart 26).

Chart 26[91]

Median DC pension pots at State Pension age could grow from around £26,000 today to around £49,000 over 20 years

Distribution of pension pot sizes at State Pension age for different cohorts (2016 earnings terms)



£49,000 could yield an annual income of around £3,000 from an annuity (around £250 per month).[92] On top of a full individual State Pension income of £156 per week, this would yield a retirement income of £874 per month i.e £10,488 per year. This income might not be sufficient to replicate the same standard of living in retirement that people had in working life if they earned over £15,000 per year.

The Future Book 2015 found lower median sized pots for people aged 55-64 in 2015 would be around £14,100 at SPa, and would be around £56,000 at SPa for those aged 35-44 in 2016.

[91] PPI Aggregate Model
[92] 65 year old man, level single-life annuity

Changes in available data and information about automatic enrolment has led to a refinement of these figures for The Future Book 2016. More recent data shows a slight change in the demographic impact of automatic enrolment resulting in an increase in the numbers of younger people being automatically enrolled and a decrease in the numbers of older people:

- An increase in the numbers of younger people being automatically enrolled reduces overall pot sizes for those aged 35-44 in 2016 as the average is brought down by the introduction of smaller pots from the increased number of new savers.
- A decrease in the numbers of older people being automatically enrolled increases overall pot sizes for those aged 55-64 in 2016 as the average is affected by fewer newly automatically enrolled savers with small pots who would have brought the average down.

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. It also explores how the value of assets in private sector DC schemes may be affected by different scenarios of employee and employer behaviour and under a range of potential future economic performance scenarios.

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 (baseline scenario, DWP opt-out assumption by end 2018).
- Employee/employer contributions vary by scheme type: (baseline scenario).
  - 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%.[93]
- AMCs vary by scheme.

[93] A blend of OBR returns based on an asset mix to represent typical pension portfolios. The OBR cancelled the publication of the July 2016 FSR as a result of uncertainty following the outcome of the EU referendum. Therefore the long term economic assumptions have been maintained from the previous OBR FSR publication (June 2015).

By 2030, aggregate assets in DC schemes could grow to around £612 billion

Assuming that current trends continue, the aggregate value of private sector workplace DC assets could grow from around £377 billion in 2016 (£324 billion in 2015) to around £612 billion in 2030. However, the aggregate value of assets will be sensitive to economic performance. Using Bloomberg data, the PPI has created an economic scenario generator, which allows exploration of DC asset performance under a potential range of economic scenarios.[94] If the market performs very poorly, DC assets could stagnate, reaching around £382 billion by 2030. In a very positive market performance scenario, DC assets could grow to around £1,095 billion by 2030 (Chart 27).

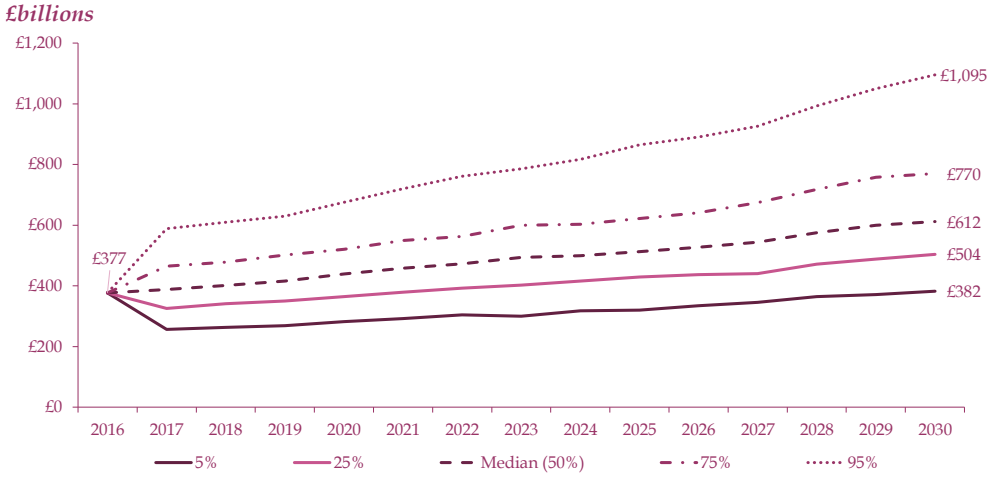
The following charts illustrate how a range of economic scenarios could affect the value of DC assets. The values are shown in terms of the likelihood that they will occur:

- 5% represents a 5% probability of very poor performance.
- 95% represents a 5% possibility of very good performance.
- The 25% and 75% points represent a 25% probability of relatively poor or relatively good performance respectively.
- 50% (median) is the central outcome, based on past performance.

Chart 27[95]

By 2030, aggregate assets in DC schemes could grow to around £612 billion (median), compared to £377 billion in 2016

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 (2016 earnings terms)



[94] PPI Aggregate Model

[95] PPI Aggregate Model: refer to modelling annex for more details on the methodology

Employee and employer behaviour, and government policy, will all affect the aggregate value of DC pension funds 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. The following analysis uses three potential scenarios merely to illustrate the possible effect that trends in behaviour or policy may have on the future value of DC assets.

