

Developing Methodologies for Measuring Direct Tax Losses

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DRAFT

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1 Introduction

1.1. A rigorous analysis of the “tax gap” is an essential part of the compliance strategy for HMRC. It is used to understand the compliance issues facing the department and thus to develop strategic initiatives. Since 2001, HMRC has measured and published the scale of tax gaps from VAT (including Missing Trader Inter Community fraud) and the main excises – spirits, tobacco and oils. These gap measures are used as a key indicator of effectiveness and form part of the PSA targets for HMRC.

1.2. HMRC is committed to producing cross-tax estimates of the tax gap. In October 2007, alongside the Pre Budget Report, HMRC published a first iteration of this technical discussion document, which included estimates for the direct tax gap for small and medium companies and individuals.

1.3. For the first time today HMRC is publishing in this document estimates of direct tax revenue losses for large business and from avoidance. This document also discusses the methodological issues associated with estimating direct tax losses and sets out HMRC’s approach to further development of direct tax loss measures.

1.4. Estimating the scale of, and trends in, direct revenue losses is inherently difficult. Only two other countries have published analysis of direct tax revenue losses – Sweden and the US and the work is not widely attempted by governments around the world. Therefore HMRC is at the forefront of international work to develop estimates for a range of taxes and behaviours.

1.5. In general, two approaches can be employed to assess the scale of revenue lost from the tax system:

- **top-down method.** Estimates of revenue loss are produced indirectly by constructing an estimate of the total tax liability from sources independent of data collected for tax purposes, which is then compared with actual receipts;
- **bottom-up method.** Estimates of revenue loss are produced directly from departmental sources, such as surveys, administrative and operational data.

1.6. In principle, the top-down method is better as it is independent of both HMRC and taxpayers. In addition, it is more comprehensive because the estimates should cover all sources of losses. However, the top-down method requires sufficient data to be able to construct an independent estimate of tax liabilities. This is not always possible.

1.7. In contrast the bottom-up method is less comprehensive because by their nature many of the losses arise from activities that are deliberately concealed, and so are not covered by HMRC data sources.

1.8. The main sources of information on income are data collected for tax purposes so it is not possible to produce an independent measure of theoretical liability for direct taxes. Bottom-up measures are therefore being developed.

1.9. HMRC welcomes feedback on this paper from business, academic experts and other interested parties, with a view to discussing and, where possible, improving these methodologies further. To comment, or to request further copies of this paper, please use the following contact details.

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2. Methodologies

- 2.1. For indirect taxes, where HMRC have independent sources of data on spending and the structure of the taxes is relatively simple, it is possible to employ a top-down method.
- 2.2. For direct taxes there are no independent sources of data describing the taxable income for the various taxpayer populations. Moreover, the structures of the taxes are more complex and a range of tax rates may apply to different parts of taxpayers' incomes. As a result the only approach open to HMRC is the bottom-up method.
- 2.3. In this method an estimate of revenue loss is produced by using information acquired from HMRC compliance activities. Most compliance work is risk based, and it can be difficult to use the information gained from such enquiries to assess losses from other taxpayers. HMRC undertakes some random enquiries, the results of which can be used to extrapolate figures for some populations of taxpayers. HMRC has also recently introduced risk registers, from which information can be derived for other populations.
- 2.4. This section discusses the issues surrounding the methodologies currently employed in these areas of direct taxes, and sets out other possible approaches for other areas not covered by these methodologies.

Random Enquiries

Principle

- 2.5. Random enquiries are the technique most commonly used by fiscal authorities, particularly in the USA, to measure direct tax losses arising from inaccurate reporting of income. Random enquiry programmes are tightly controlled statistical exercises, where samples of taxpayers are selected at random and their returns subjected to full enquiries by HMRC officers.
- 2.6. HMRC has separate random enquiry programmes for Income Tax Self Assessment (SA), Corporation Tax Self Assessment (CTSA) and Employers. Full details of the populations covered by these programmes are given in the annexes.
- 2.7. HMRC's random enquiry programmes provide results on the proportion of taxpayers under-reporting their tax liabilities, and the corresponding amount of the additional tax due. The results can be used to produce a figure for tax losses for the whole population because the enquiries are randomly selected and form a representative sample.

2.8. A proportion of the losses identified will be recovered as a result of HMRC compliance activity. Moreover a small fraction of the liabilities will not be paid. To arrive at an overall net losses estimate, an estimate of non-payment is added to the figure for tax losses from the random enquiries while compliance yield is subtracted.

Issues

2.9. A number of issues arise from the use of random enquiry techniques to measure tax losses. These include statistical uncertainty and the timing of the availability of results.

2.10. The estimates presented in this document represent HMRC's best current assessment of the levels of tax loss in certain areas of direct tax. However the true values may differ from these due to statistical variation and systematic uncertainty. This is mainly caused by two factors:

- 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;
- systematic biases 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 informal economy.

2.11. The random enquiry programmes will not identify all incorrect returns or the full scale of losses, especially where independent information from third parties is not available to verify the data supplied by the taxpayer. This means that tax loss estimates produced through random enquiries underestimate the full extent of the losses. Further, the proportion of losses that are not identified may also vary over time due to changes in the enquiry regime or the nature of non-compliance.

