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Annex A: Context and background information

National Statistics

This is a National Statistics publication by HM Revenue and Customs (HMRC). For more information about National Statistics, please see the United Kingdom Statistics Authority (UKSA) website:

<http://www.statisticsauthority.gov.uk/>

UKSA has confirmed that the Income Tax Liabilities Statistics (ITLS) and projections are designated as National Statistics, following HMRC implementing the enhancements listed in Assessment Report 157 Statistics on Income Tax and Assessment and Report 241 Income Tax Projections, available at:

<https://www.statisticsauthority.gov.uk/publications-list/?keyword=&type=assessment-report&theme=&producer=hm-revenue-customs&date=>

New in this release

ITLS was last published in June 2019. This publication (June 2020) includes the finalised figures for the 2017-18 Survey of Personal Incomes (SPI).

This release provides revised projections for tax years 2018-19 to 2019-20 as well as the first estimates for the 2020-21 tax year, all based on the new 2017-18 SPI data. The data is projected using economic assumptions consistent with the Office for Budget Responsibility's (OBR) March 2020 Economic and Fiscal Outlook:

<https://obr.uk/efo/economic-and-fiscal-outlook-march-2020/>

The Income Tax Liabilities Statistics for 2020-21 do not account for the impact of COVID-19 on the economy, and in particular on earnings. As per normal for these statistics, they are based on economic assumptions consistent with the OBR's most recent Economic and Fiscal Outlook (in this case from March 2020).

This OBR forecast does not reflect the estimated impacts of COVID-19 on the UK economy, individuals' incomes, Income Tax, nor does it take into account government support schemes subsequently announced. At the time of writing a new full set of economic assumptions are not available to enable the remodelling of 2020-21. Details of this forecast and its early limitations as of its publication on the 11th March are set out in 'Box 2.3' (page 34) of the OBR's March 2020 Economic and Fiscal Outlook.

This (June 2020) release reflects all Income Tax policy changes up to and including the 2020-21 tax year. This includes changes made by both the UK and Scottish Governments following the devolution of Income Tax rates and bands (except the Personal Allowance (PA), which remains reserved) that apply to Scottish taxpayers' non-savings, non-dividend (NSND) income.

This is the first edition using a new format splitting the supporting document from the main bulletin, with a set of combined tables published separately.

Publication, revision strategy and next release

These statistics are published annually, usually in May/June and the next scheduled release will be in May/June 2021, containing 2018-19 SPI outturn data with revised projections for 2019-20 and 2020-21 as well as the first estimates for 2021-22. This will follow the OBR's Spring 2021 economic forecast.

The exact date of publication will be announced no less than four weeks before publication on both the HMRC Gov.uk statistics page and Office for National Statistics (ONS) publication hub, where any changes to the publication date will be announced ([Schedule of updates for HMRC's statistics](#)).

User engagement

The last user engagement exercise ran from November 2017 to July 2018, and as part of this the frequency of the publication was permanently changed to once a year. Only a very limited number of responses were received without any objection to the change in frequency (more details were set out in the June 2019 edition of this publication).

User comments are reviewed regularly, and results of most surveys and consultations are published. Information on the previous survey of users of HMRC Income Tax statistics is available here:

http://webarchive.nationalarchives.gov.uk/*/http://www.hmrc.gov.uk/statistics/income/user-survey-results.pdf

We are committed to providing impartial quality statistics that meet our users' needs. We encourage our users to engage with us so we can improve our Official Statistics and identify gaps in the statistics that we produce.

While HMRC has regular contact with some key users of the ITLS bulletin within Government, we would like to improve our knowledge of the use made of the ITLS bulletin, particularly by private sector organisations and individuals. We encourage users to provide feedback on their use of the statistics including any decisions they may inform, together with their requirements and any improvements they would like to see.

Comments or queries on these statistics can be sent to the statistical contacts named below, or through the feedback form link below. We will review user comments and use this information to influence the development of our Official Statistics.

<https://www.gov.uk/government/organisations/hm-revenue-customs/about/statistics#contact-us>

Statistical contacts

Enquiries about these statistics should be directed to the statisticians who are responsible for this publication:

Matthew Brunning: 03000 589 306

Penny Nixon: 03000 577 166

Adam Gibbs: 03000 590 524

Robin Delaine-Smith: 03000 588 679

Any media enquiries should be directed to the HMRC Press Office contacts below:

HMRC Press Office (Individuals): 03000 585 024

Out-of-hours: 07860 359 544

What does this publication tell me?

The tables in this publication provide detailed breakdowns of individuals liable to UK Income Tax (taxpayers) and their incomes using sample-based estimates. The tables in this release exclude individuals who are not taxpayers. This can occur for several reasons, for example if they have no Income Tax liability due to their deductions, reliefs and PAs exceeding their total income, or if their income is below the PA.

Tables 2.1-2.6 provide detailed statistics on outturn and projections, using the SPI, of individual Income Tax payer numbers, Income Tax liabilities and average rates of tax. These are broken down by taxpayer characteristics such as age and gender, income levels and groupings (e.g. the top 1%), and by marginal rate of tax (e.g. basic rate taxpayers). Table 2.6 also shows tax liabilities arising on different forms of income subject to Income Tax and in each tax band.

As a complement to the survey-based statistics, Table 2.7 sets out trends in Income Tax burdens over time for a selection of illustrative family types and earnings levels.

The SPI is based on information held by HMRC on individuals who could be liable to UK Income Tax. It is carried out annually by HMRC and covers income assessable to tax for each tax year. The tables are based on a sample of administrative data for the relevant tax year. Income Tax liabilities are modelled using the HMRC Personal Tax Model.

Use of Income Tax Liabilities Statistics

The statistics in this publication are used by a variety of organisations mainly concerned with Government decision making about tax policy, both in a policy making and policy monitoring context¹.

¹ UKSA Monitoring Brief 6/2010 *The Use Made of Official Statistics* provides a generic framework for classes of use of Official Statistics:
<http://www.statisticsauthority.gov.uk/assessment/monitoring/monitoring-reviews/monitoring-brief-6-2010---the-use-made-of-official-statistics.pdf>

The projections form the basis for HMRC's detailed assessments of the Exchequer costs and impacts on individuals of potential changes to the Income Tax system. This informs the Government's tax policy decisions, and they are used by other Government departments for similar purposes.

They are also used by Parliament, Government departments such as HM Treasury, some private organisations including policy 'think tanks', as well as the media and other commentators to monitor Income Tax trends and distributions. They inform, for example, users' assessments of the impacts of past tax policy changes or the sustainability of the UK public finances. For some users, such as the OBR, the statistics are used explicitly for economic and tax forecasting, informing assessments of recent trends or used as specific inputs to the forecasting process.

The statistics are also used by HMRC and other organisations including the Office for Tax Simplification in assessments of the operation of the UK Income Tax system and its impact on individuals.

Liabilities versus receipts

Income Tax liabilities are amounts of Income Tax due on incomes arising in a given tax year whereas receipts are amounts of Income Tax paid and collected in a given year. Statistics on Income Tax liabilities and receipts in any year can differ appreciably, due to lags in the payment and collection of tax particularly under Self Assessment (SA) returns, or when over or underpayments occur which are repaid or recovered in a later year.

Data sources and methods underpinning the statistics also differ. Receipts statistics are based on aggregate administrative data sources whereas liabilities statistics are compiled using a sample of individuals' tax records (the SPI).

The detailed breakdowns of Income Tax liabilities provided in this publication, e.g. by taxpayer income or marginal rate, are not available on a receipts basis, and are not generally available in other statistical publications. Liabilities statistics also reflect more closely and immediately the impact of changes in the Income Tax policy regime and developments in the wider economy than tax receipts.

Income Tax summary

This sub section provides an introduction to the UK Income Tax system and a summary of recent Income Tax policy changes which impact on the statistics in this publication.

Income Tax system

An overview of Income Tax is available on the gov.uk website:

<https://www.gov.uk/income-tax>
<https://www.gov.uk/scottish-rate-income-tax>

Income Tax is an annual tax on individuals' income arising in a given tax year (6th April to the 5th April the following year). It is the UK Government's largest single source of tax revenue,

with Income Tax receipts gross of tax credits contributing £192.6 billion to total current receipts of £812.9 billion in 2018-19².

Since April 1990, the UK has had a system of independent taxation. This means that the Income Tax liability for each taxpayer is based solely on their own income and circumstances, and the income of spouses or partners or other family members in general has no effect on the total tax accrued. The exception to this is for married couples or civil partnerships that are living together where at least one spouse or partner was born before 6th April 1935, who can still claim Married Couples Allowance (MCA).

A separate Marriage Allowance became available from 2015-16. This allows the transfer of 10% (£1,250 in 2020-21) of the tax free PA between couples who are married or in civil partnerships, were both born after 6th April 1935 and where one partner has an annual income of £12,500 or less, plus up to £5,000 of tax-free savings interest and the other partner's annual income is between £12,501 and £50,000 (or £43,430 if they are a Scottish taxpayer).

<https://www.gov.uk/marriage-allowance>

Most sources of income are liable for Income Tax including pay from employment, profits from self-employment, private and occupational pensions, retirement annuities, state retirement pensions, foreign income, income from property, taxable social security income, savings income, income from shares (dividends) and income from trusts. Employees who receive non-cash benefits from their employers such as company cars, fuel, medical insurance, living accommodation or loans also pay tax on these benefits. Adding all these sources together will give an individual's total income assessable for tax, an aggregate that appears in several tables in this publication.

Some sources of income are not liable for tax including certain social security benefits, Child and Working Tax Credits, and income from tax exempt savings accounts (e.g. Individual Savings Accounts and some National Savings & Investment products):

<https://www.gov.uk/income-tax>

Most individual residents in the UK for tax purposes receive a tax-free Personal Allowance (PA), which is an amount of income they can receive each year tax-free. In 2020-21, the basic PA is £12,500. All individuals with an income above £100,000 have their allowance reduced by £1 for every £2 of the excess until it is withdrawn completely. People who are registered as blind in England and Wales, or who in Scotland and Northern Ireland cannot do any work for which eyesight is essential, can claim Blind Person's Allowance.

Income Tax is due only on taxable income above an individual's PA. Even then, there are other reliefs and allowances that can reduce an individual's tax bill. Tax reliefs are available on contributions to pension schemes and donations to charities. Employees and directors may also receive tax relief on business expenses they have paid for. There are other allowances and reliefs that can reduce tax bills such as MCA described above. Unlike PAs, these are not sums of income that can be received tax-free; rather they are amounts that may be deducted from any tax bill due.

