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# Forecasting Public Service Pensions

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# The Context: Why Do OBR and HMT Care

# Managing the public finances

- It is important that the Government demonstrate the ability to manage its finances:

**Overall Objective**:
Return the public finances to balance in the middle of the next decade
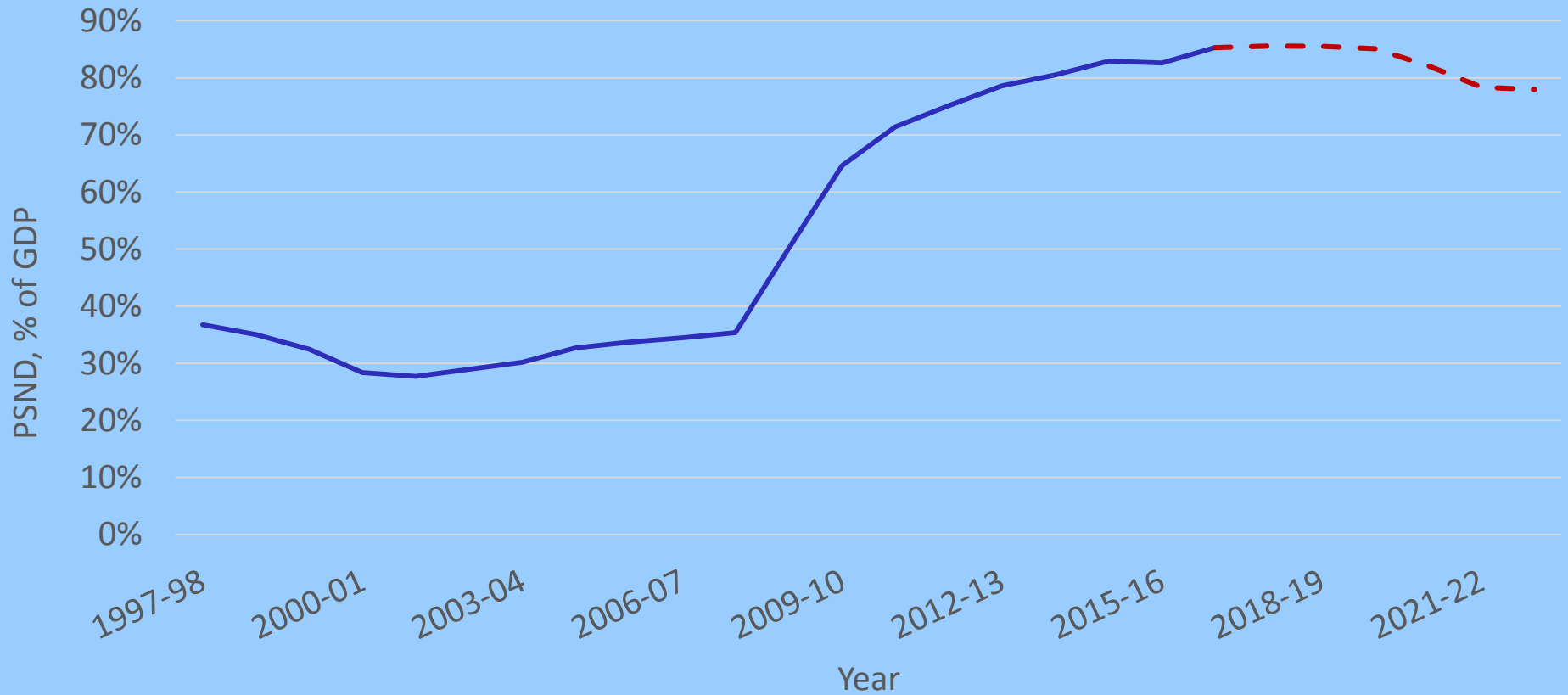
**Deficit Rule:**
Reduce cyclically adjusted public sector net borrowing to below 2% of GDP by 2020-21

**Debt Rule:**
Public sector net debt as a percentage of GDP to be falling in 2020-21

- Debt is at its highest for 50 years; at over 85% of GDP (£1.8trn) we spend c.£50bn a year on debt interest.

- Debt is set to fall by a fine margin in 2018/19, and fiscal objectives remain challenging to achieve.

