

Statistical bulletin

Funded occupational pension schemes in the UK: July to September 2022

Financial Survey of Pension Schemes (FSPS) results including membership, income and expenditure, transactions, assets, and liabilities of pension schemes.

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Correction

22 June 2023 10:30

We have corrected minor errors in our dataset affecting overseas direct investments and overseas assets by country data.

In the previous version, estimates of overseas cash and cash equivalents only included overseas cash and deposits from Quarter 1 2020. We have corrected the error in our latest dataset to include total overseas cash and cash equivalents.

In the previous version, a rounding error meant that the total value of assets in overseas long-term debt securities did not equal the sum of country data for Quarter 3 2021. We have corrected the error in our [latest dataset](#).

These data do not impact other estimates within the dataset.

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1 . Main points

- The market value of private sector defined benefit and hybrid (DBH) pension schemes fell by 12% between 30 June 2022 and 30 September 2022, from £1.45 trillion to £1.28 trillion; the combined market value of private sector defined contribution (DC) and public sector DBH pension schemes decreased by 1%.
- There was a larger percentage fall in the market value of both private sector DBH (15%) and combined private sector DC and public sector DBH pension schemes (6%) between 31 March 2022 and 30 June 2022.
- Greater exposure to rising gilt yields, including through liability driven investment (LDI), explains the larger percentage fall in private sector DBH pension schemes' market value over Quarter 2 (Apr to June) and Quarter 3 (July to Sept) 2022.
- Gilt yields rose in Quarter 2 and Quarter 3 2022, including sharply near the end of September, but have fallen since; the 10-year gilt yield rose from 1.63% on 31 March 2022 to 2.29% on 30 June 2022 and further to 4.10% by 30 September 2022, peaking by mid-October (4.54%) and falling to 3.73% by the end of 2022.
- LDI pooled fund holdings as a proportion of total pooled investment vehicles (PIVs) by schemes known to invest in LDI PIVs has been falling since 31 December 2021; they fell from 27% to 24% between 30 June 2022 and 30 September 2022.
- The membership by benefits type for funded occupational pension schemes is published for the first time today.

2 . The market value of UK funded occupational pension schemes

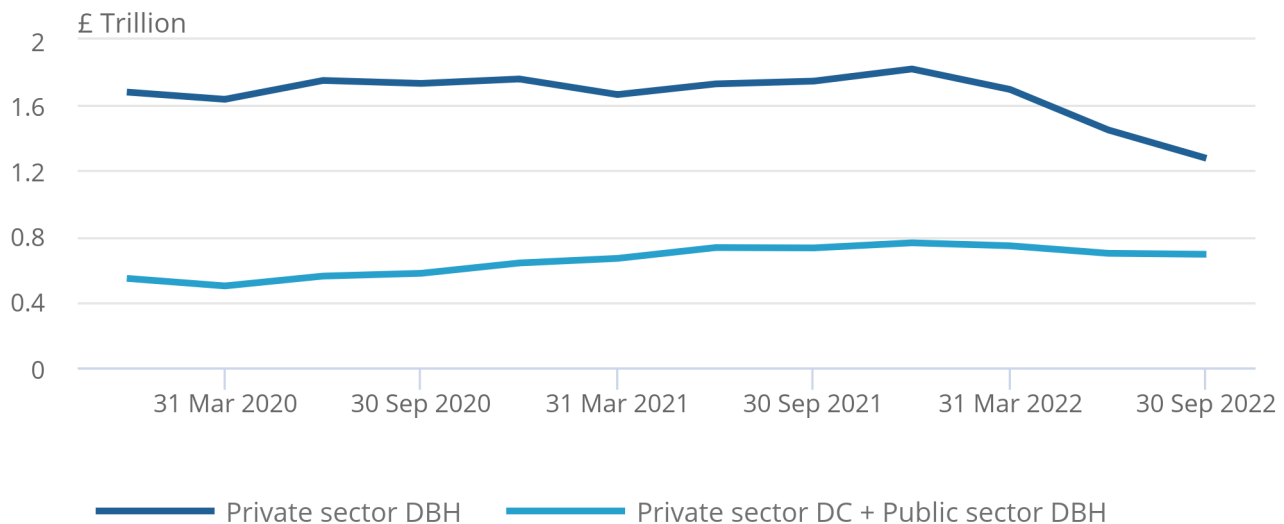
The market value of pension schemes includes all assets, the net value of derivative contracts that schemes have invested in, and liabilities other than pension benefits owed to members.

