Office for National Statistics

Statistical bulletin

Funded occupational pension schemes in the UK: October to December 2022

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

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1 . Main points

- The movements in private sector defined benefit and hybrid assets, liabilities and derivatives between 30 September and 31 December 2022 suggest schemes deleveraged, likely in response to the increases in gilt yields seen in late September to early October 2022.

- Private sector defined benefit and hybrid scheme total assets excluding derivatives fell by £118 billion (8%) between 30 September and 31 December 2022, continuing from falls in the previous three quarters.

- Partly offsetting the falls in assets, total non-pension entitlement liabilities decreased by £59 billion (26%) and the total negative net derivatives balance reduced (became less negative) by £30 billion between 30 September and 31 December 2022.

- Private sector defined benefit and hybrid liability driven investment (LDI) pooled fund holdings increased by £33 billion (25%) between 30 September and 31 December 2022, partly reflecting an increase in the value of gilts between these dates.

- Estimates from Quarter 4 (Oct to Dec) 2022 may suggest a divergence in liability driven investment (LDI) strategy response between segregated (single pension scheme) LDI and LDI pooled funds.

- Illiquid asset holdings are published for the first time today, showing that private sector defined contribution schemes hold a smaller proportion of illiquid assets than defined benefit and hybrid schemes.

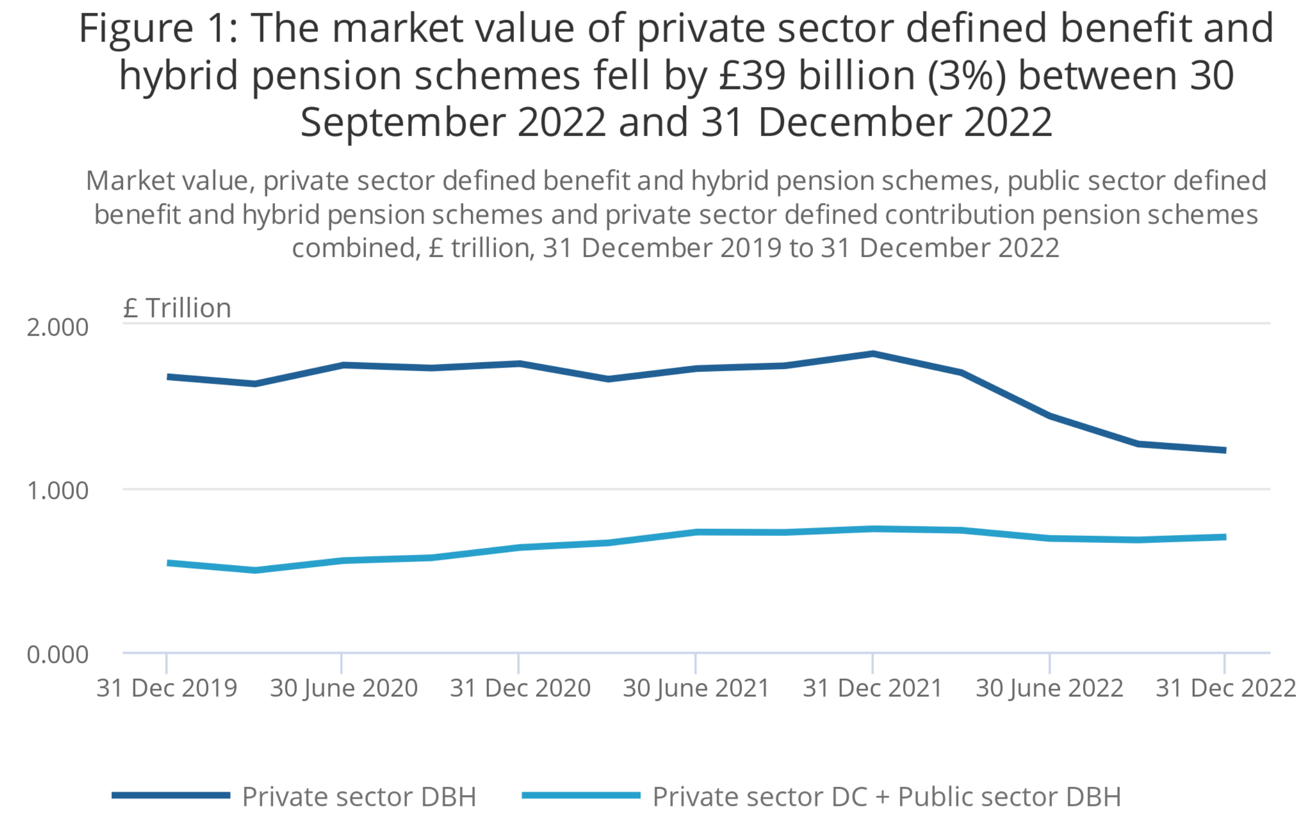
2 . The market value of UK funded occupational pension schemes

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.