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# Public sector net debt as of Spring Statement 2018



Y-axis: PSND, % of GDP (0% to 90%)
X-axis: Year (1997-98 to 2021-22)

— PSND outturn (March 2018)          – – PSND Forecast (March 2018)

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*Source: Economic and Fiscal Outlook, OBR, March 2018*

# AME squeezes DEL within the spending envelope

- Treasury controls public spending via two totals:

    - Departmental Expenditure Limits (DELs) – public services and day-to-day running of the Government;

    - Annually Managed Expenditure (AME) – spending that is less easily controlled and often driven by economic conditions , e.g. social security payments

- AME makes up an increasing proportion of total expenditure (see chart).

- In terms of delivering spending plans, increases in AME could imply squeezes elsewhere (potential pressures in DEL)

- The AME forecast has been increasing in real terms, while DEL has been squeezed since 2010

AME % Total Expenditure (17/18 Prices)
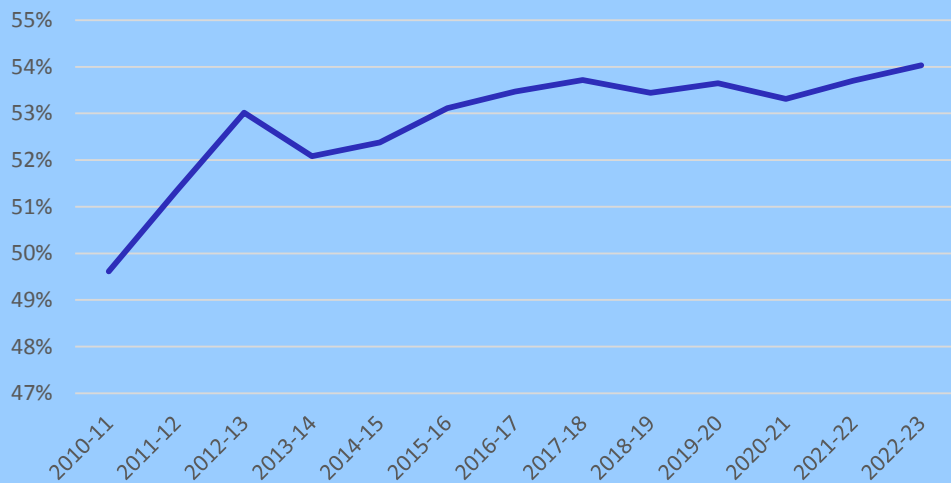
- Changes in AME will affect the level of borrowing and the government's achievement of its fiscal strategy and it is important that this expenditure is controlled.

- The accuracy of the AME forecast is also important for setting overall spending assumptions going into the next Spending Review.

*Source: HMT analysis*

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# Net public service pensions payments as a key part of the AME forecast

- Net public service pension payments forecast to rise by more than 40% over the next five years, or triple since 2010.



