

# **MEASURING TAX GAPS 2010**

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## Introduction

This statistical release presents the latest estimates of tax gaps for 2008-09 in HMRC administered taxes. The publication called 'Measuring Tax Gaps 2009' was first published in December 2009 and contained an estimate of the tax gap for 2007-08<sup>1</sup>.

Estimating the scale of, and trends in, tax gaps is difficult and a relatively untested area of work for governments in the EU and around the world. HMRC has developed estimates for tax gaps for the main direct and indirect taxes that it administers that it believes are the best possible, based on all the information presently available. However, uncertainty in the estimates means that HMRC continues to review the methodologies in the light of new information and data. For this reason, the estimates are subject to periodic change, as improved understanding and new methods become available.

A summary of the methodology for each tax gap estimate is outlined in the document, with more detail on data sources and methods in the separate document 'Methodological Annex For Measuring Tax Gaps 2010'. Of particular note is the fact that the estimates presented are potentially subject to both random and systematic errors.

HMRC welcomes feedback on his paper from businesses, academic experts, and other interested parties, with a view to discussing and, where possible, improving these methodologies further. To comment on the report or methodologies presented, please use the contact details below.

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<sup>1</sup> <http://www.hmrc.gov.uk/stats/measuring-tax-gaps.pdf>

### Tax gap overview

- 1.1 This section discusses the tax gap across HMRC-administered taxes<sup>2</sup>. The tax gap is defined as the difference between tax collected and the tax that should be collected (the theoretical liability). 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 HMRC's interpretation of the intention of Parliament in setting law (referred to as the spirit of the law). The tax gap estimate is net of the Department's compliance activities.

### Estimate of the overall tax gap

- 1.2 Overall the total tax gap is estimated to be £42bn in 2008-09. This equates to around 9 per cent of total tax liability<sup>3</sup>. Table 1.1 shows estimates for the tax gap across HMRC administered taxes.
- 1.3 All of the tax gap estimates shown are subject to error. The main sources of error are random errors due to sampling and systematic errors due to assumptions used to derive the estimates. Where possible the range within which the true estimates would be expected to lie has been estimated. However for some taxes and components it has not been possible to provide a robust estimate of the error margin.
- 1.4 The estimates shown in Table 1.1 differ in terms of the robustness of the estimate and the frequency with which they are updated. This is indicated using a colour coding system. All methodologies are subject to review which could result in revisions to the published estimates. However those estimates that are based on the less well established methodologies are more likely to be subject to significant future revisions.
- 1.5 The format of Table 1.1 has been revised since the previous publication to include non-payment for direct taxes within the relevant component estimates of tax gaps. This is consistent with the indirect tax gap estimates which cover all sources of revenue loss including non-payment.
- 1.6 The estimates of the excise tax gaps shown in Table 1.1 are for excise duty only and show duty loss as a percentage of revenue due. They differ from the excise tax gap estimates in chapter 3 which include VAT and show the illicit market share.

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<sup>2</sup> This report does not include Council Tax and Business Rates as these are administered by local authorities.

<sup>3</sup> Total tax liability is defined as the tax gap plus the amount of tax actually received.

- 1.7 In 2009 HMRC published an estimate of the tax gap for the first time as an experimental set of statistics. Due to this experimental nature, the estimates for the overall tax gap and the total tax gaps for indirect and direct taxes were rounded to the nearest £5 billion. This year some of the methodologies have become more established and some have been improved. Therefore the estimate for the overall tax gap in Table 1.1 has been rounded to the nearest £1 billion and the estimates for the total indirect and direct tax gaps have been rounded to the nearest £100 million. This also enables a meaningful time series for the overall tax gap to be presented in Table 1.2. For comparison with the previous publication the estimate of the overall tax gap is also shown rounded to the nearest £5 billion in Table 1.1.

**Table 1.1: Tax Gaps for HMRC administered taxes – 2008-09 (£ billion)**

Tax	Component <sup>1</sup>	Estimates (£ billion)			Percentage tax gap <sup>2</sup>
		Point <sup>3</sup>	Lower	Upper	
<b>Indirect taxes<sup>4</sup></b>					
	Value Added Tax (VAT)	15.2	N/A	N/A	16.0%
	Spirits duty	0.04	0	0.2	2%
	Beer duty	0.4	N/A	N/A	11%
	Cigarette duty	1.1	0.4	1.8	11%
	Hand rolled tobacco duty	0.6	0.5	0.7	49%
	Great Britain Diesel duty	0.6	N/A	N/A	4%
	Great Britain Petrol duty <sup>5</sup>	0	N/A	N/A	0%
	Northern Ireland Diesel duty <sup>6</sup>	0.1	N/A	N/A	28%
	Northern Ireland Petrol duty <sup>5,6</sup>	0.02	N/A	N/A	9%
	Other indirect taxes <sup>7</sup>	0.9	N/A	N/A	6.1%
<b>Total indirect taxes</b>		<b>19.0</b>	<b>N/A</b>	<b>N/A</b>	<b>12.8%</b>
<b>Direct taxes</b>					
	Inaccurate self assessment returns from individuals (excluding large partnerships <sup>8</sup> )	5.8	2.6	10.8	
	Inaccurate self assessment returns from large partnerships <sup>8</sup>	0.8	0.7	0.9	
	Inaccurate returns from small and medium-sized employers (PAYE) <sup>9</sup>	1.2	1.1	1.2	
	Inaccurate returns from large employers (PAYE)	2.0	1.3	2.7	
	Avoidance <sup>10</sup>	1.4	1.0	2.1	
	Non-declaration of income and capital gains by individuals who do not receive returns	0.3	N/A	N/A	
	Ghosts <sup>11</sup>	1.3	0.3	3.9	
	Moonlighters <sup>12</sup>	1.8	1.2	3.6	
	<b>Total</b>	<b>14.5</b>	<b>N/A</b>	<b>N/A</b>	<b>5.4%</b>
	Businesses managed by the Large Business Service	3.1	N/A	N/A	
	<i>Avoidance</i>	2.9	N/A	N/A	
	<i>Technical issues</i>	0.2	N/A	N/A	
	Large and Complex businesses	1.2	N/A	N/A	
	Small and medium-sized businesses	2.6	1.2	5.1	
	<b>Total</b>	<b>6.9</b>	<b>N/A</b>	<b>N/A</b>	<b>13.9%</b>
	Inheritance Tax	0.1	-	0.4	
	Stamp Duties	0.8	0.4	1.6	
	Petroleum Revenue Tax	0.2	N/A	N/A	
	<b>Total</b>	<b>1.0</b>	<b>N/A</b>	<b>N/A</b>	<b>7.2%</b>
<b>Total direct taxes</b>		<b>22.5</b>	<b>N/A</b>	<b>N/A</b>	<b>6.8%</b>
<b>Total tax gap</b>		<b>42</b>	<b>N/A</b>	<b>N/A</b>	<b>8.6%</b>
<b>Total tax gap</b>		<b>40</b>	<b>N/A</b>	<b>N/A</b>	
		<i>Rounded to nearest £5 billion</i>			

	Established methodology, estimate updated annually
	Developing methodology, estimate updated annually
	Experimental methodology, not updated annually and illustrative indicators for gaps with no direct measure

The overall tax gap is rounded to the nearest £1bn. All other estimates are rounded to the nearest £100m. Estimates are rounded independently and as such components may not appear to sum.

1 The top down methods used to produce indirect tax gap estimates cover all sources of revenue loss including non-payment. In 'Measuring Tax Gaps 2009' this was shown separately for direct taxes but has now been included within the relevant components for consistency.

2 The tax gap as a proportion of theoretical liabilities which are defined as the tax gap plus the amount of tax actually received. Percentages have been rounded to the nearest 0.1 per cent with the exception of the excise gaps where the nearest 1 per cent is used due to the size of the estimates.

3 The beer and tobacco methodologies produce a range within which the true value is expected to lie. The point estimate shown for these tax gaps is the mid-point of this range. The point estimate shown for the other tax gaps is the estimate produced directly by applying the methodology.

4 The excise tax gap estimates are for excise duty only and show duty loss as a percentage of revenue due. They therefore differ from estimates in chapter 3 which include VAT and show the illicit market share.

5 Estimates for Great Britain and Northern Ireland Petrol duty are negligible when rounded to the nearest £100million.

6 Estimates for Northern Ireland Diesel and Petrol duty are estimates for the non-UK duty paid share which includes legitimate cross-border shopping. They are therefore not true estimates of the tax gap which will be substantially smaller.

7 Other excise duties, customs duties, environmental taxes, Insurance Premium Tax.

8 Large partnerships are defined as those with five or more partners.

9 Small and medium-sized employers are defined as businesses with 500 or fewer employees that are not part of a complex group.

10 The lower and upper bounds for the avoidance estimate represents a range around the point estimate that is itself likely to underestimate the true level.

11 'Ghosts' are defined as individuals who have earnings from employment or self-employment and fail to declare any of this income - see chapter 8 for more details.

12 'Moonlighters' are defined as individuals who pay tax on their main job through PAYE but have a second job or additional income from self-employment - see chapter 8 for more details.

## Historical time series of the tax gap

- 1.8 A historical time series of the tax gap from 2004-05 to 2008-09 is shown in Table 1.2. This shows that over the period the tax gap has remained fairly stable, at around £40 billion, with a small increase between 2007-08 and 2008-09 from £38 billion to £42 billion.
- 1.9 Table 1.3 shows the overall tax gap and the tax gaps by head of duty as a percentage of total tax liability. There were small annual decreases in the overall tax gap proportion between 2004-05 and 2007-08, resulting in an overall reduction from 9.0 per cent to 7.8 per cent. There was then a rise in 2008-09, up to 8.6 per cent.
- 1.10 For VAT, the proportion increased from 11.7 per cent to 15.2 per cent between 2004-05 and 2005-06, followed by falls in the next two years and then a subsequent rise of 3.5 percentage points, up to 16.0 per cent in 2008-09. The tax gaps for excise duties fell from 9.0 per cent in 2004-05 to 8.5 per cent in 2005-06, rose in the next year, but fell steadily to 6.8 per cent in 2008-09. The combined tax gap for income tax, national insurance contributions and capital gains tax fell from 6.3 per cent of total tax liability in 2004-05 to 5.4 per cent in 2005-06 and then remained around this level. For corporation tax, the proportion fell from 18.0 per cent in 2004-05 to 11.5 per cent in 2006-07, before rising again in the next two years, up to 13.9 per cent in 2008-09.



1.11 Estimates for the component tax gaps for 2007-08 have been revised since publication in 'Measuring Tax Gaps 2009' to include more recent source data. This has revised the overall tax gap estimate for 2007-08 from £40 billion to £38 billion. The updated component tax gaps for 2007-08 are shown in Table 1.4.

1.12 There is a break in the tax gap time series after 2006-07 as up to that point estimates for direct tax gaps are based on actual data for those years. For subsequent years illustrative estimates have been produced by up-rating the latest available data using an appropriate GDP series. Details of the up-rating are provided in subsequent chapters. The trend in the GDP series used may vary to that of the receipts for the head of duty.

**Table 1.2: Tax Gaps for HMRC administered taxes – 2004-05 to 2008-09 (£ billion)**

Tax	Point estimates (£ billion)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Value Added Tax (VAT)	9.7	13.1	12.1	11.7	15.2
Excise duties	4.8	4.5	4.7	4.3	3.8
Income Tax, National Insurance Contributions, Capital Gains Tax	13.8	12.6	13.6	14.1	14.5
Corporation Tax	7.4	6.8	5.8	6.5	6.9
Other direct taxes	1.3	1.4	1.7	1.7	1.0
<b>Total tax gap</b>	<b>37</b>	<b>38</b>	<b>38</b>	<b>38</b>	<b>42</b>
<i>Total tax gap (rounded to nearest £5bn)</i>	<i>35</i>	<i>40</i>	<i>40</i>	<i>40</i>	<i>40</i>

The overall tax gap is rounded to the nearest £1bn. All other estimates are rounded to the nearest £100m.

Actual estimates are shown for direct tax gaps for the period 2004-05 to 2006-07. For subsequent years illustrative estimates have been produced by up-rating the latest estimate using an appropriate GDP series.




**Table 1.3: Tax Gaps for HMRC administered taxes - 2004-05 to 2008-09 (percentage tax gap)**

Tax	Percentage tax gaps				
	2004-05	2005-06	2006-07	2007-08	2008-09
Value Added Tax (VAT)	11.7%	15.2%	13.5%	12.5%	16.0%
Excise duties	9.0%	8.5%	8.9%	7.7%	6.8%
Income Tax, National Insurance Contributions, Capital Gains Tax	6.3%	5.4%	5.5%	5.3%	5.4%
Corporation Tax	18.0%	13.9%	11.5%	12.3%	13.9%
Other direct taxes	9.1%	7.8%	8.2%	7.9%	7.2%
<b>Total tax gap</b>	<b>9.0%</b>	<b>8.8%</b>	<b>8.2%</b>	<b>7.8%</b>	<b>8.6%</b>

Percentage tax gaps show the tax gap as a proportion of theoretical liability which is defined as the tax gap plus the amount of tax actually received. Estimates have been rounded to the nearest 0.1 per cent. Actual estimates are shown for direct tax gaps for the period 2004-05 to 2006-07. For subsequent years illustrative estimates have been produced by up-rating the latest estimate using an appropriate GDP series.

**Table 1.4: Tax Gaps for HMRC administered taxes – 2007-08 (£ billion) – revised since published in 'Measuring Tax Gaps 2009'**

Tax	Component <sup>1</sup>	Estimates (£ billion)			Percentage tax gap <sup>2</sup>
		Point <sup>3</sup>	Lower	Upper	
<b>Indirect taxes<sup>4</sup></b>					
	Value Added Tax (VAT)	11.7	N/A	N/A	12.5%
	Spirits duty	0.2	0.0	0.4	8%
	Beer duty	0.5	N/A	N/A	12%
	Cigarette duty	1.3	0.7	1.9	13%
	Hand rolled tobacco duty	0.5	0.4	0.6	50%
	Great Britain Diesel duty	0.5	N/A	N/A	4%
	Great Britain Petrol duty <sup>5</sup>	0.0	N/A	N/A	0%
	Northern Ireland Diesel duty <sup>6</sup>	0.1	N/A	N/A	34%
	Northern Ireland Petrol duty <sup>5,6</sup>	0.0	N/A	N/A	13%
	Other indirect taxes <sup>7</sup>	1.1	N/A	N/A	7.7%
<b>Total indirect taxes</b>		<b>16.0</b>	<b>N/A</b>	<b>N/A</b>	<b>10.8%</b>
<b>Direct taxes</b>					
	Inaccurate self assessment returns from individuals (excluding large partnerships <sup>8</sup> )	5.8	2.6	10.7	
	Inaccurate self assessment returns from large partnerships <sup>8</sup>	0.8	0.7	0.9	
Income Tax, National Insurance Contributions, Capital Gains Tax	Inaccurate returns from small and medium-sized employers (PAYE) <sup>9</sup>	1.1	1.0	1.2	
	Inaccurate returns from large employers (PAYE)	2.0	1.4	2.7	
	Avoidance <sup>10</sup>	1.1	0.8	1.6	
	Non-declaration of income and capital gains by individuals who do not receive returns	0.3	N/A	N/A	
	Ghosts <sup>11</sup>	1.3	0.3	3.8	
	Moonlighters <sup>12</sup>	1.7	1.2	3.4	
	<b>Total</b>	<b>14.1</b>	<b>N/A</b>	<b>N/A</b>	<b>5.3%</b>
Corporation Tax	Businesses managed by the Large Business Service	3.0	N/A	N/A	
	<i>Avoidance</i>	2.8	N/A	N/A	
	<i>Technical issues</i>	0.2	N/A	N/A	
	Large and Complex businesses	1.2	N/A	N/A	
	Small and medium-sized businesses	2.3	1.0	4.8	
	<b>Total</b>	<b>6.5</b>	<b>N/A</b>	<b>N/A</b>	<b>12.3%</b>
Other direct taxes	Inheritance Tax	0.2	-	0.5	
	Stamp Duties	1.4	0.7	2.8	
	Petroleum Revenue Tax	0.1			
	<b>Total</b>	<b>1.7</b>	<b>N/A</b>	<b>N/A</b>	<b>7.9%</b>
<b>Total direct taxes</b>		<b>22.3</b>	<b>N/A</b>	<b>N/A</b>	<b>6.5%</b>
<b>Total tax gap</b>		<b>38</b>	<b>N/A</b>	<b>N/A</b>	<b>7.8%</b>
<b>Total tax gap</b>		<i>Rounded to nearest £5 billion</i>	<b>40</b>	<b>N/A</b>	<b>N/A</b>

-  Established methodology, estimate updated annually
-  Developing methodology, estimate updated annually
-  Experimental methodology, not updated annually and illustrative indicators for gaps with no direct measure

The overall tax gap is rounded to the nearest £1bn. All other estimates are rounded to the nearest £100m. Estimates are rounded independently and as such components may not appear to sum.

1 The top down methods used to produce indirect tax gap estimates cover all sources of revenue loss including non-payment. In 'Measuring Tax Gaps 2009' this was shown separately for direct taxes but has now been included within the relevant components for consistency.

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3 The beer and tobacco methodologies produce a range within which the true value is expected to lie. The point estimate shown for these tax gaps is the mid-point of this range. The point estimate shown for the other tax gaps is the estimate produced directly by applying the methodology.

4 The excise tax gap estimates are for excise duty only and show duty loss as a percentage of revenue due. They therefore differ from estimates in chapter 3 which include VAT and show the illicit market share.

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7 Other excise duties, customs duties, environmental taxes, Insurance Premium Tax.

8 Large partnerships are defined as those with five or more partners.

9 Small and medium-sized employers are defined as businesses with 500 or fewer employees that are not part of a complex group.

10 The lower and upper bounds for the avoidance estimate represents a range around the point estimate that is itself likely to underestimate the true level.