2.12. The Internal Revenue Service (IRS) in the USA has tackled this problem by using a range of 'multipliers' to make adjustments for non-detection¹. These multipliers are generated through supplementary studies on particular tax return entries, together with econometric analysis of non-detection rates across IRS examiners. This work shows that undetected losses in some customer groups (particularly the self-employed) form a significant proportion of the total tax losses in the USA.

¹ James Andreoni, Brian Erard and Jonathan Feinstein (1998) 'Tax Compliance', Journal of Economic Literature, Vol. 36, No. 2. (Jun., 1998), pp. 818-860

2.13. 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. HMRC is continuing to explore ways in which the type of modelling carried out by the IRS could be deployed within the constraint of smaller sample sizes.

2.14. A further issue is the delay between the relevant tax year and the availability of enquiry results. This is an inevitable consequence of an enquiry-based approach. For example, individuals generally have until 31 January following the year of assessment to which the return relates to submit their tax return. HMRC then has a further year in which to open an enquiry. 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.

2.15. Moreover, it remains necessary to make a forecast of the aggregate results of cases yet to be settled. The forecasts for such cases are based on the actual results of long running cases from previous years. Once actual results are known the losses figures are revised, which means the figures for losses reported in this document are subject to revision.

Risk Registers

[we are continuing to refine the text in the very large companies section below, especially with respect to the description of avoidance, following recent discussions with business leaders for whom these estimates will be particularly sensitive]

Very Large Companies

Principle

2.16. For the largest businesses a random enquiry based approach is not practical. This is because a full enquiry can involve a complete examination of all books and records and this would place a huge resource requirement on both HMRC and the businesses involved.

2.17. There are significant challenges in developing an estimate of tax losses for the largest companies, including a lack of independent economic data on the tax liabilities and difficulties in estimating the extent of international tax planning. Tax treatment for large businesses can be extremely complicated and will often depend on the precise application of tax rules and accounting principles to complex commercial transactions.

2.18. Over time the Department has undertaken some work on estimating losses from Corporation Tax. In 2005, the Department made a first attempt to bring together a range of data. Since then evolving data systems are beginning to enable the Department to put together what it believes are more robust figures.

2.19. In 2006 the Department introduced a new case management system within the Large Business Service (LBS), which deals with Corporation Tax for around [700] businesses. For each business a structured assessment of the risks to the payment of the right taxes and duties at the right time is carried out. This includes a review of the business's Corporation Tax position, its accounts and its Corporation Tax return by HMRC tax specialists. It also takes into account any issues addressed in before business submits its tax return. The review identifies issues where it is possible that there are tax risks and an initial estimate of the tax under consideration which is recorded on the new case management system. The Department then prioritises the risks actually to be addressed and allocates resources accordingly.

2.20. To produce an estimate of net tax losses, an estimate for expected yield from the resulting compliance work by HMRC is subtracted from the tax under consideration.

Issues

2.21. Clearly the initial estimates derived from this risk register are to be regarded with caution. There are some key issues with estimating tax losses for the whole population in this way:

- There may be a degree of underestimation of the tax under consideration because estimates are based on issues identified by the Department and some risks may inevitably be missed in the reviews;
- The recorded estimates of tax under consideration may well change over time as a result of engagement with the business. Issues can be complex and involve difficult matters of judgement or have no readily identifiable right answer. In these situations a lot of detailed analysis is required to come to an answer and it can be the case that the first assessment of HMRC tax specialists may turn out to be incorrect.
- In some cases there is a degree of uncertainty which arises from different interpretations of tax legislation between the Department and the business and this may ultimately only be resolved in the courts;
- It is also necessary to make a forecast of the outcome of cases yet to be fully settled. Once the actual yield is known the losses figures will be revised. Moreover a few risks may

involve very large amounts and this may have a large impact on the revised estimates.

2.22. Owing to these issues, the estimates of tax losses reported in this document may be substantially revised and so should be treated with caution. As the quality of the data improves over time, HMRC should be in a better position to determine the trend in tax losses for this population.

2.23. A further consequence of these issues is that the difference between the amount initially recorded on the risk register and the compliance yield eventually recorded is not always easy to interpret. There are issues where the department clearly takes a different view from companies and it is relatively easy to discern the tax at stake. In these cases, HMRC would regard the difference between the original risk assessment and the eventual outturn as a genuine loss of revenue. However the company involved may well consider that the fact that an agreement has been reached, whether through negotiation or through the courts, means that there is not an actual loss of revenue, rather a clarification of the law. This will often be the case where avoidance devices are used or where the law requires amendment to clarify the technical position. In this context, the department will frequently seek to change the law where an adverse decision has been reached, so preventing further losses.

2.24. Where the valuation of transactions is involved, or there are genuinely novel issues, it is more difficult to describe the difference between initial tax at risk figure and the eventual yield as genuine losses.

Direct Tax Avoidance

[we are in discussion with HMT colleagues about this section]

Principle

2.25. In August 2004, the Government introduced legislation to require the disclosure of direct tax avoidance schemes. This was limited to tax arrangements concerning employment or certain financial products. In August 2006, it widened the legislation to the whole of Income Tax, Corporation Tax and Capital Gains Tax. The legislation requires disclosure of tax arrangements when:

- It will, or might be expected to enable any person to obtain a tax advantage;
- That tax advantage is, or might be expected to be the main benefit or one of the main benefits of the arrangements; and

- It is a tax arrangement that falls within any description prescribed in the relevant regulations.