The scenarios explored are:

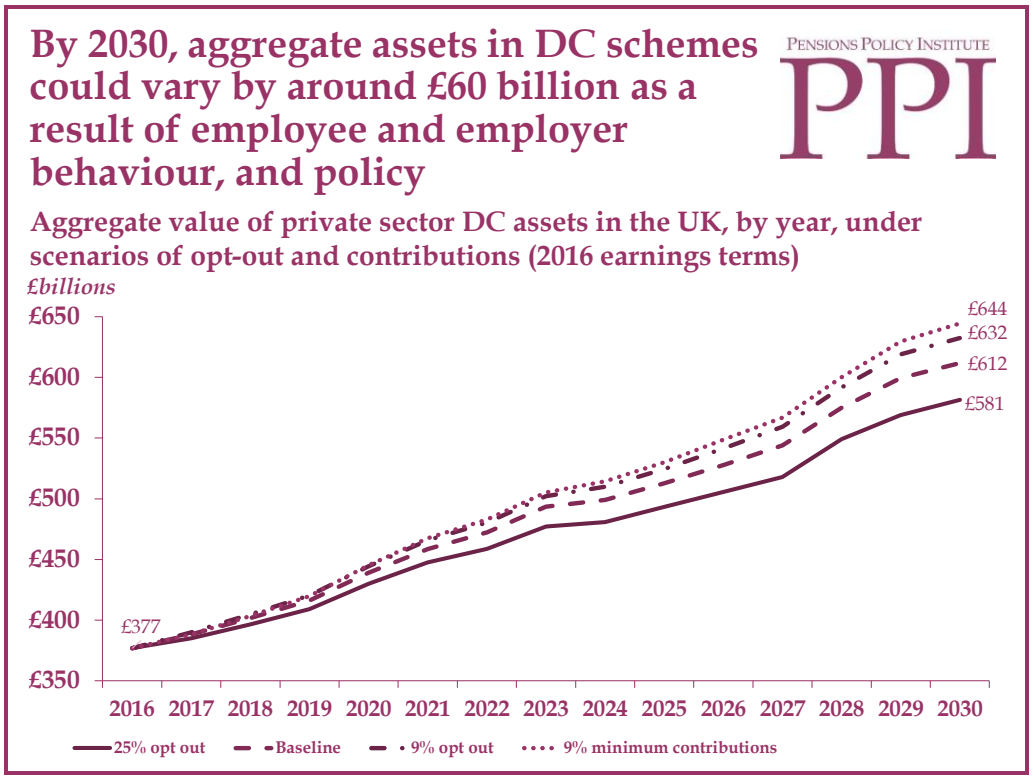
- The baseline scenario, described in the assumptions box above;
- An optimistic scenario assumption that opt-out rates remain at the current rate of 9% between now and 2030;
- A pessimistic scenario assumption that opt-out rates grow to 25%, as a reaction to increases in the minimum contribution level, and remain at this level until 2030;
- An assumption that minimum contributions for those automatically enrolled grow to 9% (this also illustrates the impact of employers and/or employees choosing to contribute at higher than minimum levels).

Different behaviour by employers and employees or changes in policy could account for a difference in the aggregate value of DC assets of around £60 billion by 2030.

- If, in a pessimistic scenario, opt-out rates grow to 25% by 2030, then the aggregate value of DC assets could grow to £581 billion by 2030.
- If it is assumed that opt-out rates grow to 15% (the current DWP estimation) then the aggregate value of DC assets could grow to £612 billion by 2030.
- If opt-out rates remain at the current level of 9%, then the aggregate value of DC assets could reach around £632 billion by 2030.
- If opt-outs grow to 15%, and minimum contribution levels for those automatically enrolled also rise to 9%, then aggregate DC assets could reach £644 billion by 2030 (all in 2016 earnings terms) (Chart 28).

Though this chart illustrates the impact of only a few scenarios out of the many possible, the difference between the "worst" and "best" scenario reaches around £60 billion by 2030, indicating that, alongside economic performance, the behaviour of key agents can have a substantial impact on the aggregate value of DC assets in the future.

Chart 28[96]



[96] PPI Aggregate Model

Chapter four: What is the role of defaults in the new pensions landscape?

This chapter explores how the role of defaults is changing in a new, more flexible, pensions landscape and what this means for consumers. It also explores relevant international developments.

Defaults appear in many forms. Within the pensions system there are default funds, default strategies, and simple defaults whereby the system compels an individual to save or access savings in a specific way.

There are inbuilt defaults in many systems

Many of the "decisions" people make during their lives are the result of inbuilt system defaults. For example:

- The proportion of women being tested for HIV in some African countries has surged since testing became a default part of pre-natal treatment;
- In European countries where the default is to be registered as an organ donor and those wishing not to must actively opt-out, almost all people are organ donors, compared to around a quarter of people in the USA where registering as a donor is an active choice;
- People are more likely to save in to a pension if they are automatically enrolled.[97]

Defaults are appealing because they preclude active decision-making

As is becoming widely accepted within the field of behavioural economics, inertia - a reluctance to seek information, make decisions or take action, plays a key role in determining people's behaviour.[98] Defaults appeal to people because they preclude having to make time-consuming or complex decisions. Even positive intention or belief in the worth of a particular course is often defeated by natural tendencies towards inertia, as illustrated in the example above where the vast majority of people in the USA support organ donation but only a quarter have registered because of the active decision involved.[99]

Defaults have traditionally played a strong supporting role in pension saving and access

- The State Pension system is governed by defaults. People contribute automatically through the National Insurance system and receive a pension that inflates with prices from their State Pension age until death. There is an

[97] New York Times, October 11, 2015, "*The Default Choice, So Hard to Resist*" www.nytimes.com/2011/10/16/technology/default-choices-are-hard-to-resist-online-or-not.html?_r=0
[98] Weyman *et. al.* (2012) p. 23
[99] New York Times, October 11, 2015, "*The Default Choice, So Hard to Resist*" www.nytimes.com/2011/10/16/technology/default-choices-are-hard-to-resist-online-or-not.html?_r=0

option to delay the receipt of a State Pension in return for a higher income, however the majority of people do not take this up.

- Traditionally, the majority of private (non-state) pension schemes were also structured around defaults. Employer sponsored Defined Benefit (DB) schemes automatically deduct a contribution (if any) from employees in return for a pension, inflating with prices, paid from the scheme's normal retirement age until death.
- Over the past few decades, private sector employers have increasingly offered Defined Contribution (DC) pensions rather than DB pensions, often through a third-party provider. Defaults have traditionally supported the DC system as employees are generally enrolled into their employer's choice of scheme, invested in the default fund while saving, and, until April **2015**, those accessing their DC savings were effectively defaulted into purchasing an annuity or a capped income drawdown product with their savings unless their savings were above or below certain levels.