Please note that our market value estimates do not consider pension entitlement liabilities, which are required for estimates of schemes' total funding level.

Figure 1: The market value of private sector defined benefit and hybrid pension schemes fell by £39 billion (3%) between 30 September 2022 and 31 December 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 31 December 2022



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

Notes:

1. DBH equals private sector defined benefit and hybrid pension schemes.

2. DC plus Public DBH equals combined public sector defined benefit and hybrid and private sector defined contribution pension schemes.

Across 2022, the market value of private sector defined benefit and hybrid (DBH) schemes fell by £591 billion (32%), while the market value of public sector DBH and private sector defined contribution (DC) schemes combined fell by £50 billion (7%). Greater exposure to gilts (UK government bonds) mostly explains the larger percentage fall in the market value of private sector DBH schemes during 2022. Global bond yields rose as large, developed economies transitioned away from historically low interest rates with a series of interest rate rises by central banks.

Private sector DBH schemes

Private sector DBH total assets excluding derivatives fell by £118 billion (8%) between 30 September and 31 December 2022. Within assets, direct investments decreased by £100 billion, driven by falls in bonds and cash and cash equivalents.

The value of non-pension entitlement liabilities (all liabilities apart from assets owed to members) decreased by more than any other quarter in the timeseries, mainly because of a fall in repurchase agreement (repos). Repos (see Section 6: Glossary for a definition) are the main borrowing mechanism for pension schemes. For more detail, see Section 3: Non-pension entitlement liabilities.

The total negative net derivatives balance reduced (became less negative) by £30 billion between 30 September and 31 December 2022. While we present data for all scheme types' derivatives combined, private sector DBH schemes make up most of the value of these estimates. Derivatives held by pension schemes consist of swaps based on gilts as part of liability driven investment (LDI) strategies. The value of gilts increased between 30 September and 31 December 2022, which would generally increase the value of swaps related to LDI strategies (see our Funded occupational pension schemes: April to June 2022 bulletin). Furthermore, as can be seen in the accompanying dataset, the total value of both swaps with a negative value and swaps with a positive value fell between 30 September and 31 December 2022. This suggests that there may have been a net closure of swaps derivatives contracts over the quarter.

