

Article

# Pensions in the national accounts, a fuller picture of the UK's funded and unfunded pension obligations: 2018

End-2018 estimates of the total entitlement of households in the UK and abroad to pensions provided by UK government, pension funds and insurance companies.



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# 1 . Main points

At the end of 2018, accrued-to-date gross pension liabilities of UK pension providers in respect of employment-related (workplace) pensions and state pensions are estimated to have been £8.9 trillion, compared with £7.6 trillion at the end of 2015<sup>1</sup>. The liabilities of UK pension providers are also the entitlements of households in the UK and abroad.

In 2018, pension liabilities of central and local government comprised:

- £4.8 trillion of state pension entitlements (224% of 2018 gross domestic product (GDP))
- unfunded defined benefit workplace pension entitlements for public sector employees estimated at £1.2 trillion (55% of GDP)
- funded defined benefit workplace pension entitlements for public sector employees worth £413 billion (19% of GDP)

Government pension liabilities were £6.4 trillion in 2018, representing an increase of 21% compared with 2015. This was largely due to a change in the discount rate assumption from 5% (nominal) to 4% (nominal) in line with international requirements (see [Section 5: Government-managed pension liabilities](#)).

Non-government pension liabilities for private sector employees rose from £2.3 trillion in 2015 to £2.6 trillion in 2018. These comprised:

- £2.2 trillion of defined benefit and hybrid workplace pension entitlements (103% of GDP)
- £347 billion of defined contribution workplace pension entitlements (16% of GDP)

## Notes for Main Points

1. Individual personal pensions and group self-invested personal pensions are not included in these figures.

# 2 . Overview of the pension entitlement estimates

This article presents estimates for 2018 of the total entitlement of households in the UK and abroad to pensions provided by the UK government, pension funds and insurance companies. The article includes estimates for employment-related (workplace) pensions and state pensions. It shows breakdowns by whether pensions are funded or unfunded and by type of pension: defined benefit and hybrid or defined contribution (see [Glossary](#)).

The estimates are compiled for national accounts Table 29: Accrued-to-date pension entitlements in social insurance according to the requirements of the 2010 European System of Accounts (ESA 2010). [Table 29](#) includes not only household pensions entitlements at the beginning and end of the year (Rows 1 and 10 of the table) but also the transactions and other flows that take place during the year (Rows 2 to 9 of the table).

Household pension entitlements are also the liabilities, on a “gross” basis, of UK pension providers. Table 29 does not show the assets of the providers and there are no estimates of pension surplus or deficit (“net liability”).

The estimates in Table 29 are on an accrued-to-date basis. They provide an important snapshot of UK pension entitlements or liabilities and are consistent with national accounts approaches, but they do not take into account future accruals and are not suitable for fiscal sustainability analysis.

### 3 . What is new in this article?

This article presents, for the first time, estimates of total entitlement of households in the UK and abroad to pensions provided by UK government, pension funds and insurance companies at the end of 2018. It updates an earlier article entitled [Pensions in the national accounts, a fuller picture of the UK's funded and unfunded pension obligations: 2010 to 2015](#).

This article does not include a time series. The ONS is working on a revised time series for 2010 to 2015 and new estimates for 2016 and 2017, which will be published in two articles planned for spring 2021 on government-managed and non-government-managed pensions respectively.

### 4 . UK pension entitlements or liabilities in 2018

Table 1 is an overview of the entitlements of households to employment-related and state pensions provided by the UK government, pension funds and insurance companies. Household pension entitlements are also the liabilities of pension providers. UK pension liabilities on a gross, accrued-to-date basis were £8.9 trillion (417% of gross domestic product (GDP)) at the end of 2018. An estimated 1.8% of this total was in the form of pension entitlements of households living abroad.