2.26. To support the legislation, the Department introduced a dedicated risk register. This includes details of disclosed avoidance schemes for individuals, trusts, partnerships, employers and companies and other more bespoke schemes identified by case workers.

2.27. For very large companies, avoidance schemes are also recorded in the LBS case management system. The results are presented separately along with the other figures for very large businesses.

Issues

2.28. As with the estimates derived from the LBS case management system, the figures from the avoidance risk register are to be regarded with care. In particular there may be a degree of under-estimation of the tax under consideration because estimates are based, in the main, on disclosed avoidance schemes and all instances of use of these avoidance schemes may not be identified. In addition, identification of schemes will always involve interpretation and judgement to determine transactions and devices which constitute avoidance.

2.29. A further consideration is that the risk register records only the stock of avoidance risks rather than annual amounts and, given this and the current stage in the development of the system, a degree of judgement is required to convert that stock into an estimates of the annual tax under consideration, likely yield and losses due to avoidance.

2.30. Due to these factors, the figures may be subject to significant revisions and should be treated with caution.

Areas for Further Research

2.31. HMRC is also developing random enquiry programmes for other taxes, specifically Inheritance Tax (IHT) and Stamp Duty Land Tax (SDLT). However these programmes are at an early stage of development and it is not currently possible to produce robust estimates of tax losses from them.

2.32. Given the current issues with using risk registers to measure tax losses, we are continuing to work across the business to refine the use of these systems for producing future estimates.

2.33. It is not possible to use random enquiries or risk registers to measure all types of loss or for all types of customer. The most significant types of losses that cannot be covered in these ways are:

- non-payment;
- the informal economy; and
- individuals who are not issued a return.

2.34. Losses from non-payment can be measured from HMRC's accounting systems, but the other types of loss are much more difficult to measure. Some of the methodological issues for these areas are set out below.

Informal Economy

2.35. The informal economy relates to businesses and individuals who remain outside the tax system by not declaring their economic activity or tax affairs to HMRC. They are not accurately recorded by any government agency or survey. Since these individuals do not appear on HMRC's systems it is not possible to measure the extent of the problem through an enquiry. Therefore a different kind of approach is required.

2.36. Measurement of the size of the informal economy receives a lot of attention amongst academics and there have been a number of attempts to produce models to estimate its size. HMRC continually reviews this work for developments that will help in the calculation of tax losses.

2.37. HMRC has done work to compare numbers of people in work from available surveys with numbers shown on HMRC databases. These have not proved to be useful comparisons and have not shown any patterns thought to provide useable indicators of levels of non-compliance.

2.38. The problem is that there is too much statistical noise in survey data to allow proper comparisons; and there are questions over the extent to which genuine participants in the informal economy would take part in surveys. This reluctance to admit to participation in the informal economy has been confirmed in a recent HMRC study to explore the feasibility of using dedicated survey approaches in this area.

2.39. Econometric methods include examining measures like the circulation of large denomination bank notes, which could indicate the scale of activity in the informal economy. But these suffer from several problems, including:

- it is not possible to distinguish the proportion of illegitimate cash or cheque payments due to informal work and the proportion due to crime, or how this changes over time;
- while these studies may help identify changes in the informal economy it is hard to use them to measure its level; and
- cash and cheque payments are influenced by a number of factors other than the informal economy.

2.40. A recent OECD report² concluded that *'The problems with these models are evidenced by the sensitivity of the results to the benchmark year assumptions, the wide range of estimates given under the same circumstances, and the implausible results that are obtained in some specific circumstances'*.

2.41. In the absence of other types of approach HMRC is concentrating on enhancing its ability to detect people operating in the informal economy - using an increased capacity to compare HMRC data to a wider set of third party sources. Regular comparison exercises against a common set of information sources are expected to provide an improved picture of the informal economy and trends within it.

Individuals who are not issued a return

2.42. It is not necessary to issue most taxpayers with a 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.

2.43. It is not possible for HMRC to 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. In general, HMRC believes that the tax at risk for individuals who do not receive a tax return is low. This is because most are employees who pay the bulk of their tax through PAYE and as such, the opportunities for non-compliance are limited³. Therefore the burden that this would impose on largely compliant taxpayers would be disproportionate.

2.44. Nevertheless, there are risks in this population. Taxpayers may not inform HMRC about sources of income such as rental income or about capital gains, where there is no withholding. For instance, the growth of the buy-to-let business in the property market has increased the risk of undeclared rental income and capital gains.

² OECD (2002) Measuring the Non-observed Economy: A Handbook, Paris: OECD. Available at www.oecd.org

³ The IRS (2007: 12) notes [*'Reducing the Federal Tax Gap: A Report on Improving Voluntary Compliance'*. 2007. Internal Revenue Service & U.S. Department of the Treasury, downloaded from http://www.irs.gov/pub/irs-news/tax_gap_report_final_080207_linked.pdf on 2 October 2007] *'The amounts least likely to be misreported on tax returns are subject to third-party information reporting and withholding and are, therefore, the most visible (e.g. wages and salaries). The net misreporting percentage for wages and salaries is only 1.2 percent.'*

2.45. To obtain a better view of the extent of losses, HMRC is developing an increased capacity to compare HMRC data to third party data for identifying undeclared sources of income. This approach is very similar to that being developed for the informal economy.

