The UK Tax Gap

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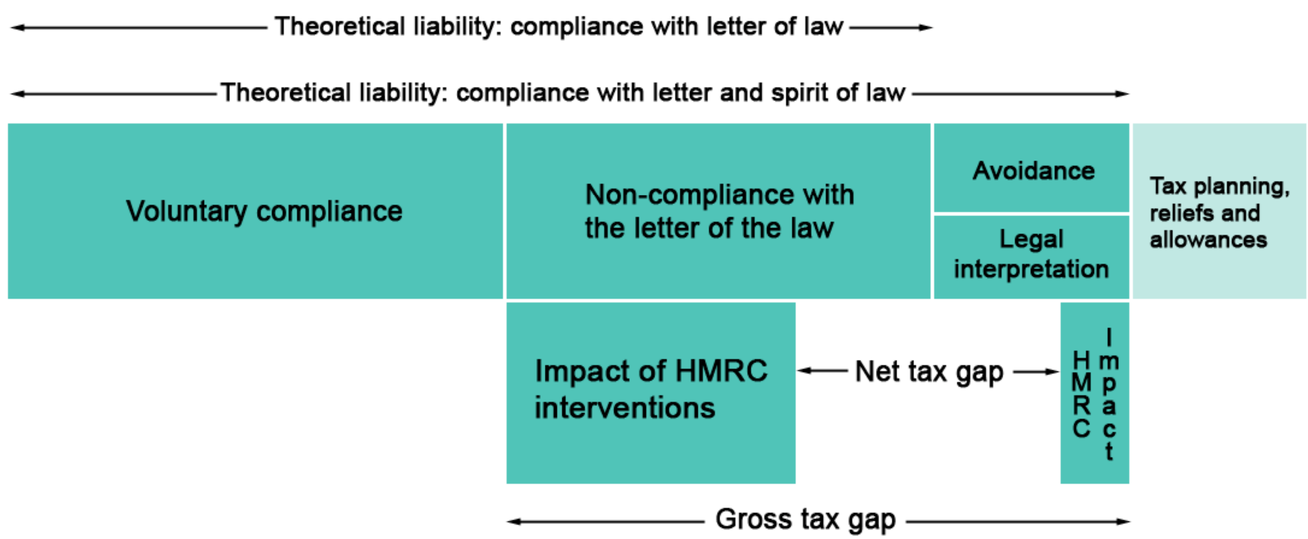
- **What is the tax gap?**
- The size of the UK tax gap
- Measurement of the UK tax gap
- Case studies & discussion:
  - Direct taxes
  - Indirect taxes
- How tax gap estimates are used in the UK

Defining the tax gap

- We define the tax gap as the difference between the tax that is paid and the tax that we consider should be paid. It therefore includes amounts we consider should be due in accordance with the spirit of the law as well as the letter of the law.



- This definition is a product of what we use tax gap analysis for – to assess the threats to the tax base. Differences over the interpretation of the law can lead to substantial losses in tax against expected receipts and increase HMRC's operational costs so are an important part of the picture.

Why measure the tax gap ?

HMRC objectives

- Closing the tax gap is part of HMRC's vision – measuring the reduction is one way to show the impact of our compliance work
- Genuine area of public interest, especially in UK's deficit agenda
- Understanding the components of the tax gap is an important part of strategy development…particularly if we understand how our activities affect the tax gap

- But…
- Limits in coverage, accuracy and timeliness. Detailed policy proposals use tax gap analysis as context but are developed using much more specific costings
- Every country has a tax gap although few publish estimates of it.

Policy & fiscal objectives

Example:

If the general VAT rate is x%, its yield should approach 1/2 x% of GDP (rule of thumb)

With a standard rate of 17.5%, the UK revenue productivity is around 1/3 x% of GDP.

This is around average for the OECD.

Why the shortfall? Is it a policy gap - reliefs & allowances - or a compliance gap?

	VAT as % of GDP
1992-93	6.0
1993-94	6.0
1994-95	6.0
1995-96	5.9
1996-97	6.0
1997-98	6.1
1998-99	6.0
1999-00	6.1
2000-01	6.0
2001-02	6.0
2002-03	5.9
2003-04	6.1
2004-05	6.1
2005-06	5.8
2006-07	5.9
2007-08	5.8

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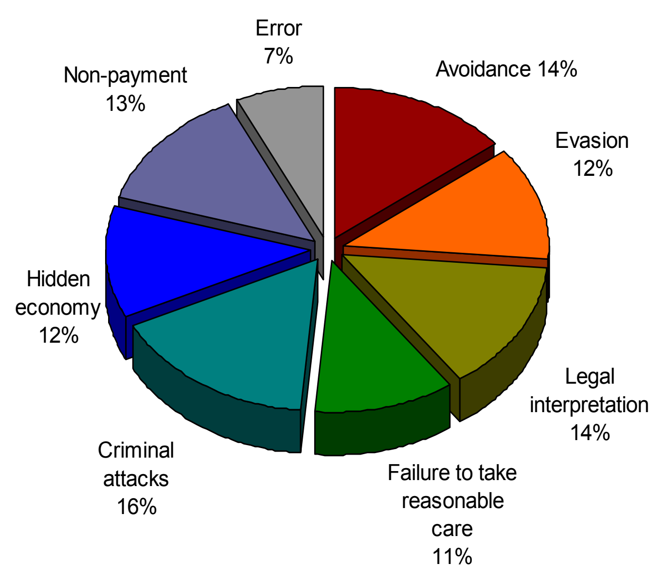
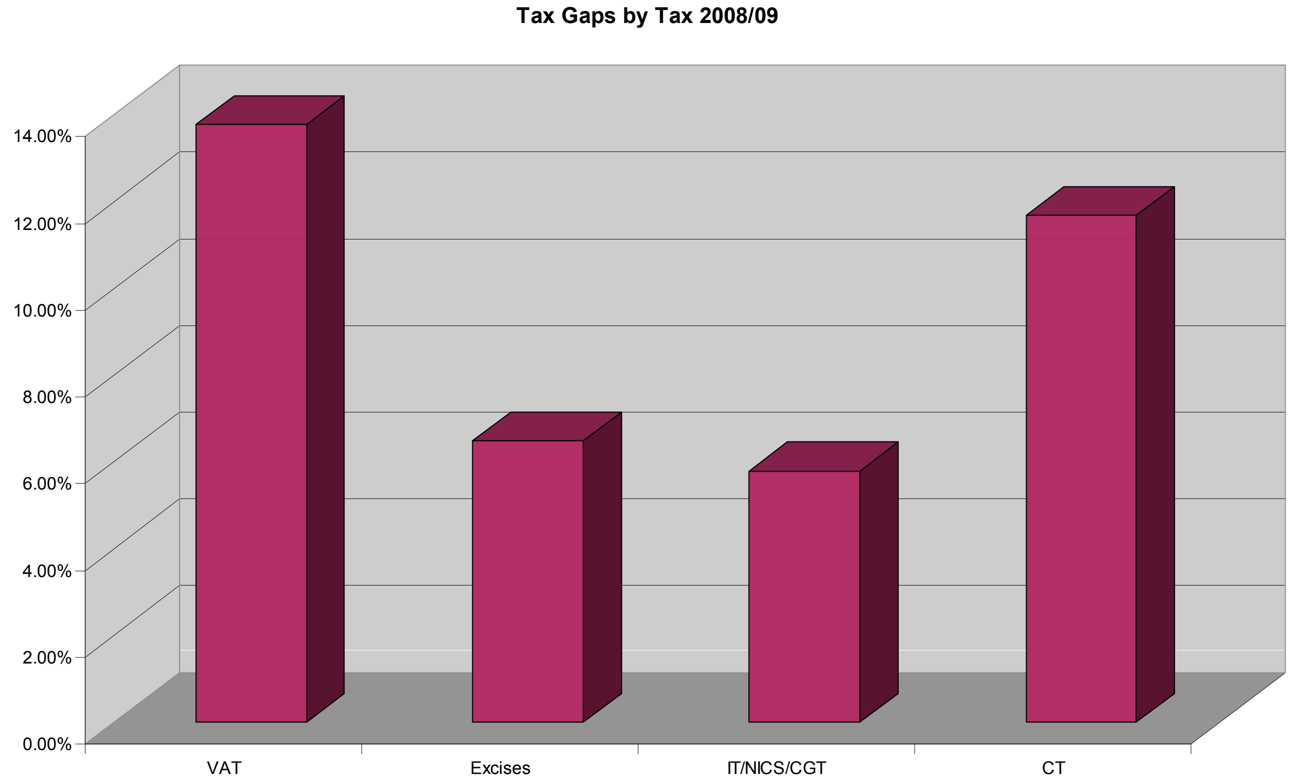
The tax gap

- On September 21st 2011 the latest estimate of the UK tax gap was published: http://www.hmrc.gov.uk/stats/mtg-2011.htm It related to 2009-10 and amounted to **£35bn or 8% of theoretical liabilities**. This is the net tax gap – ie after HMRC's compliance activities.