Public sector DBH and private sector DC schemes combined

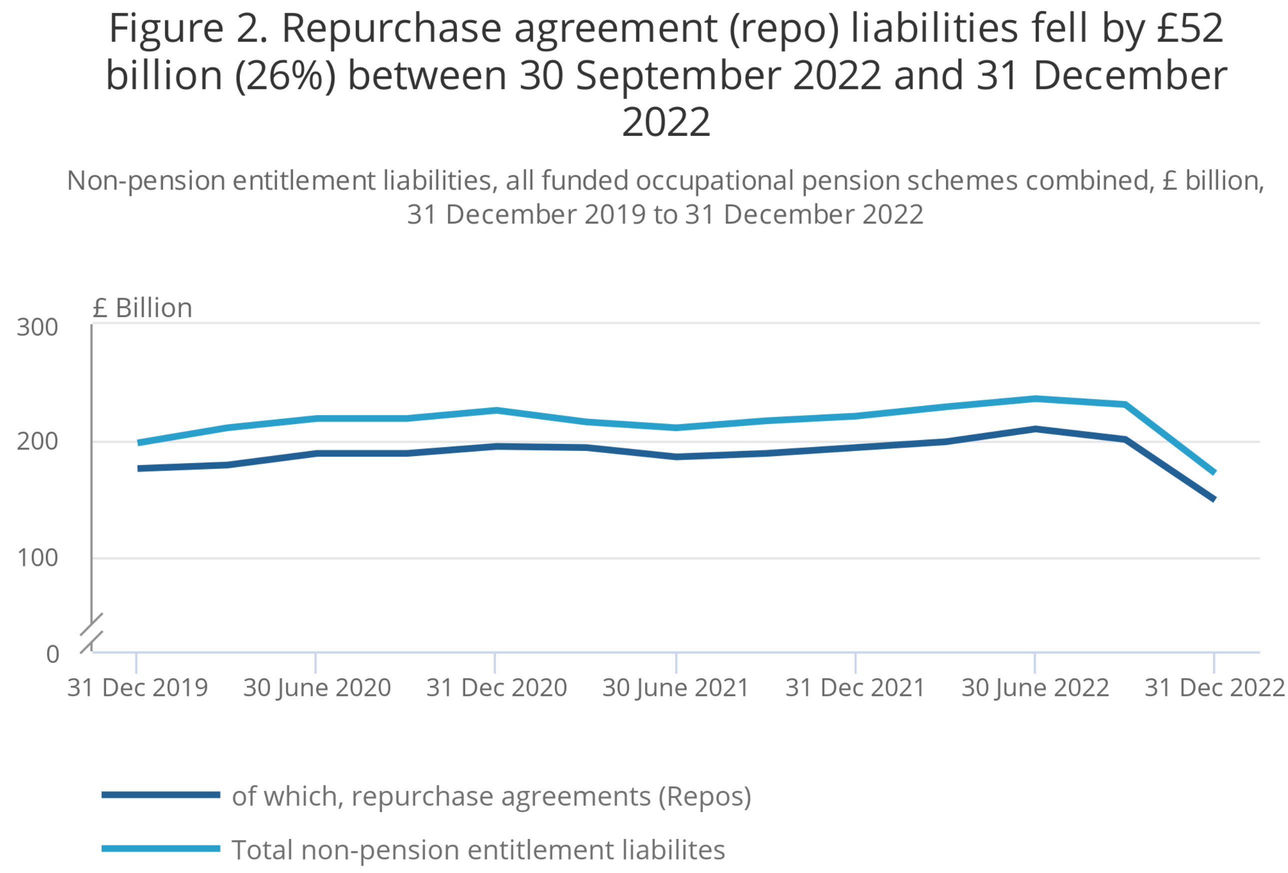
Total assets increased for both scheme types between 30 September and 31 December 2022, caused by an increase in equity holdings, both directly and through pooled investment vehicles (PIVs). The UK FTSE all-share index increased by 8% and the US S&P 500 index by 7% between 30 September and 31 December 2022.

3 . Non-pension entitlement liabilities

Figure 2 illustrates total non-pension entitlement liabilities (all liabilities apart from assets owed to members) and repurchase agreement (repos) from funded occupational pension schemes. Repos are predominantly used by pension schemes for borrowing, with gilts used as the collateral for these transactions. The majority of the value of repos shown in Figure 2 are comprised of private sector defined benefit and hybrid (DBH) schemes.

Figure 2. Repurchase agreement (repo) liabilities fell by £52 billion (26%) between 30 September 2022 and 31 December 2022

Non-pension entitlement liabilities, all funded occupational pension schemes combined, £ billion, 31 December 2019 to 31 December 2022



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

The decrease in repos is likely because of a reduction in borrowing by pension schemes given that changes in gilt prices would otherwise have been expected to increase repos over this period. Between 30 September and 31 December 2022, the 10-year gilt yield fell from 4.10% to 3.73%. Bond (gilt) yields hold an inverse relationship to their price, meaning a decrease in yield is also an increase in price. See the [Bank of England yield curve overview] for more information. [External Bank of England data] on lending to other financial institutions (including pension schemes) follows a similar trend, where there is a drop in lending after September 2022.

A reduction in borrowing is consistent with a strategy of deleveraging, defined as a reduction of debt by selling assets by segregated schemes using a liability driven investment (LDI) strategy. Segregated LDI strategies refer to single schemes using LDI. Some schemes use an LDI strategy as part of a pooled fund, where there is more than one scheme investing in the fund. The reduction in repos may be a response by pension schemes to the events of the previous quarter, where a sharp increase in gilt yields prompted short-notice collateral calls on LDI related investments held by schemes.

The reduction in repos may be a response by pension schemes to the events of the previous quarter, where a sharp increase in gilt yields prompted short-notice collateral calls on liability driven investment (LDI) related investments held by schemes. See GOV.UK's Actuaries in government blog post for more information.