Conclusion

2.46. HMRC is attempting to develop a range of measurement techniques that cover all types of loss across customer groups and all taxes. However, the preceding discussion shows that the measurement of direct tax losses is extremely difficult and this is reflected by the fact that no tax authority routinely publishes comprehensive direct tax loss estimates. Progress is being made but it should be emphasised that some estimates presented in this document are at an early stage of development. There are also a number of areas where HMRC does not yet possess robust methodologies.

2.47. HMRC does have some confidence in the figures that come from random enquiry programmes, analysis of non-payment and risk registers. The rest of this report describes the results of random enquiries and risk registers techniques for individuals, small and medium-sized employers and companies, very large companies, and certain other areas of direct tax. Details of the methodologies employed are shown in:

- Annex A for Individuals;
- Annex B for Small and Medium Employers;
- Annex C for Small and Medium Companies;
- Annex D for Very Large Companies;
- Annex E for Direct tax avoidance schemes.

2.48. Quantifying tax losses is important in helping to improve our understanding of such losses and will ultimately improve revenue collection. Therefore HMRC is continuing to improve and develop methodologies as access to more reliable and wider sources of data and sophisticated modelling techniques become available. It is the intention of HMRC to revise published estimates and publish further estimates of tax losses as more robust methodologies are put in place.

3. Estimates of Direct Tax Losses

3.1. This section covers losses for individuals (including the self-employed, small partnerships and trusts), small and medium-sized employers, small and medium-sized companies and very large companies.

3.2. The results presented here come from random enquiries, risk registers and non-payment data.

Individuals subject to Self-Assessment

3.3. Estimates of losses in this section are taken from the Self Assessment (SA) Random Enquiry Programme and non-payment data, covering individuals who receive a return. In this context 'individuals' should be taken to mean individuals who are self-employed, and partnerships, as well as those who are employees or pensioners, or may only have investment income. 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 (NICs).

3.4. Overall the tax and NICs collected through SA in [2001-02 represented about 7 per cent of total direct tax receipts for that year]. Although individuals who do not receive a return are not included in this group, many will be employees taxed under Pay as You Earn (PAYE). Incorrect operation of PAYE schemes and consequent losses of tax due from employment earnings are dealt with in the 'Employer' section of this chapter.

Results

3.5. The most recent results available are for the 2002-03 tax year. Figures for earlier years have been revised since the previous publication due to more complete data being available on long running cases.

3.6. Table 3.1 shows the estimated tax losses identified for 1999-00 to 2002-03. These figures do not adjust for non-detection. Over this period the estimated losses increased slightly from 11 to 15 per cent of liabilities.

Table 3.1: Losses identified for SA returns (£ billion)²

	1999-00	2000-01	2001-02	2002-03
Losses due to incorrect returns	2.5	2.7	3.0	3.3
Compliance Yield ¹	0.4	0.4	0.4	0.4
Non-payment	0.1	0.1	0.1	0.1
Total tax losses identified	2.2	2.4	2.7	3.0
Total tax liabilities	19.5	19.8	19.3	20.4
Proportion of liabilities (per cent)	11%	12%	14%	15%

¹ Enquiries settled during each year.

² Figures rounded to the nearest £0.1bn. As a result components may not appear to sum.

Small and Medium-sized Employers

3.7. Estimates of losses in this section come from the Employer Random Enquiry Programme and non-payment data. This includes income tax and National Insurance contributions (NICs).

3.8. In this context 'small and medium-sized employers' refers to those with up to 500 employees, except where the employer is part of a complex group. Receipts of tax and NICs collected through Pay As You Earn (PAYE) schemes from this customer group encompassed about 27 per cent of total direct tax receipts for 2003-04.

Results

3.9. The most recent results available are for the 2003-04 tax year.

3.10. Table 3.2 shows identified losses of income tax and NICs for small and medium-sized employers were an estimated 1.2 per cent for 2003-04. This figure does not adjust for non-detection. The confidence interval for this estimate is 0.8 per cent to 1.6 per cent.

Table 3.2: Losses identified for Small and Medium Sized Employers (£ billion)²

	2003-04
Losses due to incorrect returns	0.9
Compliance Yield ¹	0.2
Non-payment	0.2
Total tax losses identified	0.8
Total tax liabilities	66.2
Proportion of liabilities (per cent)	1.2%

¹ By period of settlement of enquiry.

² Figures rounded to the nearest £0.1bn. As a result components may not appear to sum.

Small and Medium-Sized Companies

3.11. All companies chargeable to corporation tax are required to make returns of their profits under Corporation Tax Self Assessment (CTSA).

3.12. Estimates of losses from incorrect returns in this section come from the CTSA Random Enquiry Programme. In this context, 'small and medium-sized companies' means those companies not dealt with by HMRC's Large Business Service, which handles the largest and most complex companies. Some other companies, particularly other large ones identified by a combination of factors, such as trade, company type, turnover, international connections and capital base are also not included. Receipts of tax from the companies covered in this section made up about 4 per cent of all direct tax receipts in 2001-02.

Results

3.13. At present the most recent results available are for accounting periods ending in the year to 31 December 2003.

Table 3.3: Tax losses identified for small and medium-sized companies (£ billion)²

	2001	2002	2003
Losses due to incorrect returns	2.2	2.5	2.0
Compliance Yield ¹	0.4	0.4	0.4
Non-payment	0.0	0.0	0.1
Total tax losses identified	1.8	2.2	1.7
Total tax liabilities	12.6	13.3	13.6
Proportion of liabilities (per cent)	14%	17%	12%

¹ By period of settlement of enquiry. Financial year figures.

