Government Actuary's Department

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Report by the Government Actuary on:

The draft Social Security Benefits Up-rating Order 2020;

and

The draft Social Security (Contributions) (Rates, Limits and Thresholds Amendments and National Insurance Funds Payments) Regulations 2020

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Presented to Parliament pursuant to section 142(1) of the Social Security Administration Act 1992, as amended by the Social Security Contributions (Transfer of Functions, etc.) Act 1999 and sections 150(8), 150A(5) and 151A(6) of the Social Security Administration Act 1992.

January 2020

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Government Actuary's Department

To: The Right Hon. Thérèse Coffey MP, Secretary of State for Work and Pensions

The Right Hon. Jesse Norman MP, Financial Secretary to the Treasury

I am pleased to present my report on the potential effects on the National Insurance Fund of the draft Social Security Benefits Up-rating Order 2020 and the draft Social Security (Contributions) (Rates, Limits and Thresholds Amendments and National Insurance Funds Payments) Regulations 2020.

This report is made in accordance with section 142(1) of the Social Security Administration Act 1992, as amended by the Social Security Contributions (Transfer of Functions, etc.) Act 1999 and sections 150(8), 150A(5) and 151A(6) of the Social Security Administration Act 1992.

Martin Clarke
Government Actuary
January 2020

Government Actuary's Department

Contents

1 Executive summary

1.1 This report sets out my opinion of the effect on the Great Britain National Insurance Fund ("the Fund") of the proposed up-rating of contributory benefits announced in a written ministerial statement on 4 November 2019 and changes to the National Insurance Contributions (NICs) rates, limits and thresholds as set out in the:

- draft Social Security Benefits Up-rating Order 2020 ("the draft Order")
- draft Social Security (Contributions) (Rates, Limits and Thresholds Amendments and National Insurance Funds Payments) Regulations 2020 ("the draft Regulations").

1.2 The main results of this report show the:

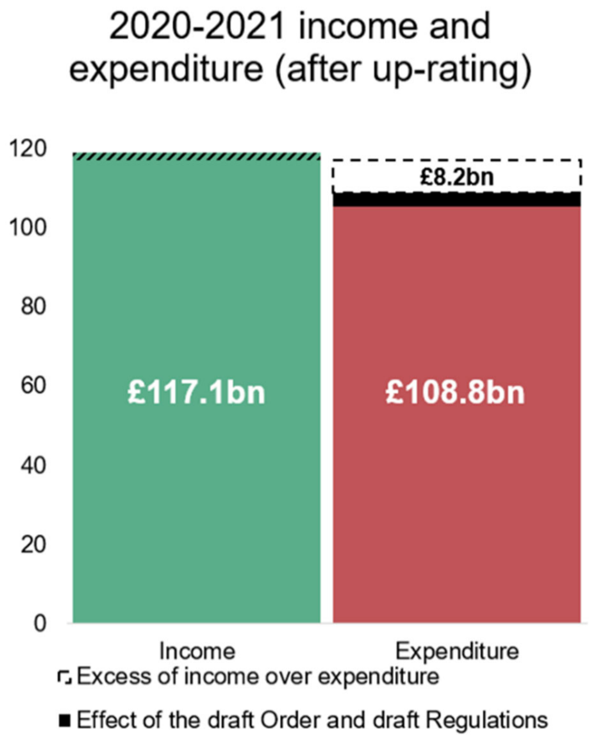
- impact of the draft Order and the draft Regulations on the Fund in the financial year 2020-2021
- projected financial position of the Fund to 2024-2025
- balance of the Fund as a proportion of benefit payments

1.3 This report does not consider the Northern Ireland National Insurance Fund.

Impact of the draft Order and the draft Regulations on the Fund in 2020-2021

1.4 The draft Order is estimated to increase benefit expenditure by £3.4 billion and the draft Regulations are estimated to reduce contribution income by £2.0 billion. These effects are determined relative to the position were there to be no changes in benefit rates and contribution rates, limits and thresholds in 2020-2021.

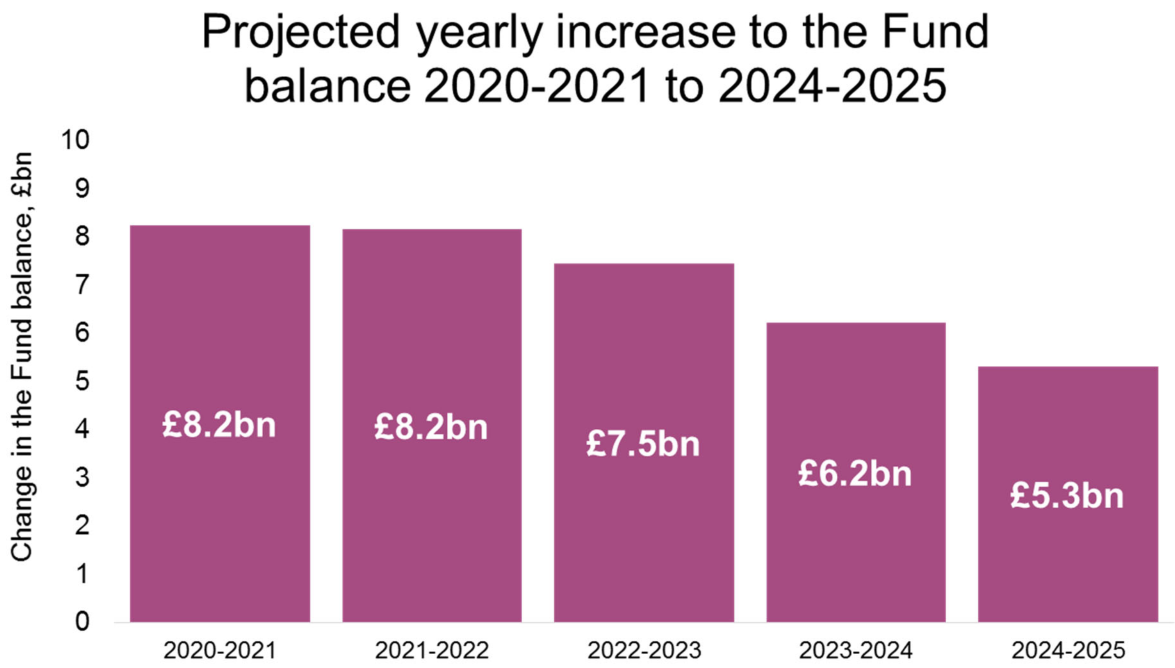
1.5 Allowing for these changes, receipts to the Fund in 2020-2021 are estimated to exceed payments made by £8.2 billion, increasing the balance in the Fund between 31 March 2020 and 31 March 2021. The estimated Fund balance as at 31 March 2021 is £44.9 billion.



Projected financial position of the Fund to 2024-2025

Principal projections

1.6 The projections to 2024-2025 show that, under the principal assumptions, the balance of the Fund is projected to increase throughout this period as contribution income is expected to exceed benefit expenditure in each year.



1.7 A more detailed breakdown of these projections split by type of payment from, and receipt to, the Fund is set out in Section 2 of this report.

1.8 Longer term projections of the Fund (up to 2080) can be found in my Quinquennial Review of the Fund as at April 2015, published on 19 October 2017[1]. Although the Fund balance is projected to increase in every year up to 2024-2025, over the longer term benefit expenditure is expected to exceed NICs income primarily as a result of

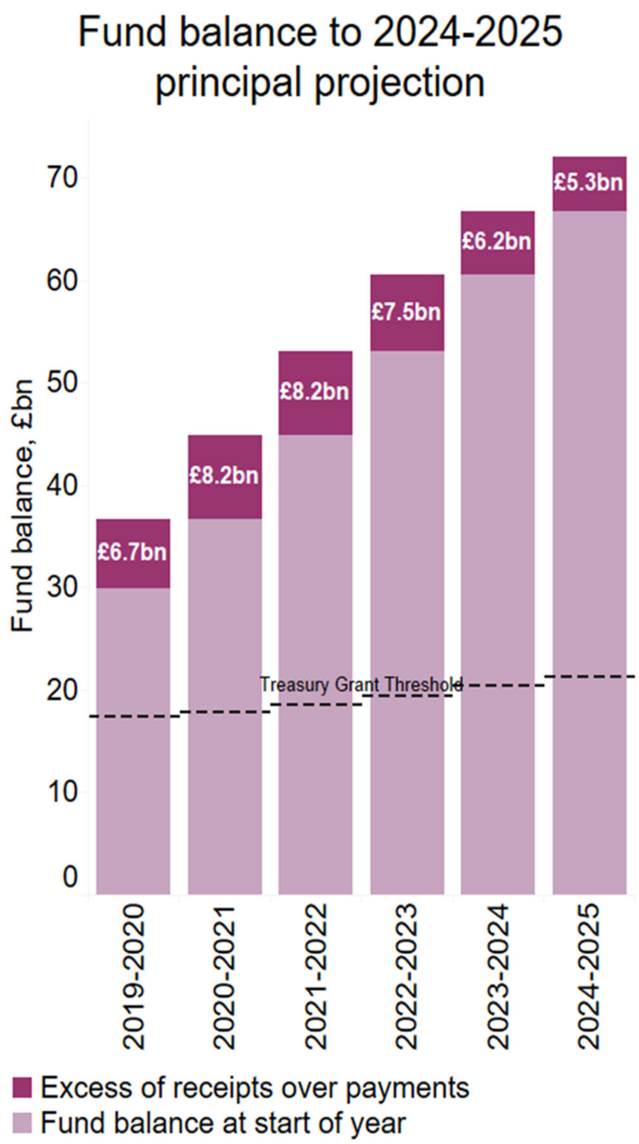
- an increasing old-age dependency ratio
- a projected increase in the average state pension benefit payable as individuals start to receive the new state pension
- and increases in the standard rate of state pension benefits arising from the 'triple-lock' policy

[1] https://www.gov.uk/government/publications/government-actuarys-quinquennial-review-of-the-national-insurance-fund-as-at-april-2015

Balance of the Fund as a proportion of benefit payments

1.9 A payment of a Treasury Grant[2] is usually made if the balance of the Fund is projected to fall below one-sixth (16.7%) of estimated annual benefit expenditure (including redundancy receipts). A Treasury Grant was last paid in the 2015-2016 financial year.