Figure 1. The market value of private sector defined benefit and hybrid pension schemes fell from £1.45 trillion to £1.28 trillion between 30 June 2022 and 30 September 2022

Market value, private sector defined benefit and hybrid pension schemes, public sector defined benefit and hybrid pension schemes and private sector defined contribution pension schemes combined, £ trillion, 31 December 2019 to 30 September 2022

Figure 1. The market value of private sector defined benefit and hybrid pension schemes fell from £1.45 trillion to £1.28 trillion between 30 June 2022 and 30 September 2022

Market value, private sector defined benefit and hybrid pension schemes, public sector defined benefit and hybrid pension schemes and private sector defined contribution pension schemes combined, £ trillion, 31 December 2019 to 30 September 2022



Source: Financial Survey of Pension Schemes from the Office for National Statistics

Notes:

1. Private sector DBH is private sector defined benefit and hybrid pension schemes.
2. Private sector DC + Public DBH is combined public sector defined benefit and hybrid and private sector defined contribution pension schemes.

Between 30 June 2022 and 30 September 2022, the market value of private sector defined benefit and hybrid (DBH) pension schemes fell by £173 billion (12%). Over the same period, the combined market value of private sector defined contribution (DC) and public sector DBH pension schemes fell by £6 billion (1%).

Between 31 March 2022 and 30 June 2022, there were large falls in the values of both private sector DBH pension schemes (15%) and combined private sector DC and public sector DBH pension schemes (6%).

During 2022, challenging market conditions and rising interest rates in the UK and globally have affected the market value of pension schemes. For instance, the 10-year gilt yield rose from 1.63% on 31 March 2022 to 2.29% on 30 June 2022 and further to 4.10% by 30 September 2022. See the [Bank of England yield curve overview](#) overview for more information. Bond (gilt) yields hold an inverse relationship to their price, meaning an increase in yield is also a fall in price. Global stock markets performed particularly poorly during Quarter 2 (Apr to June) 2022. The FTSE all-share (shown on the [London Stock Exchange overview](#)) UK equity index fell by 6% and the [S&P 500](#) (shown in the S&P Dow Jones Indices) US equity index dropped by 16% over Quarter 2 2022. Over Quarter 3 (July to Sept) 2022, both indices fell by 5%. UK funded occupational pension schemes hold more direct investments in US equities than in UK equities.

Private sector DBH schemes saw the largest falls in market value over Quarter 2 and Quarter 3 2022. These schemes have greater exposure to gilts than the other scheme types, partly in relation to liability driven investment (LDI) strategies. This means that private sector DBH schemes are more sensitive to changes in the price of gilts.

For private sector DBH pension schemes, the main contributors to the fall in market value between 30 June 2022 and 30 September 2022 were falls in the value of direct investment assets (gilts, corporate bonds, and equities). Furthermore, the value of pooled investment vehicles (PIVs) fell by £71 billion and the net negative derivatives balance increased by £19 billion over the same period.

Cash and cash equivalents and receivables assets increased by £35 billion for private sector pension schemes between 30 June 2022 and 30 September 2022. This reflects schemes' need to raise cash to fund margin calls on LDI related investments after a fast rise in gilt yields during late-September 2022.

3 . Assets

Direct investments

Gilts

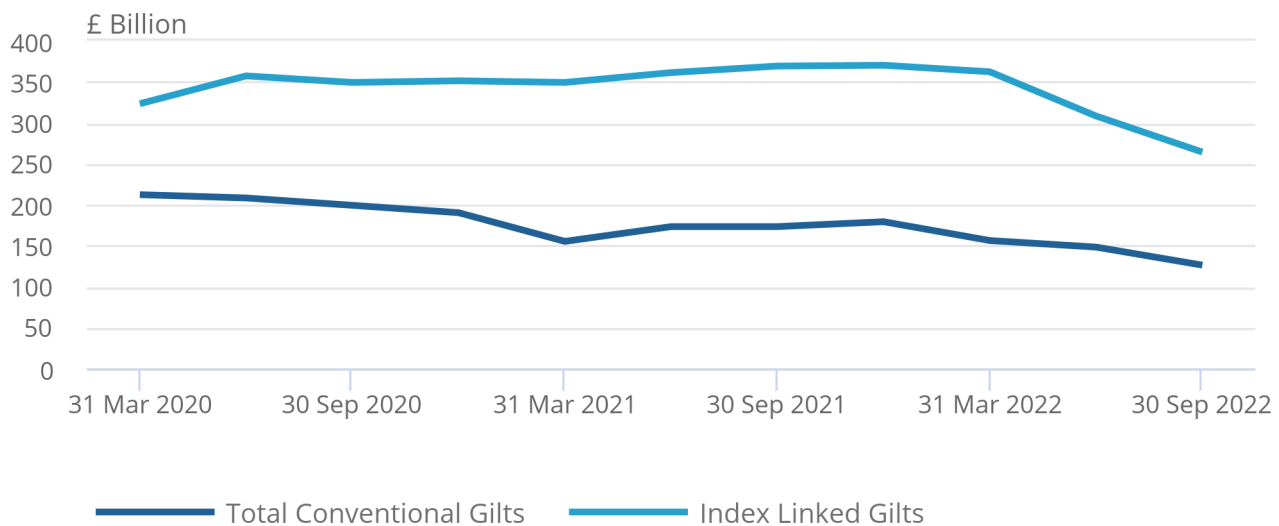
Within direct investments, gilt holdings (UK government bonds) were the biggest reason for the fall in the market value of private sector defined benefit and hybrid (DBH) pension schemes between 30 June 2022 and 30 September 2022.

