



HM Revenue
& Customs

Measuring tax gaps 2018 edition

Tax gap estimates for 2016-17



An Official
Statistics release
14 June 2018

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Introduction

5.7% The tax gap is estimated to be £33 billion, which is 5.7% of tax liabilities

What is the tax gap?

The 'tax gap' is the difference between the amount of tax that should, in theory, be paid to HMRC, and what is actually paid.

Why do we measure it?

The tax gap provides a useful tool for understanding the relative size and nature of non-compliance. This understanding can be applied in many different ways:

- it provides a foundation for [HMRC's strategy](#). Thinking about the tax gap helps the department to understand how non-compliance occurs and how HMRC can address the causes.
- drawing on information on how other countries manage their tax gaps, our tax gap analysis provides insight into which strategies are most effective at reducing the tax gap.
- although the tax gap isn't sufficiently timely or precise enough to set performance targets, it provides important information which helps us understand our long-term performance.

Why is there a tax gap?

The tax gap arises for a number of reasons. Some taxpayers make simple errors in calculating the tax that they owe, despite their best efforts, while others don't take enough care when they submit their returns. Legal interpretation, evasion, avoidance and criminal attacks on the tax system also result in a tax gap. It is impossible to collect every penny of tax that is owed – for example, we cannot collect outstanding tax from businesses that become insolvent.

How is it calculated?

The tax gap figure has been produced by analysts working within HMRC, in line with the values, principles and protocols set out in the Code of Practice for Official Statistics. We use a range of internal and external data and different analytical techniques to produce annual estimates, which we revise as more accurate data becomes available. These are our best estimates based on the information available, but there are many sources of uncertainty and potential error.

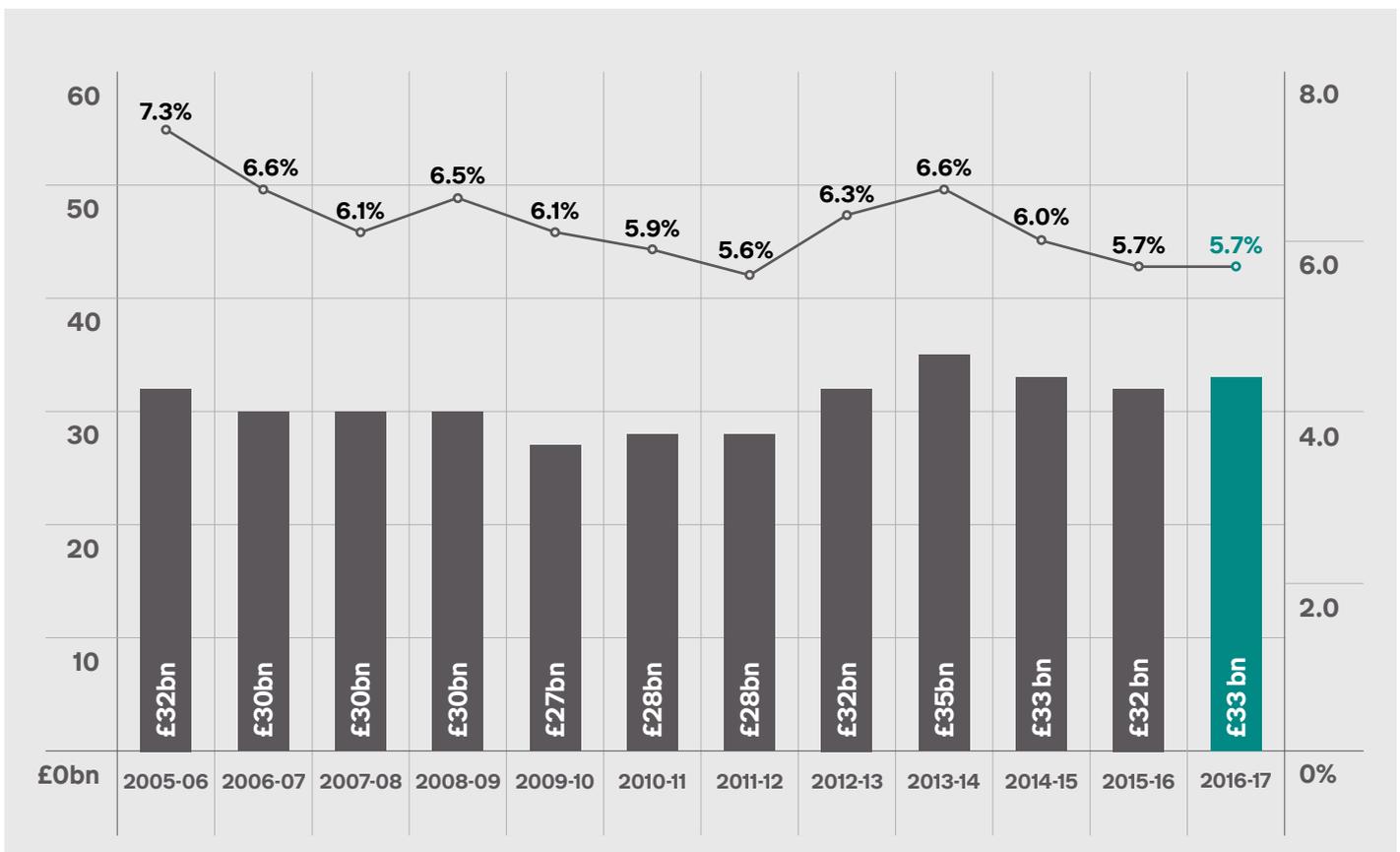
UK tax gap at a glance in 2016-17

5.7%

The tax gap is estimated to be £33 billion, which is 5.7% of tax liabilities



Tax gap and percentage of liabilities: 2005-06 to 2016-17





What is the tax gap?

The 'tax gap' is the difference between the amount of tax that should, in theory, be paid to HMRC, and what is actually paid.



How is it calculated?

It's an Official Statistic produced by analysts in HMRC using a range of internal and external data and different analytical techniques.



Why measure it?

Tax gap analysis helps us to understand the reasons for losses in the tax system.

The tax gap is difficult to measure and there are many sources of uncertainty and error. However, it gives an indication of our long-term performance – we have seen that the tax gap has decreased since 2005-06.

Value of the tax gap: 2016-17

By customer group

By type of tax

By behaviour

£13.7bn Small businesses	£13.5bn IT, NICs and CGT ¹	£5.9bn Failure to take reasonable care
£7.0bn Large businesses	£11.7bn Value Added Tax	£5.4bn Criminal attacks
£5.4bn Criminals	£3.5bn Corporation Tax	£5.3bn Legal interpretation
£3.9bn Mid-sized businesses	£3.1bn Excise duties	£5.3bn Evasion
£3.4bn Individuals	£1.6bn Other taxes	£3.4bn Non-payment
		£3.2bn Error
		£3.2bn Hidden economy
		£1.7bn Avoidance

¹ IT – Income tax, NICs – National Insurance Contributions, CGT – Capital Gains Tax



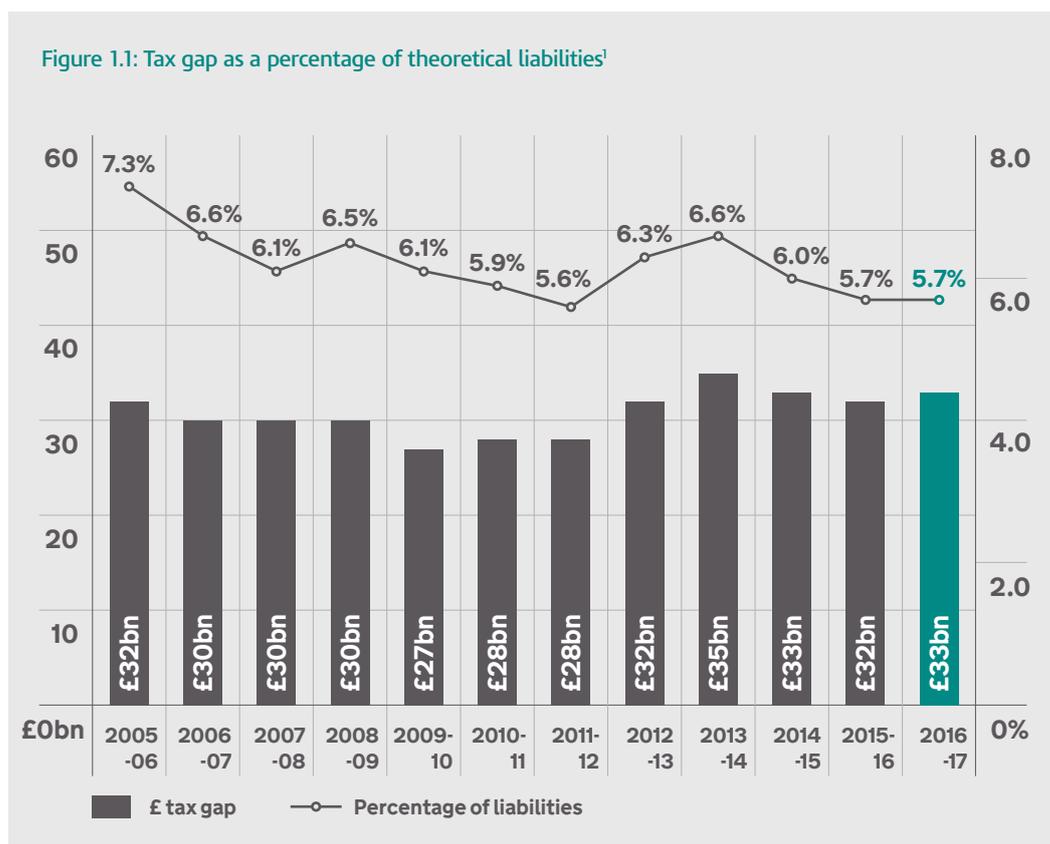
A full time series for tables is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps-tables

1. Summary

Key findings

- The UK tax gap in 2016-17 is estimated to be £33 billion. This is 5.7% of total theoretical tax liabilities and the same level as 2015-16.
- There has been a long-term reduction in the overall tax gap, from 7.3% in 2005-06 to 5.7% in 2016-17.
- The tax gap for income tax, National Insurance Contributions and Capital Gains Tax (IT, NICs and CGT) was 4.2% in 2016-17 – its joint lowest level since 2009-10.
- There has been a long-term reduction between 2005-06 and 2016-17 for the VAT (Value Added Tax) gap (12.5% to 8.9%) and for the duty-only excise tax gap (8.1% to 5.8%).
- The Corporation Tax gap has been on a long-term downward trend, from 12.4% in 2005-06 to 7.4% in 2016-17.
- There has been a steady downward trend in the avoidance tax gap, from £4.9 billion in 2005-06 to £1.7 billion in 2016-17.

What the tax gap estimates show since 2005 – tax gap time series: 2005-06 to 2016-17



¹ Figures for previous years have been revised.

There has been an overall downward trend in the percentage tax gap over the past ten years from 7.3 % in 2005-06 to 5.7% in 2016-17. The fall in the overall tax gap between 2013-14 and 2016-17 was mainly driven by the fall in income tax, National Insurance Contributions and Capital Gains Tax (IT, NICs and CGT). There has been a long-term reduction in tax gaps for both excise duties and Corporation Tax.

Figure 1.1 shows the value of the tax gap alongside the percentage tax gap, which is calculated as a percentage of the amount of tax that should, in theory, be paid to HMRC¹.

The percentage tax gap provides a better measure of compliance over time. It takes into account some of the effects of inflation, economic growth and changes to tax rates, whereas the cash figure does not. For instance, in a growing economy where the tax base² is increasing, even if the percentage tax gap remained level, the cash figure would grow.

¹ More detail is given in the 'Tax gap measurement' section below.

² The aggregate value of the financial streams or assets on which tax can be imposed.

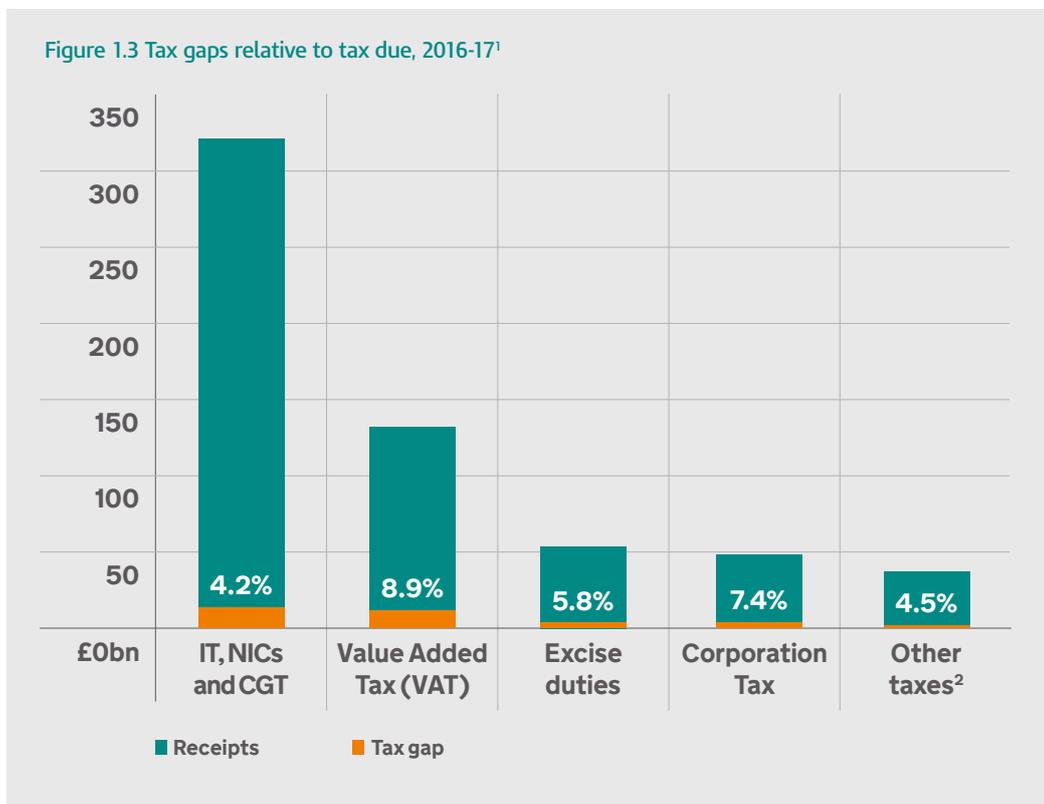
Tax gap by type of tax

Figure 1.2 shows how the tax gap is composed of different taxes, it shows that two components, one covering income tax, National Insurance Contributions and Capital Gains Tax (IT, NICs and CGT) and the other VAT, account for three quarters of the tax gap.



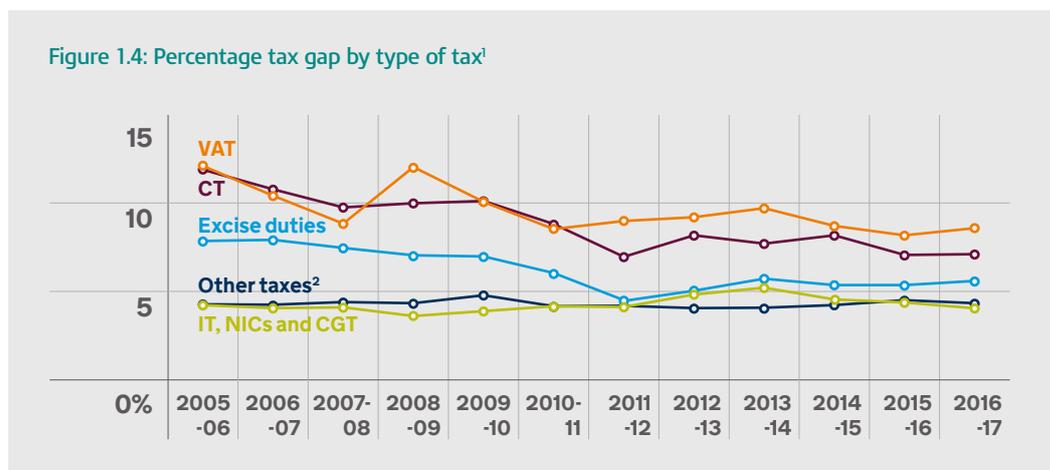
1 Figures may not appear to sum due to rounding.
 2 Income tax, National Insurance Contributions and Capital Gains Tax.
 3 'Other taxes' includes stamp duties, Inheritance Tax, environmental taxes, Insurance Premium Tax, and Landfill Tax.
 Note that Petroleum Revenue Tax was zero-rated from 1 January 2016.

Figure 1.3 shows the total theoretical liability by type of tax, broken down by tax gap and tax paid. It shows that the tax gap for IT, NICs and CGT was the biggest at £13.5 billion, equating to 4.2% of the total theoretical liabilities, while the VAT gap at £11.7 billion represents 8.9% of VAT theoretical tax liabilities.



1 Percentage tax gap as a proportion of total theoretical liabilities.
 2 'Other taxes' includes stamp duties, Inheritance Tax, environmental taxes, Insurance Premium Tax and Landfill Tax.
 Note that Petroleum Revenue Tax was zero-rated from 1 January 2016.

Figure 1.4 shows the trend in the tax gaps over time. The largest proportionate fall between 2005-06 and 2016-17 was in the Corporation Tax gap and the excise duties tax gap while the tax gap for the other taxes has remained relatively constant.



¹ Figures for previous years have been revised.

² 'Other taxes' includes stamp duties, Inheritance Tax, environmental taxes, Insurance Premium Tax and Landfill Tax. Note that Petroleum Revenue Tax was zero-rated from 1 January 2016.

Table 1.1 (at the end of the chapter) shows the composition of the tax gap estimates for 2016-17.

Table 1.2 (at the end of the chapter) shows the percentage tax gap since 2005-06 by type of tax. A time series of the tax gap (cash figure) by type of tax from 2005-06 to 2016-17 is shown in Table 1.3 (at the end of the chapter).

Tax gap by customer group

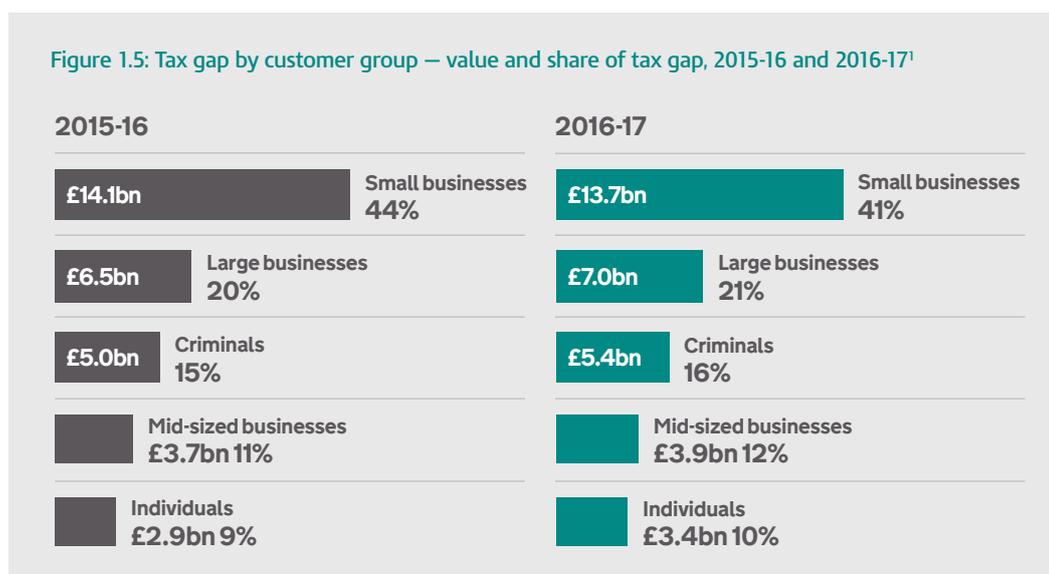
In April 2014 HMRC changed its customer group segmentation from small and medium enterprises (SME), large and complex businesses (L&C) and large business service (LBS) to focus separately on small businesses, mid-sized businesses and the top 2,000 largest and most complex businesses. These are in addition to the individuals and criminal activity customer groups.

For this report we have aligned the tax gap to the new customer group segmentation to improve consistency across the tax gap and other HMRC products. Work has been undertaken to match the old customer segmentation to the new one. Details on the change in customer segmentation as well as the estimates using the old customer groups can be found in Chapter L of the 'Methodological annex'.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Figure 1.5 shows the 2015-16 and 2016-17 tax gaps by customer group¹. In both 2015-16 and 2016-17 more than 40% of the tax gap was attributed to small businesses. Individuals account for the smallest share of the tax gap in both 2015-16 and 2016-17.



¹ Figures may not appear to sum due to rounding.

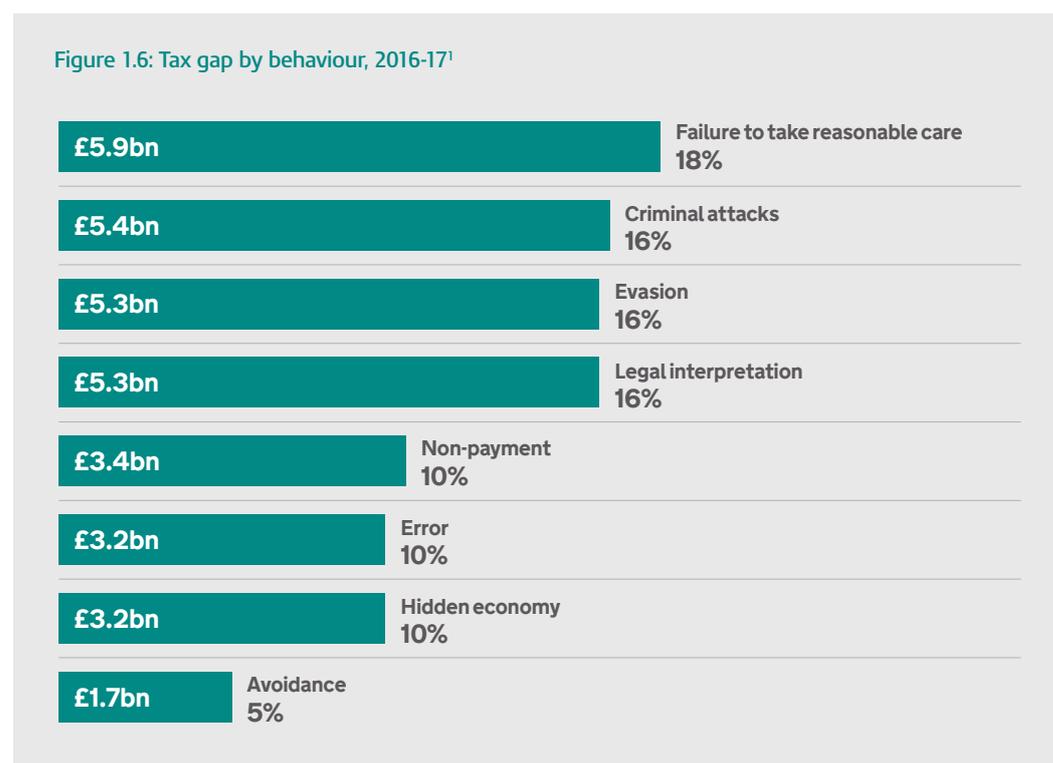
Table 1.4 (at the end of the chapter) shows a time series of tax gap by customer group, as a percentage of total theoretical liabilities. This shows that the breakdown of the tax gap by customer group over the past five years has been broadly stable.

¹ An additional element of judgment and uncertainty is present in the customer group estimates.

Tax gap by behaviour

The tax gap can be described as the tax that is lost through a range of behaviours – non-payment, use of avoidance schemes, legal interpretation of the tax effects of complex transactions, error, failure to take reasonable care, evasion, the hidden economy and criminal attacks on the tax system.

Figure 1.6 shows an estimate of taxpayer behaviours attributed to the tax gap for 2016-17. These estimates give a broad indication of behaviours and are calculated using assumptions and judgment.



¹ Figures may not appear to sum due to rounding.

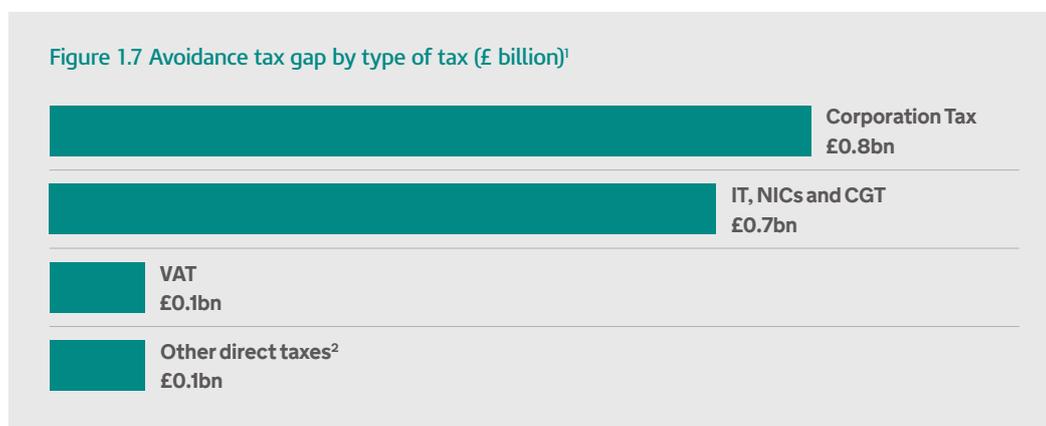
Table 1.5 (at the end of the chapter) shows a time series of the tax gap by behaviour. As with the headline figures, the percentage tax gap for behaviours provides a better measure of compliance over time because it takes into account changes to the tax base. It shows that customer behaviours over the past five years have been broadly consistent with downward movement in avoidance as a driver of the tax gap.