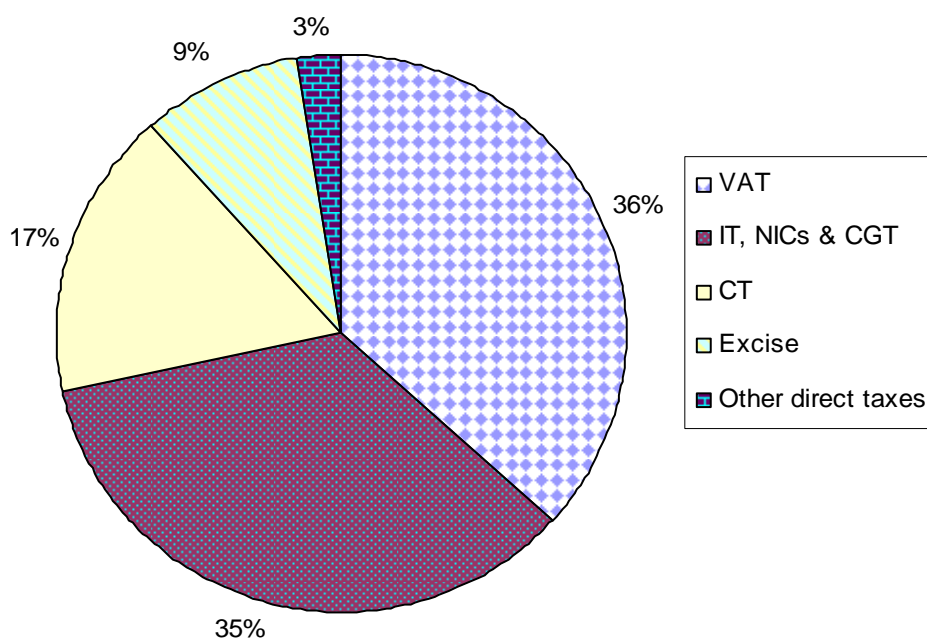
11 'Ghosts' are defined as individuals who have earnings from employment or self-employment and fail to declare any of this income - see chapter 8 for more details.

12 'Moonlighters' are defined as individuals who pay tax on their main job through PAYE but have a second job or additional income from self-employment - see chapter 8 for more details.

## Tax gap by head of duty

1.13 As shown in Figure 1.1, the two largest components of the overall tax gap in 2008-09 are the VAT tax gap at 36 per cent and the combined tax gap from Income Tax, National Insurance Contributions and Capital Gains Tax at 35 per cent. Figure 1 shows the breakdown of the £42 billion tax gap by head of duty.

**Figure 1.1: The tax gap for 2008-09 by head of duty**



## VAT gap

1.14 There are two separate approaches for calculating the VAT gap: top down and bottom-up.

### Top Down

1.15 The top down approach uses national accounts data to calculate the theoretical total VAT liability in the UK economy, which is defined as the amount which would be collected in the absence of any fraud, avoidance, debt or other losses. The difference between actual cash receipts and this theoretical amount of VAT is the VAT gap.

- 1.16 The gross VAT theoretical tax liability in the economy is built up from five expenditure components:
- Household consumption
  - Capital expenditure on housing
  - Government expenditure
  - Charities expenditure
  - Expenditure of partially exempt businesses
- 1.17 Certain amounts are deducted from this gross liability figure, such as VAT refunds to government departments, repayments in respect of litigation losses which relate to earlier liability years, and an adjustment for the activity of unregistered traders below the VAT threshold, to give a net liability figure.
- 1.18 The net theoretical liability for the calendar year is compared to cash receipts for the corresponding financial year (e.g. 2009 liability with 2009-10 financial year receipts), assuming a three month lag between economic activity and the payment to HMRC of the associated VAT.
- 1.19 The top down estimate for the VAT gap is £15.2 billion in 2008-09, which represents a VAT tax gap of 16.0 per cent. The equivalent figures for 2009-10 are £11.5 billion and 13.9 per cent.

## Bottom-up

- 1.20 The bottom-up approach uses operational and intelligence data to reconcile top-down approach and attribute losses to specific areas. It includes the following behaviours:
- General non compliance (under declaration of VAT liability due to error or failure to take reasonable care)
  - Evasion (deliberate under declaration of VAT liability)
  - Failure to register - hidden economy (VAT liability of traders that should be registered but are not)
  - Avoidance and legal interpretation
  - Debt (VAT not yet paid to HMRC)
  - Criminal attacks – MTIC (missing trader intra-community fraud) and VAT losses due to excise fraud.

1.21 It is not possible to publish all of the components of the bottom-up approach, because the estimates are not reliable. Further work is planned on this over the coming year with a view to providing a more robust breakdown in 'Measuring tax gaps 2011'. However, robust estimates are available for MTIC fraud and debt. It is estimated that MTIC fraud contributes between £1.0 billion and £2.0 billion and debt about £2.4 billion to the VAT gap in 2008-09. The remaining VAT gap can be attributed to general non compliance, evasion, failure to register, avoidance, legal interpretation and other criminal attacks.

## Excise tax gaps

1.22 A top down approach is used to calculate the tax gap for the excise system. This includes revenue gaps for spirits, beer, cigarettes, hand rolling tobacco (HRT) and hydrocarbon oils (diesel and petrol). The calculation is:

$$\text{Illicit Market} = \text{Total Consumption} - \text{Consumption of Legitimate Goods}$$

1.23 The excise tax gaps are estimated to be £3.8 billion of duty losses in 2008-09. The detailed results in Chapter 3 show estimates inclusive of VAT losses.

## Direct tax gaps

1.24 It has not been possible to develop a top down approach for direct taxes. This is because independent data sources on income and assets are not sufficiently comprehensive or detailed to enable a robust estimate of tax liability to be calculated.

1.25 Direct tax gap estimates are produced using bottom-up methods. This means that components of the tax gap are estimated using departmental sources, such as surveys, administrative and operational data. The bottom-up approach for the direct tax gap includes the following types of taxpayer:

- Individuals in self assessment
- Individuals who do not complete a tax return
- Businesses
- Employers
- Hidden economy

- 1.26 Within each of the customer groups identified above, the estimates include tax losses as a result of the following behaviours:
- General non compliance (under declaration of liability due to error or failure to take reasonable care)
  - Evasion (deliberate under declaration of liability)
  - Hidden economy (tax loss as a result of ghosts, moonlighters and individuals with unearned income who are not in self assessment)
  - Avoidance and legal interpretation
  - Non payment (tax written off)
- 1.27 The bottom-up method is less comprehensive than the top-down method used for indirect tax gap estimates, because by its nature much of the gap arises from activities that are deliberately concealed. In addition bottom-up methods are based on compliance activity which, can in some cases, take years to complete. Therefore the direct tax gap estimates typically apply to earlier periods than those from the top-down methods. To produce an estimate of the overall tax gap these estimates have been up-rated to 2008-09, where necessary.
- 1.28 The tax gap for direct taxes is estimated to be £22.5 billion in 2008-09. This comprises £14.5 billion for income tax, national insurance contributions and capital gains tax, £6.9 billion for corporation tax and £1.0 billion for other direct taxes.

## Chapter 2: Estimating the VAT Gap

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### VAT gap

2.1 This section discusses overall losses from the VAT system<sup>4</sup>.

### Methodology

2.2 The methodology for calculating the VAT gap was first published in November 2002<sup>5</sup>.

### Principle

2.3 The aim is to measure the total level of VAT losses by comparing the net theoretical tax yield with actual VAT receipts. The difference between these amounts is known as the VAT gap.

2.4 This 'top-down' approach involves:

- Gathering data mostly from the Office for National Statistics (ONS) detailing the total amount of expenditure in the economy that is subject to VAT;
- Estimating the rate of tax on that expenditure based on commodity breakdowns of the expenditure data to derive the gross VAT theoretical tax liability (VTTL);
- Subtracting any legitimate refunds (deductions), occurring through schemes and reliefs, to arrive at the net VTTL.
- Subtracting actual VAT receipts from the net VTTL; and
- Assuming that the residual element, the gap, is the total VAT Gap, including all losses for any cause.

2.5 More detail of the methodology for estimating the VAT gap is given in the separate methodological annex paper. As with any statistical estimate, the estimated level of the VAT Gap is subject to a margin of error.

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<sup>4</sup> This includes losses through illicit activity in alcohol and tobacco goods. Prior to 2009 published estimates excluded such losses as they were covered in the excise duty section of the document.

<sup>5</sup> 'Measuring Indirect Tax Losses' HM Customs and Excise, November 2002.



## Results

- 2.6 Table 2.1 shows the VTTL, net VAT receipts and estimated revenue losses for the years 2002-03 to 2009-10. Estimates between 2002-03 and 2008-09 have been updated since the last 'Measuring Tax Gaps 2009' publication in light of routine updates/revisions to data sources. This is the first time that estimates for 2009-10 have been published, and they will in turn be subject to future revisions as new or revised data become available.

**Table 2.1: VTTL, VAT receipts and revenue losses**

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10 <sup>2</sup>
Net VTTL (£bn)	75.5	78.6	82.5	86.1	89.7	93.7	95.0	82.8
Net VAT receipts (£bn)	63.7	69.1	72.8	73.0	77.6	82.0	79.8	71.3
Revenue loss (£bn)	11.8	9.5	9.7	13.1	12.1	11.7	15.2	11.5
VAT gap (per cent)	15.6%	12.0%	11.7%	15.2%	13.5%	12.5%	16.0%	13.9%

<sup>1</sup> Net VAT receipts are expressed net of payments and re-payments.

<sup>2</sup> A proportion of the VTTL estimate for the final year is based on projected rather than actual expenditure.

<sup>3</sup> The totals may differ from the sum of the components because of rounding.

- 2.7 Growth in VTTL is determined mainly by growth in the total value of transactions liable to VAT and, to a lesser extent, any changes that are made to the tax regime. Overall VTTL grew between 2002-03 and 2008-09 but fell back in 2009-10 principally because of the cut in the standard rate of VAT on 1<sup>st</sup> December 2008, from 17.5 per cent to 15 per cent.

- 2.8 VAT receipts grew between 2002-03 and 2007-08 but then fell in 2008-09 and 2009-10.

- 2.9 The VAT gap results show a fall in the percentage VAT gap between 2002-03 and 2004-05, but then a rise in 2005-06 with subsequent falls in 2006-07 and 2007-08. There is a large rise in the gap between 2007-08 and 2008-09, when receipts fell despite an increase in VTTL. The gap has then fallen back substantially, to 13.9 per cent in 2009-10.

- 2.10 Estimates of the contribution to the VTTL of each relevant expenditure component are given in Table 2.2.

**Table 2.2: Expenditure components of VTTL (£ billion)**

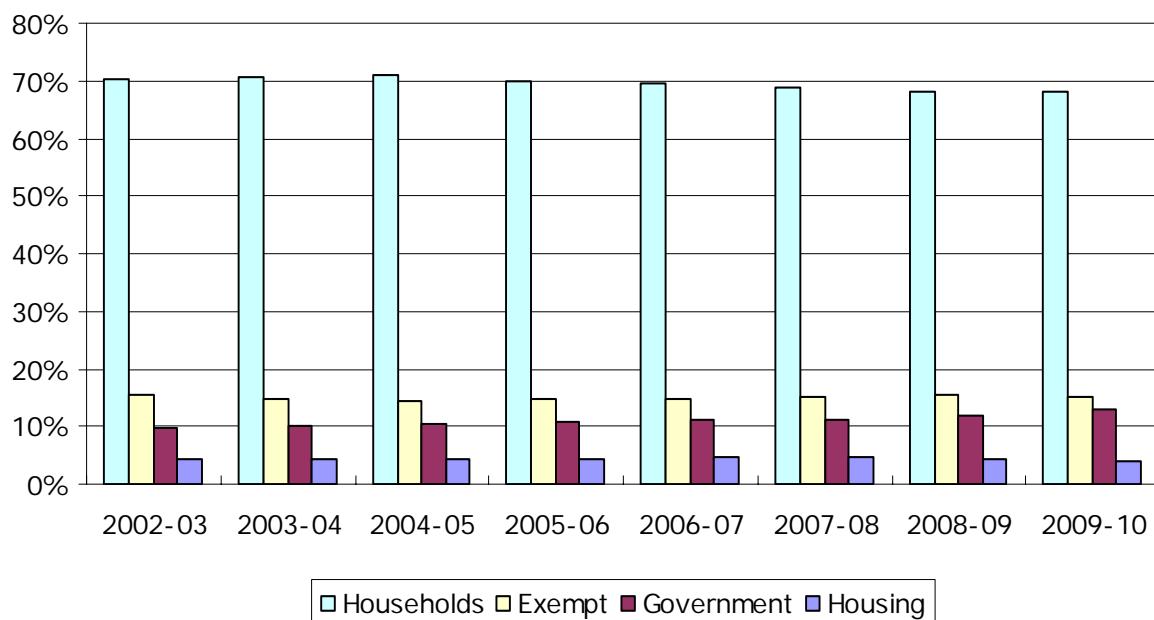
	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Households <sup>1</sup>	57.1	59.8	63.1	65.3	67.4	69.9	70.4	61.4
Exempt	12.7	12.6	12.7	13.7	14.4	15.5	16.1	13.5
Government	7.8	8.5	9.2	10.1	10.8	11.5	12.4	11.8
Housing	3.6	3.8	4.0	4.1	4.6	4.9	4.5	3.6
Gross VTTL	81.0	84.7	89.0	93.2	97.2	101.8	103.4	90.3
Deductions	5.6	6.1	6.6	7.1	7.5	8.1	8.4	7.5
Net VTTL	75.5	78.6	82.5	86.1	89.7	93.7	95.0	82.8

<sup>1</sup> Households component also includes estimates of expenditure by non-profit institutions serving households.

## Supplementary Results

2.11 Figure 2.1 shows that around two thirds of net VTTL is from household consumption and one third from the exempt, government and housing sector. The government share of VTTL has risen slightly in the last two years.

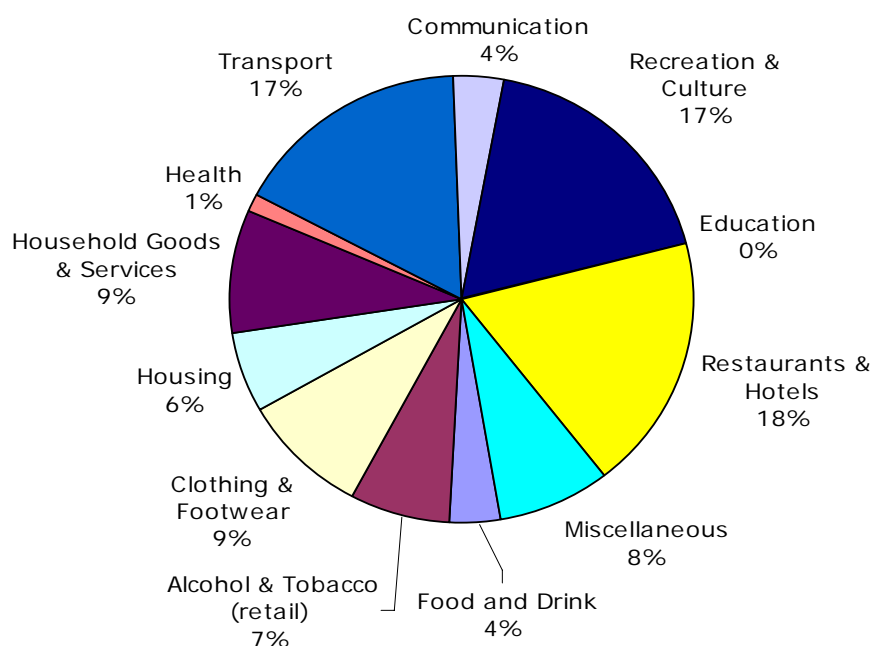
**Figure 2.1: VTTL by sector**



<sup>1</sup> Households component also includes estimates of expenditure by non-profit institutions serving households.

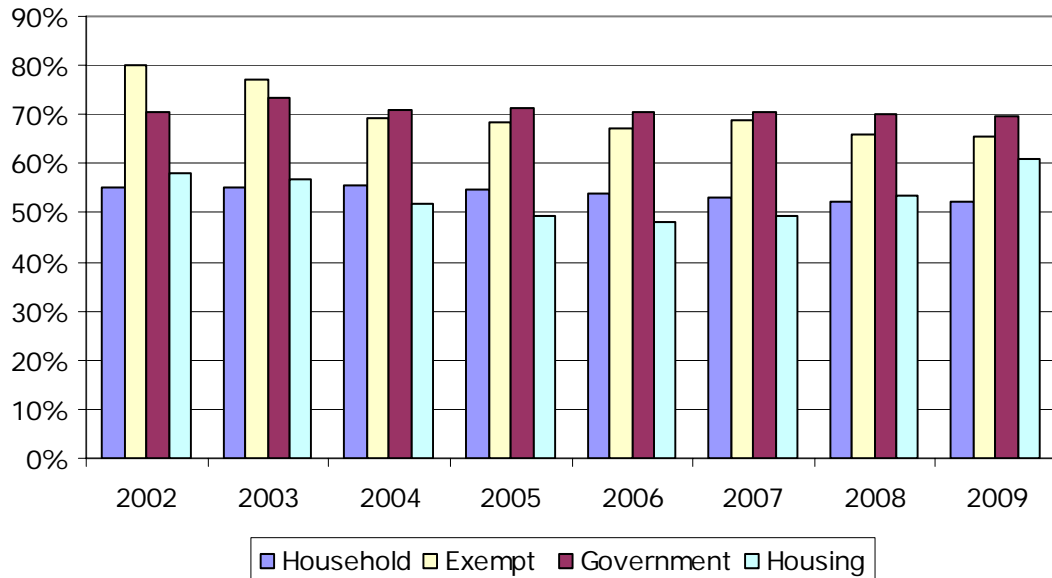
2.12 Figure 2.2 shows that within the household sector restaurants and hotels, recreation and culture and transport are the largest contributors to the VTTL.