Figure 2. Direct investment total gilt holdings for private sector defined benefit and hybrid pension schemes fell by £65 billion between 30 June 2022 to 30 September 2022

Direct gilt holdings, private sector defined benefit and hybrid pension schemes, £ billion, 31 March 2020 to 30 September 2022

Figure 2. Direct investment total gilt holdings for private sector defined benefit and hybrid pension schemes fell by £65 billion between 30 June 2022 to 30 September 2022

Direct gilt holdings, private sector defined benefit and hybrid pension schemes, £ billion, 31 March 2020 to 30 September 2022



Source: Financial Survey of Pension Schemes from the Office for National Statistics

The fall in gilt holdings in Quarter 2 (Apr to June) 2022 and Quarter 3 (July to Sept) 2022 is a combination of a fall in the price of gilts because of their higher yields and the sale of gilts held by pension schemes. UK gilt yields increased over Quarter 2 and Quarter 3 2022, which partially reflects rising interest rates over the quarter. Figure 2 indicates that index-linked gilts have had a larger sell-off than conventional gilts. This may be because of the order in which trustees sell assets to fund margin calls related to liability driven investment (LDI) strategies. After using excess cash, a pension scheme requiring funds for collateral calls may then sell gilts held outside the LDI mandate.

Corporate bonds and equities

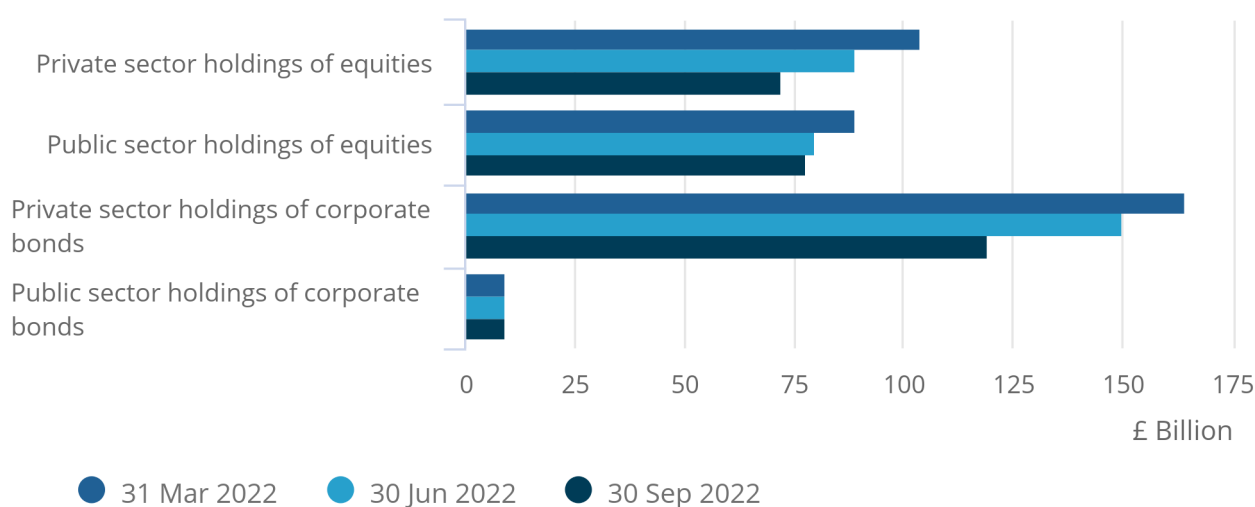
Figure 3 shows there has been a larger decrease in private sector pension schemes' corporate bonds and equities holdings, compared with public sector pension schemes' holdings.

Figure 3. Private sector pension schemes holdings of corporate bonds and equities decreased by 21% and 19%, respectively, between 30 June 2022 and 30 September 2022.

Direct investment in equities and corporate bonds, private and public sector pension schemes, £ billion, 31 March 2022, 30 June 2022 and 30 September 2022

Figure 3. Private sector pension schemes holdings of corporate bonds and equities decreased by 21% and 19%, respectively, between 30 June 2022 and 30 September 2022.

Direct investment in equities and corporate bonds, private and public sector pension schemes, £ billion, 31 March 2022, 30 June 2022 and 30 September 2022



Source: Financial Survey of Pension Schemes from the Office for National Statistics

Notes:

1. Private sector is private sector defined benefit and hybrid (DBH) and defined contribution (DC) pension schemes.
2. Public sector is public sector defined benefit and hybrid (DBH) pension schemes.