Avoidance

Avoidance is bending the rules of the tax system to gain a tax advantage that Parliament never intended. It often involves contrived, artificial transactions that serve little or no purpose other than to produce a tax advantage. It involves operating within the letter, but not the spirit, of the law.

The published avoidance tax gap is an annual estimate of the tax lost to the UK due to avoidance. These estimates reflect the laws that were in place at the time and do not include any subsequent changes to the tax law to prevent further use of avoidance.

The estimated avoidance tax gap was £1.7 billion for 2016-17. Figure 1.7 shows how this is split by type of tax. [Table 1.6](#) (at the end of the chapter) shows the breakdown of the avoidance tax gap by type of tax from 2005-06 to 2016-17. Almost half of the avoidance tax gap (about 45%) is attributable to Corporation Tax (CT), with 44% attributable to income tax, National Insurance Contributions and Capital Gains Tax (IT, NICs and CGT). Other direct taxes account for the smallest share of avoidance (about 3%).



¹ Figures may not appear to sum due to rounding.

² 'Other direct taxes' includes stamp duties, Inheritance Tax, environmental taxes, Insurance Premium Tax and Landfill Tax. Note that Petroleum Revenue Tax was zero-rated from 1 January 2016.

The definition of avoidance used to produce the tax gap estimates is described in [Table 1.7](#) (at the end of the chapter).

The methodologies used to produce the avoidance tax gap estimates differ according to the type of tax. They are summarised in the relevant chapters and in the 'Methodological annex' published alongside this document.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Tax gap measurement

Definition

The tax gap is the difference between the amount of tax that should, in theory, be paid to HMRC, and what is actually paid.

The 'theoretical tax liability' represents the tax that would be paid if all individuals and companies complied with both the letter of the law and our interpretation of Parliament's intention in setting law (referred to as the spirit of the law). The total theoretical tax liability is calculated as the tax gap plus the amount of tax actually received, from HMRC receipts.

The tax gap estimates only cover the taxes administered by HMRC, so exclude taxes and duties administered elsewhere (council tax, business rates, and Vehicle Excise Duty) as well as charges, such as the congestion charge. These estimates also exclude error and fraud in tax credits.



Tax Gap Measurement – the Error and Fraud in Tax Credits publication can be found here: www.gov.uk/government/statistics/child-and-working-tax-credits-annual-error-and-fraud-statistics-2015-to-2016

Tax gaps are calculated net of compliance yield – that is, they reflect the gap remaining after HMRC's compliance work. More information on compliance yield is available in HMRC's Annual Report and Accounts. The 'Methodological annex' sets out how compliance yield is reflected in estimation for each component of the tax gap. Information in HMRC's Annual Report and Accounts and 'Measuring tax gaps' publication are not directly comparable.



The annual report and accounts is available on our website www.gov.uk/government/collections/hmrcs-annual-report-and-accounts



The methodological annex is available on our website www.gov.uk/government/statistics/measuring-tax-gaps

Measurement methods

VAT and most excise tax gaps are estimated using a 'top-down' approach; by comparing consumption expenditure data with tax receipts. Most other components are estimated using a 'bottom-up' approach, building up from our own operational data and management information. The way we estimate each tax gap component and the data we use is set out in the relevant chapters, with additional information in the 'Methodological annex'.



Top-down estimates

Independent, external data on consumption is used to estimate the tax base.

This tax base is used to calculate a theoretical value of tax that should be paid.

The actual amount of tax paid is subtracted from this theoretical value to estimate the tax gap.



These estimates are combined to estimate the tax gap.

Different methods and data sources are used to estimate how much tax is lost within each area.

HMRC uses internal data and operational knowledge to identify areas of potential tax loss.

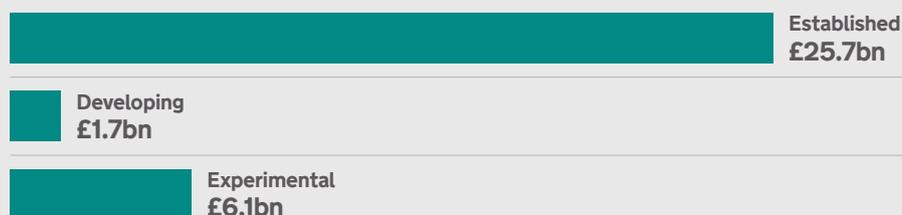
Bottom-up estimates



The methodological annex is available on our website www.gov.uk/government/statistics/measuring-tax-gaps

The total tax gap is comprised of established statistical methods and illustrative estimates based on experimental methodologies. Figure 1.8 shows that more than three quarters of the 2016-17 tax gap is estimated using established methods. Experimental methodologies are used to produce illustrative estimates where there is no direct measurement data. For these tax gap components, we use the best available data, simple models and assumptions to build an illustrative estimate of the tax gap.

Figure 1.8: Tax gap by type of methodology, 2016-17



Accuracy and uncertainty

Due to the methodologies used, all tax gap estimates are subject to error, are uncertain and can change from year to year due to improvements in method and data updates. Where possible, confidence intervals and ranges are set out for components of the tax gap in the relevant chapters.

The main sources of error are systematic errors in the assumptions used to calculate the estimates and sampling errors in the data used. Where possible, a robust estimate of the error margin is provided.

The methodologies used to calculate tax gaps are subject to regular review which could result in revisions to any of the published estimates. Estimates are made on a like-for-like basis each year to enable users to interpret trends, although some smaller tax gaps are not updated each year. Where data sources change over time, every effort has been made to ensure consistency in the series but this is another potential source of uncertainty.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Assurance

Our tax gap estimates are produced with the highest levels of quality assurance and adhere to the values, principles and protocols set out in the Code of Practice for Official Statistics.

The way in which the UK calculates its tax gap was assessed by the International Monetary Fund in August 2013. They concluded that: "HMRC's tax gap analysis program is comprehensive in tax coverage, effectively addresses its multiple dimensions, and work is ongoing to enhance its support to HMRC management. Tax gaps are estimated for most parts of the taxes administered by HMRC. In this regard, HMRC produces one of the most comprehensive studies of tax gap estimates internationally. In general, the models and methodologies used by HMRC to estimate the tax gap across taxes are sound and consistent with the general approaches used by other countries."

We continue to engage with academics, international institutions and other fiscal authorities, as well as the UK's National Audit Office and Office for National Statistics, to ensure we produce estimates in line with best practice.



Code of Practice for Official Statistics:

www.statisticsauthority.gov.uk/monitoring-and-assessment/code-of-practice

United Kingdom: Technical Assistance Report – Assessment of HMRC's Tax Gap Analysis:

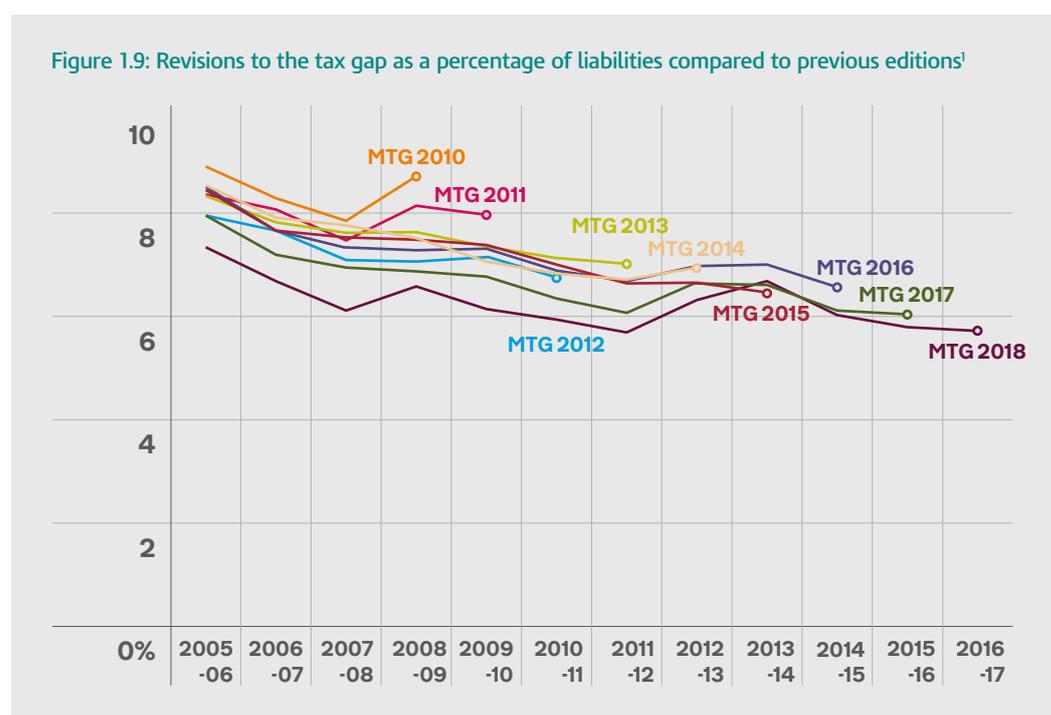
www.imf.org/external/pubs/ft/scr/2013/cr13314.pdf

Revisions to tax gap estimates

Many tax gap component estimates have been revised since 'Measuring tax gaps 2017 edition'. This is due to improvements in the way they are calculated, the availability of more up-to-date data and projections based on more recent years' information. The National Audit Office has endorsed HMRC's good practice in adjusting previous figures where necessary and being transparent about the revisions.

Table 1.8 (at the end of the chapter) summarises the amount of revisions for each component of the tax gap. Table 1.9 (at the end of the chapter) summarises the reasons. Further information is available within the relevant chapters.

Figure 1.9 shows the revisions made to the overall tax gap estimates for editions published since 'Measuring tax gaps 2010 edition'. This illustrates the uncertainty around the estimation of tax gaps, and highlights why they are best used as a long-term indicator of compliance.



¹ MTG stands for 'Measuring tax gaps'.

Table 1.1: Tax gap components

Tax	Type	Component	2016-17	
			Percentage tax gap ¹	Point estimate (£ billion) ²
Value Added Tax	Total VAT		8.9%	11.7
		Cigarette duty	15.6%	1.4
Tobacco duties		Hand-rolling tobacco duty	30.6%	0.5
		Total tobacco duties	18.1%	1.9
		Spirits duty	4.1%	0.1
Excise duties ³	Alcohol duties	Beer duty	15.0%	0.6
		Wine duty	2.9%	0.1
		Total alcohol duties	7.3%	0.9
	Hydrocarbon oils duties	Hydrocarbon oils duties	0.5%	0.1
	Other excise duties	Other excise duties	5.4%	0.2
	Total excise duties	5.8%	3.1	
Income tax, National Insurance Contributions, Capital Gains Tax	Self Assessment	Non-business taxpayers	8.2%	1.6
		Business taxpayers	28.5%	5.1
		Large partnerships	11.5%	1.3
		Total Self Assessment	16.4%	7.9
	PAYE	Small business employers	1.1%	0.6
		Mid-sized business employers	1.1%	0.6
		Large business employers	1.1%	1.7
		Total PAYE	1.1%	2.9
	Avoidance	Total avoidance (IT, NICs and CGT)	n/a	0.7
	Hidden economy	Ghosts ⁴	n/a	0.9
Moonlighters ⁵		n/a	0.9	
Total hidden economy (IT, NICs and CGT)		n/a	1.8	
	Total income tax, National Insurance Contributions and Capital Gains Tax	4.2%	13.5	
Corporation Tax		Small businesses	8.8%	1.6
		Mid-sized businesses	9.2%	0.9
		Large businesses	5.3%	1.1
		Total Corporation Tax	7.4%	3.5
Stamp duties	Stamp Duty Land Tax	1.1%	0.1	
	Stamp Duty Reserve Tax	1.0%	0.0	
	Total stamp duties	1.1%	0.2	
Other taxes	Other direct taxes	Inheritance Tax	11.0%	0.6
		Petroleum Revenue Tax ⁶	n/a	n/a
	Other indirect taxes	Landfill Tax	11.3%	0.1
		Other Environmental taxes and Insurance Premium Tax	5.0%	0.7
	Total other taxes	4.5%	1.6	
Total tax gap⁷			5.7%	33

1 Tax gap as a proportion of theoretical liability which is defined as the tax gap plus the amount of tax actually received. Total percentage tax gap estimates are rounded to the nearest 0.1% with individual estimates rounded to the nearest 1%.

2 The overall tax gap is rounded to the nearest £1 billion. Other estimates are rounded to the nearest £100 million.

3 All excise tax gap point estimates and percentage tax gaps include duty only.

4 Ghosts are individuals whose entire income is unknown to HMRC.

5 Moonlighters are individuals who are known to us in relation to part of their income, but have other sources of income that HMRC does not know about.

6 Petroleum Revenue Tax was zero-rated from 1 January 2016.

7 We will be looking to incorporate emerging data sources as a result of offshore disclosure facilities and related work.

Developing methodology

Illustrative indicators for gaps with no direct measure

Table 1.2: Percentage tax gap by type of tax¹

Tax	Type	Percentage tax gap ²							
		2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	
Value Added Tax	Total VAT	12.5%	9.3%	9.5%	10.0%	9.0%	8.4%	8.9%	
	Tobacco duties	22.0%	13.0%	15.2%	16.7%	13.0%	16.6%	18.1%	
	Alcohol duties	7.0%	6.4%	7.4%	8.8%	11.0%	7.8%	7.3%	
	Excise duties	Hydrocarbon oils duties	2.8%	0.6%	0.2%	0.1%	0.1%	0.1%	0.5%
		Other excise duties	7.7%	4.7%	4.6%	6.3%	6.1%	5.5%	5.4%
	Total excise duties	8.1%	4.6%	5.2%	5.9%	5.5%	5.5%	5.8%	
Income tax, National Insurance Contributions, Capital Gains Tax	Self Assessment	15.1%	16.0%	21.1%	21.5%	18.4%	18.4%	16.4%	
	PAYE	1.6%	1.5%	1.5%	1.7%	1.3%	1.2%	1.1%	
	Avoidance ³	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Hidden economy ³	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
		Total personal income taxes	4.5%	4.2%	5.0%	5.4%	4.6%	4.5%	4.2%
Corporation Tax	Small businesses	21.7%	9.9%	12.7%	10.7%	10.9%	8.6%	8.8%	
	Mid-sized businesses	14.4%	8.7%	11.2%	10.0%	10.5%	9.1%	9.2%	
	Large businesses	9.5%	5.4%	4.5%	5.0%	5.4%	5.3%	5.3%	
		Total Corporation Tax	12.4%	7.2%	8.5%	8.0%	8.4%	7.3%	7.4%
Other taxes ⁴	Stamp duties	2.5%	2.6%	1.8%	1.2%	1.3%	1.3%	1.1%	
	Other direct taxes	3.5%	7.4%	8.1%	8.7%	10.8%	12.4%	12.5%	
	Other indirect taxes	7.5%	4.3%	4.3%	5.3%	5.5%	5.4%	5.4%	
		Total other taxes	4.3%	4.3%	4.2%	4.2%	4.4%	4.6%	4.5%
Total tax gap		7.3%	5.6%	6.3%	6.6%	6.0%	5.7%	5.7%	

1 Figures for previous years have been revised.

2 Estimates are rounded to nearest 0.1%.

3 Percentage tax gap estimates for avoidance and the hidden economy are not shown as tax receipts cannot be calculated.

4 'Other taxes' includes stamp duties, Inheritance Tax, environmental taxes, Insurance Premium Tax and Landfill Tax. Note that Petroleum Revenue Tax was zero-rated from 1 January 2016.



A full time series is available at www.gov.uk/government/collections/measuring-tax-gaps

Table 1.3: Tax gap (cash figure) by type of tax¹

Tax	Type	2005-06	Point estimates (£ billion) ²					
			2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Value Added Tax	Total VAT	10.4	10.0	10.6	11.7	11.1	10.6	11.7
	Tobacco duties	2.2	1.4	1.7	1.9	1.4	1.9	1.9
	Alcohol duties	0.6	0.7	0.8	1.0	1.3	0.9	0.9
Excise duties	Hydrocarbon oils duties	0.7	0.2	0.1	0.0	0.0	0.0	0.1
	Other excise duties	0.1	0.1	0.1	0.2	0.2	0.2	0.2
	Total excise duties	3.6	2.3	2.6	3.1	2.9	3.0	3.1
	Self Assessment	4.6	5.1	7.4	8.2	7.6	8.2	7.9
	PAYE	3.2	3.6	3.5	4.1	3.1	3.0	2.9
Income tax, National Insurance Contributions, Capital Gains Tax	Avoidance	1.5	1.1	1.2	1.4	1.1	0.8	0.7
	Hidden economy	1.3	1.5	1.5	1.6	1.7	1.7	1.8
	Total personal income taxes	10.6	11.3	13.6	15.2	13.4	13.8	13.5
	Small businesses	2.0	1.3	1.9	1.7	1.9	1.5	1.6
Corporation Tax	Mid-sized businesses	0.9	0.7	0.9	0.8	1.0	0.8	0.9
	Large businesses	3.2	1.4	1.0	1.0	1.1	1.1	1.1
	Total Corporation Tax	6.1	3.3	3.7	3.4	4.0	3.4	3.5
	Stamp duties	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Other taxes ³	Other direct taxes	0.2	0.4	0.4	0.4	0.5	0.6	0.6
	Other indirect taxes	0.6	0.5	0.5	0.6	0.7	0.7	0.8
	Total other taxes	1.1	1.1	1.1	1.2	1.4	1.5	1.6
Total tax gap		32	28	32	35	33	32	33
Total theoretical tax liabilities		437	498	504	523	543	561	590
Total percentage tax gap (%)		7.3%	5.6%	6.3%	6.6%	6.0%	5.7%	5.7%

1 Figures for previous years have been revised.

2 The overall tax gap is rounded to the nearest £1 billion. Other estimates are rounded to the nearest £100 million. Figures may not appear to sum due to rounding.

3 'Other taxes' includes stamp duties, Inheritance Tax, environmental taxes, Insurance Premium Tax and Landfill Tax. Note that Petroleum Revenue Tax was zero-rated from 1 January 2016.

Estimates for these years are projections and will be revised when operational data becomes available.



A full time series for tables is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps-tables

Table 1.4: Tax gap time series by customer group, percentage of total theoretical liabilities¹

Customer group	2005-06		2011-12		2012-13		2013-14		2014-15		2015-16		2016-17	
	%	£bn												
Small businesses	2.6	11.2	2.4	11.8	2.8	14.0	2.8	14.4	2.6	14.3	2.5	14.1	2.3	13.7
Large businesses	1.8	7.7	1.2	6.1	1.2	6.0	1.3	6.7	1.2	6.6	1.2	6.5	1.2	7.0
Criminals	1.7	7.4	0.9	4.6	1.0	4.8	1.1	5.8	0.9	5.1	0.9	5.0	0.9	5.4
Mid-sized businesses	0.8	3.4	0.6	3.1	0.7	3.7	0.8	4.1	0.7	3.8	0.7	3.7	0.7	3.9
Individuals	0.5	2.2	0.5	2.5	0.6	3.1	0.7	3.6	0.5	2.9	0.5	2.9	0.6	3.4
Total²	7.3	32	5.6	28	6.3	32	6.6	35	6.0	33	5.7	32	5.7	33

1 Figures for previous years have been revised.

2 The overall tax gap is rounded to the nearest £1 billion. Other estimates are rounded to the nearest £100 million. Figures may not appear to sum due to rounding.

Table 1.5: Tax gap time series by behaviour, percentage of total theoretical liabilities and £ billion¹

Behaviour	2005-06		2011-12		2012-13		2013-14		2014-15		2015-16		2016-17	
	%	£bn												
Failure to take reasonable care	1.0	4.6	0.8%	4.0	1.1%	5.5	1.2%	6.1	1.1%	5.8	1.0%	5.8	1.0%	5.9
Criminal attacks	1.7	7.4	0.9%	4.6	1.0%	4.8	1.1%	5.8	0.9%	5.1	0.9%	5.0	0.9%	5.4
Evasion	0.9	4.0	0.8%	3.9	1.0%	5.2	1.0%	5.4	1.0%	5.3	1.0%	5.4	0.9%	5.3
Legal interpretation	0.9	4.1	0.7%	3.5	0.8%	4.2	0.9%	4.8	0.9%	4.7	0.9%	5.2	0.9%	5.3
Non-payment	0.5	2.1	0.9%	4.5	0.8%	4.0	0.8%	4.1	0.7%	3.6	0.6%	3.1	0.6%	3.4
Error	0.6	2.8	0.5%	2.3	0.6%	2.9	0.6%	3.2	0.6%	3.2	0.5%	3.1	0.5%	3.2
Hidden economy	0.5	2.0	0.5%	2.5	0.6%	2.8	0.6%	2.9	0.5%	2.9	0.5%	2.9	0.5%	3.2
Avoidance	1.1	4.9	0.5%	2.7	0.4%	2.2	0.5%	2.4	0.4%	2.1	0.3%	1.8	0.3%	1.7
Total²	7.3%	32	5.6%	28	6.3%	32	6.6%	35	6.0%	33	5.7%	32	5.7%	33

1 Figures for previous years have been revised.

2 The overall tax gap is rounded to the nearest £1 billion. Other estimates are rounded to the nearest £100 million. Figures may not appear to sum due to rounding.

Table 1.6: Avoidance tax gap by type of tax (£ billion)¹

Type of tax	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Corporation Tax	2.8	1.2	0.7	0.8	0.8	0.8	0.8
Income tax, National Insurance Contributions and Capital Gains Tax	1.5	1.1	1.2	1.4	1.1	0.8	0.7
Value Added Tax	0.4	0.3	0.1	0.1	0.1	0.1	0.1
Other taxes ²	0.2	0.2	0.1	0.1	0.0	0.1	0.1
Total³	4.9	2.7	2.2	2.4	2.1	1.8	1.7

1 Figures for previous years have been revised.

2 'Other taxes' includes stamp duties, Inheritance Tax, environmental taxes, Insurance Premium Tax and Landfill Tax. Note that Petroleum Revenue Tax was zero-rated from 1 January 2016.

3 Figures may not appear to sum due to rounding.

Table 1.7: Description of behaviours

Behaviours	Description
Criminal attacks	Organised criminal gangs undertake co-ordinated and systematic attacks on the tax system. This includes smuggling goods such as alcohol or tobacco, VAT repayment fraud and VAT Missing Trader Intra-Community (MTIC) fraud.
Evasion	Tax evasion is an illegal activity, where registered individuals or businesses deliberately omit, conceal or misrepresent information in order to reduce their tax liabilities.
Hidden economy	Undeclared economic activity that involves what we call 'ghosts' – whose entire income is unknown to HMRC, and 'moonlighters' – who are known to us in relation to part of their income, but have other sources of income that HMRC does not know about. There is a difference between the hidden economy and tax evasion: <ul style="list-style-type: none"> • Hidden economy – where an entire source of income is not declared. • Tax evasion – where a declared source of income is deliberately understated.
Avoidance	Avoidance is exploiting the tax rules to gain a tax advantage that Parliament never intended. It often involves contrived, artificial transactions that serve little or no commercial purpose other than to produce a tax advantage. It involves operating within the letter but not the spirit of the law. <p>It does not include international tax arrangements like base erosion and profit shifting (BEPS), which will be tackled multilaterally through the Organisation for Economic Co-operation and Development (OECD). The OECD defines BEPS as "tax planning strategies that exploit gaps and mismatches in tax rules to make profits disappear for tax purposes or to shift profits to locations where there is little or no real activity but the taxes are low resulting in little or no overall corporate tax being paid".</p> <p>Tax avoidance is not the same as tax planning. Tax planning involves using tax reliefs for the purpose for which they were intended. For example, claiming tax relief on capital investment, saving in a tax-exempt ISA or saving for retirement by making contributions to a pension scheme are all forms of tax planning.</p>
Legal interpretation	Legal interpretation losses arise where the customer's and HMRC's interpretation of the law and how it applies to the facts in a particular case, result in a different tax outcome. Examples include the correct categorisation of an asset for allowances, the allocation of profits within a group of companies, or VAT liability of a particular supply.
Non-payment	For direct taxes, non-payment refers to tax debts that are written off by HMRC and result in a permanent loss of tax – mainly as a result of insolvency. It does not include debts that are eventually paid. <p>VAT non-payment differs as it is based on the difference between new debts arising and debt payments (see Chapter 2 of the main publication).</p>
Failure to take reasonable care	Failure to take reasonable care results from a customer's carelessness and/or negligence in adequately recording their transactions and/or in preparing their tax returns. Judgements of 'reasonable care' should consider and reflect a customer's knowledge, abilities and circumstances.
Error	Errors result from mistakes made in preparing tax calculations, completing returns or in supplying other relevant information, despite the customer taking reasonable care.