² Figures rounded to the nearest £0.1bn. As a result components may not appear to sum.

3.14. Table 3.3 shows estimated tax losses for calendar years 2001 to 2003. These figures do not adjust for non-detection. The proportion of losses as a percentage of the total tax liabilities has varied between 12 and 17 per cent. But allowing for confidence intervals the trend in these figures is broadly stable.

Very Large Companies

[we are continuing to refine the text in the very large companies section below, especially with respect to the description of avoidance, following recent discussions with business leaders for whom these estimates will be particularly sensitive]

3.15. Estimates of losses in this section come from information captured on HMRC's Large Business Service's (LBS) case management system. In this context, very large companies refers to [700] of the largest companies, and companies associated with them that form part of a UK group, that are handled by HMRC's Large Business Service (LBS).

3.16. Total Corporation Tax receipts from these companies represented about [8] per cent of total direct tax receipts in 2004–05.

Results

3.17. At present available results refer to accounting periods ending between 1 April 2004 and 31 March 2005.

3.18. Table [3.4] shows that estimated tax losses of Corporation Tax for very large businesses were [18] per cent of total liabilities for accounting periods ending in 2004–05. The estimate of total liabilities is defined as total tax liabilities pre-compliance work for accounting periods ending in the financial year plus the estimated potential losses from incorrect returns.

3.19. The tax under consideration in this table can be classified into three broad risk categories: avoidance, transfer pricing and thin capitalisation, and general compliance issues. Further results broken down by this classification and other details about the figures are given in Annex D.

Table [3.4]: Estimated tax losses for very large companies: accounting periods ending in 2004–05: £ bn

	2004/05	Notes
Tax under consideration	10.7	
Estimated compliance yield	5.2	
Total estimated tax losses	5.5	
Total tax liabilities	[30.5]	Liability figures subject to confirmation.
Proportion of liabilities (per cent)	[18]	

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

3.20. These estimates of losses may be subject to significant revisions, especially since they have been derived from a new system that may not yet have fully stabilised.

Direct Tax Avoidance

[we are in discussion with HMT colleagues about this section]

3.21. The estimates of losses in this section come from the information captured on HMRC's avoidance risk register. This includes mostly disclosed avoidance schemes for individuals, trusts, partnerships, employers and all companies except very large companies.

Results

3.22. At present the only available results are based on a snapshot of the avoidance risk register taken in February 2008.

3.23. As noted in paragraph [2.28], the risk register sets out the current position in respect of the stock of avoidance products and, based on our assessment of the period that it takes to address these issues, an annual figure is constructed.

3.24. The estimate of tax under consideration is £2.8 billion. The estimated compliance yield is £1.4 billion and the total estimated tax loss is £1.4 billion. This represents under 1 per cent of the total tax liabilities for these types of taxpayers.

3.25. As mentioned in paragraph [2.25] the estimates are to be may be subject to significant revisions, especially since they have been derived from a new system that may not yet have fully stabilised, and should therefore be treated with caution.

4. Summary of Estimates of Direct Tax Losses and Comparisons

4.1 Overall the estimates in this document suggest annual losses of the order of £[12]bn per annum. The estimates for small business and individuals are certainly lower bounds. However, it would not be correct to definitively classify the estimate for very large companies as a lower bound. It would, therefore be reasonable to regard the estimates as somewhere between a lower bound and a best estimate of the extent of direct tax losses.

Comparison with Other Countries

4.2 An estimate of £[12]bn translates to [5%] of receipts. The only other countries to produce estimates of the tax gap are the USA and Sweden. The Swedish tax authority estimated a tax gap of 8% of receipts in 2000 and has updated this to 10% in 2007. The latest US estimate, which relates to 2001, is 14% of receipts. In comparing these overall figures it is important to recognise that unlike the figures for both Sweden and the US, the UK estimate does not include an element of losses due to the Informal Economy. Additionally unlike the estimate for the US, the UK figure does not include an adjustment for non-compliance that remains undetected by the Department. Taking this into account the Department continues with the view, stated in the O'Donnell report *Review of the Revenue Departments* (2004) that the tax gap for the UK is of a similar level to other developed countries.

Comparison with earlier HMRC estimates

- 4.4 The analysis in this paper is the culmination of several years' research. The ability to measure tax gaps for direct taxes began with the introduction of Self Assessment systems in the 1990s which enabled the introduction of random enquiry programmes. Random enquiry programmes take several years to deliver results and so it was not until 2003 that it was possible to begin a concerted effort to attempt to estimate tax losses across direct taxes, including those areas not covered by random enquiries.
- 4.5 The Department also carried out some previously unpublished work on losses of direct taxes in 2004 and 2005. This produced a series of ranges for a variety of types of losses. Added together the ranges estimates produced a combined range of around £10bn to £40bn with a "best" estimate of £22bn. This compares to receipts of £[246]bn (tax and NIC) in 2003/04. The figures are shown in more detail in Annex F.
- 4.6 This work was a necessary first phase in the development of tax losses estimates. But the width of the range demonstrates represents both the

inherent difficulty involved in estimating the direct tax gap and the very early stage that the methodology had reached. The data available at the time was more limited than currently and therefore many of these estimates were heavily dependent on assumptions. In particular there was very little HMRC data available to help with estimates for Avoidance, Large Business, the Informal Economy, Inheritance Tax and Stamp Duty Land Tax. Work since 2005 has focused on the development of management information in the areas where the Department believed the largest losses might lie: Avoidance and Large Business. As a result substantial progress has been made toward developing more robust estimates in which greater confidence can be placed.