Table 1: UK pension liabilities, end-year

Table 29 column C	Non-government managed	Government managed			Total
	Workplace (DC and DB)	E	G	H	I
		Workplace funded (DB)	Workplace unfunded (DB)	State pensions	
<b>2015 £ billion</b>	2,344	334	917	4,027	7,622
<b>2018 £ billion</b>	2,553	413	1,180	4,792	8,938
<b>2015 % GDP</b>	122	17	48	210	397
<b>2018 % GDP</b>	119	19	55	224	417

Source: Office for National Statistics (ONS)

#### Notes

1. GDP = gross domestic product at market prices, seasonally adjusted (YHBA series).
2. 2015 estimates are those published in 2018; Columns B and E may be subject to minor revision in forthcoming publications (2021).
3. DB = defined benefit; DC = defined contribution.

Government-managed pension schemes (see [Glossary](#)) had liabilities of £6.4 trillion in 2018, of which state pension liabilities were the largest component: £4.8 trillion. State pensions are unfunded, mandatory and contributory. The estimates shown here do not include benefits such as pension credit or other forms of social assistance. Government-managed workplace pension liabilities for public sector employees in 2018 were estimated at £1.6 trillion.

Non-government-managed workplace pension liabilities were £2.6 trillion in 2018. This does not include individual personal pensions (IPPs), such as those built up by the self-employed. IPPs are treated as individual saving in the national accounts, so they are excluded from Table 29<sup>1</sup>.

Readers are urged to proceed with caution when comparing results for defined benefit and defined contribution pensions because of differences in methods for compiling the estimates (see [Pensions in the national accounts: UK Table 29 methodology \(2018\)](#), published today, 8 February 2021). Caution is also advised in comparing liabilities for defined benefit schemes with government as the pension manager with those that have non-government as the pension manager because up to 2020 estimates of liabilities for government-managed schemes used a discount rate set by the European statistical agency, Eurostat (see [Section 5: Government-managed pension liabilities](#)), while non-government-managed defined benefit schemes use market-based discount rates (see [methodology article](#)).

## Notes for UK pension entitlements or liabilities in 2018

1. Workplace self-invested personal pensions (SIPPs) are potentially in scope of Table 29 but are not included in these estimates because they are not separately identifiable in the accounts.

## 5 . Government-managed pension liabilities

All government-managed pension schemes are defined benefit. Estimates of pension liabilities of such schemes are calculated on an actuarial basis, using assumptions to estimate the benefits that will be paid out over time and discounting these future payments to produce a “present value” at the date of the accounts. A key assumption is the discount rate, and variations in this rate produce big changes in the actuarial estimate of pension liabilities.

The discount rate used in this release is in line with the relevant international requirements at the time of production. The discount rate for government-managed pension schemes over the 2010 to 2015 period was set at 5% (nominal), but for Table 29 (2018), Eurostat changed the discount rate assumption to 4% (nominal). This was the most important factor behind the increase in total government pension liabilities by 21% between 2015 and 2018, from £5.3 trillion to £6.4 trillion.