1 More information and frequently asked questions on the OECD's Inclusive Framework on BEPS can be found at: www.oecd.org/ctp/beps-frequentlyaskedquestions.htm

Table 1.8: Revisions to estimates since 2017 edition of 'Measuring tax gaps'

Tax	Type	Component	Point estimates (£ billion) ^{1,2}					
			2005-06	2011-12	2012-13	2013-14	2014-15	2015-16
Value Added Tax	Total VAT		-1.1	-1.4	-2.0	-1.9	-1.3	-1.9
	Tobacco duties	Cigarette duty	-	-	-	-	-	-
		Hand-rolling tobacco duty	-	-	-	-	-	-
		Total tobacco duties	-	-	-	-	-	-
Excise duties	Alcohol duties	Spirits duty	+0.1	neg	+0.1	+0.1	neg	neg
		Beer duty	-	-0.1	+0.1	+0.1	neg	neg
		Wine duty	-	-	-	-	-	-
		Total alcohol duties	+0.1	-0.1	+0.2	+0.2	neg	neg
	Hydrocarbon oils duties	Hydrocarbon oils duties	-	-	-	-	-	-
	Other excise duties	Other excise duties	neg	neg	neg	neg	neg	neg
	Total excise duties		+0.1	-0.1	+0.2	+0.2	neg	neg
	Self Assessment	Non-business taxpayers	-0.1	neg	+0.1	+0.4	-0.5	-0.6
		Business taxpayers	-0.7	neg	+0.1	+0.7	+0.7	+0.9
		Large partnerships	-0.1	neg	neg	+0.3	neg	neg
		Total Self Assessment	-0.9	neg	+0.2	+1.3	+0.2	+0.3
Income tax, National Insurance Contributions, Capital Gains Tax	PAYE	Small business employers	-	neg	neg	neg	-0.1	neg
		Mid-sized business employers	neg	neg	neg	-0.1	-0.1	-0.1
		Large business employers	neg	neg	neg	+0.1	+0.1	+0.1
		Total PAYE	neg	+0.1	neg	-0.1	-0.1	neg
	Avoidance	Total avoidance (IT, NICs and CGT)	neg	+0.1	neg	+0.1	+0.1	-0.2
	Hidden economy	Ghosts	-0.3	-0.2	-0.2	-0.1	neg	neg
		Moonlighters	neg	neg	neg	neg	neg	neg
		Total hidden economy (IT, NICs and CGT)	-0.3	-0.2	-0.2	-0.1	neg	neg
	Total IT, NICs and CGT		-1.2	-0.2	+0.1	+1.2	+0.2	+0.1
Corporation Tax		Small businesses	neg	neg	+0.2	+0.2	+0.4	+0.1
		Mid-sized businesses	-0.3	-0.2	+0.1	+0.1	+0.1	neg
		Large businesses	-0.3	neg	-0.3	neg	neg	neg
	Total Corporation Tax		-0.6	-0.2	-0.1	+0.3	+0.5	+0.1
	Stamp duties	Stamp Duty Land Tax	-	-	-	-	-	-
		Stamp Duty Reserve Tax	-	-	-	-	-	-
		Total stamp duties	-	-	-	-	-	-
Other taxes	Other direct taxes	Inheritance Tax	-	-	-	-	-	-
		Petroleum Revenue Tax	-	-	-	-	-	-
	Other indirect taxes	Landfill Tax	-	-	-	-	-	-
		Other environmental taxes and Insurance Premium Tax	+0.1	-	-	+0.1	-	-
	Total other taxes		+0.1	-	-	+0.1	-	-
Total tax gap			-2.7	-1.9	-1.7	+0.1	-0.6	-1.6

1 Neg denotes revisions less than £50 million.

2 Revisions may not exactly sum due to rounding.



A full time series for tables is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps-tables

Table 1.9: Description of revisions since last edition

Tax gap component	Revisions
Value Added Tax	Revisions have been made to the VAT gap estimates since last year's publication 'Measuring tax gaps 2017 edition'. This resulted in a decrease in the level of the VAT gap for all years of around 1% or £1 to £2 billion, see Figure 2.3. These revisions were a result of incorporating new and updated data from the Office for National Statistics (ONS) and a number of changes to HMRC methodology, mainly to ensure the correct treatment of the data in the estimates. For more detail, see the 'Revisions' section in Chapter 2.
Excise duties	
Alcohol	<p>There have been revisions to the historical time series to reflect two methodological changes.</p> <ol style="list-style-type: none"> 1 Following a change in the Living Costs and Food survey guidance, revisions have been made to the approach for allocating other drink expenditure to spirit and beer expenditure. 2 Revisions have also been made due to extending the treatment of extreme values (outliers) in the Living Costs and Food survey to on-licence expenditure. <p>Due to changes in underlying data sources used to estimate commercial wine consumption it was not possible to estimate the 2013-14, 2014-15, 2015-16 and 2016-17 tax gaps directly. An illustrative example has been provided for 2013-14 to 2016-17 using the average of the 2011-12 and 2012-13 estimates.</p>
Other excise duties	Revisions have been made to previous years due to revisions in the underlying data.
Income tax, National Insurance Contributions, Capital Gains Tax	
Self Assessment (SA)	<p>There have been revisions to the whole time series following three methodological changes:</p> <ol style="list-style-type: none"> 1 the treatment of deselected (unworked) cases 2 updated capping methodology of outlier values 3 changes to the data management and processing of the random enquiry programme data. <p>In addition, the following have also led to revisions since last year's publication:</p> <ol style="list-style-type: none"> 4 the tax gap estimates for SA business and SA non-business for 2014-15 and SA non-business for 2013-14 are revised as they are now based on actual data rather than being projected 5 the SA tax gap estimates for 2015-16 are revised as they are now projected from the updated 2014-15 data 6 settlement of long-running cases for which we previously had to forecast the outcome.
PAYE small business employers	<p>There have been revisions to the whole time series following three methodological changes:</p> <ol style="list-style-type: none"> 1 the treatment of deselected (unworked) cases 2 updated capping methodology of outlier values 3 changes to the data management and processing of the random enquiry programme data. <p>In addition, the tax gap estimates for 2015-16 are revised as they are now based on actual data rather than being projected.</p>

PAYE Mid-sized business employers	<p>There have been revisions to the whole time series following three methodological changes:</p> <ol style="list-style-type: none"> 1 the treatment of deselected (unworked) cases 2 updated capping methodology of outlier values 3 changes to the data management and processing of the random enquiry programme data. <p>In addition, the tax gap estimates for 2015-16 are revised as they are now based on actual data rather than being projected. There have also been some small revisions due to the use of updated figures for declared liabilities.</p>
PAYE large business employers	There have been some small revisions due to the use of updated figures for declared liabilities.
Avoidance	There have been revisions to the 2015-16 estimates. This is due to more up to date and accurate information becoming available from HMRC's management information systems regarding avoidance schemes and how the tax losses are distributed across the years.
Hidden economy	Estimates for the hidden economy tax gap have been revised down slightly due to a methodological change to the indexation of the data from the hidden economy survey. The data from the hidden economy survey incorporated in the 2017 edition of Measuring tax gaps related to 2015-16, and this has now been indexed back to 2005-06 using data from the Family Resources Survey on low income individuals.
Corporation Tax	
Small businesses	<p>There have been revisions to the whole time series following three methodological changes:</p> <ol style="list-style-type: none"> 1 the treatment of deselected (unworked) cases 2 updated capping methodology of outlier values 3 changes to the data management and processing of the random enquiry programme data. <p>In addition, the following have also led to revisions since last year's publication:</p> <ol style="list-style-type: none"> 4 the tax gap estimates for 2015-16 are revised as they are now based on actual data rather than being projected 5 updated figures for declared liabilities has caused minor revisions to the whole time series 6 the settlement of long-running cases for which we previously had to forecast the outcome.
Mid-sized businesses	There have been some small revisions due to the use of updated figures for declared liabilities and more accurate classification of risks in HMRC's administrative systems.
Large businesses	There have been some small revisions due to the use of updated figures for declared liabilities and more accurate classification of risks in HMRC's administrative systems.
Other taxes	
Other environmental taxes and Insurance Premium Tax	Revisions have been made to previous years due to revisions in the underlying data.

2. VAT



1 Income tax, National Insurance Contributions and Capital Gains Tax.

Key findings

The VAT gap is estimated to be £11.7 billion in 2016-17. This equates to 8.9% of net VAT total theoretical liability.

There has been a long-term reduction between 2005-06 and 2016-17 for the VAT (Value Added Tax) gap (12.5% to 8.9%).

The VAT gap estimates are often revised because of both new and updated data, as well as methodological improvements. In this publication, new and updated data was available from the Office for National Statistics (ONS) National Accounts Blue Book 2017 and Consumer Trends up to and including 2017 quarter four. This reduced the VAT gap in all years back to 2005-06.

The Missing Trader Intra-Community (MTIC) fraud estimate reduced to less than £0.5 billion in 2016-17, from between £0.5 billion and £1 billion in 2015-16.¹ See the 'Methodology and data issues' section for the definition of MTIC.

VAT debt has been fairly stable since 2011-12. It is estimated at £1.5 billion in 2016-17.

Around 70% of the VAT total theoretical liability in 2016-17 was from household consumption. The remaining gap was from consumption by businesses making exempt supplies and from the government and housing sectors.

Around half of household VAT-able expenditure was from restaurants and hotels, transport and recreation and culture (see Figure 2.2). This was consistent with estimates in previous years.

1 Note that MTIC fraud was not re-estimated in 2015-16, instead the estimate was rolled forward from 2014-15.

Results and tables

Table 2.1 shows the estimated net VAT total theoretical liability (VTTL), net VAT receipts and the estimated VAT gap for years 2005-06 to 2016-17.

The VAT gap shows a downward trend from 2005-06 to 2016-17, falling from 12.5% in 2005-06 to 8.9% in 2016-17. Over this period, the standard rate of VAT fluctuated between 15% and 20%. The VAT gap expressed as a percentage of VTTL provides a like-for-like comparison and takes account of the impact of any rate change.

The VAT gap increased between 2015-16 and 2016-17 from 8.4% to 8.9%.

Table 2.1: Estimated VAT gap (£ billion)^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Net VTTL	83.3	108.2	111.1	116.4	122.4	126.1	131.5
Net VAT receipts ³	72.9	98.1	100.6	104.7	111.4	115.4	119.8
VAT gap (point estimate)	10.4	10.0	10.6	11.7	11.1	10.6	11.7
of which MTIC fraud ^{4,5}	2.5-3.5	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0.0-0.5
of which debt	n/a	1.8	1.3	1.2	1.5	1.6	1.5
VAT gap %⁶	12.5%	9.3%	9.5%	10.0%	9.0%	8.4%	8.9%

1 The amounts are rounded to the nearest £0.1 billion.

2 Figures for previous years have been revised.

3 Net VAT receipts are expressed net of payments and repayments.

4 The 2015-16 estimate for MTIC fraud was rolled forward from 2014-15.

5 There is a break in the time series for MTIC fraud from 2011-12 onwards due to a methodological change.

6 The VAT gap as a percentage of VTTL has been rounded to the nearest 0.1%.

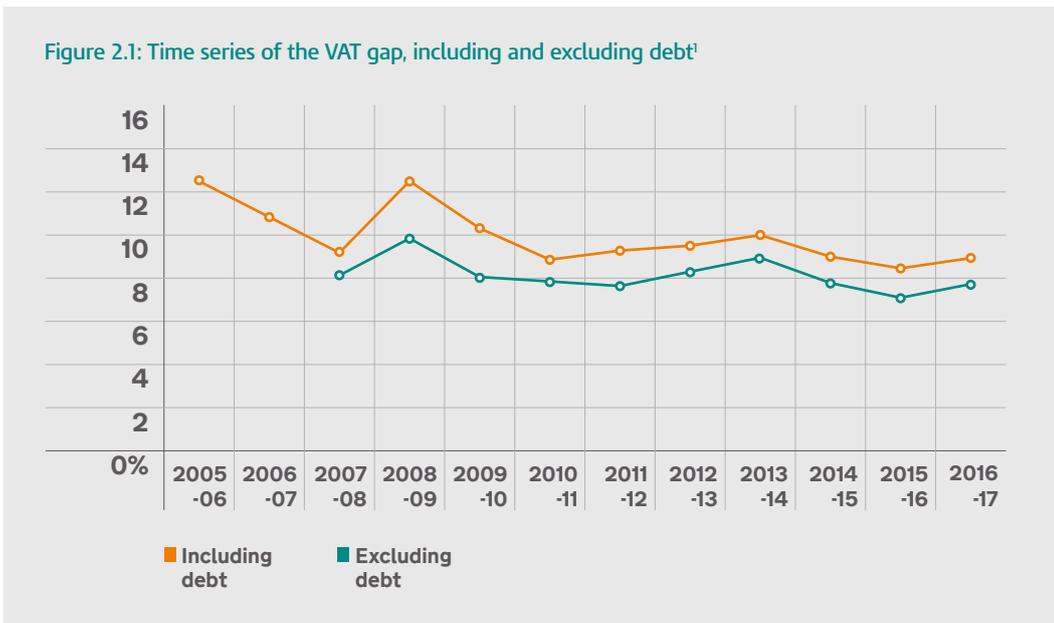
Figure 2.1 shows a time series of the VAT gap over the period 2005-06 to 2016-17. The VAT gap, excluding debt, remained broadly stable from 2009-10 onwards at around 8% of VTTL. Due to data quality issues, the debt contribution can only be measured from 2007-08.



A full time series for tables is available on our website

www.gov.uk/government/statistics/measuring-tax-gaps-tables

Figure 2.1: Time series of the VAT gap, including and excluding debt¹



¹ Figures for previous years have been revised.

Missing Trader Intra-Community (MTIC) fraud

MTIC fraud has declined from a peak in 2005-06 when it was between £2.5 billion and £3.5 billion. In 2016-17, MTIC fraud reduced further to less than £0.5 billion. Given the downward trend in the tax gap for this fraud, we are reviewing whether to continue to publish this estimate as part of 'Measuring tax gaps'.

VAT debt

The contribution of debt to the VAT gap is defined as the amount of VAT declared by businesses but not paid to HMRC (see 'Methodology and data issues' section for the definition of VAT debt). The VAT gap showed a peak at 12.6% in 2008-09, which was partly because the recession caused an increase in VAT debt from £0.9 billion in 2007-08 to £2.4 billion in 2008-09. VAT debt has been fairly stable since 2011-12. It is estimated at £1.5 billion in 2016-17.

Avoidance

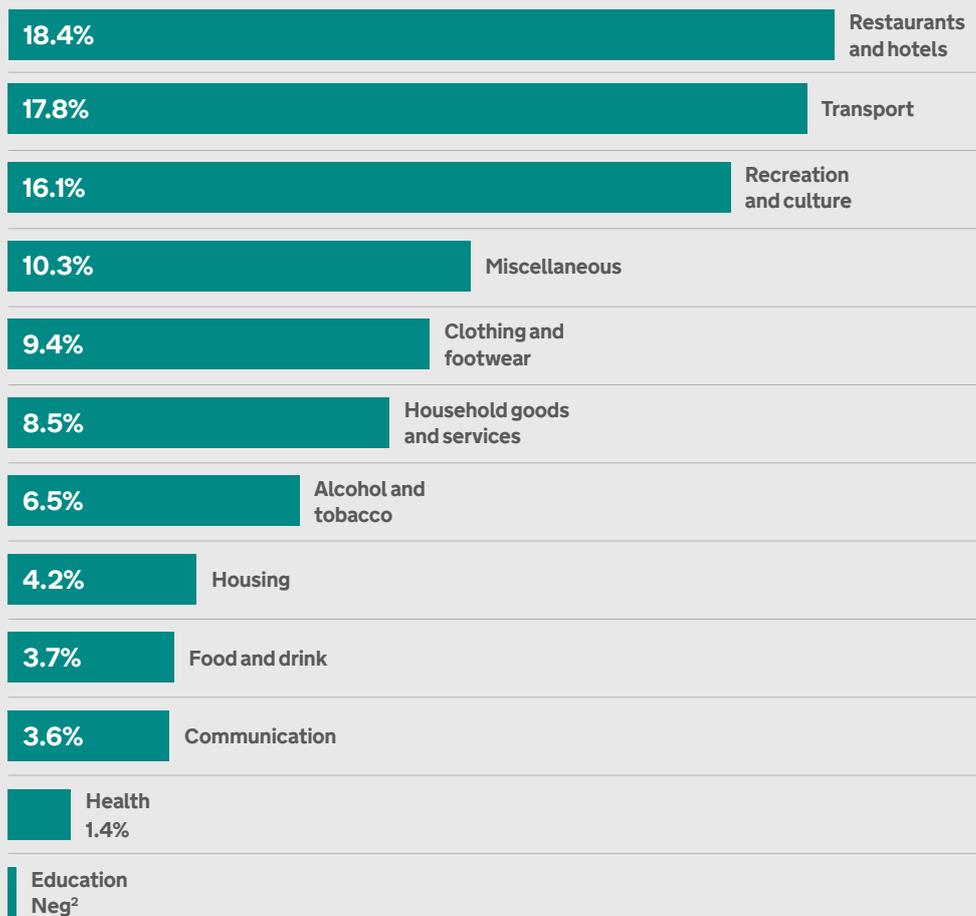
VAT avoidance is another component of the VAT gap. Avoidance is bending the rules of the tax system to gain a tax advantage that Parliament never intended. It often involves contrived, artificial transactions that serve little or no purpose other than to produce a tax advantage. It involves operating within the letter, but not the spirit, of the law (see Table 1.7). VAT avoidance is estimated at £0.1 billion in 2016-17. Given the downward trend in the tax gap for this behaviour, we are reviewing whether to continue to publish this estimate as part of 'Measuring tax gaps'.

Expenditure in the household sector

Each estimated household VAT-able expenditure component for 2016-17 is illustrated in Figure 2.2.

Restaurants and hotels, transport and recreation and culture were the largest elements of household consumption. This was consistent with the estimates in previous years and suggested that the reduction in the VAT gap over the last few years was due to HMRC measures to help businesses pay the right amount of tax and tackle those that do not comply, rather than being due to changes in household expenditure liable for VAT.

Figure 2.2: VAT-able expenditure for the household sector in 2016-17¹



¹ Numbers may not sum due to rounding.

² Neg denotes negligible; an estimate less than 0.05%.

Methodology and data issues

Methodology

The VAT gap is measured by comparing the net VAT total theoretical liability (VTTL) with actual VAT receipts (this is comparing the amount of VAT HMRC expects to receive in the UK and the VAT HMRC actually receives). The VAT gap methodology uses a 'top-down' approach which involves the following steps:

1. Assessing the total amount of expenditure in the UK economy

Gathering data detailing the total amount of expenditure in the economy that is subject to VAT, primarily from the Office for National Statistics (ONS). This is built up from five expenditure components: household consumption, capital expenditure on housing, government expenditure, non-profit institutions serving households' expenditure and expenditure of businesses making exempt supplies.

2. Estimating the VAT liability on total expenditure

Applying the rate of VAT (zero, reduced or standard rate) on that expenditure based on commodity breakdowns of the expenditure data to derive the gross VTTL.

3. Deducting any legitimate reductions

Deducting any legitimate reductions occurring through schemes and reliefs to calculate the net VTTL.

4. Subtracting actual VAT receipts

Subtracting actual VAT receipts from the net VTTL. Comparing the net VTTL for the calendar year to VAT receipts for the corresponding financial year. This assumes a three-month lag between the economic activity and payment of the associated VAT to HMRC.

5. Calculating the VAT gap

Calculating the residual element – the VAT gap – which is assumed to be the total VAT gap including fraud, debt and other losses.

Data

This publication includes both new data and updated data from the Office for National Statistics (ONS) National Accounts Blue Book 2017 and Consumer Trends up to and including 2017 quarter four.

It was not possible to take on Blue Book 2018 data, as this will not be published until July 2018. Therefore, the housing sector, the government sector and businesses making exempt supplies sector (around 30% of the VTTL) have been forecast for 2016-17 using the growth in nominal consumer spending, household investment income etc. as provided by the Office for Budget Responsibility. The estimates will be updated once HMRC incorporates the new outturn data.

The VAT gap preliminary estimate for 2017-18 is expected to be published on the day of Autumn Budget 2018 and a second estimate is expected to be published at next year's Spring Fiscal Event.



The exact release date will be available on the HMRC website
www.gov.uk/government/statistics/announcements

Missing Trader Intra-Community (MTIC) fraud

MTIC fraud is an organised criminal attack on the European Union's VAT system involving fraudulent traders acquiring goods or services VAT-free from EU member states. They charge VAT on their onward sale and go 'missing' to avoid paying the VAT charged to the relevant tax authorities. One form of the fraud – known as carousel fraud – involves a series of contrived transactions within and beyond the EU, with the aim of creating large unpaid VAT liabilities and in some cases invalid VAT repayment claims.

For operational reasons, we do not reveal how we calculate MTIC fraud estimates.

VAT debt

Debt or non-payment is measured differently for indirect and direct taxes because we use different methods for estimating the tax gaps. For direct taxes we define 'non-payment' to be equal to debt written-off (debts that are not recovered). However, for VAT and other indirect taxes, it is not appropriate to estimate 'non-payment' in this way because the VAT gap is calculated using a top-down approach, then 'non-payment' of VAT will already be included in VAT receipts. Hence VAT 'debt' is defined as new debts arising in the financial year less debt paid and debt adjustments. Debt adjustments refer to the difference between the amount initially declared by the trader and the finalised amount due.

The debt contribution to the VAT gap is estimated using HMRC operational data, with debt adjustments made to exclude MTIC debt and to reflect the deferral of payments under the 'Time to Pay' arrangements. Due to data quality issues, the debt contribution can only be measured from 2007-08.

This methodology does not relate to the stock of debt or debt written off. This means that estimates shown will differ from the VAT debt balance contained in HMRC's Annual Report and Accounts.

Avoidance

The VAT avoidance tax gap is estimated using HMRC's risk register data of avoidance schemes relating to VAT. The methodology has remained unchanged from 'Measuring tax gaps 2017 edition'.

Revisions

Revisions have been made to the VAT gap estimates since last year's publication 'Measuring tax gaps 2017 edition'. This resulted in a decrease in the level of the VAT gap for all years of around 1% or £1 to £2 billion, see Figure 2.3.

These revisions were a result of incorporating new and updated data from the Office for National Statistics (ONS) and a number of changes to HMRC methodology. The main changes are:

- a) taking on data from 'Blue Book 2017' (October 2017), the changes are outlined in a series of articles published by the ONS



The United Kingdom National Accounts, The Blue Book: 2017 Edition is available at www.ons.gov.uk/economy/grossdomesticproductgdp/compendium/unitedkingdomnationalaccountsthebluebook/2017

- b) taking on data from ONS Consumer Trends data (up to and including quarter 4 2017), which is used to calculate the household sector
- c) making improvements to the VTTL model to incorporate new data and methodological changes
- d) taking on the latest forecast from the Office for Budget Responsibility, which is used to forecast parts of the VAT gap where data is unavailable.

Figure 2.3: Revisions to the VAT gap estimates compared to the previous edition

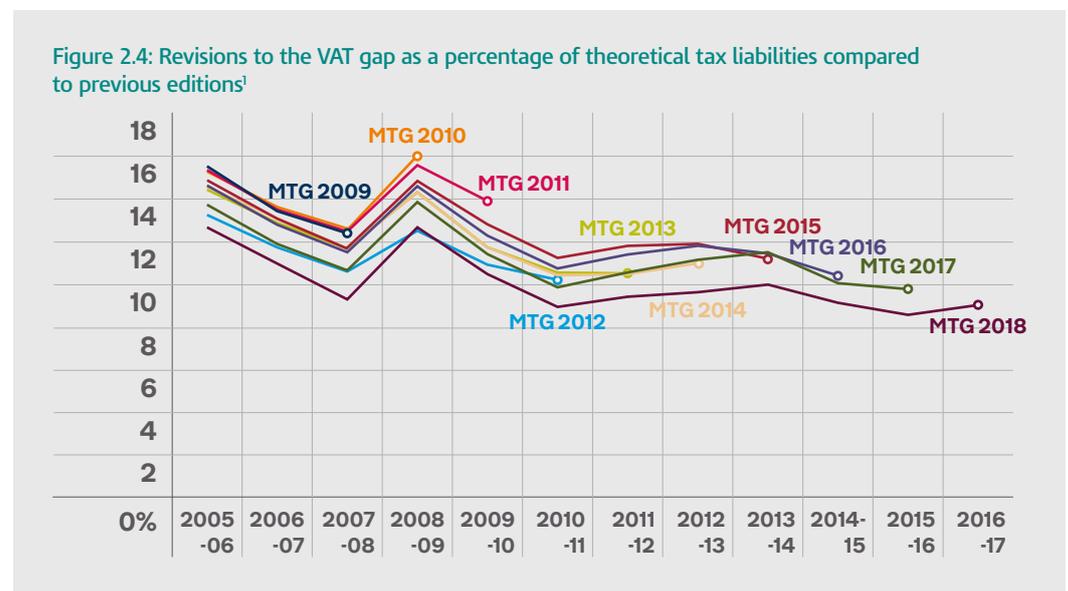


As part of the regular cycle of the VAT gap publications, HMRC continues to review the methodologies it uses to estimate the VAT gap to ensure these use best available data and assumptions, and are in line with current VAT policies.