Source: HMT, OBR

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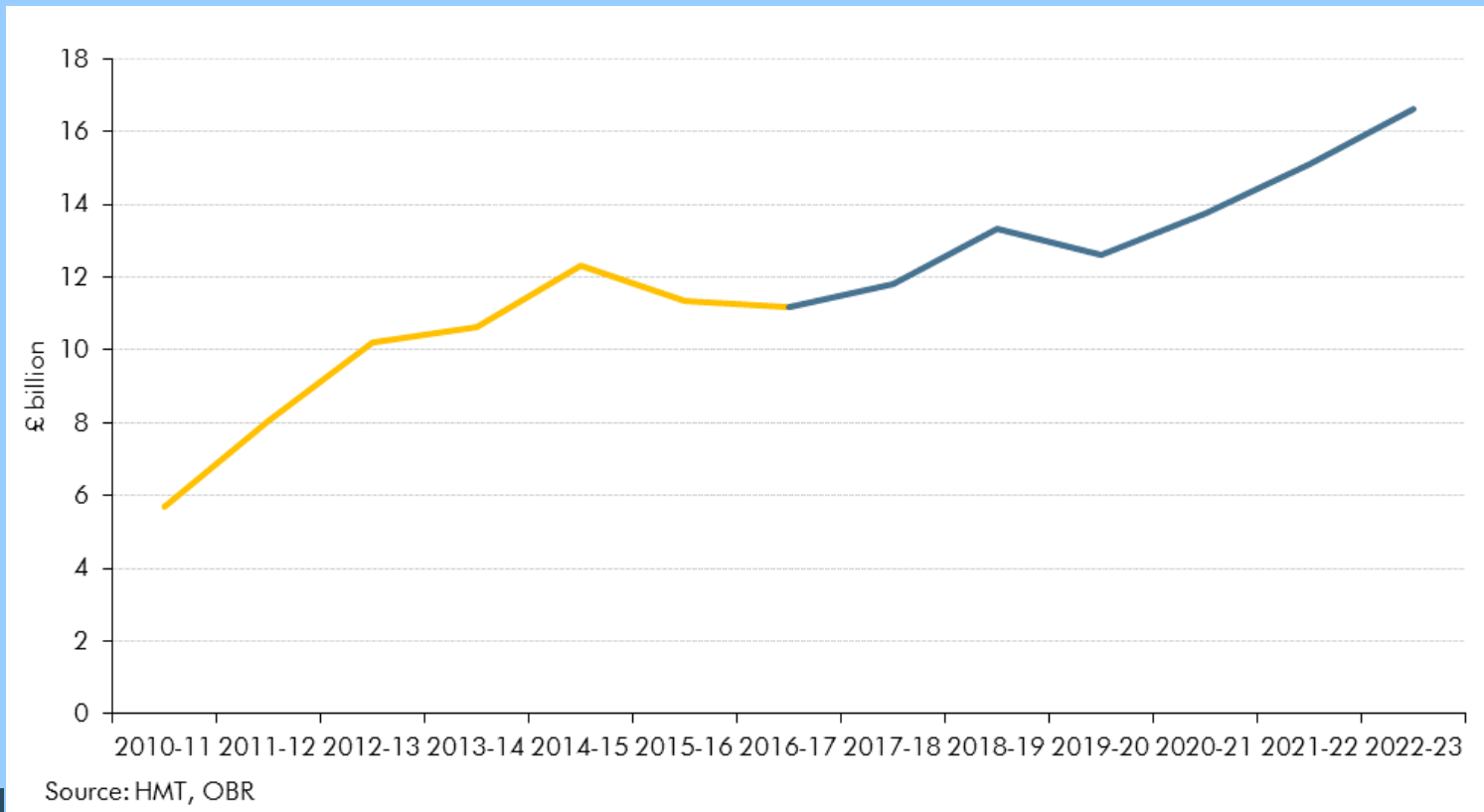
# Why does the OBR care about the profile of spending?

- The OBR's forecasts provide the foundation on which the Government bases its fiscal and economic policy decisions as part of the bi-annual *Economic and Fiscal Outlook.*

- The OBR is legally required to assess if the Government is meeting its fiscal targets.

- The forecast and subsequent policy decisions are subject to public and parliamentary scrutiny.

- So we need to explain the profile of spending (and receipts, borrowing, net lending, etc) over the forecast period.

- It is crucial that **the forecast is as central as possible** and informed by reliable data.

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| | £ billion | | | | | |
|---|---|---|---|---|---|---|
| | | Forecast | | | | |
| | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **Net public service pensions** | | | | | | |
| November forecast | 11.9 | 13.2 | 12.5 | 13.6 | 15.0 | 16.6 |
| March forecast | 11.8 | 13.3 | 12.6 | 13.8 | 15.1 | 16.6 |
| Change | -0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 |
| **Expenditure** | | | | | | |
| November forecast | 41.1 | 43.2 | 45.0 | 46.7 | 48.7 | 50.8 |
| March forecast | 41.1 | 43.3 | 45.2 | 47.0 | 49.0 | 51.1 |
| Change | 0.0 | 0.1 | 0.2 | 0.3 | 0.3 | 0.3 |
| *of which:* | | | | | | |
| CPI inflation | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 |
| Armed forces pension scheme | 0.0 | 0.1 | 0.1 | 0.2 | 0.3 | 0.3 |
| Other | -0.1 | 0.0 | 0.0 | 0.0 | -0.1 | -0.1 |
| **Income** | | | | | | |
| November forecast | -29.2 | -30.0 | -32.5 | -33.0 | -33.6 | -34.2 |
| March forecast | -29.3 | -29.9 | -32.6 | -33.2 | -33.9 | -34.5 |
| Change | -0.1 | 0.0 | -0.1 | -0.2 | -0.3 | -0.3 |
| *of which:* | | | | | | |
| NHS paybill growth | -0.2 | -0.3 | -0.4 | -0.4 | -0.4 | -0.4 |
| Armed forces paybill growth | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| CSPS paybill growth | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Other | 0.0 | 0.1 | 0.1 | 0.0 | -0.1 | -0.1 |