The retirement system is moving away from defaults

In March 2014, the Government announced that all people with DC savings at or over the minimum pension age (age 55) would, from April 2015, no longer be required to purchase an annuity or a drawdown product in order to access their DC savings, and would be allowed to withdraw their DC savings in unlimited amounts, taxed at an individual's marginal income tax rate (with 25% of the amount withdrawn tax-free).

The introduction of increased flexibility withdrew some at-retirement defaults in the system. Though people are still permitted to purchase an annuity or income drawdown product, or a combination of these if they wish, they are no longer obligated to do so and may purchase a different product or withdraw lump sums directly from their account.

Different options are associated with different risks:

- People taking lump sums or using drawdown are more at risk of running out of savings during retirement due to long life, high withdrawals or poor investment performance.
- People purchasing annuities generally forgo the opportunity to earn returns on their savings and may not be protected against inflation, unless they have purchased an annuity which increases by a price inflation index each year.

There is now a default dichotomy within the pensions landscape

The result of the increased flexibility at retirement, is that most DC savers are faced with a dichotomous system:

- During the accumulation phase, pension saving is governed by defaults as employees are automatically enrolled into the default fund in their employer's choice of scheme and, if they do not actively opt out, make at least minimum required contributions which are automatically deducted from their salary.

- However, once people decide to access their DC savings, there are no automatic defaults in place. People can withdraw DC savings from age 55 in any way they wish, though income tax applied to withdrawals may discourage some people from withdrawing very high amounts.

There are concerns about whether DC savers will be able to cope with having to make decisions about accessing retirement savings

The result of the default dichotomy is that while many active DC savers are not required to make decisions about saving for a pension, they will need to make decisions once the time comes to access pension saving. Without a default, some people may struggle to make choices that best suit their income needs in retirement because:

- Decisions about accessing DC savings are rated as among the most complicated and difficult financial decisions made during people's lives.[100]
- The majority of people do not have sufficient levels of numeracy or financial literacy to understand the long-term implications of different methods of access.[101]
- Behavioural barriers to decision-making which range from a tendency towards inertia, cognitive deficits, behavioural biases or a lack of trust in particular organisations, can lead to people making the easiest or most accessible choice rather than the most appropriate one.[102]

"I think I've probably taken the easy route and I've gone into whatever was recommended but I know I could probably divert it elsewhere if I wanted to"

"I get letters through my door but to tell you [the truth] I don't look at it."

"I chose the option that it just goes wherever they choose"

(Interviews conducted by Columbia Threadneedle Investments with the general public on 6 September 2016)

The Government does not intend to put any new at-retirement defaults in place, but there is new support on offer for DC savers

The Government has announced that it does not intend to legislate for a default option at any time in the near future.[103] However, it is aware that DC savers are more vulnerable to making poor decisions in a more flexible pensions market and has introduced some support in the form of a free, 45-minute guidance service offered to people with DC savings from age 50. Since inception in April

[100] PPI (2014)
[101] PPI (2014)
[102] PPI (2014)
[103] House of Commons (2015) para 74

2015, DC savers have had 56,246 face–to-face and 25,686 telephone sessions through the Pension Wise service.[104]

There are other supportive mechanisms available to DC savers through paid financial advice or free guidance or information from organisations such as the Citizens Advice Bureau – which provides the face-to-face Pension Wise service. People are also able to access guidance or information from the Pensions Advisory Service or the Money Advice Service. These two organisations will soon join up as one under the banner of Pension Wise.[105]

However, there are still concerns that people who require advice and/or guidance might not access the service or might not use any advice or information in order to make informed decisions about accessing DC savings.[106]

A further concern is that many of those reaching retirement in need of advice have not saved sufficient amounts to provide themselves with a standard of living in retirement which they will find acceptable. For example, as noted earlier, PPI modelling shows that the median pot size at SPa for those aged 35-44 in 2016 is likely to be around £49,000. Alongside a State Pension this could yield a retirement income of around £874 per month which might not be sufficient to replicate working life living standards for people who earned over £15,000 per year in working life.

A lack of sufficient savings can make options at retirement even trickier to choose from as all options might lead to sub-optimal outcomes and the modest savings people do have might be needed to support future needs in retirement (such as health care needs or house repairs) which won't necessarily be foreseeable.

New defaults could help support consumers

Alongside advice and support, defaults still have a role to play in helping consumers to achieve better outcomes. Not just at and during retirement, but also during the saving phase.

The majority of DC savers (over 90%) are invested in their pension scheme's default investment fund. For some types of schemes, such as Master Trusts, this number rises to around 99%.[107]

Investment strategies for DC scheme default funds have historically been designed around the principle that people will use their funds to purchase an annuity at retirement. These strategies, known mainly as lifestyle or target date funds, involve riskier investments at younger ages in equities, in order to maximise the potential for growth, and more conservative cash and bond

[104] www.gov.uk/performance/pension-wise
[105] As announced in Budget March 2016
[106] Wagstaff, C. (2016b)
[107] PPI (2015)

investments as people get closer to their retirement date, in order to minimise volatility and preserve capital amounts for the annuity purchase. The majority of annuities do not involve opportunities for further growth.

However, the new flexibilities mean that many people, who may previously have purchased an annuity, will be accessing their DC savings through other means. Since the announcement of the new pension flexibilities, annuity sales have decreased from 90,000 sales per quarter to 20,000. Many of the other options for accessing DC savings involve further investment and therefore, potential for growth, particularly income drawdown accounts which are widely expected to grow in popularity. People are also allowed to keep their pension savings invested in their original pension scheme accounts and withdraw funds directly from these. These people may use some or all of their savings to purchase an annuity in later retirement.