Sensitivity of the VAT gap

The VAT gap estimates are often revised because of both new and updated data, as well as methodological improvements. Because the VAT gap is derived from two very large numbers (the VTTL and the VAT receipts), any change to either of these numbers will have a large impact on the VAT gap estimates. It is for this reason that the trend in the time series is considered a better indicator of the VAT gap rather than its year-on-year changes.

Figure 2.4 shows how the VAT gap time series changed in each of the 'Measuring tax gaps' (MTG) publications. Although the percentage VAT gap fluctuates, for example 2005-06 varied from 15.4% to 12.5%, the trend is unchanged.



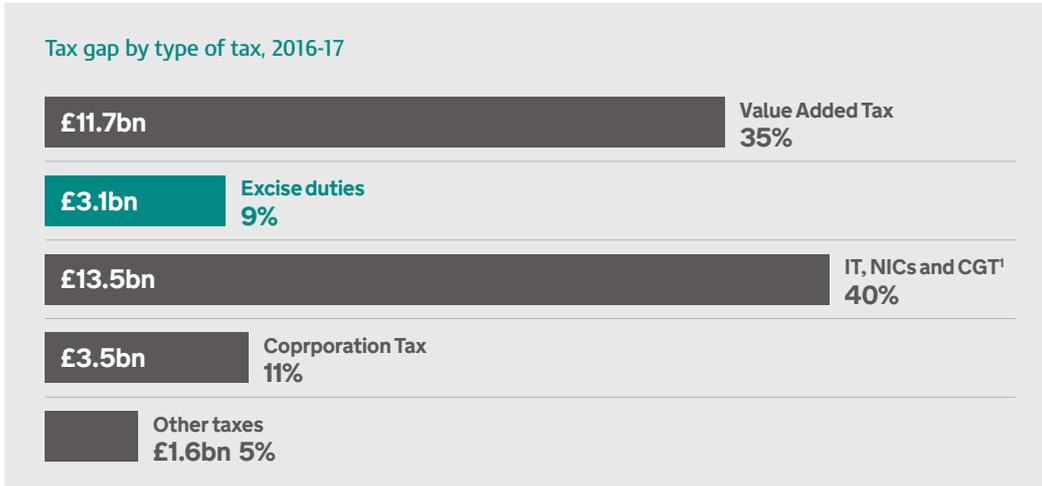
¹ MTG stands for 'Measuring tax gaps'.

Revisions policy for VAT gap estimates

HMRC only publishes a revised historical VAT gap series once a year in the 'Measuring tax gaps' publication, incorporating both new and updated data and methodological improvements together.

The preliminary and second estimate of the VAT gap will only include revisions for new data and required methodology improvements to ensure the correct treatment of this new data. For example, the estimates will be updated with the latest Consumer Trends or Blue Book data as published by the ONS.

3. Excise (including alcohol, tobacco and oils)



¹ Income tax, National Insurance Contributions and Capital Gains Tax.

Key findings

The overall excise tax gap is estimated to be £4.1 billion in 2016-17 (£3.1 billion in excise duty and £1 billion in VAT).

This is broken down into:

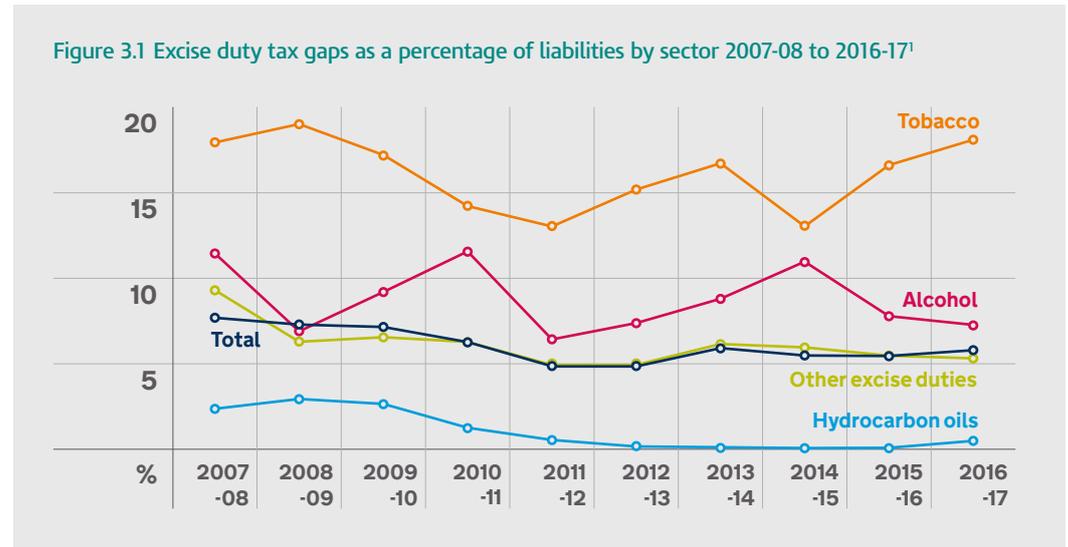
- £2.5 billion tobacco tax gap, with associated losses in tobacco duty (£1.9 billion) and VAT (£0.5 billion)². This includes both cigarettes and hand-rolling tobacco.
- £1.3 billion alcohol tax gap, with associated losses in alcohol duty (£0.9 billion) and VAT (£0.4 billion). This includes beer, spirits and wine.
- £150 million lost in Great Britain (GB) diesel duty and associated VAT.
- £40 million lost in Northern Ireland (NI) diesel duty and associated VAT.
- £170 million lost in other excise duties.

¹ Figure revised compared to 'Tobacco tax gap estimates 2016 to 2017' due to a rounding error.

² Figures do not sum due to rounding.

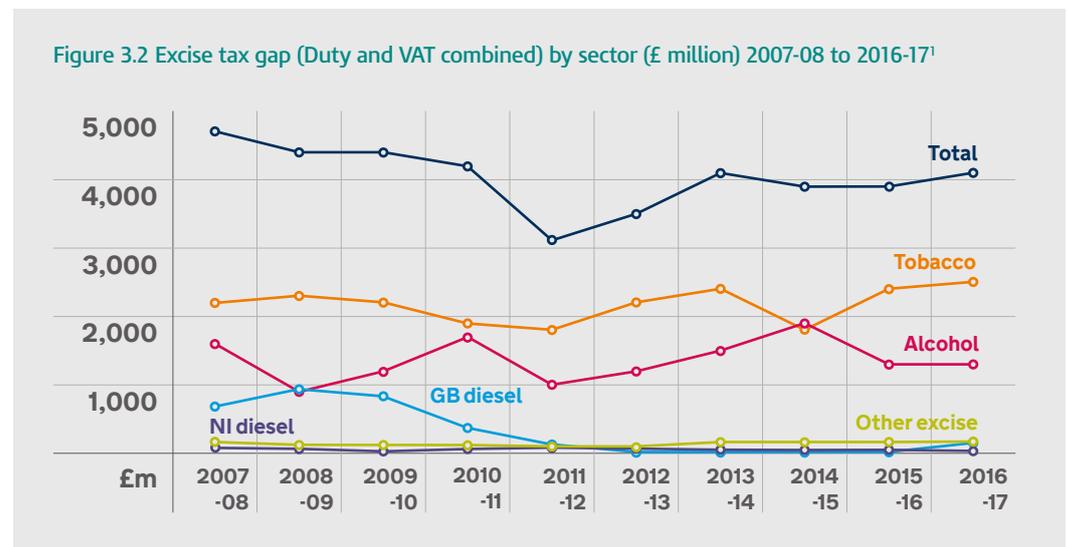
The excise duty tax gap¹ as a percentage of total theoretical tax liabilities has fallen from 8.1% in 2005-06 to 5.8% in 2016-17. See figure 3.1 for excise duty tax gaps as a percentage of liabilities by sector.

¹ Duty only, however note that the total excise tax gap is made up of both duty and VAT. For individual components of the excise tax gap, these are referred to as the illicit market share.



¹ Figures for previous years have been revised.

The overall excise tax gap (duty and VAT combined) has fallen from £4.7 billion in 2007-08 to £4.1 billion in 2016-17. See figure 3.2 for excise tax gap (duty and VAT combined) by sector.



¹ Figures for previous years have been revised.

Alcohol

In 2016-17, the alcohol duty tax gap that comprises beer, spirits and wine was 7.3% of total theoretical liabilities. It has varied between 11.6% and 6.4% in the period 2007-08 to 2016-17.

The alcohol tax gap was £1.3 billion in 2016-17, of which £0.9 billion was in alcohol duties and a further £0.4 billion was in VAT.

Users of these tax gap estimates should note that the methodology used for beer differs from that of spirits and wine in two key areas:

- in estimating the upper and lower bounds of the gap
- in calculating an additional uplift factor for underreporting of consumption.

Information on the different methodologies can be found in the 'Methodological annex'.



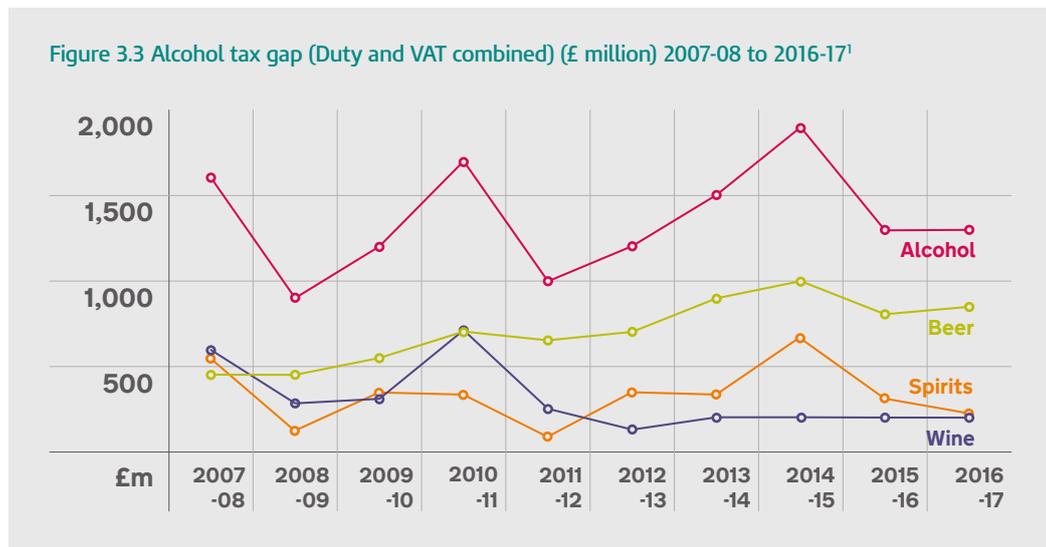
The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Due to the uncertainty in the methodology used, the central estimates should be interpreted as an indicator of long-term trends, rather than as a precise estimate of year-on-year changes.

The historical time series for beer and spirits have been revised due to two methodological changes:

1. changes in the allocation of 'other drink' expenditure and,
2. changes in the approach to extreme values in survey data for on-license expenditure.

More detail is given in the 'Revisions' section at the end of this chapter.



¹ Figures for previous years have been revised.

Beer

The beer illicit market share is estimated at 13% in 2016-17. This resulted in an estimated loss of £600 million in duty and a further £250 million in VAT, giving a total loss of £850 million.

The illicit market share in beer has increased from 9% in 2007-08 to 13% in 2016-17.

HMRC uses two different methods to estimate the beer tax gap. These methods provide an upper estimate and lower estimate. The true tax gap could be anywhere between these two estimates. The implied central estimate is intended to be an indicator of long-term trends.

The lower estimate has remained relatively stable, fluctuating between 6% and 8%. The upper estimate has fluctuated between 12% and 24% between 2007-08 and 2016-17. In 2016-17, the upper estimate of the beer tax gap was 20%.

Table 3.1: Beer: Illicit market share and tax gap^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Illicit market share³							
Upper estimate	8%	15%	16%	22%	24%	19%	20%
Central estimate	n/a	11%	12%	15%	16%	13%	13%
Lower estimate	n/a	7%	8%	7%	7%	7%	6%
Tax gap (£ million)^{4,5}							
Upper estimate	400	900	950	1,400	1,650	1,200	1,350
Implied central estimate	n/a	650	700	900	1,000	800	850
of which VAT	n/a	200	200	300	300	250	250
of which duty	n/a	450	500	650	700	550	600
Lower estimate	n/a	350	400	400	400	400	350

1 Lower and mid-point estimates are not available for years before 2007-08.

2 Figures for previous years have been revised.

3 Figures independently rounded to the nearest 1%.

4 Includes both duty and VAT.

5 Figures independently rounded to the nearest £50 million.



A full time series for tables is available on our website
www.gov.uk/government/collections/measuring-tax-gaps

Spirits

The spirits illicit market share is estimated at 4% in 2016-17. This resulted in an estimated loss of £140 million in duty and a further £90 million in VAT, giving a total loss of £230 million.

The estimates over time for the spirits tax gap are quite volatile. The confidence intervals for the spirits tax gap are wide and year-on-year changes should be interpreted in the context of this statistical uncertainty.

Table 3.2: Spirits: Illicit market share and tax gap¹

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Illicit market share²							
Upper estimate	16%	9%	14%	14%	19%	12%	10%
Central estimate	11%	2%	7%	7%	12%	6%	4%
Lower estimate ³	5%	0%	0%	0%	4%	0%	0%
Tax gap (£ million)^{4,5}							
Upper estimate	630	440	770	770	1150	710	620
Central estimate	410	90	350	340	670	320	230
of which VAT	140	30	130	120	240	120	90
of which duty	270	60	230	220	420	200	140
Lower estimate ³	190	0	0	0	180	0	0

1 Figures for previous years have been revised.

2 Figures independently rounded to the nearest 1%.

3 Negative numbers have been truncated at zero.

4 Includes both duty and VAT.

5 Figures independently rounded to the nearest £10 million.



A full time series for tables is available on our website

www.gov.uk/government/collections/measuring-tax-gaps

Wine

It has not been possible to estimate the wine illicit market share, due to a change in one of the underlying commercial data sources previously used to estimate it. An illustrative estimate of 3% has been provided for 2013-14 to 2016-17 by taking the average illicit market share of 2011-12 and 2012-13. This would indicate a total wine tax gap of around £200 million in 2013-14 to 2016-17. HMRC is exploring alternative data sources in order to develop a new method to estimate the wine tax gap in the future.

Table 3.3: Wine: Illicit market share and tax gap¹

	2011-12	2012-13	2013-14 ²	2014-15 ²	2015-16 ²	2016-17 ²
Illicit market share³						
Upper estimate ⁴	9%	8%	9%	9%	9%	9%
Central estimate	4%	2%	3%	3%	3%	3%
Lower estimate ^{4,5}	0%	0%	0%	0%	0%	0%
Tax gap (£ million)^{6,7}						
Upper estimate ⁴	600	540	630	630	630	630
Central estimate	250	130	200	200	200	200
of which VAT	100	50	80	80	80	80
of which duty	150	80	120	120	120	120
Lower estimate ^{4,5}	0	0	0	0	0	0

1 Figures for previous years have been revised.

2 Estimates for 2013-14, 2014-15, 2015-16 and 2016-17 are illustrative.

3 Figures independently rounded to the nearest 1%.

4 Confidence intervals are experimental and should be taken as illustrative.

5 Negative numbers have been truncated at zero.

6 Includes both duty and VAT.

7 Figures independently rounded to the nearest £10 million.



A full time series for tables is available on our website
www.gov.uk/government/collections/measuring-tax-gaps

Tobacco

The tobacco tax gap is driven by the illicit market in cigarettes and hand-rolling tobacco and is estimated to be £2.5 billion in 2016-17. An estimated total of £1.9 billion was lost in tobacco duties and a further £0.5 billion¹ in VAT. The cigarette tax gap is estimated to be £1.8 billion and the hand-rolling tobacco tax gap is estimated to be £0.7 billion in 2016-17.

Due to the uncertainty inherent in the methodology, the central estimate should be interpreted as an indicator of long-term trends rather than a precise estimate of year-on-year changes.

Trends in the cigarette and hand-rolling tobacco market appear to be diverging. UK tax-paid consumption of cigarettes continues to fall whereas the UK tax-paid consumption of hand-rolling tobacco has steadily increased since 2005-06, levelling off in recent years. There may be a number of reasons for this difference, including consumer preference, price, and policy initiatives.

The combined tobacco tax gap is the sum of the central estimates for cigarettes and hand-rolling tobacco. It is not possible to combine both upper (or equivalently, lower) estimates, so there is no upper or lower bound estimate for the combined tobacco tax gap. More detail on upper and lower bounds is given in the 'Methodology and data issues' section below and in the 'Methodological annex'.

¹ Figure revised compared to 'Tobacco tax gap estimates 2016 to 2017' due to a rounding error.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Table 3.4: Tobacco Tax gap (£ million)^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Cigarette illicit market³							
Upper estimate	2,400	1,600	1,900	2,000	1,500	2,200	2,300
Central estimate	1,900	1,000	1,300	1,400	900	1,600	1,800
of which VAT	300	200	300	300	200	300	400
of which duty	1,500	800	1,000	1,100	700	1,300	1,400
Lower estimate	1,400	400	600	800	400	1,000	1,200
Hand-rolling tobacco illicit market⁴							
Upper estimate	1,000	1,000	1,100	1,200	1,000	1,000	900
Central estimate	800	800	900	1,100	900	800	700
of which VAT	200	200	200	300	200	200	200
of which duty	700	600	700	800	700	600	500
Lower estimate	700	600	700	900	700	600	500
Combined tobacco illicit market⁵	2,700	1,800	2,200	2,500	1,800	2,400	2,500

1 Figures are independently rounded to the nearest £100 million.

2 Includes both duty and VAT.

3 Based on the weighted average price (WAP) of all UK duty paid cigarettes.

4 Weighted average price (WAP) data for all UK duty paid hand rolling tobacco is not available prior to 2012-13, so the losses are based on the price of a 'typical brand'.

5 The upper (or lower) bounds for both cigarette and hand rolling tobacco cannot be combined. Only the central estimates are simultaneously possible.



A full time series for tables is available on our website

www.gov.uk/government/statistics/measuring-tax-gaps-tables

Cigarettes

The cigarette illicit market share is estimated at 15% in 2016-17. This resulted in an estimated loss of £1.4 billion in duty and a further £0.4 billion in VAT, giving a total loss of £1.8 billion.

Total consumption is obtained from the Opinions and Lifestyle Survey conducted by the Office for National Statistics (ONS). The sample is representative of the cigarette-smoking population, but as with all surveys, it suffers from sampling error. Due to the nature of the data, small movements in overall consumption can have noticeable impacts on the estimated illicit market and tax gap.

UK tax-paid cigarette consumption has declined steadily from 49.5 billion cigarettes in 2005-06 to 29.5 billion cigarettes in 2016-17. There has been a long-term decline in the estimated volume of cigarettes in the illicit market from 2005-06 when the central estimate for the illicit market was ten billion cigarettes in the UK. Since 2010-11, the central estimate of the illicit market has been fairly stable, ranging between three billion and 5.5 billion cigarettes. The central estimate of 5.5 billion illicit cigarettes in 2016-17 should be interpreted in the context of statistical uncertainty with an upper estimate of seven billion illicit cigarettes and a lower estimate of four billion illicit cigarettes.

Figure 3.4: Cigarette central estimate for illicit market and UK tax paid consumption (billion cigarettes)

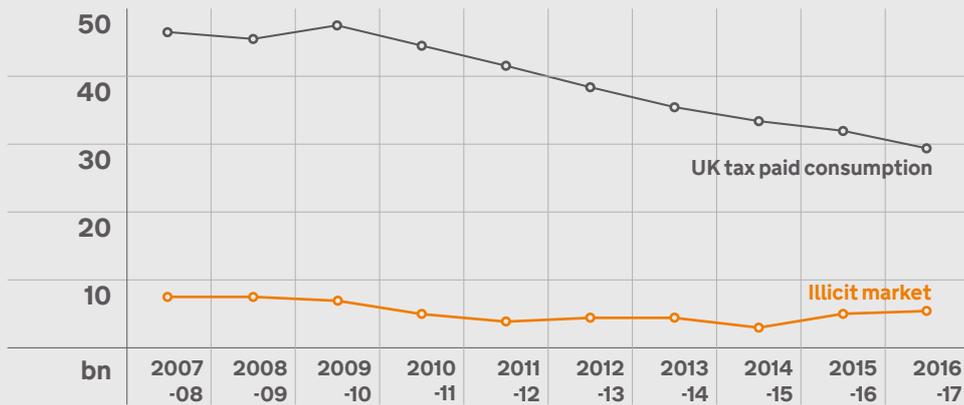


Table 3.5: Cigarettes: Illicit market share and breakdown of volumes (billion cigarettes)¹

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Illicit market share							
Upper estimate	19%	13%	15%	15%	12%	17%	18%
Central estimate	16%	8%	10%	11%	8%	13%	15%
Lower estimate	12%	3%	5%	6%	4%	8%	11%
Total consumption							
Upper estimate	66.5	49.5	47.0	43.5	39.5	40.5	38.0
Central estimate	64.0	47.0	44.5	41.5	38.0	38.5	36.5
Lower estimate	61.5	44.5	42.5	39.5	36.0	36.5	34.5
UK tax paid consumption	49.5	41.5	38.5	35.5	33.5	32.0	29.5
Illicit market							
Upper estimate	12.5	6.5	7.0	6.5	5.0	7.0	7.0
Central estimate	10.0	4.0	4.5	4.5	3.0	5.0	5.5
Lower estimate	7.5	1.5	2.5	2.5	1.5	3.0	4.0
Cross-border shopping²	4.0	1.5	1.5	1.5	1.5	1.5	1.5

¹ Figures are independently rounded to the nearest 1% or 0.5 billion cigarettes.

² Includes duty-free as well as EU duty paid.



A full time series for tables is available on our website

www.gov.uk/government/collections/measuring-tax-gaps

Hand-rolling tobacco

The hand-rolling tobacco illicit market share is estimated at 28% in 2016-17. This resulted in an estimated loss of £0.5 billion in duty and a further £0.2 billion in VAT, giving a total loss of £0.7 billion.

The UK tax-paid consumption volume of hand-rolling tobacco increased steadily between 2005-06 and 2013-14, and has been relatively stable since then. The illicit market volume of hand-rolling tobacco has shown a long-term decline since 2005-06 and is estimated to be 2,700 thousand kg (tonnes) in 2016-17.

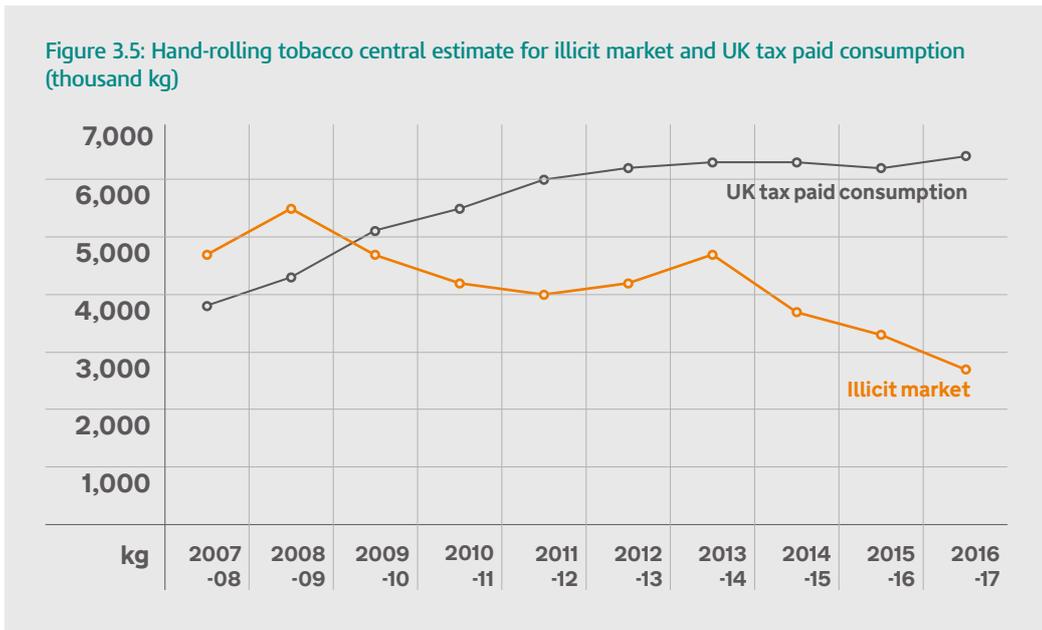


Table 3.6: Hand-rolling tobacco: Illicit market share and breakdown of volumes (thousand kg)¹

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Illicit market share							
Upper estimate	65%	43%	43%	44%	39%	38%	33%
Central estimate	60%	37%	37%	40%	35%	32%	28%
Lower estimate	55%	31%	32%	36%	30%	27%	23%
Total consumption							
Upper estimate	11,200	11,400	12,100	12,300	11,200	10,700	10,300
Central estimate	10,200	10,600	11,200	11,500	10,500	9,900	9,700
Lower estimate	9,100	9,700	10,300	10,800	9,900	9,200	9,000
UK tax paid consumption	3,200	6,000	6,200	6,300	6,300	6,200	6,400
Illicit market							
Upper estimate	7,200	4,900	5,200	5,500	4,400	4,000	3,400
Central estimate	6,100	4,000	4,200	4,700	3,700	3,300	2,700
Lower estimate	5,000	3,100	3,300	3,800	3,000	2,500	2,100
Cross-border shopping²							
Associated with upper estimate	700	600	700	500	500	500	500
Associated with central estimate	800	700	700	600	600	500	500
Associated with lower estimate	900	700	800	600	600	500	500

¹ Figures are independently rounded to the nearest 1% or 100,000kg.