Tax gap broken down by behaviour



Tax gap by tax



In 09/10 VAT had the largest tax gap followed by CT. IT has the smallest tax gap – largely because the bulk is collected through PAYE. This is not unexpected as research shows that tax gaps are higher for taxes that do not operate withholding regimes where there is less opportunity to understate income levels. The tax gap for income tax paid by the self employed is much higher

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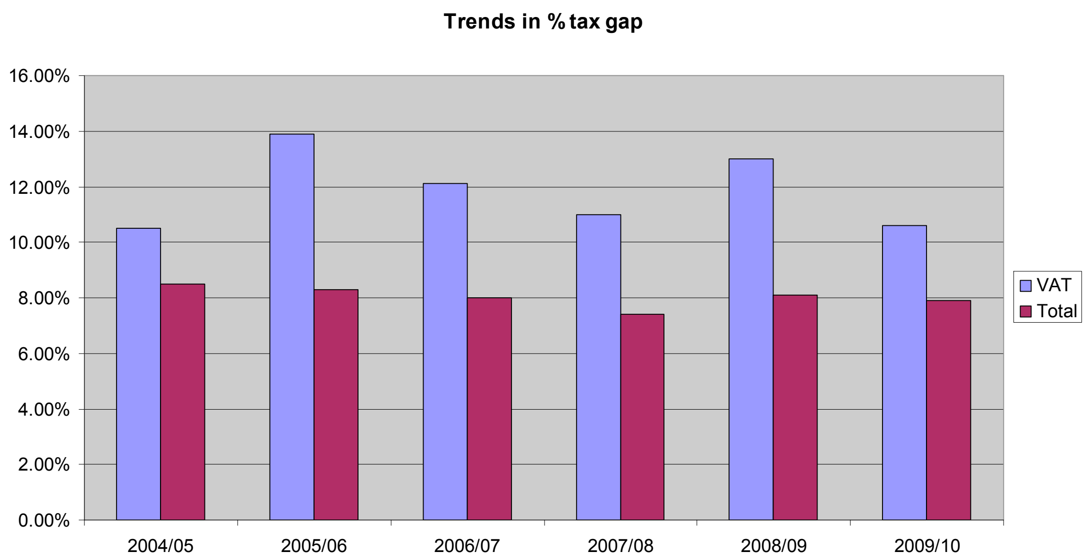
Tax gap - trends



- Overall the tax gap fell in percentage terms between 2004/05 and 2007/08. It rose again in 2008/09 – largely as a result of the increasing VAT gap driven by payment problems arising from the recession.
- ***Note****: VAT Gap figures revised in December 2011 (http://www.hmrc.gov.uk/stats/vat-gap.pdf), but tax gap totals not yet adjusted.*

Other calculations

- Alternative calculation of £120bn by Tax Research LLP. This is deeply flawed but commonly referred to. The main issues are:-
  - Inclusion of all debt;
  - Counts use of any allowance/relief as avoidance;
  - Use of VAT gap to estimate direct tax gaps;
  - Ignores compliance yield.
- Econometric estimates of the Hidden Economy. Cash in circulation models (deeply flawed) and Income/Expenditure models. These methodologies typically produce answers of 10% and higher. The results seem incredible – for example they imply of the order of 4m taxpayers under-declaring £50k income. This directly contradicts our operational data and customer insight.

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Current tax gap measurement techniques

- Top down (indirect taxes)
  - Using independent data sources on consumption
- Bottom up (direct taxes)
  - Random enquiries
  - Risk registers
  - Data matching
- Expert opinion

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Tax Gap methodology – Indirect Taxes

Broadly speaking there are two methods

- **Indirect taxes** are primarily estimated using a **top down** approach.
- This means the tax gap for each tax is estimated by subtracting tax paid from an estimate of total tax due.
- Total tax due is estimated using data sources on consumption that are independent of HMRC.
- This methodology is used for estimating indirect tax gaps such as for VAT and Excises as the appropriate tax rates can be applied to aggregate consumption data.
- A benefit from this approach is that all elements of the tax gap are necessarily included although it can be difficult to work out what the constituent elements of the gap are.

Tax Gap methodology – direct taxes

•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.

•Therefore a **bottom up** approach is used. Components of the direct tax gaps are estimated separately for different customer groups and types of non-compliance using internal data sources.

•The main methods used to estimate direct tax gap components are:

- Random enquiries: Using the results from randomly selected checks on tax returns.
- Risk registers: Analysis of expert assessments of potential losses from identified avoidance and large business tax risks.
- Data matching: Matching data from different sources to identify undeclared income or assets.

•As these are bottom up estimates it is not guaranteed that all elements of the tax gap have been included although the methodology does provide for an understanding of what each element of the gap is.

Expert opinion

- Used where no suitable data source exists
- Enables full picture of tax gap to be estimated
- Opinion on tax gap as proportion of total receipts
- Used to produce tax gap estimates for Inheritance Tax and Stamp Duties
- Issues – accuracy, no trend analysis, detail breakdowns not possible

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Methods in detail

Tax	Method	Tax	Method
VAT	Top down	IT – inaccurate ITSA return	Random enquiries
Excise	Top down	IT – inaccurate SME PAYE	Random enquiries
Other Indirect taxes	Illustrative	IT – inaccurate Large PAYE	Illustrative
CT - LBS	Risk register	IT – avoidance	Risk register
CT – Large and Complex	Illustrative/risk register	IT – ghosts	Illustrative
CT – SME	Random enquiries	IT – moonlighters	Illustrative
PRT	Illustrative	IT – non-return individuals	Data matching
Stamp Duty	Illustrative/risk register	IHT	Illustrative
		Direct tax non-payment	Direct MIS

(yellow)	Established methodology, annually updated	(dark grey)	Developing methodology, annually updated	(light grey)	Experimental methodology, not annually updated

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VAT Gap

The top-down approach

VAT and the VAT Gap

- VAT is a transaction tax, charged on outputs and recovered by businesses on those inputs used to create taxable outputs
- Net receipts are the difference between the two
- Two-thirds of net receipts from household consumption
- One-third from ‘exempt’ sector (non-recoverable input tax), Government, Local Authorities &c
- VAT Gap calculation:

Net VAT Theoretical Tax Liability (VTTL) - Actual VAT Receipts = VAT Gap

Basic methodology

Five main stages for top-down approach:

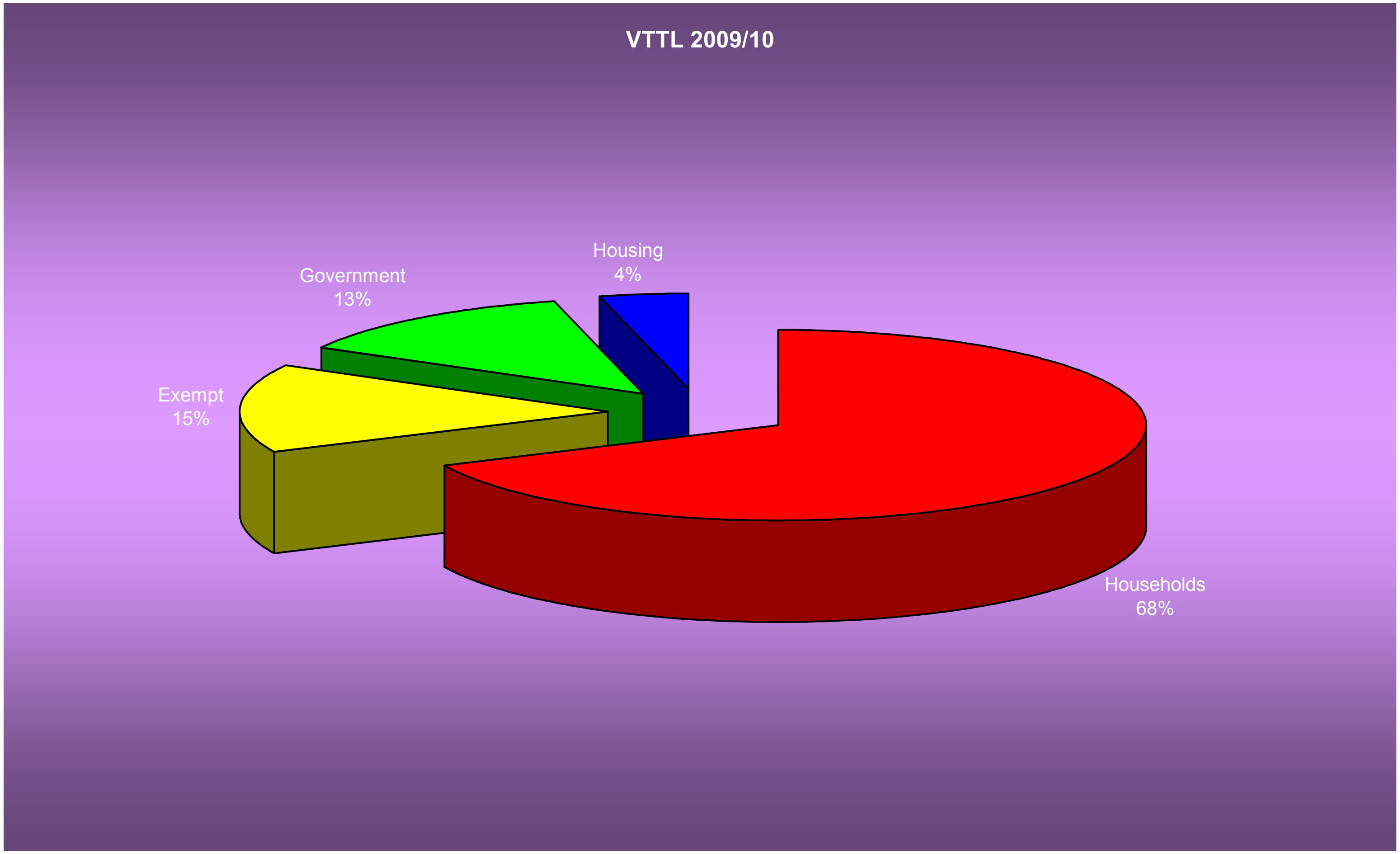
1. Assess the total amount of expenditure in the national economy that is theoretically liable for VAT
2. Estimate the VAT liability on that expenditure
3. Deduct any legitimate reductions - schemes and reliefs
4. Subtract actual VAT receipts
5. Residual element = Total VAT loss (assumption)