From 2016-17 the Dividend Allowance was introduced which meant that the first £5,000 of an individual's taxable dividend income is tax free (after any set against the PA). This is irrespective of their total dividend and non-dividend income. In 2018-19 the Dividend Allowance was reduced to £2,000.

² OBR Economic and Fiscal Outlook, Table 3.3: Current receipts, March 2020.

From 2016-17 the Personal Savings Allowance was introduced. As a result, a basic rate taxpayer can receive up to £1,000 in savings Income Tax free. The corresponding allowance is £500 for higher rate and £0 for additional rate taxpayers.

Once tax-free allowances have been taken into account, Income Tax due is calculated using different tax rates for specific types of income across a series of tax bands. There are three different sources of income for tax purposes:

- income other than savings and dividends (also called NSND income), often referred to informally as “earnings” (see definition in Annex D)
- savings income (e.g. bank and building society interest)
- dividends (e.g. income from shares in UK companies)

These sources are taxed at one of the main rates of Income Tax shown in the table below (the basic rate, the higher rate and, from 2010-11, the additional rate). Income Tax typically works on a ‘stack’ basis. This means that earnings are generally taxed first, then savings and finally dividend income. This means, for example, that if an individual has earnings after allowances sufficient to completely fill the basic rate tax band, all savings or dividend income would be charged at the higher (or additional) rates of tax.

Table 1: Income Tax rates 2020-21 by type of income and tax band

Source	Starting rate for savings ¹	Basic rate	Higher rate	Additional rate
Taxable income after allowances	£0 - £5,000	£0 - £37,500	£37,500 - £150,000	More than £150,000
Earnings ²	-	20%	40%	45%
Savings	0%	20%	40%	45%
Dividends	-	7.5%	32.5%	38.1%

¹ The starting rate for savings is a special rate of tax for savings income only. It is only available to the extent that the individual’s taxable income from earnings does not exceed the starting rate limit.

² Includes all taxable income not defined as savings or dividend income.

Table 1a: Income Tax rates 2020-21 for Scottish NSND by tax band

Source	Starter rate	Basic rate	Intermediate rate	Higher rate	Additional rate
Taxable income after allowances	£0 - £2,085	£2,085- £12,658	£12,658- £30,930	£30,930 - £150,000	More than £150,000
Earnings ¹	19%	20%	21%	41%	46%

¹ Includes all taxable income not defined as savings or dividend income of Scottish taxpayers.

A series of example tax calculations using 2020-21 rates and allowances are provided in Table 2 below:

Table 2: Examples of Income Tax liability calculations for 2020-21¹

Liabilities rounded to nearest whole £

Example 1a: Individual with earnings of £60,000 and no savings or dividend income

Personal Allowance

12,500

	income:		income after Personal Allowance at:			income after Savings & Dividend Allowance at:			Income Tax liabilities at:			Total liabilities
	before allowance	after allowance	starting rate	basic rate	higher rate	starting rate	basic rate	higher rate	starting rate	basic rate	higher rate	
Earnings	60,000	47,500	0	37,500	10,000	0	37,500	10,000	0	@20% = 7500	@40% = 4000	11,500
Savings	0	0	0	0	0	0	0	0	0	0	0	0
Dividends	0	0	0	0	0	0	0	0	0	0	0	0
Total	60,000	47,500	0	37,500	10,000	0	37,500	10,000	0	7,500	4,000	11,500

Example 1b: Individual in Scotland with earnings of £60,000 and no savings or dividend income

Personal Allowance

12,500

	income:		income after Personal Allowance at:				income after Savings & Dividend Allowance at:			
	before allowance	after allowance	starting rate	basic rate	intermediate rate	higher rate	starting rate	basic rate	intermediate rate	higher rate
Earnings	60,000	47,500	2,085	10,573	18,272	16,570	2,085	10,573	18,272	16,570
Savings	0	0	0	0	-	0	0	0	-	0
Dividends	0	0	-	0	-	0	-	0	-	0
Total	60,000	47,500	2,085	10,573	18,272	16,570	2,085	10,573	18,272	16,570

Example 1b continued:

	Income Tax liabilities at:				Total liabilities
	starting rate	basic rate	intermediate rate	higher rate	
Earnings	@19% = 396	@20% = 2,115	@21% = 3,837	@41% = 6,794	13,142
Savings	0	0	-	0	0
Dividends	-	0	-	0	0
Total	396	2,115	3,837	6,794	13,142

Example 2: Individual with £52,000 of earnings, £3,000 of savings and £5,000 of dividends

Personal Allowance

12,500

	income:		income after Personal Allowance at:			income after Savings & Dividend Allowance at:			Income Tax liabilities at:			Total liabilities	
	before allowance	after allowance	starting rate	basic rate	higher rate	starting rate	Basic Rate	higher rate	starting rate	basic rate	higher rate		
Earnings	52,000	39,500	0	0	37,500	2,000	0	37,500	2,000	0	@20% = 7500	@40% = 800	8,300
Savings	3,000	3,000	0	0	0	3,000	0	0	2,500	0	0	@40% = 1000	1,000
Dividends	5,000	5,000	0	0	0	5,000	0	0	3,000	0	0	@32.5% = 975	975
Total	60,000	47,500	0	0	37,500	10,000	0	37,500	7,500	0	7,500	2,775	10,275

Example 3: Individual with £10,000 of earnings income and £10,000 of savings income

Personal Allowance 12,500

	income:		income after Personal Allowance at:			income after Savings & Dividend Allowance at:			Income Tax liabilities at:			Total liabilities	
	before allowance	after allowance	starting rate	basic rate	higher rate	starting rate	basic rate	higher rate	starting rate	basic rate	higher rate		
Earnings	10,000	0	0	0	0	0	0	0	0	0	0	0	
Savings	10,000	7,500	0	5,000	2,500	0	5,000	1,500	0	@0% = 0	@20% = 300	0	300
Dividends	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	20,000	7,500	0	5,000	2,500	0	5,000	1,500	0	0	300	0	300

Example 4: Individual with £16,500 of pensions income and £3,000 of savings income

Personal Allowance 12,500

	income:		income after Personal Allowance at:			income after Savings & Dividend Allowance at:			Income Tax liabilities at:			Total liabilities	
	before allowance	after allowance	starting rate	basic rate	higher rate	starting rate	basic rate	higher rate	starting rate	basic rate	higher rate		
Earnings	16,500	4,000	0	0	4,000	0	4,000	0	0	@20% = 800	0	0	800
Savings	3,000	3,000	0	1,000	2,000	0	1,000	1,000	0	@0% = 0	@20% = 200	0	200
Dividends	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	19,500	7,000	0	1,000	6,000	0	1,000	5,000	0	0	1,000	0	1,000

The way Income Tax is collected depends both on the type of the income and circumstances of the taxpayer. For most taxpayers, Income Tax on employment income or occupational pensions is collected through PAYE where Income Tax is calculated and deducted from the taxpayer's pay or pension before being paid over directly to HMRC by the employer or pension provider. Before 2016-17, tax on savings income was deducted at source by banks or building societies at the basic rate, with additional Income Tax due for higher and additional rate taxpayers being collected either through PAYE via a change in their tax code or through SA. Since 2016-17, tax on savings income is no longer deducted at source by banks or building societies, and therefore any tax on savings income above the Personal Savings Allowance is collected either through PAYE via a change in their tax code or through SA.

Various categories of taxpayers including those with total income above £100,000, or income from savings, investments and property above a certain level, the self-employed, company directors and others with more complex tax affairs pay Income Tax due through SA:

<https://www.gov.uk/self-assessment-tax-returns/who-must-send-a-tax-return>

There are lags between when Income Tax liabilities arise and when the corresponding taxes collected through SA are received. This is because the majority of tax collected through SA is not usually paid until the year after the liability arises.

Recent changes to Income Tax

The PA and most Income Tax limits are statutorily increased each tax year with the annual increase in the Consumer Price Index (CPI) for September in the previous year ('indexation'). This has changed from using the Retail Price Index (RPI) for most thresholds since 2015-16. The Government may also legislate to introduce other changes to allowances and limits to over-ride indexation, or to introduce changes to Income Tax rates and structures.

Details of current and historic Income Tax allowances and rates are published on the HMRC website:

<https://www.gov.uk/government/collections/tax-structure-and-parameters-statistics>

The main Income Tax changes over recent years can be summarised as follows.

2008-09

- The basic rate of Income Tax was reduced from 22% to 20% and the 20% savings rate was abolished. The 10% starting rate was removed except for savings income.
- The PA was increased by £600 above indexation, and the PA for those aged 65-74 and 75 and over were increased by £1,180 above indexation. The basic rate limit was reduced by £1,200 after indexation.

2009-10

- The PA was increased by £130 above indexation and the basic rate limit was increased by £800 above indexation.

2010-11

- All existing allowances and limits remained at their 2009-10 levels, reflecting the annual change in the RPI being negative in the previous September.
- Additionally, two changes to the structure of Income Tax came into effect: the first was the introduction of a new tax rate, the additional rate, set at 50% for taxable income over £150,000 (42.5% for dividends); the second reduced the PA by £1 for every £2 of taxable income above £100,000 until fully withdrawn, regardless of the individual's age. This created a notional marginal tax rate of 60% as every extra £2 earned within this band could be taxed at 40% as well as the 20% impact of having £1 of the PA removed.

2011-12

- The PA for those aged under 65 was increased by £1,000 in cash terms (£690 above indexation) and the basic rate limit was reduced by £2,400 in cash terms, leading to a £1,400 decrease in the higher rate threshold.
- The pension tax relief annual allowance was reduced from £255,000 to £50,000 in April 2011 (and the lifetime allowance falls from £1.8m to £1.5m from April 2012). These measures replaced a previously announced policy of restricting pension relief for those with incomes of £150,000 and over.

2012-13

- The PA for those aged under 65 was increased by £630 in cash terms (£210 above indexation) and the basic rate limit was reduced by the same amount, implying no change in the higher rate threshold.