² Includes duty-free as well as EU duty paid.



A full time series for tables is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps-tables

Oils

The oils tax gap includes Great Britain (GB) diesel and petrol, and Northern Ireland (NI) diesel and petrol. The oils tax gap is estimated at £200 million in 2016-17, of which £150 million was in duty and a further £50 million in VAT.

A new methodology has been introduced to estimate the diesel tax gap for 2016-17, meaning that the figures for 2016-17 are not directly comparable to previous years.

The GB diesel illicit market share is estimated at less than 1% in 2016-17. This resulted in an estimated loss of £100 million in duty and a further £50 million in VAT, giving a total loss of £150 million.

The NI diesel illicit market share is estimated at 6% in 2016-17. This resulted in an estimated loss of £30 million in duty and a further £10 million in VAT, giving a total loss of £40 million.

GB and NI petrol losses are assumed to be negligible in 2016-17, due to low demand from commercial sectors and the flammable nature of the product. Therefore we have removed the petrol tax gap breakdowns from our published tables.

Great Britain diesel

A new methodology has been introduced to estimate the GB diesel tax gap for 2016-17, meaning that the figures for 2016-17 are not directly comparable to previous years. More details on the methodology used are given in the 'Methodological annex'.

The GB diesel illicit market share is estimated at less than 1%¹ in 2016-17. This resulted in an estimated loss of £100 million in duty and a further £50 million in VAT, giving a total loss of £150 million.

¹ Figure rounds to 1% in Table 3.7

Table 3.7: GB diesel: Illicit market share and tax gap

	2005-06	2011-12	2012-13	2013-14	2014-15 ⁵	2015-16 ⁵	2016-17 ⁶
Illicit market share¹							
Upper estimate	8%	5%	3%	3%	3%	3%	1%
Central estimate	5%	1%	<1%	<1%	<1%	<1%	1%
Lower estimate ⁴	2%	0%	0%	0%	0%	0%	<1%
Tax gap (£ million)^{2,3}							
Upper estimate	1,250	1,050	750	700	700	700	200
Central estimate	750	150	<50	<50	<50	<50	150
of which VAT	200	50	<50	<50	<50	<50	50
of which duty	600	100	<50	<50	<50	<50	100
Lower estimate ⁴	300	0	0	0	0	0	50

¹ Figures independently rounded to the nearest 1%.

² Includes both duty and VAT.

³ Figures rounded to the nearest £50 million.

⁴ Negative numbers have been truncated at zero.

⁵ Figures rolled forward from 2013-14.

⁶ Figures for 2016-17 are not directly comparable to previous years due to a methodological change.



A full time series for tables is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps-tables



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Northern Ireland diesel

A new methodology has been introduced to estimate the NI diesel tax gap for 2016-17, meaning that the figures for 2016-17 are not directly comparable to previous years. More details on the methodology used are given in the 'Methodological annex'.

The NI diesel illicit market share is estimated at 6% in 2016-17. This resulted in an estimated loss of £30 million in duty and a further £10 million in VAT, giving a total loss of £40 million.

Table 3.8: NI diesel: Illicit market share and tax gap

	2005-06	2011-12	2012-13	2013-14	2014-15 ⁴	2015-16 ⁴	2016-17 ⁵
Illicit market share¹							
Upper estimate	21%	16%	14%	11%	11%	11%	9%
Central estimate	19%	13%	11%	8%	8%	8%	6%
Lower estimate	16%	10%	7%	4%	4%	4%	4%
Tax gap (£ million)^{2,3}							
Upper estimate	100	110	90	70	70	70	60
Central estimate	80	80	70	50	50	50	40
of which VAT	20	20	20	10	10	10	10
of which duty	70	60	50	30	30	30	30
Lower estimate	70	60	40	20	20	20	20

1 Figures independently rounded to the nearest 1%.

2 Includes both duty and VAT.

3 Figures independently rounded to the nearest £10 million.

4 Figures rolled forward from 2013-14.

5 Figures for 2016-17 are not directly comparable to previous years due to a methodological change.



A full time series for tables is available on our website

www.gov.uk/government/statistics/measuring-tax-gaps-tables

Other excise duties

The other excise duties tax gap includes betting and gaming, cider and perry and spirits-based ready-to-drink beverages. The illustrative tax gap for other excise duties in 2016-17 is estimated at £170 million.

Table 3.9: Other excise duties tax gap (£million)¹

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Other Excise Duties ²	140	100	100	160	160	170	170

1 Figures for previous years have been revised.

2 Figures rounded to nearest £10 million.



A full time series for tables is available on our website

www.gov.uk/government/statistics/measuring-tax-gaps-tables

Methodology and data issues

More detailed descriptions of the methodologies used in calculating the excise tax gaps are provided in the 'Methodological annex'.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Beer

Upper estimate

The beer tax gap upper estimate is produced using a 'top-down' methodology: total consumption is estimated and then the legitimate consumption is subtracted, with the remainder being the illicit market.

Total consumption is estimated using the ONS Living Costs and Food (LCF) Survey. Legitimate consumption is based on the returns that HMRC receives from the volumes of alcohol on which duties have been paid and estimates of cross-border shopping and duty-free.

Lower estimate

The beer tax gap lower estimate is produced using a 'bottom-up' methodology. This means estimates of illicit beer are made directly, using HMRC data. This type of methodology is less comprehensive than the 'top-down' approach, as it does not cover all types of fraud. The lower estimate includes only estimates of the diversion of UK-produced beer and drawback fraud and is therefore an underestimate. Drawback fraud is where a refund of UK excise duty is obtained through deception, creating a UK tax loss.

Difficulty in estimating a number of beer frauds means they are not included in this methodology and is one of the reasons it is described as a lower-bound estimate. The types of frauds not covered include smuggled beer, diversion of foreign-produced beer and counterfeit beer.

Implied central estimate

The implied central estimate is calculated as the average of the upper and lower estimates. Taking the mid-point of both estimates is the best approach, where we are unable to measure appropriate confidence intervals. The central estimate is only intended as an indicator of the long-term trend – the true tax gap could lie anywhere within these bounds.

The upper and lower estimates should be interpreted as indicators of the long-term trend rather than precise estimates of the level, or year-on-year changes. They do not take account of any systematic tendency to over estimate or under estimate the tax gap that might arise from the modelling assumptions.

Spirits

The spirits tax gap estimate is produced using a 'top-down' methodology that involves estimating total consumption, from which legitimate consumption is then subtracted, with the remainder being the illicit market.

Total consumption is estimated using data from the LCF survey. Legitimate consumption is based on the returns HMRC receives from the volumes of alcohol on which duties have been paid and an estimate of cross-border shopping and duty-free.

The central estimate should be interpreted as an indicator of the long-term trends in the illicit market share rather than a precise estimate of the level, or year-on-year changes. The confidence intervals indicate the uncertainty surrounding the estimate due to sampling error. They do not account for additional types of error that may arise from the assumptions made in the calculations.

Wine

The wine tax gap was previously estimated using an experimental 'top-down' methodology. As with spirits and the beer upper-bound estimate, legitimate consumption was subtracted from estimated total consumption, with the remainder being the illicit market.

Wine presents a unique challenge for estimating total consumption. HMRC is able to use the LCF survey to estimate consumption of beer and spirits. However, the LCF is a survey of households, and there is a sizeable non-household component of spending on wine. For example, businesses will spend money on wine to entertain clients and potential clients. This business expenditure is not captured by the LCF survey of households.

Furthermore, although the LCF is a representative survey of households, it may not adequately capture infrequent, but high-volume, expenditure on wine – for example the cost of providing wine at a wedding or other large function. HMRC previously used commercial data to estimate these additional components of wine expenditure. However, due to a change in the underlying data source, we cannot use the existing methodology to estimate the wine tax gap from 2013-14 onwards.

An illustrative estimate is provided for these years using the average of the 2011-12 and 2012-13 estimates instead. HMRC is exploring alternative data sources to develop a new method to estimate the wine tax gap.

Tobacco

The estimates are produced using a 'top-down' methodology: the total consumption is estimated, the legitimate consumption is subtracted, and the remainder is the illicit market.

Total consumption is estimated using data from the Office for National Statistics Opinions and Lifestyle Survey. Legitimate consumption is based on the returns that HMRC receives from the volumes of tobacco on which duties have been paid and an estimate of cross-border shopping and duty-free sales.

In addition to the uplift that accounts for under-reporting, there is an uplift that accounts for people who falsely deny smoking, which comes from the Health Survey for England.

The estimates are presented within a range defined by the upper and lower estimates. The range provides an indication of the size of the illicit markets in cigarettes and hand-rolling tobacco, depending on how dual smoker survey respondents (someone who smokes both cigarettes and hand-rolling tobacco) are treated.

The upper bound for cigarettes corresponds to a scenario where the majority of dual smokers consume cigarettes. The lower bound for cigarettes is calculated when the majority of dual smokers are assumed to smoke hand-rolling tobacco. The upper and lower bounds for hand-rolling tobacco are calculated in a similar way. This means that the upper (or lower) bounds for both cigarettes and hand-rolling tobacco cannot be possible at the same time.

Diesel

A new methodology has been introduced to estimate the diesel tax gap for 2016-17, meaning that the figures for 2016-17 figures are not directly comparable to previous years.

Legitimate consumption is based on the returns that HMRC receives from the volumes of diesel on which duties have been paid. Illicit consumption is estimated using the proportion of vehicles found to be misusing rebated fuel in a random sample survey conducted by HMRC in 2017. Revenue losses (gross tax gap) associated with illicit consumption are estimated using average retail prices, duty rates and VAT rates. The net tax gap is then calculated as the gross tax gap minus compliance yield.

The upper and lower estimates correspond to confidence intervals that indicate the range where the true value of the illicit market may lie and arise due to random sampling error.

Other excise duties

A proxy indicator for the scale of revenue losses across other excise duties has been produced by estimating the average percentage of tax gaps for similar taxes each year and multiplying this by total theoretical tax liabilities (receipts plus tax gap).

The average percentage revenue losses should not be considered estimates of the true percentage loss across the taxes listed in the 'Other excise duties' section, as this is unknown. Many of the taxes listed are very different from one another in their nature, each being subject to different rules. The true percentage tax gaps are therefore likely to vary across the taxes listed.

Revisions

Alcohol

Following a change in the LCF survey guidance, revisions have been made across the historical time series to the allocation of 'other drink' expenditure to beer and spirit expenditure. Further details are given in the 'Methodological annex'.

Revisions have also been made across the historical time series due to extending the treatment of extreme values (outliers) in the LCF survey to on-license expenditure. Extreme values are cases, within the survey data, where average expenditure is far removed from the rest of the sample population. Further details are given in the 'Methodological annex'.

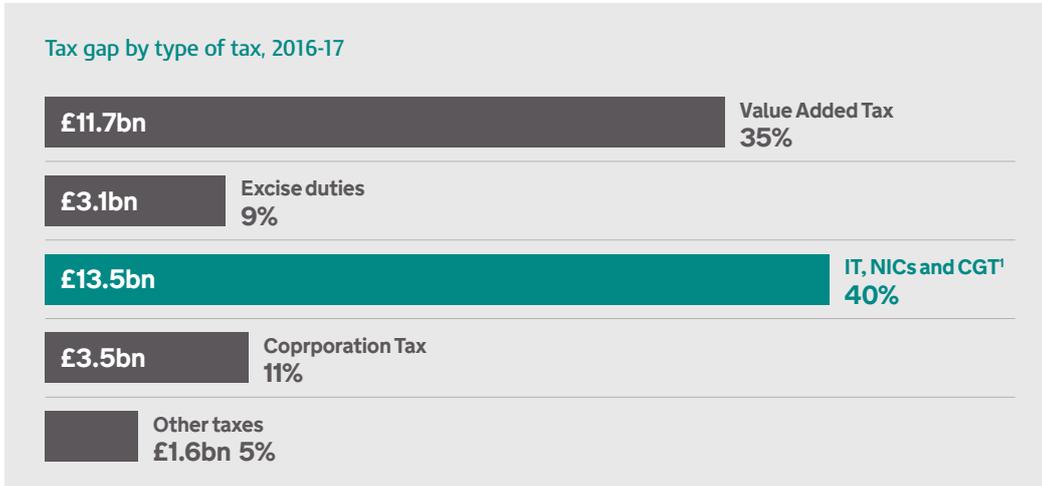


The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Other excise duties

The estimates for other excise duties have been revised in previous years due to revisions in the underlying data.

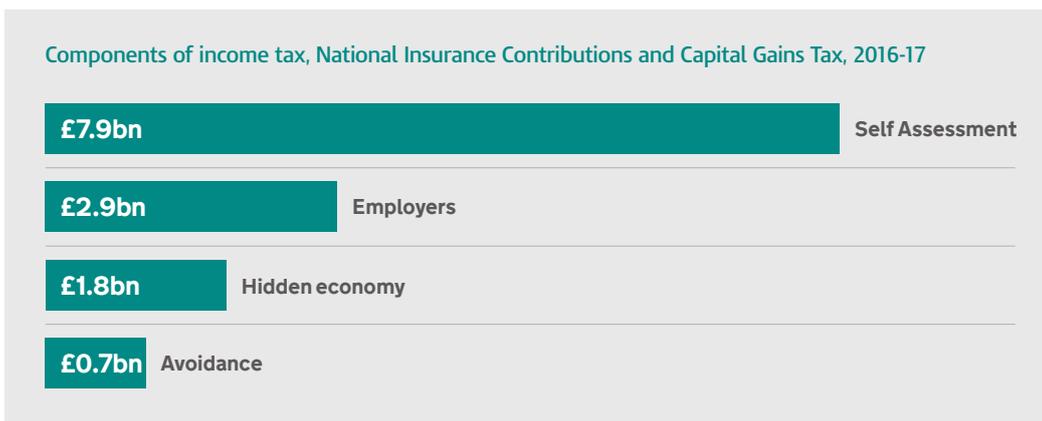
4. Income tax, NICs and Capital Gains Tax



¹ Income tax, National Insurance Contributions and Capital Gains Tax.

Key findings

In 2016-17, the total estimated tax gap for income tax, National Insurance Contributions and Capital Gains Tax was £13.5 billion. This equates to 4.2% of total theoretical liabilities. Of this £13.5 billion, £7.9 billion is attributable to Self Assessment taxpayers, meaning that the tax gap was 16.4% of theoretical liabilities. In contrast, £2.9 billion of the income tax, National Insurance Contributions and Capital Gains Tax gap comes from employers, where money is deducted at source, which translates into a tax gap of 1.1% of theoretical liabilities.



Individuals and partnerships in Self Assessment

The 2016-17 Self Assessment (SA) tax gap of £7.9 billion was equivalent to 16.4% of SA total theoretical tax liabilities. The 2016-17 tax liabilities have been adjusted to take account of tax payers who brought forward their dividend income into 2015-16 to avoid the higher dividend rates introduced in 2016-17. This has led to higher overall total tax liabilities in 2016-17. Further details can be found in the 'Methodological annex'.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

The tax gap from business taxpayers (sole traders and small partnerships) contributed the majority of the SA tax gap estimate (£5.1 billion), with non-business taxpayers accounting for £1.6 billion and large partnerships accounting for £1.3 billion in 2016-17.

The results from the SA random enquiry programme showed that the proportion of all SA taxpayers who under-declared their tax liabilities fell from 29% in 2005-06 to 26% in 2014-15.

Business taxpayers were more likely to under-declare their tax liabilities than non-business taxpayers (31% for business compared to 23% for non-business in 2014-15).

The SA tax gap has been revised due to methodological improvements as well as now including additional data from compliance checks that have been completed since last year's publication. Further details can be found in the 'Revisions' section of Chapter 4.

Employers

The 2016-17 employers tax gap¹ estimate of £2.9 billion was equivalent to 1.1% of employer Pay As You Earn (PAYE) total theoretical liabilities.

The tax gap from small business employers is estimated at £0.6 billion (1.1% of small business PAYE tax liabilities) in 2016-17. The tax gap from mid-sized business employers is estimated at £0.6 billion (1.1% of mid-sized business PAYE tax liabilities) in 2016-17. The tax gap from large business employers is estimated at £1.7 billion (1.1% of large employer PAYE liabilities) in 2016-17.

The proportion of small employers failing to correctly operate their PAYE scheme has decreased from 29% in 2005-06 to 14% in 2016-17.

Avoidance

The avoidance tax gap for income tax, National Insurance Contributions and Capital Gains Tax for 2016-17 is estimated at £0.7 billion.

Hidden economy

The tax gap on personal income taxes due to the hidden economy is estimated at £1.8 billion in 2016-17. This consists of 'ghosts' (whose entire income is unknown to HMRC), which accounted for £0.9 billion and 'moonlighters' (who have at least one source of undeclared income to HMRC), which also accounted for £0.9 billion.

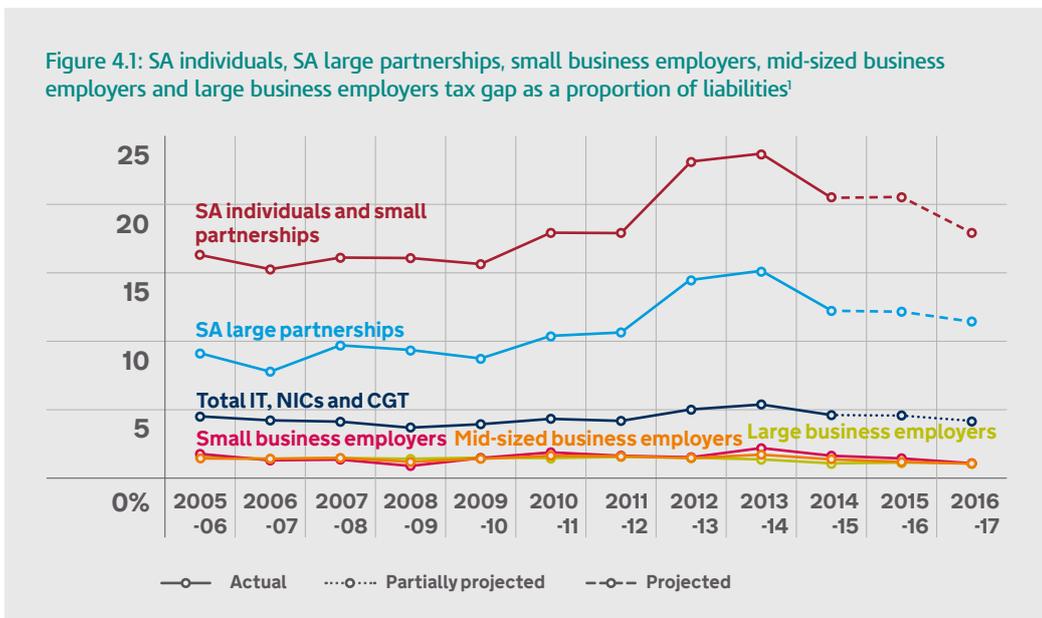
¹ Employers tax gap refers to the Pay As You Earn tax schemes.

Results and tables

Self Assessment and employers

The overall tax gap for income tax, National Insurance Contributions and Capital Gains Tax (IT, NICs and CGT) is estimated in a number of different ways. The estimates for individuals and small partnerships who complete SA returns and small business employers are both from the results of random enquiry programmes (REPs). The tax gaps for large partnerships, mid-sized business employers and large business employers are illustrative tax gaps produced by assuming the tax at risk will be a similar proportion of liabilities to all other SA or employer taxpayers. For more information, see the 'Methodology and data issues' section.

Figure 4.1 shows that the total IT, NICs and CGT tax gap estimate as a proportion of total liabilities has stayed broadly stable between 4% and 5% from 2005-06 to 2016-17, with a slight dip to 3.8% in 2008-09 and peak of 5.4% in 2013-14. The tax gap as a proportion of liabilities was larger for those in SA than for employers, and also showed more variation from year to year. The trends for all employers are more stable, with the percentage at around 1% to 2% across all the years shown.



¹ Figures for previous years have been revised.

SA individuals and small partnerships

Tax gap estimates from incorrect returns come from the SA random enquiry programme (SA REP), data on compliance yield and data on non-payment. The latest SA REP data available is for the 2014-15 tax year, with estimates for subsequent years projected forward based on the year-on-year change in tax liabilities (see the 'Methodological annex' for more details).



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Table 4.1 shows estimated tax gaps for SA taxpayers (excluding large partnerships) due to incorrect returns for the tax years 2005-06 to 2016-17. These could be as a result of error, failure to take reasonable care or evasion. The SA tax gap as a proportion of liabilities stayed between 15% and 16% in the years prior to 2010-11 before rising to a peak of 24% in 2013-14. The tax gap for SA taxpayers then fell to 18% in 2016-17. Non-payment has remained broadly stable at £0.2 billion.

Table 4.1: Self Assessment tax gap (excluding large partnerships) (£ billion)^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16 ³	2016-17 ³
Under-declared liabilities due to incorrect returns							
Upper estimate	8.0	8.5	12.3	13.6	12.9	14.0	14.6
Central estimate	4.6	4.6	6.6	7.1	6.8	7.5	7.4
Lower estimate	2.4	2.2	3.3	3.4	3.3	3.5	3.7
Compliance yield ⁴	0.6	0.6	0.7	0.7	0.7	0.9	0.9
Non-payment	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total tax gap							
Upper estimate	7.5	8.1	11.8	13.1	12.4	13.2	13.9
Central estimate	4.2	4.2	6.2	6.7	6.3	6.8	6.7
Lower estimate	1.9	1.9	2.9	2.9	2.7	2.8	3.0
Total theoretical tax liabilities	25.5	23.6	26.8	28.1	30.7	33.1	37.1
Proportion of liabilities	16%	18%	23%	24%	20%	21%	18%

1 Figures rounded to the nearest £0.1 billion. As a result components may not appear to sum.

2 Figures for previous years have been revised.

3 Tax gap estimates for 2015-16 and 2016-17 are projected based on SA liabilities figures for the respective years and will be revised when operational data becomes available.

4 By period of settlement of enquiry.



A full time series for tables is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps-tables

Table 4.2 shows estimated tax gaps for SA taxpayers (excluding large partnerships) split by business and non-business taxpayers for the tax years 2005-06 to 2016-17. Business taxpayers accounted for the majority of the total tax gap, ranging between 73% to 90% total share between 2005-06 and 2016-17. The full data series can be seen in the online tables.

 A full time series for tables is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps-tables

Table 4.2: Self Assessment tax gap (excluding large partnerships) by type of taxpayer (£ billion)^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16 ³	2016-17 ³
Business taxpayers	3.8	3.4	4.8	4.8	5.1	5.7	5.1
Non-business taxpayers	0.4	0.8	1.4	1.8	1.2	1.1	1.6
Total tax gap	4.2	4.2	6.2	6.7	6.3	6.8	6.7

1 Figures rounded to the nearest £0.1 billion. As a result components may not appear to sum.

2 Figures for previous years have been revised.

3 Tax gap estimates for 2015-16 and 2016-17 are projected based on SA liabilities figures for the respective years and will be revised when operational data becomes available.

Table 4.3 shows the estimated proportion of incorrect SA returns leading to under-declaration of liabilities. This has decreased from 29% to 26% between the tax years 2005-06 to 2014-15.

Table 4.3: Proportion of Self Assessment returns with under-declared tax liability^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15
Proportion of SA returns	29%	26%	26%	26%	26%
of which, size of under-declaration					
£1 to £500	12%	10%	10%	10%	10%
£501 to £1,000	5%	4%	4%	5%	4%
over £1,000	12%	12%	12%	12%	12%

1 Figures rounded to the nearest 1%. As a result components may not appear to sum.

2 Figures for previous years have been revised.

The proportion of under-declarations shown in Table 4.3 can be further split by business and non-business taxpayers.

Table 4.4 shows the estimated proportion of incorrect SA returns leading to under-declaration of liabilities for the tax years 2005-06 to 2014-15 for business taxpayers only. The proportion of incorrect SA returns from business taxpayers fell from 50% to 31% between the tax years 2005-06 to 2014-15. The reduction is again seen most clearly for lower amounts of under-declaration.