VAT Theoretical Tax Liability (VTTL)

- Theoretical amount of VAT that would be collected in an ideal world, ie no fraud, evasion, avoidance, non-compliance, errors etc.
- Model identifies various categories of expenditure in the economy
  - Determined by type of good or service provided
  - Classified by commodity into respective VAT liabilities
  - Identify expenditure liable to VAT (VAT-able Expenditure)
- Multiply the expenditure by appropriate VAT rates
- Sum VAT due by expenditure category

Five main components of spending have been identified…

Five spending components within VTTL:



1. Household consumer expenditure

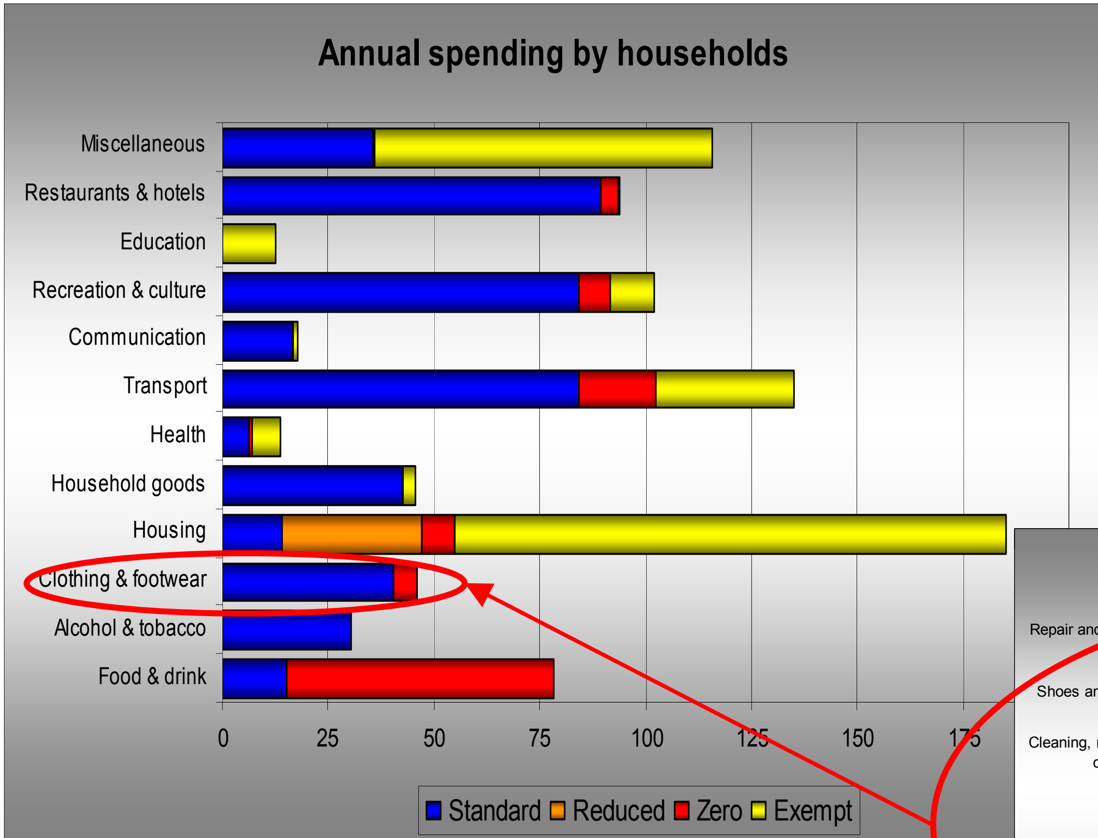
- Largest component of VTTL
- Can allocate almost all spending directly to the correct VAT liability

Data modelling

- Office for National Statistics (ONS) quarterly Consumer Expenditure series
- Based on household Expenditure & Food Survey
- Disaggregated to product level
- Allocate VAT rate to product type (no averaging)
- Sum for total expenditure

Relatively small margin of error............

A mixture of rates in consumer spending



Source: ONS 'Consumer Spending', 2008 data

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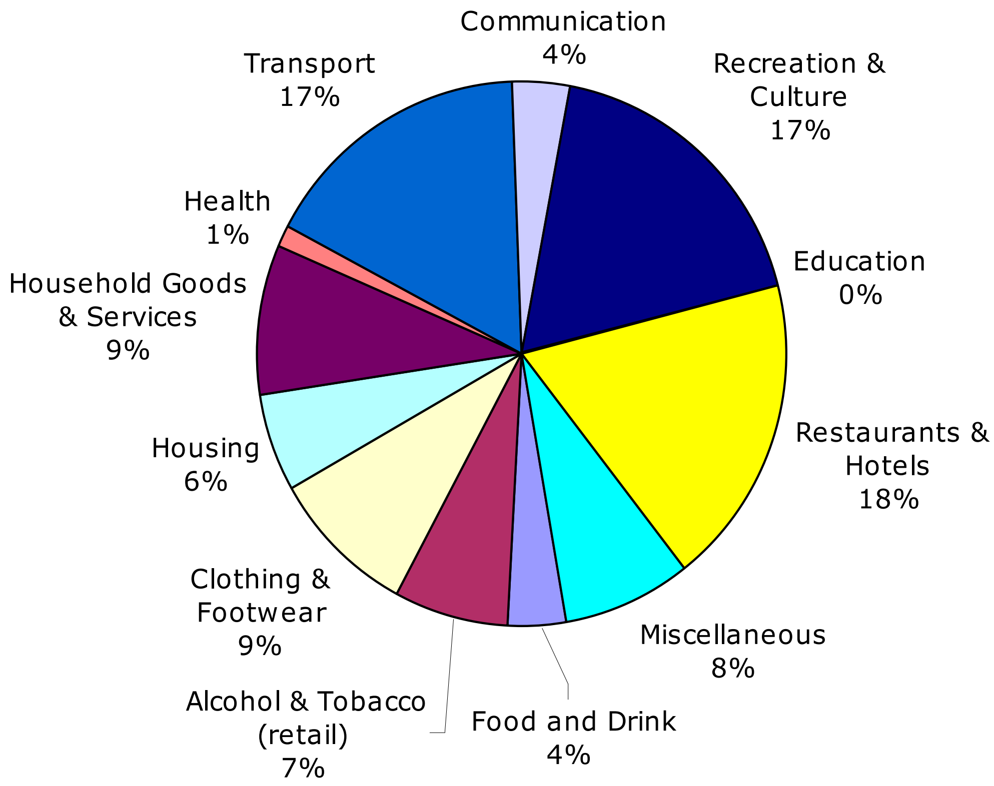
Stuck VAT for the household sector



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2. Government expenditure

VTTL and VAT receipts are net of refunds to Government Departments

•Data source – ONS, based on Departmental accounts

•Supply-Use tables for detailed breakdown 2-3 years in arrears

Surprisingly volatile series......