DRAFT

Annex A: Detail for Individuals Estimates

Methodology

General Methodology

A.1. The estimate of direct tax losses resulting from non-payment and submission of incorrect returns in this section is limited to individuals who receive a tax return. In this context, 'individuals' means individuals who are self-employed, and partnerships (with up to 4 partners), as well as those who are employees or may only have investment income. So the taxes directly included are:

- Income tax;
- Capital gains tax; and
- Class 4 NICs.

A.2. Many individuals within Self Assessment (SA), as well as many who do not receive a return, will be employees taxed under Pay as You Earn (PAYE). The tax payable through SA, as shown in Table 3.1, is therefore only a small proportion of the tax liabilities of this customer group.

A.3. This method will fail to identify the tax loss in the informal economy, and will not fully include losses from avoidance.

A.4. A bottom-up estimate is used, combining the results of the random enquiry programme with the amount of non-payment for this customer group. As some of the losses are recovered through HMRC compliance activity, this is subtracted to give the net losses. The loss estimate is defined by:

$$\text{Losses} = \text{Non-compliance} + \text{Non-payment} - \text{Yield from compliance activity}$$

A.5. The random enquiry programmes will not identify all incorrect returns or the full scale of losses, especially where independent information from third parties is not available to verify the data supplied by the taxpayer. This means that tax loss estimates produced through random enquiries underestimate the full extent of the losses.

A.6. The proportion of these losses as a percentage of all tax liabilities for this group is given by:

$$\text{Proportion of liabilities} = \frac{\text{Losses}}{\text{Liabilities}} \times 100$$

A.7. The total tax liability is total declared tax arising for the tax year (mostly income tax, but including capital gains tax and Class 4 NICs) plus the estimated losses from incorrect returns.

The 1999-00 to 2002-03 Random Enquiry programmes

A.8. The random enquiry programme allows HMRC to estimate the losses arising from the submission of incorrect returns.

A.9. The random sample is selected from SA taxpayers issued with a notice to file a return.

A.10. The sample is drawn by a systematic process that selects every “nth” notice. The sampling interval, n, is determined by dividing the total number of returns issued by the required sample size (rounded down to the nearest whole number). When the return includes a partnership income schedule, the next return on the list is selected. This is because the returns of individuals who are partners will automatically be included in any enquiry resulting from the selection of a partnership return.

A.11. Sample sizes are given in Table A.1. Each return selected is subject to a full enquiry, which involves a complete examination of books and records. In exceptional circumstances, an enquiry is not carried out, but the caseworker must ensure that it meets internal criteria listed as ‘acceptable reasons’. The 95 per cent confidence intervals shown in Section 3 have been estimated using standard sampling theory.

Table A.1: Sample sizes for the Self Assessment random enquiry programme

Tax Return Year	Sample size
1999-00	6,702
2000-01	6,435
2001-02	6,434
2002-03	6,318

A.12. Yield amounts are positive tax yield in favour of HMRC (excluding adjustments in the taxpayer’s favour) plus interest and penalties. Annual tax losses are calculated as yield (as defined above) less interest and penalties divided by the number of years covered by settlement.

Validation

A.13. As part of each year’s programme, HMRC conducts a validation exercise for a sample of cases, focusing on those cases with the largest tax losses, which have the greatest influence on the results. The yield amounts are checked to confirm that the enquiry outcome has been recorded accurately.

Timing

A.14. Estimates of tax losses from incorrect income tax returns rely on data from random enquiries. Individuals generally have until 31 January following the year of assessment to which the return relates to submit their return. HMRC then has a further year in which to open an enquiry. While many enquiries are dealt with quite quickly, others that are complex or reveal large tax losses take longer. It can be several years before results are available. For SA 2002-03 is the latest year for which results are available.

On-going cases

A.15. In order to estimate losses for each year, it is necessary to make assumptions about the cases that were yet to be settled at the date the enquiry results are analysed. Forecasts of the results of such cases have been based on the results of similar settled cases. The forecasts are revised with the actual figures when available for future analyses. Therefore the figures for losses due to incorrect returns are subject to revision.

Grossing methodology

A.16. To produce population estimates for total tax losses, the average loss estimates for the population are multiplied by the number of notices to deliver returns issued – excluding individuals who are partners, as they will be included in the population via the partnership return.

A.17. Adjustments are made for cases selected but dropped – that is, no enquiry is made because the return satisfies the criteria for not taking up an enquiry.

Non-Payment

A.18. The figures used to estimate levels of non-payment come from analysis of write-offs and remissions of tax and are collated for periods of approximately a year ending in October each year. They are then converted to financial year figures.

A.19. As separate figures of non-payment are not available for the taxpayers within the scope of this random enquiry programme, the amounts are apportioned by reference to the total tax liabilities of the SA customer group. These non-payment figures will tend to relate to tax liabilities for years before the random enquiry period. This approach has been taken because figures are not readily available by reference to the liability period.