Table 4.4: Business taxpayers: Proportion of Self Assessment returns with under-declared tax liability^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15
Proportion of SA returns	50%	32%	34%	29%	31%
of which, size of under-declaration					
£1 to £500	18%	12%	13%	9%	10%
£501 to £1,000	9%	4%	4%	5%	3%
over £1,000	23%	15%	18%	15%	19%

1 Figures rounded to the nearest 1%. As a result components may not appear to sum.

2 Figures for previous years have been revised.

Table 4.5 shows that between 2005-06 and 2014-15 the proportion of non-business taxpayers with under-declared liabilities was lower than business taxpayers (shown in Table 4.4). This is because the majority of income tax paid by these non-business taxpayers is deducted at source under PAYE, leading to lower levels of incorrect SA returns. The proportion of incorrect SA returns from non-business taxpayers rose from 15% to 23% between the tax years 2005-06 to 2014-15, however.

Table 4.5: Non-business taxpayers: Proportion of Self Assessment returns with under-declared tax liability^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15
Proportion of SA returns	15%	21%	20%	24%	23%
of which, size of under-declaration					
£1 to £500	8%	11%	7%	10%	11%
£501 to £1,000	3%	4%	5%	5%	5%
over £1,000	3%	6%	9%	9%	8%

1 Figures rounded to the nearest 1%. As a result components may not appear to sum.

2 Figures for previous years have been revised.

Large partnerships in Self Assessment

Large partnerships are not covered by the SA random enquiry programme (SA REP) and so an illustrative tax gap is produced by assuming the tax at risk will represent a similar proportion of liabilities to all other SA taxpayers, as shown by the results of the SA REP.

Table 4.6 shows the tax gap for large partnerships in SA was £1.3 billion in 2016-17. As a proportion of liabilities, the SA large partnerships tax gap fluctuated between 8% and 15%, reflecting the trend in the SA tax gap as a proportion of liabilities. The tax gap for SA large partnerships in 2016-17 of 11% was lower than the peak reached in 2013-14 of 15%.

Table 4.6: Tax gap for large partnerships in SA (£ billion)^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16 ³	2016-17 ³
Under-declared liabilities due to incorrect returns							
Upper estimate	0.6	1.2	1.7	2.2	1.9	2.2	1.8
Central estimate	0.6	1.0	1.4	1.7	1.5	1.7	1.5
Lower estimate	0.5	0.7	1.1	1.2	1.0	1.2	0.9
Compliance yield ⁴	0.1	0.2	0.2	0.3	0.3	0.3	0.2
Non-payment	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Total tax gap							
Upper estimate	0.5	1.1	1.5	2.0	1.7	1.9	1.6
Central estimate	0.5	0.9	1.2	1.5	1.3	1.4	1.3
Lower estimate	0.4	0.6	0.9	1.0	0.8	0.9	0.8
Total theoretical tax liabilities	5.2	8.0	8.3	9.9	10.4	11.4	11.3
Proportion of liabilities	9%	11%	15%	15%	12%	12%	11%

1 Figures rounded to the nearest £0.1 billion. As a result components may not appear to sum.

2 Figures for previous years have been revised.

3 Tax gap estimates for 2015-16 and 2016-17 are projected based on SA liabilities figures for the respective years and will be revised when operational data becomes available.

4 By period of settlement of enquiry.



A full time series for tables is available on our website

www.gov.uk/government/statistics/measuring-tax-gaps-tables

Employers – small businesses

Tax gap estimates come from the small business employer compliance random enquiry programme (EC REP), data on compliance yield and data on non-payment. The latest small business EC REP data available for analysis is for the 2016-17 tax year.

Table 4.7 shows estimated tax gaps for small business employer compliance for the tax years 2005-06 to 2016-17 have remained at around 1% to 2% of liabilities, with a minimum of 0.9% in 2008-09 and a maximum of 2.2% in 2013-14. The main cause of the rise since 2008-09 has been increases in non-payment in the period until 2013-14.

The tax gap fell from £1.1 billion in 2013-14 to £0.6 billion in 2016-17. The main factors for these falls were a reduction in non-payment in 2014-15 and 2015-16. Non-payments increased again in 2016-17, however the under-declared liabilities due to incorrect returns decreased.

Table 4.7: Tax gap for Small business employers (£ billion)^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Under-declared liabilities due to incorrect returns							
Upper estimate	0.8	0.6	0.5	0.6	0.7	0.8	0.5
Central estimate	0.7	0.5	0.4	0.5	0.6	0.6	0.4
Lower estimate	0.6	0.3	0.3	0.4	0.4	0.4	0.3
Compliance yield ³	0.2	0.2	0.2	0.1	0.1	0.2	0.2
Non-payment	0.5	0.7	0.6	0.8	0.5	0.3	0.4
Total tax gap							
Upper estimate	1.1	1.0	0.9	1.3	1.0	1.0	0.7
Central estimate	1.0	0.9	0.8	1.1	0.9	0.8	0.6
Lower estimate	0.9	0.8	0.7	1.0	0.8	0.6	0.6
Total theoretical tax liabilities	58.3	53.3	52.4	51.7	53.2	55.1	58.1
Proportion of liabilities	1.7%	1.7%	1.5%	2.2%	1.7%	1.4%	1.1%

1 Figures rounded to the nearest £0.1 billion. As a result components may not appear to sum. Year relates to when enquiry was opened as employer compliance queries are not made in relation to an annual return. Values exclude the tax gap relating to avoidance; this figure is available at an aggregate level for IT, NICs and CGT.

2 Figures for previous years have been revised.

3 By period of settlement of enquiry.



A full time series for tables is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps-tables

Table 4.8 shows the estimated proportion of small business employers failing to fully meet their obligations in respect of operating PAYE has fallen from 29% in 2005-06 to 14% in 2016-17. This fall is a result of a drop in small under-declarations (up to £1,000).

Table 4.8: Proportion of small employers not meeting their PAYE scheme obligations^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Proportion of PAYE schemes of which, size of under-declaration	29%	18%	16%	16%	16%	14%	14%
£1 to £1,000	16%	4%	3%	4%	3%	2%	2%
over £1,000	12%	14%	12%	12%	13%	12%	12%

1 Figures rounded to the nearest 1%. As a result components may not appear to sum. Year relates to when enquiry was opened as employer compliance enquiries are not made in relation to an annual return.

2 Figures for previous years have been revised.

Employers – mid-sized businesses

Mid-sized employers are not fully covered by the small business employer compliance random enquiry programme (small business EC REP) so an illustrative estimate of the tax gap is made. There are two main sources of the mid-sized employers tax gap:

- Where there is information from the EC REP, for businesses which were previously classified as small and medium enterprises, data from the EC REP is used in the same way as for small employers;
- For employers that were previously in the Large and Complex unit and are now classified as mid-sized businesses, it is assumed that the tax gap is the same percentage of liabilities as small employers.

Table 4.9 shows the estimated tax gap for mid-sized employers. The net tax gap fell from £0.7 billion in 2015-16 to £0.6 billion in 2016-17. This was due to a general fall in non-compliance found in the EC REP, and despite a small increase in non-payment. The fall in the tax gap in recent years coincided with the increase in compliance following the introduction of Real-Time Information in 2014-15.

Table 4.9: Estimated tax gap for mid-sized business employers (£ billion)^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Gross tax gap	0.6	0.3	0.3	0.2	0.3	0.5	0.3
Compliance yield ³	0.1	0.2	0.1	0.1	0.1	0.1	0.1
Non-payment	0.2	0.7	0.7	0.8	0.5	0.3	0.4
Net tax gap	0.8	0.9	0.9	0.9	0.7	0.7	0.6
Total theoretical tax liabilities	47.9	56.2	57.3	50.5	52.0	53.8	56.8
Tax gap as a proportion of liabilities	1.6%	1.6%	1.5%	1.8%	1.4%	1.2%	1.1%

1 Figures rounded to the nearest £0.1 billion. As a result components may not appear to sum. Values exclude the tax gap relating to avoidance; this figure is available at an aggregate level for IT, NICs and CGT.

2 Figures for previous years have been revised.

3 By period of settlement of enquiry.

Employers – large businesses

Large business employers are not covered by the small business EC REP so an illustrative estimate is made of the tax gap. This assumes that the tax gap for large employers is the same percentage of liabilities as small employers.

Table 4.10 shows the estimated tax gap for large employers in cash terms has been increasing in recent years in line with gross total theoretical liabilities, except for the fall in non-payment which coincided with the introduction of Real-Time Information. This has also led to a fall in the tax gap for large employers as a proportion of liabilities from 2014-15 onwards (see the 'Methodological annex' for further detail).

Table 4.10: Estimated tax gap for large business employers (£ billion)^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Gross tax gap	1.4	1.5	1.8	1.6	1.4	1.6	1.6
Compliance yield ³	0.1	0.2	0.5	0.2	0.2	0.3	0.3
Non-payment	0.1	0.5	0.5	0.5	0.3	0.2	0.3
Net tax gap	1.4	1.8	1.8	2.0	1.5	1.6	1.7
Total theoretical tax liabilities	94.9	123.2	123.2	137.5	141.0	146.0	153.9
Tax gap as a proportion of liabilities	1.5%	1.5%	1.5%	1.5%	1.1%	1.1%	1.1%

1 Figures rounded to the nearest £0.1 billion. As a result components may not appear to sum. Values exclude the tax gap relating to avoidance; this figure is available at an aggregate level for IT, NICs and CGT.

2 Figures for previous years have been revised.

3 By period of settlement of enquiry.

Avoidance

The tax gap due to avoidance of income tax, National Insurance Contributions and Capital Gains Tax for 2016-17 is estimated to be £0.7 billion. This is a reduction of £0.1 billion from 2015-16, and follows a long-term trend of falling levels of tax avoidance in personal income taxes, from a high of £1.6 billion in 2006-07.

Table 4.11: Estimated IT, NICs and CGT tax gap relating to avoidance (£ billion)^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
IT, NICs and CGT avoidance	1.5	1.1	1.2	1.4	1.1	0.8	0.7

1 Figures rounded to the nearest £0.1 billion. As a result components may not appear to sum.

2 Figures for previous years have been revised.



A full time series for tables is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps-tables



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

The estimate for avoidance in 2015-16 has been revised down by around £0.2 billion relative to the figure published in 'Measuring tax gaps 2017 edition'. This is due to more avoidance cases (which can take a long time to finish) being closed for that year, which has improved the certainty of the estimate.

Hidden economy

Table 4.12 shows the time series for the direct tax hidden economy estimates. This tax gap consists of two elements: 'ghosts' and 'moonlighters'. 'Ghosts' are individuals whose entire income is unknown to HMRC, while 'moonlighters' are individuals who are employees and pay tax on the earnings from their main job through PAYE, but have other undeclared sources of income. Table 4.12 shows the tax gap rose from £1.3 billion in 2005-06 to £1.8 billion in 2016-17.

The estimated tax gap for 'ghosts' rose from £0.5 billion in 2005-06 to £0.9 billion in 2016-17. However, the estimated tax gap for 'moonlighters' remained roughly stable, with estimates of between £0.8 billion and £0.9 billion for each year between 2005-06 and 2016-17.

The hidden economy tax gap was revised in our last publication, 'Measuring tax gaps 2017 edition', due to more accurate data being available as a result of a new survey commissioned by HMRC.

Table 4.12: Estimated IT, NICs and CGT tax gap relating to the hidden economy (£ billion)^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Ghosts	0.5	0.7	0.7	0.7	0.8	0.8	0.9
Moonlighters	0.8	0.9	0.8	0.8	0.9	0.9	0.9
Hidden economy	1.3	1.5	1.5	1.6	1.7	1.7	1.8

1 Figures rounded to the nearest £0.1 billion. As a result components may not appear to sum.

2 Figures for previous years have been revised.



A full time series for tables is available on our website

www.gov.uk/government/statistics/measuring-tax-gaps-tables

Methodology and data issues

Overview

Most of the IT, NICs and CGT components of the tax gap are estimated using our own sources, such as random enquiries, surveys, administrative and operational data. These methods are based on our compliance activity which can, in some cases, take years to complete. This means the data used to produce the tax gap estimates typically apply to periods before 2016-17. This has the following consequences:

- to produce a tax gap for years where we do not have random enquiry data, the latest available estimate is projected forward. The projections are made using the change in the tax liabilities for the relevant tax. Using tax liabilities ensures that our projections reflect changes to tax rates and taxable income, and projects a stable rate of underlying compliance
- the unearned income portion of the hidden economy tax gap is projected forward based on changes in tax receipts, taking into account policy changes. This allows the projections to take into account changes in both tax rates and the tax base over time. For example, increases in the personal allowance reduce the potential tax revenue from hidden economy activities, all else being equal. See the 'Methodological annex' for more details on the projection of the unearned income tax gap
- estimates for earlier years have been revised, as they now include additional data from compliance checks that have been completed since last year's publication.

The methods used differ between taxes, according to the type of non-compliance and the type of taxpayer involved. The main methods used to estimate tax gaps for direct taxes are random enquiries, data matching and risk registers. Where robust methodologies have not yet been developed, an illustrative tax gap estimate is given based on the opinion of our operational experts or is calculated by using the nearest equivalent measured gap. Further information on the methodology to calculate tax gap estimates from random enquiries can be found in the 'Methodological annex'.

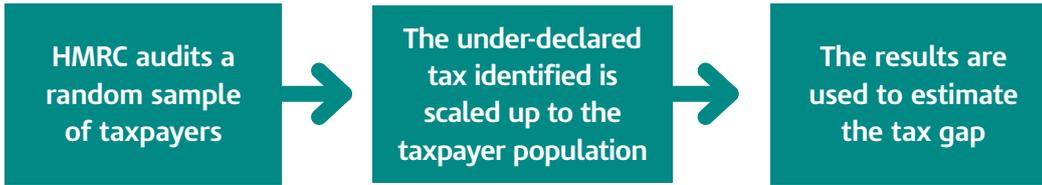


The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Table 4.13: Summary of methods by tax gap estimates

Tax gap	Population section	Methods used
Employer Compliance (IT and NICs on employment income and tax on occupational pensions)	Small business employers	Random enquiries
	Mid-sized business employers	Illustrative estimate
	Large business employers	Illustrative estimate
Self Assessment (IT, NICs and CGT)	Business taxpayers consisting of self-employed taxpayers and partnerships with up to four partners who receive notices to file a SA return	Random enquiries
	Non-business taxpayers consisting of individuals without business income and trusts who receive notices to file a SA return	Random enquiries
	Partnerships with five or more partners who receive notices to file a SA return	Illustrative estimate
Avoidance (IT, NICs and CGT)	Individuals, trusts, partnerships and employers	Avoidance management information
Hidden Economy	Ghosts	Hidden Economy Survey
	Moonlighters	Hidden Economy Survey and data matching

Random enquiries



Random enquiry programmes (REPs) involve samples of taxpayers being selected at random and their returns subjected to full enquiries by HMRC officers. The results of these programmes show the proportion of taxpayers under-reporting their tax liabilities and the corresponding amount of additional tax due. These results can be used to produce an estimate for the amount of under-declared tax liability for the whole population, as the enquiries are randomly selected and form a representative sample.

A proportion of the under-declared liabilities will be recovered as a result of our compliance activity, which is then subtracted from the estimate of under-declared liabilities. Losses through non-payment are also added to obtain final tax gap estimates.

The REPs will not identify all incorrect returns or the full scale of tax gaps, especially where independent information from third parties is not available to verify the data supplied by the taxpayer. This means that tax gap estimates produced through random enquiries will under-estimate the full extent of the tax gap.

The Internal Revenue Service (IRS) in the United States has tackled this problem by using a range of 'multipliers' to make adjustments for non-detection of under-reported income. These multipliers are generated through supplementary studies on particular tax return entries, together with econometric analysis of non-detection rates across IRS examiners. Multipliers based on the IRS research with some adjustments for the UK tax system have been applied to the REP results and are consistent year on year. Further information on the multipliers used to calculate tax gap estimates from random enquiries can be found in the 'Methodological annex'.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Data from the REPs is lagged as tax enquiries take some time to complete. Tax gap estimates for years where data is not available are calculated by looking at tax liabilities for the relevant tax and projecting a stable rate of non-compliance.

Individual estimates

Non-payment

The tax gap estimates include a measure of associated losses from non-payment of tax by the relevant type of taxpayer, if appropriate. Non-payment estimates for direct taxes come from our financial statements and represent amounts written off or remitted; that is, debts that are not collectable. Direct tax debts that are paid at a later date do not form part of the direct tax gap, although payment will be deferred. Due to timing effects, the amounts written off during a tax year will not all relate to liabilities arising during that year.

Large and mid-sized business employers

Large and mid-sized business employers with 250 or more employees are not covered by the small business employer compliance random enquiry programme (small business EC REP). This means an alternative methodology is required to produce an indicator of the associated tax gap. An illustrative estimate is produced by assuming that the tax at risk will represent a similar proportion of liabilities to small employers, as shown by the results of the small business EC REP.

Large partnerships

Partnerships with five or more partners are not covered by the Self Assessment random enquiry programme (SA REP), which means an alternative methodology is required to estimate the associated tax gap. An illustrative estimate is produced by assuming that the tax at risk will represent a similar proportion of liabilities to all other SA taxpayers, as shown by the results of the SA REP.

Avoidance



The IT, NICs and CGT avoidance tax gap of £0.7 billion for 2016-17 is estimated using HMRC's avoidance management information system, which contains information about identified avoidance schemes used by individuals, trusts, partnerships and employers. Our method of allocating risks across taxes and years has been improved by using a new data source that provides more detailed avoidance management information. The tax gap is calculated by subtracting an annual estimate of the compliance yield from the annual estimated tax under consideration relating to avoidance. (See 'Methodological annex' for more information on data sources, methodology and limitations).

Hidden economy

The direct tax hidden economy estimate is composed of two elements:

- ghosts
- moonlighters.

Ghosts

'Ghosts' are individuals who receive income from employment or self-employment but are not known to HMRC because they and/or their employers fail to declare their earnings. Information on ghosts is by definition not recorded by HMRC, which means any estimate about their number or the potential loss of tax is only approximate.

HMRC commissioned a survey into participation in the hidden economy, which made it possible to estimate the prevalence of ghosts in the overall population, as well as their average income. This has been used to estimate the tax liabilities that would be due were these activities being conducted in the legitimate economy.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

A time series for the ghosts' tax gap estimate was created by using a data source that tracks the changes in taxation over time and the movement in the incomes of low earners, as the Hidden Economy in Great Britain survey found most participants in the hidden economy to be on low incomes. The Family Resources Survey (FRS) has been used to track the incomes of low earners over time. The FRS is a government-sponsored study which provides information about households in the United Kingdom. Please see the 'Methodological annex' for more details.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

These estimates will continue to be revised as new data and methodology improvements are implemented.



The report on the Hidden Economy in Great Britain is available on our website
www.gov.uk/government/publications/the-hidden-economy-in-great-britain



More information on the Family Resources Survey is available on our website
www.gov.uk/government/collections/family-resources-survey--2

Moonlighters

'Moonlighters' are individuals who pay tax on the earnings from their main job through PAYE, but who fail to declare earnings from additional sources of income.

For earned income (income from a second job or additional income from self-employment), the estimates have been produced using the data from HMRC's Hidden Economy in Great Britain survey. This has also made it possible to estimate the prevalence and average income of moonlighters earning income from at least one undeclared source. This has been used to estimate the tax liabilities that would be due were these activities being conducted in the legitimate economy.

As with ghosts, a time series for the moonlighters' tax gap estimate was created by using a data source that tracks the changes in taxation over time and the movement in the incomes of low earners, as the Hidden Economy in Great Britain survey found most participants in the hidden economy to be on low incomes. The Family Resources Survey (FRS) has been used to track the incomes of low earners over time. The FRS is a government-sponsored study which provides information about households in the United Kingdom. Please see the 'Methodological annex' for more details.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

These estimates will continue to be revised as new data and methodology improvements are implemented.

For unearned income, estimates have been produced by matching data supplied by third parties to a sample of our PAYE records. From this, it has been possible to produce a tax gap estimate relating to some sources of income and capital gains for individuals who are taxed through PAYE but do not file SA returns.

Several sources of income were investigated, such as income from lettings, bank and building society interest and capital gains. Where a difference was found between income in the third party data and the tax records, the tax that should have been paid on this income, if any, was then calculated and identified as the tax gap. The results from the sample were then grossed to produce an estimate of the overall tax gap for all employees and pensioners taxed through PAYE who are outside SA.

This data matching exercise was conducted using 2014-15 data to derive an estimate. A time series was then established using an index based on receipts changes and the FRS data. See the 'Methodological annex' for more details.

The limitations associated with the results of this exercise relate to the coverage of the third party data used to establish evidence of additional undeclared income. Not all potential sources of income could be investigated due to availability of data, and the investigation of some sources was limited by the completeness of the information. As a result, the estimate resulting from the data matching exercise should be interpreted as a lower limit for the true scale of the tax gap relating to this group of taxpayers.

Revisions

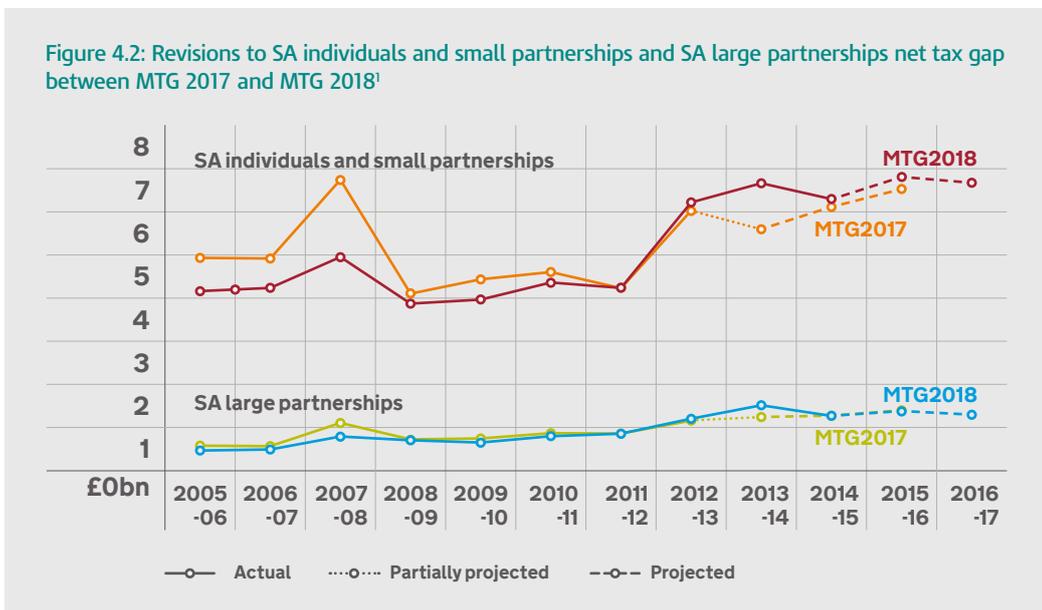
Individuals and partnerships in Self Assessment

The SA tax gap (excluding large partnerships) has been revised upwards by £1.1 billion in 2013-14, £0.2 billion in 2014-15 and £0.3 billion in 2015-16. This follows changes to key components of the methodology. Revisions have also been made to previous years with an average reduction to the SA tax gap of £0.7 billion for each year between 2005-06 and 2010-11.

The revisions are driven by the following factors:

- replacing previously projected data for the 2013-14 and 2014-15 tax years for SA non-business with actual data
- settlement of long-running cases for which we previously had to forecast the outcome
- improvements to the methodology used to treat cases in the sample that were not worked
- improvements to the capping method used to treat outliers
- changes to the data management and processing of the random enquiry programme data.

Figure 4.2 shows changes to the estimates of the tax gaps of both SA individuals and small partnerships and SA large partnerships.



¹ MTG stands for 'Measuring tax gaps'.

Estimates for 2014-15 are revised as we are now using actual data rather than projecting forward. We are also now using actual data for the 2013-14 non-business estimate rather than basing this estimate on a projection. SA non-business random enquiry data for 2013-14 was not used in 'Measuring tax gaps 2017 edition' following issues arising from an organisational restructuring. Following a review of the impact of this on the sample, we have taken the decision to base the 2013-14 estimate for SA non-business on actual data.

Cases in the random enquiry programme are not worked for a number of reasons and this is done in a non-random way. Cases which are not worked are called deselections or rejections. To avoid biasing the sample we treat and include cases that are deselected from the sample but are still within the population of interest. The treatment of these cases has been updated for this publication to now impute, or assign, a yield value based on the average yield and the proportion of under-declared liabilities of the strata it belongs to. This change has been applied to all years and has led to revisions across the historical time series.

Outliers are individual cases with large yield which are far removed from the yields of the other cases in the sample. Due to the nature of the random enquiry samples, our estimates are particularly sensitive to extreme values. To reduce the influence of these extreme values in the tax gap calculation, their yield values are therefore capped. Previously, to reduce the influence of outliers in the tax gap calculation, the yields from the outliers were capped to a value of the mean yield of all settled enquiries for each of the random enquiry programmes, plus three standard deviations.