4 . Assets

Direct investments

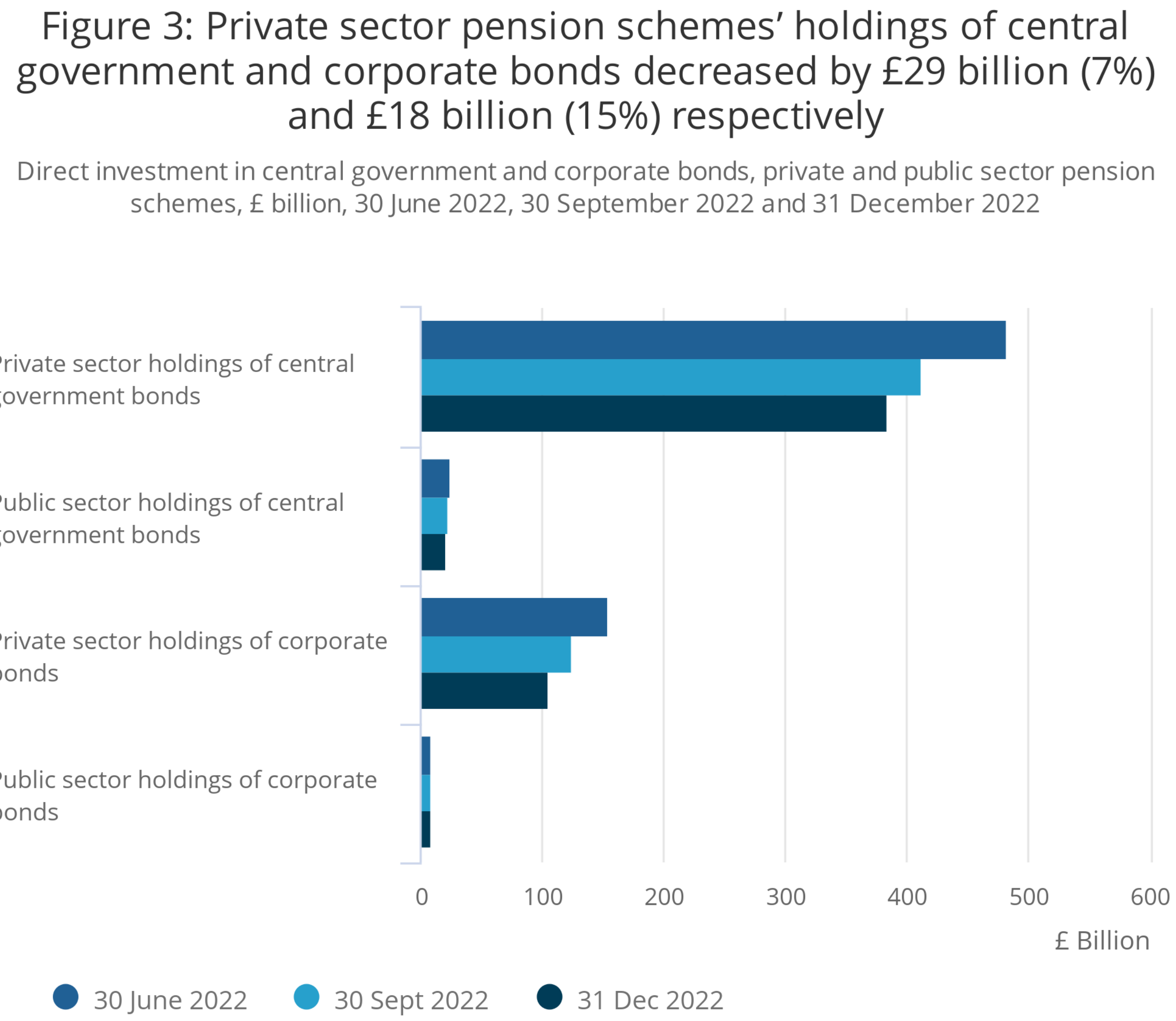
Private sector defined benefit and hybrid (DBH) schemes' direct holdings decreased by £100 billion to £797 billion between 30 September and 31 December 2022. The fall may reflect the continuation of the schemes' initial responses to increases in gilt yields in late September to early October 2022, and changes to investment strategies. The Quarter 3 (July to Sept) 2022 Financial Survey of Pension Schemes captured estimates at 30 September 2022, while the impact of these economic events were still being borne out. The Bank of England gilt purchase intervention concluded on 14 October 2022, hence the effects of, and responses to, gilt yield rises continued into Quarter 4 (Oct to Dec) 2022.

Central government bonds and corporate bonds

The value of central government bond holdings and corporate bond holdings by private sector schemes continued to fall over Quarter 4 (Oct to Dec) 2022, suggesting further evidence of deleveraging by private sector DBH schemes. This continues the trend of decreasing long-term debt securities holdings across 2022.