2013-14

- The PA for those born after 6 April 1948 (previously those aged under 65) was increased by £1,335 in cash terms (£1,115 above indexation). The basic rate limit was reduced by £2,360 to £32,010.
- The age-related PAs were frozen at 2012-13 levels so that the aged PA for those born between 6 April 1948 and 5 April 1938 (previously those aged 65-74) remained at £10,500 while the aged PA for those born before 6 April 1938 (previously those aged 75 and over) remained at £10,660.
- The additional rate of Income Tax for earnings and savings was reduced from 50% to 45% while the additional rate for dividend income was reduced from 42.5% to 37.5%.

2014-15

- The PA for those born after 6 April 1948 (previously those aged under 65) was increased by £560 in cash terms (£260 above indexation). The basic rate limit was reduced by £145 to £31,865 since the higher rate threshold is subject to a 1% growth cap in 2014-15.
- The age-related PAs were frozen at 2013-14 levels so that the aged PA for those born between 6 April 1948 and 5 April 1938 (previously those aged 65-74) remained

at £10,500 while the aged PA for those born before 6 April 1938 (previously those aged 75 and over) remained at £10,660.

2015-16

- The PA for those born after 6 April 1948 (previously those aged under 65) was increased by £500 in cash terms (£370 above indexation), and then by a further £100 in cash terms. The basic rate limit was reduced by £80 to £31,785 since the higher rate threshold is subject to a 1% growth cap in 2015-16 plus a £100 increase in line with the further £100 PA increase passing full gains to higher rate taxpayers.
- The age-related PAs were frozen at 2013-14 levels so that the aged PA for those born before 6 April 1938 (previously those aged 75 and over) remained at £10,660. The allowance for those born between 6 April 1948 and 5 April 1938 (previously those aged 65-74) remained at £10,500 until this year when the PA went beyond this amount to £10,600 and therefore this aged PA was surpassed.
- A new Marriage Allowance was introduced from 2015-16, allowing the transfer of £1,060 (10%) of the tax-free PA between couples who are married or in civil partnerships. Eligibility was for those born after 6th April 1935 where one partner had an annual income of £10,600 or less, plus up to £5,000 of tax-free savings interest and the other partner's annual income was between £10,601 and £42,385.
- The starting rate for savings was reduced to 0% from 10% and the threshold for which the rate applies above the PA for savings interest was increased from £2,880 to £5,000.
- Reductions to the basic rate limit had the effect of restricting the gains made by higher rate taxpayers from PA increases.

2016-17

- The PA for those born after 6 April 1938 (previously those aged under 65 and those aged 65-74) was increased by £400 in cash terms. Due to negative CPI in 2016-17, the effective indexation was zero. Therefore, the increase above indexation was also £400. The basic rate limit was increased by £215 to £32,000.
- The age-related PAs were frozen at 2013-14 levels so that the aged PA for those born before 6 April 1938 (previously those aged 75 and over) remained at £10,660 until this year when the PA went beyond this amount to £11,000 and therefore this aged PA was surpassed.
- The 10% dividend tax credit was abolished while the rates charged on dividend income were increased such that the basic rate is now 7.5%, the higher rate 32.5% and the additional rate 38.1%. The Dividend Allowance was introduced, which gives a tax-free allowance on total dividend income below £5,000.
- The Personal Savings allowance was introduced, giving a tax-free allowance on total savings income below the threshold of £1,000. The tax-free allowance is dependent on the top marginal tax rate on an individual's total income, with the threshold being halved for higher rate taxpayers and set to £0 for additional rate taxpayers.

- All savings and dividend income were now taken into account when calculating a taxpayer's marginal rate. No tax is liable on dividend or savings income within an individual's Dividend or Personal Savings allowances, as this is charged at a nil rate.
- The combined effects of the PA, starting rate and Personal Savings Allowance in 2016-17 means that an individual with total taxable income of £17,000 accrued no tax on their savings income.

2017-18

- The PA for all (following the abolishment of aged PAs) was increased by £500 in cash terms to £11,500. The effective indexation due to CPI was £110. Therefore, the increase above indexation was £390.
- The basic rate limit was increased by £1,500 to £33,500 for the income of individuals in all areas of the United Kingdom, apart from the NSND income of Scottish taxpayers. This combined with the PA increase set the higher rate threshold at £45,000, up £2000 on 2016-17.
- The Scottish Government set the higher rate threshold for non-savings non-dividend (NSND) income of Scottish taxpayers unchanged from 2016-17 in cash terms at £43,000 – below the level set by the UK Government of £45,000.
- The starting rate band for savings was frozen at the 2016-17 level of £5,000.

2018-19

- The PA was increased by £350 to £11,850 due to CPI indexation.
- The basic rate limit increased by £1,000 to £34,500, for the income of individuals in all areas of the United Kingdom, apart from the NSND income of Scottish taxpayers, also due to CPI indexation. This combined with the PA increase set the higher rate threshold at £46,350, up £1,350 on 2017-18.
- The Scottish Government introduced two new tax bands for earnings, the starter and intermediate limits. The starter rate band for NSND income of Scottish taxpayers was set at a rate of 19% with the starter rate limit set to £13,850. The basic rate remained for Scottish taxpayers, starting at the starter rate limit and set at 20% but the limit was reduced to £24,000. The new intermediate rate band (for NSND only) started at the new basic rate limit and was set at 21% with the intermediate rate limit set to £31,850.
- The Scottish Government capped growth in the higher rate threshold (for NSND only) to 1%, which was set it at £43,430 for Scottish taxpayers – below the level set by the UK Government of £46,350.
- The Scottish Government also increased the higher and additional rates of Income Tax on NSND income to 41% and 46% respectively for Scottish taxpayers.
- The Dividend Allowance was reduced by £3,000 and set at £2,000.
- The starting rate band for savings was frozen at the 2017-18 level of £5,000.

- Note that the High Income Child Benefit charge applicable from 7 January 2013 is not included in the ITLS projections.

2019-20

- The PA was increased by £650 in cash terms to £12,500. The effective indexation due to CPI was £290. Therefore, the increase above indexation was £360.
- The basic rate limit was increased by £3,000 to £37,500 for the income of individuals in all areas of the United Kingdom, apart from the NSND income of Scottish taxpayers. This combined with the PA increase set the higher rate threshold at £50,000, up £3,650 on 2018-19.
- The Scottish Government froze the higher rate threshold for NSND income of Scottish taxpayers unchanged from 2018-19 in cash terms at £43,430 – below the level set by the UK Government of £50,000.
- The starting rate band for savings was frozen at the 2018-19 level of £5,000.

2020-21

- The PA is frozen at £12,500. The effective indexation due to CPI would have been £210.
- The basic rate limit is frozen at £37,500 for the income of individuals in all areas of the United Kingdom, apart from the NSND income of Scottish taxpayers.
- The Scottish Government has frozen the higher rate threshold for NSND income of Scottish taxpayers unchanged from 2019-20 in cash terms at £43,430 – below the level set by the UK Government of £50,000.
- The starting rate band for savings is frozen at the 2019-20 level of £5,000.

Annex B: Data sources and methodology

The data sources and methods used to compile the statistics in this release are set out below:

Tables 2.1-2.6

Data sources and sampling

The published estimates of the number of persons subject to UK tax with positive Income Tax liabilities (“Income Tax payers”) and the magnitude of those liabilities are based on HMRC’s Survey of Personal Incomes (SPI). The SPI is based on information held by HMRC on persons who could be liable to UK Income Tax for the Income Tax year. It is carried out annually and covers the income assessable for tax in each tax year.

For each individual in the sample, the SPI includes information on incomes assessable to Income Tax together with some basic information on individual characteristics, for example age and gender. As described below, the survey data is used to estimate Income Tax liabilities arising on incomes in a given tax year for each individual in the SPI sample, these amounts are summarised in Tables 2.1-2.6. The tables in this publication are based on the surveys for 2017-18 and earlier, as well as projections of the 2017-18 SPI from 2018-19 to 2020-21.

The latest available SPI totalled around 733,000 individual records in 2017-18 representing an approximate 1.5% sample overall of individuals in contact with HMRC. It is made up of three separate samples drawn from the following HMRC administrative systems:

- The National Insurance and PAYE Service (NPS) system covers all employees and occupational pension recipients with a Pay As You Earn (PAYE) record.
- The Computerised Environment for Self Assessment (CESA) system covers people with self-employment, rental or untaxed investment income. It also covers directors, those subject to higher rate tax and other people with complex tax affairs. Where people have both NPS and CESA records, their CESA record is selected because it provides a more complete picture of their taxable income.
- The Claims system covers people without NPS or CESA records who have had too much tax deducted at source and claim a repayment.

Some individuals with a PAYE record are also in the SA system. These individuals are excluded from the PAYE population prior to sampling, as their SA record provides a more complete picture of their taxable income. Separate samples were drawn from each of these systems and different sampling strategies were used for each. The samples were structured as follows:

- The PAYE population from NPS was stratified by gender and by the sum of pay plus occupational pension income for the previous tax year. Where the previous year’s income was not available cases were stratified by gender and by whether they were a higher rate or additional rate taxpayer for the current tax year based on information available at the time the sample was drawn. The sampling fractions varied from 1 in 9 for individuals with high incomes and rare allowances to about 1 in 250 for people

with low combined pay and pensions. In all, about 393,000 individuals were selected from NPS for inclusion in the SPI for 2017-18.

- For the Self Assessment (SA) population from CESA, the main source of income (self-employment or employment/ occupational pension) and ranges of income and tax were used to stratify the sample, with the sampling fraction varying from 1 in 1 for cases with very high income or tax up to about 1 in 249 for employees and occupational pensioners with smaller income or tax for 2017-18. In all, about 336,000 individuals were selected from SA for inclusion in the SPI for 2017-18.
- For claims cases, there were around 3,500 cases from the Claims system selected for the survey.

Once data was collected for the three constituent parts of the sample, the data sets were joined together. After allowing for non-response and for records that failed data validation tests, there were about 733,000 valid cases in the final SPI file for 2017-18.

The stratified SPI sample design purposely yields very large sub-samples of SPI cases with very high incomes who account for a large proportion of total Income Tax liabilities, increasing the precision of estimates of liabilities and taxable incomes.

Coverage of the SPI and imputation of missing data items

Not all of the individuals in the SPI sample are taxpayers. About 25 per cent of sample cases (38 per cent grossed) have no Income Tax liability because deductions and reliefs and Personal Allowances (PA) exceed their total income assessable for tax. Where income exceeds the threshold for the operation of PAYE (£11,500 for 2017-18), the SPI provides the most comprehensive and accurate official source of data on personal incomes assessable for Income Tax.