3. Housing

Current and capital expenditure

- Data source – ONS, HMRC (DIY scheme)
- Capital expenditure: alterations, improvements, new dwellings

4. Charities

Least contribution to VTTL

- Uncertain figures, sporadic data collection

5. Exempt sector

Most complicated sector

Three main types of exempt expenditure:

1. Businesses making VAT exempt supplies (banking, insurance, health &c)
2. Expenditure subject to input tax blocking orders – business cars, corporate hospitality
3. Expenditure by micro businesses below the VAT threshold

- Data source - ONS, HMRC
- Expenditure breakdown from ONS Supply-Use tables
- Input tax blocks estimated from business surveys

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Some last adjustments ….

- Adjust VTTL to account for
  - Schemes and reliefs (eg small consignment relief)
  - Litigation impacts (eg three year cap)
  - Policy measures
  - Isle of Man revenue sharing arrangement
  - Timing effects (+/- ½ pp)

Overall, adjustments making a big difference - c. 2-3pp - to final results …..

Net VAT Theoretical Tax Liability (VTTL) - Actual VAT Receipts = VAT Gap

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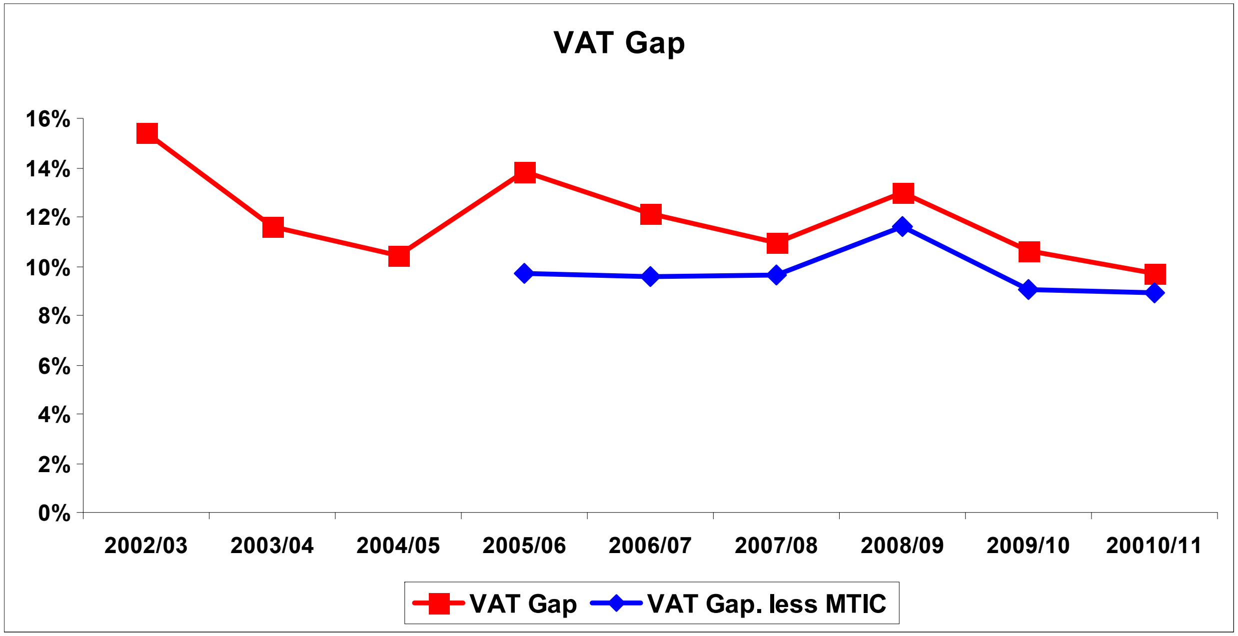
Results

How has the UK done in recent years?

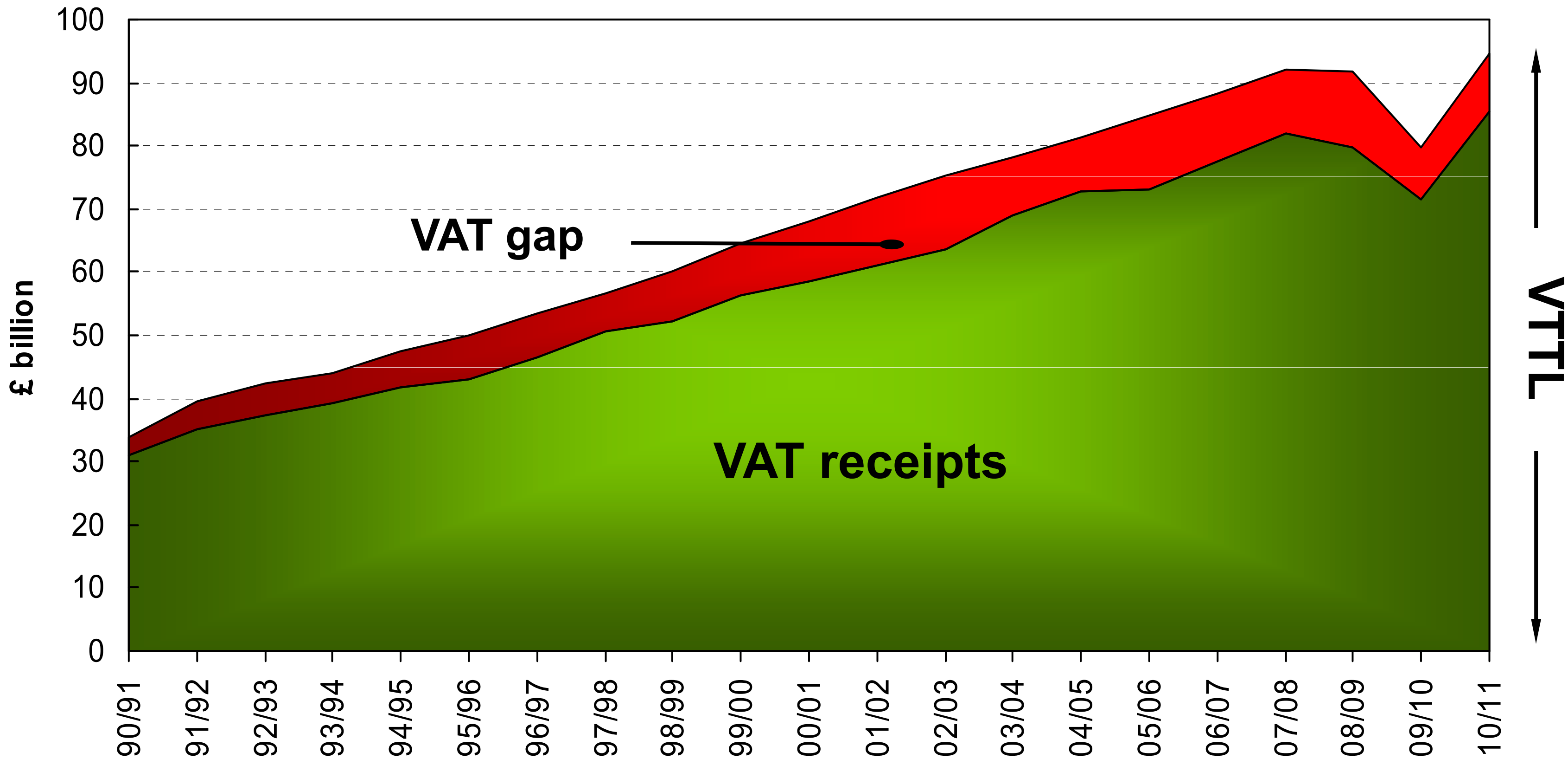


£ billion	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
VTTL	84.7	88.3	92.1	91.7	79.9	94.7
VAT Gap	11.7	10.7	10.1	11.9	8.5	9.2