The methodology for capping has been reviewed and improved for all random enquiry programmes by modelling the tax at risk data using a more representative statistical distribution. The cap is then selected based on the 99.85th percentile of this distribution. This cap is then smoothed across a number of years' data to take account of year-on-year variability. The methodology for capping outliers has been further improved for SA by producing separate caps for SA business and SA non-business. This change has been applied to all years and has led to revisions across the historical time series.

Data from the random enquiries is logged in HMRC's casework management system. Changes have been made to the data management processes and improvements have been made to the processing of the random enquiry programme data which have resulted in revisions. This includes changes to how yield is calculated and changes to how relevant random enquiry cases and tax risks are selected. These changes have caused small revisions to all random enquiry programme estimates across the time series.

For more information on the updated methodology, see the 'Methodological annex'.



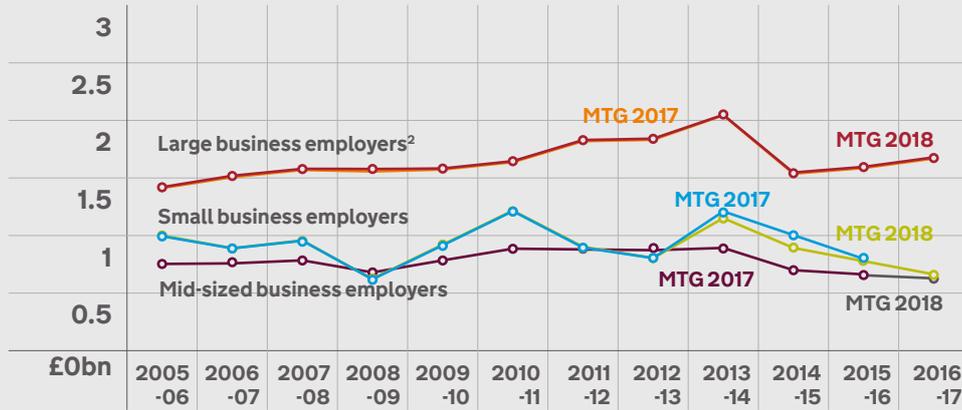
The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

The overall SA percentage tax gap figure published in 'Measuring tax gaps 2017 edition' has been revised due to a revision in the total liabilities figures used. The percentage tax gap figures as shown in tables 1.1 and 1.2 in chapter 1, and quoted in the 'Individuals and partnerships in Self Assessment' section of chapter 4, are therefore not directly comparable to the previous year.

Employers

There have been minor revisions to the small and mid-sized business employer compliance figures published in 'Measuring tax gaps 2017 edition', as shown in Figure 4.3. These revisions are for the same reasons as outlined in the 'Individuals and partnerships in Self Assessment' revisions section. Further details of these changes are given in the 'Methodological annex'.

Figure 4.3: Revisions to small business employers, mid-sized business employers and large business employers net tax gap between MTG 2017 and MTG 2018¹



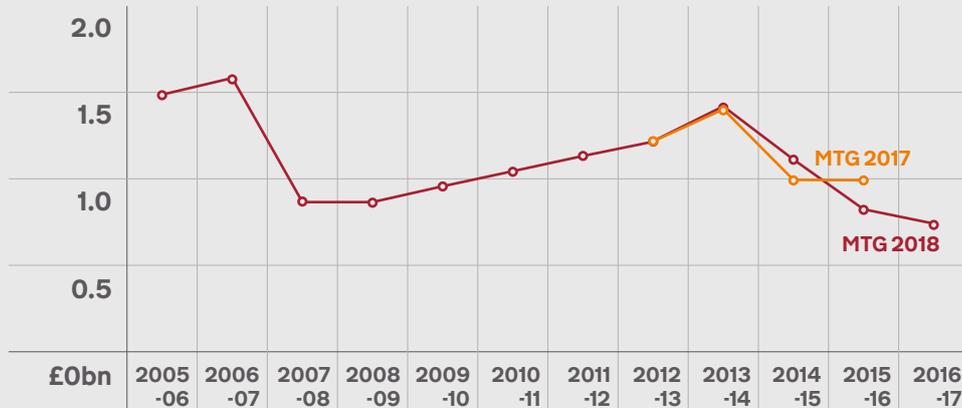
1 MTG stands for 'Measuring tax gaps'.

2 There were negligible revisions to Large business employers estimates between MTG2017 and MTG2018.

Avoidance

Figure 4.4 shows that the 2015-16 revised figure for tax gap estimates due to avoidance of IT, NICs and CGT has fallen by £0.2 billion in the 'Measuring tax gaps 2018 edition'. This is mostly due to updated information on cases that had been open in last year's publication.

Figure 4.4: Revisions to avoidance (IT, NICs and CGT) tax gap since 'Measuring tax gaps 2017 edition'¹



1 MTG stands for 'Measuring tax gaps'.

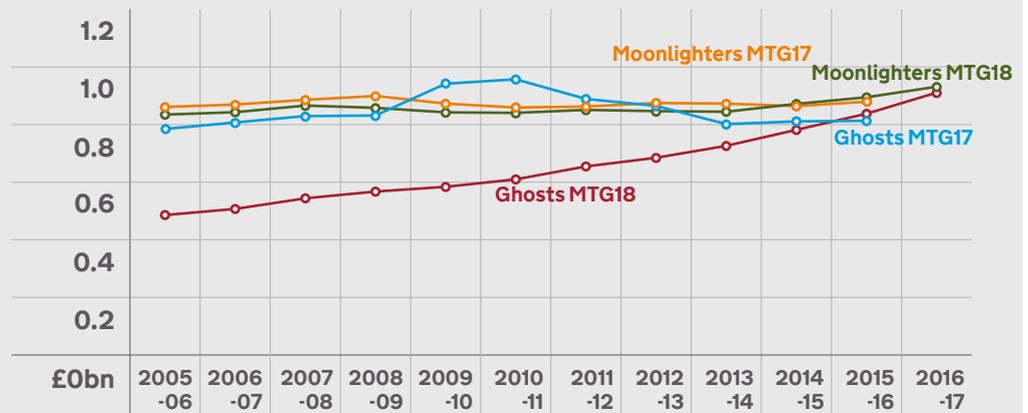
Hidden economy

The hidden economy tax gap estimates for IT, NICs and CGT are similar to the previous years estimates for 'moonlighters,' as shown in Figure 4.5. However, there have been significant revisions to the estimates for 'ghosts' due to using an index, based on the FRS. This was due to better data becoming available. HMRC previously commissioned externally-led research on participation and income from the hidden economy in Great Britain. This filled a gap in the evidence base for our estimates, and replaced a number of assumptions we had previously used to estimate participation and income distribution. A more detailed explanation of the methodology is available in the 'Methodological annex'.



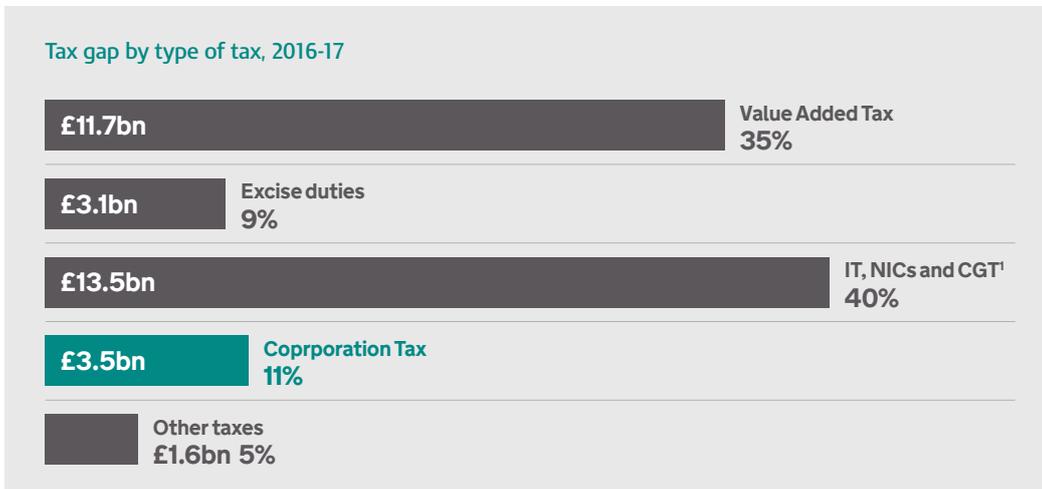
The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Figure 4.5: Revisions to the hidden economy (IT, NICs and CGT) tax gap since 'Measuring tax gaps 2017 edition'



1 MTG stands for 'Measuring tax gaps'.

5. Corporation Tax

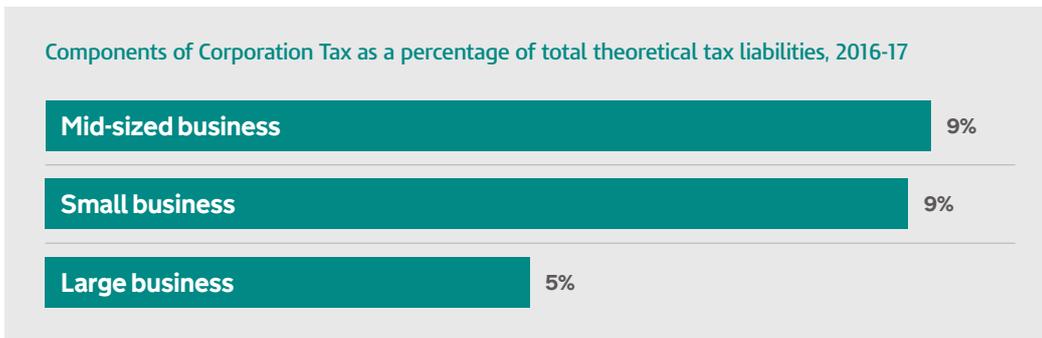


¹ Income tax, National Insurance Contributions and Capital Gains Tax.

Key findings

The estimated total tax gap for Corporation Tax was £3.5 billion in 2016-17 (£3.4 billion in 2015-16). This equates to 10.6% of the overall tax gap in 2016-17.

The overall Corporation Tax gap is estimated to have declined from 12.4% of total theoretical tax liabilities in 2005-06 to 7.4% in 2016-17.



Large businesses

The Corporation Tax gap for large businesses in 2016-17 is estimated at £1.1 billion. This represents 5.3% of total theoretical liabilities, the same as in 2015-16. There has been an upward revision to the 2015-16 estimate since the 2017 edition of 'Measuring tax gaps' by around £0.1 billion due to more recent data becoming available on the amount of tax due from risks identified by HMRC.

This estimate relates to the largest businesses operating in the UK, each of which has an assigned HMRC customer compliance manager to improve the handling of their issues, provide risk assessment and make resourcing decisions to handle the highest risks.

Before April 2014, HMRC managed large businesses in two groups – the largest 800 groups in what was known as Large Business Service (LBS) and the next 10,000 most complex businesses were managed by Large and Complex (L&C). As such, estimates for large businesses combined both elements. In 2014, HMRC reorganised its structure, so that Large Business (LB) manage the largest 2,100 groups; the remaining businesses previously in L&C are now in Mid-sized Business (MSB). All data in this chapter has been restated to meet the definitions of the new customer groups. More detail on the customer groups is available in the 'Methodological annex'.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Mid-sized businesses

The Corporation Tax gap for mid-sized businesses is estimated at £0.9 billion in 2016-17, which is equivalent to 9.2% of their total theoretical Corporation Tax liabilities. These are the smallest businesses previously managed by the Large Business Service and the largest small and medium-sized enterprises that were reorganised into the Mid-sized Business directorate. There are around 170,000 mid-sized businesses in the UK under this definition.

The Corporation Tax gap for mid-sized businesses is about £0.1 billion higher than in 2015-16. This is due to a small increase in the tax gap for the smallest businesses in the mid-sized business customer group, captured in our random enquiries programme. However, the general trajectory for the percentage tax gap for mid-sized businesses is a downward trend from 14.4% in 2005-06 to 9.2% in 2016-17.

Small businesses

The Corporation Tax gap for small businesses is estimated at £1.6 billion in 2016-17, which is equivalent to 8.8% of their total theoretical Corporation Tax liabilities. There are more than 5 million small businesses in the UK according to this definition.

The percentage tax gap for small businesses declined from 21.7% in 2005-06 to 8.8% in 2016-17.

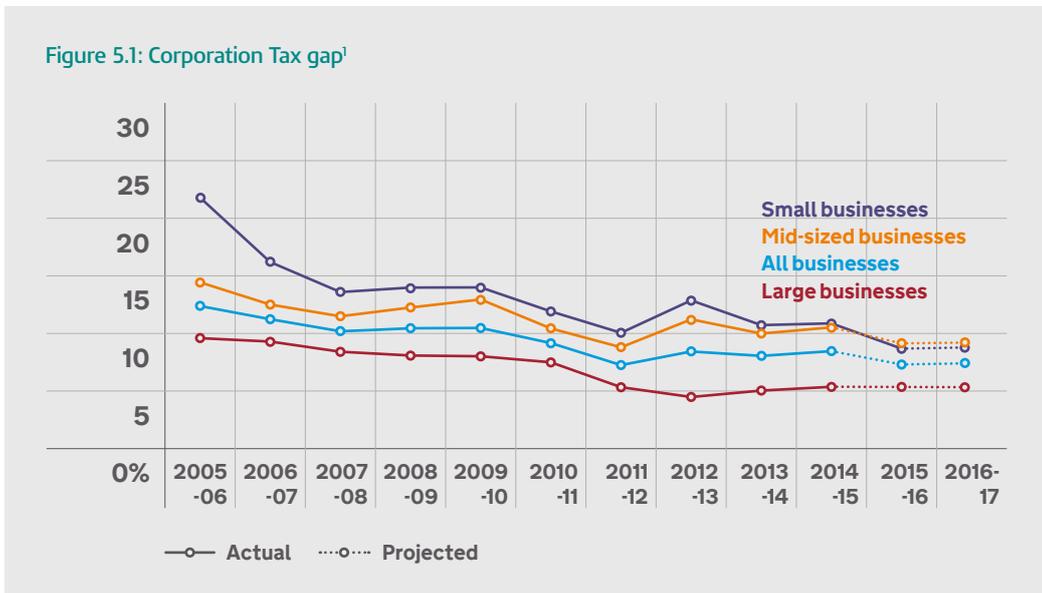
The results of the CT random enquiry population show that the proportion of small businesses submitting an incorrect return leading to a loss of tax declined from 41% in 2005-06 to 22% in 2015-16. This is the latest year of findings available from the random enquiry programme.

Results and tables

Corporation Tax gap breakdown

The Corporation Tax (CT) gap is estimated separately for small businesses, mid-sized businesses and large businesses. As explained in the 'Large businesses' section above, large businesses have been managed under one HMRC directorate since April 2014.

Figure 5.1 shows that the CT gap estimate as a proportion of total theoretical CT liabilities has declined from 12% in 2005-06 to 7% in 2016-17. Although the overall trend is downward, there are some differences in the estimate between businesses of different sizes. Businesses managed by LB continue to have a lower percentage tax gap compared with smaller businesses. This could be due to the close monitoring of the largest businesses through customer relationship managers.



¹ Figures for previous years have been revised.

Large businesses

The CT gap estimates for businesses managed in LB for 2016-17 are taken from our operational data relating to accounting periods (APs) ending in 2014-15 (the latest year of available information). The estimates are based on tax at risk in cases expected or found to be non-compliant (see 'Methodology and data issues' for more information). The 2016-17 estimate of the LB CT gap was £1.1 billion, which is the same as the estimate for 2015-16 (£1.1 billion). We have reviewed and improved the categorisation of international risks challengeable under the UK law and additional risks are now included in the avoidance risk category.

Table 5.1 shows estimates of the LB CT gap for accounting periods ending in 2005-06 to 2014-15 as at April 2018, as well as projected estimates for 2015-16 and 2016-17. Projections for the latest two years are based on the change in the CT liabilities of groups managed by LB. Using tax liabilities ensures that the projections reflect changes to CT rates and taxable profits and assumes a stable level of underlying compliance. Over the long run, there has been a strong decline in the net LB CT gap, which has fallen from £3.2 billion (9.5%) in 2005-06 to £1.1 billion (5.3%) in 2016-17. This reduction occurred mostly until 2012-13, and the tax gap has remained broadly flat since then; the reduction coincided with the reduction in the headline CT rate from 28% to 20%, and the tax gap has remained flat thereafter.

Table 5.1: Estimated large businesses Corporation Tax gap (£ billion)¹

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16 ²	2016-17 ²
Large Business (LB) gross Corporation Tax at risk^{3,4}	6.2	3.1	3.4	3.3	3.8	3.9	4.0
Compliance yield ⁵	3.0	1.8	2.5	2.4	2.8	2.9	2.9
Non-payment	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Net LB Corporation Tax gap⁶	3.2	1.4	1.0	1.0	1.1	1.1	1.1
Total theoretical tax liabilities ⁷	33.6	25.7	21.4	19.4	19.9	20.0	20.5
Net LB CT gap as a proportion of liabilities	10%	5%	5%	5%	5%	5%	5%

1 Figures for previous years have been revised.

2 Tax gap estimates for 2015-16 and 2016-17 are projected based on the trend in CT liabilities for groups managed by the Large Business directorate.

3 Estimates include both risks that are being worked (open) and risks that have been settled (closed).

4 Figures may not appear to sum due to rounding.

5 Compliance yield is the total yield from closed avoidance or litigated technical risks plus the estimated compliance yield from open avoidance risks and technical risks in litigation. Compliance yield in this table relates to a specific accounting period and therefore cannot be compared to reported compliance yield.

6 The net tax gap is tax at risk on avoidance risks and technical risks subject to litigation plus uplift factor minus compliance yield. This includes tax gap from risks identified or recorded in subsequent accounting periods.

7 Total theoretical tax liabilities is the estimated CT liabilities from groups managed by the Large Business directorate plus the net tax gap.

Mid-sized businesses

Mid-sized businesses comprise both the smallest businesses that used to be in the Large and Complex (L&C) unit and the largest small and medium enterprises. HMRC defines mid-sized businesses as having a UK turnover above £10 million or at least 20 employees. There are around 170,000 mid-sized businesses currently operating in the UK under this definition.

Tax gaps for mid-sized businesses remain illustrative as it is difficult to estimate the tax gap as a whole from existing data sources and they are estimated using an experimental methodology. Random enquiries data can only be used to draw inferences on the level of non-compliance for the smallest businesses in this segment, and the remaining businesses are unlike LB, in which close scrutiny of every business means that most risk are identified.

The Corporation Tax gap for mid-sized businesses is estimated at £0.9 billion in 2016-17, £0.1 billion higher than in 2015-16. This was 9.1% of total theoretical liabilities in 2015-16 and 9.2% in 2016-17. The estimated level of the mid-sized business CT tax gap has remained broadly flat in cash terms since 2005-06, varying between £0.7 billion and £1 billion. This is mostly due to a fall in the risks identified. However, Corporation Tax receipts from mid-sized businesses have increased significantly since then, which means that the tax gap as a percentage of liabilities in 2016-17 was only 9.2%, down from 14.4% in 2005-06.

Table 5.2: Estimated mid-sized businesses Corporation Tax gap (£ billion)¹

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16 ²	2016-17 ²
Mid-Sized Business (MSB) Corporation Tax gap^{3,4}	1.3	0.8	1.0	1.0	1.2	1.1	1.2
Compliance yield ⁵	0.4	0.3	0.3	0.3	0.4	0.4	0.4
Non-payment	0.0	0.2	0.2	0.1	0.2	0.1	0.1
Net MSB Corporation Tax gap⁶	0.9	0.7	0.9	0.8	1.0	0.8	0.9
Total theoretical tax liabilities ⁷	6.4	7.5	7.9	8.1	9.1	9.1	9.3
Net MSB CT gap as a proportion of liabilities	14%	9%	11%	10%	10%	9%	9%

1 Figures for previous years have been revised.

2 Tax gap estimates for 2015-16 and 2016-17 are projected based on the trend in CT liabilities for groups managed by the Wealthy and Mid-Sized Business Compliance directorate.

3 Estimates include both risks that are being worked (open) and risks that have been settled (closed).

4 Figures may not appear to sum due to rounding.

5 Compliance yield is the total yield from closed avoidance or litigated technical risks plus the estimated compliance yield from open avoidance risks and technical risks in litigation. Compliance yield in this table relates to a specific accounting period and therefore cannot be compared to reported compliance yield.

6 The net tax gap is tax at risk on avoidance risks and technical risks subject to litigation plus uplift factor minus compliance yield. This includes tax gap from risks identified or recorded in subsequent accounting periods.

7 Total theoretical tax liabilities is the estimated CT liabilities from groups managed by the Wealthy and Mid-Sized Business Compliance directorate plus the net tax gap.

Small businesses

Tax gap estimates from incorrect returns are taken from the CT random enquiry programme (REP) as well as data on compliance yield and non-payment. Incorrect tax returns are those found by our enquiries to have under-declared tax liability. This could be as a result of error, failure to take reasonable care or evasion. The CT REP covers small businesses, which in this context means those businesses with a turnover below £10 million and fewer than 20 employees. This also includes micro-businesses which have a turnover below £2 million and fewer than ten employees.

Table 5.3 shows estimated tax gaps for businesses with accounting periods ending in financial years 2005-06 to 2016-17. The projected CT gap for small businesses was £1.6 billion in 2016-17. The latest CT REP data used is for the 2015-16 financial year, with the projected tax gap estimate for 2016-17 based on the trend in CT liabilities. The percentage tax gap for small businesses has declined from 21.7% of theoretical liabilities in 2005-06 to 8.6% in 2015-16 and is projected to be 8.8% in 2016-17.

Table 5.3: Estimated small businesses Corporation Tax gap (£ billion)^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 ³
Under-declared liabilities due to incorrect returns							
Upper estimate	3.8	2.1	2.9	2.9	3.5	3.0	3.0
Central estimate	2.0	1.2	1.7	1.6	1.8	1.5	1.6
Lower estimate	1.0	0.6	0.9	0.9	1.0	0.9	1.0
Compliance yield ⁴	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Non-payment	0.1	0.3	0.3	0.3	0.3	0.2	0.2
Total tax gap⁵							
Upper estimate	3.8	2.3	3.2	3.0	3.7	3.0	3.1
Central estimate	2.0	1.3	1.9	1.7	1.9	1.5	1.6
Lower estimate	1.0	0.7	1.1	1.0	1.2	1.0	1.0
Total theoretical tax liabilities	9.1	13.0	14.7	15.5	17.8	17.7	18.1
Proportion of theoretical tax liabilities	22%	10%	13%	11%	11%	9%	9%

1 Figures rounded to the nearest £0.1 billion. As a result components may not appear to sum.

2 Figures for previous years have been revised.

3 Projection factor applied to the gross tax gap estimate for 2015-16 to produce a projected estimate for 2016-17. This is based on the trend in estimated total small business Corporation Tax liabilities.

4 By period of settlement of enquiry.

5 Includes avoidance estimates.

Table 5.4 shows that between the years 2005-06 to 2015-16, the proportion of small businesses submitting an incorrect CT return leading to a loss of tax declined from 41% to 22%. These figures are revised as more cases are settled over time.

Cases in the random enquiry programme where additional tax liability has been established are used to establish the amount of annualised additional liability. Table 5.4 also shows that the decline in annualised additional liability up to £1,000 has been much greater than the decline in annualised additional liabilities more than £1,000 since 2005-06. The proportion of businesses which had annualised additional liability of more than £1,000 has been fairly stable ranging from 16% to 18% between 2011-12 and 2015-16. The proportion of businesses which had annualised additional liability up to £1,000 fell from 22% in 2005-06 to 5% in 2015-16.

In 2013-14, the structure of the sample changed to a stratified sample based on turnover, which improved the precision of the estimates. See the 'Methodological annex' for more detail.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Table 5.4: Proportion of small businesses with incorrect Corporation Tax returns^{1,2}

	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16
Proportion of small businesses with incorrect returns	41%	28%	27%	27%	24%	22%
of which additional liability between £0 and £1,000	22%	12%	10%	9%	6%	5%
of which additional liability greater than £1,000	19%	16%	16%	17%	18%	18%

1 Figures rounded to the nearest 1%. As a result components may not appear to sum.

2 Figures for previous years have been revised.

Avoidance

The CT avoidance tax gap (included in the total CT gap) is estimated to be £0.8 billion for 2016-17, and it is estimated separately for large businesses (£0.7 billion), mid-sized businesses (less than £0.1 billion) and for small businesses (less than £0.1 billion).

Methodology and data issues

Large businesses

Estimates of the LB CT gap come from information on our case management system. Where our tax specialists identify risks for further consideration, an initial estimate of the tax associated with these risks is recorded on the system as the tax at risk.

The LB case management system allows the classification of risks into a number of categories, including avoidance, genuine errors, omissions from the company's tax return, and instances where there is genuine uncertainty about the correct tax treatment. The avoidance category relates to the use of disclosed avoidance and other suspected avoidance identified by our tax specialists.