However, as HMRC does not hold information for all people with personal incomes below the tax threshold, the SPI is not a representative data source for this part of the population and no attempt has been made to estimate the number of cases below the tax threshold or the amount of their incomes. Therefore, the National Statistics in this publication only cover individuals liable to UK Income Tax (taxpayers) and their incomes.

An individual with income below the PA can still be a taxpayer in some circumstances. This can arise where individuals who have income liable to UK tax do not qualify for a PA under the residence and/ or domicile rules. Some people who do qualify for the PA choose to give up their PA as part of the qualifying conditions for having their income taxed under the “remittance basis”. These taxpayers may only have a small amount of income liable to UK tax (i.e. below where the PA is set), but this income is still liable to tax and is charged at the basic rate. Most sources of income are liable for Income Tax and adding all these sources together will give an individual’s total income assessable for tax for the tax year.

There are some sources of income that are not liable for tax as they do not contribute towards an individual’s taxable income. These are excluded from the SPI; these sources include some social security benefits and income from some tax efficient savings vehicles (e.g. Individual Savings Accounts and some National Savings & Investment products). Capital Gains arising from the disposal of assets are subject to Capital Gains Tax (CGT) and are not treated as income for Income Tax purposes, so gains from the disposal of assets are not included in the SPI.

The coverage of investment income for the sample drawn from NPS is incomplete. This is because most taxpayers with savings income do not report this income to HMRC as it is covered by a combination of the Personal Savings Allowance, the PA, and the starting rate for savings. Those that do need to pay tax on their savings income do so by contacting HMRC to report their savings income, where this information has not already been provided through SA. HMRC also collects information on savings income directly from Banks and Building Societies. In order to create a full picture of total income for this survey, it is necessary to impute values of bank and building society interest and dividends to some sample cases. For interest and dividend imputation, the amount for each SPI case:

- is known for cases in SA from the amount declared on the SA Return
- can be inferred or estimated reasonably for NPS cases where there is an adjustment to the tax code for higher rate taxpayers
- is supplemented with information from interest paying institutions
- is unknown for NPS cases where there is no coding adjustment – typically those with no liabilities at the higher rate of tax

Where no information at case level is available from HMRC administrative systems, estimated values are imputed to cases so that the population as a whole has amounts consistent with evidence from other sources (for example, the propensity to hold interest bearing accounts as indicated by household surveys).

For interest income, starting from control totals at UK level, for the number of cases with interest and the total amount of that interest, the numbers of cases and amounts of interest in SA cases and those NPS cases with coding adjustments are deducted to leave targets for the remainder of the taxpayer population. These targets are at UK level – no attempt is made to control the targets to sub-UK geographical units. The cases to which amounts are attached by the imputation process and the amounts attached are determined by probabilistic methods with just the UK targets and distributions in mind.

For dividend income, the number of non-SA cases with dividend income and distribution of imputed amounts were inferred from Family Resources Survey (FRS) data for tax year ending 2018.

As with investment income, HMRC does not have complete information about superannuation or personal pension contributions. Pension contributions can be made under two types of arrangement:

- Net pay schemes
- Relief at source schemes

HMRC holds information on the value of employee pension contributions paid under “net pay arrangements” in Real Time Information (RTI) submissions by their employer. For 2017-18 SPI, this data has been used to match SPI cases to “net pay” pension contributions, replacing previous methodology that was based on imputing information using the Annual Survey of Hours and Earnings (ASHE) produced by the ONS.

Pension schemes operating a net pay scheme are occupational pension schemes. However, some employers operate group schemes (“master trusts”), and some of these are not net pay schemes and thus will not be included in the net pay group.

Relief at basic rate is given at source for individual (and/or employee) contributions to personal pensions, and to employees in group schemes (“master trusts”; when not operated on a net pay basis). These types of scheme are referred to as “relief at source” (RAS) schemes. Since the basic rate tax relief is given automatically, HMRC does not need to collect RAS pension schemes’ data for this group of taxpayers. To compile complete estimates for RAS pensions and total income for the SPI, a significant proportion of the amount of RAS pension contributions has been estimated using data from external data sources. The estimated value for this and for net pay contributions has been combined with other pension reliefs and included in these statistics.

For operational efficiencies R40 Claim forms have been migrated onto the NPS. However, the NPS data used for the survey only includes individuals with an employment active for at least 1 day in tax year 2017-18 and such Claims cases are now included in the NPS component of the survey. As a consequence of this, the NPS data available excludes Claims cases which have no employment in tax year 2017-18. As with the survey for 2016-17, it has been necessary to impute the Claims component for 2017-18. This was carried out by selecting the Claims cases that had no employments from the 2015-16 survey. The income for these cases was then projected using OBR determinants to estimate the level of income for 2017-18. The tax due on this income is then calculated in the same way as other survey cases, by performing a tax calculation. This will have a minimal impact on the estimates created from the 2017-18 survey since the majority of Claims cases (over 96% of the tax year ending 2016 Claims population) are non-taxpayers and therefore excluded from the statistical tables in this publication.

Methods for modelling Income Tax liabilities

Numbers of taxpayers, total Income Tax liabilities, and the distributions of Income Tax liabilities shown in Tables 2.1-2.6 are estimated using HMRC’s Personal Tax Model (PTM).

The PTM is a micro simulation model of the UK Income Tax system. ‘Micro simulation’ denotes modelling of tax with reference to individual case level data, in this context the large sample of individuals within the SPI. For each sample case, the PTM models Income Tax liabilities due in a given tax year based on the main features and parameters of the Income Tax system applying in that year, and incomes assessable for tax recorded in the SPI.

Annex A provides a brief summary of how Income Tax liabilities are calculated. An overview of the PTM modelling process applied to each SPI sample case is given below.

- Step 1: “Total income” is summed across the various components of income assessable for tax recorded or imputed in the SPI, with separate sub totals for earned income (see definition in Annex D), savings and dividends.
- Step 2: “Income after deductions” is calculated by the PTM as total income less contributions to occupational and private pensions and charities. This approach implies 100% tax relief on such contributions, consistent with the overall exchequer effects. The PTM deducts pension contributions and contributions to charities from earnings income first, then savings then dividend income.
- Step 3: The PTM calculates PAs, initially on the basis of an individual’s age, and with Blind Person’s Allowance allocated where applicable. The PTM’s final assessment of PAs takes account of the excess of income after deductions over the aged income limit for SPI cases aged 65 and over (replaced by those born before 6 April 1948

from 2013-14) and, from 2010-11, the excess of income after deductions over £100,000 for all SPI cases.

- Step 4: The resulting allowance is allocated (after deductions) first to earnings, then savings and then dividend incomes in order to derive sub totals for “taxable income”.
- Step 5: Taxable incomes are allocated to the starting, basic, higher, and, from 2010-11, additional rate tax bands beginning with taxable earnings (from 2018-19 the starter and intermediate rate tax bands for Scottish taxable earnings are also included), then savings, and then dividends, with corresponding gross Income Tax liabilities in each category found by applying the corresponding rate of Income Tax.
- Step 6: The resulting total for Income Tax liabilities is adjusted to take account of other allowances. These include the Personal Savings and Dividends Allowances, and also allowances given as Income Tax reductions (sometimes called “tax credits”). The PTM takes the following such allowances into account: Married Couples Allowance, Maintenance Payments Relief, Community Investment Tax relief, Venture Capital Trust Relief, Enterprise Investment Scheme Relief, Seed Enterprise Investment Scheme Relief, Social Investment relief, Foreign Tax Credit Relief on Income and Landlord Loan Interest Relief.

As with similar models of personal taxes and benefits, it is neither possible nor practical to incorporate all of the detailed features of the UK Income Tax system into the PTM modelling process. For example, the list of deductions and allowances built into the PTM modelling process at steps 2-6 is not exhaustive but does cover the most significant Income Tax reliefs by value.

The tax calculation process has been revised to better reflect the treatment of a small number of cases subject to the pension charge or who, under the residence and /or domicile rules, do not qualify for or choose to give up their PA.

A Pension Tax Charge occurs when a taxpayer makes contributions to their pension above the annual (or lifetime) threshold for tax relief. The charge is the equivalent of taxing these contributions at the taxpayers’ marginal tax rate. While this charge uses the Income Tax rates, and it is part of a taxpayer’s Income Tax liability, it is strictly the recovery of an excess of tax relief given. The methodology used in the PTM keeps this charge separate from a taxpayer’s Income Tax liability, which maintains the link between their taxable income and the Income Tax accrued.

Taxpayers and taxpayer marginal rates

SPI sample cases with positive PTM modelled Income Tax liabilities are classified as Income Tax payers, the PTM further classifies taxpayers by their highest marginal rate of tax, as seen in Tables 2.1, 2.2, 2.5 and 2.6.

In practice, the marginal rate of tax an individual will pay on an additional pound of income will depend on what type of income it is, as well as the total and composition of their other taxable incomes. For example, an individual with earnings only within the basic rate tax band would face a marginal rate of 20% on an additional pound of earnings, the same rate would apply to an extra pound of savings (if it was outside the starting rate for savings which has a 0% rate), whereas a 7.5% rate would apply for dividends.

The PTM adopts a simplified and strictly ordered method in allocating marginal rates to SPI sample cases:

- From 2010-11, cases with total taxable income above the additional rate threshold (£150,000) are typically classified as additional rate taxpayers.
- Cases with total taxable income above the basic rate limit (BRL) but below the additional rate threshold are typically classified as higher rate taxpayers.
- From 2017-18, individuals who are classified as Scottish taxpayers and have total taxable income above the Scottish BRL but below the UK government's BRL have their marginal rate classification based on their income within this notional band. For these taxpayers, non-savings non-dividend (NSND) income within this band is taxed at the higher rate, whereas savings and dividend income is taxed at the basic rate. A Scottish taxpayer with any taxable NSND income within this band (but no total taxable income above the UK BRL) is classified as a higher rate taxpayer, as this is the top rate they are paying. A Scottish taxpayer with only savings and/or dividend income within this band (and no total taxable income above the UK BRL) is classified as a basic rate taxpayer.
- From 2018-19, individuals who are classified as Scottish taxpayers and have total taxable NSND income in the new starter or intermediate rates for Scottish taxpayers (or the basic rate band between them) are classified as a basic rate taxpayer within this publication (or taxpayers below the higher rate). Individuals who are classified as Scottish taxpayers and have total taxable NSND income in the higher or additional rates (which have different rates to the rest of the UK) are grouped with the equivalent higher and additional rate taxpayers in all other regions.
- Remaining cases with non-zero total taxable income lying at or below the UK government's BRL (or Scottish BRL for individual classified as Scottish taxpayers) are classified as either lower/starting rate (before 2015-16), savers rate or basic rate taxpayers according to the make-up of their total taxable income:
 - Those with any taxable earnings (NSND income) are classified as basic rate taxpayers.
 - Those without taxable earnings (NSND income), and with taxable savings only below the starting rate limit for savings income are classified as starting rate taxpayers. From 2015-16 the savings rate below the starting rate limit for savings income was changed to zero and therefore individuals in this group are no longer taxpayers. Those without taxable earnings (NSND income), and with taxable savings exceeding the starting rate limit or taxable dividends, are classified as "savers" rate taxpayers.