**Figure 2.2: VAT for the household sector**



2.13 Figure 2.3 shows that the standard rated share of household sector expenditure has declined from 55 per cent to 52 per cent in recent years, while in the exempt sector there has been a fall from 80 per cent to 66 per cent. There has been little change in the government sector. The standard rated share in the housing sector has varied considerably, reflecting the fact that purchases of zero rated new build housing increased during the housing boom only to then fall substantially since the credit crunch.

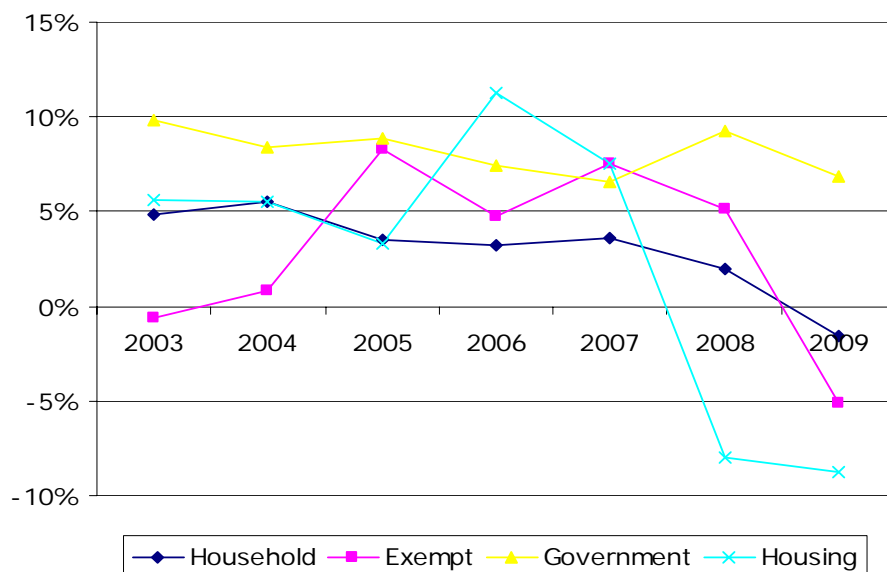
**Figure 2.3: Standard rated share expenditure**



<sup>1</sup> Households component also includes estimates of expenditure by non-profit institutions serving households.

2.14 Figure 2.4 shows that in 2009 standard rated expenditure increased in the government sector and decreased in all other sectors.

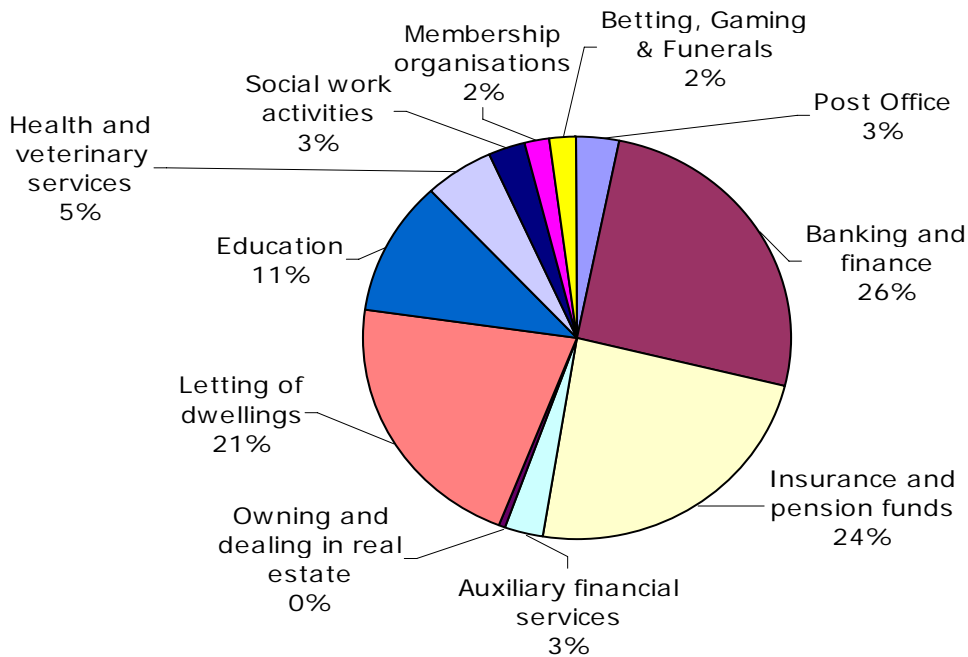
**Figure 2.4: Year on year change of standard rate expenditure components**



<sup>1</sup> Households component also includes estimates of expenditure by non-profit institutions serving households.

2.15 Figure 2.5 shows that the banking and finance, insurance and pension funds and lettings of dwellings sectors account for over two-thirds of the VAT liability of exempt businesses.

**Figure 2.5: Exempt sector standard rated VAT 2009**



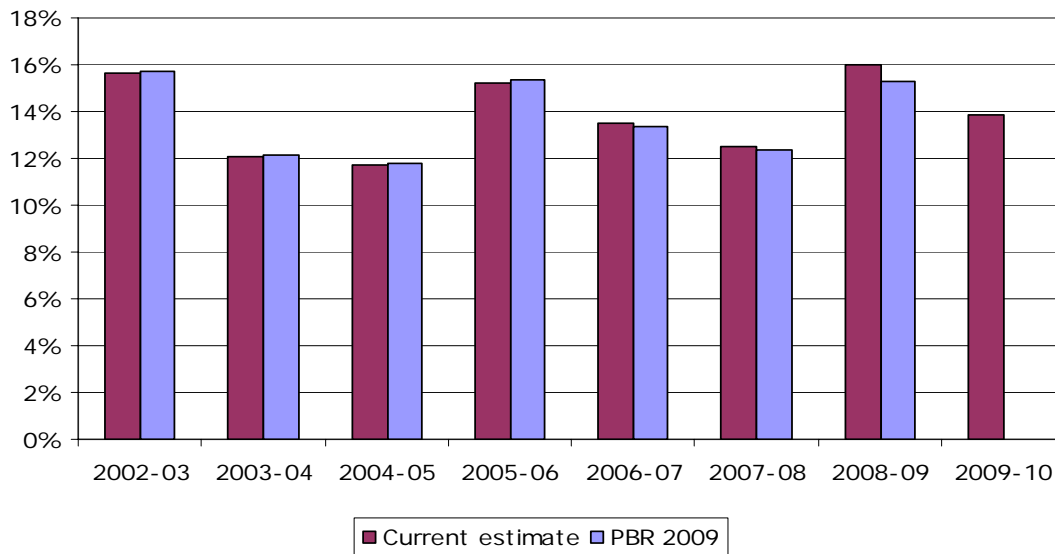
**Summary of changes to previously published estimates**

2.16 Table 2.3 and Figure 2.6 compare the current estimate of the percentage VAT gap series with the estimate published at PBR 2009. The estimates of the gap have been revised upwards by between 0.2 per cent and 0.8 per cent for years 2006-07 to 2008-09 since the numbers were last published. This is mainly due to estimates incorporating the recently published ONS input output expenditure data from the exempt and government sectors for 2008, as well as including ONS revisions to the household expenditure for 2006 to 2009.

**Table 2.3: Time series of percent VAT gap: current estimate and estimate published at PBR 2009**

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
PBR 2009	15.7%	12.1%	11.8%	15.4%	13.3%	12.3%	15.3%	
Current estimate	15.6%	12.0%	11.7%	15.2%	13.5%	12.5%	16.0%	13.9%
Change	-0.1%	-0.1%	-0.1%	-0.1%	0.2%	0.2%	0.8%	

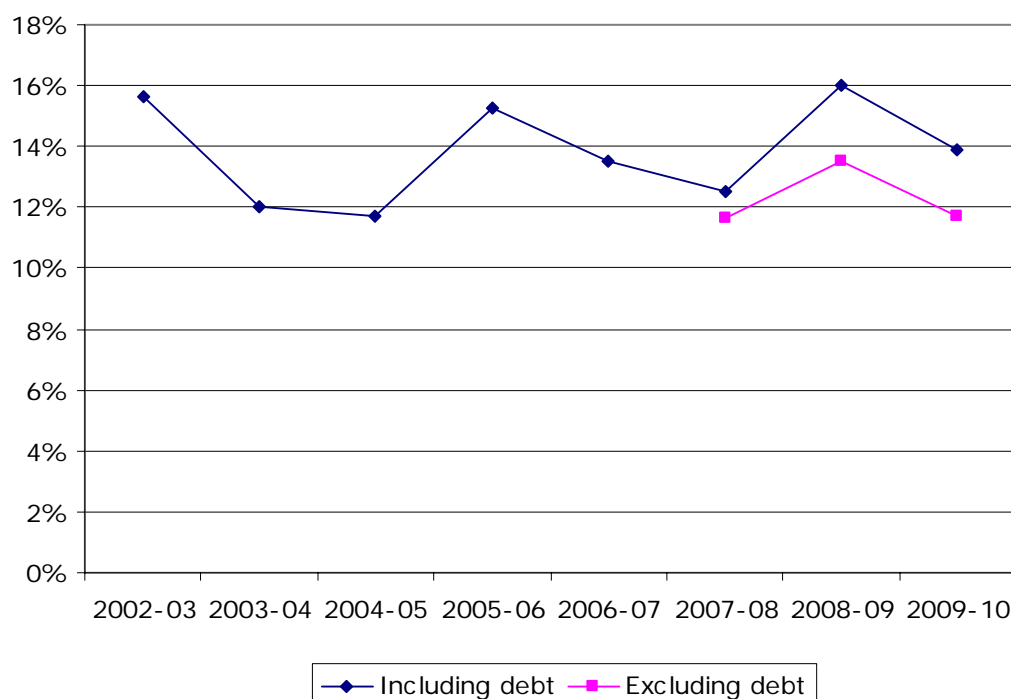
**Figure 2.6: Current and previously published estimates of percent VAT gap time-series**



## Debt

- 2.17 One component of the VAT gap is VAT debt - the amount of VAT declared by businesses but not yet paid to HMRC; Figure 2.7 below shows the VAT gap estimates including and excluding debt.
- 2.18 The debt contribution to the VAT gap is measured as the difference between new debts arising and debt payments and uses statistics from the Departmental Trade Register (DTR). Adjustments have been made to exclude MTIC debt and to reflect the deferral of payments under the Time To Pay arrangements. As a consequence of data quality issues, the debt contribution can only be measured from 2007-08.
- 2.19 The downturn in the economy which began in 2008 has led to a significant increase in VAT debts, as insolvencies rise and businesses experience cash flow pressures. It is estimated that £1.6 billion of the £3.5 billion increase in the gap between 2007-08 and 2008-09 can be attributed to this increased debt. The impact of debt reduced in 2009-10, accounting for 0.4 percentage points of the 2.1 percentage point fall in the gap between these years, leaving the gap excluding debt in 2009-10 at a similar level to that seen in 2007-08.

**Figure 2.7 VAT gap estimates including and excluding debt**



## MTIC Fraud

2.20 This section discusses that part of the VAT gap that arises from Missing Trader Intra-Community (MTIC) fraud.

2.21 MTIC VAT fraud is an organised criminal attack on the EU VAT system in which fraudulent traders acquire goods VAT free from EU Member States; charge VAT on their onward sale and go “missing” to avoid paying the VAT charged to the relevant tax authorities. The most serious 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 fraudulent VAT repayment claims.

### Methodology

2.22 The method used to produce MTIC fraud estimates is predominantly a bottom-up approach, based on operational evidence. This method is used to produce estimates of attempted fraud and its impact on VAT receipts. It is not appropriate to reveal details of the methodology used to provide MTIC fraud estimates, as to do so may have a detrimental effect on compliance activity.

2.23 The bottom-up approach has a number of limitations for which adjustments need to be made. The methodology used to derive these adjustments was improved for the publication of MTIC estimates in 2009, and further refinements have been made this year. This has led to revisions to previous estimates for the upper and lower bounds. The revisions are due to improvements in the method used to adjust for some frauds which were not fully accounted for through the bottom-up method.

2.24 The method used to provide MTIC fraud estimates is continually under review. It is likely that this will lead to further improvements in the method and consequent revisions to these estimates.

## Results

2.25 HMRC's current assessment, under the revised methodology is shown in Table 2.4<sup>6</sup>.

**Table 2.4: Estimates of MTIC Fraud (£ billion)**

	2005-06	2006-07	2007-08	2008-09	2009-10
<b>Attempted Fraud</b>					
Upper Bound	5.0	4.0	2.0	2.0	2.0
Lower Bound	4.0	3.0	0.5	1.0	1.0
<b>Impact on VAT Receipts</b>					
Upper Bound	3.5	2.5	2.0	2.0	1.5
Lower Bound	2.5	1.5	0.5	1.0	0.5

2.26 Levels of both attempted fraud and the impact on VAT receipts have substantially decreased since 2005-06 and levels remained broadly flat between 2007-08 and 2009-10 (unrounded levels show a small increase in 2008-09 and decrease in 2009-10). The estimates of attempted fraud and the impact on VAT receipts are not directly comparable. This is due to timing effects - for example the fact that some frauds only become measurable at the point they cause reductions in VAT receipts.

2.27 The apparent decrease of the 'Impact on VAT Receipts' estimate in 2009-10 is largely due to a rounding effect and does not reflect any substantial decrease of fraud.

2.28 As mentioned in paragraph 2.23, changes to the methodology have resulted in some revisions to the estimates presented in 'Measuring Tax Gaps 2009'.

<sup>6</sup> Estimates of MTIC fraud for 2000-01 to 2004-05 were published on a different basis in Measuring Indirect Tax Losses – 2005.

## Supplementary Results

2.29 Table 2.5 shows estimates for MTIC fraud published in 'Measuring Tax Gaps 2009'. The improvements to methodology in 2010 have led to revisions to both the upper and the lower bound estimates for both attempted fraud and impact on receipts.

**Table 2.5: Estimates for MTIC fraud PBR2009 methodology (£ billion)**

	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
<b>Attempted Fraud</b>				
Upper Bound	5.5	4.5	2.5	2.5
Lower Bound	4.5	3.5	1.0	1.0
<b>Impact on VAT Receipts</b>				
Upper Bound	4.0	3.0	2.5	2.5
Lower Bound	3.0	2.0	1.0	1.0



## Chapter 3: Estimating Excise Gaps – Alcohol

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- 3.1 This section discusses tax gap estimates for Alcohol<sup>7</sup>. At present this includes the revenue gap for spirits and the introduction of the new beer tax gap.

### Alcoholic Drinks

- 3.2 Estimates of the illicit market in alcoholic drinks are currently only available for spirits and beer. Estimates are not included for other alcoholic drinks, though development is continuing with the aim of increasing the scope of published estimates.

### Spirits

#### Results

- 3.3 The methodology introduced in this publication is a central estimate, bounded by statistical confidence intervals. The lower confidence interval is below zero for 2004-05 and 2008-09, and because this is unrealistic, it has been truncated to zero in these years.
- 3.4 The reduction in the central estimate between 2007-08 and 2008-09 is due to a reduction in the modelled estimate of total consumption. Both total consumption and clearances fell in 2008-09, however total consumption fell more sharply. The apparent closing of the tax gap may be due to the more general contraction of the spirits market.
- 3.5 Table 3.1 and Figure 3.1 show the latest estimates of the illicit market share for the spirits market. The central estimate shows a rising trend until 2006-07 and has since fallen, with a reduction of 1 percentage point between 2004-05 and 2008-09.
- 3.6 The confidence intervals indicate the potential size of chance fluctuations in the estimates due to sampling error. The estimates rely on a number of assumptions to combine the various data sources and produce an overall tax gap estimate. The confidence intervals do not take account of any systematic tendency to over or under-estimate the size of the tax gap that might arise from these assumptions. Therefore the central estimate is best interpreted as an indicator of long term trends in the illicit market share rather than a precise estimate of the level.

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<sup>7</sup> This includes losses in both duty and VAT.

**Table 3.1: Spirits: illicit Market and associated revenue gap<sup>1,2,4</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09 <sup>5</sup>
<b>Illicit Market Shares</b>					
Upper Confidence Interval	9%	11%	14%	14%	9%
Central Estimate	3%	6%	9%	8%	2%
Lower Confidence Interval <sup>3</sup>	-	-	3%	2%	-
<b>Associated Revenue Losses (£million)</b>					
Upper Confidence Interval	350	450	550	550	300
Central Estimate	100	200	300	300	50
Lower Confidence Interval <sup>3</sup>	-	-	100	50	-

<sup>1</sup> Includes duty and VAT although this will overstate losses to the extent that VAT is collected on sales of illicit alcohol through normal retail outlets.

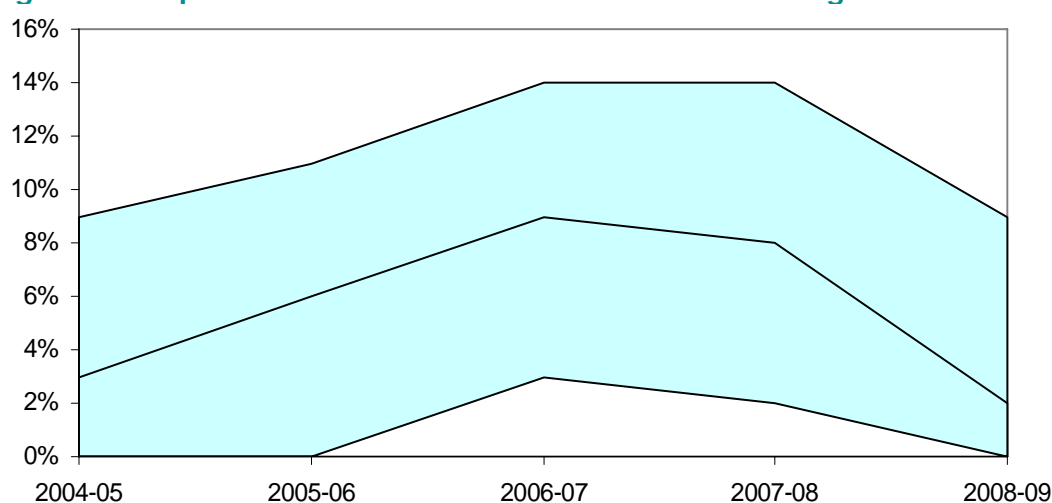
<sup>2</sup> Figures are independently rounded to the nearest £50m or 1%. - Indicates figures are negligible.