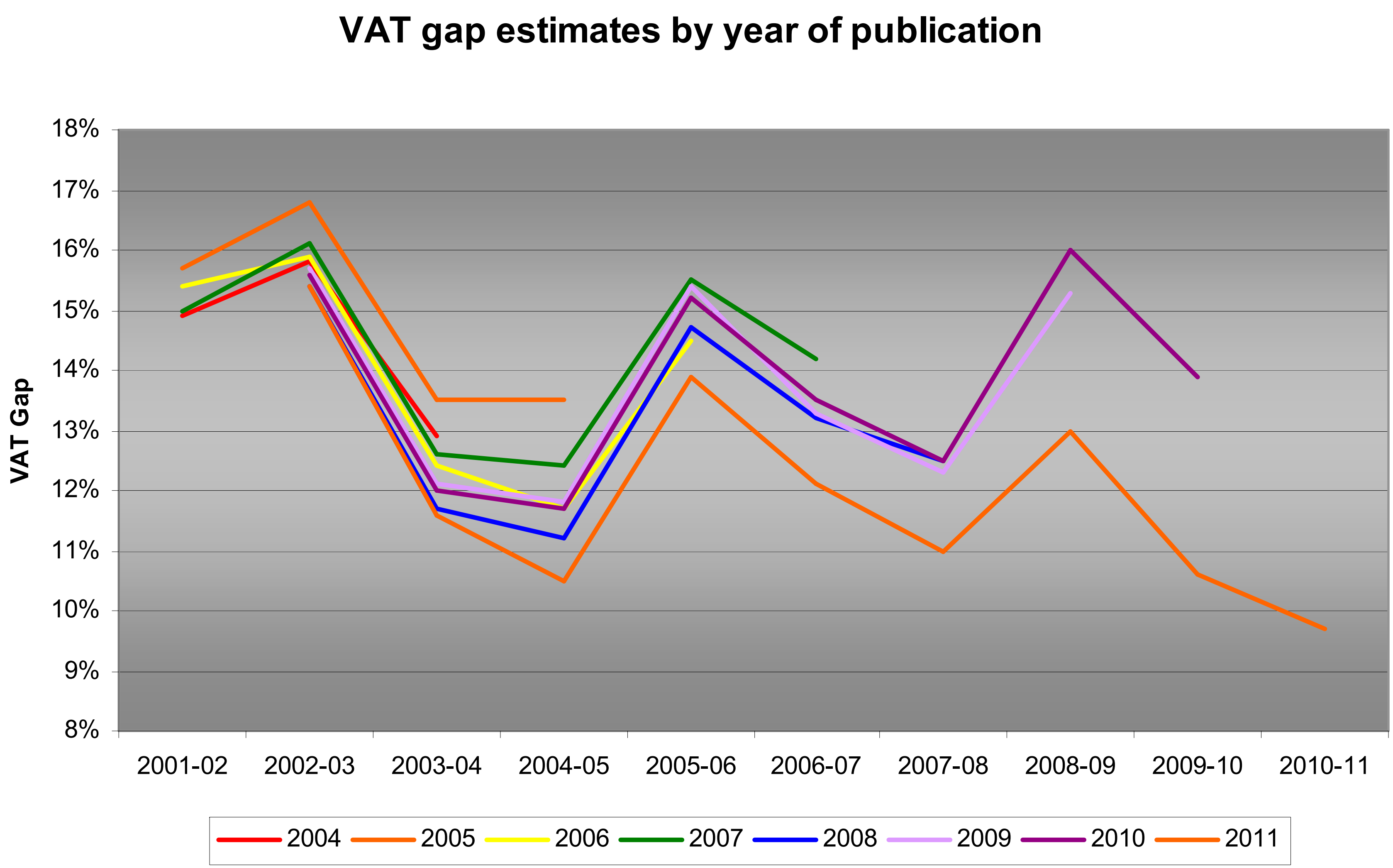
Source: *Provisional VAT gap estimates: Official Statistics Release*, HM Revenue & Customs December 2011 (NB: mid-range MTIC estimates)

In the longer term ….

Results 1990/91- 20010/11



The VAT Gap is only an indicator of levels



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The VAT Gap in HMRC's administration of VAT: costs & benefits

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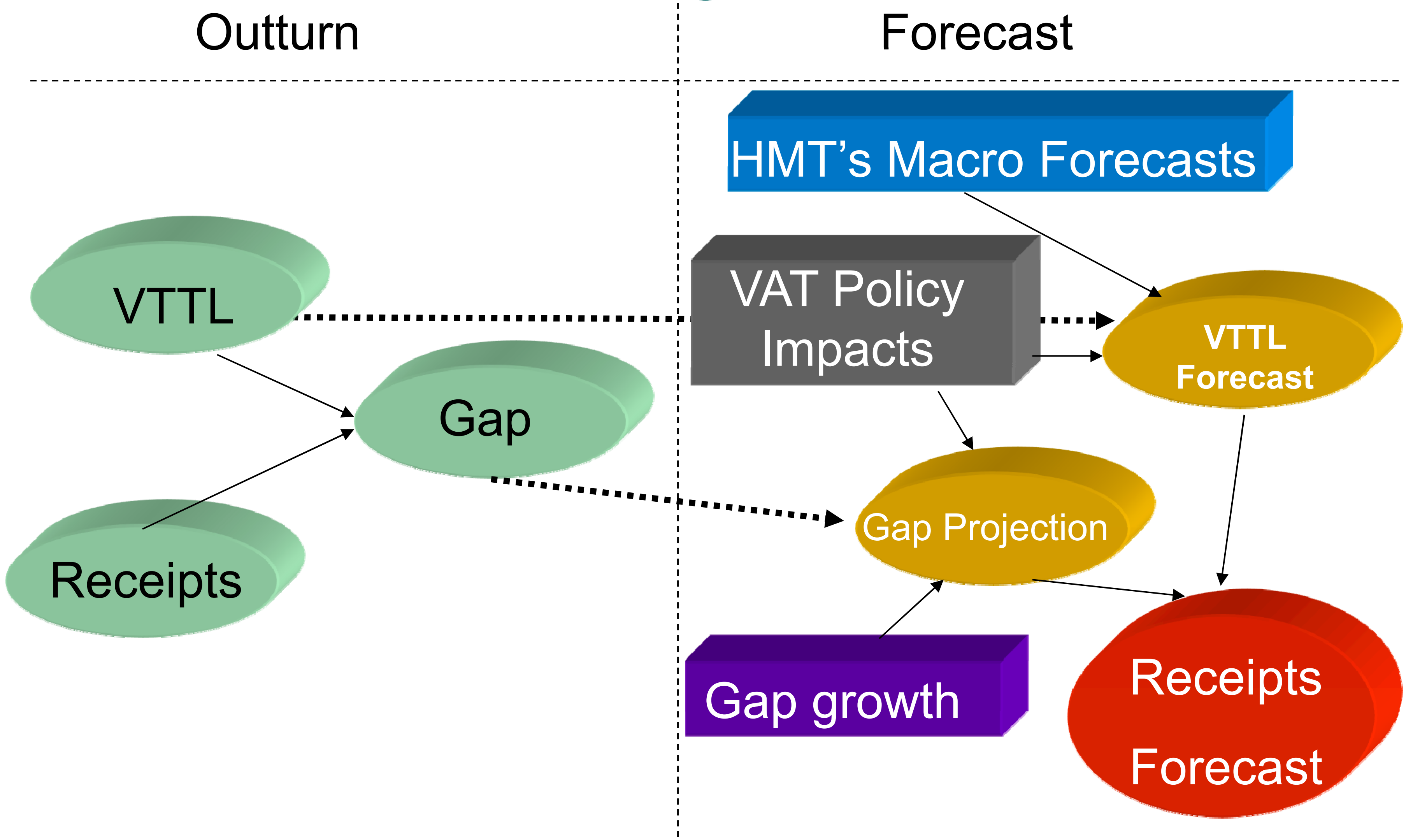
VTTL & VAT Gap

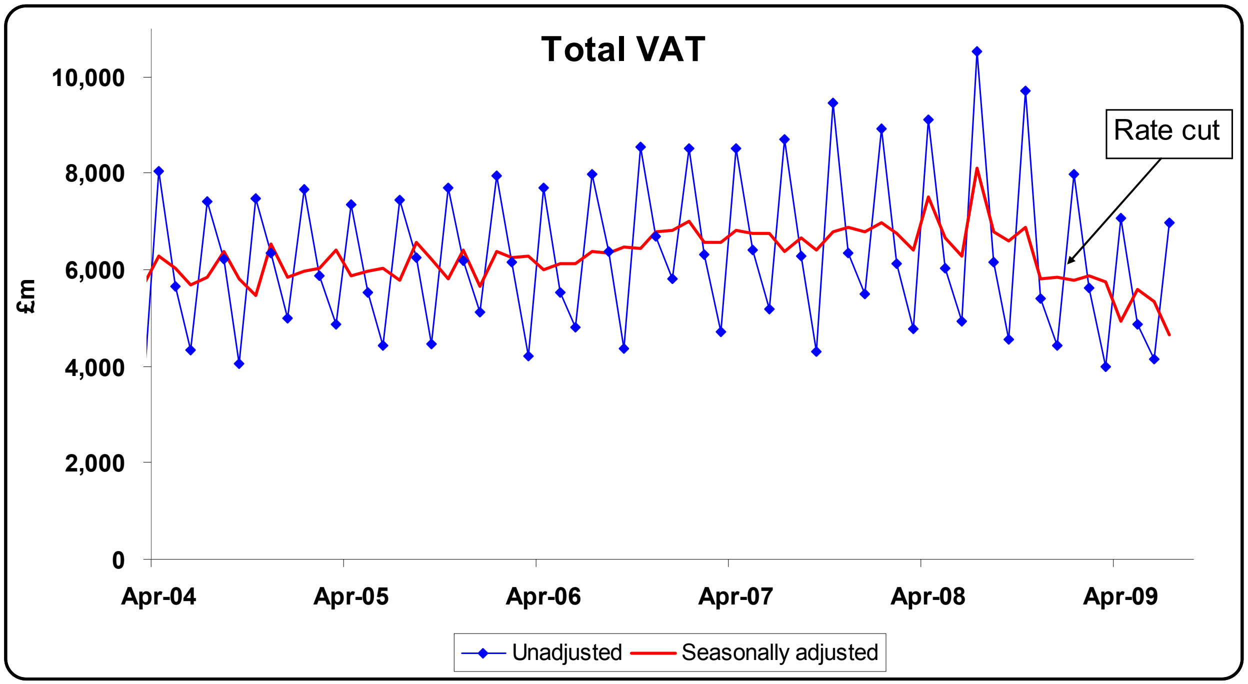
- Use mainly National Accounts data so largely independent
- Allows more sophisticated models
    - forecasting future receipts
    - costing policy options
- Robust measure of trend over time
- Will pick up **all** losses
    - monitors tax base
    - allows performance indication

The VAT Forecasting Model



Did the recession affecting the VAT Gap?