These classifications have changed over time reflecting the changing structure of the Income Tax system. The allocation described above applies from 2008-09, when the starting rate of tax was removed for earnings income.

For 2007-08 and earlier, all SPI cases with taxable earnings/savings income below the starting rate limit were classified as starting rate taxpayers. Those with taxable earnings/savings between the starting and basic rate limits were classified either at savers rate (i.e. those without earnings charged at the then basic rate of 22%) or basic rate otherwise. Individuals with taxable dividends only below the basic rate limit were classified at savers rate.

Tables 2.1, 2.2, 2.5 and 2.6 are presented in their current format to provide additional information showing different types of taxpayer below the higher rate, but some users may prefer to group together these categories depending on context and purpose; in a time-series context for example, this grouping is helpful in abstracting from those step changes in numbers assigned to each sub category that have arisen directly as a result of changes to the structure of the Income Tax system.

Projections

The SPI is usually available around 21 months after the end of the tax year. The information is drawn from the transactional systems approximately a year after the reference period and it takes about 8-9 months to turn the raw dataset into information and commentary ready for publication. The latest available SPI data is for 2017-18 and was first published in March 2020³. The release was updated and re-published in June 2020 (alongside this publication). For more information please see the Personal Incomes Statistics [supporting documentation](#).

Projections up to the current tax year of 2020-21, therefore, are also given in Tables 2.1-2.6 in order to provide a more up-to-date assessment of the distributions for Income Tax payers and Income Tax liabilities. While the projections methods aim to capture where possible the most important likely influences on Income Tax payer numbers and Income Tax liabilities, projection of the base SPI data to later years inevitably means that these projections are subject to greater uncertainties and potential error margins than outturns for 2017-18 and earlier years (see Annex C).

Projections beyond the current tax year are not provided because tax rates, allowances and thresholds impacting on the statistics are not known until announced by the Government. Any projections beyond 2020-21 would also be subject to the likelihood of larger projection errors.

The projection methods described below have been chosen to suit the ITLS key purpose of providing informative breakdowns of Income Tax payers and Income Tax liabilities. Provision of projections of total tax is not a key purpose of the statistics in this publication and use of other data sources and alternative projection methods would be required to make them suitable for that particular purpose. They should not be seen or used as alternative or competitor forecasts of Income Tax produced by other organisations.

Potential taxpayer numbers in the projection years are projected via a re-scaling of the SPI base year grossing factors for individual SPI sample cases, according to a high-level partition of the SPI sample by each case's main income source:

- main source employment and self-employment income cases are first projected/re-scaled according to published ONS population projections by single year of age (implying initially constant employment and self-employment rates by age band). Grossing factors are then further re-scaled uniformly across all age bands so that grossed SPI main source employment and self-employment case totals change in percentage terms from 2017-18 in line with the OBR's most recently published forecast for total employment and self-employment (Labour Force Survey definitions).
- remaining SPI cases are projected/re-scaled uniformly according to the implied percentage change in the residual main source "other" category, calculated as difference between the published ONS population total and projected SPI main source employed and self-employed totals derived as described immediately above.
- this process is applied separately for males and females.

Nominal income amounts recorded in the base SPI data for each case are projected at the UK level using OBR's most recently published forecasts for a range of macroeconomic

³ <https://www.gov.uk/government/statistics/personal-incomes-tables-31-to-311-316-and-317-for-the-tax-year-2017-to-2018>

series relevant to the specific income sources recorded in the SPI. For each income source, this uprating is generally uniform across all sample cases. However, in the case of pay/earnings, the projection factors vary across the pay distribution according to the recent trends revealed in HMRC Real-Time Information (RTI) data:

- SPI cases are assigned to one of seven quantile groups, partitioned according to percentiles P10, P25, P75, P90, P95 and P99 of the RTI pay distribution.
- For each quantile group, earnings growth is adjusted according to the percentage point difference between historic earnings growth for the corresponding percentile point in the RTI data and the growth in the mean. For example, earnings growth for those in the bottom group (below P10) is adjusted according to average growth at RTI P10 relative to the RTI mean.
- For projecting to 2018-19, the percentage point differences referred to above are based on 2018-19 RTI data already available.
- For projecting to 2019-20 and 2020-21, the percentage point differences are based on a backdated average of RTI.

No distinction is made for gender or any characteristic other than income. Since these RTI and SPI samples are different, it should be clear that resulting mean earnings growth across all SPI cases would differ from the OBR forecast; a further re-scaling is applied to all cases to ensure that mean earnings growth does align with the OBR forecast.

Tables published in previous releases used ONS ASHE data to vary pay projections factors across the pay distribution, for more details on how ASHE data was used see Annex B of the June 2019 ITLS publication:

<https://www.gov.uk/government/statistics/income-tax-liabilities-statistics-tax-year-2016-to-2017-to-tax-year-2019-to-2020>

Table 3 below summarises which assumptions/series are used in the ITLS projections processes for re-scaling of grossing factors and nominal incomes.

Table 3: Summary of economic assumptions used in ITLS projections

SPI population totals:	SPI taxpayer total 2017-18 £ billion	Series used in projections
Main source employed	-	Population by single year age; and total employees (LFS)
Main source self employed	-	Population by single year age; and total self-employment (LFS)
Main source other	-	Population by single year age
Main income components:		
Pay	737	Implied whole economy average earnings (Wages and salaries divided by LFS employees), with allowance for differential growth across distribution (see main text)
Profits	95	Total self-employed (mixed) income
Personal pension income	97	Weighted average Retail Prices Index and whole economy average earnings
Dividends	66	Non-oil, non-financial profits
State pension income	54	Announced rates
Bank & building society interest	6	Household bank & building society deposits multiplied by weighted average of building society deposit and 5-year rates
Property income	21	The growth in the private rented dwelling stock (assumed to be 3% per year) and the growth in private rents
Taxable employer benefits	9	Implied whole economy average earnings (Wages and salaries divided by LFS employees)

The economic series used in the projection processes are consistent with the most recently published March Budget OBR EFO for the UK economy. Note that because ITLS projections are provided only to the current tax year, these economic series mainly consist of economic outturns published by other organisations, usually ONS. The OBR forecasts for these series are typically relevant only for the ITLS projections for 2020-21, where economic outturns for most series are not yet available.

The projections in the June 2020 release of ITLS use economic series consistent with the OBR's March 2020 Economic and Fiscal Outlook. Outturns and OBR forecasts for key series including employment, earnings, prices and interest rates are published by the OBR (Table 2.9 'Determinants of the fiscal forecast'):

https://cdn.obr.uk/Chapter_2_Charts_and_tables_EFO_March_2020.xlsx

The OBR's release policy for supplementary forecast information is available here:

https://obr.uk/docs/dlm_uploads/release_policy.pdf

Population projections used in this ITLS release are published by ONS (Table Z1 - Zipped Population Projections Data Files, UK, 'UK_PPP_opendata2018'):

<http://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/z1zippedpopulationprojectionsdatafilesuk>

Income Tax structures, rates, allowances and thresholds have been announced up to and including the current tax year 2020-21. No projection methods or assumptions are therefore required for this aspect of the modelling process for projections years.

For all projection years, Income Tax liabilities are modelled as described with respect to the re-grossed and updated SPI dataset, and announced tax rates, allowances and thresholds.

Additional rate adjustments

The adjustments for the impacts of additional rate have now all been realised in the SPI data. Outturn of incomes for high earners from 2009-10 displayed a large amount of forestalling prior to introduction of the 50% rate, 2010-11 and 2011-12 contained behaviour from the rate increase and unwinding of forestalling while in 2012-13 taxpayers will have been anticipating the pre-announced reduction to 45% in 2013-14. Data for 2013-14 included the impact of the behavioural responses following the reduction in the additional rate from 50% to 45% in April 2013. The outturn for 2013-14 included some amount of temporarily elevated incomes. The size of this forestalling effect was estimated to be around £5.25 billion in 2013-14. This represents the counterpart of the 2012-13 deferrals following the reduction in the additional rate.

Specifically, these responses are:

- continued temporary reductions in incomes below 'normal' levels for those affected during 2012-13, the counterpart of significant forestalling of incomes in 2009-10 ahead of the introduction of the additional rate.
- possible anticipatory effects in 2012-13 and their subsequent counterpart in 2013-14 that arose in advance of the reduction in the additional rate of tax to 45%.

In March 2012 HMRC published a comprehensive ex-post assessment of the 50% additional rate of Income Tax using a range of evidence including 2010-11 SA returns⁴. The degree of forestalling/unwinding was assumed to have increased by broad income band, consistent also with the evidence from SA returns.

The 2014-15 SPI included estimates of income for higher earners and was expected to be the first year relatively unaffected by timing effects due to the changes in the additional rate of Income Tax in the recent series.

HMRC's assessment of the yield arising from the introduction of the additional rate in 2010-11 was set out in the published report on the exchequer effects of the 50p rate. It is not possible to infer the additional yield arising from the 50p rate using ITLS Table 2.6, as this gives no indication of reductions in income and yield arising due to behavioural responses.

⁴<http://webarchive.nationalarchives.gov.uk/20140206144454/http://www.hmrc.gov.uk/budget2012/excheq-income-tax-2042.htm>

Dividend tax adjustments

The 2015-16 SPI reflected estimates of income for individuals that included some forestalling of dividend income in 2015-16. As was set out in the OBR's November 2017 EFO⁵, this was updated to reflect outturn data from SA returns. The new 2017-18 SPI reflects estimates of income for individuals that includes some unwinding of that forestalled dividend income in 2017-18, hence the estimates are reduced to reflect this.