1.10 The projections in this report indicate that the estimated 2020-2021 end-year Fund balance (£44.9 billion) will be just over 40% of estimated benefit expenditure (£107.1 billion including redundancy payments) and that this proportion will remain above one-sixth up to and including 2024-2025. This suggests Treasury Grants will not be required in this period.



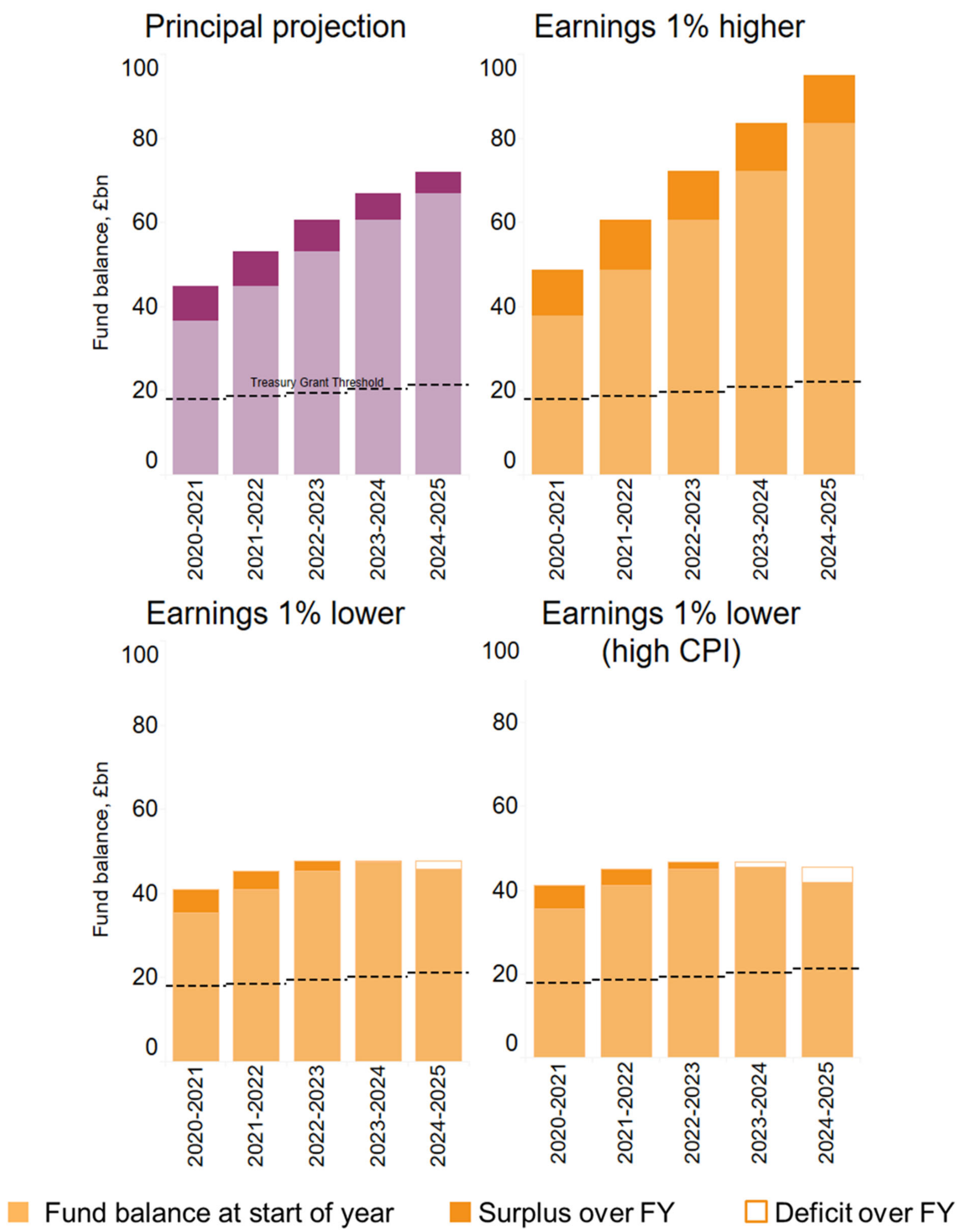
Variant projections

1.11 The estimates of receipts and payments and the Fund balance are based on various assumptions and are sensitive to some of these.

1.12 In particular, the estimates of contribution income are sensitive to earnings growth assumptions.

[2] A 'Treasury Grant' is a payment into the Fund from money voted by Parliament as permitted under Section 2 of the Social Security Act 1993. HM Treasury may determine the size of such payments provided that they do not exceed a certain percentage (17%) of benefit payments for the financial year concerned as estimated by the Government Actuary or Deputy Government Actuary.

1.13 The charts below illustrate the sensitivity of the results to earnings growth assumptions. Section 3 of this report provides more detail on these variant estimates and how the estimates are sensitive to other assumptions too.



Professional standards and limitations

1.14 This work has been carried out in accordance with the relevant actuarial professional standards TAS 100 and ASORP1 issued by the Financial Reporting Council (FRC). The FRC sets standards for actuarial work in the UK.

1.15 This report has been prepared for Parliament in accordance with the Social Security Administration Act 1992. It is not appropriate for any other purpose. No other person or third party is entitled to place any reliance on the contents of this report and GAD has no liability to any other person or third party for any act or omission taken, either in whole or in part, on the basis of this report.

2 Principal estimates for receipts, payments and the Fund balance

2.1 Table 2.1 below sets out my estimates of receipts and payments of the Fund for 2019-2020 and 2020-2021 allowing for the draft Order and the draft Regulations.

Table 2.1 – Estimated receipts and payments and statement of balances of the Fund

Great Britain, £ million		**2019-2020[1]**		**2020-2021**	
Receipts					
	Contributions	112,914		116,724	
	Less recoveries of statutory payments (and abatements)	2,589		2,643	
Net contribution income			110,325		114,081
Treasury Grant			0		0
Compensation from Consolidated Fund for statutory payments recoveries			2,241		2,632
Income from investments			261		368
State scheme premiums			25		0
Other receipts			0		0
Total receipts[2]			112,852		117,081
Payments					
Benefits	At present rates	104,326		103,461	
	Increase due to proposed changes			3,360	
Total			104,326		106,821
Administration costs			768		791
Redundancy fund payments (net)[3]			304		318
Transfer to Northern Ireland			564		725
Other payments			176		180
Total payments[2]			106,139		108,834
Statement of balances					
Balance at beginning of year[4]			29,935		36,648
Excess of receipts over payments			6,713		8,247
Balance at end of year[2]			36,648		44,895
Balance at end of year as percentage of annual benefit payments[5]			35.0%		41.9%

1 These estimates update those in my report in January 2019 reflecting the latest accounts of the Fund and other more recent information. A breakdown and analysis of this change is provided in Appendix A.

2 Figures may not sum to totals shown due to rounding.

3 Redundancy payments are shown net of redundancy recoveries, as provided by the Insolvency Service.

4 The balance at 31 March 2019 is taken from the published accounts of the Fund for the year 2018-2019.

5 Percentages of benefit payments allow for net redundancy payments

Estimates for 2020-2021

Benefit expenditure

2.2 The proposed measures in the draft Order increase the rates of social security benefits paid from the Fund from April 2020. The basic state pension increases from £129.20 per week to £134.25 per week and the full amount of the new state pension increases from £168.60 per week to £175.20 per week. Appendix B sets out fuller details of all the main rates of the benefits paid from the Fund before and after the proposed measures.

2.3 I estimate that the increase in benefit expenditure in 2020-2021 as a result of the proposed measures in the draft Order will be £3.4 billion, taking estimated expenditure on the relevant benefits from £103.3 billion to £106.7 billion. Table 2.2 overleaf shows this estimate, and the effect of the draft Order, split by benefit type. These estimates have been calculated using the data, methodology and assumptions set out in Appendices D and E.