<sup>3</sup> Negative numbers have been truncated at zero.

<sup>4</sup> Figures for previous years have been revised due to the methodological changes.

<sup>5</sup> Figures for 2008-09 are provisional, as not all components of the total consumption estimate are available at this time.

**Figure 3.1: Spirits: Illicit market shares – estimated range<sup>1</sup>**



<sup>1</sup> Negative numbers have been truncated at zero.

## Supplementary Results

**Table 3.2: Spirits: Breakdown of UK market shares<sup>1,3</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09 <sup>4</sup>
<b>UK Tax Paid Consumption</b>					
Upper Confidence Interval	95%	95%	93%	95%	97%
Central Estimate	91%	89%	87%	88%	95%
Lower Confidence Interval <sup>2</sup>	86%	84%	82%	83%	89%
<b>Illicit Market</b>					
Upper Confidence Interval	9%	11%	14%	14%	9%
Central Estimate	3%	6%	9%	8%	2%
Lower Confidence Interval <sup>2</sup>	-	-	3%	2%	-
<b>Cross-Border Shopping</b>					
Central Estimate	5%	5%	4%	3%	3%

<sup>1</sup> Figures are independently rounded to the nearest 1%. - Indicates figures are negligible.

<sup>2</sup> Negative numbers have been truncated at zero.

<sup>3</sup> Figures for previous years have been revised due to the methodological changes.

<sup>4</sup> Figures for 2008-09 are provisional, as not all components of the total consumption estimate are available at this time.

**Table 3.3: Spirits: Breakdown of UK revenue (£ million)** <sup>1,2,4</sup>

	2004-05	2005-06	2006-07	2007-08	2008-09 <sup>5</sup>
<b>Total Consumption</b>					
Upper Confidence Interval	3,700	3,750	3,850	3,950	3,700
Central Estimate	3,500	3,550	3,600	3,750	3,400
Lower Confidence Interval	3,300	3,300	3,400	3,500	3,150
<b>UK Tax Paid Consumption</b>					
Clearances	3,200	3,150	3,200	3,300	3,250
<b>Illicit Market</b>					
Upper Confidence Interval	350	450	550	550	300
Central Estimate	100	200	300	300	50
Lower Confidence Interval <sup>3</sup>	-	-	100	50	-
<b>Cross-Border Shopping</b>					
Central Estimate	150	150	100	100	100

<sup>1</sup> Includes duty and VAT although this will overstate losses to the extent that VAT is collected on sales of illicit alcohol through normal retail outlets.

<sup>2</sup> Figures are independently rounded to the nearest £50m. - Indicates figures are negligible.

<sup>3</sup> Negative numbers have been truncated at zero.

<sup>4</sup> Figures for previous years have been revised due to the methodological changes.

<sup>5</sup> Figures for 2008-09 are provisional, as not all components of the total consumption estimate are available at this time.

**Table 3.4: Spirits: Breakdown of Volumes (million litres)** <sup>1,3</sup>

	2004-05	2005-06	2006-07	2007-08	2008-09 <sup>4</sup>
<b>Total Consumption</b>					
Upper Confidence Interval	350	350	350	350	300
Central Estimate	300	300	350	350	300
Lower Confidence Interval	300	300	300	300	250
<b>UK Tax Paid Consumption</b>					
Clearances	300	300	300	300	300
<b>Illicit Market</b>					
Upper Confidence Interval	30	40	50	50	30
Central Estimate	10	20	30	30	0
Lower Confidence Interval <sup>2</sup>	-	-	10	10	-
<b>Cross-Border Shopping</b>					
Central Estimate	20	20	10	10	10

<sup>1</sup> Figures are independently rounded to the nearest 5 million litres. - Indicates figures are negligible.

<sup>2</sup> Negative numbers have been truncated at zero.

<sup>3</sup> Figures for previous years have been revised due to the methodological changes.

<sup>4</sup> Figures for 2008-09 are provisional, as not all components of the total consumption estimate are available at this time.

## Beer

- 3.7 This is the first year that the estimates for the illicit market in beer have been published. The beer model is an upper bound model and the lower bound model is still under development.

### Results

- 3.8 The illicit market share shows no clear trend over the period; it increased in 2006-07, then fell in the subsequent three years, with an increase of 2 percentage points between 2004-05 and 2008-09.

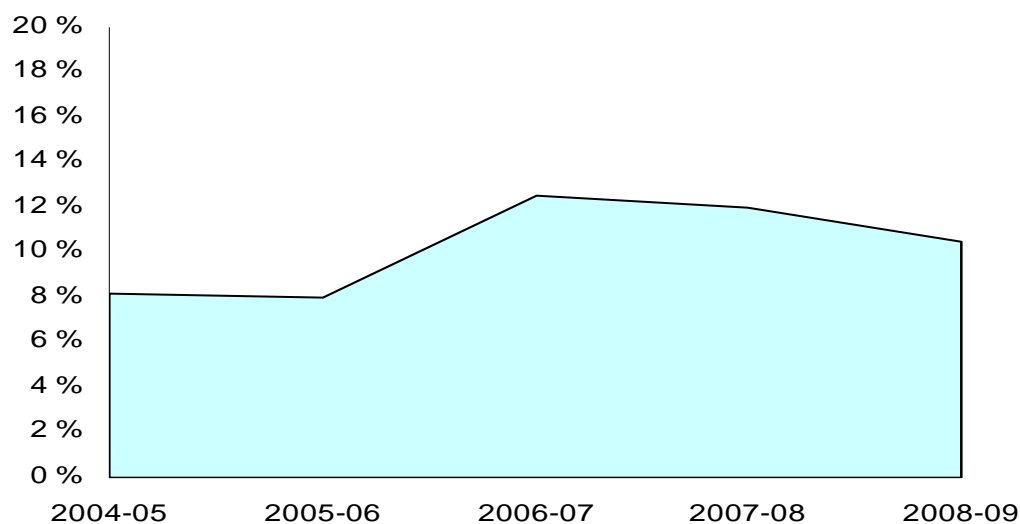
**Table 3.5: Beer illicit market share and associated revenue loss<sup>1,2</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
Illicit Market Shares (upper estimate)	9%	8%	13%	12%	11%
Associated Revenue Losses (£million)	500	450	700	650	550

<sup>1</sup> Includes both duty and VAT

<sup>2</sup> Figures are independently rounded to nearest £50m or 1%

**Figure 3.5: Beer illicit market share – upper bound**



## Supplementary Results

**Table 3.6: Breakdown of UK market shares<sup>1</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
UK Tax Paid Consumption	91%	91%	87%	87%	89%
Illicit Market	9%	8%	13%	12%	11%
Cross-Border Shopping	1%	0%	0%	0%	0%

<sup>1</sup> Figures are independently rounded to nearest 1%. As a result components may appear to be zero.

**Table 3.7: Breakdown of revenue (£ million)<sup>1,2</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
Total Consumption	6,450	6,400	6,550	6,350	6,200
UK Tax Paid Consumption	5,950	5,900	5,800	5,700	5,600
Illicit Market	500	450	700	650	550
Cross-Border Shopping	30	20	20	20	10

<sup>1</sup> Includes both duty and VAT

<sup>2</sup> Figures are independently rounded to nearest £50m. As a result components may not appear to sum

**Table 3.8: Breakdown of volume (million litres)<sup>1</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
Total Consumption	6,500	6,300	6,400	6,050	5,600
UK Tax Paid Consumption	5,900	5,750	5,550	5,300	4,950
Illicit Market	550	550	800	750	600
Cross-Border Shopping	40	30	20	20	20

<sup>1</sup> Figures are independently rounded to nearest 5 million litres. As a result components may not appear to sum

## Methodology

- 3.9 The estimates of tax gaps for spirits and beer are produced using a top down methodology, as described in Chapter 1; i.e. total consumption is estimated first, and then legitimate consumption is subtracted, the residual being the illicit market.
- 3.10 Total consumption is estimated using the Living Costs & Food Survey (LCF). Legitimate consumption is based upon the returns to HMRC of the volumes of alcohol on which duty have been paid. The details of the methodology are presented in the separate methodological annex paper.
- 3.11 The LCF survey only becomes available around 18 months after the survey period. For this reason, estimates for 2009-10 are not yet available and some elements of the 2008-09 estimates have been produced using forecasts.
- 3.12 The estimates should be interpreted as an indicator of long term trend rather than a precise estimate of the level or of year-to-year changes.

## Changes to the Spirits model

3.13 A number of changes have been introduced in order to create a more robust estimate. The detail of these changes is presented in the separate methodological annex paper.

- A new methodology has been developed for determining the proportion of other drinks consumption that should be added to spirits consumption.
- Statistical confidence intervals replace the assumption based upper and lower bounds.
- An estimate of duty free shopped spirits is introduced, based on the International Passenger Survey (IPS).

## Chapter 4: Estimating Excise Gaps – Tobacco

4.1 This section discusses tax gap estimates for Tobacco<sup>8</sup>. At present this includes revenue gaps for Cigarettes and Hand Rolling Tobacco.

### Cigarettes

#### Results

4.2 Table 4.1 and Figure 4.1 show the latest estimates of the illicit market share for the cigarette market, this is presented as lying within the range defined by the upper and lower estimates. The mid-point of the range is also shown. The mid-point shows a decline in the level of the illicit market between 2004-05 and 2008-09 from 17 per cent to 11 per cent.

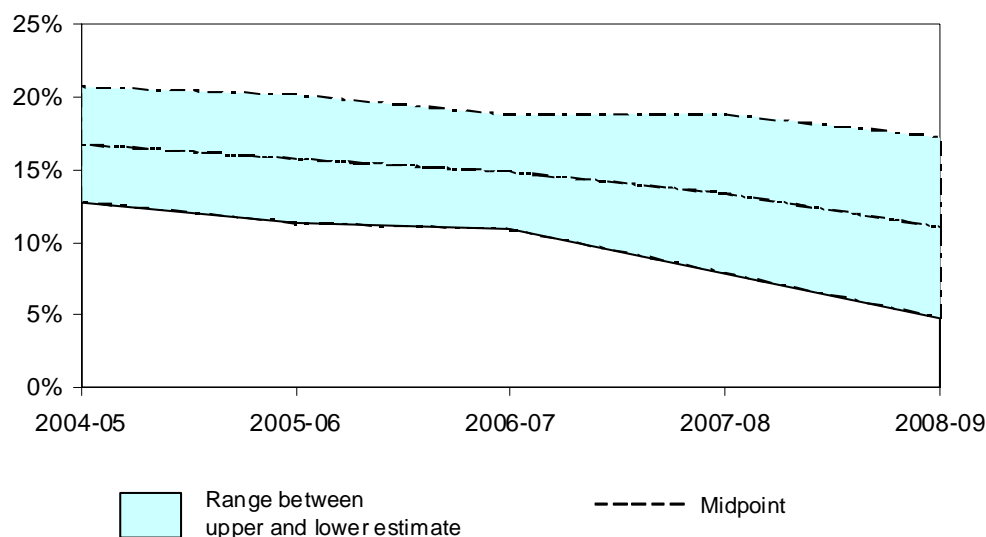
**Table 4.1: Cigarettes: Illicit market and associated revenue gaps**<sup>1,2</sup>

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Illicit Market Shares:</b>					
Upper Estimate	21%	20%	19%	19%	17%
Mid-point of range	17%	16%	15%	13%	11%
Lower Estimate	13%	11%	11%	8%	5%
<b>Associated Revenue Losses (£million)</b>					
Upper Estimate	2,800	2,700	2,400	2,400	2,200
Lower Estimate	1,600	1,300	1,300	900	500

<sup>1</sup> Includes duty and VAT.

<sup>2</sup> Figures are independently rounded to the nearest £100m or 1%.

**Figure 4.1: Cigarettes: Illicit market shares – estimated range**



<sup>8</sup> This includes losses in both duty and VAT.

- 4.3 The range provides an indication of the size of potential systematic errors due to under-reporting. However the consumption estimates are also subject to random fluctuations due to sampling error. Therefore, the mid-point estimate reported here, should be interpreted as an indicator of long term trends rather than a precise estimate of year-to-year changes.

## Supplementary Results

**Table 4.2: Cigarettes: Breakdown of UK Market Shares<sup>1</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>UK Tax Paid Consumption<sup>2</sup></b>					
Upper Estimate	73%	73%	75%	75%	78%
Mid-Point	77%	78%	79%	81%	84%
Lower Estimate	81%	82%	83%	86%	90%
<b>Illicit Market</b>					
Upper Estimate	21%	20%	19%	19%	17%
Mid-Point	17%	16%	15%	13%	11%
Lower Estimate	13%	11%	11%	8%	5%
<b>Cross-Border Shopping<sup>3,4</sup></b>	6%	7%	6%	6%	5%

<sup>1</sup> Figures are independently rounded to the nearest 1%. As a result components may not appear to sum.

<sup>2</sup> Consumption estimates include provisional data for 2008-09 and may be subject to revision when final data becomes available.

<sup>3</sup> Includes duty-free as well as EU duty paid.

<sup>4</sup> Since January 2004, an improved data source has been used to estimate cross-border shopping, but cannot be applied to earlier years.

**Table 4.3: Cigarettes: Breakdown of UK revenue (£ million)<sup>1,2</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Tax Due: Total Consumption<sup>3</sup></b>					
Upper Estimate	13,600	13,200	12,900	12,900	12,700
Mid-Point	13,000	12,500	12,400	12,100	11,900
Lower Estimate	12,300	11,900	11,800	11,300	11,100
<b>UK Tax Paid Consumption</b>	9,900	9,700	9,700	9,700	9,900
<b>Illicit Market</b>					
Upper Estimate	2,800	2,700	2,400	2,400	2,200
Mid-Point	2,200	2,000	1,900	1,700	1,400
Lower Estimate	1,600	1,300	1,300	900	500
<b>Cross-Border Shopping<sup>4,5</sup></b>	800	800	800	700	600

<sup>1</sup> Includes duty and VAT.

<sup>2</sup> Figures are independently rounded to the nearest 100 million. As a result components may not appear to sum.

<sup>3</sup> Consumption estimates include provisional data for 2008-09 and may be subject to revision when final data becomes available.

<sup>4</sup> Includes duty-free as well as EU duty paid.

<sup>5</sup> Since January 2004, an improved data source has been used to estimate cross-border shopping, but cannot be applied to earlier years.



- 4.4 Table 4.4 shows upper estimates, lower estimates and mid-points for volumes of cigarettes illicitly entering the UK market, and the central estimate for cross-border shopping and UK duty paid consumption.

**Table 4.4: Cigarettes: Breakdown of volumes (billion sticks)<sup>1</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Total Consumption<sup>2</sup></b>					
Upper Estimate	72.0	67.5	64.0	61.0	59.0
Mid-Point	68.5	64.0	61.0	57.5	55.0
Lower Estimate	65.5	61.0	58.5	54.0	51.0
<b>UK Tax Paid Consumption</b>	52.5	49.5	48.0	46.5	45.5
<b>Illicit Market</b>					
Upper Estimate	15.0	13.5	12.0	11.5	10.0
Mid-Point	11.5	10.5	9.0	8.0	6.5
Lower Estimate	8.5	7.0	6.5	4.5	2.5
<b>Cross-Border Shopping<sup>3,4</sup></b>	4.5	4.0	4.0	3.5	3.0

<sup>1</sup> Figures are rounded to the nearest ½ billion. As a result components may not appear to sum.

<sup>2</sup> Consumption estimates include provisional data for 2008-09 and may be subject to revision when final data becomes available.

<sup>3</sup> Includes duty-free as well as EU duty paid.

<sup>4</sup> Since January 2004, an improved data source has been used to estimate cross-border shopping, but cannot be applied to earlier years.

# Hand Rolling Tobacco (HRT)

## Results

4.5 Table 4.5 and Figure 4.5 show the latest estimates of the illicit HRT market. This is presented as lying within the range defined by the upper and lower estimates. The mid-point of the range is also shown. The trend in the mid-point suggests a downward trend since 2004-05 with the mid-point falling from 61 per cent in 2004-05 to 49 per cent in 2008-09.

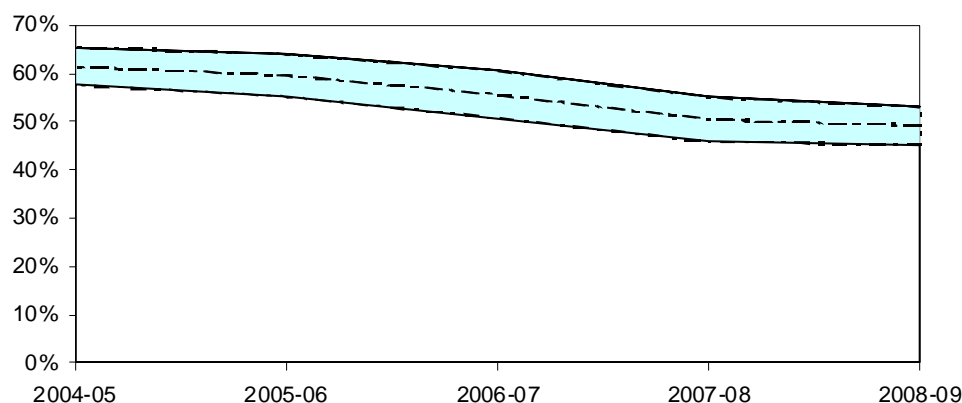
**Table 4.5: HRT: Illicit market and associated revenue losses<sup>1,2</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Illicit Market Shares:</b>					
Upper Estimate	65%	64%	61%	55%	53%
Mid-point of range	61%	60%	56%	50%	49%
Lower Estimate	58%	55%	51%	46%	45%
<b>Associated Revenue Losses (£million)</b>					
Upper Estimate	1000	960	920	810	890
Lower Estimate	750	690	650	570	670

<sup>1</sup> Includes duty and VAT.