Projections of dividend income allow for the behavioural response following the reforms to dividend taxation. These responses include a reduction in dividend income in, 2018-19, 2019-20 and 2020-21. The pace at which the forestalled income is assumed to unwind is as set out in the OBR's March 2018 EFO⁶. This has been reflected in the latest projections.

Consistent with the costing methodology including the estimated behavioural impact for the policy, the projections for 2018-19, 2019-20 and 2020-21 allow for:

- The temporary reduction in dividend income in 2017-18 to represent those who brought forward more than double the normal dividend income to 2015-16.
- The temporary reduction in dividend income in 2018-19, 2019-20 and 2020-21 to further represent those who brought forward greater proportions of their normal dividend income to 2015-16.
- A behavioural response in 2016-17 onwards to the change in the effective dividend tax rates and the introduction of the Dividend Allowance.

The projection adjustments are applied to most SPI cases with dividend income and have an impact on each of the ITLS projection years.

Modelling Scottish and Welsh devolved Income Tax

The PTM, SPI and projections since 2017-18 have been adjusted to account for the devolution of Income Tax rates and thresholds for non-savings, non-dividend (NSND) income (see definition in Annex D), also called earned income in this publication.

From 2017-18, Scottish Income Tax has been payable by Scottish taxpayers. An individual's taxpayer status is determined by the location of their main place of residence for the majority of the tax year, not at a point in time but over the course of the year and thus only finalised after each tax year has ended. This is based on HMRC address data. However, the SPI holds the postcode for the address as at the end of the tax year. From 2016-17 onwards Scottish individuals have therefore been identified on the basis of this postcode rather than the taxpayer status. The income of individuals identified as Scottish in the 2017-18 SPI is projected forward without any adjustments for changes in address in later years, and then the appropriate tax system is applied for each year.

Rates and thresholds for Scottish taxpayers from 2017-18 onwards have been set by the Scottish Parliament (each year) and applied for each respective tax year. Details of the Scottish tax system are outlined in Annex A. In brief, in 2017-18, the Scottish Government

⁵ <https://cdn.obr.uk/Nov2017EFOwebversion-2.pdf> (page 122 para 4.47)

⁶ http://cdn.obr.uk/EFO-MarCh_2018.pdf (page 106 para 4.35)

changed the effective higher rate threshold (HRT) for NSND income to a lower threshold than that of the UK Government (The UK HRT also applies to non-Scottish NSND income and all dividend and savings income). In 2018-19, the Scottish Government introduced a more substantial change, with new tax bands, rates and thresholds, diverging from the structure of the UK Government Income Tax system. The Scottish Government made no further changes to the underlying structure of their system for 2019-20 and 2020-21, making only changes to threshold values.

The two different systems are modelled together in the PTM and applied to an individual's NSND income based on their address.

Details of Income Tax in Scotland are explained at the following website:

<https://www.gov.uk/scottish-income-tax>

The OBR set out some further details in their devolved taxes forecast, the forecast from March 2020 is available here (Chapter 2):

<https://obr.uk/docs/DevolvedTaxesMarch2020v2.pdf>

From April 2019, the Welsh Government have had the power to adjust the rates of tax for NSND income. From 2019, the UK Government has reduced the tax rates on NSND income for Welsh taxpayers, at the basic, higher and additional rates to 10%, 30% and 35% respectively. The Welsh Government are responsible for setting their own rates of tax at the basic, higher and additional rates which are then added to the reduced UK rates. The National Assembly for Wales has agreed the proposed Welsh rates of Income Tax for 2020-21, meaning Welsh taxpayers pay the same rates of NSND tax as those in England and Northern Ireland, (20% for basic rate, 40% for higher rate and 45% for additional rate).

Welsh taxpayers are identified in the SPI using the same methodology as Scottish taxpayers detailed above, their income is also projected forward without any adjustments for changes in address in later years. As the Welsh rates of Income Tax do not currently diverge from the UK tax system, Welsh taxpayers do not receive different tax treatment in the PTM.

Details of Income Tax in Wales are explained at the following websites:

<https://www.gov.uk/welsh-income-tax>

<https://gov.wales/welsh-rates-income-tax#section-12373>

Table 2.7

Table 2.7 "Percentage of earnings paid in Income Tax" depicts Income Tax burdens over time for a selection of specific family types and illustrative earnings levels.

The purpose and methods underpinning Table 2.7 are quite distinct from Tables 2.1-2.6. The statistics in Table 2.7 do not relate to actual UK taxpayers, nor any particular subset of UK taxpayers, but rather hypothetical families assuming specific family circumstances (e.g. concerning numbers of children) and gross wages. Family circumstances and earnings in all

cases are by assumption, and SPI data is not used in the calculations. The family types depicted are illustrative but far from exhaustive; circumstances and incomes in practice vary widely across families in the UK.

Table 2.7 also differs from the other tables in this release by taking account of the amounts of personal tax credits (Working Tax Credit and Child Tax Credit) the depicted families would be entitled to. These tax credits provide financial support to working families and families with children, based on family circumstances including hours worked, family income, claimant's age, the number and age of children and childcare costs.

An introduction to the tax credit system is published alongside HMRC's regularly published tax credit statistics:

<https://www.gov.uk/government/collections/personal-tax-credits-statistics>

Methods

Gross Income Tax liabilities and tax credit entitlements are calculated for each family in each tax year assuming specific family circumstances and the presence of a single wage earner with gross earnings at specified points in the earnings distribution.

The family types depicted in Table 2.7 have changed over time, reflecting changes to the systems, including the introduction of tax credits in 1999-00, abolition of Married Couples Allowance for all born after 6th April 1935, and reforms to the tax credits system in April 2003. Since 2003-04, Income Tax burdens are presented for single adult families without children, couple families without children, and couples with two children.

The Income Tax calculations assume that:

- the taxable income of the wage earner consists only of the specified gross earnings; and that the partner in couples is a non-taxpayer.
- the wage earner is entitled only to the PA and has no deductions (e.g. pension contributions) or other allowances (e.g. Blind Person's Allowance) reducing gross Income Tax liabilities.

The tax credit calculations assume that:

- wage earners work full-time (>30 hours per week) and so are entitled to Working Tax Credit (WTC), including the couple element where applicable, and the WTC 30 hour element whatever their family circumstances or earnings.
- the family with two children is entitled to the Child Tax Credit (CTC) family premium and per child element; and does not receive any support through WTC for childcare costs.
- the final (tapered) tax credit award is based on a family income that consists solely of the gross earnings of the wage earner.

Calculations for each tax year are based on the prevailing structure and parameters of the Income Tax and tax credit systems. Table 2.7 shows Income Tax net of tax credits entitlements and expressed as a percentage of gross earnings. In some cases, calculated tax credit entitlements exceed Income Tax liabilities, leading to a negative estimate of tax overall as a per cent of income.

Data

Earnings at the specified points in the earnings distributions used in Table 2.7 are based on the ONS Annual Survey of Hours and Earnings (ASHE):

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/workplacepensions/bulletins/annualsurveyofhoursandearningspensiontables/2019provisionaland2018finalresults>

The specific ASHE-based earnings percentiles used in Table 2.7 relate to gross weekly pay for full-time employee jobs (ASHE Table 1.1a), on an annualised basis. ASHE is published annually with an April reference period. When publishing the provisional estimates for their latest year, the ONS also revise their data for the previous year (e.g. in releasing 2019 they also revised 2018), the revision for that previous year is incorporated into our figures. Figures for tax years are derived by HMRC as an average of the ASHE results for the adjacent Aprils.

<http://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/allemployeesashtable1>

Projections

The most recently published ASHE results are for April 2019, published on 29th October 2019, permitting derivation of estimates of earnings across the distribution up 2018-19.

Projections of Income Tax burdens are also provided for 2019-20 and 2020-21. Earnings are projected to grow across the earnings distribution according to recent trends in the ASHE-based earnings percentiles and the OBR's March 2020 forecast for whole economy earnings growth.

Methodological changes since the 2016-17 SPI

Changes to the PAYE data

There were no substantial changes to the PAYE data in 2017-18.

Changes to the Self Assessment data

Restricting finance cost relief for individual landlords

From 6 April 2017, relief for finance costs on residential properties was partially restricted to the basic rate of Income Tax. Finance costs include mortgage interest, interest on loans to buy furnishings and fees incurred when taking out or repaying mortgages or loans. No relief is available for capital repayments of a mortgage or loan.

Landlords are no longer able to deduct all of their finance costs from their property income to arrive at their property profits. Instead they receive a basic rate (20%) reduction from their Income Tax liability for their finance costs.

The change will be gradual until 2020-21, when all finance costs will be restricted to the basic rate of Income Tax:

- in 2017-18, 75% finance costs deduction and 25% given as a basic rate tax reduction
- in 2018-19, 50% finance costs deduction and 50% given as a basic rate tax reduction
- in 2019-20, 25% finance costs deduction and 75% given as a basic rate tax reduction
- from 2020-21 all financing costs incurred by a landlord will be given as a basic rate tax reduction

Projections from 2018-19 to 2020-21 use outturn data from 2017-18 and reflect the above announced policy decisions to estimate impacts.

Further information on the policy changes can be found here:

<https://www.gov.uk/government/news/changes-to-tax-relief-for-residential-landlords>

<https://www.gov.uk/guidance/changes-to-tax-relief-for-residential-landlords-how-it-worked-out-including-case-studies>

New tax allowance for property and trading income

From 6 April 2017, two new annual tax allowances were introduced for individuals of £1,000 each, one for trading and one for property income. Where the allowances cover all of an individual's relevant income (before expenses) then they no longer have to declare or pay tax on this income. Those with higher amounts of income have the choice when calculating their taxable profits, of deducting the allowance from their receipts, instead of deducting the actual allowable expenses.

Changes to the imputation process

Data on pension contributions for net pay schemes are now based on RTI returns, matched directly with SPI cases, with no imputation. Data on pension contributions for relief at source schemes utilises third party data submitted to HMRC and has been improved to reflect changes made to other HMRC pension statistical publications.

Annex C: Quality indicators

A quality report covering the ITLS statistics and projections is available from the National and Official Statistics section of the HMRC website:

<https://www.gov.uk/government/statistics/quality-report-income-tax-liabilities-statistics>

This report, last updated in January 2014, assesses the statistics against standard dimensions of quality such as relevance, accuracy and reliability, timeliness and punctuality, accessibility and clarity, and coherence and comparability.