The traditional default fund strategy may no longer be the most appropriate option for a DC saver who is not planning to purchase an annuity with their savings when they reach retirement. However, it is challenging to design a default fund that will suit people who might do an array of things at retirement, from using all of their savings to purchase an annuity, to withdrawing in lump sums throughout their retirement.

There is no consensus on how a default fund in the new, flexible landscape should be structured

Providers do not agree on the level of risk appropriate to default fund investments:

- Schemes set up specifically for automatic enrolment, tend to favour lower risk investments, while in the main growth phase of the National Employment Savings Trust's (NEST) default strategy aims to invest in predominantly growth-seeking assets, younger savers start off in the foundation phase where they are invested in a higher proportion of income-seeking assets. This is in order to support them in continuing to save by significantly reducing the likelihood of extreme shocks.[108]
- Other workplace DC schemes favour riskier investments during the accumulation phase, though the risk exposure varies considerably between schemes. Some schemes leave the majority of funds, up to 85%, invested in equities during the saving phase, compared to a low of around 35% in equities in other default funds.[109] Diversification of investments is also used to different degrees in scheme default funds, (in which fund managers attempt to avoid the potentially deleterious effects of volatility by allocating assets to several different kinds of investments other than just equities: infrastructure and other illiquid assets, bonds, gilts and cash for example).[110]

[108] NEST (2016)
[109] Punter Southall Aspire (2016)
[110] Wagstaff, C. (2016a)

There is an ongoing debate as to the appropriate default fund strategy for those approaching retirement:

- Some providers still use target date or lifestyle strategies, which phase assets into less risky investments in the run up to retirement.[111]
- Others are moving away from de-risking in the run up to retirement, fearing that, if people are not going to annuitise, the potential loss arising from forgone returns could be high.[112]

However, there is no set template for how a default fund could be structured appropriately for both those who might purchase an annuity (or other single-price item) at retirement and those who will invest some or all of their pension savings through retirement. One suggestion, in an attempt to personalise defaults, is that providers engage with members five to ten years before retirement and ask whether they intend to access their savings through cash, an annuity, drawdown or a combination of these and then structure the investment strategy accordingly.[113]

Default funds are playing a greater role in retirement than they used to

People may remain invested in a default fund during retirement if they leave their savings in their pension scheme or if they purchase a drawdown contract. As these accounts are used as a source of income as well as an investment they may require a different, lower-risk, structure than pure pension savings funds as there will be a desire to preserve funds for income while also generating a return. Some drawdown providers structure investments around preferences stated at the time of purchase for either regular or varied payments.[114]

Many providers offer a drawdown default fund which aims to de-risk during people's mid-70s, when people are more likely to want the security of a steady stream of income and may wish to use some or all of their remaining savings to purchase an annuity. Cognitive decline associated with people in their late 70s, suggests that people may have more difficulty engaging at older ages and may benefit from purchasing an annuity or deferred annuity, which provides security of income without further engagement, at this age.[115]

A common thread among all providers is that default funds in the pension savings phase are increasingly being designed as part of an overall default strategy for both the saving phase and during retirement. Some providers have introduced these funds in a single lifetime product.[116]

[111] NEST (2016)
[112] Wagstaff, C. (2016a)
[113] Blake, D. (2016)
[114] Blake, D. (2016)
[115] Blake, D. (2016)
[116] Blake, D. (2016)

Internationally, defaults in and at retirement are seen as favourable

The following two case studies explore the use of defaults internationally and find that:

In New Zealand

- A lack of retirement defaults has ultimately led to concerns about the sustainability of the State Pension as people are depleting their DC savings during retirement. These concerns have prompted a debate about the merits of compulsory annuitisation.
- An under-developed retirement income product and advice market has led to people making unsupported decisions in retirement.
- Early access to private pensions could encourage lower-risk investing in both defaults and other funds.

The New Zealand (NZ) State Pension is:

- Single-tiered;
- Residency based;
- Available to people from age **65**;
- Indexed to prices, and
- Worth around **39**% of National Average Earnings.[117]

The majority of NZ private pension schemes are DC

The private pensions market is dominated by KiwiSaver DC schemes, created to support New Zealand's automatic enrolment policy, introduced in 2008.[118]

- 53% of eligible workers were enrolled in KiwiSaver in June 2013.[119]
- By June 2014, 20% of people automatically enrolled had opted out of KiwiSaver.[120]

KiwiSaver default funds are low-risk and do not change the investment strategy with the age of member

Members of KiwiSaver schemes are less likely to be invested in the default fund than members of UK schemes, with only 14% of members invested in the default fund (2014). KiwiSaver default funds are relatively low-risk, invested mostly in cash and bonds. KiwiSaver funds are not de-risked in the lead up to retirement but remain invested in the same balance of investments throughout a member's life. The lack of de-risking in the run up to retirement reflects the freedom people have to take their savings as they wish at retirement.

Members not in the default funds generally favour low risk investment options with 19% of members in the conservative fund and 20% in the cash

[117] OECD (2011)
[118] OECD (2011)
[119] FCA (2014)
[120] OECD (2014) figure 4.2

fund.[121] Some of the attraction to low-risk investment in KiwiSaver may be related to the policy of allowing people to use KiwiSaver funds for a house deposit, thereby providing a motivation to preserve capital amounts.