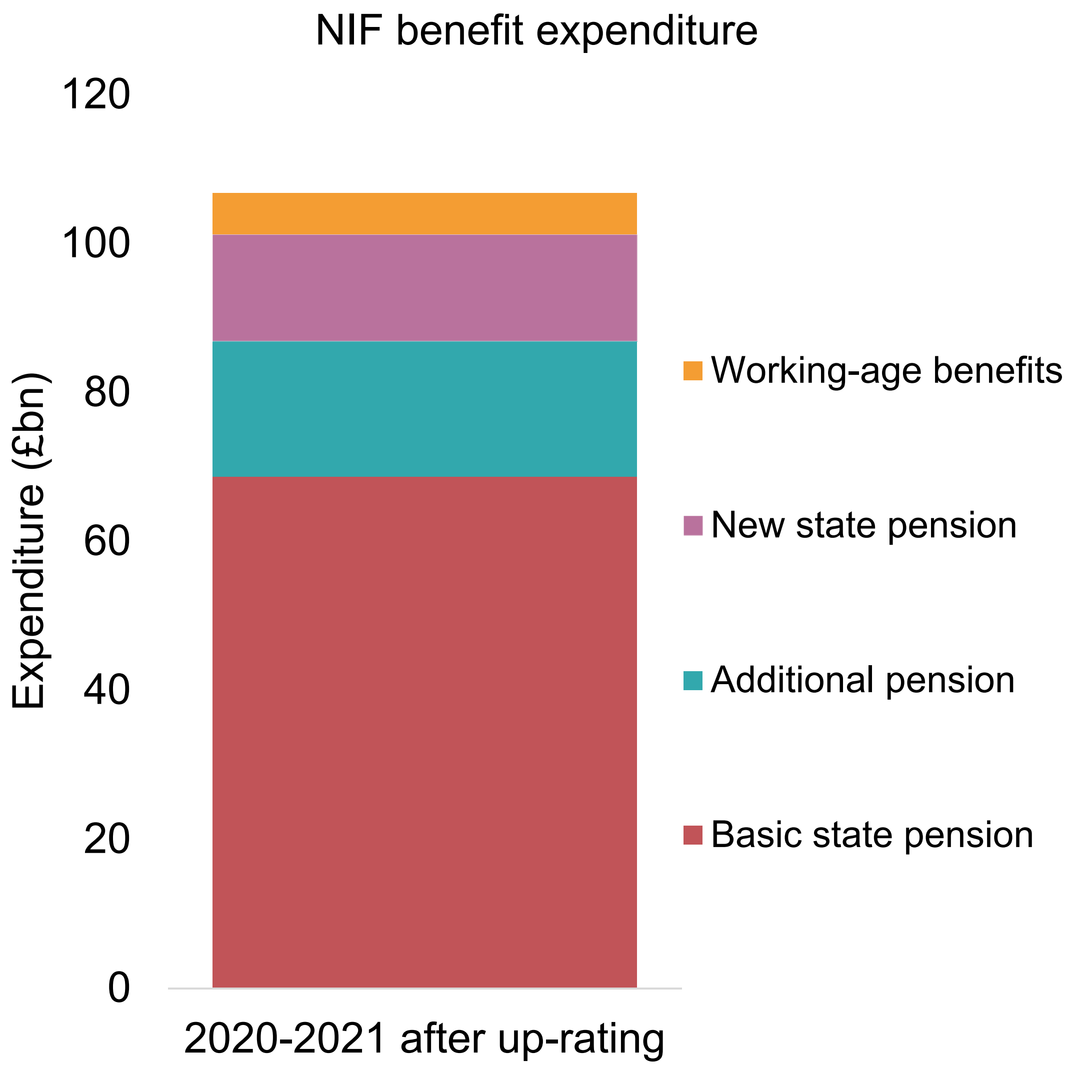


Table 2.2 - Benefit expenditure and the effect of the draft Order in 2020-2021

Great Britain £ million	Estimated total benefit payments in 2019-2020	Estimated total benefit payments in 2020-2021 before the draft Order	Estimated extra benefit payments in 2020-2021 as a result of the draft Order	Estimated total benefit payments in 2020-2021 after the draft Order
New state pension[1]	10,901	13,810	498	14,309
Basic state pension[2]	69,634	66,398	2,371	68,768
Additional pension	18,312	17,775	409	18,184
Incapacity benefit	2	1	0	1
Widows'/bereavement benefits	243	195	3	198
Contributory employment and support allowance	4,406	4,435	70	4,505
Contribution-based jobseeker's allowance	101	109	2	111
Maternity allowance	407	424	7	431
Bereavement support payment	193	187	0	187
Total of benefits covered by the draft Order[3]	**104,199**	**103,334**	**3,360**	**106,694**
Guardian's allowance[4]	2	2	0	2
Christmas bonus	125	125	0	125
Total of benefits not covered by the draft Order[3]	**127**	**127**	**0**	**127**
Total benefits[3]	**104,326**	**103,461**	**3,360**	**106,821**

1 Includes amounts of protected payments. The figure for the estimated extra payment in 2020-2021 includes around £7m in respect of the cost of up-rating of protected payments in payment as at April 2020, effected by the draft Social Security Benefits Up-rating Order 2020, and around £1m in respect of the cost of revaluing protected payments which will come into payment during 2020-2021, effected by the State Pension (Revaluation for Transitional Pensions) Order 2020. This latter Order does not strictly need to be reported on, however it is immaterial relative to the total cost of up-rating.

2 Includes expenditure on graduated retirement benefit, existing increments and deferral lump sums (which capture lump sums in respect of both deferred basic state pension and deferred additional pension).

3 Figures may not sum to totals due to rounding.

4 The functions of the Secretary of State under Part 10 of the Social Security Administration Act 1992 (review and alterations of benefits: Great Britain) so far as relating to guardian's allowance were transferred to the Treasury by section 49(3) of the Tax Credits Act 2002. Guardian's allowance will be up-rated by a separate Statutory Instrument made by the Treasury.

Contribution income

2.4 The proposed measures in the draft Regulations increase some of the thresholds used to determine the amount of earnings or profits that NICs are payable on. The primary threshold increases from £166 per week to £183 per week and the secondary threshold increases from £166 per week to £169 per week. Similar changes apply to the small profits threshold and lower profits limit. Appendix C sets out fuller details of the main features of the Fund's contribution system.

2.5 I estimate that the effect of the measures proposed in the draft Regulations will be a decrease in contribution income in 2020-21 of £2.0 billion. A breakdown of this estimate by contribution type is shown in Table 2.3 overleaf. The effect of changes for Classes 2 and 4 are generally not observable due to the delay between when contributions are accrued and the date that they go on to be paid. These estimates have been calculated using the data, methodology and assumptions set out in Appendices D and E.

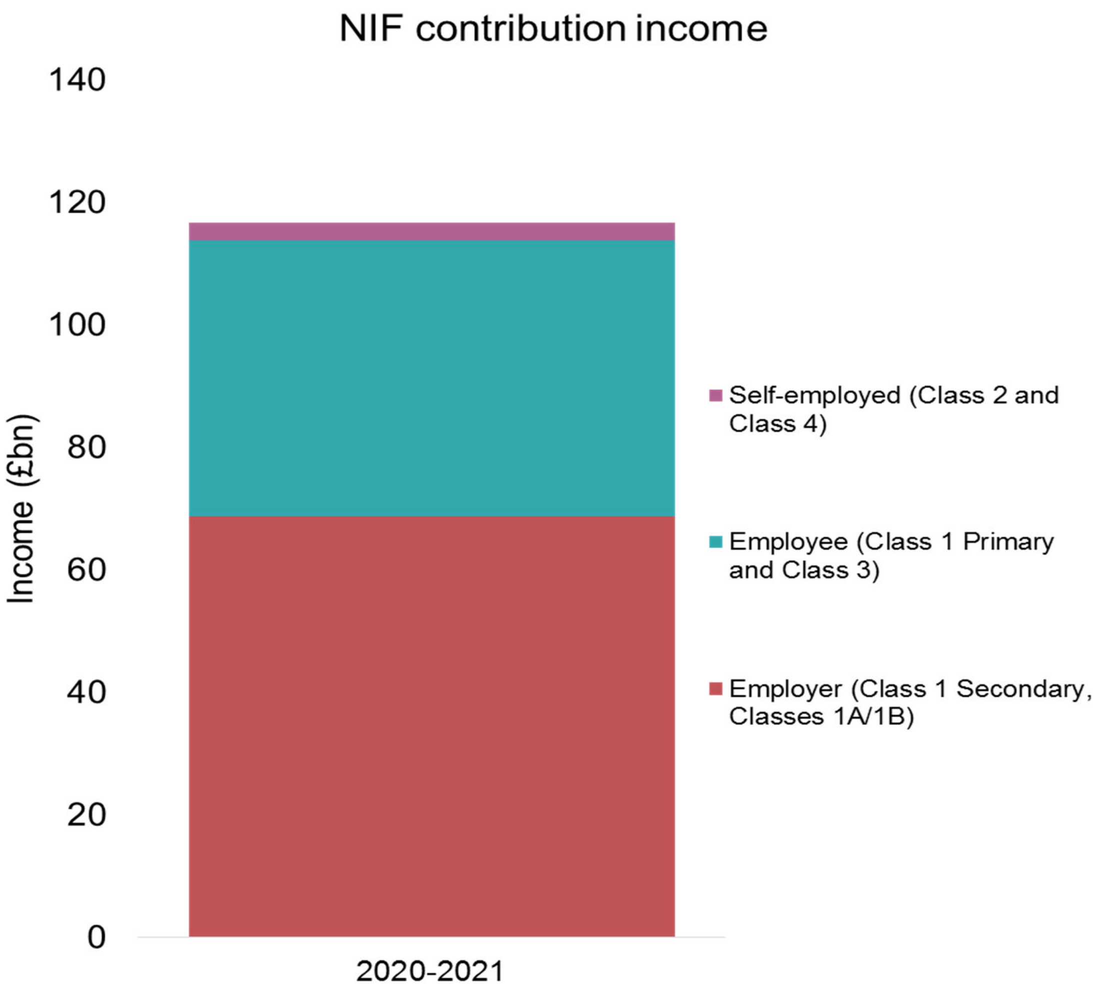


Table 2.3 - Contribution income and the effect of the draft Regulations in 2020-2021[1]

Great Britain £ million	2019-2020 contribution income estimates	2020-2021 contribution income estimates: Before the draft Regulations	Impact of changes in limits and thresholds	Impact of changes in rates	Impact of the draft Regulations	After the draft Regulations
Class 1	108,802	114,396	(2,034)	0	(2,034)	112,361
Class 1A and 1B	1,410	1,484	0	0	0	1,484
Class 2	365	375	0	0	0[2]	375
Class 3	67	67	0	0	0[3]	67
Class 4	2,271	2,436	0	0	0[2]	2,436
Total[4]	112,914	118,758	(2,034)	0	(2,034)	116,724

[1] Table 2.3 shows contribution payable to the Fund. These are based on estimates of total NICs including those allocated to the NHS. The total NICs estimates split by NIF and NHS contributions are set out in Appendix F.
[2] There is no impact in 2020-2021 due to the delay between when contributions are accrued and the date they are paid.
[3] There is a small positive impact, but it is estimated to be less than £1 million.
[4] Figures may not sum to totals shown due to rounding.

Projections to 2024-2025

2.6 Table 2.4 below provides projections for the period to 2024-2025, calculated using the data, methodology and assumptions set out in Appendices D and E.

Table 2.4 – Fund projections from 2018-2019 to 2024-2025

Great Britain, £ million	2018-2019[1]	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025
Total receipts	108,917	112,852	117,081	121,256	125,706	130,330	135,245
Total payments	103,232	106,139	108,834	113,103	118,251	124,112	129,941
Excess of receipts over payments	5,714	6,713	8,247	8,153	7,455	6,218	5,303
Balance in fund at end of year	29,935	36,648	44,895	53,048	60,503	66,721	72,024
Balance at end of year as a percentage of benefit payments	29.5%	35.0%	41.9%	47.7%	52.0%	54.6%	56.3%

[1] Figures for 2018-2019 are from the Fund accounts.

3 Variant estimates for receipts, payments and the Fund balance

3.1 The estimates provided in this report depend on assumptions made about the future. In particular the Fund balance in the short-term is sensitive to:

- the level of earnings increases
- CPI inflation
- employment levels

3.2 It is also possible that actual payments and receipts will differ from the estimates provided due to limitations in the models used to calculate the estimates.