*Source: Economic and Fiscal Outlook, OBR, March 2018*

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# Practical Issues

# Forecast process: reminder of the central basis for the forecast

- OBR forecasts, and pension schemes' forecasts supplied to the OBR, must be central and unbiased, with equal risk of outturns being above or below forecasts.

- This is different from what's required for plans, or final provision, or Spring Supplementaries.

- In-year OBR forecasts must reflect best forecasts of underspends (or overspends): do not be too cautious (or too optimistic).

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# Forecast process: timing and commissioning

- The government is required to give the OBR ten weeks' notice of a fiscal event, for which it requires a forecast.

- Not long enough for pension schemes' forecasts! So we have to ask for pension schemes' forecasts ahead of time, on a contingency basis.

- Timings are always indicative, so it's important to ensure that the forecasts are submitted on time, to allow for any change in the timetable and the appropriate scrutiny.

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# Forecast shape and likely drivers

- Why OBR want more detail on forecast shape:

    — to explain the movement in the forecast over the forecast period;

    — to quality assure the forecast (to spot odd results and prevent repeated errors);

    — we aim to separate out 'caseload' from 'effective rates'.

- So we need information on the drivers of the forecast shape: (demographics, mortality rates, etc).

# Demographics

- Changes in demographics are key for future cash expenditure and receipts streams;

- Latest data and modelling is needed to take account of demographics.

- **OBR need information on demographics** in order to:
  - understand and QA the drivers and shape of pension forecasts;
  - separate out underlying caseloads from effective rates (e.g., changes in generosity or levels of each payment and receipt).