<sup>2</sup> Figures are independently rounded to the nearest £10m or 1%.

**Figure 4.5: HRT: Illicit market shares - estimated range**



Range between upper and lower estimate
  Midpoint

4.6 The range provides an indication of the size of potential systematic errors arising from the assumptions used to derive consumption and cross-border shopping estimates. However these estimates are also subject to random fluctuations due to sampling error. Therefore, the mid-point estimate reported here should be interpreted as an indicator of long term trends rather than a precise estimate of year-to-year changes.

## Supplementary Results

**Table 4.6: HRT: Breakdown of UK Market Shares<sup>1</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>UK Tax Paid Consumption<sup>2</sup></b>					
Upper Estimate	27%	30%	33%	37%	39%
Mid-Point	30%	32%	36%	41%	42%
Lower Estimate	32%	35%	39%	44%	45%
<b>Illicit Market</b>					
Upper Estimate	65%	64%	61%	55%	53%
Mid-Point	61%	60%	56%	50%	49%
Lower Estimate	58%	55%	51%	46%	45%
<b>Cross-Border Shopping<sup>3,4</sup></b>					
Associated with Upper Estimate	7%	6%	7%	8%	8%
Associated with Mid-Point	9%	8%	9%	9%	9%
Associated with Lower Estimate	10%	10%	11%	10%	10%

<sup>1</sup> Figures are rounded to the nearest 1%. As a result components may not appear to sum.

<sup>2</sup> Consumption estimates include provisional data for 2008-09 and may be subject to revision when final data becomes available.

<sup>3</sup> Includes duty-free as well as EU duty paid.

<sup>4</sup> Since January 2004, an improved data source has been used to estimate cross-border shopping, but cannot be applied to earlier years.

- 4.7 Table 4.7 shows estimates of revenue for the upper and lower estimates, along with the mid-point for HRT. Upper and lower estimates are included for cross-border shopping, as these are a significant component of the calculation of the upper and lower estimates of the illicit market share for HRT.

**Table 4.7: HRT: Breakdown of UK market shares (£ million)<sup>1,2</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Tax Due: Total Consumption<sup>3</sup></b>					
Upper Estimate	1,520	1,500	1,530	1,470	1,670
Mid-Point	1,410	1,380	1,400	1,360	1,570
Lower Estimate	1,300	1,250	1,280	1,250	1,470
<b>UK Tax Paid Consumption</b>	420	440	500	550	660
<b>Illicit Market</b>					
Upper Estimate	1,000	960	920	810	890
Mid-Point	870	830	790	690	780
Lower Estimate	750	690	650	570	670
<b>Cross-Border Shopping<sup>4,5</sup></b>					
Associated with Upper Estimate	110	100	100	110	130
Associated with Mid-Point	120	110	120	120	130
Associated with Lower Estimate	140	120	130	120	140

<sup>1</sup> Includes duty and VAT.

<sup>2</sup> Figures are rounded to the nearest 10 million. As a result components may not appear to sum.

<sup>3</sup> Consumption estimates include provisional data for 2008-09 and may be subject to revision when final data becomes available.

<sup>4</sup> Includes duty-free as well as EU duty paid.

<sup>5</sup> Since January 2004, an improved data source has been used to estimate cross-border shopping, but cannot be applied to earlier years.

4.8 Table 4.8 shows upper estimates, lower estimates and mid-points for volumes of HRT illicitly entering the UK market and for cross-border shopping, and a central estimate for UK duty paid consumption.

**Table 4.8: HRT: Breakdown of volumes (thousand Kg)<sup>1</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Tax Due: Total Consumption<sup>2</sup></b>					
Upper Estimate	11,400	10,900	10,750	10,000	11,000
Mid-Point	10,550	10,000	9,900	9,250	10,350
Lower Estimate	9,700	9,100	9,000	8,500	9,700
<b>UK Tax Paid Consumption</b>	3,100	3,200	3,500	3,750	4,350
<b>Illicit Market</b>					
Upper Estimate	7,450	6,950	6,500	5,500	5,850
Mid-Point	6,500	6,000	5,550	4,700	5,100
Lower Estimate	5,600	5,000	4,550	3,900	4,400
<b>Cross-Border Shopping<sup>4,5</sup></b>					
Associated with Upper Estimate	850	700	700	750	850
Associated with Mid-Point	950	800	850	800	900
Associated with Lower Estimate	1,000	900	950	850	950

<sup>1</sup> Figures are rounded to the nearest 50,000 Kg. As a result components may not appear to sum.

<sup>2</sup> Consumption estimates include provisional data for 2008-09 and may be subject to revision when final data becomes available.

<sup>3</sup> Includes duty-free as well as EU duty paid.

<sup>4</sup> Since January 2004, an improved data source has been used to estimate cross-border shopping.

<sup>5</sup> Cross-border shopping estimates include provisional data for the final quarter of 2008-09 and may be subject to revision when final data becomes available.

## Methodology

- 4.9 The estimates are produced using a top down methodology as described in Chapter 1; i.e. total consumption is estimated first, and then legitimate consumption is subtracted, the residual being the illicit market.
- 4.10 Estimates of the illicit market share for cigarettes and HRT rely on data from the General Household Survey (GHS), which only becomes available around 12 months after the survey period. For this reason, estimates for 2008-09 have been produced using a forecast for Q4.
- 4.11 There have been no changes made this year to the models used to estimate the tax gaps for cigarettes and HRT.

## Chapter 5: Estimating Excise Gaps - Hydrocarbon Oils

- 5.1 HMRC currently provides estimates of the illicit market for both diesel and petrol in Great Britain (GB), and of the Non-UK Duty Paid (NUKDP) share in petrol and diesel for Northern Ireland (NI) within the goods subject to hydrocarbon oils duty.
- 5.2 All estimates for Northern Ireland relate to total non-UK duty paid consumption, rather than the illicit market. This reflects the present difficulty in disaggregating total revenue losses between illicit activity and legitimate cross-border shopping.

### GB Diesel Estimates

#### Results

- 5.3 Estimates of the illicit market in Great Britain are shown in Table 5.1 and Figure 5.1. Figures for 2008-09 are provisional because some of the consumption figures are not yet available and have therefore been forecast.
- 5.4 The central estimate shown in Table 5.1 shows a downward trend in the illicit market share since 2004-05. The estimated illicit market share has fallen by 4 percentage points from 8 per cent in 2004-05 to 4 per cent in 2008-09.

**Table 5.1: GB: Diesel: Illicit market share and associated revenue losses<sup>1,2,3,4</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Illicit Market Shares:</b>					
Upper Confidence Interval	13%	12%	10%	8%	9%
Central Estimate	8%	6%	5%	4%	4%
Lower Confidence Interval	2%	1%	-	-	-
<b>Associated Revenue Losses (£million):</b>					
Upper Confidence Interval	1,950	1,800	1,650	1,450	1,650
Central Estimate	1,100	950	800	600	800
Lower Confidence Interval	250	100	-	-	-

- Indicates figures are negligible. Negative numbers have been truncated at zero.

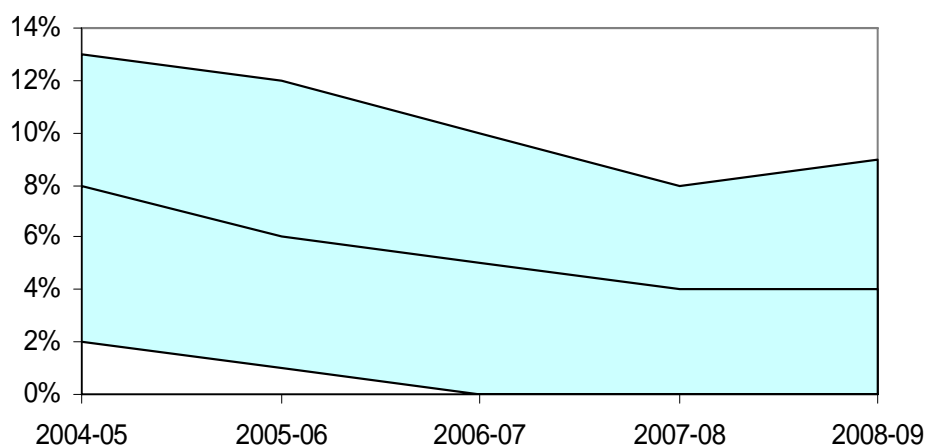
<sup>1</sup> Estimates include duty and VAT.

<sup>2</sup> Figures are independently rounded to the nearest £50m or 1%.

<sup>3</sup> Figures for previous years have been revised due to new input data.

<sup>4</sup> Figures for 2008-09 are provisional, as not all components of the total consumption estimate are available at this time.

**Figure 5.1: GB: Diesel: Illicit market shares – central estimate and confidence intervals<sup>1</sup>**



<sup>1</sup> Negative numbers have been truncated at zero.

5.5 Confidence intervals are provided for GB diesel tax gap estimates. These indicate the potential size of chance fluctuations in the estimates due to sampling error. The estimates rely on a number of assumptions to combine the various data sources and produce an overall tax gap estimate. The confidence intervals do not take account of any systematic tendency to over or under-estimate the size of the tax gap that might arise from these assumptions. Therefore the central estimate is best interpreted as an indicator of long term trends in the illicit market share rather than a precise estimate of the level.

5.6 For the first time in 2007, illicit market estimates in oils were presented in financial years alongside the calendar year estimates. To bring the oils results in line with the other tax gap results, only the financial year estimates are presented here.

## Supplementary Results

**Table 5.2: GB Diesel: Breakdown of Market Shares<sup>1,2,3</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Market share:</b>					
UK Duty Paid Consumption	90%	92%	93%	94%	94%
Illicit Market Share	8%	6%	5%	4%	4%
Cross-Border Shopping	2%	2%	2%	2%	2%

<sup>1</sup> Figures are rounded to the nearest 1%.

<sup>2</sup> Figures for previous years have been revised due to new input data.

<sup>3</sup> Figures for 2008-09 are provisional, as not all components of the total consumption estimate are available at this time.

**Table 5.3: GB Diesel: Breakdown of Revenues (£million)** <sup>1,2,3</sup>

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Tax Due:</b>					
Total Consumption	14,500	15,300	15,950	17,200	17,650
UK Duty Paid Consumption	13,050	14,050	14,800	16,200	16,500
Illicit Market	1,100	950	800	600	800
Cross-Border Shopping	300	350	400	400	350

<sup>1</sup> Figures are rounded to the nearest £50m and include both duty and VAT.

<sup>2</sup> Figures for previous years have been revised due to new input data.

<sup>3</sup> Figures for 2008-09 are provisional, as not all components of the total consumption estimate are available at this time.

**Table 5.4: GB: Diesel: Breakdown of Volumes (million litres)** <sup>1,2,3</sup>

	2004-05	2005-06	2006-07	2007-08	2008-09
Total Consumption	24,350	25,150	25,950	26,850	26,450
UK Tax Paid Consumption	21,950	23,050	24,050	25,250	24,750
Illicit Market	1,850	1,550	1,250	950	1,200
Cross-Border Shopping	550	550	600	600	550

<sup>1</sup> Figures are rounded to the nearest 50m litres.

<sup>2</sup> Figures for previous years have been revised due to new input data.

<sup>3</sup> Figures for 2008-09 are provisional, as not all components of the total consumption estimate are available at this time.

## GB Petrol Estimates

### Results

- 5.7 Petrol is considered to be less vulnerable than diesel to illicit activity because of the low demand from commercial sectors and the flammable nature of the product. The small non-UK duty paid petrol market (less than 1 per cent) and a wide margin of error mean that more detailed analyses are not possible.

## Great Britain Estimates

### Methodology

- 5.8 Estimates of GB diesel and petrol consumption are derived from a number of data sources including sample surveys, vehicle testing and administrative data. Details of the methodology are given in the separate methodological annex paper.
- 5.9 The GB diesel estimate is sensitive to a number of assumptions, used in its derivation. These are likely to lead to the estimated level of the diesel gap being either systematically too high or too low. It is not possible to determine whether the tax gap estimate is too high or too low from the data used in its construction. However operational evidence suggests that it is more likely to be an over-estimate.

## Changes to the models

5.10 There have been a number of changes to the input data for the GB models, and therefore the time series has been revised. The detail of these changes is presented in the separate methodological annex paper.

- A quarterly data source is used to split the UK oil clearances between Great Britain and Northern Ireland.
- The distances travelled by different vehicle types now uses raw data rather than seasonally adjusted.
- The fuel efficiency of cars and vans is calculated using the two data sources available to give a figure which is adjusted for road travel.
- The estimate of cross-border shopping has been enhanced using information from a bespoke survey carried out last year.

## Northern Ireland Estimates

### Results

5.11 The central estimate shown in Table 5.5 suggests a downward trend in the NI diesel non-UK duty paid market share. The estimated Non-UK duty paid market share has fallen from 40 per cent in 2004-05 to 28 per cent in 2008-09.

**Table 5.5: NI: Diesel Non-UK-Duty Paid market share and associated revenue not collected<sup>1,2,3,4</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>NUKDP Market Shares:</b>					
Upper Confidence Interval	45%	47%	45%	37%	32%
Central Estimate	40%	43%	41%	34%	28%
Lower Confidence Interval	36%	38%	37%	30%	25%
<b>Associated Revenue Losses (£million):</b>					
Upper Confidence Interval	200	220	230	210	180
Central Estimate	180	200	210	190	160
Lower Confidence Interval	160	180	190	170	140

<sup>1</sup> Figures are rounded to the nearest £10m or 1%.

<sup>2</sup> Estimates include duty and VAT.

<sup>3</sup> Figures for previous years have been revised due to new input data.

<sup>4</sup> Figures for 2008-09 are provisional, as not all components of the total consumption estimate are available at this time.

5.12 The central estimate shown in Table 5.6 shows no clear trend in the NI petrol non-UK duty paid market share between 2004-05 and 2008-09.



**Table 5.6: NI: Petrol Non-UK-Duty Paid market share and associated revenue not collected<sup>1,2,3,4</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>NUKDP Market Shares:</b>					
Upper Confidence Interval	19%	21%	19%	22%	18%
Central Estimate	13%	12%	10%	13%	9%
Lower Confidence Interval	7%	3%	1%	4%	-
<b>Associated Revenue Losses (£million):</b>					
Upper Confidence Interval	70	70	60	70	60
Central Estimate	50	40	30	40	30
Lower Confidence Interval	30	10	-	10	-

- Indicates figures are negligible. Negative numbers have been truncated at zero.

<sup>1</sup> Figures are rounded to the nearest £10m or 1%.

<sup>2</sup> Estimates include duty and VAT.

<sup>3</sup> Figures for previous years have been revised due to new input data.

<sup>4</sup> Figures for 2008-09 are provisional, as not all components of the total consumption estimate are available at this time.

## Supplementary Results

**Table 5.7: NI: Breakdown of Market Shares within Diesel and Petrol<sup>1,2,3</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Diesel:</b>					
UK Duty Paid Consumption	60%	57%	59%	66%	72%
NUKDP Market Share	40%	43%	41%	34%	28%
<b>Petrol:</b>					
UK Duty Paid Consumption	87%	88%	90%	87%	91%
NUKDP Market Share	13%	12%	10%	13%	9%

<sup>1</sup> Figures are rounded to the nearest 1%.

<sup>2</sup> Figures for previous years have been revised due to new input data.

<sup>3</sup> Figures for 2008-09 are provisional, as not all components of the total consumption estimate are available at this time.

**Table 5.8: NI: Breakdown of Revenues within Diesel and Petrol (£million)<sup>1,2,3</sup>**

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Diesel:</b>					
Total Consumption	440	480	510	550	560
UK Tax Paid Consumption	260	280	300	370	400
NUKDP Market Share	180	200	210	190	160
<b>Petrol:</b>					
Total Consumption	340	330	330	340	330
UK Tax Paid Consumption	290	290	300	290	300
NUKDP Market Share	50	40	30	40	30

<sup>1</sup> Figures are rounded to the nearest £10m and include both duty and VAT.

<sup>2</sup> Figures for previous years have been revised due to new input data.

<sup>3</sup> Figures for 2008-09 are provisional, as not all components of the total consumption estimate are available at this time.

**Table 5.9: NI : Breakdown of Volumes within Diesel and Petrol (million litres)** <sup>1,2,3</sup>

	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Diesel:</b>					
Total Consumption	740	785	825	860	840
UK Tax Paid Consumption	440	450	485	570	605
NUKDP Market Share	295	335	340	290	235
<b>Petrol:</b>					
Total Consumption	575	550	545	530	505
UK Tax Paid Consumption	500	480	485	460	460
NUKDP Market Share	75	70	55	65	45

<sup>1</sup> Figures are rounded to the nearest 5m litres.

<sup>2</sup> Figures for previous years have been revised due to new input data.

<sup>3</sup> Figures for 2008-09 are provisional, as not all components of the total consumption estimate are available at this time.

## Methodology

5.13 All estimates for Northern Ireland relate to total non-UK duty paid consumption, rather than the illicit market. This reflects the present difficulty in disaggregating total revenue losses between illicit activity and legitimate cross-border shopping. Details are provided in the separate methodological annex paper.

5.14 Confidence intervals are provided for NI tax gap estimates. These indicate the potential size of chance fluctuations in the estimates due to sampling error. The estimates rely on a number of assumptions to combine the various data sources and produce an overall tax gap estimate. The confidence intervals do not take account of any systematic tendency to over or under-estimate the size of the tax gap that might arise from these assumptions.

## Changes to the model

5.15 The changes to the input data for the GB models affect the GB consumption input of the NI models; the time series has been revised.