Identified risks can take a number of years to resolve. For open enquiries, it is necessary to estimate the expected compliance yield to calculate the tax gap. Differences between the estimated and actual compliance yield will lead to revised tax gap estimates in subsequent publications. The tax gap for more recent years is likely to be subject to larger revisions because a higher proportion of the compliance yield is estimated.

Risks may also take a number of years to identify, so new risks for the accounting periods presented may be identified in subsequent accounting periods. Analysis of past data is used to estimate an appropriate increase to the tax at risk to reflect the additional risks that are expected to be identified at a later point. Additional tax at risk may result in additional tax gap. Larger adjustments to tax at risk are made to recent accounting periods than to older accounting periods.

Risks can relate to a number of accounting periods. Tax at risk is allocated to the appropriate year using data from the case management system. There was a small change to the approach used to allocate tax at risk four years ago in order to simplify the process (see 'Methodological annex' for more information).



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Risks can also be identified and not lead to any tax being found to be due if the taxpayer is deemed to be compliant. These risks are not counted towards the gross tax gap, as they will have been settled without any additional tax due.

HMRC has always acknowledged that it may not identify every risk and this has previously led to an underestimation of the tax gap. Since 2015, we have evidence from the Large Business Risk Task Force created following the Chancellor's Autumn Statement in 2012. The additional risks identified by the Large Business Risk Task Force have allowed us to derive an uplift for unidentified risks.

LB reports compliance yield on a year of settlement basis, whereas the tax gap estimates are based on a financial year accounting period basis. For tax gap purposes only, compliance yield is calculated as the total yield from closed non-compliance risks relating to that accounting period plus the estimated compliance yield from open risks.

As it can take many years to close every risk identified in a particular year, the yield expected from open cases must be forecast in order to produce estimates of the overall tax gap. Differences between forecast yield and actual yield may lead to some degree of error, and as such, estimates are provisional until every risk is closed.

These estimates will be subject to further revision as more data becomes available and methodological improvements are implemented.

Mid-sized businesses

The illustrative estimate of the CT gap for mid-sized businesses is produced in two parts. One uses data from the random enquiries programme (see below for more details in the 'Small businesses' section), which covers the smallest mid-sized businesses.

For the remaining businesses, it is assumed that the tax at risk will represent a similar proportion of liabilities as in large businesses. Applying this assumption to mid-sized business liabilities allows us to produce an estimate of the tax at risk for mid-sized businesses for each year. The 2014-15 estimate is projected to 2015-16 and 2016-17 on the basis of the trend in mid-sized businesses' liabilities. This produces estimates of tax at risk for 2015-16 and 2016-17, from which compliance yield is subtracted and an estimate of losses from non-payment is added. Compliance yield is a smaller proportion of the tax at risk in mid-sized businesses, so the percentage tax gap is higher.

Small businesses

The Corporation Tax random enquiry programme (REP) allows HMRC to estimate the extent of under-declaration of liabilities arising from the submission of incorrect CT returns. The random sample used for the programme is selected from the small business population who are issued with a notice to file a CT return.

Enquiries are taken up into the sampled returns. The results are then applied to the general population to produce estimates of non-compliance. Small businesses which do not submit a tax return in the year in question are not included in the tax gap computations, further details are available in the 'Methodological annex'.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

As enquiries can take a number of years to settle, it is necessary to make assumptions about any enquiries that are still open at the time of analysis. This means figures are subject to revision until all enquiries are settled. Estimates have been revised since the previous publication to include information on the outcomes of late settling enquiries.

The latest year of REP data relates to 2015-16, with estimates for 2016-17 projected in line with the trend in estimated total small business CT liabilities.

As a result of the small sample sizes and large natural variance in the levels of under-declared tax liabilities due to incorrect returns from year to year, an adjusted method for producing a time series of small business CT net tax gap estimates is used. This method is based on rolling three-year averages of the annualised under-declared tax liabilities for non-compliant cases (cases where additional tax liability has been established) for the previous two years, combined with the overall actual proportion of non-compliance within the random enquiries for the year in question.

Based on US research from the Internal Revenue Service (IRS), a multiplier, which has been adjusted for the UK tax system, is applied to account for non-detected non-compliance. Further information on the multipliers used to calculate tax gap estimates from random enquiries can be found in the 'Methodological annex'.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Avoidance

The LB avoidance estimate is derived from the LB case management system that includes additional data on tax at risk split into related tax years. The estimates for mid-sized and small businesses are produced by applying the methodology used to estimate the income tax, National Insurance Contributions and Capital Gains Tax gap to HMRC's avoidance management information data of avoidance relating to CT. A small adjustment is applied to the LB and mid-sized businesses estimates to account for risks that are expected to be identified in subsequent years.

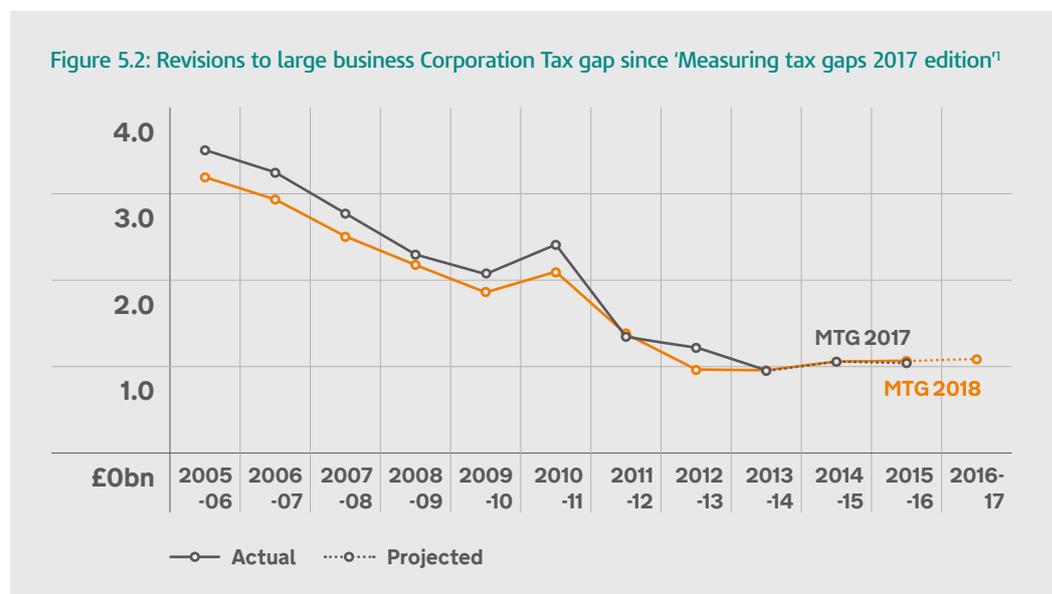
Revisions

Large businesses

Minor changes to figures are due to using a more recent snapshot of the data each year. Where time has elapsed between data snapshots, we expect differences between the initial and latest tax gap estimates because:

- more risks may be found, leading to additional tax at risk in any category
- a larger proportion of the tax gap estimate will be based on actual yield numbers, replacing the values previously forecast
- our judgment on the tax at risk of a risk, or its classification as avoidance or technical, may change where better information has emerged
- we improved our coverage of avoidance risks after reviewing the categorisation of international risks challengeable under UK law. These are now included in the tax gap under the avoidance risk category.

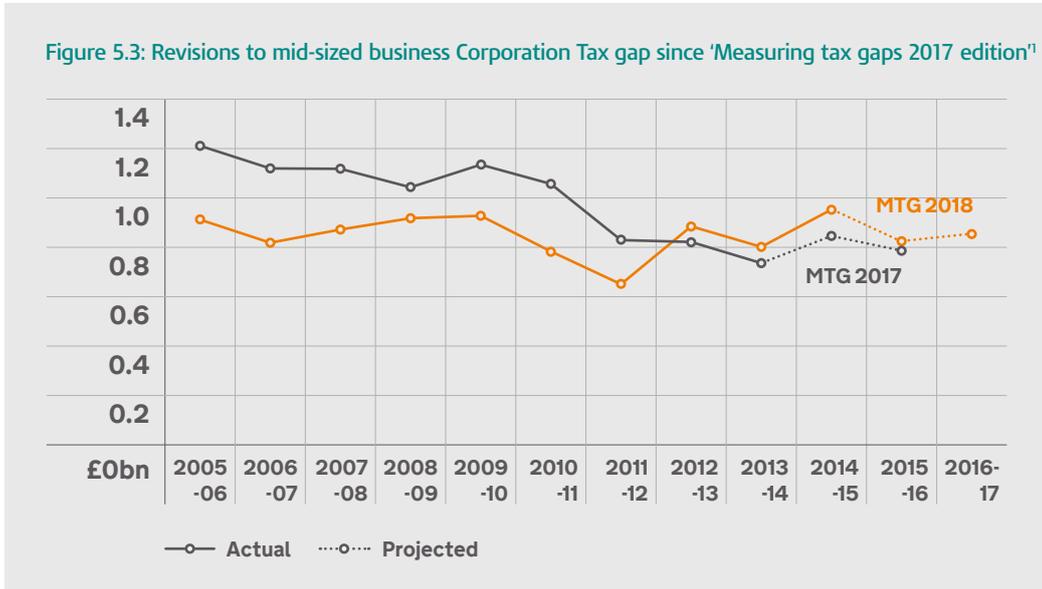
Figure 5.2: Revisions to large business Corporation Tax gap since 'Measuring tax gaps 2017 edition'¹



¹ MTG stands for 'Measuring tax gaps'.

Mid-sized businesses

The CT gap for mid-sized businesses has been revised up until 2012-13 because it is estimated on the basis of the LB gross tax gap estimate, which itself was revised in those years. This is due to an improvement to the classification of risks as compliant or non-compliant and more detail on the sources of errors.



¹ MTG stands for 'Measuring tax gaps'.

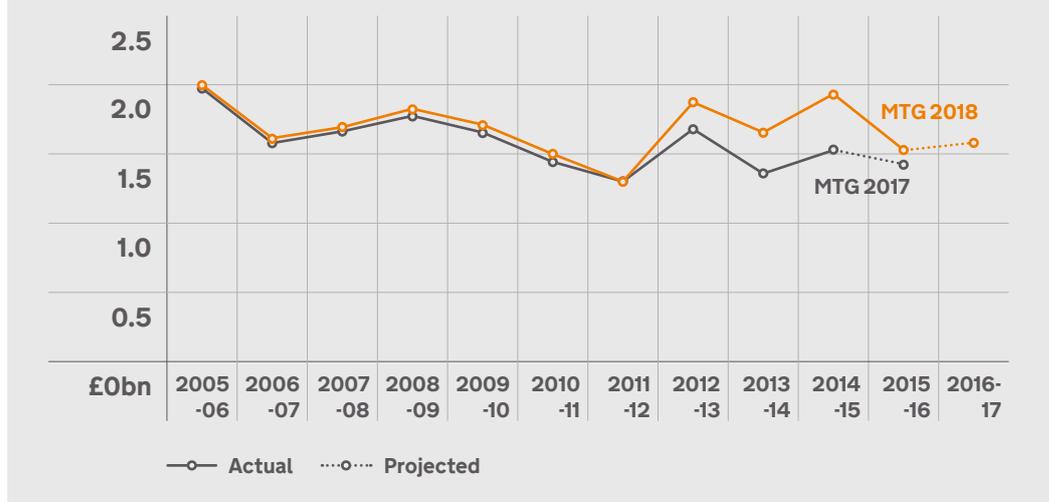
Small businesses

Tax gap estimates for small business CT have been revised since the publication of 'Measuring tax gaps 2017 edition'. These revisions are consistent with the changes outlined in the Chapter 4 'Revisions' section. In particular the revisions are driven by:

- settlement of long-running cases for which we previously had to forecast the outcome
- improvements to the methodology used to treat cases in the sample that were not worked
- improvements to the capping method used to treat outliers
- changes to the data management and processing of the random enquiry programme data.

The largest revisions for the CT small business tax gap are due to improvements in the treatment of cases, in the sample, which weren't worked. The revisions are within confidence intervals of previous publications. These revisions are shown in Figure 5.4.

Figure 5.4: Revisions to small business Corporation Tax gap since 'Measuring tax gaps 2017 edition'¹



¹ MTG stands for 'Measuring tax gaps'.

Tax gap estimates for small business CT across the whole time series have been revised from what was published in 'Measuring tax gaps 2017 edition'. These new figures have a more significant effect from 2012-13 onwards.

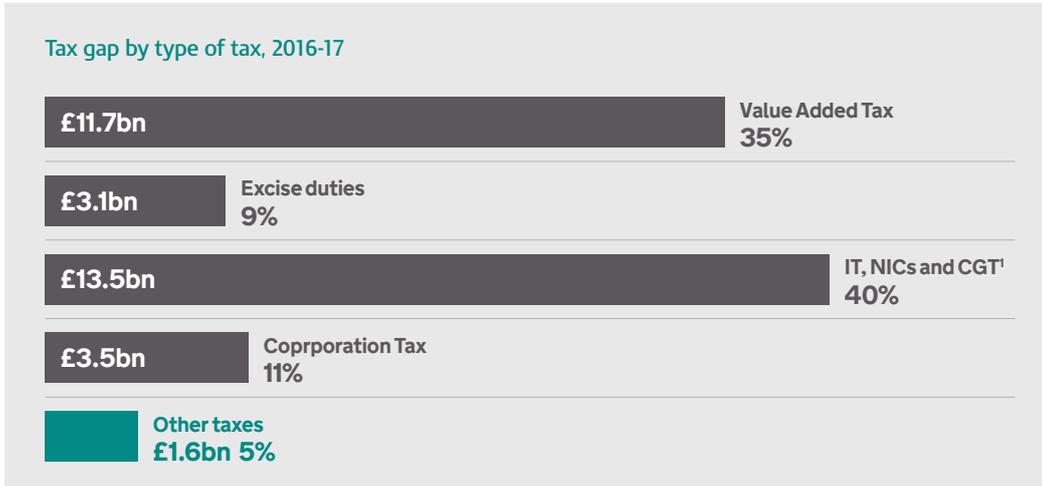
Cases in the random enquiry programme are not worked for a number of reasons and this is done in a non-random way. Cases which are not worked are called deselections or rejections. To avoid biasing the sample we treat and include cases that are deselected from the sample but are still within the population of interest – based on the deselection reason matching select criteria. The treatment of these cases has been updated for this publication to now impute, or assign, a yield value based on the average yield and the proportion of under-declared liabilities of the strata it belongs to. This change has been applied to all years and has led to revisions in the estimates. Further details about the treatment of deselections can be found in the 'Methodological annex'.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

In addition to this, we have updated our CT small business liabilities data source from that used in MTG17. We were previously over estimating the total theoretical liabilities, in particular before 2010-11. This decrease in total theoretical liabilities has driven the increase in our proportion of tax liabilities for the earlier years in our time series. However, the overall trend of the percentage of liabilities is decreasing and this is due to more small businesses displaying compliant behaviour.

6. Other taxes



1 Income tax, National Insurance Contributions and Capital Gains Tax.

Key findings

The tax gap for Stamp Duty Land Tax is estimated at £125 million.

The illustrative tax gap for Stamp Duty Reserve Tax is estimated at £40 million.

The illustrative tax gap for Inheritance Tax is estimated at £600 million.

The tax gap for Landfill Tax is estimated at £125 million.

The illustrative tax gap for the other indirect taxes is estimated at £800 million, including Landfill Tax.

This chapter describes how the tax gap has been estimated for components not covered elsewhere in this publication. All estimates are illustrative except for the Stamp Duty Land Tax gap and the Landfill Tax gap, which are based on established methodologies.

The Landfill Tax gap methodology was introduced in 'Measuring tax gaps 2016 edition'. Previous 'Measuring tax gaps' editions showed only the total estimate for other indirect taxes. The methodology does not include an estimate for waste disposed of at illegal waste sites, as this is not taxable at this point.

Table 6.1: Other direct and indirect tax gaps (£ billion)^{1,2}

		2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Direct								
Stamp duties	Stamp Duty Land Tax	0.250	0.200	0.150	0.125	0.150	0.150	0.125
	Stamp Duty Reserve Tax	0.030	0.030	0.020	0.030	0.030	0.030	0.040
	Total	0.300	0.200	0.200	0.200	0.200	0.200	0.200
Other direct taxes	Inheritance Tax ³	0.150	0.350	0.400	0.400	0.475	0.575	0.600
	Petroleum Revenue Tax ⁴	0.040	0.040	0.040	0.020	<0.010	n/a	n/a
	Total	0.200	0.400	0.400	0.400	0.500	0.600	0.600
Indirect²								
Other indirect taxes ⁵	Aggregates Levy							
	Air Passenger Duty							
	Climate Change levies	0.575	0.400	0.400	0.550	0.575	0.600	0.725
	Insurance Premium Tax							
	Landfill Tax	0.020	0.075	0.075	0.100	0.125	0.100	0.125
	Total	0.600	0.500	0.500	0.600	0.700	0.700	0.800
Total other taxes		1.100	1.100	1.100	1.200	1.400	1.500	1.600

1 Totals are rounded to the nearest £100 million. Estimates for specific taxes are rounded to the nearest £25m, or the nearest £10 million if they are below £50 million. As a result components may not appear to sum to totals.

2 In editions of 'Measuring tax gaps' prior to 2016, indirect taxes in the table above included other excise duties (betting and gaming, cider and perry, spirits based ready-to-drinks), which are now included in Chapter 3.

3 The 2013-14 figure for Inheritance Tax has been revised following a typographical error in the previous edition of 'Measuring tax gaps'.

4 Petroleum Revenue Tax was zero-rated from 1 January 2016.

5 Figures for previous years have been revised.



A full time series for tables is available on our website
www.gov.uk/government/collections/measuring-tax-gaps

Methodology and data issues

Landfill Tax

The level of Landfill Tax losses is measured by comparing the total Landfill Tax theoretical liability with actual Landfill Tax receipts. The difference between these amounts is the Landfill Tax gap. From 1 April 2015, Landfill Tax was devolved to Scotland, so from 2015-16 onwards the Landfill Tax gap does not include Scotland.

The net theoretical Landfill Tax liability has been produced using a combination of modelling, proxy indicators and tax professional expertise. It takes account of estimates for waste legitimately diverted away from landfill, versus unexpected shortfalls in revenue. The methodology does not include an amount for waste disposed at illegal waste sites, as this is not taxable at this point. Further details can be found in the 'Methodological annex'.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Stamp duties

The Stamp Duty Land Tax gap is estimated using a combination of management information and management assumptions. The estimate includes both commercial and residential property and land transactions. Further details can be found in the 'Methodological annex'. From 1 April 2015, Stamp Duty and Land Tax was devolved to Scotland, so from 2015-16 onwards the tax gap does not include Scotland.



The methodological annex is available on our website
www.gov.uk/government/statistics/measuring-tax-gaps

Stamp Duty Reserve Tax is a tax largely collected at source through the CREST computer system (the London Stock Exchange's electronic share settlement system) making the risk of non-compliance very low.

An illustrative estimate of the tax gap for Stamp Duty Reserve Tax has been produced using the assumption that the tax gap is approximately 1% of receipts. This results in an estimate of the tax gap for Stamp Duty Reserve Tax of £40 million for 2016-17.

Inheritance Tax

The Inheritance Tax gap estimate is illustrative and based on assumptions. The gross tax gap has previously been estimated using risk categories, including omitted assets and agricultural and business reliefs. Compliance yield figures were subtracted from the gross tax gap to estimate the net tax gap. The 2014-15, 2015-16 and 2016-17 estimates have been created by uplifting the 2013-14 figure based on receipts. HMRC is exploring new data sources to estimate the Inheritance Tax gap.

Petroleum Revenue Tax

Petroleum Revenue Tax was zero-rated from 1 January 2016. An illustrative indicator of the tax gap from Petroleum Revenue Tax for previous years was produced using the expert opinion of Petroleum Revenue Tax specialists. Given the narrowly-defined base of the tax (limited to oil-producing fields developed before April 1993) and the small number of businesses involved, a range of between 1% and 3% of theoretical tax liabilities was used to calculate an illustrative tax gap. This produced an estimate of less than £10 million in 2014-15.

Other indirect taxes (excluding Landfill Tax)

Tax gaps for other indirect taxes (excluding Landfill Tax) are formed by estimating the average percentage of tax gaps for similar taxes each year and multiplying this by total theoretical tax liabilities for the relevant taxes.

The average percentage revenue losses should not be considered estimates of the true percentage loss for each of the taxes listed in Table 6.1. Many of the indirect taxes listed are very different from one another in their nature, each being subject to different rules. The true percentage tax gaps are therefore likely to vary widely across the various taxes listed.

Revisions

Other indirect taxes (excluding Landfill Tax)

The estimates for other indirect taxes (excluding Landfill Tax) have been revised in previous years due to revisions in the underlying data.

Glossary

Accounting period	The period for which a business prepares its accounts and in respect of which a Corporation Tax assessment is raised. It cannot be more than 12 months in length, although it can be shorter.
Central estimate	The most likely estimate of the true value.
Compliance activity	An intervention by HMRC, such as a direct tax enquiry, employer compliance review or VAT assurance visit, designed to ensure that the correct amount of tax is being accounted for and paid.
Compliance yield	Additional tax charged, resulting from compliance activity.
Confidence interval	A range of values that has a specified probability of containing the true value of interest.
Cross-border shopping	Legal importation of goods for personal use.
Direct tax	A tax imposed on a person or business.
Estimate	Approximate result calculated from approximate or incomplete data.
Fraud	Deliberate, dishonest evasion of tax.
Gross Domestic Product	The market value of all final goods and services made within a country in a year.
Illicit market	The part of the market on which due taxes and duties have not been paid.
Indirect tax	A tax imposed on a transaction.
Legitimate consumption	Consumption of goods for which the correct duty has been paid.
Liechtenstein Disclosure Facility	This allows people with unpaid tax linked to investments or assets in Liechtenstein to settle their tax liability under this special arrangement. It runs until 5 April 2016.
Litigation	A lawsuit seeking a legal remedy to a question or dispute.
Lower estimate	The value below which the true value will not lie.
Mid-point	Average of the upper and lower estimates.
Non-payment	Tax debts that are identified but never paid off. Eventually this debt will be written off by HMRC as uncollectable.
Official Statistics	All statistics produced by the Office for National Statistics, government departments, the Devolved Administrations and other Crown bodies are automatically deemed to be Official Statistics.
PAYE scheme	Each employer operating PAYE registers a PAYE scheme with HMRC, which allows for the issue and monitoring of returns.

Real Time Information	Real Time Information was introduced in April 2013 and requires all UK employers to tell HMRC of their liability to PAYE at or before the point they make payments to their employees, i.e. around each payroll run. Previously employers paid on account monthly and reported actual liabilities annually.
Risk register	A list of identified tax risks, together with information such as estimated value, nature and status. Registers are used to track and monitor the risks they cover.
Self Assessment	A system for reporting income and capital gains to, and claiming tax allowances from, HMRC.
Settlement	Closure of a direct tax enquiry, resulting in the agreement of any additional tax liability.
Small and medium-sized enterprises	HMRC uses the EU definition of SME for consistency with previous editions of 'Measuring tax gaps' and for international comparisons. This covers businesses with up to 250 employees and either a balance sheet total of up to €43m or turnover of up to €50m.
Smuggling	In this document this covers all activity that results in goods entering the UK market without the correct duty being paid.
Stamp Duty Reserve Tax	Stamp Duty Reserve Tax is a tax on shares and securities when you buy through the stock market or a stock broker.
Tax under consideration	The tax under consideration is an estimate of the maximum potential additional tax liability in each case before we have carried out a full investigation of the specific facts or analysis of relevant law. It is not actual tax either owed or unpaid, it is a tool to guide our enquiries to focus on the most significant risks that exist at any particular time with the largest businesses. In many cases, when we have looked at the full facts it becomes clear that there is some lesser liability or even no further liability at all. Tax under consideration will naturally vary from time to time as outstanding issues are settled and new risks are identified. The total is just a snapshot of work in progress and will naturally fluctuate as risks are settled and new ones taken up.
Upper estimate	The value above which the true value will not lie.
Write-offs	Debts that are considered to be irrecoverable.

Abbreviations

AP	Accounting period
BEPS	Base erosion and profit shifting
CGT	Capital Gains Tax
CT	Corporation Tax
EC	Employer compliance
ESA10	European System of Accounts
EU	European Union
GB	Great Britain
GDP	Gross Domestic Product
HMRC	Her Majesty's Revenue & Customs
ISA	Individual Savings Account
IRS	Internal Revenue Service (United States)
IT	Income tax
LBRT	Large Business Risk Task Force
LB	Large Business
LCF	Living Costs and Food Survey
MSB	Mid-sized businesses

MTIC	Missing trader intra-community fraud
NI	Northern Ireland
NICs	National Insurance Contributions
OECD	Organisation for Economic Cooperation and Development
ONS	Office for National Statistics
PAYE	Pay As You Earn
PRT	Petroleum Revenue Tax
REP	Random enquiry programme
RTI	Real Time Information
SA	Self Assessment
SDLT	Stamp Duty Land Tax
SDRT	Stamp Duty Reserve Tax
SME	Small and medium-sized enterprise
UK	United Kingdom
VAT	Value Added Tax
VTTL	VAT total theoretical liability

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