3.3 This section provides projections based on variant assumptions to demonstrate how different experience could affect the Fund balance.

Risks to the Fund balance at 31 March 2021

3.4 Future contribution income could vary significantly in the short-term as a result of changes in employment numbers or general earnings increases. Benefit expenditure over the same timescale tends to be more predictable as the number of beneficiaries is more closely linked to population numbers, which tend to be less volatile than the numbers in employment.

3.5 Table 3.1 shows the effects of changes in earnings increases and employment levels on contribution income for the Fund for the years 2019-2020 and 2020-2021. Varying these assumptions would not be expected to affect benefit expenditure significantly for these years as the rates at which benefits are payable in these years are now known.

Effect of variant scenarios on the Fund balance as at 31 March 2021 (£bn)

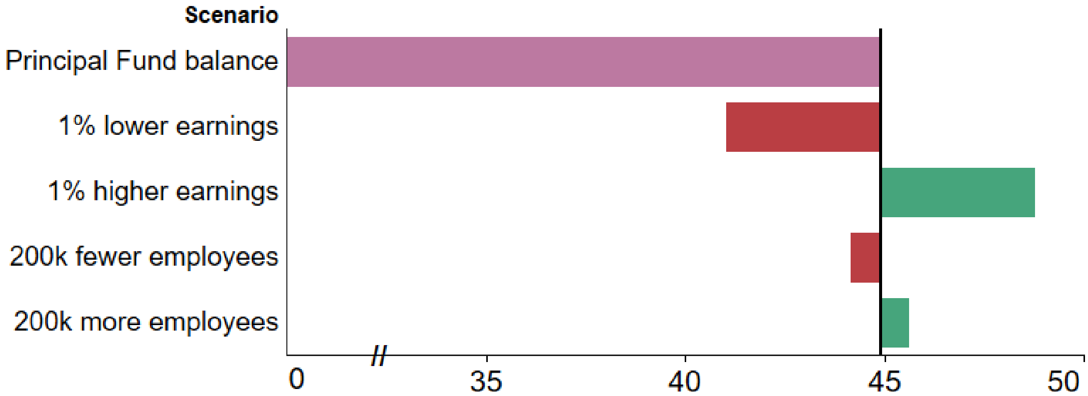


Table 3.1 - Effect on contribution income of variant assumptions (£ million)

Variant assumption	Effect on income in 2019-2020	Effect on income in 2020-2021	Approximate effect on the 31 March 2021 Fund balance
1% lower employee earnings increases	(1,201)	(2,676)	(3,877)
1% higher employee earnings increases	1,214	2,683	3,897
Lower GB number of employees by 200,000 in 2020-21 only	0	(742)	(742)
Higher GB number of employees by 200,000 in 2020-21 only	0	742	742

3.6 The effect of a change to both the number of employees and earnings increases can be estimated by adding together the effect of the change in employees only and the effect of the change in earnings increases only.

Variant 5-year projections

3.7 I have also prepared variant estimates for the projected cash flow and balance of the Fund for the 5-year projections to illustrate the sensitivity of the estimates to economic assumptions.

3.8 These variant projections are shown in the charts in the executive summary. Details of the figures underlying these charts are provided in Appendix G.

3.9 The variant scenarios considered assume that:

- earnings increases are one percentage point higher than the principal assumption each year ("1% higher earnings increases")
- earnings increases are one percentage point lower than the principal assumption each year ("1% lower earnings increases")
- earnings increases are one percentage point lower than the principal assumptions each year and CPI inflation is half a percentage point higher than earnings growth ("low earnings, high CPI").

3.10 The "low earnings, high CPI" scenario provides for high CPI relative to earnings increases. In all projection years this results in a CPI assumption that is higher than that assumed under the principal projections. Further details of these variant assumptions are provided in Appendix D.

3.11 As the Fund cash flows are particularly sensitive to changes in earnings growth, the variants focus on such changes. Changes in earnings growth have a direct impact on the level of contributions received. Benefit expenditure is also affected by changes in earnings growth and how it compares to increases in CPI inflation, in respect of the new State Pension benefits and pre-2016 basic State Pension benefits, due to the triple lock mechanism.

3.12 The projections of the Fund to 2024-2025 are sensitive to the CPI assumptions. The CPI assumptions underlying these projections display a strong reversion to the 2% CPI policy target. The projections would be different if this target is not achieved.

3.13 Although the Fund is sensitive to earnings increases, earnings growth would need to be significantly lower than assumed, or other factors would also need to change, for a Treasury Grant to be required by 2024-2025. I have calculated that reducing earnings growth assumptions only, earnings growth would need to be around 2 percentage points lower than the assumptions used to produce the principal projection each year to produce a scenario where a Treasury Grant is required for the first time in 2024-2025.

Other areas of uncertainty

3.14 New state pensions have only been payable for a few years and so the estimates of expenditure on new state pensions (including protected payments) are based on more limited data than other expenditure. If our estimates of new state pension expenditure were increased or lowered by around 2% then cumulative expenditure over the 5 year projection period could be around £2.5 billion higher or lower than expected.

3.15 The variant projections are purely illustrations of the sensitivity of the results to economic assumptions. They are not intended to show extremes. A material change in conditions such as, for example, a significant reduction in employment rates causing a reduction in contribution income, could result in future experience being materially different from any of the variant projections shown.

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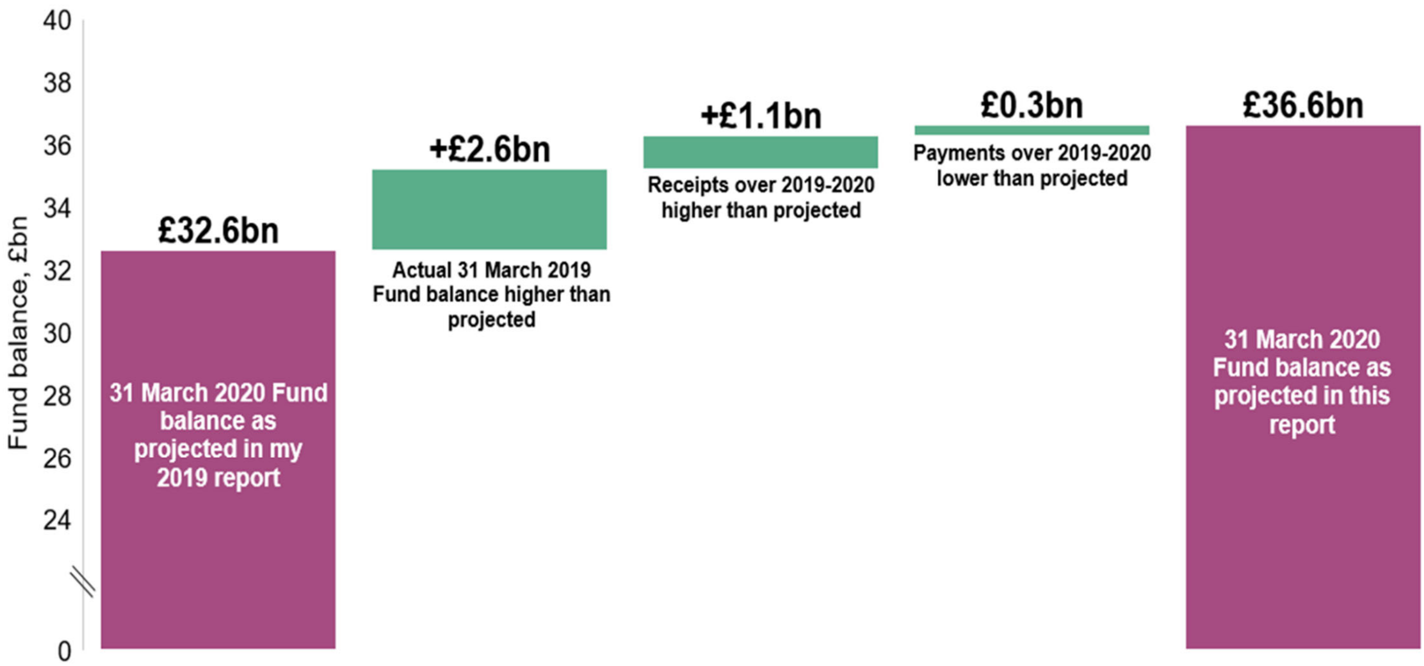
Appendix A: Revised 2019-2020 estimates

A.1 The 2019-2020 estimates shown in Table 2.1 differ from the estimates for the same period included in my report of January 2019.

A.2 In particular the estimated balance of the Fund as at 31 March 2020 of £36.6 billion differs from that estimated in my report from January 2019 of £32.6 billion.



A.3 This change is primarily due to the updated estimates providing for

- the actual Fund balance as at 31 March 2019 of £29.9 billion being £2.6 billion higher than that estimated in my report last year (£27.3 billion)
- an increase in 2019-2020 receipts of £1.1 billion, primarily due to the adoption of revised economic assumptions which assume higher cumulative earnings increases and higher employment, as produced by the Office for Budget Responsibility (see Appendix D); and
- the estimate of the 2019-2020 transfer to the Northern Ireland National Insurance Fund reducing to £564 million in this year's report from £737 million in last year's report. This primarily reflects contribution income to the Northern Ireland Fund being higher than estimated in 2018-2019, relative to a more limited increase in contribution income to the Great Britain Fund.

A.4 The table below sets out a detailed breakdown of the 2019-2020 estimates in Table 2.1 of this report with those provided in Table 5.1 of last year's report.

Great Britain £ million	2019-2020 estimates in Table 2.1 of this report		2019-2020 estimates in Table 5.1 of last year's Report	
Receipts				
Contributions[1]	112,914		111,477	
Less recoveries of statutory payments (and abatements)	2,589		2,771	
Net contribution income[3]		110,325		108,706
Treasury Grant		0		0
Compensation from Consolidated Fund for statutory payments recoveries		2,241		2,760
Income from investments		261		305
State scheme premiums		25		0
Other receipts		0		0
Total receipts[3]		**112,852**		**111,771**
Payments[2]				
Benefits		104,326		104,523
Administration costs		768		743
Redundancy fund payments (net)		304		295
Transfer to Northern Ireland		564		737
Other payments		176		188
Total payments[3]		**106,139**		**106,486**
Excess of receipts over payments[3]		6,713		5,285

1 The increase of £1.4 billion in contributions is due to an upward revision in assumed cumulative earnings growth up to 2019-20 and employment figures, and updates to contribution modelling using more recent information sources.