Figure 3: Private sector pension schemes' holdings of central government and corporate bonds decreased by £29 billion (7%) and £18 billion (15%) respectively

Direct investment in central government and corporate bonds, private and public sector pension schemes, £ billion, 30 June 2022, 30 September 2022 and 31 December 2022



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

Notes:

1. Private sector equals private sector defined benefit and hybrid (DBH) and defined contribution (DC) pension schemes.

2. Public sector equals public sector defined benefit and hybrid pension schemes.

It is likely that the change in private sector bond holdings between 30 September and 31 December 2022 is from selling these assets. Bond markets experienced a positive quarter, meaning the value of holdings might otherwise have been expected to increase.

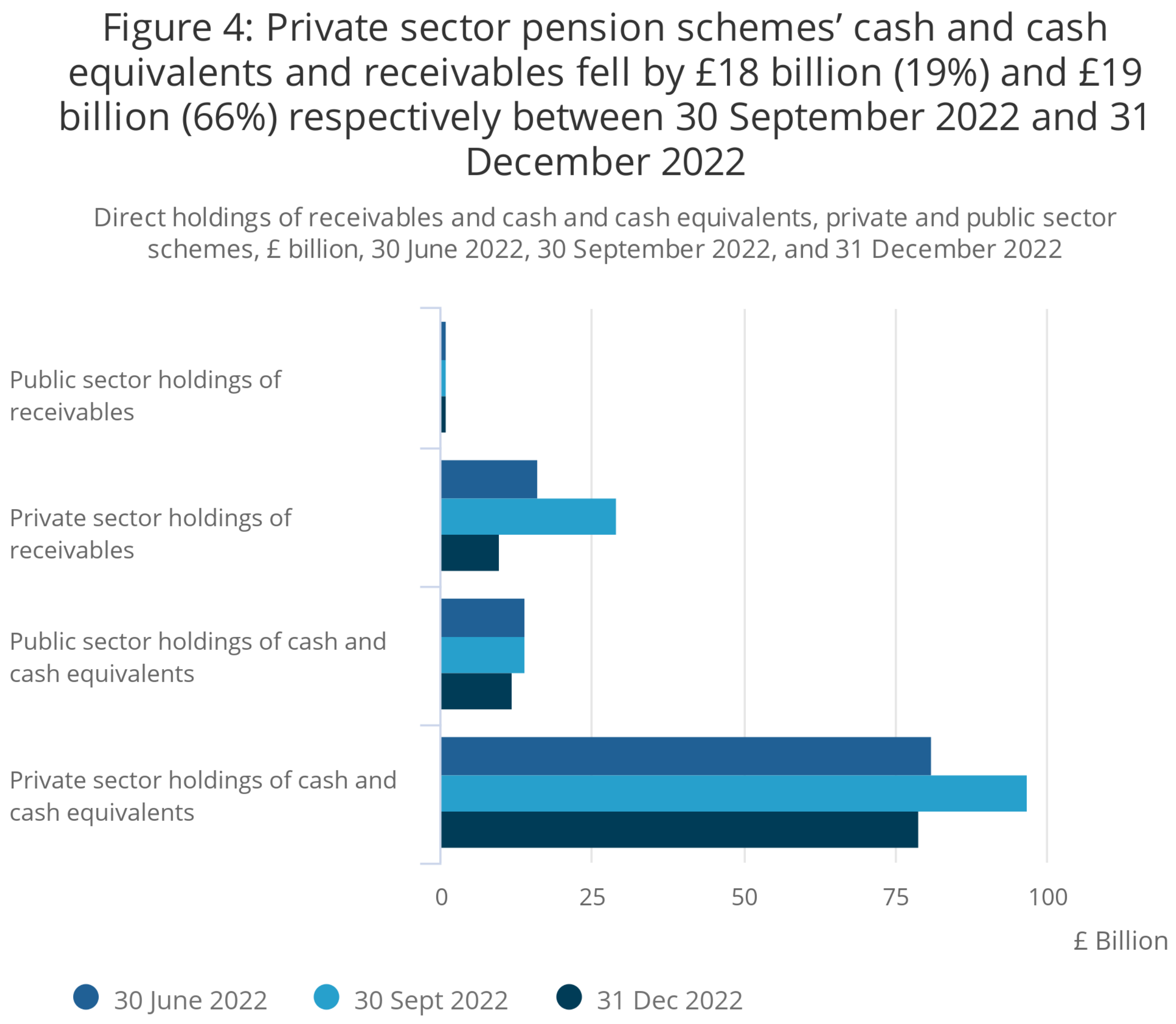
A pension scheme may sell these assets to raise the cash to pay off liabilities from borrowing (repos). Private sector schemes may also have further sold assets, including bonds, to fulfil its remaining collateral call obligations on LDI related investments.