Annex C provides an annual update on quality, and provides more detailed summary quality indicators, in particular summarising the accuracy and reliability of ITLS statistics and projections. It also contains further information on the relevance and appropriate use of the statistics.

Sampling error

The SPI sample is compiled in order to infer results for the UK taxpaying population as a whole, e.g. the number of such taxpayers and their total Income Tax liabilities. As with all sample surveys, estimates from the SPI are subject to sampling variation meaning that estimated totals and other sample statistics would vary from one sample to the next if repeated random samples were drawn, and in all cases would differ to some degree from the corresponding population totals purely by chance. Intuitively, the extent of such variation increases with the degree of variation across the population in the variable of interest (e.g. Income Tax liabilities) and falls as the size of the sample increases.

Variation in a given sample-based statistic is usually measured by its standard error, which represents the standard deviation (a measure of how much the sample values differ from the statistic on average) of the statistic of interest computed across all possible samples that could have been drawn from the population. Based on the standard errors, the precision of sample estimates is typically illustrated through confidence intervals, which provide an estimated range of values which is likely to include the unknown population parameter with a given level of confidence.

95% confidence intervals for SPI-based estimates of the number of UK Income Tax payers and total Income Tax liabilities by region and county in 2017-18, together with a range of other variables, are published in HMRC Table 3.13a:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/877234/Tables_3.12_to_3.15a_1718.xlsx

Key results are repeated in Table 4 below. For the UK, the width of the 95% confidence intervals for numbers of taxpayers and total Income Tax liabilities are 100,000 and £2 billion (0.3% and 1.1% of the central estimates respectively). As shown in Table 4, precision declines for smaller estimated totals, e.g. for numbers of Income Tax payers and Income Tax liabilities in specific countries and regions. Broadly speaking, as sample size changes by

a factor x , the confidence interval will change by a factor $(1/\sqrt{x})$, so a fourfold increase in sample size will halve the confidence interval.

Table 4: Confidence intervals for estimates of taxpayer numbers and total Income Tax liabilities, 2017-18 Survey of Personal Incomes

	Taxpayers, thousands				Income Tax liabilities, £million			
	95% CI		95% CI	CI width	95% CI		95% CI	CI width
	Lower	Central	Upper	as %	Lower	Central	Upper	as %
	Limit	estimate	Limit	estimate	Limit	estimate	Limit	estimate
United Kingdom	31,100	31,200	31,200	0.3	180,000	181,000	182,000	1.1
North East	1,100	1,120	1,150	4.5	4,020	4,130	4,240	5.3
North West	3,230	3,260	3,300	2.1	13,600	13,900	14,100	3.6
Yorkshire and the Humber	2,380	2,410	2,440	2.5	9,460	9,640	9,820	3.7
East Midlands	2,190	2,220	2,250	2.7	9,410	9,580	9,750	3.5
West Midlands	2,530	2,560	2,590	2.3	10,700	10,900	11,100	3.7
East of England	3,040	3,070	3,100	2.0	18,700	18,900	19,200	2.6
London	4,150	4,180	4,210	1.4	45,200	45,700	46,300	2.4
South East	4,590	4,630	4,660	1.5	33,000	33,400	33,800	2.4
South West	2,710	2,740	2,770	2.2	12,200	12,400	12,600	3.2
Wales	1,320	1,350	1,370	3.7	4,680	4,790	4,890	4.4
Scotland	2,520	2,550	2,580	2.4	11,600	11,800	12,000	3.4
Northern Ireland	743	760	777	4.5	2,720	2,790	2,870	5.4

The 95% confidence intervals may be interpreted in one of two ways:

- if repeated samples were drawn and intervals computed as in Table 4, those intervals would contain the unknown population parameter 95 times in 100.
- the lower and upper confidence limits provide a plausible range for the true population value in the sense that if that value were in reality greater (or smaller) than the upper (or lower) confidence limit, then the probability of obtaining a sample estimate any greater (or lower) than that observed would be just 2.5%.

Coverage error

The SPI is fully representative of UK taxpayers only, as opposed to the entire UK population, and so ITLS tables are published for UK taxpayers only.

Annex B also notes that for the SPI sub-sample of individuals drawn from PAYE only, a number of data items are not recorded in administrative tax records because these are not

needed for the operation of the Income Tax system. These items include, for example, savings interest income which is not recorded in PAYE because tax was deducted at source via a separate scheme operated by deposit takers until 2016-17 and since then taxpayers inform HMRC of savings interest where tax needs to be paid or it's reported through Self Assessment (SA). These missing data items are imputed for most SPI sample cases in PAYE only as described in the Annex B.

Table 5 below shows the total contribution to key SPI income aggregates from imputed values in 2017-18. Users interested in ITLS estimates and projections of Income Tax liabilities on these particular items should note the degree of imputation. A large contribution to the estimates from imputed values is likely to lead to a loss of accuracy. Overall, imputation contributes around £5.1 billion to grossed total income across all taxpayers of £1,080 billion in 2017-18 amounting to 0.5%.

Table 5: Extent of imputation, 2017-18 Survey of Personal Incomes

	Number of Individuals (thousands)		Total amount (£ millions)	
	Imputed	Total	Imputed	Total
Individuals Gender	3	50,000	-	-
Individuals Age	21	49,700	-	-
Bank and building society interest income	25,000	32,200	3,410	8,730
Dividend income	2,030	6,040	1,660	68,300

Model errors

Income Tax liabilities in this publication are estimated at case level on the basis of the SPI data using HMRC's Personal Tax Model (PTM). The tax modelling process of the PTM attempts to capture all of the significant features of the UK Income Tax system, but inevitably this involves certain simplifications and omissions.

The PTM outputs are regularly benchmarked at case level against Income Tax liabilities recorded as due in HMRC's SA system for the SPI sub-sample in SA. Differences arise for known and specific reasons and only in a small minority of sample cases. The impact of these simplifications is judged to be small for key aggregates at UK level, and for most UK taxpayer sub populations.

Projection errors

There are simplifications and potential errors in both the projection processes and the economic assumptions employed in those processes, which are likely to induce larger errors in ITLS projections compared with outturn statistics for 2017-18 and earlier tax years.

As set out in Annex A, the 2020-21 projections do not account for the impact of COVID-19 on the economy, and in particular on earnings. Projections are based on economic assumptions consistent with the OBR's most recent Economic and Fiscal Outlook (in this case the March Budget 2020).

The projection methods are described in Annex B. Users of the projections should note that the projection methods are suited to analysis of Income Tax liabilities at UK level. Projections of potential taxpayer numbers and incomes by income source are based on UK economic assumptions, which are applied generally uniformly to all individuals in the SPI sample. They take no account of local divergences in economic trends since 2017-18 within the UK, or indeed across other dimensions such as industrial sector.

Published breakdowns of projected taxpayer numbers by country and region (Table 2.2) therefore are indicative, and there is some evidence that they may be subject to potentially large error margins. HMRC is reviewing the evidence and will consider whether regional projections are suitable for continued publication.

In addition, the projections will not capture potentially important shifts in the distribution of incomes occurring after 2017-18. ITLS projected shares of total income and tax across taxpayer income groupings are therefore likewise indicative (Table 2.4) but do allow for differential growth in earnings across the pay distribution consistent with past trends, and possible responses of individuals with high income to changes in the tax policy regime.

Summary statistics describing ex post ITLS absolute projection errors across key aggregates for projections released following Spring Budgets/Statements since 2001 are shown in Table 6 below. The forecast horizon is defined with respect to the latest SPI outturn data available, e.g. this ITLS release uses 2017-18 SPI data, which gives a 'one-year ahead' projection for 2018-19.

Table 6: Summary statistics for absolute errors in ITLS projections of key aggregates^{1,2}

	Taxpayers thousands	Higher/additional rate taxpayers thousands	Total income £ billion	Total liabilities £ billion
One-year ahead projections (N = 17)³				
Mean	480	130	17	4
Max	1,400	370	54	9
Standard deviation	440	120	15	3
Mean	2%	4%	2%	3%
Max	5%	10%	7%	8%
Standard deviation	2%	3%	2%	2%
Two-year ahead projections (N = 16)				
Mean	780	160	27	6
Max	1,900	400	74	14
Standard deviation	420	130	22	5
Mean	3%	5%	3%	4%
Max	6%	11%	8%	9%
Standard deviation	1%	4%	3%	3%
Three-year ahead projections (N = 15)				
Mean	1,060	190	39	9
Max	2,300	480	84	19
Standard deviation	560	120	24	5
Mean	4%	5%	5%	6%
Max	8%	13%	11%	13%
Standard deviation	2%	4%	3%	4%
Memo: Evolution of projections for 2017-18				
Three-year ahead projection (April 2017)	30,300	4,520	1,050	173
Two-year ahead projection (April 2018)	30,800	4,630	1,070	178
One-year ahead projection (April 2019)	31,300	4,590	1,090	181
SPI 2017-18 outturn	31,200	4,610	1,084	181

¹ ITLS projections released after Spring Budgets/Statements since 2001.

² Projection horizon is defined by the latest SPI outturn data available for analysis, e.g. one-year ahead projections are projections for tax year T+1 based on SPI data for year T. Budget projections for year T+1 are generally published at the beginning of year T+3, and so economic assumptions used in the projection process are typically outturns to around year T+2.

³ N represents the number of x-year ahead projections used in calculating each statistic.

Table 6 indicates mean absolute projection errors of 2-4% for key UK aggregates in respect of the one-year ahead projections increasing to 4-6% for three-year ahead projections. One standard deviation (plus or minus) in past errors provides one guide to the possible limits of approximate 68% confidence intervals around central projections for key ITLS aggregates. However, past errors may not accurately reflect the degree of ex ante (forecasts) uncertainty in projections made at any specific point in time. Table 6 also shows the evolution of projections made for 2017-18, the latest SPI outturn.

Ex ante uncertainty in the projections may be illustrated via 'ready reckoners'. Table 7 below shows estimated changes from the June 2020 ITLS central projections used in this publication, arising for illustrative increases in key economic assumptions used in the

projection process. Comparable reductions in the same series would have broadly similar impacts of opposite sign.