5.16 A quarterly data source is used to split the UK oil clearances between Great Britain and Northern Ireland.

## Chapter 6: Other indirect taxes

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- 6.1 HMRC currently has no established methodologies for producing estimates of the tax gap for the following indirect taxes:
- Wine duties
  - Cider and Perry duties
  - Betting and gaming duties
  - Customs duties and levies
  - Air passenger duty
  - Insurance premium tax
  - Landfill tax
  - Climate change levy
  - Aggregates levy
  - Spirits-based ready-to-drink (RTD's)
  - Biofuels
- 6.2 A proxy indicator for the scale of revenue losses across these taxes has been produced based on the estimated percentage tax gaps for GB oils, Spirits duty, Beer duty and Cigarettes duty. Hand Rolled Tobacco and the Northern Ireland oils gaps have not been used to produce the proxy indicator. This is because:
- Northern Ireland estimates include losses from legitimate cross-border shopping and therefore overestimate the true tax gaps
  - It is clear from operational evidence that none of the unmeasured indirect taxes are subject to the high levels of fraud found in Hand Rolled Tobacco.
- 6.3 For alcohol duties, the average percentage loss from the measured alcohol tax gaps has been applied to the receipts of the unmeasured alcohol tax gaps. For other indirect taxes the indicator has been calculated by treating the unknown tax gaps as if they had the same simple average percentage loss as the selected measured excise gaps. By calculating the alcohol component separately, using known alcohol tax gaps, the calculation should be more representative.
- 6.4 In 'Measuring Tax Gaps 2009', other indirect taxes were estimated at £0.9 billion losses for 2007-08 with a 5 per cent revenue loss. A number of changes have been made to the models for oils, tobacco and spirits which have resulted in a higher ratio of revenue losses to receipts than applied previously. Additionally, we have published an estimate of the beer tax gap. Using the new figures a revenue loss of 10 per cent was applied to alcohol and 7 per cent to other indirect taxes for 2007-08. These percentage losses are higher than indicated in the report as they are losses against receipts not consumption.
- 6.5 The average percentage revenue losses should not be considered estimates of the true percentage loss across the taxes listed in paragraph 6.1 as this is unknown. 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.

### Overview

- 7.1 As described in chapter 1, a “bottom-up” approach is used to produce estimates of the tax gap for direct taxes. This means that components of the tax gap are estimated using departmental sources, such as surveys, administrative and operational data. The bottom-up method is less comprehensive than the top-down method used for indirect tax gap estimates because by its nature much of the gap arises from activities that are deliberately concealed.
- 7.2 In addition because the bottom-up methods are based on compliance activity which can, in some cases, take years to complete the resulting tax gap estimates typically apply to earlier periods than those from the top-down methods. Thus, in general, the estimates for tax gaps for direct taxes lag behind those for indirect taxes. In order to produce an estimate of the overall tax gap for 2008-09, as reported in Table 1.1, where necessary an up-rating factor has been applied to the direct tax gap estimates to produce a notional value for this year. The up-rating factors are based on the appropriate Gross Domestic Product (GDP) series for each component. Details are provided in the relevant sections.
- 7.3 The main methods used to estimate tax gaps for direct taxes are random enquiries, risk registers and data matching. These are discussed in more detail below. In addition, where robust methodologies have not yet been developed, an illustrative estimate of the tax gap is given based on expert opinion or derived by selecting the nearest equivalent measured gap.
- 7.4 Methods used differ between taxes and according to the type of non-compliance and the type of taxpayer involved. Therefore, within one head of duty there can be multiple estimates covering the component parts which together form an estimate of the overall tax gap. These estimates are described in subsequent chapters.
- 7.5 The tax gap estimates for direct taxes are presented in the following chapters, together with a summary of the methodology used to derive them. More detail on methodology can be found in the separate methodological annex paper.

## Random enquiries

- 7.6 Random enquiry programmes involve samples of taxpayers being selected at random and their returns being subjected to full enquiries by HMRC officers. HMRC has random enquiry programmes for individuals subject to Self Assessment, small and medium-sized businesses subject to Corporation Tax Self Assessment and small and medium-sized employers. 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 because the enquiries are randomly selected and form a representative sample. A proportion of the under-declared liabilities will be recovered as a result of HMRC compliance activity. This is called compliance yield and is subtracted from the estimate of under-declared liabilities to produce an estimate of the tax gap.
- 7.7 There are two main sources of error associated with the results of random enquiries which could result in the true values of the tax gaps differing from the estimates produced. These are:
- sampling variation in the data: the whole population is not subject to enquiry, so even though the sample is designed to be representative its characteristics may differ from the population purely by chance; and
  - systematic uncertainty where the sample results consistently tend to underreport the true values for the population, or where the sample does not include the full population, for example those participating in the hidden economy.
- 7.8 In addition, the random enquiry programmes 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 underestimate the full extent of the tax gap. Furthermore, the proportion of the tax gap that is not identified may also vary over time due to changes in the enquiry regime or the nature of non-compliance.
- 7.9 The Internal Revenue Service (IRS) in the United States (US) has tackled this problem by using a range of 'multipliers' to make adjustments for non-detection<sup>9</sup>. These multipliers are generated through supplementary studies on particular tax return entries, together with econometric analysis of non-detection rates across IRS examiners.
- 7.10 The IRS is able to undertake this analysis of non-detection because their random enquiry samples cover upward of 50,000 cases – much higher than is feasible in the UK. In the absence of this data for the UK the US multipliers are used to account for non-detection. The size of the multipliers varies by the type of non-compliance found.

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<sup>9</sup> James Andreoni, Brian Erard and Jonathan Feinstein (1998) 'Tax Compliance', *Journal of Economic Literature*, Vol. 36, No. 2. (Jun., 1998), pp. 818-860

- 7.11 A further issue with using random enquiries to measure tax gaps is the delay between the relevant tax year and the availability of enquiry results. Particularly complex cases, which are often those involving large tax losses, can take a number of years to resolve. So it can be several years from the issue of a return before results are available for most of the sample.
- 7.12 To be able to produce provisional estimates, it is therefore necessary to forecast the aggregate results of enquiries yet to be settled. The forecasts for such enquiries are based on the results of recently settled enquiries with similar durations. Once the open enquiries are settled, the forecasts are replaced with the actual outcomes, which means the estimates for tax gaps reported in this document are subject to revision.

## Risk registers

- 7.13 Risk registers are used to produce estimates of the tax gap for Corporation Tax within businesses managed by HMRC's Large Business Service and the avoidance tax gap for direct taxes. Risk registers encompass information on expert assessments of potential losses from identified risks.

## Data matching

- 7.14 It is not necessary to issue most taxpayers with a Self Assessment return where all tax liabilities are withheld at source, for example employment income where tax is deducted under PAYE, or basic rate tax withheld from bank interest. However, there are risks within this population, for example due to taxpayers not informing HMRC about sources of income, such as rental income, capital gains or income from a secondary employment/self-employment.
- 7.15 HMRC cannot conduct random enquiries into the tax affairs of individuals who are not issued a return because the legal position requires a return to be issued for an enquiry to take place. An alternative method is therefore required for measurement of risks and estimating the associated tax gap.
- 7.16 The introduction of data matching tools has created opportunities for HMRC to measure the extent to which taxpayers do not declare sources of income. Income reported by third party data sources can be compared with HMRC's internal data to identify undeclared income, from which it is possible to estimate the tax due. This technique has been used to identify the scale of non-reporting of income by known individuals who do not receive tax returns, as detailed in chapter 8.
- 7.17 Data matching cannot however be completely accurate and there will be instances where non-declaration of income is incorrectly inferred from a mismatch (and vice versa). Inference about the amount of non-compliance associated with a particular mismatch can be difficult.

## Non-payment

- 7.18 The tax gap estimates include a measure of associated losses from non-payment of the tax by the relevant type of taxpayer where relevant. The estimates of non-payment for direct taxes come from HMRC's financial statements and represent amounts written off, i.e. debts that are not collectable. Direct tax debts that are later paid off do not form part of the direct tax gap, although payment will be deferred. Due to timing effects the amounts written off during the year will not necessarily relate to liabilities arising during the year.
- 7.19 The top-down approach used to estimate the indirect tax gaps includes non-payment but this will not equate exactly to write-offs during the year due to timing effects. As mentioned in paragraphs 2.17 and 2.18, VAT debt is the amount of VAT declared by businesses but not yet paid to HMRC.

## Chapter 8: Estimating the tax gap for Income Tax, National Insurance Contributions and Capital Gains Tax

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### Overall tax gap

- 8.1 The estimated total tax gap for Income Tax, National Insurance Contributions and Capital Gains Tax was £14.5 billion in 2008-09, equivalent to 35 per cent of the overall tax gap. The components of this are described below. These are presented for the latest year for which data are available, together with the resulting estimate for 2008-09 when up-rating has been applied.

### Individuals subject to Self Assessment

- 8.2 The results of the Self Assessment random enquiry programme are used to produce an estimate of the tax gap for individuals subject to SA. In this context 'individuals' means individuals who are self-employed, and partnerships, as well as those who are employees or pensioners, or may only have investment income, who are all issued an SA return to file. Trusts also receive income tax returns and are included in the figures. The taxes covered are:
- Income tax
  - Capital gains tax, and
  - Class 4 National Insurance Contributions
- 8.3 The SA random enquiry programme covers all SA taxpayers with the exception of partnerships with 5 or more partners. An illustrative estimate of the tax gap for large partnerships has been produced – see paragraph 8.10.

### Results

- 8.4 Table 8.1 shows estimated identified tax gaps for SA taxpayers (excluding large partnerships) for the tax years 1999-00 to 2006-07. The figures do not adjust for non-detection.



**Table 8.1: Identified tax gap for individuals in Self Assessment (£ billion)<sup>1</sup>**

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Under-declared liabilities due to incorrect returns	2.4	2.7	3.1	3.5	3.7	3.8	3.0	3.3
Compliance yield <sup>2</sup>	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
Non-payment <sup>3</sup>	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
<b>Net total identified tax gap</b>	<b>2.1</b>	<b>2.4</b>	<b>2.7</b>	<b>3.2</b>	<b>3.3</b>	<b>3.5</b>	<b>2.7</b>	<b>3.1</b>
Total tax liabilities	19.4	19.8	19.3	20.6	22.1	23.2	24.1	26.6
<b>Proportion of liabilities</b>	<b>11%</b>	<b>12%</b>	<b>14%</b>	<b>15%</b>	<b>15%</b>	<b>15%</b>	<b>11%</b>	<b>12%</b>

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

<sup>2</sup> By period of settlement of enquiry.

<sup>3</sup> Estimates of write-offs of tax for periods of approximately a year ending in October each year, converted to financial year figures.

8.5 Estimated identified tax gaps for SA individuals increased from 11 per cent in 1999-00 to 15 per cent in 2002-03. Levels remained constant in the next two years before falling back to 12 per cent in 2006-07.

8.6 As the latest available estimate, the 2006-07 figure for under-declared liabilities due to incorrect returns in Table 8.1 has been used to produce a measure for the tax gap for 2008-09 for inclusion in the estimation of the overall tax gap for that year. Based on US research (as detailed in chapter 7) a multiplier of 1.9 is used for business taxpayers (self-employed and partnerships) and a multiplier of 1.3 is used for all other SA taxpayers. An up-rating factor of 1.1, based on the trend in the GDP income series, is then applied. This produces an illustrative estimate of under-declared liabilities for 2008-09, from which compliance yield for that year is then subtracted and losses from non-payment added. This results in an estimate of the tax gap for inaccurate reporting from individuals of £5.8 billion for 2008-09, as shown in Table 1.1.

8.7 The results of the random enquiry programme can also be used to estimate the proportion of SA returns which are incorrect leading to under-declaration of liabilities. Table 8.2 shows that this proportion has remained fairly constant over time at around a third. For between 5 per cent and 7 per cent of returns the annualised level of under-declaration was between £500 and £1,000 and for between 14 per cent and 18 per cent it was over £1,000.

**Table 8.2: Incorrect SA returns with under-declared tax liability (per cent)**

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Proportion	31%	32%	33%	34%	32%	34%	29%	30%
<i>of which, under-declared liability per annum</i>								
£1 to £500	17%	17%	18%	18%	16%	16%	14%	14%
£501 to £1,000	6%	7%	7%	7%	6%	7%	5%	5%
over £1,000	7%	8%	9%	10%	10%	11%	9%	11%

8.8 Table 8.3 shows that about half of the returns submitted by self-employed taxpayers and partnerships under-stated the true tax liability. For about between 18 per cent and 25 per cent of returns the annualised understated liability was under £500, while for a further 14 per cent to 20 per cent it was over £1,000.

**Table 8.3: Self employed taxpayers and partnerships<sup>1</sup>: Incorrect SA returns with under-declared tax liability (per cent)**

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Proportion	48%	52%	54%	56%	55%	53%	50%	45%
<i>of which, under-declared liability per annum</i>								
£1 to £500	23%	23%	25%	25%	22%	22%	21%	18%
£501 to £1,000	11%	14%	13%	12%	13%	12%	10%	7%
over £1,000	14%	15%	16%	19%	20%	19%	19%	20%

<sup>1</sup> Partnerships with up to 4 partners

8.9 Table 8.4 shows that for other SA taxpayers, the levels of under-declaration are much lower, at between 14 per cent and 18 per cent overall and only around 3 per cent where the annualised additional liability was more than £1,000. These taxpayers are individuals without business income who receive notices to file an SA return, including:

- company directors;
- other employees and pensioners taxed under PAYE, who are liable to tax at higher rates or who have relatively complicated tax affairs; and
- personal representatives or trustees.

The majority of income tax paid by these individuals is deducted at source under PAYE, hence the low levels compared with individuals with business income.

**Table 8.4: Other individuals receiving a return: Incorrect SA returns with under-declared tax liability (per cent)**

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Proportion	18%	17%	17%	17%	16%	15%	14%	16%
<i>of which, under-declared liability per annum</i>								
£1 to £500	13%	13%	12%	12%	11%	10%	10%	10%
£501 to £1,000	2%	2%	2%	2%	2%	3%	2%	2%
over £1,000	2%	2%	3%	3%	3%	3%	2%	4%

8.10 Partnerships with 5 or more partners are not covered by the SA random enquiry programme and therefore an alternative methodology is required to estimate the associated tax gap. An illustrative estimate can be produced by assuming that the tax at risk will represent a similar proportion of liabilities to other SA taxpayers, as shown by the results of the random programme. Applying this assumption produces an estimate of the tax at risk for large partnerships, from which yield from compliance checks is then subtracted and an estimate of losses from non-payment is added. This produces an illustrative estimate of the tax gap for large partnerships of £0.8 billion.

## Methodology

- 8.11 The SA random enquiry programme allows HMRC to estimate the extent of under-declaration of liabilities arising from the submission of incorrect returns. The random sample used for the programme is selected from SA taxpayers issued with a notice to file a return.
- 8.12 Enquiries are taken up into the sampled returns. The results of the enquiries are then extrapolated to the population to produce estimates of the compliance of SA taxpayers.
- 8.13 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. Therefore figures are subject to revision until all enquiries are settled.
- 8.14 The most recent results available from the SA random enquiry programme are for 2006-07. The figures for earlier years have been revised since those previously published to include additional data on enquiries which have since settled. The figures in Table 8.1 do not adjust for non-detection.

## Employer compliance

- 8.15 Estimates of the tax gap for employers with up to 500 employees (except where the employer is part of a complex group) come from the employer compliance random enquiry programme and non-payment data. The figures relate solely to income tax and NICs collected through PAYE due on earnings and other income from employment. The scope of these figures also includes tax due on occupational pensions taxed through PAYE.
- 8.16 An illustrative estimate of the tax gap for larger employers has been produced – see paragraphs 8.20 and 8.21.

## Results

- 8.17 Table 8.5 shows that identified tax gaps for income tax and NICs for small and medium-sized employers remained fairly stable over the period 2003-04 to 2007-08. There was a small rise from an estimated 1.1 per cent in 2003-04 to 1.4 per cent in 2005-06 before slight falls in subsequent years, down to 1.2 per cent in 2007-08.

**Table 8.5: Identified tax gap for small and medium-sized employers (£billion)<sup>1</sup>**

	2003-04	2004-05	2005-06	2006-07	2007-08
Under-declared liabilities due to incorrect returns	0.6	0.7	0.7	0.8	0.9
Compliance yield <sup>2</sup>	0.2	0.3	0.3	0.4	0.3
Non-payment <sup>3</sup>	0.4	0.6	0.7	0.7	0.6
<b>Net total identified tax gap</b>	<b>0.8</b>	<b>1.0</b>	<b>1.0</b>	<b>1.1</b>	<b>1.1</b>
Total tax liabilities	68.2	78.8	76.7	82.3	90.9
<b>Proportion of liabilities</b>	<b>1.1%</b>	<b>1.3%</b>	<b>1.4%</b>	<b>1.3%</b>	<b>1.2%</b>

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

<sup>2</sup> By period of settlement of enquiry.

<sup>3</sup> Estimates of write-offs of tax for periods of approximately a year ending in October each year, converted to tax year figures.

8.18 As the latest available estimate, the 2007-08 figure for under-declared liabilities due to incorrect returns in Table 8.5 has been used to produce a measure for the tax gap for 2008-09 for inclusion in the estimation of the overall tax gap for that year. For employer enquiries no adjustment is thought necessary to allow for non-detected non-compliance so only an up-rating factor of 1.1 is applied, based on the trend in the GDP income series. This produces an illustrative estimate of under-declared liabilities for 2008-09, from which compliance yield for that year is then subtracted and losses from non-payment added. This results in an estimate of the tax gap for small and medium-sized employers of £1.2 billion for 2008-09, as shown in Table 1.1.

8.19 The results of the random enquiry programme can also be used to estimate the proportion of employers failing to meet their obligations in respect of operating a PAYE scheme. Table 8.6 shows that between 2003-04 and 2006-07 this proportion declined from 37 to 27 per cent before increasing to 31 per cent in 2007-08. For between 12 and 14 per cent of employers this resulted in an annualised under-declared liability of more than £1,000.