Cash and cash equivalents and receivables

In the previous quarter, cash and cash equivalents along with receivables (amounts owed to a pension scheme but not yet paid) rose to the highest levels estimated during the timeseries. These estimates were taken from 30 September 2022, amid sharp increases in gilt yields seen in late September to early October 2022, meaning the previous quarter increase in cash and receivables holdings was likely because of the schemes' incomplete response to (as of then) ongoing events through the sales of assets to fund collateral calls related to LDI investments.

Figure 4: Private sector pension schemes' cash and cash equivalents and receivables fell by £18 billion (19%) and £19 billion (66%) respectively between 30 September 2022 and 31 December 2022

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



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

Notes:

1. Private sector equals private sector defined benefit and hybrid (DBH) and defined contribution (DC) pension schemes.

2. Public sector equals public sector defined benefit and hybrid pension schemes.

Private sector cash and cash equivalents and receivables holdings dropped back to levels similar to previous quarters by 31 December 2022. It is possible that these assets were committed for deleveraging, where assets would be paid to lenders to close borrowing positions, as well as collateral calls of LDI related investments. These are demands for further collateral to be posted by a pension scheme after a drop in the value of the existing collateral.

Pooled investment vehicles (PIVs)

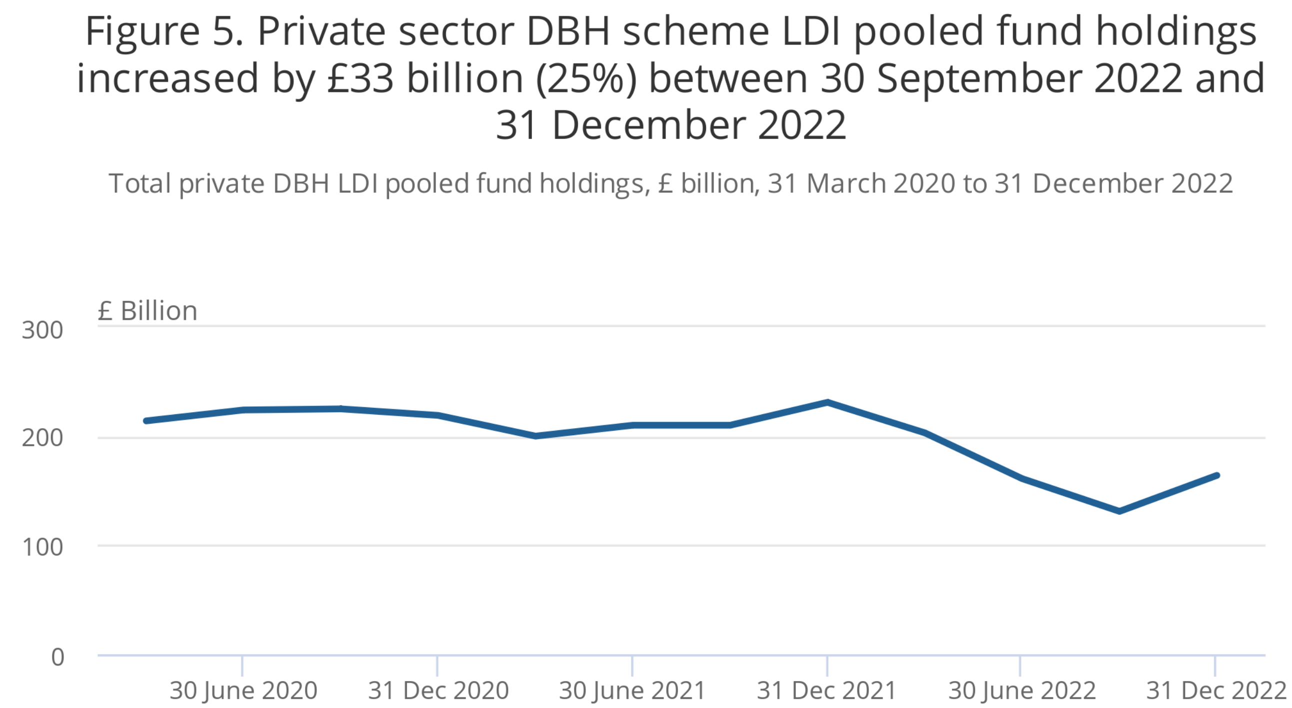
Liability driven investment (LDI) pooled funds

A proportion of private sector DBH PIV holdings are within 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).