Private sector pension schemes' corporate bond holdings decreased by £31 billion between 30 June 2022 to 30 September 2022, having decreased by £14 billion in the previous quarter. This is because of a change in bond prices and the volume of bonds held by schemes. The [S&P US Investment Grade Corporate Bond Index](#) fell by 7% between 31 March 2022 and 30 June 2022 and by 5% between 30 June 2022 and 30 September 2022.

Global stock markets performed poorly during Quarter 2 2022. Private sector pension schemes' holdings of equities fell by £17 billion over Quarter 3 2022, after falling by £15 billion over the previous quarter. Public sector pension schemes' holdings of equities fell by £2 billion in Quarter 3 2022 and by £9 billion in Quarter 2 2022. These falls likely reflect falls in the price of equities and their sale by pension schemes.

Like index-linked gilt holdings, the fall in private sector pension schemes' holdings of corporate bond and equities holdings was larger than the fall for public sector pension schemes. This may reflect private sector DBH schemes selling these holdings to raise cash for collateral calls related to their LDI strategies.

Cash and cash equivalents and receivables

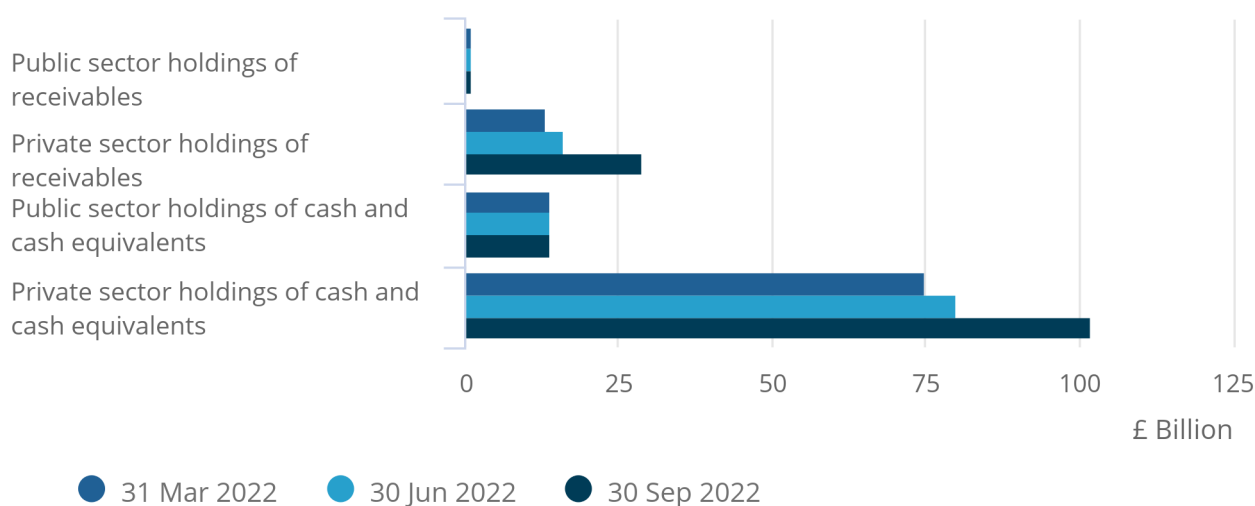
Private sector pension schemes' direct holdings of receivables, and cash and cash equivalents, rose notably between 30 June 2022 and 30 September 2022. Private sector pension schemes holdings of these assets are higher at 30 September 2022 than at any point in our timeseries, which started from 30 September 2019. Public sector pension schemes' holdings of these assets remained unchanged over the periods shown in Figure 4.

Figure 4. Private sector pension schemes' cash and cash equivalents rose from £80 billion to £102 billion between 30 June 2022 and 30 September 2022

Direct holdings of receivables and cash and cash equivalents, private and public sector pension schemes, £ billion, 31 March 2022, 30 June 2022 and 30 September 2022

Figure 4. Private sector pension schemes' cash and cash equivalents rose from £80 billion to £102 billion between 30 June 2022 and 30 September 2022

Direct holdings of receivables and cash and cash equivalents, private and public sector pension schemes, £ billion, 31 March 2022, 30 June 2022 and 30 September 2022



Source: Financial Survey of Pension Schemes from the Office for National Statistics

Notes:

1. Private sector is private sector defined benefit and hybrid (DBH) and defined contribution (DC) pension schemes.
2. Public sector is public sector defined benefit and hybrid pension schemes.
3. Receivables are amounts owed to a pension scheme but not yet paid.

The increase of both cash and cash equivalents and receivables, particularly between 30 June 2022 and 30 September 2022, may be related to the selling of other assets (gilts, corporate bonds, and equities).

There was an increase in private sector holdings of receivables across all sizes of private sector DBH pension schemes. Receivables are amounts owed to a pension scheme but not yet paid. Pension schemes would have receivables when they have income from investments or sales of investments not yet paid. The uncertainty in pension markets at the end of Quarter 3 2022 meant that, as of 30 September 2022, pension schemes may have only recently sold assets and were yet to receive all the amounts owed into their accounts.