Table 7: Sensitivity of central projections to changes in key economic assumptions

	2017-18	2018-19	2019-20	2020-21
	outturn	projection	projection	projection
Central projection				
Taxpayers	31,200	31,600	31,400	32,300
o/w savers/basic rate taxpayers	26,600	27,000	27,000	27,600
o/w higher/additional rate taxpayers	4,610	4,680	4,330	4,680
Total liabilities	181,000	190,000	194,000	206,000
o/w liabilities of savers/basic rate taxpayers	59,900	62,300	65,700	68,300
o/w liabilities of higher/additional rate taxpayers	121,000	127,000	128,000	137,000
Working-age employees+1%¹				
Taxpayers		131	131	131
o/w savers/basic rate taxpayers		104	106	105
o/w higher/additional rate taxpayers		27	24	26
Total liabilities		771	768	819
o/w liabilities of savers/basic rate taxpayers		308	328	338
o/w liabilities of higher/additional rate taxpayers		463	440	481
Pay+1%²				
Taxpayers		106	108	100
o/w savers/basic rate taxpayers		20	38	19
o/w higher/additional rate taxpayers		86	70	82
Total liabilities		2,270	2,320	2,450
o/w liabilities of savers/basic rate taxpayers		915	969	996
o/w liabilities of higher/additional rate taxpayers		1,360	1,350	1,450
Profits+1%²				
Taxpayers		55	38	34
o/w savers/basic rate taxpayers		45	31	27
o/w higher/additional rate taxpayers		9	6	7
Total liabilities		318	330	347
o/w liabilities of savers/basic rate taxpayers		92	98	103
o/w liabilities of higher/additional rate taxpayers		225	232	244
Interest rates+1ppt³				
Taxpayers		68	89	84
o/w savers/basic rate taxpayers		-34	-17	-30
o/w higher/additional rate taxpayers		102	107	115
Total liabilities		3,740	4,840	4,870
o/w liabilities of savers/basic rate taxpayers		897	1,260	1,260
o/w liabilities of higher/additional rate taxpayers		2,850	3,580	3,610

¹1% point increase in numbers employed (SPI cases with pay > 0 aged 16-65) relative to central projection, holding SPI population aged 16-65 constant.

²1% point increase in pay/profits for all SPI cases with pay/profits relative to central projection.

³1% point increase **interest rates** on savings income relative to central projection. The resulting percentage change in savings interest income depends on the central projection for interest rates but will generally be much larger than the +1% ready reckoners shown earlier in the table for pay/profits.

Table 7 shows that:

- An illustrative 1 percentage point increase in working-age employment increases projected taxpayer numbers by 0.41% and Income Tax liabilities by 0.41% in 2018-19, with increases in Income Tax payer numbers and Income Tax liabilities for both basic/savers and higher/additional rate groups reflecting their centrally projected distributions.
- An illustrative 1 percentage point increase in pay has a larger 1.19% impact on Income Tax liabilities in 2018-19, as marginal rates of Income Tax exceed average rates (the latter relevant to the employment change). Income Tax payer numbers rise by 0.34% overall, but there is a larger percentage point increase for higher/additional rate taxpayers (1.84%) compared with basic/savers rate taxpayers (0.07%) as numbers moving into higher rate tax (from basic rate) exceed those moving into basic rate tax as pay increases.
- An illustrative 1 percentage point increase in average profits raises Income Tax liabilities by 0.17% in 2018-19, reflecting the much lower level of profits in total taxpayer income relative to earnings. Taxpayer numbers also rise by 0.17%.
- An illustrative 1 percentage point increase in interest rates increases Income Tax liabilities by 1.97% in 2018-19. Note that the percentage change in savings income resulting from a 1 percentage point increase in savings interest rates varies with the central projection for interest rates but will generally be much larger than the 1 percentage point ready reckoners shown for pay and profits. Taxpayer numbers rise by 0.22%

Annex D: Glossary of terms

This section aims to explain acronyms, abbreviations and terms associated with personal incomes and Income Tax liabilities.

Allowances

The amount of income which an individual can receive before being liable for Income Tax. The Personal Allowance is an example of an allowance.

Average rate of tax

The ratio of Income Tax liability to total income, where income is measured before deductions, reliefs and allowances.

Basic rate limit

The highest income point for taxable income (after allowances) at which basic rate Income Tax is charged.

CESA (Computerised Environment for Self Assessment)

The computer system used to administer Self Assessment (SA) from which SA data for the SPI has been extracted since 1996-97. See Self Assessment (SA).

COP (Computerisation of PAYE)

The computer system which used to administer PAYE until being replaced by NPS and from which PAYE data for the SPI was extracted for 1997-98 to 2007-08 inclusive.

Deductions and Reliefs

Amounts deducted from total income, along with Personal Allowances to arrive at the amount of taxable income subject to an Income Tax charge. This includes amounts for contributions to occupational and personal pensions, and a variety of other deductions and reliefs including charitable giving and loss relief etc.

Dividend Allowance

The amount of dividend income you can receive for the tax year without having to pay tax on it, this is currently set to £2,000 in 2020-21 irrespective of the total amount of dividend and non-dividend income received.

Dividend Income

Income derived from shares.

Earned Income

Earned income consists of income such as pay from employments, profits from self-employment, private and occupational pensions, retirement annuities, state retirement pensions, foreign income, taxable benefits, income from property and taxable social security income.

Geographical Areas

Some tables present information for sub-UK areas described as Government Office Region, County, District and Parliamentary Constituency. Administrative and Political geographical areas are not held on taxpayers' records. For the SPI, the areas are attached by matching the individual's postcode to the ONS Postcode Directory.

Industry

Industry categories are based on UK Standard Industrial Classification of Economic Activities 2007 (SIC2007). Income from self-employment (sole trader and partner) is assigned an industry using the nature of business text descriptions supplied on Self Assessment Returns.

Intermediate rate limit (for Scottish Income Tax payers NSND income)

The highest income point for taxable income (after allowances) at which intermediate rate Income Tax is charged for Scottish taxpayers with NSND income.

National Insurance and PAYE System (NPS)

NPS is the computer system HMRC uses to administer PAYE. It replaced COP and is the source of PAYE data for the 2008-09 SPI onwards.

National Insurance Recording System 2 (NIRS2)

The computer system used to monitor payment of National Insurance (NI) contributions and to calculate and prove entitlement to contributory benefits. These include Job Seekers Allowance (JSA) and the National Insurance Pension. It provides contribution information to a number of government departments.

Non-Savings Non-Dividend Income (NSND)

See earned income.

Office for Budget Responsibility (OBR)

The OBR was created in 2010 to provide independent and authoritative analysis of the UK's public finances, and twice yearly publishes five-year forecasts for the economy and public finances, including Income Tax receipts:

<https://obr.uk>

P14s

Form P14 is an End of Year summary for an employment that is submitted by the employer to HMRC, showing pay, tax and NI contributions for the year. The employer provides similar information to the employee on an end of year certificate, form P60.

Pay As You Earn (PAYE)

PAYE is the system used by HMRC to collect and account for Income Tax on earnings from employment and pensions. Income Tax and National Insurance Contributions are deducted by the employer and paid over to HMRC on behalf of the individual for each pay period.

Personal Allowance

The amount of income you can receive for the tax year without having to pay tax on it.

Personal Savings Allowance

The amount of savings income you can receive for the tax year without having to pay tax on it. The upper bound for the tax-free allowance depends on the top marginal tax rate on an individual's total income; the threshold for higher rate taxpayers is half that for basic rate taxpayers and is set to £0 for additional rate taxpayers.

Real Time Information (RTI)

The RTI data used in this release come from HMRC's PAYE RTI system. It covers the whole population rather than a sample of people or companies.

Savings Income

A particular class of income that includes interest on bank and building society accounts.

Self Assessment (SA)

SA is a system where an individual declares their income and can calculate their own Income Tax due after the end of the tax year. Taxpayers included in SA can be higher earners, self-employed and taxpayers with complex tax affairs.

Starter rate limit (for Scottish taxpayers NSND income)

The highest income point for taxable income (after allowances) at which starter rate Income Tax is charged for Scottish taxpayers with NSND income.

Starting rate limit/starting rate for savings limit

The highest income point for taxable income (after allowances) at which starting rate Income Tax is charged. From 2008-09 the starting rate was abolished for non-savings income and applied only to non-dividend savings income. From 2015-16 the starting rate of tax for savings income was reduced from 10% to 0%, and the amount of savings income that the new 0% rate applies to was increased from £2,880 to £5,000. For more information please

see the following briefing: <https://www.gov.uk/government/publications/issue-briefing-starting-tax-rate-for-savings-interest/issue-briefing-starting-tax-rate-for-savings-interest>

Superannuation contributions

The regular amounts paid by an employee into an employer occupational pension fund; these are deducted from the employee's salary. Superannuation contributions to an authorised fund or scheme are not liable to Income Tax and the employer would deduct the amount of superannuation contributions from the gross pay before assessing the Income Tax liability through PAYE.

Survey of Personal Incomes (SPI)

An annual survey of individuals who could be liable for Income Tax derived from HMRC administrative systems holding data on persons within PAYE, SA and Income Tax claims.

Tax liabilities

The amount of Income Tax due on taxable income after applying tax rates to the tax base. The Income Tax liability for each sample case in the SPI is calculated by reference to the amounts of income by type, deductions and reliefs and the tax regime parameters that apply for the year. The calculated liability for a tax year will differ from the amount of tax receipts collected in a financial year.

Tax receipts

The amount of Income Tax collected by HMRC. The SPI measures the amount of Income Tax liability for a tax year, but not the amount of receipts in the financial year.

Taxable income

Income assessable to Income Tax after allowances.

Taxpayer

An individual calculated to have a positive Income Tax liability for the tax year, based on the income, allowances, reliefs and deductions for the year.

Total Income

The sum of an individual's components of income taken into account in calculating Income Tax. This includes pay from employment, profits from self-employment, private and occupational pensions, retirement annuities, state retirement pensions, foreign income, taxable benefits, some social security benefits, savings income, income from shares (dividends), rental income, and income from trusts. It excludes:

- gains from the disposal of assets that are classified as capital gains
- interest, dividends or bonuses from tax exempt investments (for example, ISAs and National Savings & Investments Savings Certificates)
- interest and terminal bonuses from Save As You Earn Schemes
- Premium Bond, National Lottery and gambling prize winnings

Total income is calculated before relief for contributions to occupational and personal pensions, other deductions and reliefs or PAs.

In the tax system, income is streamed into three main categories: dividends; savings income (not dividends); and non-savings non-dividend (NSND) income as different rules apply.