The proportion of PIVs in LDI pooled funds for "known schemes" are applied to total private sector DBH PIVs, resulting in an estimate for total private sector DBH LDI pooled fund holdings. Please see our [Funded occupational pension schemes: July to September 2022 bulletin] for further information on the methodology of these estimates.

Figure 5. Private sector DBH scheme LDI pooled fund holdings increased by £33 billion (25%) between 30 September 2022 and 31 December 2022

Total private DBH LDI pooled fund holdings, £ billion, 31 March 2020 to 31 December 2022



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

All other things being equal, LDI pooled fund holdings would have increased in value over Quarter 4 2022 because of decreasing gilt yields during this period. LDI pooled funds have substantial exposure to gilt prices, directly and through derivative contracts. Therefore, changes in gilt prices would be likely to cause a larger change in an LDI pooled fund's value.

Figure 5 shows that the value of private sector DBH scheme LDI pooled fund holdings increased between 30 September and 31 December 2022. While LDI pooled funds may have deleveraged during this period, after the events of late September and early October 2022, LDI pooled fund rebalancing (for an example of rebalancing, see Figure 5.1 from the [Bank of England December 2022 Financial Stability Report]) may have consisted of increased subscriptions with less reduction of debt, which would have led to an increase in LDI pooled fund value. Another possible factor for the increase is increased collateral buffers for LDI pooled funds, which would also increase the value of the fund, all other things being equal.

Illiquid assets

In response to user demand, illiquid assets of funded occupational pension schemes are published for the first time. Illiquid assets are defined as assets which cannot easily be converted into cash without a substantial loss in value. Working alongside the Department for Work and Pensions, this definition covers the following areas of the Financial Survey of Pension Schemes:

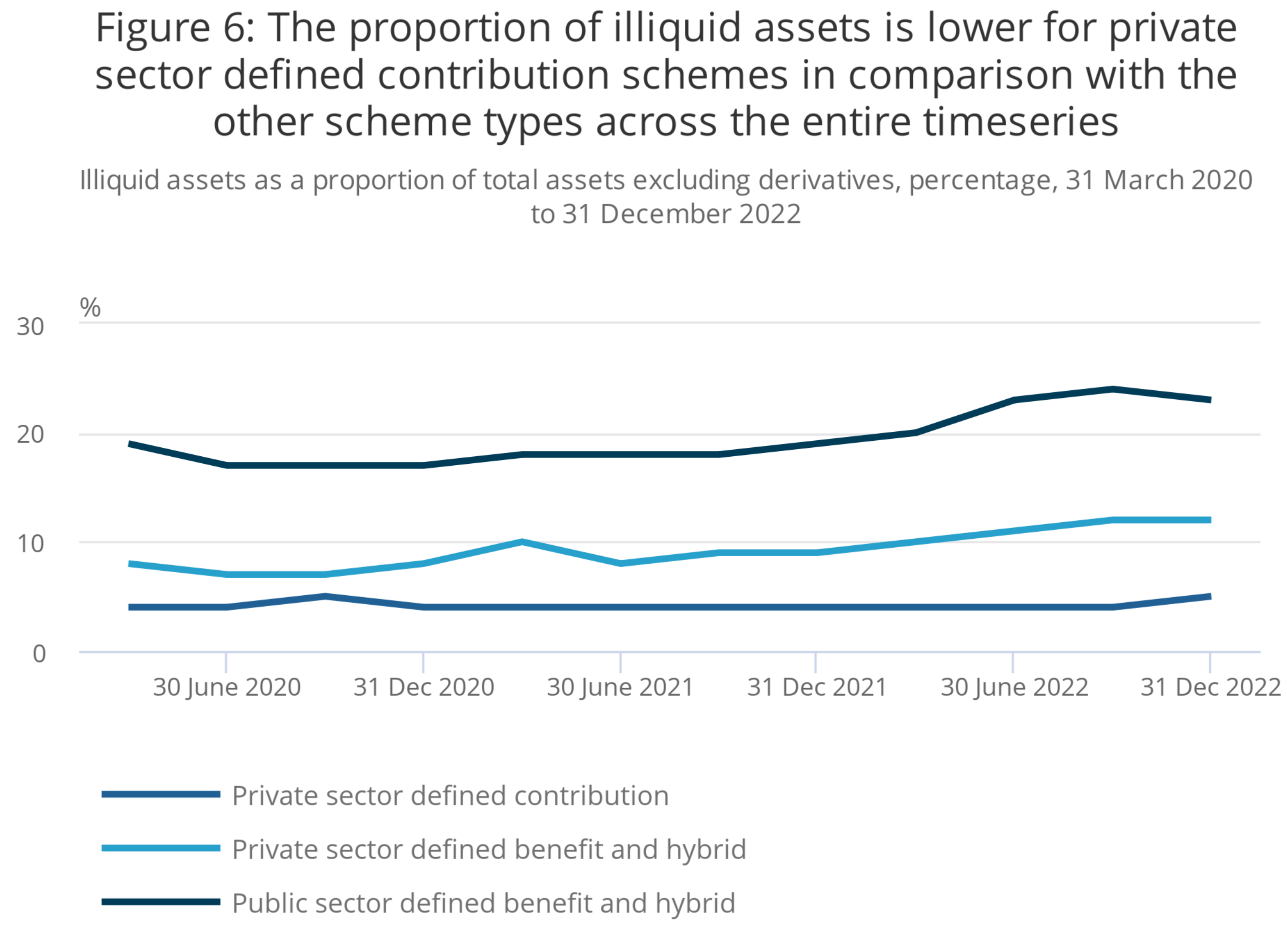
- property PIVs
- private equity PIVs
- direct investment in unlisted equities
- direct investment in property
- direct investment in unquoted private equity and alternatives
- mixed asset PIVs
- other PIVs
- direct investment in all other assets