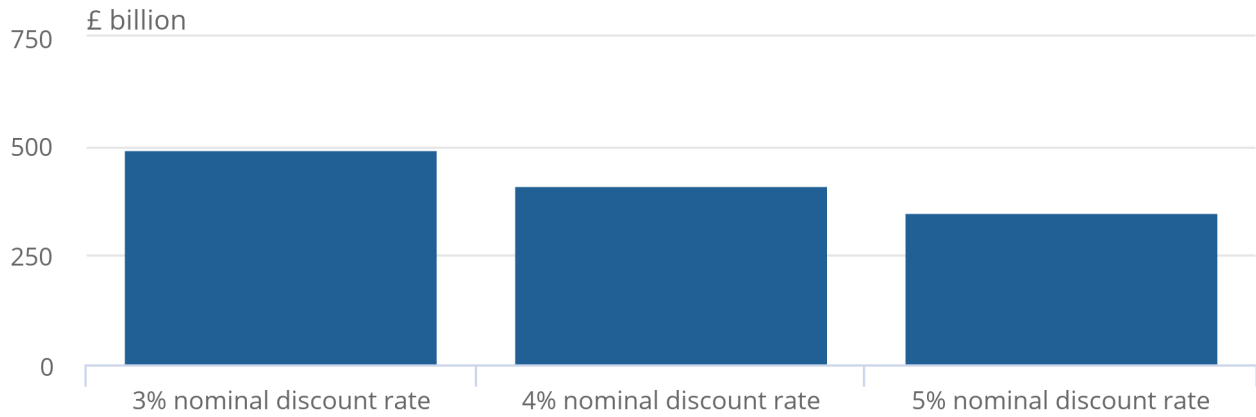
Figures 1 to 3 show results for government-managed funded workplace pensions in Column E, government-managed unfunded workplace pensions in Column G and state pensions in Column H of Table 29 (2018) on different discount rate bases. The central discount rate is 4% nominal, and this is the rate used in Table 29 and for liabilities included in the core national accounts<sup>1</sup>. It is compared with minus one percentage point (3% nominal) and plus one percentage point (5% nominal – the rate which was used before 2018). A full set of 2018 results for government-managed pensions on these discount rate bases can be found in [Tables 29, 2901 and 2902 respectively](#).

**Figure 1: Column E liability estimates in 2018 are 19% higher with every 1% decrease in the discount rate assumption**

Liabilities of funded pension schemes for public sector employees, end-2018

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Liabilities of funded pension schemes for public sector employees, end-2018



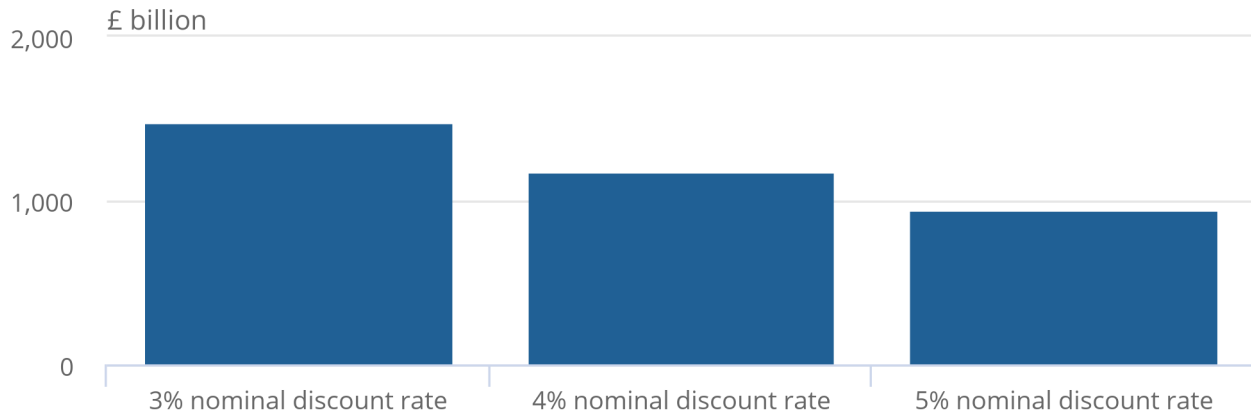
Source: Office for National Statistics (ONS)

**Figure 2: Column G liability estimates in 2018 are 25% higher with every 1% decrease in the discount rate assumption**

Liabilities of unfunded pension schemes for public sector employees, end-2018

Figure 2: Column G liability estimates in 2018 are 25% higher with every 1% decrease in the discount rate assumption