There are no at-retirement defaults in New Zealand

As the private pension DC market is relatively young, the retirement-income product market is underdeveloped. There are no annuities available in retirement, though some are under development, and there are no tax regulations which would encourage savers to withdraw their pension savings as a steady income stream. The majority of DC savers withdraw their savings as a single lump sum, though they have the option to leave their pension savings in their schemes and withdraw over a period of time. Very few of those accessing DC pension savings make use of financial advice.[122]

The NZ Government is considering introducing at-retirement defaults in order to ensure sustainability of the State Pension

There is less concern about NZ pensioners running out of funds in retirement because, at the moment, the NZ State Pension provides an income worth 39% of average earnings (about 16% higher than the UK State Pension). However, concerns about the sustainability of the NZ State Pensions have led to considerations about means-testing the State Pension. In order to support this, the Government has proposed introducing a compulsory default of annuitisation for half of a scheme member's DC savings at retirement.[123]

In Chile

- Default fund de-risking complements defaults in retirement, where Chileans must use DC savings to purchase a secure retirement income product.
- Government guarantees backing returns from annuities can help retirement-income product markets to be more competitive.

The Chilean State Pension is:

- Two-tiered (Basic and Supplementary);
- Residency based (Basic);
- Means-tested (Supplementary);
- Available to people from age **65;**
- Indexed to wages (Basic), and
- Indexed to increases in private pension income (Supplementary).[124]

[121] NZ FMA (2015); FCA (2014), Employer run, trust-based pension schemes make up less than 10% of private pension schemes.
[122] FCA (2014)
[123] FCA (2014)
[124] OECD (2011)

In 1981 the Chilean Government introduced a system of mandatory saving (automatic enrolment with no opt-out) into DC pension schemes. Chilean DC scheme default funds follow a low-risk profile throughout a member's life and de-risk further in the run up to retirement:

- For the first ten years of saving, 25% of the fund is invested in equities;
- For the next 15 years, 15% of the fund is invested in equities;
- For the remaining ten years, 5% of the fund is invested in equities.[125]

De-risking in Chilean default funds complements the defaults in retirement when Chilean DC savers must either purchase an annuity or take phased withdrawals.

The Chilean at-retirement system defaults people into choosing between two options

From age 65 (men) and age 60 (women), Chileans who wish to access their DC pension savings must opt either for a lifetime (deferred or immediate), index-linked annuity or for phased withdrawals from a pension fund. Married DC savers are required to purchase joint-life annuities.

The Chilean annuities market is highly competitive and developed. The fund providers must guarantee a minimum rate of return, which is backed by the Government. The number of DC savers purchasing an annuity in Chile has risen from 3% of pensioners in 1985 to just under 70% of DC savers for whom annuities were an option in 2007. This also equates to around 70% of DC assets. 30% of annuities purchased are deferred, though the majority of these are deferred only for a year. The small take up of the phased withdrawal option may be linked to the relatively high charges levied on these products.[126]

[125] Antolin et al (2010)
[126] Rocha, R. Rudolph, H.P. (2010); OECD (2013) Pensions at a Glance

Chapter five: Thoughts on policy

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

Writers include:

1. David Halpern, CEO, and Katy King, Advisor
   Behavioural Insights Team
2. Chris Wagstaff, Head of Pensions and Investment Education
   Columbia Threadneedle
3. Lawrence Churchill, CBE
   PPI Chairman

1. Setting smarter defaults

David Halpern
CEO
Behavioural Insights Team

Katy King
Advisor
Behavioural Insights Team

By changing the default from opt-in to opt-out, automatic enrolment is successfully reversing the long-term decline in the number of people saving into workplace pensions in the UK. Opt-out rates have been between 8% and 14%, rather than the 28% the Department for Work and Pensions originally estimated, [127] though very much in line with early results on 401k defaults in the USA. Now we can safely say that automatic enrolment in the UK is a success in terms of numbers of savers, with 6.1 million workers automatically enrolled as of March this year, we should turn our full attention to examining how the default is designed to make sure it is working for those enrolled in the long term.

One of the strongest forces in human behaviour is inertia; in many cases, consumers will maintain a default, even where there are benefits to

[127] https://www.nao.org.uk/report/automatic-enrolment-to-workplace-pensions/

straying from that default.[128] This phenomenon has helped enrol people into workplace pensions, but it also means the vast majority of people enrolled are likely to stick with the default minimum contributions set by the scheme. By 2019 the minimum contribution is due to rise to 8% of qualifying earnings, a figure much lower than the 15% figure recently suggested as a target by The Independent Review of Retirement Income (IRRI).[129] Research has found that people tend to infer that the default is an implicit recommendation, especially when the messenger is credible (such as the UK Government).[130] By keeping the minimum contribution levels low, we risk encouraging people to under-save for their retirement.

Default savings contributions may not only need to be made larger, but also smarter. For example, one promising adaption would be to allow savers to start with lower contributions, but with increases in contributions when they get a pay rise, in line with the Save More Tomorrow[131] scheme.

People on lower incomes generally not only have proportionately less income to spare for saving, but also lack a financial cushion in case of emergencies. This lack of a financial cushion makes them much more vulnerable to financial shocks (eg: inability to fix a broken car leading to job loss), and also – recent research suggests - acts as 'mental tax' that undermines effective decision-making.[132] This creates a strong case for incorporating a 'rainy day' saving element into current pension arrangements, in effect allowing emergency withdrawals up to a certain limit. Such rainy day saving might come in the form of a blended product, taking advantage of the new incentives for regular saving proposed in the last budget combined with the power of defaults built into employee pensions. Such adaptions could have transformative effects: between a quarter and half the UK population lack a sufficient financial cushion to withstand a financial shock of £1,500, and half a million households a year could be prevented from falling into problem debt by if they built £1,000 in precautionary savings.[133]

[128] Samuelson, W., & Zeckhauser, R. (1988). Status quo bias in decision making. *Journal of risk and uncertainty*, *1*(1), 7-59.
[129] http://www.pensions-institute.org/IRRISummary.pdf
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[132] Mullainathan, S. & Shafir, E. (2013). Scarcity: Why having too little means so much.
[133]https://www.stepchange.org/Portals/0/documents/media/reports/additionalreports/StepChange_Action_Plan_on_Problem_Debt_2015.pdf

Overcoming the behavioural barriers to retirement saving

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The foundation of a good financial outcome at retirement starts with saving sufficient throughout one's working life, ideally from an early age. However, as the first edition of The Future Book identifies, we are starting from a very low base and need to at least double current defined contribution (DC) workplace pension contribution levels if there is to be a reasonable chance of securing a comfortable retirement.