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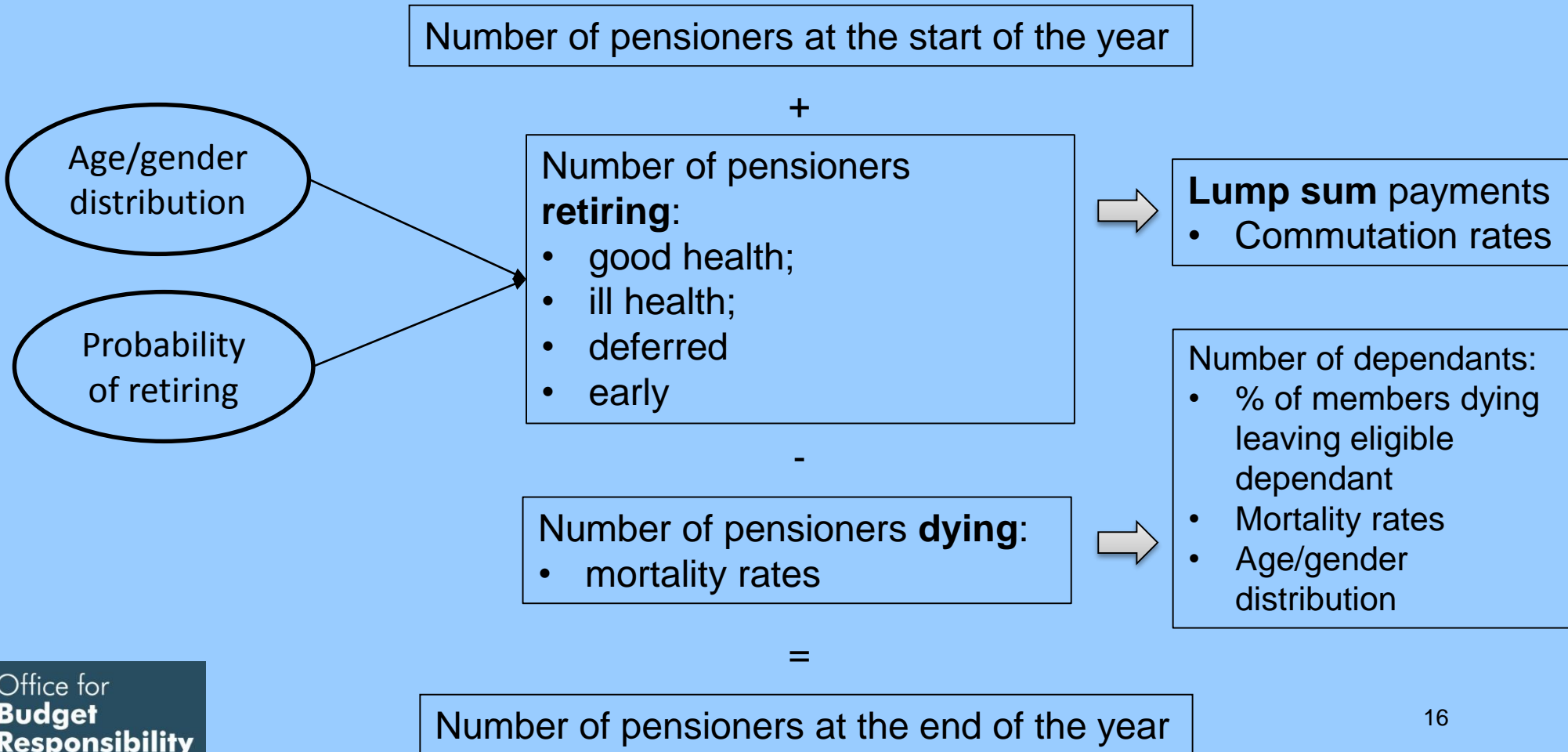# Demographics affect the level of retired staff and active workforce

**Active Members Profile 2002-2014**
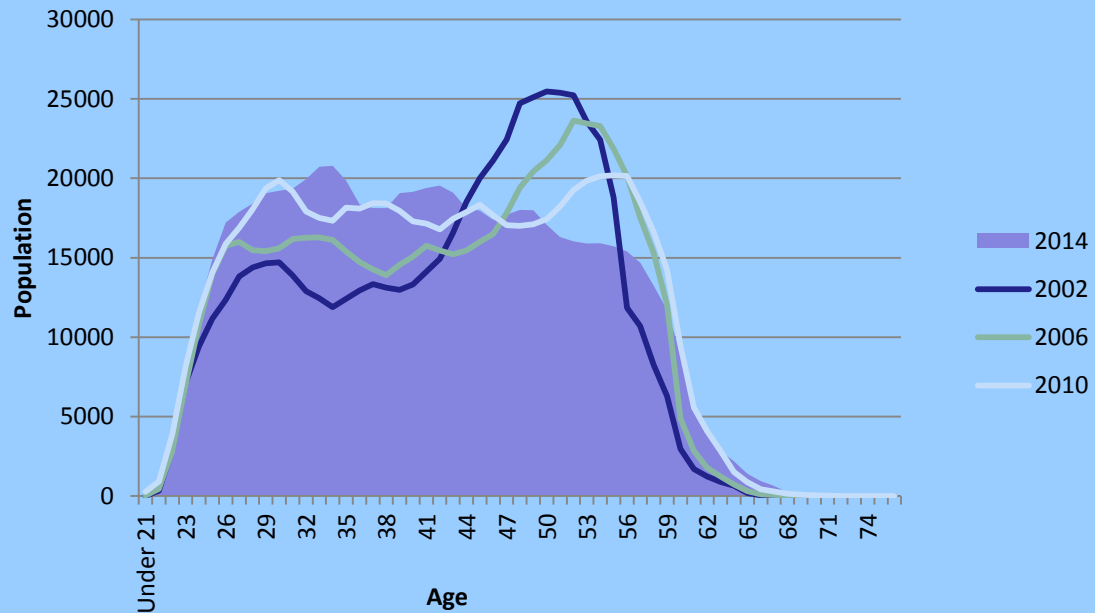


- The post-war baby boom (and other cohorts) will be reflected in the age distribution of the public service workforce.