Liabilities of unfunded pension schemes for public sector employees, end-2018



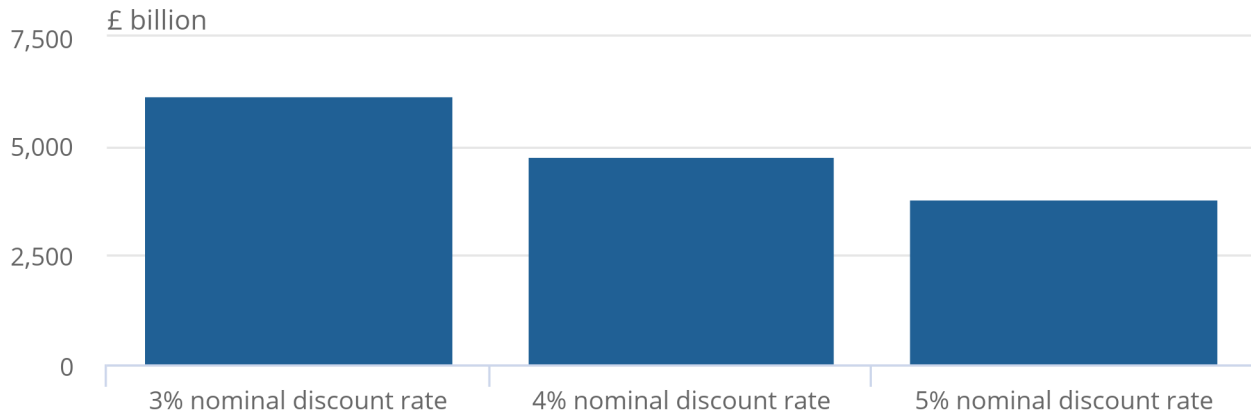
Source: Office for National Statistics (ONS)

**Figure 3: State Pension liability estimates in 2018 are 25% higher on the 4% discount rate basis than when using the 5% rate**

State Pension liabilities, end-2018

Figure 3: State Pension liability estimates in 2018 are 25% higher on the 4% discount rate basis than when using the 5% rate

State Pension liabilities, end-2018



Source: Office for National Statistics (ONS)

## Notes for Government-managed pension liabilities

1. The liabilities of funded schemes are included in the core national accounts as well as Table 29. Unfunded liabilities are not included in the core national accounts, see [Pensions in the national accounts, a fuller picture of the UK's funded and unfunded pension obligations: 2010 to 2015](#).

## 6 . Non-government-managed pension liabilities

In Table 29, non-government-managed pensions for private sector employees are shown in Column C which comprises Columns A and B:

Column A, defined contribution pensions:

- pensions provided by trust-based occupational schemes, including the "master trust" schemes set up to provide pensions under the government's auto-enrolment programme for employers without a workplace pension scheme
- personal (contract-based) workplace pensions provided by life insurers including group personal pensions (GPPs) and drawdown retirement products

Column B, defined benefit and hybrid pensions:

- occupational pensions provided by trust-based pension schemes
- pensions administered by the Pension Protection Fund (PPF) for members of schemes that have closed due to a sponsoring employer insolvency
- annuities paid out by life insurance companies in respect of GPPs

Non-government pension liabilities in Column C of Table 29 rose from £2.3 trillion in 2015 to £2.6 trillion in 2018, an increase of 9%. Although most active membership of UK workplace pension schemes for private sector employees is in defined contribution schemes, Column A accounted for only 14% of the 2018 total, while defined benefit and hybrid schemes in Column B, whose members are predominantly retired (pensioners) or deferred members, accounted for 86%.

Over the past three years we have made important improvements to the estimates for insurer-provided pensions using regulatory data collected under the Solvency II regime. We have also started to use information from our new [Financial Survey of Pension Schemes \(FSPS\)](#) to improve estimates for trust-based occupational schemes and the PPF. These improvements have been included in the estimates for non-government-managed pensions in this article. [A methodology article published today \(8 February 2021\)](#) outlines how these new data sources contribute to the compilation of Columns A and B (Parts A and B) of Table 29. We are working on a revised time series based on the new data sources (Solvency II regulatory data and FSPS) and methods, which will be published shortly. Until the revised series is published, we advise against comparing the 2018 figures for Columns A and B shown in the [accompanying dataset](#) with previously published figures for 2015.