2 The decrease of £0.35 billion in payments is due largely to revised assumptions and modelling of benefits resulting in lower projected expenditure.

3 Figures may not sum to totals due to rounding.

Appendix B: Main benefit rates

Proposed changes to benefits

B.1 The draft Order proposes increasing the rates of some social security benefits paid from the Fund from April 2020. The most significant benefit paid from the Fund is state pension. The proposed up-rating of these is described below.

Impact of draft Order on state pension amounts

B.2 Under current legislation both the basic state pension (for those reaching State Pension age (SPa) prior to 6 April 2016) and amounts up to the full rate of the new state pension (for those reaching SPa on or after 6 April 2016) must be up-rated by at least the growth in earnings.

B.3 However the government has committed to up-rating the basic state pension and the full rate of the new state pension annually by the highest of growth in average weekly earnings (AWE), prices (CPI) or 2.5%, referred to as "triple lock".

B.4 The annual increase in the level of CPI to September 2019 was 1.7% and AWE increase over the year to May-July 2019 was 3.9%. Therefore, the result of the triple lock is that the proposal is to up-rate the basic state pension and the full rate of the new state pension from April 2020 by 3.9%, subject to the appropriate rounding conventions.

B.5 The draft Order also proposes increasing other components of the pre-April 2016 state pension, including earnings-related additional pensions (under the state earnings-related pension scheme (SERPS), the state second pension (S2P) and graduated retirement benefit) by 1.7%, in line with the September 2019 CPI increase. The draft Order also proposes increasing amounts in excess of the full rate of the new state pension (protected payments) and expenditure on state pension deferral (increments) in line with the CPI increase.

B.6 The financial effects of the up-rating of benefits provided for in the draft Order are shown in Section 2.

B.7 Full details of the rates of benefits provided from the Fund are shown in the table below.

All figures in £s	Weekly rate in 2019-2020	Weekly rate proposed from April 2020
State pension		
New state pension[1]	168.60	175.20
Category A or B (paid to individuals over SPa as at 5 April 2016 based on their own contributions or those made by a deceased spouse or civil partner)[2]	129.20	134.25
Category BL (paid to an individual over SPa as at 5 April 2016 based on their spouse or civil partner's contributions while the spouse/civil partner is alive)[3]	77.45	80.45
Graduated retirement benefit (unit)	0.1416	0.1440
Bereavement benefits[4]		
Bereavement Support Payment (lump sum standard rate)	2,500.00	2,500.00
Bereavement Support Payment (lump sum higher rate)	3,500.00	3,500.00
Bereavement Support Payment (monthly payments standard rate)	100.00	100.00
Bereavement Support Payment (monthly payments higher rate)	350.00	350.00
Widowed parent's allowance (maximum rate)	119.90	121.95
Employment and Support Allowance (contributory)[5]		
Personal allowance (age 25 or over)	73.10	74.35
Work-related activity component	29.05	29.55
Support component	38.55	39.20
Jobseeker's Allowance (contribution-based)[6]		
Personal benefit for those aged 18 to 24	57.90	58.90
Personal benefit for those aged 25 and over	73.10	74.35
Maternity Allowance[7]	148.68	151.20
Statutory Maternity Pay, Statutory Paternity Pay, Statutory Adoption Pay, Statutory Shared Parental Pay and, from April 2020, Statutory Parental Bereavement Pay		
Standard rate[7]	148.68	151.20
Guardian's allowance		
First child/other children	17.60	17.90
Increases for the children of widows, widowers, retirement pensioners and those on long-term rate and higher short-term rate of incapacity benefit and recipients of Incapacity Benefit over pension age		
First child	8.00	8.00
Other children	11.35	11.35
Christmas bonus to pensioners (lump sum)	10.00	10.00

1 Under transitional arrangements not everyone receives this rate; awards are based on an individual's National Insurance record. A *de minimis* of 10 years of contributions applies in respect of post-April 2016 awards.

2 Proportionate rates are paid to those with proportionate contribution records. Pensioners in receipt of Category A or B basic state pensions receive an increase of 25p per week on reaching age 80 (the Age Addition).

3 Pensioners in receipt of Category BL basic state pensions receive an increase of 25p per week on reaching age 80 (the Age Addition).

4 Bereavement Support Payment (lump sums and monthly payments) is available to persons whose spouse or civil partner died on or after 6 April 2017. The higher rate is payable if the surviving spouse or civil partner has children under age 20 in full-time education. Widowed Parent's Allowance is available to persons

whose spouse or civil partner died before 6 April 2017 for as long as they receive Child Benefit in respect of a child of that spouse/civil partner.

5 Employment and Support Allowance (ESA) replaced Incapacity Benefit for new claims from 27 October 2008. The benefit contains some extra additions dependent on the circumstances of the recipients. Everyone who satisfies the Work Capability Assessment will receive a personal allowance and either the work-related activity component or the support component. However, from April 2017 the Welfare Reform and Work Act 2016 provides that new ESA claimants placed in the work–related activity group will no longer receive the work-related activity component. The process to review Incapacity Benefit claims to assess if they can be transferred to ESA is now largely complete.

6 Unemployed people who meet certain conditions, primarily relating to the payment of NICs in the period recently before they become unemployed, can claim contribution-based Jobseeker's Allowance. Other unemployed people who either exhaust or have no entitlement to the contributory benefit may receive income-based Jobseeker's Allowance/Universal Credit. Income-based Jobseeker's Allowance/Universal Credit may also be paid to recipients of contribution-based Jobseeker's Allowance if their income-based benefit requirements exceed the rate of contributory Jobseeker's Allowance.

7 The first 6 weeks of Statutory Maternity Pay and Statutory Adoption Pay are paid at 90% of the recipient's average weekly earnings with no upper limit. Thereafter the remaining weeks (maximum 33) are paid at the standard rate or, if lower, 90% of the recipient's average weekly earnings. Maternity Allowance is paid to employed women for up to 39 weeks at the amount shown or 90% of the woman's average weekly earnings if this calculation results in a figure which is less. The amount of Maternity Allowance a self-employed woman may receive depends on how many Class 2 NICs they have paid in the 66 weeks immediately preceding the week their baby is due.

Appendix C: Main features of the contribution system

Draft Regulations

C.1 The draft Regulations propose increasing some NICs rates and increasing some of the thresholds and limits that determine the earnings on which contributions are paid. The table below shows the changes in contribution rates, limits and thresholds. The financial effects of the draft Regulations are shown in Section 2.

		Rate in 2019-2020	Rate proposed from April 2020
Class 1			
Lower earnings limit (LEL)		£118 a week	£120 a week
Upper earnings limit (UEL)		£962 a week	£962 a week
Primary threshold		£166 a week	£183 a week
Secondary threshold		£166 a week	£169 a week
Upper secondary threshold for under age 21 group		£962 a week	£962 a week
Upper secondary threshold for relevant apprentices		£962 a week	£962 a week
Contribution rates (NI Fund and NHS combined)			
Primary (employee)	On earnings between the primary threshold and UEL	12.00%	12.00%
	Reduced rate on earnings between the primary threshold and UEL for married women and widow optants	5.85%	5.85%
	On earnings above the UEL	2.00%	2.00%
	NHS allocation included in above – percentage of earnings between the primary threshold and UEL	2.05%	2.05%
	– percentage of earnings above the UEL	1.00%	1.00%
Secondary (employer)	On all earnings above the secondary threshold	13.80%	13.80%
	Zero-rate on earnings between the secondary threshold and upper secondary threshold for under age 21 group and relevant apprentices	0.00%	0.00%
	NHS allocation included in above (percentage of all earnings on which contributions are paid for employees earning above the primary threshold)[1]	1.90%	1.90%

	Rate in 2019-2020	Rate proposed from April 2020
Class 1A and Class 1B		
Contribution rate (employer only)	13.80%	13.80%
NHS allocation included in above	1.90%	1.90%
Class 2		
Flat-rate contribution	£3.00 a week	£3.05 a week
Small profits threshold	£6,365.00 a year	£6,475.00 a year
NHS allocation included in above (percentage of contribution)	15.50%	15.50%
Class 3		
Flat-rate contribution	£15.00 a week	£15.30 a week
NHS allocation included in above (percentage of contribution)	15.50%	15.50%
Class 4		
Lower Profits Limit (LPL)	£8,632 a year	£9,500 a year
Upper Profits Limit (UPL)	£50,000 a year	£50,000 a year
Contribution rate		
On profits between the LPL and UPL	9.00%	9.00%
On profits above the UPL	2.00%	2.00%
NHS allocation included in above		
Percentage of profits between the LPL and UPL	2.15%	2.15%
Percentage of profits above the UPL	1.00%	1.00%

[1] The amount of the secondary Class 1 NICs apportioned to the NHS is calculated as the relevant percentage (currently 1.9%) of the total earnings of those employees who earn above the primary threshold. This is in line with the interpretation of subsections (5) and (5A) of section 162 of the Social Security Administration Act 1992 provided to GAD by HMRC.

Appendix D: Key assumptions

D.1 The key assumptions underlying the estimates in this report are population projections and economic assumptions on future employment levels and the rate of increase in earnings and CPI. These assumptions are set out in this appendix alongside the variant assumptions used to show the potential impact of using different assumptions on the projections.

D.2 The population assumptions used in this report are based on the Office for National Statistics (ONS) 2018-based principal population projection for Great Britain, published in October 2019.

D.3 The Chancellor of the Exchequer has announced that the Budget will take place on 11 March 2020. OBR will produce an Economic and Fiscal Outlook (EFO) report alongside the Budget. Until then the most recent EFO report available is from March 2019. In the absence of a more recent forecast, for the purpose of this report I have adopted economic assumptions that are consistent with the central assumptions used in the March 2019 EFO.