The increase in cash and receivables suggests that on 30 September 2022 private sector pension schemes were preparing for the possibility of further collateral calls on their LDI investments.

Pooled investment vehicles (PIVs)

Liability driven investment pooled funds

A proportion of private sector DBH PIV holdings are within liability driven investment (LDI) pooled funds. These are leveraged funds centred around an LDI strategy in which there is more than one investor in the fund or underlying fund(s).

We have published new estimates relating to LDI pooled funds. This is in line with our ambition to further develop pensions statistics to meet the growing demand for our statistics from users.

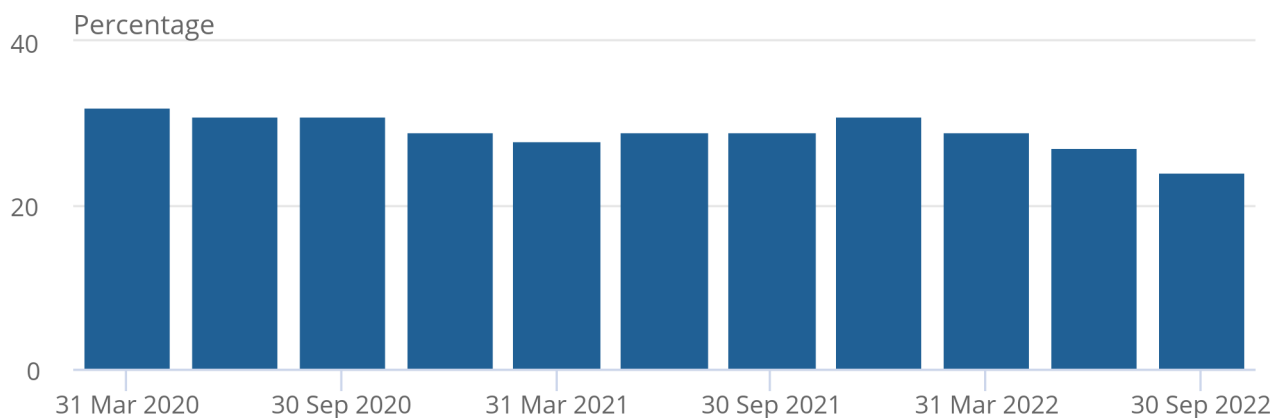
A summary of the methodology of private sector DBH pension schemes LDI pooled fund holdings is important in understanding its strengths and limitations. The Financial Survey of Pension Schemes (FSPS) collects information on all the PIVs that pension schemes invest in. Some of these PIVs are LDI pooled funds. Using the PIV fund name, we identify the PIVs we determine are LDI pooled funds. For the pension schemes that we have determined to have investments in LDI pooled funds (called "known schemes"), we total all their investments in LDI pooled funds. We express this as the proportion of the total value of "known scheme" PIVs. This is shown in Figure 5.

Figure 5. Liability driven investment (LDI) as a proportion of total pooled investment vehicles (PIVs) by schemes known to invest in LDI PIVs fell from 27% to 24% between 30 June and 30 September 2022

Private DBH LDI pooled fund holdings as a proportion of total PIVs by schemes known to invest in LDI PIVs, percentage, 31 March 2020 to 30 September 2022

Figure 5. Liability driven investment (LDI) as a proportion of total pooled investment vehicles (PIVs) by schemes known to invest in LDI PIVs fell from 27% to 24% between 30 June and 30 September 2022

Private DBH LDI pooled fund holdings as a proportion of total PIVs by schemes known to invest in LDI PIVs, percentage, 31 March 2020 to 30 September 2022



Source: Financial Survey of Pension Schemes from the Office for National Statistics

Notes:

1. Private DBH is private sector defined benefit and hybrid pension schemes.

Figure 5 shows that the proportion of PIVs in LDI pooled funds for "known schemes" fell between 31 December 2021 and 30 September 2022. The steepest decline in this proportion (from 27% to 24%) occurred between 30 June 2022 and 30 September 2022.

A decline in the LDI proportion despite a significant fall in total PIV holdings for private sector DBH pension schemes indicates large falls in LDI pooled holdings across Quarter 2 and Quarter 3 2022. This provides further evidence of LDI pooled fund recapitalisation (also known as rebalancing), shown in our previous [Funded occupational pension schemes in the UK bulletin](#). For an example of rebalancing, see Figure 5.1 from the [Bank of England December 2022 Financial Stability Report](#).

Within the dataset, we also apply the proportion for "known schemes" to all private DBH PIVs to arrive at an estimate in £ billions of total LDI pooled fund holdings. Note that these estimates use a smaller pool of data and must be treated with caution. There is uncertainty whether the schemes for which data are available are typical of the market as a whole, because we cannot distinguish between unknown schemes and schemes not holding any LDI pooled funds.