- Yes
- Receipts did this:



- Debt was the biggest issue ….

What the VAT Gap costs

- Heavy initial investment – both analysts and tax specialists
- Ongoing cost – one full-time equivalent statistician per year
- Exempt sector particularly time-consuming

But ….

- Resources allocated are a function of value, ie use
  - Simpler, less precise versions can be a fraction of cost
  - Is updating in real-time required?

Can be uncomfortable for stakeholders to live with ……..

Summary

The UK VAT Gap is not rocket science

- A pragmatic, robust measure of losses
- Though detailed in execution, it is conceptually simple
- Embeds tax performance in policy and operational models
- Embeds compliance and performance at the heart of VAT analysis
- Appreciable development and maintenance costs, <u>but</u>
- Reliable, real-time indicator of significant change (+/- 0.5pp?)

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VAT Gap

The bottom-up approach

(estimating components of the VAT Gap)

What is the VAT Gap?

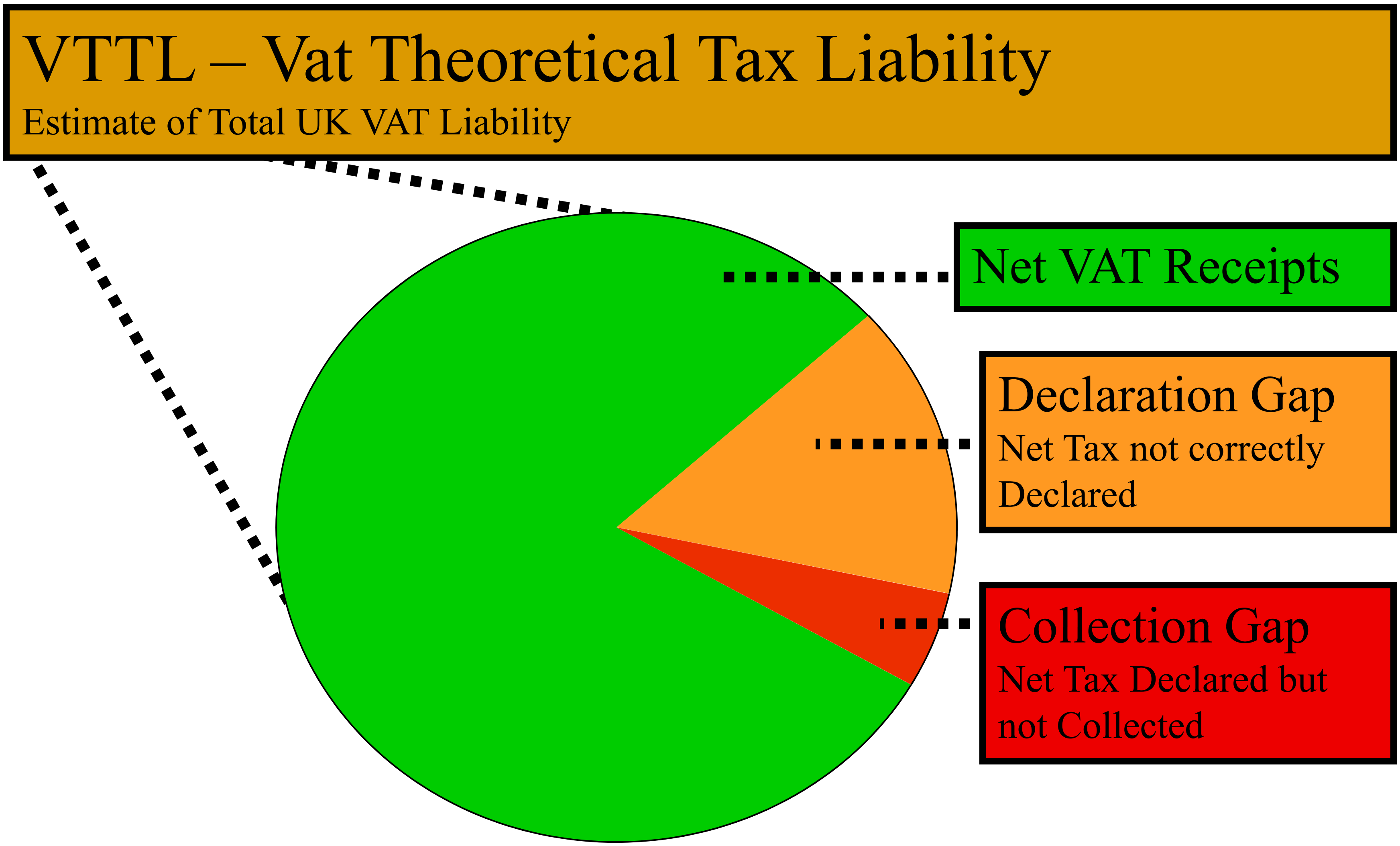


Diagram for Illustration only

Bottom-up VAT Gap

The elements of the tax gap are:

- General non-compliance
- Avoidance
- Partial Exemption
- Debt/Payment Gap
- Failure-to-register (informal economy)
- Serious non-compliance
- Other missing
- Missing Trader Intra-Community (MTIC) fraud
    - Carousel
    - Acquisition fraud
    - Contra-trading
    - Other

MTIC

Missing Trader Intra-Community (MTIC) fraud involves two elements:

- a defaulting trader, literally a trader that defaults on its VAT liability without paying the tax due;
- goods being traded, which to a large extent in Carousel and contra-trading variants are irrelevant and are only present in order that the fraud can be perpetrated. The fraud may also be perpetrated with no goods being involved.

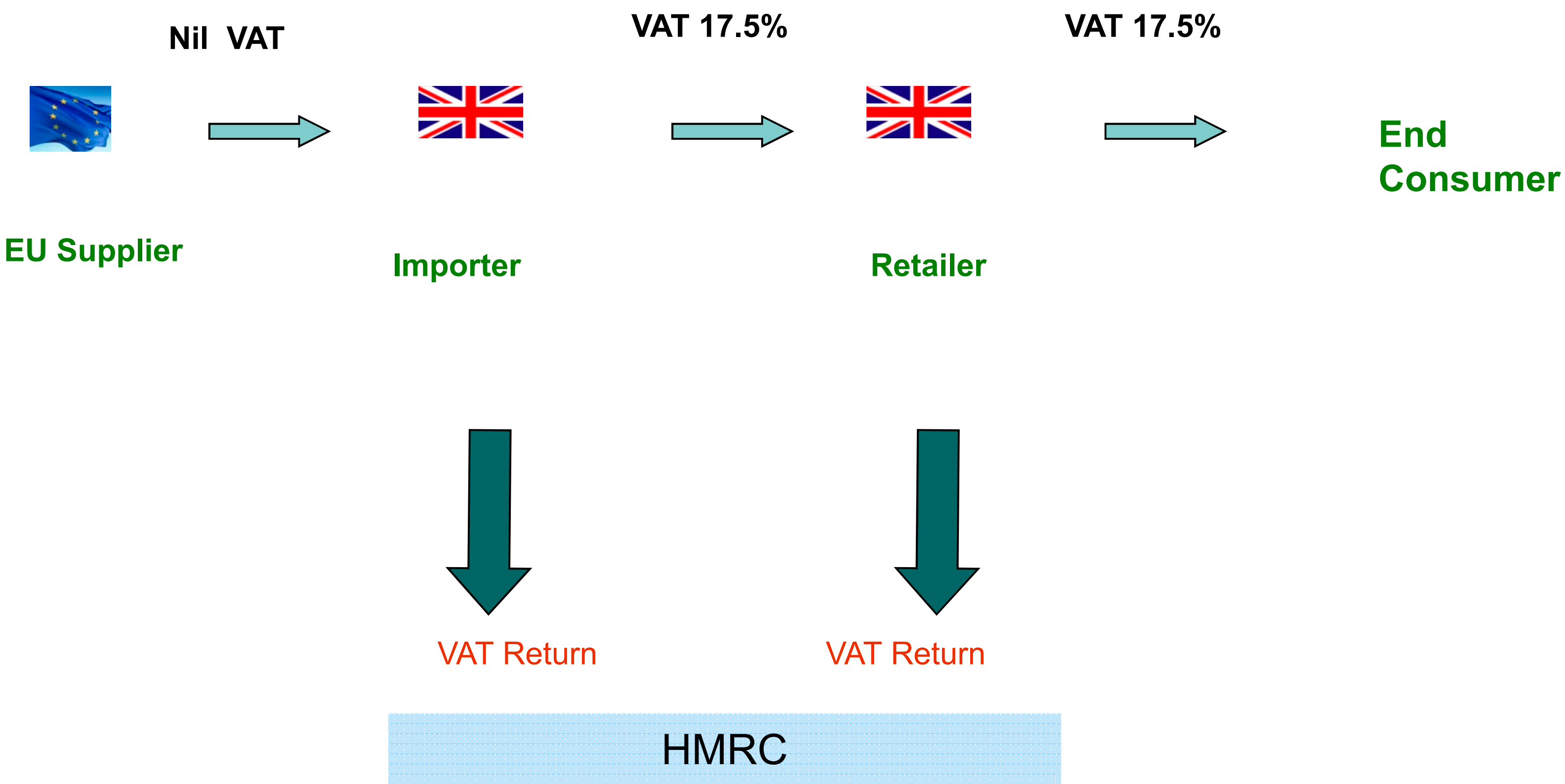
The method used to produce MTIC fraud estimates is a bottom up approach, based on operational evidence. This method is used to produce estimates of attempted fraud and its impact on VAT receipts.