D.4 My understanding is that both ONS and OBR have determined these assumptions with the intention that there is no allowance for prudence or optimism. In my view, these assumptions are reasonable for the purposes of estimating the financial position of the Fund over the relatively short period considered in this report and I have therefore decided to adopt them as the principal assumptions.

D.5 One area of uncertainty relates to the nature of the UK's long-term relationship with the European Union. The economic assumptions underlying the EFO incorporate broad based assumptions about the Brexit outcome, as described in Section 3 of the EFO. My report includes variant projections to show the impact on the Fund if other economic assumptions were adopted.

D.6 The 2020-2021 up-rating assumptions are consistent with ONS's May to July earnings growth index and the September 2019 out-turn estimate of CPI inflation, which were both released after the OBR forecasts were finalised.

D.7 My previous report was published in January 2019. The estimates in that report were also based on the most recent population projections and EFO at the time. Those estimates were based on ONS's 2016-based principal population projection for Great Britain (published in October 2017) and the OBR's EFO published on 29 October 2018. Those assumptions are the "UR 2019" assumptions shown in the tables in this appendix.

Population projections

D.8 My assumptions for the number of individuals over State Pension age (SPa) are based on the ONS 2018 principal population projections for Great Britain, published in October 2019 as shown in Table D.1. These projections do not include any individuals over SPa who receive a state pension while living overseas.

D.9 These figures suggest the number of individuals over SPa is relatively stable over the 5 year projection period. However, this timeframe coincides with a period of increasing SPa from 65 to 66 after which the population over SPa is expected to rise as a result of increasing life expectancy and large cohorts reaching SPa. The effects of this on the sustainability of the Fund are highlighted in the longer-term projections in the Quinquennial Review.

Table D.1 – Numbers over SPa at the start of the financial year

Financial year	UR 2020 people-based (millions)	UR 2019 people-based (millions)	Change (millions)
2018-19	11.8	11.9	(0.0)
2019-20	11.7	11.7	(0.0)
2020-21	11.5	11.5	(0.0)
2021-22	11.7	11.7	(0.0)
2022-23	11.9	11.9	(0.1)
2023-24	12.1	12.1	(0.1)
2024-25	12.3	N/A	N/A

Employment levels

D.10 My assumptions for the number of GB employees are set out in Table D.2 below:

Table D.2 - Number of GB employees

Financial year	UR 2020 (millions)	UR 2019 (millions)	Change (millions)
2019-20	26.9	26.9	0.1
2020-21	27.0	27.1	(0.0)
2021-22	27.2	27.2	(0.0)
2022-23	27.3	27.2	0.0
2023-24	27.4	27.3	0.1
2024-25	27.5	N/A	N/A

D.11 The assumed number of employees refers to the number of people employed rather than the number of jobs, as one person may have more than one job. Employees exclude the self-employed. The estimates are less sensitive to the assumed number of self-employed people and these are in Appendix E.

D.12 The assumptions in Table D.2 have been derived by:

- taking the number of UK employees from Table 1.6 of the supplementary economy tables published alongside the OBR's March 2019 EFO
- extrapolating the EFO projection period one year further to 2024-2025
- adjusting these figures approximately to reflect expected and actual changes in the population indicated in ONS's 2018 population projections (OBR's March 2019 EFO was based on ONS's 2016 population projections)
- adjusting these figures to exclude Northern Ireland employees

Increase in earnings and CPI

D.13 My assumptions for increases in earnings and CPI are set out in Table D.3 below. These figures are the Q2 earnings and Q3 CPI assumptions (taken from tables 1.6 and 1.7 respectively of the EFO supplementary economy tables) as up-rating each April is generally based on Q2 earnings and Q3 CPI out-turn from the previous financial year.

Table D.3 - Annual increase in earnings and CPI

Year of April up-rating	CPI			Increase in earnings		
	UR 2020	UR 2019	Change	UR 2020	UR 2019	Change
2019	2.4[1]	2.4[1]	0.0	2.6[1]	2.6[1]	0.0
2020	1.7[1]	2.0	(0.3)	3.9[1]	2.7	1.2
2021	1.9	2.0	(0.1)	2.9	2.8	0.1
2022	2.0	2.1	(0.1)	3.1	3.0	0.1
2023	2.0	2.1	(0.1)	3.1	3.1	0.0
2024	2.0	N/A	N/A	3.2	N/A	N/A

[1] The increases to be applied in April 2019 and April 2020 are now determined. Last year the April 2019 increases were determined.

D.14 When projecting earnings for the purpose of estimating contribution income, my assumption on earnings growth is taken from Table 3.10 of the EFO which shows the average growth across the 4 quarters of the financial year. These differ from, but are related to, the Q2 assumptions. This assumption for 2024-2025 is set equal to the 2023-2024 assumption as the EFO only projects to 2023-2024.

Assumptions for variant projections

D.15 The "high/low earnings" variants assume that the increase in earnings assumptions are one percentage point higher/lower each year from and including 2019-2020, except that the known up-rating in April 2020 is unaffected. The "low earnings, high CPI" variant assumes the annual increase in CPI is half a percentage point higher than (low, Q2) earnings growth, but again the April 2020 up-rating is unchanged.

Triple Lock

D.16 "Triple lock" increases are determined as the highest of the annual growth in average May-July earnings (AWE), September prices (CPI) and 2.5%. We have applied this "triple lock" rule to the increase in earnings and CPI assumptions for each individual year in our projections. For example, under the "low earnings, high CPI" variant projection in 2023-2024 earnings is 2.1% and CPI is 2.6% and so the "triple lock" assumption is 2.6% as this is higher than both 2.1% and 2.5%.

Appendix E: Data, methodology and other assumptions

Contributions modelling

Earnings projection

E.1 Contributions are estimated separately for each class of NICs.

E.2 Estimates of Class 1 NICs are made by first making a projection of workforce earnings based on:

- assumed levels of UK employment in each year, together with an assumed profile of workers by age and gender; employment numbers are broken down between Great Britain and Northern Ireland using ONS labour force data with an allowance for expected future population changes
- average earnings distributions, by age and gender; these were derived using the 2015 Annual Survey of Hours and Earnings (ASHE) produced by ONS and the Survey of Personal Incomes published by HMRC[1]
- assumptions on the rate of earnings growth from year to year

Total NICs income

E.3 The projection of earnings is then used to estimate the expected NICs due in each year.

E.4 Other classes of NICs, which generate substantially lower revenues than Class 1, are estimated using simplified models.

E.5 Class 1A and Class 1B contributions are estimated using data and projections provided by HMRC. These are UK figures and the amount attributable to Great Britain is taken as a percentage of the UK figure.

[1] ONS and HMRC have no responsibility for the distributions adopted beyond the data that they originally supplied to GAD.

E.6 Class 2 and Class 4 contributions made by the self-employed are estimated in a similar way to Class 1, but using assumptions on employment, earnings growth and earnings distributions specifically for the self-employed. These earnings distributions are derived solely from HMRC's Survey of Personal Incomes.

E.7 Class 3 contributions are a very small part of total NICs and have been estimated approximately by assuming that the contributions received each year are unchanged from the average amount received in the years 2016-2017 to 2018-2019.

E.8 I have assumed that future increases in contribution limits and thresholds will be in line with CPI increases in each year.

E.9 Modelled estimates of NICs are adjusted in line with data provided by HMRC on actual NICs receipts up to and including 2018-2019. It is assumed that the same adjustment factors apply in all future years. Our models do not take into account certain detailed measures announced at successive fiscal events. Therefore, adjustments are applied to allow for these measures based on projections made by HMRC. Normally, these HMRC projections would be updated regularly to reflect any interaction with other policy proposals. However, for this report, the projections were taken from the work for OBR's March 2019 EFO and therefore they could not take into account any impact from the proposed increase to the primary threshold in 2020-2021. I would not expect this to lead to any material distortions in the results, but this will be reviewed as part of my next report.

NICs allocation between the Fund and the NHS

E.10 The above calculations focus on making a projection of total NICs. It is then necessary to divide these NICs between those allocated to the Fund and those allocated to the NHS.

E.11 Class 1 contributions are split between primary Fund and NHS and secondary Fund and NHS contributions based on data derived from end of year returns data from the National Insurance PAYE System (NPS) database and provided in the Earnings Limits Scan supplied by HMRC. The latest Earnings Limits Scan provides information up to and including 2017-2018. We therefore use this information to split the total Class 1 NICs received in 2017-2018, as produced by our calculation model, between the different components. The split of NICs in future years is then derived from the model adjusted so that it is consistent with the split shown by the Earnings Limits Scan information.

E.12 For Classes 1A, 1B, 2 and 3, the NHS allocations are defined in legislation as a fixed proportion of the total NICs payable, as set out in Appendix C.

E.13 The NHS allocation for Class 4 contributions is different for contributions paid on profits above and below the Upper Profits Limit. This means there is not a constant ratio between contributions allocated to the Fund and NHS for this class. Therefore, we use our calculation model to determine the split between the Fund and the NHS shares of the contributions based on the assumed self-employed earnings distribution.

Reclaimed NICs for statutory payments

E.14 Employers can reclaim a proportion of the statutory payments made to employees, plus an element of "compensation" for small employers, from the amounts of Class 1 NICs they pay. Statutory payments include:

- Statutory Maternity Pay (SMP)
- Statutory Paternity Pay (SPP)
- Statutory Shared Parental Pay (ShPP)
- Statutory Adoption Pay (SAP), and
- from April 2020, Statutory Parental Bereavement Pay (SPBP).

E.15 In broad terms, amounts reclaimed by employers are estimated by adjusting data on amounts reclaimed in the latest complete year (2018-2019) in line with changes in numbers of employees, the numbers of births (or children, in respect of adoption), rates of benefit, and (where relevant) the average earnings of potential recipients.

E.16 The Fund receives payments from the Consolidated Fund to offset the amounts recovered by employers (apart from the compensation element). These payments are estimated in similar way to the amounts recovered by employers.

Comparison with HMRC estimates

E.17 HMRC also make estimates of NICs using their own models. I have compared my contribution estimates with those made by HMRC. My estimate of total NICs for 2019-2020 is the same as the figure produced by HMRC to the nearest £0.1 bn. My estimate for 2020-2021 is also very close to that of HMRC, but a direct comparison is not possible since the HMRC estimates (produced in March 2019) did not reflect the latest figures for the contribution limits to be applied in 2020-2021. I will continue to liaise with HMRC in relation to the consistency of our projections.