Addressing those deeply engrained behavioural impediments to achieving wholly more appropriate levels of saving and savings coverage is a good place to start. Of these, present bias and anchoring are particularly prominent.

Present bias and anchoring

Present bias, a preference for consumption today over deferring consumption, by saving, until tomorrow, arises from the inability to align the upfront costs of retirement saving with the benefits that will materialise (often far) in the distant future and the difficulty individuals have in visualising their future selves much later in life.

This inter temporal preference for consumption over saving is often compounded by many DC savers mentally anchoring[134] their pension contributions to the minimum contribution level applied by their workplace pension scheme, in the mistaken belief that this will provide an adequate sum in retirement. This problem is particularly acute amongst auto enrolees, where auto enrolment minimum contributions are typically seen as having been endorsed by the government and therefore adequate.

In getting the nation to save sufficient for a comfortable retirement, these and many other behavioural impediments to achieving more appropriate levels of saving and savings coverage can arguably be addressed by applying relatively simple behavioural insights and interventions.

Overcoming present bias

Take present bias. When thinking of but unable to visualise our future selves, we use the same part of the brain as when thinking about strangers. So the savings decision effectively becomes a choice between spending today and saving for a stranger to spend our money in the future! Therefore, projecting an image

[134] Anchoring is when people latch onto a wholly irrelevant number that comes easily to hand when they are in unchartered territory and use it as a reference point in their decision making.

of how someone might look 20, 30 or 40 years from now dramatically improves their engagement with retirement planning,[135] if a smile rather than a grimace is to be put onto that ageing face. In making the costs and benefits of saving more salient and closely aligned, the research from which this finding emanates found that those who had seen an avatar of their older selves were willing to put twice as much money into long-term savings as those who had only seen a virtual image of their current selves.

Closely connected to this is the need for people to be able to visualise those activities and expenditures they enjoy today which they will still be enjoying far into the future. Therefore, re-framing the savings decision as creating a source of funds to be spent playing golf, scuba diving or taking skiing holidays later in life potentially overcomes this inter temporal preference. The challenge then is to motivate savers to think about the future without concerns about growing old getting in the way.

Another initiative that better frames the alignment of current costs and future benefits of retirement saving is the automatic escalation of DC member contribution rates: the so-called Save More Tomorrow approach. Formulated by behavioural economists Shlomo Benartzi and Richard Thaler,[136] auto escalation enables DC savers to commit today to paying increased contribution levels only in the event of receiving future pay rises. By not having to pay any money today, and not experiencing any reduction in their current take-home pay, the individual delays this cost.

Present bias for many is, of course, also a consequence of retirement simply being too far away to be relevant to decision making today. Indeed, a two year timeframe is typically the limit for most peoples' radars. This can potentially be overcome by using simple, novel and accessible incentives such as issuing a national lottery ticket for, say, every £100 per month saved. Lottery prizes are attractive in that people tend to focus on the prize, by visualising themselves sitting on a big pile of cash at the end of the month, rather than the small probability of winning it. Indeed, people are typically poor at calibrating probabilities. They generally overestimate the probability of positive events materialising and underestimate the occurrence of adverse events – like poor retirement outcomes.

Overcoming anchoring

In addition to better aligning the immediate "cost" of making pension contributions with a potentially much larger immediate benefit, introducing

[135] See: Hal E. Hershfield, Daniel G. Goldstein, William F. Sharpe, Jesse Fox, Leo Yeykelis, Laura L. Carstensen, Jeremy N. Bailenson. *Increasing Saving Behavior Through Age-Progressed Renderings of the Future Self.* Journal of Marketing Research Vol. XLVIII (November 2011), S23–S37. vhil.stanford.edu/mm/2011/hershfield-jmr-saving-behavior.pdf.

[136] Richard H. Thaler, University of Chicago and Shlomo Benartzi, University of California, Los Angeles. *Save More Tomorrow: Using Behavioral Economics to Increase Employee Saving*. Journal of Political Economy, 2004, vol. 112, no. 1, pt. 2.

lottery tickets might also help to move contribution levels away from the minimum contribution "anchor".

Similarly, reframing pensions tax relief as a "savers bonus" would simplify the incentive, make it more appealing and, by using sufficiently, but not unpalatably, large numbers to illustrate how the bonus works, e.g. a £50 bonus for every £200 saved, move the contributions "anchor" to a more realistic level.

Likewise, positioning employer contributions as "free money" again encourages employees to move beyond the minimum contribution rate. Indeed, given that most employees implicitly trust their employer, employees are very much guided and incentivised by the size of the employer contribution into DC workplace schemes. Those DC schemes into which the employer contribution at least matches the employee contribution typically experience much greater than average combined contributions.

In overcoming anchoring it has also been suggested that an employee's monthly payslip should not only show the employee's and employer's pension contributions made to the employee's pension account to date but should also illustrate the monthly income stream these accumulated contributions might generate at the employee's normal retirement date. By facilitating a direct comparison with what the employee is currently earning, this would add some perspective to the need to save more for their retirement.

Then there's socialising pension saving. Despite feeling strongly about being an individual, most people like to know that their behaviour doesn't fall outside social norms. Indeed, as social animals, we are heavily swayed by others in our actions and opinions. By publicising favourable statistics that show most people in a relevant cohort have started saving and disclosing the amounts involved, again if favourable, would encourage others in that cohort to do similarly.

Conclusion

For most, the possibility of being poor in retirement, as a consequence of inadequate saving, simply doesn't register as a tangible reality today. However, the consequences of this inaction will only be felt far into the distant future, when for many it will be too late to act. Although behavioural economics doesn't have all the answers, applying simple behavioural interventions in a typically subtle manner should not only generate more optimal individual savings decisions but should ultimately lead to a retirement to be enjoyed rather than endured.