## 7 . Glossary

### Discount rate

A rate used to reduce an amount of money at a date in the future to an equivalent value in the present (present value). It represents the idea that people place more value on consuming goods and services today than in the future; therefore, future value should be "discounted" to give an equivalent present value.

### Funded and unfunded pensions

Funded pensions are those where benefits are met from a fund built up in advance from contributions and the return on investments. The fund (assets) may be worth more or less than the pension liabilities (that is, there may be a financing surplus or deficit). By contrast, with unfunded pensions, the liabilities are not underpinned by a fund (there are no assets).



## **Government-managed pensions**

Schemes classified as having the “pension manager” in the government sector 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 even if the government sector is not responsible for scheme administration.

## **Non-government-managed pensions**

Non-government-managed pensions are those where the “pension manager” (the body ultimately responsible for the pension obligations) is in a national accounts sector other than the government sector. They include pensions provided by private sector pension schemes or funds, insurance companies and the Pension Protection Fund. Non-government-managed pensions include multi-employer Master Trust schemes which may be stand alone or part of an insurance company.

## **Type of pension (defined contribution, defined benefit and hybrid)**

Pensions can be divided into three types: defined contribution, defined benefit and hybrid. A defined contribution pension is one 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. A defined benefit pension is one in which the rules of the scheme specify the rate of benefits to be paid. A hybrid pension scheme is one where members have a choice or mixture of defined benefit and defined contribution pension entitlements. In the Table 29 (2018), where hybrid scheme members receive a mixture of benefits their entitlements are reported with defined benefit pensions; but where the member has a specific type of pension that can be separately identified within the hybrid scheme as defined contribution or as defined benefit, it is reported accordingly.

# **8 . Measuring the data**

## **End of EU exit transition period**

As the transition period ends and the UK enters into a new Trade and Cooperation Agreement with the EU, the UK statistical system will continue to produce and publish our wide range of economic and social statistics and analysis. We are committed to continued alignment with the highest international statistical standards, enabling comparability both over time and internationally, and ensuring the general public, statistical users and decision-makers have the data they need to be informed.

As the shape of the UK’s future statistical relationship with the EU becomes clearer over the coming period, the Office for National Statistics (ONS) is making preparations to assume responsibilities that as part of our membership of the EU, and during the transition period, were delegated to the statistical office of the EU, Eurostat. This includes responsibilities relating to international comparability of economic statistics, deciding what international statistical guidance to apply in the UK context and to provide further scrutiny of our statistics and sector classification decisions.

In applying international statistical standards and best practice to UK economic statistics, we will draw on the technical advice of experts in the UK and internationally, and our work will be underpinned by the UK’s well-established and robust framework for independent official statistics, set out in the Statistics and Registration Service Act 2007. Further information on our proposals will be made available in early 2021.

## 9 . Related links

[Pensions in the national accounts, a fuller picture of the UK's funded and unfunded pension obligations: 2010 to 2015](#)

Article | Published 7 March 2018

Estimates of the total entitlement of households in the UK and abroad to pensions provided by UK government, pension funds and insurance companies.

[Pensions in the national accounts: UK Table 29 methodology](#)

Methodology | Published 7 March 2018

The methods and sources used to compile national accounts Table 29: Accrued-to-date pension entitlements in social insurance.

[Pensions in the National Accounts - A Fuller Picture of the UK's Funded and Unfunded Pension Obligations](#)

Article | Published 27 April 2012

Third in a series of methodology articles describing work to compile the pensions supplementary table for the National Accounts, part of preparation for ESA2010.

[Pensions in the National Accounts - Compiling Estimates of State Pension Obligations for the National Accounts](#)

Methodology | Published 2 December 2011

Part of a series of methodology articles describing work to compile the pensions supplementary table for the National Accounts, part of preparation for ESA2010.

[Pensions in the National Accounts - compiling a complete picture of UK pensions including unfunded pensions for public sector employees](#)

Methodology | Published 3 August 2011

Part of a series of methodology articles describing work to compile the pensions supplementary table for the National Accounts, part of preparation for ESA2010.