Other receipts modelling

E.18 The estimates given for receipts from state scheme premiums are based on information taken from the Fund accounts. These premiums relate to individuals who have been contracted-out of part of the state pension, which ceased to be possible from 6 April 2016. I have assumed that no more state scheme premiums will be received after April 2020.

E.19 The investment income has been estimated for future years by applying an assumed rate of investment return to the average balance in the Fund during each future year. The investment return on the Fund is expected to be close to the Official Bank of England Rate (Bank Rate) given that the assets of the Fund are deposited with the Commissioners for the Reduction of National Debt. The assumed rate of investment return is based on the OBR's EFO report published in March 2019.

Pension benefits modelling

E.20 Estimates of expenditure on contributory benefits are projected separately for each of the following 6 types of benefit;

- pre-2016 awards of the basic state pension
- lump sums payable to those who have deferred, and are not yet in receipt of, their basic state pension
- pre-2016 awards of earnings-related additional pension (known as SERPS or S2P)
- graduated retirement benefit
- post-2016 awards of the new state pension
- protected payments (paid alongside new state pension)

E.21 The projection approaches adopted for each type of benefit are detailed in paragraphs E.29 to E.76. All the projections allow for the increases in SPa during 2019-2020.

E.22 The projections use the following data sets provided by DWP:

- the "quarterly statistical extract" of state pension payments (QSE) data set - this is a data set which sets out anonymised data for a 5% sample of all individuals in receipt of benefits and the amount of benefit in payment - the estimates in this report are based on the QSE relating to payments as at 31 March 2019 - QSE data sets also include past lump sums paid where the recipient is still in receipt of a benefit

- the "lifetime labour market database 2" (L2) data set - this is a data set which sets out anonymised data for a 1% sample of the population showing past earnings and contribution record history - the estimates in this report are based on the L2 data set as at 31 March 2016
- the "forecast data" - this is DWP management data forecasting aggregate amounts of benefit expenditure over the current financial year, revised monthly based on actual out-turn

E.23 The projections use the following data sets published by ONS:

- their 2018-based principal population projection for Great Britain
- their 2008-based marital status projections for England and Wales

E.24 Once produced, the 6 separate benefit projections are adjusted so that our 2019-2020 estimates align with the forecast data. We then apply these same adjustment factors in each future year of each projection.

E.25 The adjustment factors used to align with the forecast data are;

- basic state pension: 1.00
- lump sums: 1.04
- additional pension: 1.025
- graduated retirement benefit: 0.965
- new state pension: 0.99
- protected payments: 1.24

E.26 The majority of the adjustment factors are close to 1.00. There are various reasons why I would not expect them to equal 1.00. For example the QSE data set is only a 5% sample size and is produced close to the extract date so does not allow for corrected payments made retrospectively where incorrect benefit payments have initially been made.

E.27 With the exception of lump sums the above adjustment factors are based on November 2019 forecast data. The amounts of lump sum paid each year tend to be more volatile than ongoing pension payments and so we derive the lump sum adjustment factor by comparing our 2019-2020 projection with the total amount of lump sums paid over the last five years.

E.28 The discrepancy in protected payments between our projection for 2019-2020 and the forecast data (a 24% difference) is large. To develop an understanding of the causes of this discrepancy would require more detailed analysis and comparison of the L2, forecast data and other relevant data sets.

Basic state pension

E.29 To project expenditure on pre-2016 awards of basic state pension, for each projection year, we multiply together:

- a projected number of people over SPa
- an assumed "proportion of the population entitled" (PEnt) to any basic state pension
- an assumed "mean proportion of the standard rate" (MPnSR) payable to those entitled to any basic state pension
- an annual standard benefit rate

E.30 We carry out the above calculations separately for each age and for 5 categories of people; men, single women, married women, divorced women and widows.

E.31 The number of men and women at each age over SPa is taken directly from the 2018-based principal population projection for Great Britain. We then split the numbers for women into single, married, divorced and widowed women using ONS's England and Wales 2008-based marital status projections.

Proportions entitled

E.32 For each age for each of the 5 categories of people we determine a PEnt assumption for the year 2019-2020 by comparing the number of people receiving basic state pension in the QSE data with the number of people in the population projection. For married women we set PEnt assumptions separately depending on whether entitlement is to Category A pension, Category BL pension or both.

E.33 In 2018-2019 this comparison shows that for men and divorced and widowed women the proportion entitled is close to 100% at all ages old enough to qualify for basic state pension. For single and married women the proportion is age related matching recent demographic trends - for example that there were more female earners in younger generations. Based on these observations we set PEnt assumptions as 98% for men, 96% for divorced women, 100% for widows and age related assumptions for single women and married women.

E.34 The same PEnt assumptions are then used in every future year of the projection but with the age related assumption applying to those aged one year older in each future projection year reflecting the ageing of those old enough to qualify for basic state pension.

Mean proportion of the standard rate

E.35 For each age for each of the 5 categories of people we determine an MPnSR assumption for the year 2019-2020. This is done by calculating the average amount of basic state pension received by those receiving some basic state pension in the QSE data and express this as a proportion of the standard benefit rate. For married women we set MPnSR assumptions separately depending on whether entitlement is to Category A pension, Category BL pension or both.

E.36 In 2018-2019 this comparison shows that for men and single, divorced and widowed women the proportion entitled is between 90% and 100% at all ages old enough to qualify for basic state pension. For married women the proportion is age related matching recent demographic trends. Based on these observations we set MPnSR assumptions as 97% for men, 91% for single women, 94% for divorced women, 98% for widows and age related assumptions for married women entitled to different categories of basic state pension.

E.37 The same MPnSR assumptions are then used in every future year of the projection but with the age related assumption applying to those aged one year older in each future projection year reflecting the ageing of those old enough to qualify for basic state pension.

Adjustments for Category D pensions and increments

E.38 Some pensioners in receipt of basic state pension are eligible for an increase in pension up to a specified amount on reaching age 80 (the "Over 80 Pension"). This increase is not based on NICs and is not payable from the Fund but is included and not separately identified in the QSE data. Our projection therefore includes an adjustment to the MPnSR assumptions described above to model the exclusion of Over 80 Pension payments from the expenditure projections for basic state pension. These adjustments range between a 0% and 4% reduction in the MPnSR assumption depending on the category of person being projected. In general larger reductions are made to those with lower MPnSR assumptions.

E.39 After calculating the MPnSR assumptions described above we make an adjustment to those assumptions to reflect that some basic state pension relates to increments paid to those who have previously deferred their basic state pension and are now in receipt of it. These adjustments reflect the proportion of basic state pension that is made up of increments as shown in the QSE data and the different up-rating that increments attract (CPI rather than the triple lock that applies to basic state pension).

E.40 Apart from lump sums captured in the lump sums projections described below, new awards in relation to those who have deferred their basic state pension and are not yet in receipt of it are ignored.

E.41 Except for women with entitlement to Category BL pension (regardless of any entitlement to Category A), the standard benefit rate for projection year 2019-2020 is £129.20 per week. For women with entitlement to Category BL pension the standard benefit rate for projection year 2019-20 is £77.45 per week. The standard benefit rates used are up-rated in line with triple lock up-rating implied by the economic assumptions for future projection years.

Overseas pensioners receiving basic state pension

E.42 Pensioners residing overseas are not captured in the approach to projecting basic state pension expenditure described above as the population projections used only cover those in GB.

E.43 The QSE data set shows that the net impact of immigration and emigration over SPa is immaterial to the total level of overseas state pension payable. We therefore model payment of basic state pension to overseas pensioners separately as though this group are a closed population. This separate projection is then added to the basic state pension projection described above.

E.44 Payments of basic state pension to pensioners overseas (including increments already in payment) are projected forward by running off the existing payments shown in the QSE data set. The run off uses mortality rates based on ONS's 2018-based GB population projection (i.e. assuming mortality rates for overseas pensioners are in line with those experienced domestically). These projections do not uprate pensions for those living in countries where up-rating is frozen.

E.45 These projections allow for Category B coming into payment to widows at an average aggregate rate equal to 90% of the Category A pension that it derives from and ignore Category B coming into payment to widowers and bereaved civil partners. Apart from lump sums captured in the lump sum projections described below, new awards in relation to those living overseas who have deferred their basic state pension and are not yet in receipt of it are also ignored.

Lump sums

E.46 People reaching SPa before 6 April 2016 can defer payment of their basic state pension and take a lump sum when they bring their basic state pension into payment. Projections are made of the amounts of lump sum payable in the future to those still deferring their basic state pension.

E.47 Data from the QSE data set (including previous QSE data sets back to 2011) is used to identify those who have reached SPa before 6 April 2016 and who have subsequently taken a lump sum after deferring their pension. The proportion of those reaching SPa in each year before 6 April 2016 who deferred their pension and took a lump sum is then calculated separately for different deferral periods. For each deferral period the average proportion of the maximum lump sum payable (allowing for up-rating of pension in deferment and payment of interest at 2% above the Bank of England base rate) is also calculated.

E.48 These proportions are then projected forward for each year to 2024-2025 and applied to all people who reached SPa in each year before 6 April 2016. This provides estimates of the numbers who are still deferring their pension, the length of time before they will cease deferring their pension and the proportion of the maximum lump sum payable they will receive when they cease deferring (allowing for up-rating of pension in deferment and interest). Any lump sums projected to be paid in each year up to 2024-2025 are then added up to produce the projections of lump sums payable in each of those years.

E.49 These lump sum projections are carried out separately for males and for females and whether the lump sums are payable to residents of Great Britain or elsewhere.

Additional pension and graduated retirement benefit

E.50 We project additional pension and graduated retirement benefit by running off the existing payments shown in the QSE data set using mortality rates based on ONS's 2018-based GB population projection.

E.51 The mortality rates used in these projections are lower than the mortality rates in ONS's 2018-based GB population projection as the QSE data set shows that people with additional pension exhibit lower mortality rates than in the population. The adjustments vary by age and gender but, on average for those receiving additional pensions, are equivalent to additional pensions being in payment for about half a year longer than if population mortality rates were used.