**Table 8.6: Small and medium-sized employers: Employers found to be failing to meet PAYE scheme obligations (per cent)**

	2003-04	2004-05	2005-06	2006-07	2007-08
Proportion	37%	32%	30%	27%	31%
<i>of which, under-declared liability per annum</i>					
£1 to £1,000	23%	17%	18%	15%	18%
over £1,000	14%	14%	12%	12%	13%

8.20 Larger employers, including those dealt with by the Large Business Service and employers which are part of a complex group, are not covered by the random enquiry programme and therefore an alternative methodology is required to produce an indicator of the associated tax gap.

8.21 It is possible to produce an illustrative estimate using an assumption of the size of the tax gap in proportion to receipts. Table 8.5 shows that the estimated tax gap for small and medium-sized employers represents around 1 per cent of liabilities for this group. Using the assumption that the ratio for larger employers will be similar, in the range of 1 per cent to 2 per cent, and applying this to the receipts for larger employers gives an illustrative tax gap estimate of £2 billion within a range of £1.3 billion to £2.7 billion.

## Methodology

- 8.22 The employer compliance random enquiry programme allows HMRC to estimate the extent of under-declaration of liabilities arising from the submission of incorrect returns. The random sample used for the programme is selected from small and medium-sized employers operating PAYE schemes.
- 8.23 Reviews are taken up into the sampled employers. The results of the reviews are then extrapolated to the population to produce estimates of the compliance of small and medium-sized employers.
- 8.24 As reviews can take a number of years to complete, it is necessary to make assumptions about any reviews that are still open at the time of analysis. Therefore figures are subject to revision until all reviews are completed.
- 8.25 The most recent results available from the employer compliance random enquiry programme are for the 2007-08 tax year. Estimates for earlier years have been revised since previously published as a result of the inclusion of additional data from reviews that have since been completed. In addition, an improved methodology has been applied to the attribution of non-payment losses to tax gap components which has resulted in small increases in the tax gap estimates.

## Avoidance

### Results

- 8.26 HMRC's rolling record of the use of avoidance schemes gives an estimate for the total amount of tax that is considered to be at risk whilst avoidance schemes are in operation.
- 8.27 The estimate of tax under consideration for Income Tax, National Insurance Contributions and Capital Gains Tax avoidance for all taxpayers excluding businesses managed by the Large Business Service (see next chapter) is £2.9 billion, based on a snapshot of information taken at the end of March 2010. The estimated expected compliance yield is £1.5 billion, leaving a £1.4 billion tax gap. The yield will reflect the legal framework in place at the time and not include any subsequent changes to the tax law to prevent further use of avoidance schemes.
- 8.28 The tax gap estimate is likely to be a lower bound as not all avoidance schemes will be identified. It is possible to produce a range around the estimate of £1.0 billion to £2.1 billion by varying the assumption concerning the average number of years that the schemes operate.
- 8.29 There has been an increase in the tax gap estimate since the last published figure of £1.1 billion due to an increase in the amount of tax at risk recorded. In addition, greater detail is now available on the head of duty to which the schemes relate and on the identification of schemes relating to businesses managed by the Large Business Service.

## Methodology

- 8.30 The avoidance tax gap estimate in this section comes from information that HMRC holds on avoidance schemes. This includes avoidance schemes for individuals, trusts, partnerships and employers. Schemes relating to businesses managed by the Large Business Service have been excluded from this estimate as a separate estimate for this has been produced as part of the overall tax gap for these businesses (see Chapter 9).
- 8.31 The information represents a stock of avoidance schemes. Annual estimates are derived from this by dividing the total yield amount expected to be lost by the average number of years that the schemes operate.
- 8.32 The estimate includes only those avoidance schemes which have been identified, and reflects only the instances in which use of the schemes has been disclosed or otherwise detected. As a result the amount of avoidance, and therefore the avoidance tax gap, is likely to be underestimated.
- 8.33 The estimates may be subject to significant revisions, especially since they have been derived from a new and developing system that may not yet have fully stabilised, and should therefore be treated with caution.

## Hidden economy

### Non-declaration of income and capital gains by individuals who do not receive returns

#### Results

- 8.34 By matching data supplied by third parties to HMRC records, it has been possible to produce an estimate of the tax gap relating to income and capital gains of individuals taxed through PAYE but who do not receive SA returns. The income covered would not have been earned from employment and therefore the associated tax liability was not recovered under the PAYE system. As these individuals did not receive SA returns, the income and gains were also not reported through this means and thus additional liability was due.
- 8.35 This initial analysis produced an estimate of income tax and CGT losses of £0.3 billion relating to tax year 2004-05 for individuals who are taxed through PAYE but not declaring income through SA. However the limitations associated with this methodology suggest that this may be a lower limit for the true scale of the tax gap for this group of taxpayers. An up-rating factor of 1.1 is applied to the estimate to produce a measure for 2008-09 of £0.3 billion for Table 1.1.

8.36 Table 8.7 shows the sources of income and gains contributing to the estimated tax gap for these taxpayers. Half of the estimated tax gap results from undeclared lettings income with the majority of the remainder from undeclared bank and building society interest or undeclared capital gains on land and property.

**Table 8.7: Estimated tax gap for employees and pensioners taxed through PAYE but outside Self Assessment, by income source, 2004-05**

Source of income	Estimated tax gap (£ millions)
Lettings	142
Bank and building society interest	67
Capital gains on land and property	55
Secondary income <sup>1</sup>	4
Irregular ISAs <sup>2</sup>	3
Chargeable events <sup>3</sup>	3
Offshore bank interest	3
<b>Total</b>	<b>277</b>

<sup>1</sup> Secondary income from employment is included in the estimate for 'Moonlighters' and therefore excluded from the estimate for 'Non-declaration of income and capital gains from individuals who do not receive returns' in Table 1.1.

<sup>2</sup> Irregular ISAs: Individuals are allowed to open or subscribe to just one ISA of any particular type within a given tax year. If another ISA of the same type is opened or subscribed to, then it is not entitled to tax-free status.

<sup>3</sup> Chargeable Events: Chargeable events are most commonly payment of money from a life insurance policy, though other types of event such as the sale of an investment bond can also give rise to chargeable event gain that should then be treated as income for income tax purposes.

### Methodology

8.37 The estimate of the tax gap for individuals who do not receive tax returns relates to employees and pensioners who are taxed through PAYE but are outside SA. The taxes covered are income tax and capital gains tax.

8.38 The estimate was produced by matching data supplied by third parties with a sample of tax records for these taxpayers. Income recorded in the third party data was compared against income shown on HMRC records as being taxed through PAYE. 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.

8.39 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. The resulting estimate should therefore be interpreted broadly as a lower limit for the true scale of the tax gap relating to this group of taxpayers.

## Ghosts

### Results

- 8.40 Some individuals who receive income from employment or self-employment are not known to HMRC because they and/or their employers fail to declare their earnings. This may happen, for instance, if the individual is fraudulently claiming out of work benefits and either colludes with their employer to evade PAYE income tax or fails to declare that they are self-employed. Individuals who have earnings from employment or self-employment and fail to declare any of this income are known as “ghosts”.
- 8.41 Ghosts are not accurately recorded by any government agency or survey and therefore any estimate as to their number or the consequential loss of duty is approximate. A series of assumptions has been used to inform thinking about the potential scale of tax losses. The resulting estimate of the tax gap for ghosts is £1.3 billion. Due to the extent of the assumptions used to produce this estimate and the inherent uncertainties in the methodologies, this estimate has a large margin of error and should be treated with due caution.

### Methodology

- 8.42 An estimate for the tax gap for ghosts has been produced by applying a set of assumptions to information on Jobseeker’s Allowance claimants, the reported income from individuals who are known to HMRC, and estimates of the flows of illegal immigrants.
- 8.43 The tax gap estimate has been updated since ‘Measuring Tax Gaps 2009’ to take account of more up to date source data. The methodology has remained the same.



## Moonlighters

### Results

- 8.44 Individuals who pay tax on their main job through PAYE but have a second job or additional income from self-employment are known as “moonlighters”. Using a series of assumptions, it has been possible to produce an indicative estimate of the tax gap from moonlighters of £1.8 billion, within a range of £1.2 billion to £3.6 billion. Due to the extent of the assumptions used to produce this estimate and the inherent uncertainties in the methodologies, this estimate has a large margin of error and should be treated with due caution.

### Methodology

- 8.45 UK survey data reported in *The Shadow Economy in Germany, Great Britain and Scandinavia: A measurement based on questionnaire surveys*<sup>10</sup>, has been used to estimate the proportion of employees who moonlight, the average number of hours spent moonlighting and the income generated through this. It is possible to then calculate a ratio of informal to formal income which can then be applied to employment income data. Applying marginal tax rates to these figures then produces an estimate of the tax due.
- 8.46 The tax gap estimate has been updated since ‘Measuring Tax Gaps 2009’ to take account of more up to date source data. The methodology has remained the same.

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<sup>10</sup> Soren Pedersen (2003) *The Shadow Economy in Germany, Great Britain and Scandinavia: A measurement based on questionnaire surveys*, Statistics Denmark.

## Chapter 9: Estimating the tax gap for Corporation Tax

### Overall tax gap

- 9.1 The estimated total tax gap for Corporation Tax was £6.9 billion in 2008-09, equivalent to 14 per cent of the overall tax gap. The components of this are described below. These are presented for the latest year for which data are available, together with the resulting estimate for 2008-09 when up-rating has been applied.
- 9.2 The tax gap for Corporation Tax is estimated separately for small and medium enterprises (SMEs) and large businesses. The large business estimates are sub divided into two categories; 'Large Business Service' (LBS) and 'Large and Complex'(L&C). These are the two divisions of HMRC that manage the relationship with these businesses. The LBS handles the largest 800 groups (approximately) and was referred to as the 'Very Large Business' segment in the 'Measuring Tax Gaps 2009'. L&C oversees a much larger number of comparatively smaller businesses, approximately 9,500 groups and 2,500 individual companies, and was previously referred to as 'Large Businesses'.

### Businesses managed by the Large Business Service

#### Results

- 9.3 Table 9.1 shows estimates of the corporation tax gap for LBS groups as a proportion of total liabilities for accounting periods ending in 2004–05 to 2006-07. The level is 12 per cent in 2004-05, 11 per cent for 2005-06 and 10 per cent for 2006-07.

**Table 9.1: Estimated tax gap for LBS groups: accounting periods ending in 2004–05 to 2006-07 (£ billion)**

	2004-05	2005-06	2006-07
Number of risks	3,394	1,845	1,237
Tax under Consideration (TuC)	9.8	7.5	7.5
TuC on issues where agreement expected to be reached	3.4	2.2	2.8
TuC on issues under dispute	6.4	5.3	4.7
Estimated compliance yield from issues under dispute	3.3	2.1	1.9
Tax Gap (TuC on issues under dispute minus estimated yield)	3.1	3.2	2.8
Total liabilities	19.2	23.5	24.3
<b>Tax Gap as a proportion of liabilities</b>	<b>12%</b>	<b>11%</b>	<b>10%</b>

- 9.4 The tax gap estimates for the period 2004-05 to 2006-07 have remained relatively stable; £3.1 billion in 2004-05, £3.2 billion in 2005-06 and £2.8 billion in 2006-07. Since these estimates are for accounting periods ending before 2008-09 an up-rating factor of 1.09 is applied to the 2006-07 estimate to produce a measure for 2008-09 of £3.1 billion, as shown in Table 1.1. This up-rating factor is based on the trend in the UK's Gross Operating Surplus, as published by the Office for National Statistics.

- 9.5 The tax gap can be divided by the type of risk identified into the gap due to avoidance or technical issues, as shown in Table 9.2.

**Table 9.2: Estimated tax gap for LBS groups: by type of risk and accounting period (£ billion)**

	2004-05	2005-06	2006-07
Tax gap for avoidance issues	2.4	2.8	2.6
Tax gap for technical issues	0.7	0.4	0.2
<b>Total tax gap</b>	<b>3.1</b>	<b>3.2</b>	<b>2.8</b>

- 9.6 Avoidance contributes the majority of the tax gap (ranging from around 77 per cent in 2004-05 to around 92 per cent in 2006-07) and levels were fairly stable over the period - estimated to be £2.4 billion in 2004-05, £2.8 billion in 2005-06 and £2.6 billion in 2006-07. The tax gap due to technical issues fell from £0.7 billion to £0.2 billion over the period. However, later estimates are subject to change over time as more data becomes known (see revisions section). An up-rating factor of 1.09 is applied to the 2006-07 estimates to provide illustrative estimates for 2008-09 of £2.9 billion for avoidance and £0.2 billion for technical issues, and is shown in Table 1.1.
- 9.7 Over the period 2004-05 to 2006-07, the total tax under consideration identified from risks in LBS groups fell 23 per cent from £9.8 billion to £7.5 billion. There was also a 64 per cent reduction in the total number of risks opened over the same period, from 3,400 to 1,200.
- 9.8 Identified risks can take a number of years to be resolved. Table 9.3 shows the proportion of risks that have closed in accounting periods ending 2004-05 to 2006-07. While all these issues will be closed over time, in the interim it is necessary to estimate the yield that will result from open enquiries. Differences between the estimated yield and the actual yield will lead to revisions to the estimates. As the proportion of risks closed is lower for later years, and hence more estimation of yield is required, the tax gap estimates for these years are more likely to be subject to revision.

**Table 9.3: Proportion of risks closed by the number and value of the risk and accounting period**

	2004-05	2005-06	2006-07
Percentage of risks closed	84.8	74.8	67.2
Percentage of Tax under Consideration closed	62.1	50.4	50.3

As at April 2010.

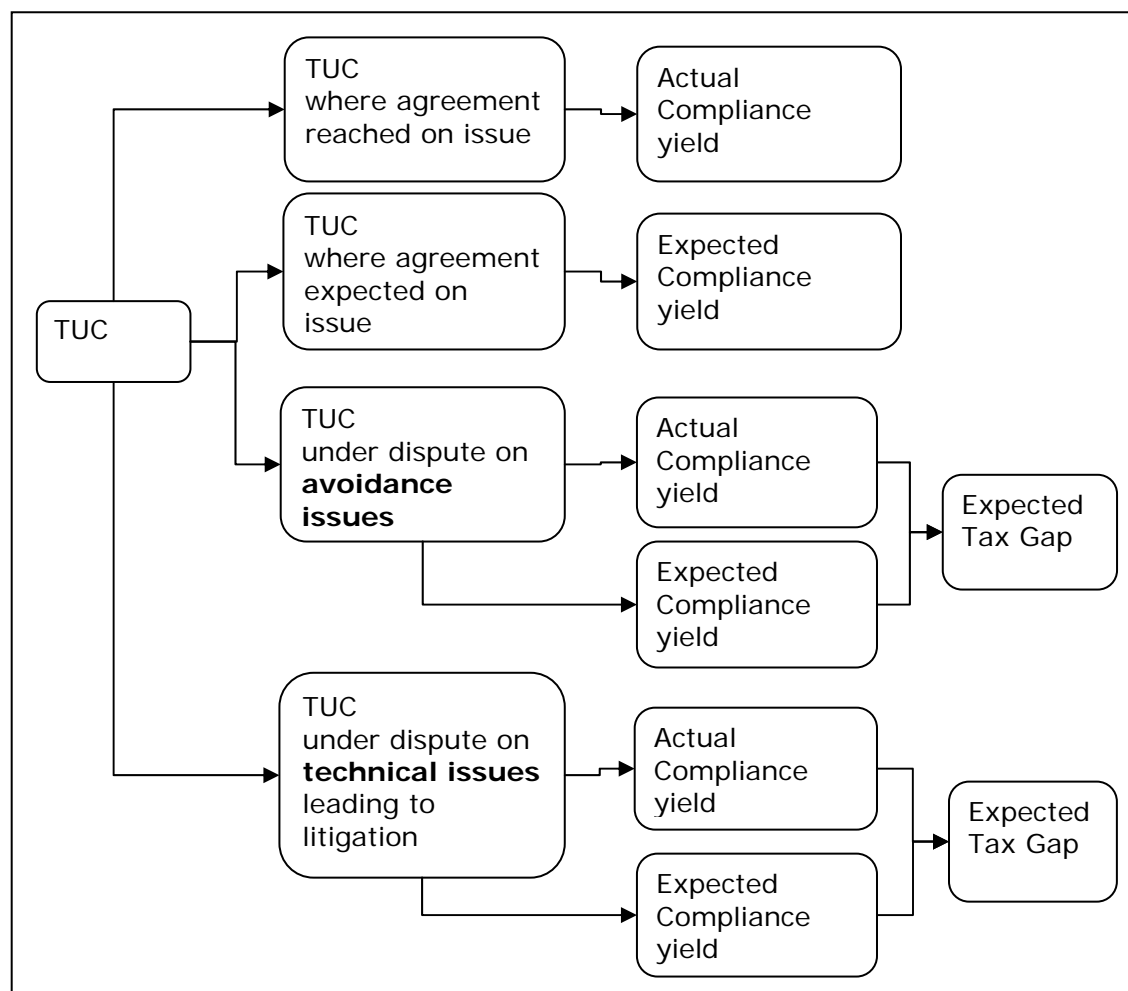
## Revisions

- 9.9 In 'Measuring Tax Gaps 2009', the data used was from a January 2009 snapshot. The estimates are now based on data from an April 2010 snapshot. Estimates for 2004-05 have been revised using the latest data and it is now possible to report estimates for 2005-06 and 2006-07 for the first time. Where time has elapsed between data snapshots, differences between the initial and latest estimates are expected.
- More risks may be found, relating to additional TuC in any category;
  - A larger proportion of the estimate will be based on actual yield numbers, replacing the values previously forecast;
  - There may be a reduction in the number of risks where agreement was expected as risks move into the under dispute category.