Three variants identified:

1. **Acquisition fraud;**
2. Carousel fraud;
3. Contra-trading.

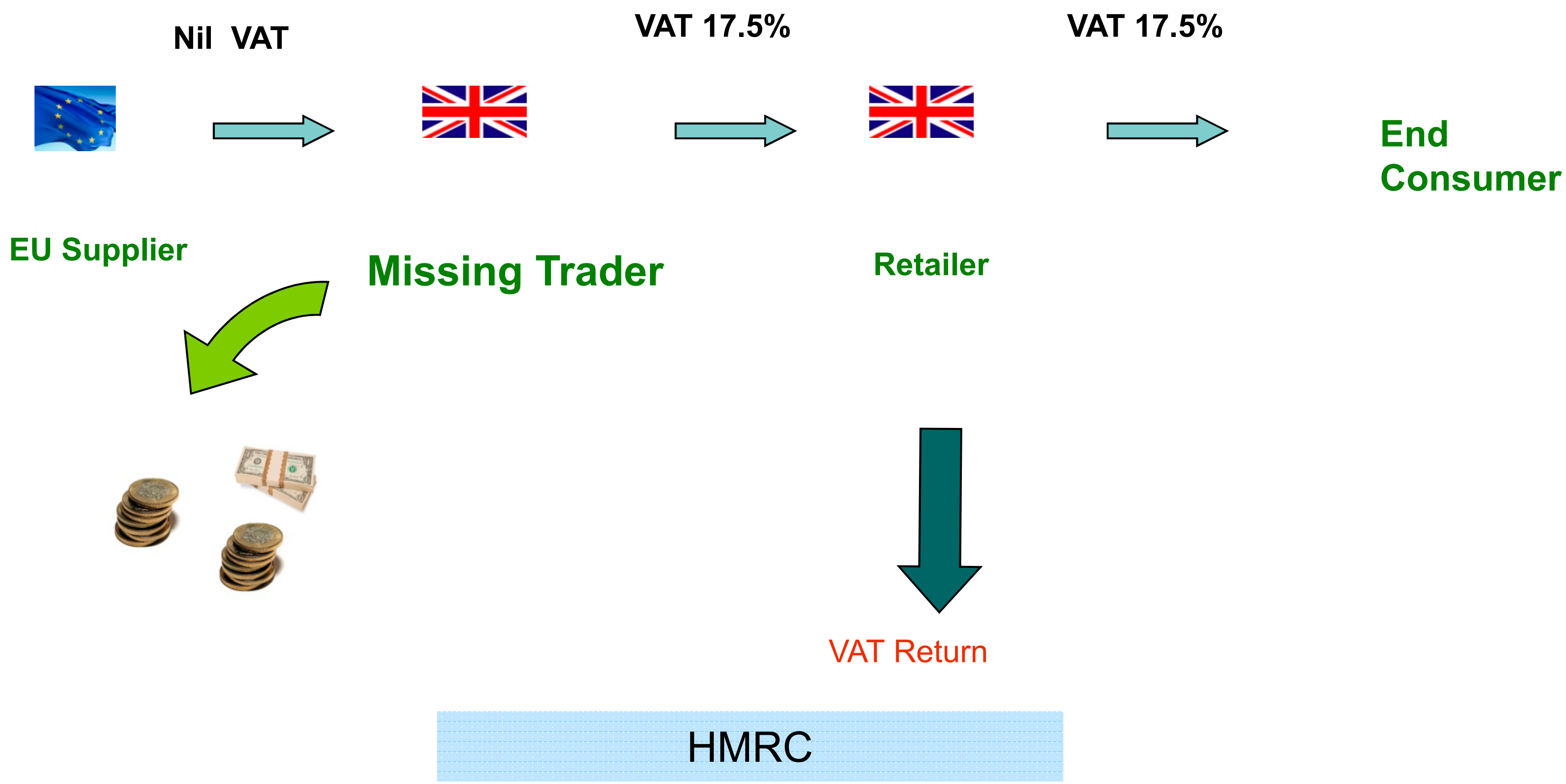
Acquisition fraud

A legitimate chain looks like:



Acquisition fraud

An illegitimate chain looks like:



Acquisition fraud

A "top-down" approach was used to assess whether acquisition fraud was present for high risk commodities based on annual data on the production, consumption, import and export.

Supply is defined as: *Production* + *Imports* – *Exports*

We assume that any positive difference between consumption and supply is acquisition fraud.

Carousel fraud

The more abusive form of the fraud. It involves the same goods being traded around contrived supply chains within and beyond the EU, with the goods re-entering the UK.

A measure based on operational information has been developed.

Excise duties

Excise tax gaps - calculation

Illicit market = Total consumption – legitimate consumption

Legitimate consumption = Duty paid consumption + cross-border shopping

Tax gap = Illicit consumption x (duty rate + VAT rate)

Cigarettes tax gap

- Total consumption:
  - Household survey data from prevalence and consumption per smoker in the ONS General Household Survey, available 18 months in arrears
  - Adjusted for under-reporting:
    - Upper bound: assume no illicit consumption in base year and index using prevalence
    - Lower bound: assume no illicit consumption in base year and index using consumption
- Legitimate consumption:
  - Duty paid: clearances of duty paid goods (HMRC data, less forestalling)
  - Cross-border shopping & duty free sales: ONS International Passenger Survey + commercial data

Hand-rolling tobacco tax gap

- Essentially the same methodology as for cigarettes, but uses HMRC-commissioned data from the ONS Omnibus survey
- Omnibus data used to allow for consumption of hand-rolled tobacco by smokers who use both tailor-made and hand-rolled cigarettes
- Required because hand-rolling tobacco easier to smuggle than cigarettes, and appeals to lower income demographics
- Thus, UK has a historic issue with smuggled hand-rolled tobacco
- (But hand-rolling tobacco has only a minority share of the overall tobacco market)
- Used to use HMRC's own annual survey of smugglers, but selection bias became a problem ....