Compliance Yield

A.20. The random enquiries provide an estimate of the tax losses due to incorrect returns. However, HMRC carries out a programme of compliance activity to identify and correct incorrect returns. To calculate the net tax losses it is therefore necessary to subtract the yield from this activity. The figures for yield are taken from HMRC's systems for recording the outcomes of enquiries, and relate to cases settled during each year rather than enquiries into returns relating to a specific tax year.

Supplementary Results

A.21. Table A.2 shows that for the tax years 1999-00 to 2002-03 the proportion of all SA returns that were estimated to be incorrect and leading to a loss of tax varied between 31 per cent and 34 per cent.

A.22. For between 7 per cent and 9 per cent of returns, the annualised level of under-declaration was over £1,000. However, in the remainder of cases where an under-declaration was found the figure was relatively small: between £1 and £500. Over 40 per cent of the under-declared liabilities relate to just two per cent of taxpayers.

Table A.2: Incorrect SA returns with under-declared tax liability (per cent)

	1999-00	2000-01	2001-02	2002-03
Proportion	31	32	33	34
Of which, under-declared liability per annum				
£1 to £500	17	17	18	19
£501 to £1,000	6	7	7	7
over £1,000	7	8	8	9

Self employed

A.23. Any individual who has business income must complete the self-employment pages of the Income Tax Return. Partnerships also complete a partnership return showing the profits of their business, with the individual partners showing their share of the partnership income in the partnership pages of their own tax return.

A.24. Table A.3 shows that about half of the returns submitted by self-employed taxpayers under-stated the true tax liability. For about a quarter of returns the annualised understated liability was under £500, while for around 15 per cent it was over £1,000.

Table A.3: Self employed taxpayers: Incorrect SA returns with under-declared tax liability (per cent)

	1999-00	2000-01	2001-02	2002-03
Proportion	47	51	53	54
Of which, under-declared liability per annum				
£1 to £500	23	23	25	26
£501 to £1,000	11	14	12	12
over £1,000	14	14	16	16

Other individuals receiving a tax return

A.25. Individuals without business income who receive notices to deliver returns:

- 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. The very low rates of loss in this group are shown in Table A.4.

Table A.4: Other individuals receiving a return: Incorrect SA returns with under-declared tax liability (per cent)

	1999-00	2000-01	2001-02	2002-03
Proportion	18	16	17	17
Of which, under-declared liability per annum				
£1 to £500	13	13	12	12
£501 to £1,000	2	2	2	2
over £1,000	2	2	3	2

A.26. Table A.4 shows that between 16 and 18 per cent of taxpayers in the “other individuals” category under-reported their true tax liability. For the majority of these (12–13 per cent of the total) the level of annualised under-reporting was under £500; while for 2 to 3 per cent the annual tax loss was over £1,000.

Annex B: Detail for Small and Medium Employer Estimates

Methodology

General Methodology

B.1. The estimate of direct tax losses resulting from non-payment and submission of incorrect returns in this section relates to employers with 500 employees or fewer. We have termed these small and medium-sized employers. The employer may be a self-employed individual, partnership, or a company, and will be required to make returns under the PAYE Regulations and account for income tax and NICs.

B.2. Tax losses arising outside PAYE regulatory failure are unlikely to be picked up by random reviews. Different methodologies are being proposed for other losses, such as the shadow economy, and estimates will be published once sufficiently robust.

B.3. A bottom-up estimate is used, combining the results of the random enquiry programme with the amount of non-payment for this customer group. As some of the losses are recovered through HMRC compliance activity, this is subtracted to give the net losses. The loss estimate is defined by:

$$\text{Losses} = \text{Incorrect Returns} - \text{Compliance Yield} + \text{Non-Payment}$$

B.4. The random enquiry programmes will not identify all incorrect returns or the full scale of losses, especially where independent information from third parties is not available to verify the data supplied by the taxpayer. This means that tax loss estimates produced through random enquiries underestimate the full extent of the losses.

B.5. The proportion of these losses as a percentage of all tax liabilities for this group is given by:

$$\text{Proportion of liabilities} = \frac{\text{Losses}}{\text{Liabilities}} \times 100$$

B.6. The total tax liability is the tax declared for the tax year (income tax under PAYE, and employers' and employees' NICs) plus the estimated tax losses from incorrect returns.

The 2003-04 Random Enquiry programme

B.7. The Employer random enquiry programme allows us to estimate the losses arising from PAYE failures and other irregularities. Although the 2003-04 programme is the fourth random enquiry programme to be run on employers, changes in data available and methodology have meant that it is not possible to compare the results of previous years. For this reason, only the results of one year are presented.

B.8. Stratified random samples were created by selecting between 300 and 500 employers from each of 5 employer segments among employers with up to 500 employees. The segments are based on criteria such as number of employees. The total sample size for 2003/04 was 1,649 cases. The 95 per cent confidence intervals shown in Section 3 have been estimated using standard sampling theory.

Validation

B.9. Each year HMRC conducts a validation exercise for a sample of cases. The yield amounts are checked to confirm that the enquiry outcome has been recorded accurately.

Timing

B.10. Employer Compliance Reviews initially look at the records of the previous 12 months. While many enquiries are dealt with quite quickly, some may take longer where returns are complex or a high amount of under-declaration is found. Therefore it can be some years before final results are available. Here, 2003-04 is the latest year available.