- This needs to be reflected in the forecast for pensions payments (levels of new retirements) and receipts (pension contributions).

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# Pension payments & lump sums

Payments = pension/lump sum payments x no. of pensioners/retirees

Number of pensioners at the start of the year

+

Age/gender distribution

Probability of retiring

Number of pensioners **retiring**:
- good health;
- ill health;
- deferred
- early

→ **Lump sum** payments
- Commutation rates

-

Number of pensioners **dying**:
- mortality rates

→ Number of dependants:
- % of members dying leaving eligible dependant
- Mortality rates
- Age/gender distribution

=

Number of pensioners at the end of the year

# Pension payments & lump sums

| Number of new retirees | Retirement at Normal Pension Age | Ill-health retirement | Early retirement |
|---|---|---|---|
| 13-14 | 410 | 87 | 293 |
| 14-15 | 422 | 94 | 299 |
| 15-16 | 430 | 96 | 315 |
| 16-17 | 456 | 100 | 321 |
| 17-18 | 469 | 112 | 330 |
| 18-19 | 501 | 109 | 333 |
| 19-20 | 483 | 122 | 322 |
| 21-22 | 501 | 117 | 335 |
| 22-23 | 510 | 105 | 341 |

| Change on previous forecast | Retirement at Normal Pension Age | Ill-health retirement | Early retirement |
|---|---|---|---|
| 13-14 | 0 | 0 | 0 |
| 14-15 | 0 | 0 | 0 |
| 15-16 | 0 | 0 | 0 |
| 16-17 | 0 | 0 | 0 |
| 17-18 | 20 | -5 | 10 |
| 18-19 | 25 | -7 | 15 |
| 19-20 | 27 | -10 | 22 |
| 21-22 | 28 | -12 | 29 |
| 22-23 | 30 | -14 | 35 |

| Number of deaths | Retirement at Normal Pension Age | Ill-health retirement | Early retirement |
|---|---|---|---|
| 13-14 | 349 | 85 | 270 |
| 14-15 | 351 | 94 | 294 |
| 15-16 | 355 | 98 | 287 |
| 16-17 | 362 | 103 | 300 |
| 17-18 | 372 | 115 | 308 |
| 18-19 | 398 | 112 | 311 |
| 19-20 | 383 | 126 | 301 |
| 21-22 | 398 | 121 | 313 |
| 22-23 | 405 | 108 | 319 |

| Average lump sum indicators | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
|---|---|---|---|---|---|---|---|---|---|---|
| Commutation rates, % | 29.67% | 34.21% | 29.10% | 30.09% | 31.10% | 28.79% | 28.79% | 28.79% | 28.79% | 28.79% |
| Unit costs, £m | 76,204 | 80,947 | 91,014 | 36,030 | 52,531 | 60,012 | 51,337 | 45,645 | 45,945 | 46,245 |

*numbers are provided for illustration purposes

- Outturns and projections for member numbers and average costs (incl. dependants)
- Changes on previous forecast by retirement type, where possible
- Patterns in past trends can help understand future profiles

# Receipts

Employ**er**s contribution (ER)= pensionable paybill x ER contribution rate
Employ**ee**s contribution (EE)= pensionable paybill x EE contribution rate

| Determinants | Data |
|---|---|
| Workforce numbers and salary | Expected changes in workforce from department |
| Contribution rates | As agreed with HMT |
| Uprate by earnings growth | Confirmed pay growth rates and OBR assumptions |

% change in pensionable paybill = % change in (workforce + pay + drift + residual)

- It is important to make sure that workforce assumptions reflect realistic expectations of the number of people expected to be employed, not recruitment plans, which may contain a degree of optimism.

- Any other causes of shifts in contributions, other than above determinants, should also be explained – e.g. structural/grade changes in workforce.

- Please explain key drivers of change and any unusual movements.