Defaults within the DC landscape

Lawrence Churchill CBE
Chairman
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Defaults make it easy to do the right thing

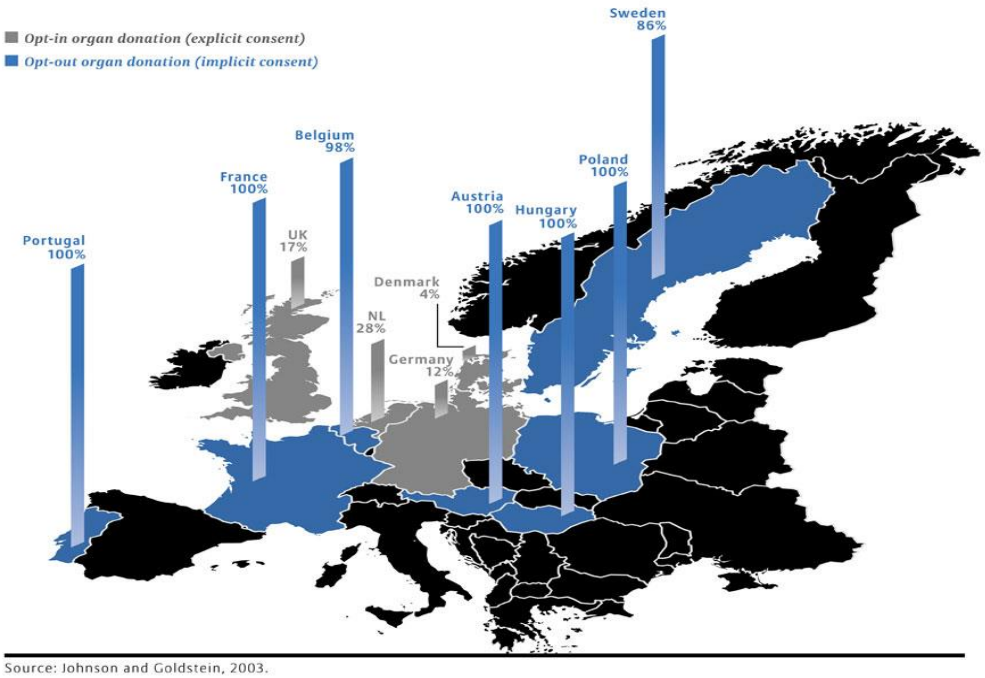
It is well known that faced with complex decisions or lots of options, people end up doing nothing at all. Overwhelmed with information, some of which they don't understand well, people procrastinate – they will get around to it tomorrow, and tomorrow never comes!

So rather than have a default of doing nothing, why not have a positive default, which is likely to benefit the individual or society at large.

A very clear example of the power of defaults – and the impact on society – can be seen at looking at the results for organ donation across Europe, where some countries have an opt-in approach, and some an opt-out.

We are just beginning to see the power of defaults in DC pensions. Most famously, the power of auto-enrolment has produced a globally significant case study here in Britain. Lord Willetts described "what has been happening with NEST and with auto-enrolment is a fantastic British success story". Rational economists predicted opt-out rates of 25-35%, but the reality was single digits. There are now over six and a half million more people saving for a pension than was the case before – because the default of

THE DEFAULT OPTION AND EFFECTIVE CONSENT RATES (FIGURE 1)



Source: Johnson and Goldstein, 2003.

joining made it easy for them to do the right thing.

It was a courageous decision by the UK Government to choose a default driven approach to increasing pension participation rates, necessitating, as it did, the creation of a new publicly funded provider, NEST, with a public service obligation to accept any employer. But the initiative succeeded beyond expectation, with NEST alone, at over three million, having more members than the entire KiwiSaver system set up five years earlier in New Zealand. And at a recent conference, Lord O'Donnell estimated that, had traditional incentives been used rather than behavioural science, the cost of achieving current results would have amounted to billions of pounds.

Defaults take away complexity

Whereas the decision to join a pension scheme or not is not complicated, defaults are being used very successfully for more complex choices – for example, what investment strategy to pursue. In this case fiduciaries (e.g. Trustees) or quasi-fiduciaries (e.g. Independent Governance Committees) design or monitor investment strategies developed to achieve a suitable risk/reward balance for unsophisticated savers. Most market research indicates that the public has low familiarity and low confidence in investment decisions. So a default investment strategy is developed for those who don't want to make an active choice. In NEST's case, over 99% of members are in the default fund, leaving it to more expert people to make the detailed technical decisions on their behalf.

Where next for default choice architecture?

Could we frame the question of how much we want to take out as our pension so that it aligns more proportionally with how much we need to put in? Most calculations show that somewhere around 15% of earnings need to be saved, while current auto-enrolment contribution rates are typically half of that. Evidence from the USA showed no correlation between higher savings and higher opt out rates, as is commonly feared in the UK. Or could we use defaults to help bridge the contribution gap? What if all pension schemes used Save More Tomorrow techniques to achieve auto-escalation?

More radically, what if pension schemes recognized the reality of longer working lives and had a default scheme pension age say three years after State Pension Age.

We have not yet solved the UK's pension problem. Creative thinking around defaults can build on the great start we have made. As ever, the way we think about the problem, is the problem.

Appendix: PPI modelling for The Future Book

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 2014-based figures published by the ONS.

Current distributions of individuals across pension scheme types are taken from the Lifetime Labour Market Database (LLMDB)[137] 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.[138] 73.2% of those in DB schemes are assumed to work within the public sector,[139] 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.[140] It was assumed that the stocks of DC assets in 2010 were £275 billion.[141]

[137] Data from LLMDB 2010-11

[138] ONS (2013a)

[139] Average proportion of males and females employed in public sector COSR schemes according to LLMDB 2010-11

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

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

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 57% are automatically enrolled into master trusts and the remaining into other DC schemes. Individuals are enrolled in proportion to the 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%[142] 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 earning band is taken to be £5,824 to £43,000 with an earnings trigger of £10,000 (all in 2016/17 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 2018 in accordance with existing regulations) unless otherwise stated.