The fall in LDI pooled holdings between 30 June 2022 and 30 September 2022 (22%) is relatively similar to the fall in the previous quarter (20%), despite the challenges faced by LDI pooled funds at the end of Quarter 3 2022. By 30 September 2022, LDI pooled funds may not have had time to fully recapitalise, following rises in gilt yields and uncertainty within pension markets at the end of Quarter 3 2022.

Derivatives

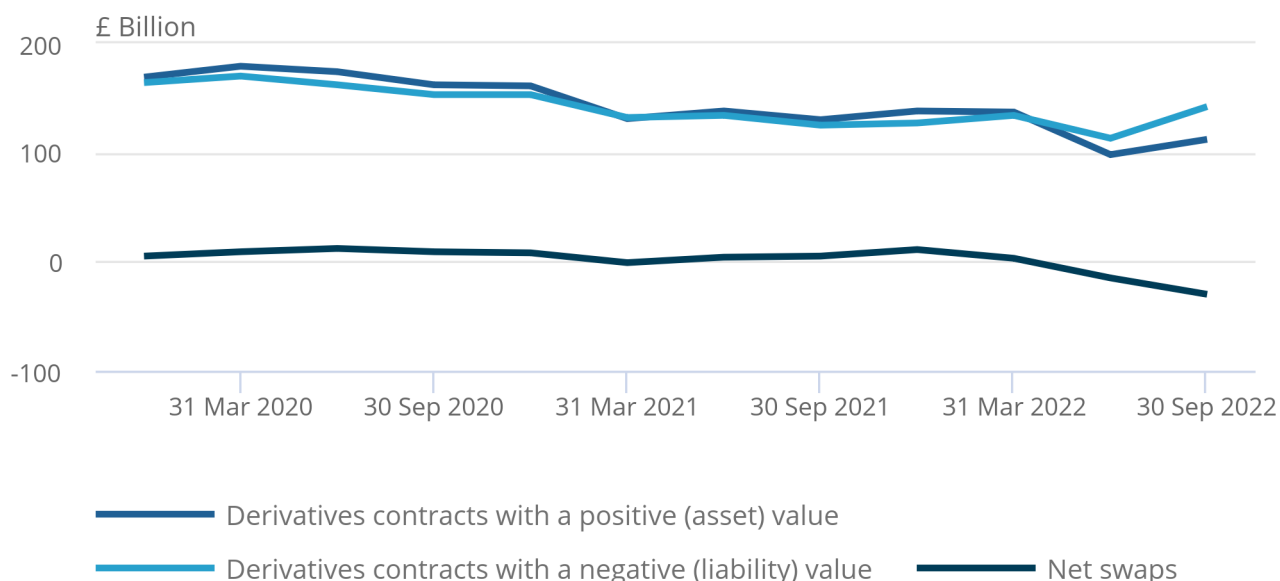
For those pension schemes that use a direct LDI strategy, mainly private sector defined benefit and hybrid (DBH) schemes, interest rate and inflation swaps are held.

Figure 6. The total net negative swaps derivatives contracts balance doubled from negative £15 billion to negative £30 billion between 30 June 2022 and 30 September 2022

Funded occupational pension schemes swaps derivatives contracts balance, £ billion, 31 December 2019 to 30 September 2022

Figure 6. The total net negative swaps derivatives contracts balance doubled from negative £15 billion to negative £30 billion between 30 June 2022 and 30 September 2022

Funded occupational pension schemes swaps derivatives contracts balance, £ billion, 31 December 2019 to 30 September 2022



Source: Financial Survey of Pension Schemes from the Office for National Statistics

Correspondence with sampled private sector DBH pension schemes revealed that most of the swaps they held were interest rate swaps relating to liability driven investment (LDI) strategies. Typically, LDI related interest rate swaps lose value if there are interest rate rises. Between 30 June and 30 September 2022, the [Bank of England raised interest rates from 1.25% to 2.25%](#).

Both negative and positive swaps increased by more than in any previous quarter during Quarter 3 2022. The increase in the net negative swaps balance from negative £15 billion to negative £30 billion may reflect the increase in gilt yields over the quarter, which are influenced by the interest rate.