Please note that the last three asset categories in the list only partially contain illiquid assets. By including these in the overall estimate, we can provide a more complete picture of illiquid investment by funded occupational pension schemes. Within these three asset categories, we have estimated the percentage of assets that are illiquid through research and communication with survey respondents.

Total illiquid assets are expressed as a proportion of total assets (excluding derivatives), split by scheme type.

Figure 6: The proportion of illiquid assets is lower for private sector defined contribution schemes in comparison with the other scheme types across the entire timeseries

Illiquid assets as a proportion of total assets excluding derivatives, percentage, 31 March 2020 to 31 December 2022



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

The illiquid asset allocation is lowest for private sector defined contribution (DC) schemes and highest for public sector defined benefit and hybrid schemes.

5 . Funded occupational pension schemes data

[Funded occupational pension schemes in the UK](#)
Dataset | Released 22 June 2023
Dataset including estimates on membership, contributions, benefits, assets (including overseas) and liabilities of UK funded occupational pension schemes from Quarter 3 (July to Sept) 2019 to Quarter 4 (Oct to Dec) 2022.

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 ontheirbehalf) 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)

Thesepension 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.

Deleverage

A reduction in debt through selling assets. For example, a pension scheme may have £100 million in assets and £20 million in liabilities (from borrowing that is left outstanding to pay). To fully deleverage, a scheme in this scenario would sell assets and use the cash to pay back all money borrowed. This would leave the scheme with no liabilities and £80 million in assets.

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

Schemesclassifiedas 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. Pension schemes can do this as an individual scheme (segregated LDI strategy) or as part of a pooled fund.

Liability driven investment (LDI) pooled fund

A leveraged fund centred around an 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.

UFPLS (uncrystallised funds pension lump sum)

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.

Afull glossaryof 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 our UK pension surveys: redevelopment and 2019 results article.

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 ”Investment by insurance companies, pension funds and trusts” 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, but 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 for the FSPS definitions of these categories.

Response rates

The response rate for Quarter 4 (Oct to Dec) 2022 for the FSPS, at the period of closedown, was 82%. Please 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 4 2021 will not be subject to further revisions.

8 . Related links

[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 11 April 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 and contributions to workplace pension arrangements for UK employees by type, age, industry, public and private sector, occupation, and size of company. Compiled from the Annual Survey of Hours and Earnings (ASHE).

9 . Cite this statistical bulletin

Office for National Statistics (ONS) released 22 June 2023, ONS website, statistical bulletin, [Funded occupational pension schemes in the UK: October to December 2022]