Excise tax gaps – errors

Sources of error:

- Sampling error: consumption estimates derived from sample surveys
- Under-reporting, though corrections made
- Bias from assumptions eg no illicit market in base year

Represented by:

- Spirits and cigarettes: vary assumptions to give range
- GB diesel: statistical confidence intervals

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Random enquiry programmes

- Samples of taxpayers selected at random and returns subject to enquiry by HMRC officers
- 3 direct tax programmes (plus one for VAT):
  - Individuals subject to Self Assessment
  - Companies subject to Corporation Tax Self Assessment
  - Employers (compliance with operation of PAYE schemes)
- Focus on individuals and small and medium-sized businesses

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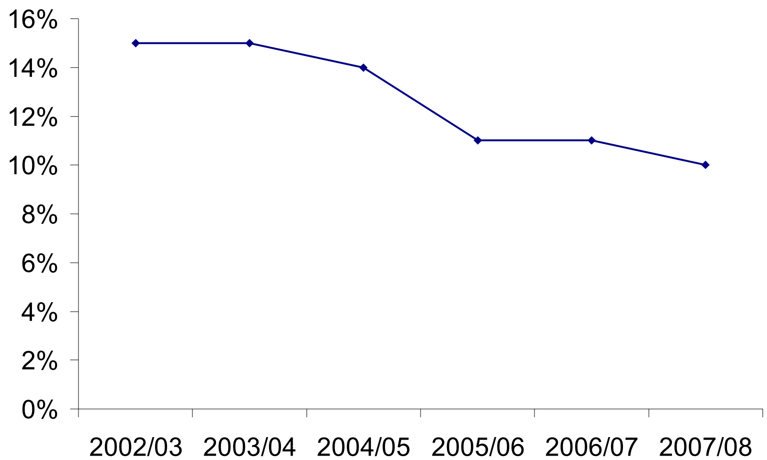
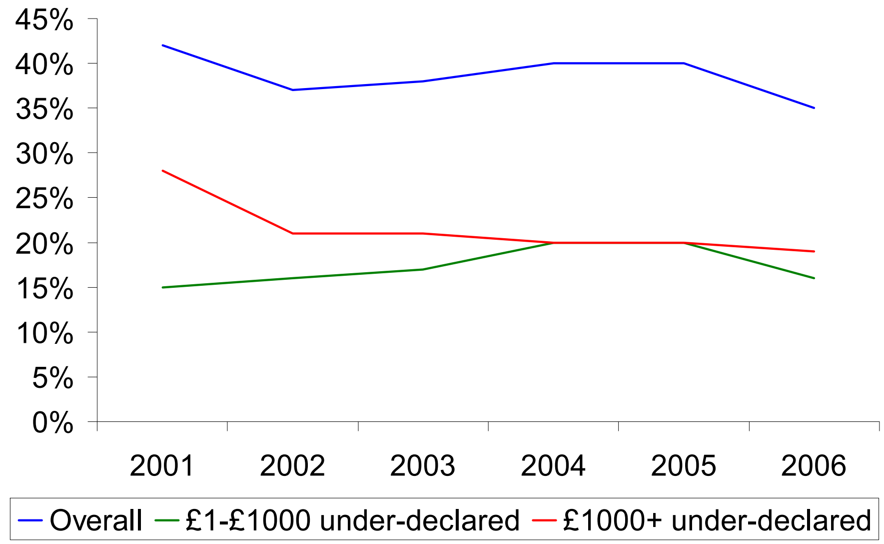
Results from random enquiries

Self Assessment tax gap - individuals



Proportion of non-compliant CTSA businesses



Issues with random enquiry programmes

- Time lags in production of estimates

  ➔ Estimates ‘up-rated’ using GDP series

- Non-detection of non-compliance

  ➔ IRS ‘multipliers’ applied

- Sampling variation

  ➔ Ranges provided around estimates

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Risk registers

- Information on expert assessments of potential losses from identified risks
- Used to produce tax gap estimates for:

  - Large Business Service – Corporation Tax

  - Avoidance of direct taxes
- Issues – annualisation, coverage

Data matching

- Analysis of third party information matched to HMRC data
- Assessment of extent to which taxpayers do not declare sources of income
- Used to produce tax gap estimate for individuals not receiving Self Assessment returns
- Issues – mismatching between sources, coverage of third party information

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How does HMRC use the tax gap?

- Compliance strategy tool
  - How much tax at risk
  - What are the major risks
  - Where and how are the risks occurring
  - Who is involved
  - Identifying new risks
- Used to plan strategic allocation of resources, eg for UK Government's Spending Review 2010 (KAI E&C's Compliance Resource Allocation Model – CRAM)
- Official Statistics: annual publication of tax gap estimates

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HMRC Vision and Strategic Objective 1

HMRC Vision

- ***<u>We will close the tax gap</u>***, *our customers will feel that the tax system is simple for them and even-handed, and we will be seen as a highly professional and efficient organisation*

Strategic Objective 1

<u>Maximise revenue to close the tax gap</u>

- *Our objective is to provide the money for public services by maximising revenue to close the tax gap and improving the extent to which individuals and businesses receive the credits and payments to which they are entitled*

Tax Compliance Risk Overview (TCRO)

- Comprehensive assessment of compliance risks and issues for HMRC and HM Treasury senior managers
- Financial dimension of risk score based on tax gap estimates

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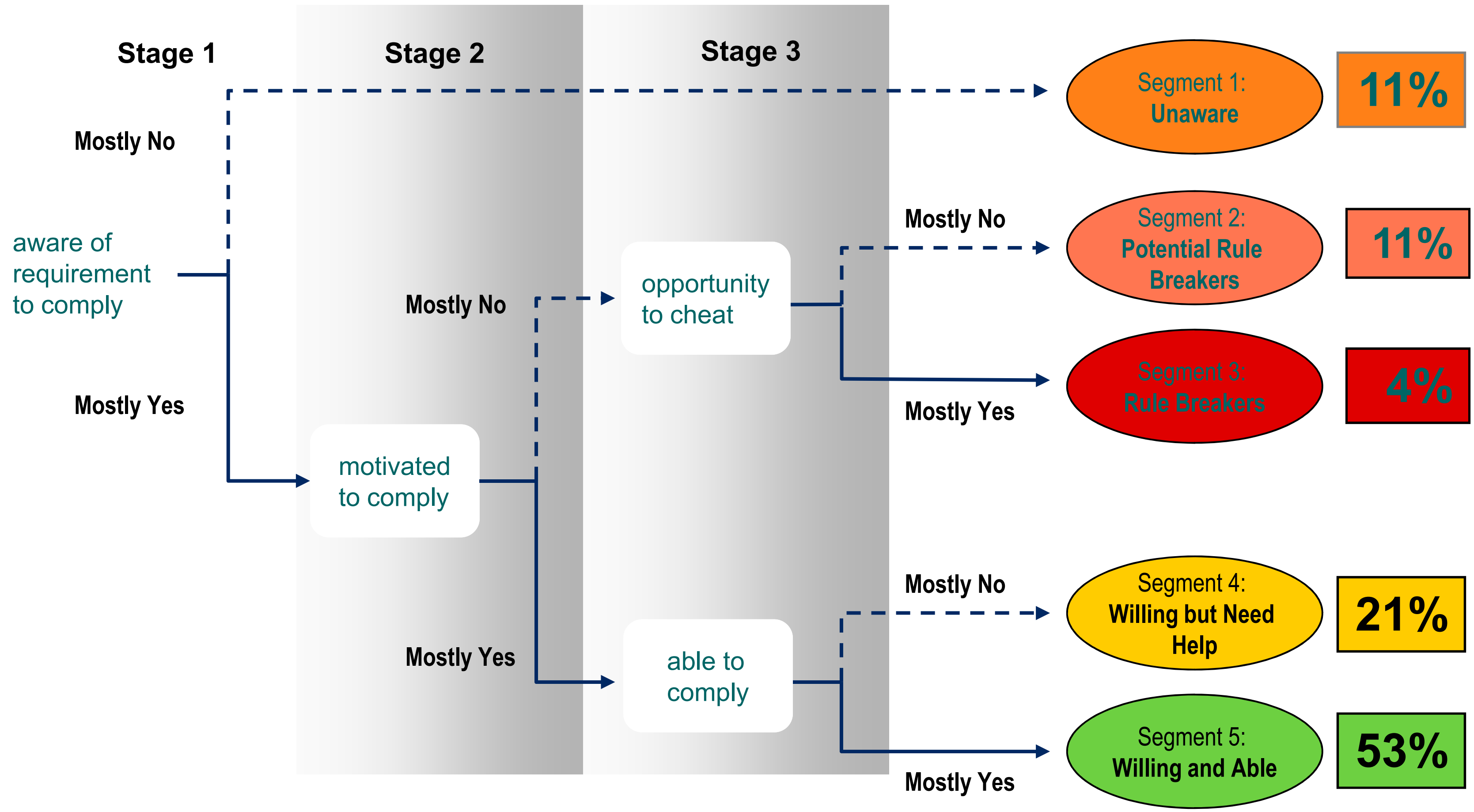
Segmentation overview for individuals



Note: additional segments for organised fraud and payment defaulters

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Evaluation: OECD framework

Outcomes can be viewed over short, medium and long term

Adapted from OECD Forum on Tax Administration: *Evaluating the effectiveness of compliance risk treatment strategies*

Publication

- Published in full in September each year
  - Allows external analysts to understand - and challenge - methodology
- Official Statistics covered by the UK Official Statistics Act
- Current administration's transparency agenda:
  - Allows public, and parliament, to monitor HMRC's performance
  - Informs public debate on taxation (fiscal deficit and austerity regime)
  - Counters special interest claims
- Publication strategy being reviewed

http://www.hmrc.gov.uk/stats/mtg-2011.htm
http://www.hmrc.gov.uk/stats/mtg-annex2011.pdf
http://www.hmrc.gov.uk/stats/vat-gap.pdf