## Methodology

- 9.10 Estimates of the Corporation Tax gap for businesses managed by the LBS come from information captured on HMRC's LBS case management system. Where HMRC inspectors identify risks for further consideration, the initial estimate of the tax associated with these risks is recorded on the system as the tax under consideration.
- 9.11 The risks will be either worked until agreement is found or will proceed to litigation (where risks remain disputed). Risks proceeding to litigation are identified on the case management system. There is assumed to be no tax gap where a risk has been settled by agreement.
- 9.12 The LBS case management system allows the classification of risks into two broad categories; avoidance and technical issues. The avoidance category relates to the use of disclosed avoidance schemes or other suspected avoidance identified by HMRC tax specialists. "Technical" covers a wide range of issues, from cases where there is genuine uncertainty about the correct tax treatment, through mistakes to culpable errors in, or omissions from, the company tax return.
- 9.13 The tax gap estimates are calculated;
- for avoidance issues, as the tax under consideration less the expected compliance yield after intervention and litigation and
  - for technical issues where it has not been possible to reach agreement, as the tax under consideration less expected compliance yield after litigation.
- 9.14 The flowchart at Figure 9.1 shows the process for arriving at the tax gap estimate.

**Figure 9.1: The process for estimating the tax gap for LBS groups by category**



## Limitations

- 9.15 The main source of error in these estimates is that HMRC may not identify all risks - which will lead to an underestimation of the tax gap. It is difficult to quantify the extent to which this source of error impacts upon the estimates.
- 9.16 Compliance yield will reflect the legal framework in place at the time of intervention and does not include changes to the tax law to address the issues.
- 9.17 As it can take many years to close every risk identified in a particular year, the yield expected from open cases must be forecast to be able 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.

## Large and Complex businesses

- 9.18 Businesses dealt with by Large and Complex fall out of scope of the Corporation Tax Self Assessment (CTSA) random enquiry programme which is used to derive estimates of the tax gap for small and medium-sized businesses (see next section). They are also not covered by the case management system used by LBS (as detailed above). Hence neither of the methodologies used to derive estimates for those businesses can be directly applied to produce an estimate of the tax gap for the Large and Complex businesses.
- 9.19 An illustrative estimate of the Corporation Tax gap for Large and Complex businesses can be produced by assuming that the tax at risk will represent a similar proportion of liabilities to businesses managed by the LBS. Applying this assumption produces an estimate of the tax at risk for Large and Complex businesses, from which yield from compliance checks is then subtracted and an estimate of losses from non-payment is added. This produces an illustrative estimate of the tax gap for Large and Complex businesses of £1.2 billion.
- 9.20 Using information that HMRC holds on avoidance schemes, it is possible to produce an estimate of the corporation tax gap from avoidance by Large and Complex businesses. The same methodology used to produce an estimate of the IT/NIC/CGT tax gap due to avoidance (as outlined in chapter 8) can be applied. Using this methodology it is estimated that within the overall Large and Complex tax gap of £1.2 billion, approximately £0.7 billion is due to avoidance of CT. This is an indicative estimate only.

## Small and medium-sized businesses

- 9.21 Estimates of tax gaps from incorrect returns in this section come from the Corporation Tax Self Assessment random enquiry programme and non-payment data. The programme covers 'small and medium-sized businesses', which in this context means those businesses not managed by the LBS and also excludes the largest and most complex businesses dealt with outside the LBS.

### Results

- 9.22 Table 9.4 shows estimated tax gaps for businesses with accounting periods ending in calendar years 2001 to 2006. The figures do not adjust for non-detection.

**Table 9.4: Identified tax gap for small and medium-sized businesses (£billion)<sup>1</sup>**

	2001	2002	2003	2004	2005	2006
Under-declared liabilities due to incorrect returns	2.5	1.7	3.2	2.2	2.1	1.8
Compliance yield <sup>2</sup>	0.4	0.4	0.4	0.4	0.5	0.5
Non-payment <sup>3</sup>	0.1	0.1	0.1	0.2	0.2	0.2
<b>Net total identified tax gap</b>	<b>2.2</b>	<b>1.4</b>	<b>3.0</b>	<b>2.0</b>	<b>1.7</b>	<b>1.4</b>
Total tax liabilities	12.9	12.4	14.8	15.5	17.0	16.6
<b>Proportion of liabilities</b>	<b>17%</b>	<b>11%</b>	<b>20%</b>	<b>13%</b>	<b>10%</b>	<b>8%</b>

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

<sup>2</sup> By period of settlement of enquiry. Financial year figures.

<sup>3</sup> Estimates of write-offs of tax for periods of approximately a year ending in October each year, converted to calendar year figures.

9.23 The estimates for the identified tax gap as a proportion of the total relevant tax liabilities varied between eight per cent and 20 per cent for the period 2001 to 2006. However, due to a substantial margin of sampling error in these figures it is not possible to determine with certainty whether or not this variation represents changes in the underlying level of under-declaration of liabilities. Allowing for confidence intervals the trend in these figures is broadly stable.

9.24 As the latest available estimate, the 2006 figure for under-declared liabilities due to incorrect returns in Table 9.4 has been used to produce a measure for the tax gap for 2008-09 for inclusion in the estimation of the overall tax gap for that year. Based on the US research a multiplier of 1.4 is applied to this estimate to account for non-detected non-compliance. An up-rating factor of 1.1, based on the trend in the UK's Gross Operating Surplus is then applied. This produces an illustrative estimate of under-declared liabilities for 2008-09, from which compliance yield for that year is then subtracted and losses from non-payment added. This results in an estimate of the tax gap for small and medium-sized businesses of £2.6 billion for 2008-09, as shown in Table 1.1.

9.25 Table 9.5 shows that for the years 2001 to 2006, the proportion of small and medium-sized businesses submitting an incorrect return leading to a loss of tax was in the range 37 to 42 per cent. This should be considered to be relatively constant in the context of the margin of error of these figures. The annualised additional liability over £1,000 declined from 28 to 20 per cent between 2001 and 2004 then increased to 23 per cent in 2006.

**Table 9.5: Small and medium-sized businesses: Incorrect CTSA returns where additional tax liability established (per cent)**

	2001	2002	2003	2004	2005	2006
Proportion	42%	37%	38%	40%	40%	38%
<i>of which, under-declared liability per annum</i>						
£1 to £1,000	15%	16%	17%	20%	19%	15%
over £1,000	28%	21%	21%	20%	22%	23%

## Methodology

- 9.26 The CTSA random enquiry programme allows HMRC to estimate the extent of under-declaration of liabilities arising from the submission of incorrect returns. The random sample used for the programme is selected from small and medium-sized businesses issued with a notice to file a CTSA return.
- 9.27 Enquiries are taken up into the sampled returns. The results of the enquiries are then extrapolated to the population to produce estimates of the compliance of small and medium-sized businesses.
- 9.28 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. Therefore figures are subject to revision until all enquiries are settled.
- 9.29 Estimates have been revised since the previous publication to include information on the outcomes of enquiries which have since settled. In addition the methodology used to generalise about the population based on the results of random enquiries has been improved to exclude atypical cases.



## Chapter 10: Estimating the tax gaps for other direct taxes

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- 10.1 This section contains illustrative estimates of tax gaps for direct taxes where HMRC has no accepted direct measure of loss. The methodologies used to produce the estimates are heavily assumption-based. They should therefore be interpreted with caution and used for illustrative purposes only as they are not direct measures of losses for the individual taxes themselves. They are subject to change as methodologies are developed.

### Inheritance Tax

- 10.2 To produce an indication of the size of the inheritance tax gap, the assumption has been made that the tax at risk is approximately 10 per cent of receipts. If compliance yield is then subtracted and losses from non-payment of inheritance tax are included, an indicative tax gap of £0.1 billion is produced for 2008-09. Varying the tax at risk assumption between 5 per cent and 20 per cent of receipts gives a range for the tax gap of negligible to £0.4 billion. These estimates, however, are based purely on judgment and should be treated with due caution.

### Stamp Duties

- 10.3 To produce an illustrative estimate of the stamp duties tax gap, a similar approach can be used to that shown above for inheritance tax. The assumption is made that the tax at risk is approximately 10 per cent of receipts, from which compliance yield is subtracted and losses from non-payment of stamp duties are added. This results in an estimate of the tax gap for stamp duties of £0.8 billion for 2008-09. Varying the tax at risk assumption between 5 per cent and 20 per cent produces a range for the tax gap of £0.4 billion to £1.6 billion. These estimates are based purely on judgement and hence should be treated with due caution.
- 10.4 Using information that HMRC holds on avoidance schemes, it is possible to produce an estimate of avoidance of Stamp Duty Land Tax (SDLT). The same methodology used to produce an estimate of the IT/NIC/CGT tax gap due to avoidance (as outlined in chapter 8) can be applied. Using this methodology it is estimated that within the overall stamp duties tax gap of £0.8 billion, approximately £0.04 billion is due to avoidance of SDLT. This is an indicative estimate only.

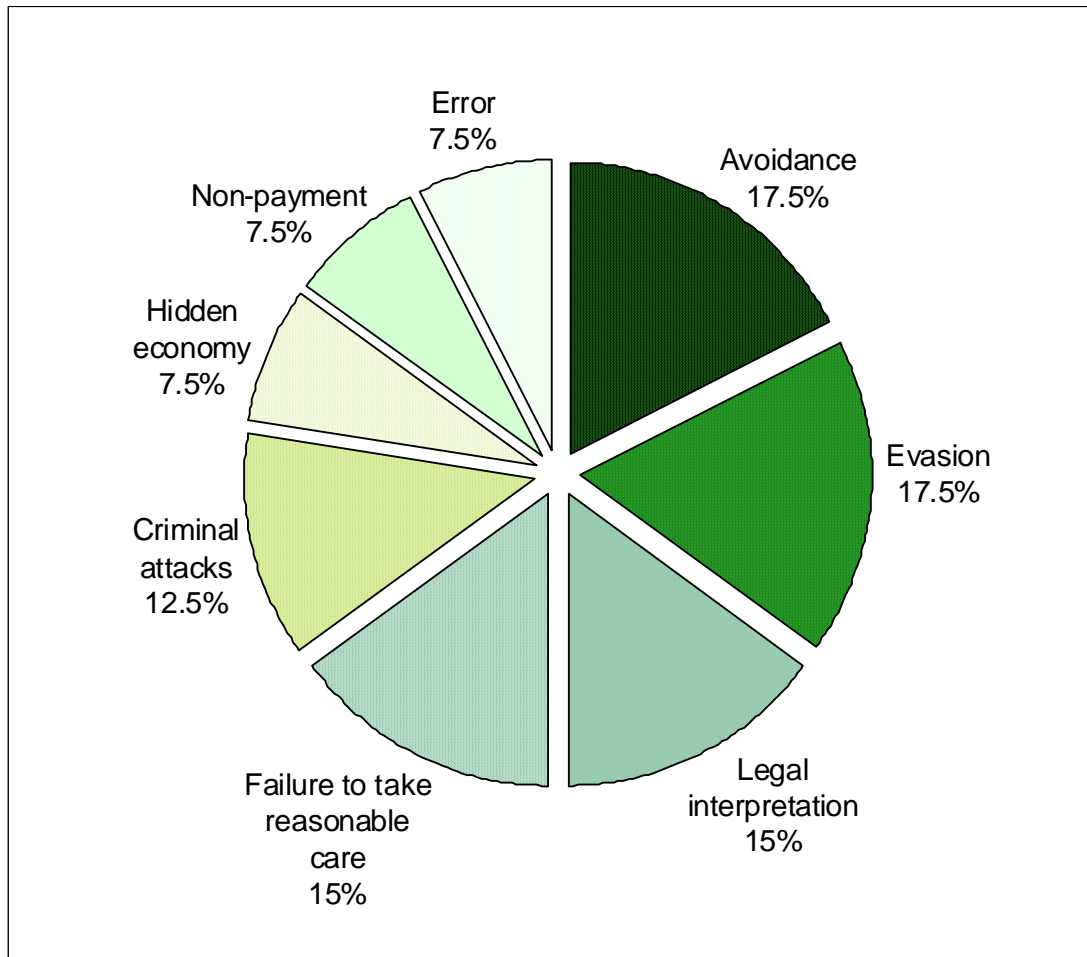
### Petroleum Revenue Tax

- 10.5 An illustrative indicator of potential losses from Petroleum Revenue Tax has been produced using the same method as for unmeasured indirect taxes described in chapter 6, i.e. applying a percentage tax gap of 6 per cent. This gives an estimate of £0.2bn. As for the other taxes estimated using this method the tax gap should not be considered as an estimate of the true percentage loss for Petroleum Revenue Tax as this is not known.

## Appendix: Tax gap by behaviour

A.1 A breakdown of the 2007-08 tax gap by taxpayer behaviour was first published at PBR 2009 in 'Protecting Tax Revenues 2009'<sup>11</sup> – see Figure A1. This illustrative breakdown was based on management assumptions and judgement and therefore cannot be regarded as Official Statistics. Further work is planned on this over the coming year, with a view to providing a more robust breakdown for 2008-09 in 'Measuring Tax Gaps 2011'.

**Figure A1: The behaviours driving the net UK tax gap in 2007-08**



<sup>11</sup> <http://www.hmrc.gov.uk/pbr2009/protect-tax-revenue-5450.pdf>

## Glossary of technical terms

**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

**Clearances data:** Administrative data source certifying that duty has been paid; used to measure the level of legal consumption.

**Compliance:** State of being in accordance with established legislation.

**Compliance activity:** An intervention by HMRC, such as a direct tax enquiry, employer compliance review or VAT assurance visit, design 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.

**Departmental Strategic Objective (DSO):** A key performance target for the Department.

**Econometrics:** The application of statistical and mathematical techniques to economic and financial data.

**Estimates:** Approximate results calculated from approximate or incomplete data.

**EU-Duty paid:** Duty paid legally within the European Union.

**EU Large:** EU definition of a large business, which has either 250 or more employees or both a turnover of more than €50 million and a balance sheet total more than €43 million.

**Evasion:** The deliberate omission, concealment or misrepresentation of information, or the false or deceptive presentation of circumstances, to fraudulently obtain a fiscal advantage, whether temporarily or permanently.

**Fraud:** Deliberate, dishonest evasion of tax.

**Gross Domestic Product (GDP):** GDP is the market value of all final goods and services made within a country in a year.

**Gross Operating Surplus (GOS):** the surplus due to owners of incorporated businesses. Often called profits, although only a subset of total costs are subtracted from gross output to calculate the GOS.

**Illicit market:** The part of the market on which due taxes and duties have not been paid.

**Legitimate consumption:** Consumption of goods for which the correct duty has been paid.

**Litigation:** A lawsuit seeking a legal remedy to a question or dispute.

**Lower bound:** The value below which the true value will not lie.

**Margins of errors:** Measures of how reliable the estimated value is.

**Mid-point:** Average of the upper and lower bounds.

**Non-payment:** Tax debts that are identified but never paid off. Eventually this debt will be written off by HMRC as uncollectable.

**Non-UK-Duty paid:** Any product that has not had UK duty paid on it.

**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.

**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.

**Sampling weights:** In order to make the results from the sample more representative of the population, respondents' answers are "weighted" (multiplied by a coefficient) to rebalance the survey answers to the population profile.

**Self Assessment (SA):** 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 or Medium Enterprise (SME):** Any business that does not fall within the EU Large definition

**Smuggling:** In this document this covers all activity that results in goods entering the UK market without the correct duty being paid.

**Targeted Education, Enabling and Leverage (TEEL):** HMRC Business area that aims to improve customer compliance in a range of ways, without using enquiries or assurance visits.

**Upper bound:** The value above which the true value will not lie.

**Write offs:** Debts that are considered to be irrecoverable.

**Yield:** Additional money due as a result of compliance activity.

## Abbreviations

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<b>APR:</b>	(Departmental) Autumn Performance Report
<b>BBPA:</b>	British Beer & Pub Association
<b>BERR:</b>	Department for Business, Enterprise and Regulatory Reform
<b>CAA:</b>	Civil Aviation Authority
<b>DECC:</b>	Department for Energy and Climate Change
<b>CGT:</b>	Capital Gains Tax
<b>CSR:</b>	Comprehensive Spending Review
<b>CT:</b>	Corporation Tax
<b>CTSA:</b>	Corporation Tax Self Assessment
<b>DfT:</b>	Department for Transport
<b>DSO:</b>	Departmental Strategic Objective
<b>EFS:</b>	Expenditure and Food Survey
<b>EU:</b>	European Union
<b>FES:</b>	Family Expenditure Survey
<b>FSS:</b>	Family Spending Survey
<b>GB:</b>	Great Britain
<b>GDP:</b>	Gross Domestic Product
<b>GHS:</b>	General Household Survey.
<b>GLS:</b>	Government Lifestyle Survey
<b>HGV:</b>	Heavy Goods Vehicles (bigger than 3.5 tonnes)
<b>HMRC:</b>	Her Majesty's Revenue & Customs
<b>HRT:</b>	Hand Rolling Tobacco
<b>HSE:</b>	Health Survey for England
<b>IHT:</b>	Inheritance Tax
<b>IPS:</b>	International Passenger Survey
<b>IRS:</b>	Internal Revenue Service (United States)
<b>IT:</b>	Income Tax
<b>LBS:</b>	Large Business Service

<b>LCF:</b>	Living Cost and Food Survey
<b>LFS:</b>	Labour Force Survey
<b>MTIC:</b>	Missing Trader Intra-Community fraud
<b>NAO:</b>	National Audit Office
<b>NI:</b>	Northern Ireland
<b>NICs:</b>	National Insurance contributions
<b>NTS:</b>	National Travel Survey
<b>NUKDP:</b>	Non-UK-Duty Paid
<b>OECD:</b>	Organisation for Economic Co-operation and Development
<b>ONS:</b>	Office for National Statistics
<b>PAYE:</b>	Pay As You Earn
<b>PBR:</b>	Pre-Budget Report
<b>RTS:</b>	Road Traffic Survey
<b>SA:</b>	Self Assessment
<b>SDLT:</b>	Stamp Duty Land Tax
<b>SME:</b>	Small or Medium Enterprise
<b>UK:</b>	United Kingdom
<b>VAT:</b>	Value Added Tax
<b>VTTL:</b>	VAT Theoretical Tax Liability