- It is particularly helpful for us to see the breakdown of changes by driver, e.g. as in this reconciliation table

- Please also identify any non-monetised forecast risks and uncertainties

| Ref | Expenditure £'m | 15-16 | 16-17 | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| | **Pensions** | | | | | | | | |
| E1 | Change in cessations assumption | 0 | (10) | (31) | (54) | (81) | (110) | (144) | (430) |
| E2 | Change in CPI assumption | 0 | 0 | (31) | (47) | (29) | (29) | (29) | (165) |
| E3 | Change in redundancy assumption | 0 | (2) | (6) | (9) | (13) | (16) | (20) | (66) |
| E4 | Change in average value of pension | 0 | (3) | 2 | 4 | (7) | (18) | (23) | (45) |
| E5 | Change in number of awards | 0 | (3) | (6) | (21) | (13) | 2 | 7 | (34) |
| E6 | Change in 2015-16 closing paybill amount | 0 | (2) | (2) | (2) | (2) | (2) | (2) | (12) |
| E7 | Change in widows(ers) assumption | 0 | 1 | 2 | 2 | 3 | 4 | 6 | 18 |
| E8 | 2015-16 out-turn | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 26 |
| | **Total increase/(decrease) in pensions expenditure** | 26 | (19) | (72) | (127) | (142) | (169) | (205) | (708) |
| | **Lump Sums** | | | | | | | | |
| E9 | Change in redundancy assumption | 0 | (13) | (13) | (13) | (14) | (14) | (14) | (81) |
| E10 | Change in average value of lump sum | 0 | (15) | 89 | 21 | (89) | (12) | (38) | (44) |
| E11 | Change in number of awards | 0 | (18) | (21) | (102) | 136 | 29 | 25 | 49 |
| E12 | Adjustment for 'double counting' | 0 | 1 | 5 | 7 | 8 | 9 | 11 | 41 |
| E13 | 2015-16 out-turn | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| | **Total increase/(decrease) in lump sum expenditure** | 15 | (45) | 60 | (87) | 41 | 12 | (16) | (20) |
| | **Transfers Out** | | | | | | | | |
| E14 | 2015-16 out-turn individual transfers out | (54) | 0 | 0 | 0 | 0 | 0 | 0 | (54) |
| E15 | 2015-16 out-turn group transfers out | 0 | 200 | 0 | 0 | 0 | 0 | 0 | 200 |
| | **Total increase/(decrease) in transfer out expenditure** | (54) | 200 | 0 | 0 | 0 | 0 | 0 | 146 |
| | **TOTAL INCREASE/(DECREASE) IN EXPENDITURE** | (13) | 136 | (12) | (214) | (101) | (157) | (221) | (582) |
| | **Income £'m** | | | | | | | | |
| | **Contributions** | | | | | | | | |
| I1 | Adjustment of 'target' yields | 0 | 0 | 22 | 22 | 22 | 24 | 24 | 114 |
| I2 | 2015-16 out-turn | (52) | (25) | (25) | (25) | (23) | (24) | (25) | (199) |
| I3 | 2016-17 forecast | 0 | 96 | 70 | 72 | 71 | 74 | 77 | 460 |
| I4 | Change in DH growth assumptions | 0 | 0 | (16) | (37) | (58) | (84) | (65) | (260) |
| | **Total (increase)/decrease in contributions** | (52) | 71 | 51 | 32 | 12 | (10) | 11 | 115 |
| I5 | 2015-16 out-turn individual transfers-in | (4) | 0 | 0 | 0 | 0 | 0 | 0 | (4) |
| I6 | 2015-16 out-turn group transfers-in | (2) | 0 | 0 | 0 | 0 | 0 | 0 | (2) |
| I7 | 2015-16 out-turn income from premature retirement benefit | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| I8 | Income from premature retirement benefits - 16-17 onwards | 0 | 14 | 14 | 14 | 14 | 14 | 14 | 84 |
| | **Total (increase)/decrease in transfers-in and PRB** | 1 | 14 | 14 | 14 | 14 | 14 | 14 | 85 |
| | **TOTAL (INCREASE)/DECREASE IN INCOME** | (51) | 85 | 65 | 46 | 26 | 4 | 25 | 200 |
| | **Total increase (decrease) in cash requirement** | (64) | 221 | 53 | (168) | (75) | (153) | (196) | (382) |

# Questions?