4 . Membership by benefits type

The Financial Survey of Pension Schemes (FSPS) collects information about benefits type offered to members. The options for respondents are:

- Uncrystallised funds pension lump sum (UFPLS) only
- drawdown only
- both drawdown and UFPLS
- neither drawdown nor UFPLS

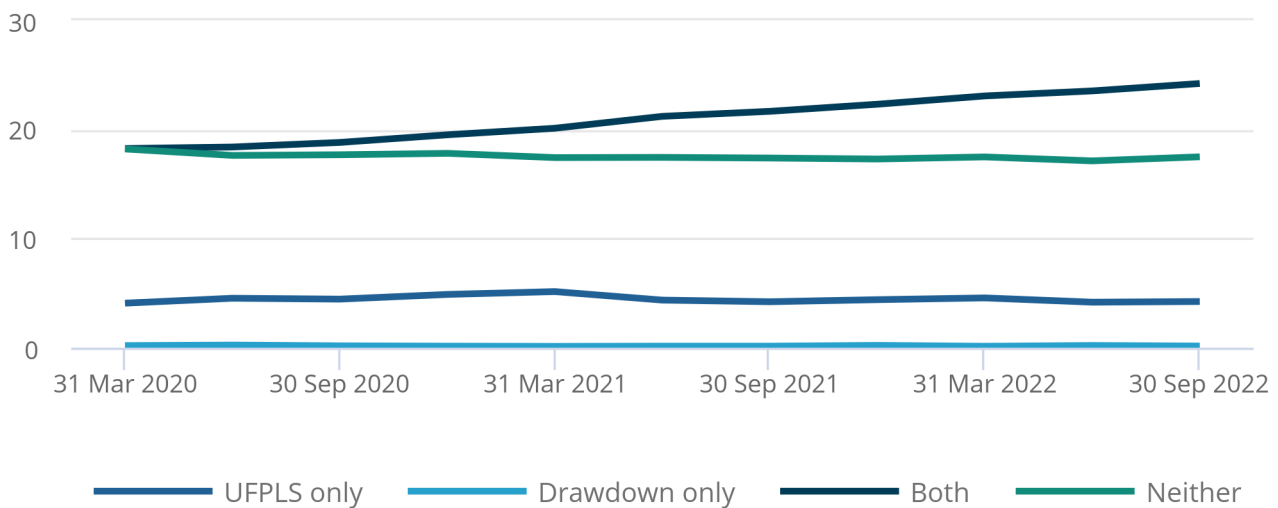
For definitions, see [Section 6: Glossary](#).

Figure 7. The number of members with access to UFPLS and drawdown benefits has increased by 5.96 million between 31 March 2020 and 30 September 2022

Total number of members by benefits type, millions of members, 31 March 2020 to 30 September 2022

Figure 7. The number of members with access to UFPLS and drawdown benefits has increased by 5.96 million between 31 March 2020 and 30 September 2022

Total number of members by benefits type, millions of members, 31 March 2020 to 30 September 2022



Source: Financial Survey of Pension Schemes from the Office for National Statistics

Notes:

1. UFPLS is uncrystallised funds pension lump sum.
2. For definitions of UFPLS and drawdown, see [Section 6: Glossary](#).

This increase of members with access to "both" UFPLS and drawdown benefits (33%) is in line with the private sector defined contribution (DC) membership change seen over the same time period.

Additionally, there was an increase in the percentage of private sector DC pension schemes offering both benefit types, from 16% to 23%, between 31 March 2020 and 30 September 2022. A higher proportion of larger private sector DC pension schemes offer both benefit types compared with smaller private sector DC pension schemes.

5 . Funded occupational pension schemes data

[Funded occupational pension schemes in the UK](#)

Dataset | Released 23 March 2023

Provisional data on membership, contributions, benefits and balances of funded occupational pension schemes in the UK. Data are quarterly from the Financial Survey of Pension Schemes (FSPS).

6 . Glossary

Active members

Members of pension schemes who are current employees and are either contributing to the scheme themselves or having contributions made on their behalf (for instance, by their employer).

Cash and cash equivalents

As per the guidance on the Financial Survey of Pension Schemes (FSPS) questionnaire, reporting within cash and cash equivalents includes the following categories:

- cash and deposits
- reverse repurchase agreements
- short-term loans
- long-term loans

Deferred members

Members of pension schemes who have accrued rights to pensions that will come into payment in future but who are no longer actively contributing (or having contributions paid on their behalf) into the scheme. Also known as members with preserved pension entitlements.

Deficit Reduction Contributions (DRCs)

These are additional payments made by the sponsoring employer to reduce the shortfall of funding in a defined benefit and hybrid pension scheme. These payments to the pension scheme are additional to the regular ongoing funding contributions.

Defined benefit (DB)

These pension schemes are ones in which the rules of the scheme specify the rate of benefits to be paid. A common DB scheme is a final salary scheme in which the benefits are based on the number of years of pensionable service, the accrual rate and the final salary. An alternative DB arrangement to the final salary scheme is the Career Average Revalued Earnings (CARE) scheme.

Defined contribution (DC)

These pension schemes are ones in which the benefits are determined by the contributions paid, the investment return on those contributions (less charges) and the type of annuity purchased upon retirement, if any. It is also known as a money purchase pension.

Discount rate

A rate of compound interest which is used to calculate the present value of a sum of money due in the future.

Drawdown

A method of taking money out of a pension pot in retirement where pension savings remain invested into a "drawdown" account as benefits are paid.