[142] Average annual workforce churn. DWP (2010) p49

General assumptions

Investment returns are modelled stochastically with curves generated by the PPIs 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: 2.0%
- Earnings: 4.4%
- Equity return: 7%
- Bond Return: 4%
- Cash / Risk-free Return: 2.4%

The asset distribution is 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,[143] and 0.5% for Other DC/master trust schemes set up for automatic enrolment.[144]

Long-term earnings growth is assumed to be 4.4%, and other economic assumptions are taken in line with Office of Budget Responsibility (OBR) assumptions[145], derived from their Fiscal Sustainability Report, which has not been updated in 2016 owing to the uncertainty in forecasts as a result of the referendum outcome. The earnings band for automatic enrolment contributions and minimum salary assumption are assumed to grow with average earnings.

[143] 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.
[144] Equivalent Annual Management Charge for multi-employer/Master trust schemes such as Legal and General's Worksave, NEST and The People's Pension.
[145] OBR (2015)

Economic scenarios

This section provides a description of the model used to generate the economic scenarios for this project.

The model is based upon a combination of PPI economic assumptions and analysis of historical data. Table A1 summarises: the risk factors that were modelled; the sources of historical data used and; the PPI's long-term economic assumptions.

Table A1: Model risk factors

Abbreviation	Description
	Source of historical data
	Long term assumptions
G	Nominal GDP.
	ONS quarterly data from 30/06/1955 to present.[146]
	Annual GDP growth of 4.0%
P	CPI.
	ONS monthly data from 29/02/1988 to present.[147] Data from 31/01/1950 to 31/01/1989 derived from ONS RPI data using the methodology described by O'Neill and Ralph[148].
	Annual CPI growth of 2.0%
W	Average Weekly Earnings
	ONS monthly data from 31/01/2000 to present.[149] Rescaled valued from ONS Average Earnings Index from 31/01/1963 to 31/12/1999[150].
	Annual average earnings growth of 4.4%
Y	Long term yields.
	End of month FTSE Actuaries 15 Year Gilts Index from 30/11/1998 to present.[151] Low coupon 15 year gilts yields from 31/12/1975 to 31/10/1998.[152]
	Nominal return on gilts of 2.4%
S	Stock returns.
	End of month FTSE All share total return index from 31/12/1985 to present.[153]
	Nominal return on equities of 7%

[146] Source Bloomberg L.P
[147] Source Bloomberg L.P
[148] Robert O'Neill and Jeff Ralph, Office for National Statistics (2013)
[149] Source Bloomberg L.P
[150] Source Bloomberg L.P
[151] Source Bloomberg L.P
[152] Data from the Heriot-Watt/Institute and Faculty of Actuaries Gilt Database
[153] Source Bloomberg L.P

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

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

Where t denotes time in months.

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

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

Where A is a 6 by 6 matrix, a is a six dimensional vector and ε_t are independent multivariate Gaussian random variables with zero mean. The values of A and a and the volatilities and correlation of the ε_t are given in Table A2. The matrix A and the covariance matrix of the ε_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 -2% in the simulations. This figure was selected to be twice the maximum rate of deflation ever found in the historical data. More sophisticated transformations of the CPI that allow for arbitrarily negative deflation could be considered instead, but seem unnecessary for the purposes of this paper.

Table A2: Model parameters

The matrix A

	G	P	W	Y^l	Y^s	S
G	0.0000	-0.0026	0.0000	0.0010	-0.0006	0.0000
P	0.0000	-0.0383	0.3936	0.0000	0.0000	0.0000
W	0.1028	0.0000	-0.3759	-0.0010	0.0020	0.0000
Y^l	0.0000	0.0000	0.0000	-0.0055	0.0000	0.0000
Y^s	6.4361	0.0000	0.0000	0.0000	-0.0348	0.0000
S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

The vector a′

G	P	W	Y^l	Y^s	S
-0.0101	-0.1406	0.0085	0.0220	-0.1190	0.0058

Annual volatility of ε_t

G	P	W	Y^l	Y^s	S
0.41	0.09	1.20	1.34	1.25	0.73

Correlation matrix of ε_t

	G	P	W	Y^l	Y^s	S
G	1.00	-0.01	0.11	0.07	0.10	0.13
P	-0.01	1.00	0.02	0.06	0.04	-0.04
W	0.11	0.02	1.00	0.15	0.07	-0.02
Y^l	0.07	0.06	0.15	1.00	0.30	-0.12
Y^s	0.10	0.04	0.07	0.30	1.00	-0.12
S	0.13	-0.04	-0.02	-0.12	-0.12	1.00

Monthly log-returns on bond and money market investments are given by

$$R_t^j = Y^j/12 - D^j \Delta Y_t^j \qquad j = l, s$$

Where D is the duration of the investment class, $D^l = 12.25$ and $D^s = 0.125$.

For a general reference on multivariate time series analysis see Lütkepohl.[154] Other applications of the modelling approach presented here can be found, for example, in Koivu, Pennanen and Ranne[155] and Aro and Pennanen (2005).[156]

[154] Lütkepohl (2006)
[155] M.Koivu, T.Pennanen and A.Rann (2005)
[156] H.Aro and T.Pennanen (forthcoming)

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 3 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 three achieved approximately 21,000 household interviews in the period July 2010 to June 2012.

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 2015, 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 2016 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.

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 have been assumed to commence automatic enrolment contributions subject not already making regular contributions to a pension scheme and being in suitable employment that an automatic enrolment pension scheme will be available to them and that they meet the qualifying criteria.

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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