E.52 These projections allow for CPI up-rating of these benefits throughout the projection period with adjustments for additional pension for contracting-out deductions and their pre 1988 and post 1988 up-rating rules.

E.53 These projections allow for the inheritance of benefits to widows, widowers and bereaved civil partners using the 2008-based marital status projections for England and Wales to determine the proportion of deaths that lead to inherited benefits becoming payable. For additional pension the rate of inheritance is assumed to lie between 50% and 100% reflecting the changes in inheritance rates for additional pension implemented for those reaching SPa between 2002 and 2010. For graduated retirement benefit the rate of inheritance is assumed to be 50%.

E.54 As the QSE data set includes payment to overseas pensioners this projection approach automatically captures payments of additional pension and graduated retirement benefit to overseas pensioners.

E.55 This modelling approach involves various simplifications which we do not expect to be material. For example, we ignore:

- the possibility of new awards in relation to current deferrals (new awards to current deferrers will be increasingly rare as the minimum period of deferral increases with the passage of time)
- circumstances that would lead to nil inheritance rates

New state pension

E.56 To project expenditure on post-2016 awards of new state pension, for each projection year, we multiply together:

- the projected number of people over SPa
- an assumed proportion of people entitled to any new state pension
- an assumed "mean proportion of the standard rate" (MPnSR) payable to those entitled to any new state pension
- the annual standard benefit rate

E.57 We carry out the above calculations separately for each age and for men and women. The number of men and women at each age over SPa is taken directly from the 2018-based principal population projection for Great Britain.

E.58 At all ages, for men and women, and in all projection years we determine assumed proportion of people entitled to any new state pension assuming that everyone who is young enough to qualify for new state pension (rather than basic state pension) and who is over SPa will be entitled to some new state pension.

E.59 In the long term these assumptions are equivalent to assuming 100% are entitled to some new state pension once over SPa. In the long term I would expect the observed average proportion to stabilise close to but less than 100% of the population over SPa.

E.60 For each age for men and women we determine an MPnSR assumption for the year 2019-2020 using the L2 dataset. For each individual in the L2 dataset we assume that their post 6 April 2016 contribution record extends such that when they reach SPa they have completed half of their remaining potential qualifying years.

E.61 The same MPnSR assumptions are then used in every future year of the projection but with the age-related assumption applying to those aged one year older in each future projection year reflecting the ageing of those young enough to qualify for new state pension.

E.62 With the exception of those who reach SPa before 2022 this leads to an MPnSR assumption of 90% at all ages for men and women in all projection years. The MPnSR assumption for those who reach SPa before 2022 is between 89% and 90% for men and between 87% and 90% for women. These age dependant rates depend on how soon after 6 April 2016 they reach SPa. These lower MPnSR assumptions reflect the more limited opportunity for this group to build up their qualifying record to a full new state pension entitlement before reaching SPa.

E.63 The standard benefit rate for projection year 2019-2020 is £168.60 per week. This is up-rated in line with triple lock up-rating implied by the economic assumptions for future projection years.

E.64 These new state pension projections assume no-one chooses to defer new state pension.

<u>Overseas pensioners receiving new state pension</u>

E.65 Pensioners residing overseas are not captured in the approach to projecting new state pension expenditure described above as the population projections used only cover those in GB.

E.66 The new state pension projections therefore include a separate projection for new state pension payable to individuals residing overseas. This separate projection is then added to the new state pension projection for those resident in Great Britain described above.

E.67 New state pensions already in payment to those residing overseas are captured in the QSE data set and are projected using the same run off approach and same assumptions as used to project overseas basic state pensions already in payment (see paragraphs E.42 to E.45 above) but with no inheritance.

E.68 New awards of new state pension arising from those reaching SPa in the future while resident overseas are then included in each starting and future projection year by multiplying together:

- the total projected number of new overseas pensioner awards each year
- an assumed average proportion of the standard rate of new state pension put into payment
- the standard benefit rate allowing for up-rating in non-frozen countries

E.69 These projections of new awards of new state pension overseas are carried out separately for men and women and whether up-rating in the overseas country of residence is frozen or not.

E.70 The total number of new overseas pensioners reaching SPa in each projection year is projected by assuming that the rate of new awards to overseas pensioners between 2016 and 2019 (compared to the numbers of recent new awards in GB) continues at the same rate beyond 2019.

E.71 The assumed average proportion of the standard rate is derived from QSE data across all benefit types and are:

- 59% for males with frozen benefits
- 42% for males with non-frozen benefits
- 57% for females with frozen benefits
- 47% for females with non-frozen benefits

E.72 As there are high deferral rates for overseas new awards the approach described above is adjusted to allow for deferrals assuming that 40% of those reaching SPa each year defer payment by up to five years. An allowance is also added for the increments such deferrers would receive.

Protected payments

E.73 Those reaching SPa from 6 April 2016 onwards may be entitled to protected payments in addition to new state pension. A person's protected payment is their entitlement at the introduction of the new state pension based on the pre-Pensions Act 2014 system less the full rate of new state pension. If this calculation is less than zero a person has no protected payment.

E.74 We identify around half a million individuals from the L2 dataset who would be affected by the new state pension transitional arrangements and calculate protected payment amounts for all in this group.

E.75 We then project these protected payments by running off these amounts using the same mortality rates used to project additional pensions and graduated retirement benefit (see paragraph E.51). These projections allow for CPI up-rating and mortality before and after coming into payment. Allowance is made for inheritance of protected payments using ONS's 2008-based marital status projections for England and Wales and assuming a 50% inheritance rate.

E.76 As the L2 data set includes contribution records for those who have paid NICs and then emigrated overseas this projection approach automatically captures protected payments to overseas pensioners.

Working age benefits and other payments modelling

E.77 The estimates of benefits for widows, bereavement, incapacity, employment and support, jobseekers, maternity, and Christmas bonus are based on information provided by the DWP.

E.78 Estimates for Guardian's Allowance are derived from recent data, adjusted in line with the projected number of children in the population.

E.79 The administration costs are based on those incurred in 2017-2018 as recorded in the Fund accounts, with future costs estimated as the 2017-2018 costs increased in line with earnings growth.

E.80 Redundancy payments estimates (net of redundancy receipts) are provided by the Insolvency Service.

E.81 Transfers from the Great Britain National Insurance Fund to the Northern Ireland National Insurance Fund are made in order to keep the balance in the Northern Ireland National Insurance Fund at 2.87% of the combined balance in the 2 funds. Estimates of transfers to or from Northern Ireland are made on this basis. This proportion is based on analysis of the working populations in Great Britain and Northern Ireland as provided in the 2011 census. These projections allow for estimated transfers to the Northern Ireland National Insurance Fund estimated to be required in order to keep the balance in the Northern Ireland National Insurance Fund at 2.87% of the combined balance in the 2 Funds.

Appendix F: NICs split by NIF and NHS

Great Britain, £ million		2019-2020		2020-2021	
National Insurance Fund					
Class 1[1]	Primary	44,701		45,084	
	Secondary	64,101		67,277	
	Total		108,802		112,361
Classes 1A and 1B			1,410		1,484
Class 2			365		375
Class 3			67		67
Class 4			2,271		2,436
Total National Insurance Fund contributions[2,3]			**112,914**		**116,724**
National Health Service					
Class 1	Primary	10,383		10,534	
	Secondary	14,963		15,558	
	Total		25,346		26,092
Classes 1A and 1B			225		237
Class 2			67		69
Class 3			12		12
Class 4			877		932
Total National Health Service contributions[3]			**26,527**		**27,342**
All contributions					
Class 1[1]	Primary	55,084		55,618	
	Secondary	79,064		82,836	
	Total		134,148		138,453
Classes 1A and 1B			1,635		1,721
Class 2			432		444
Class 3			79		79
Class 4			3,147		3,368
Total contributions[3]			**139,441**		**144,066**

1 All figures are gross of recoveries by employers of Statutory Maternity Pay, Statutory Paternity Pay Statutory Adoption Pay, Statutory Shared Parental Pay and Statutory Parental Bereavement Pay.
2 These figures appear in Table 2.1 in the main report.
3 Figures may not sum to totals shown due to rounding.

Appendix G: Variant projections of the Fund to 2024-2025

G.1 This section provides details of the projected cash flow and balance of the Fund over the period to 2024-2025 under the variant assumptions. Actual receipts and payments in 2018-2019 from the Fund accounts are included.

Table G.1 - Variant fund projections to 2024-2025 - 1% higher earnings

Great Britain, £ million	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025
Total receipts	108,917	114,061	119,787	125,568	131,747	138,201	145,111
Total payments	103,232	106,149	108,863	113,888	119,931	126,830	133,823
Excess of receipts over payments	5,685	7,912	10,924	11,680	11,816	11,371	11,288
Balance in fund at end of year	29,935	37,847	48,771	60,451	72,267	83,638	94,926
Balance at end of year as a percentage of benefit payments	29.5%	36.2%	45.5%	53.9%	61.2%	67.0%	72.1%

Table G.2 - Variant fund projections to 2024-2025 - 1% lower earnings

Great Britain, £ million	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025
Total receipts	108,917	111,657	114,382	116,994	119,798	122,668	125,672
Total payments	103,232	106,130	108,805	112,755	117,373	122,644	127,707
Excess of receipts over payments	5,685	5,528	5,577	4,240	2,425	24	(2,035)
Balance in fund at end of year	29,935	35,462	41,039	45,279	47,705	47,729	45,694
Balance at end of year as a percentage of benefit payments	29.5%	33.9%	38.3%	40.8%	41.3%	39.5%	36.4%

Table G.3 - Variant fund projections to 2024-2025 - low earnings, high CPI

Great Britain, £ million	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025
Total receipts	108,917	111,657	114,382	116,821	119,420	122,125	124,953
Total payments	103,232	106,130	108,806	112,881	117,736	123,242	128,673
Excess of receipts over payments	5,685	5,527	5,576	3,940	1,684	(1,117)	(3,720)
Balance in fund at end of year	29,935	35,462	41,038	44,978	46,663	45,546	41,826
Balance at end of year as a percentage of benefit payments	29.5%	33.9%	38.3%	40.5%	40.3%	37.5%	33.0%

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