Government managed pension schemes

Schemes classified as having the "pension manager" in the Government sector (S.13) of the national accounts. In such cases, the Government sector (central and local government) is judged to be ultimately responsible for the schemes' pension obligations (the "pension manager") even if the Government sector is not responsible for scheme administration (the "pension administrator").

Liability driven investment (LDI)

A liability driven investment (LDI) is an approach to investing pension scheme assets that is designed to match the scheme's pension liabilities, including managing uncertainty relating to interest rate and inflation risk.

Liability driven investment (LDI) pooled fund

A leveraged fund centred around a LDI strategy in which there is more than one investor in the fund or underlying fund(s).

Market value

The market value of pension schemes includes all assets, the net value of derivative contracts that schemes have invested in, and liabilities other than pension benefits owed to members. The formula equals total assets excluding derivatives plus net derivatives balance minus total non-pension entitlement liabilities.

Pensioner members

Members of pension schemes who are receiving pensions or income withdrawals, sometimes known as beneficiaries.

Present value

The estimated value of a future entitlement in today's money, calculated using a discount rate.

Repurchase agreements (Repos)

A party (such as a pension scheme) sells the underlying security to a counterparty (such as a bank) in return for cash equal to the value of the underlying security. An agreement is in place to repurchase this security with interest at an agreed upon date. Typically used as a form of short-term borrowing, mainly in government securities.

Uncrystallised funds pension lump sum (UFPLS)

A method of taking money out of a pension pot in retirement in lump sums directly from the pension investment account, with the remaining pot still with the pension scheme.

[A full glossary](#) of terms is available.

7 . Measuring the data

Weighting and estimation

Information on the sampling and weighting and estimation methods for the Financial Survey of Pension Schemes can be found in Section 5 of [UK pension surveys: redevelopment and 2019 results](#).

Revisions

Our [National Accounts Revisions Policy](#) is available to assist users with their understanding of the cycle and frequency of data revisions. You are strongly advised to read this policy before using these data for research or policy-related purposes.

Survey coverage

The Office for National Statistics (ONS) replaced the MQ5 Pension Funds Survey (PFS) with the Financial Survey of Pension Schemes (FSPS) from Quarter 2 (Apr to June) 2019. The FSPS is a quarterly survey that collects data on membership, income and expenditure, transactions, assets and liabilities of UK funded occupational pension schemes.

In practice, this means that all occupational schemes for private sector employees are in the survey, but the survey does not include all occupational schemes for public sector employees. Funded schemes for public sector employees, such as the Local Government Pension Scheme (LGPS), are included. However, unfunded schemes, such as those for civil servants, teachers, and NHS staff, are not.

Breakdowns

We present results for pension schemes for private sector employees (including those covered by the Pension Protection Fund) versus those for public sector employees; and by defined benefit including hybrid pensions versus defined contribution pensions. We use the term "schemes for public sector employees", but strictly speaking, these are government managed pension schemes (see [Section 8: Glossary from our UK pension surveys article](#)).

There are no defined contribution funded occupational pension schemes for public sector employees, so there are three categories: public sector employee schemes, which are defined benefit and hybrid schemes, and private sector employee schemes, which may be further divided into defined benefit and hybrid and defined contribution schemes. See [Section 8: Glossary from our UK pension surveys article](#).

Response rates

The response rate for Quarter 3 (July to Sept) 2022 for the FSPS, at the period of closedown, was 81%. Note that even though the response date has passed, it is possible for there to be revisions to submissions for previous quarters, and for late submissions to be provided. However, all estimates up to and including Quarter 3 2021 will not be subject to further revisions.

8 . Related links

[Funded occupational pension schemes in the UK: April to June 2022](#)

Bulletin | Released 21 December 2022

Quarterly estimates from The Financial Survey of Pension Schemes (FSPS) including membership, income and expenditure, transactions, assets, and liabilities.

[Funded occupational pension schemes in the UK, current and upcoming work: January 2023](#)

Article | Released 11 January 2023

Updates on the development of funded occupational pension schemes statistics, including progress made against the requirements to be designated National Statistics.

[Funded occupational pension schemes in the UK Quality and Methodology Information \(QMI\)](#)

QMI | Released 25 March 2022

Quality and Methodology Information for the funded occupational pension schemes in the UK using data from the Financial Survey of Pension Schemes (FSPS), detailing the strengths and limitations of the data, methods used, and data uses and users.

[Financial Survey of Pension Schemes](#)

Survey | Updated 13 March 2023

A quarterly survey that gathers information about income and expenditure, transactions, assets, and liabilities of UK-funded occupational pension schemes.

[Employee workplace pensions in the UK](#)

Bulletin | Annual

Membership to workplace pension arrangements for UK employees, using data from the Annual Survey of Hours and Earnings (ASHE).

9 . Cite this statistical bulletin

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