On-going cases

B.11. In order to estimate losses for each year, it is necessary to make assumptions about the cases that were yet to be settled at the date the review results are analysed. Forecasts of the results of such cases have been based on the results of similar settled cases. The forecasts are revised with the actual figures when available for future analyses. Therefore the figures for losses due to incorrect returns are subject to revision.

Grossing methodology

B.12. Population estimates were derived from counts of the total number of PAYE schemes.

B.13. Adjustments are made for any cases selected but not taken up for review. A case has to fulfil certain criteria before it can be dropped.

Non-Payment

B.14. The figures used to estimate levels of non-payment come from analysis of remissions and write-offs of tax and are collated for periods of approximately a year ending in October each year. They are then converted to tax year figures.

B.15. Separate figures are not available for the small and medium-sized employers specifically within the scope of this random enquiry programme, so the non-payment estimates have been apportioned by reference to the total tax liabilities of employers. The non-payment figures will tend to relate to tax liabilities for years before the random enquiry period. This approach has been adopted because figures are not readily available by the liability period.

Compliance Yield

B.16. The random enquiries provide an estimate of the amount of the tax losses through PAYE and other irregularities by the employer. However HMRC carries out a programme of compliance activity to identify and correct such irregularities. To calculate the net tax losses it is therefore necessary to subtract the yield from this activity. The figures for yield from employer compliance reviews are taken from HMRC's systems for recording the outcomes of enquiries, and relate to cases settled during 2003-04 rather than reviews covering a particular liability period.

Annex C: Detail for Small and Medium-Sized Company Estimates

Methodology

General Methodology

C.1 The estimate of direct tax losses resulting from non-payment and submission of incorrect returns in this section is limited to small and medium-sized companies. In this context, 'small and medium-sized' means those companies not dealt with by the Large Business Service (LBS) and also excludes the 10,000 or so largest and most complex companies dealt with outside the LBS.

C.2 A bottom-up estimate is used, combining the results of the random enquiry programme with the amount of non-payment for this customer group. As some of the losses are recovered through HMRC compliance activity, this is subtracted to give the net losses. The loss estimate is defined by:

$$\text{Losses} = \text{Incorrect Returns} - \text{Compliance Yield} + \text{Non-Payment}$$

C.3 The random enquiry programmes will not identify all incorrect returns or the full scale of losses, especially where independent information from third parties is not available to verify the data supplied by the taxpayer. This means that tax loss estimates produced through random enquiries underestimate the full extent of the losses.

C.4 The proportion of these losses as a percentage of all tax liabilities for this group is given by:

$$\text{Proportion of liabilities} = \frac{\text{Losses}}{\text{Liabilities}} \times 100$$

C.5 The theoretical tax liability is total tax liabilities for accounting periods ending in the calendar year (mostly corporation tax, but will include some income tax and tax charged under Section 419 ICTA 1988) plus the estimated losses from incorrect returns.

The 2001 to 2003 Random Enquiry programme

C.6 The CT random enquiry programme allows us to estimate the losses arising from the submission of incorrect returns.

C.7 The random sample is selected from small and medium-sized companies issued a notice to deliver a return each month. The sampling process selects every n^{th} return.

C.8 The sample sizes are given in Table C.1. The programme covers companies with accounting periods ending in calendar years 2001 to 2003. The confidence intervals shown in Section 3 are calculated using a bootstrapping technique (which produces their non-symmetric shape (Figure 3.2)).

Table C.1: Sample sizes for the CTSA random enquiry programme

Accounting period ending in year	Sample size
2001	297
2002	315
2003	342

Validation

C.9 Each year HMRC conducts a validation exercise for a sample of cases, focusing on those cases with the largest tax losses, which have the greatest influence on the results. The additional liability amounts are checked to confirm that the enquiry outcome has been recorded accurately.

Timing

C.10 Companies have until a year after the end of their accounting period to submit a return and HMRC then has a further year in which to open an enquiry. Particularly in complex cases, the enquiry may not be settled until some years after that. For that reason, 2003 is the latest year for which analysis is available.

On-going cases

C.11 In order to estimate the overall losses for each year, it is necessary to make a forecast of the aggregate results of cases yet to be settled. The forecasts for such cases are based on the actual results of long running cases from previous years. Once actual results are known the losses figures are revised, which means the figures for losses reported in this document are subject to revision.

Grossing methodology

C.12 To produce population estimates for total tax losses, the average loss estimates from the enquiries are multiplied by the number of notices to deliver returns issued.

C.13 Adjustments are made for cases selected but where no enquiry was conducted – for example, because the company was missing or dormant.

Non-Payment

C.14 The figures used to estimate levels of non-payment come from analysis of remissions and write-offs of tax and are collated for periods of approximately one year ending in October each year. They are then converted to calendar year figures.

C.15 Separate figures are not available for the small and medium-sized companies specifically within the scope of this random enquiry programme, so the non-payment estimates have been apportioned by reference to the total tax liabilities of this customer group. The non-payment figures will tend to relate to tax liabilities for years before the random enquiry period. This approach has been adopted because figures are not readily available by the liability period.

Compliance Yield

C.16 The random enquiries provide an estimate of the tax losses due to incorrect returns. However, HMRC carries out a programme of compliance activity to identify and correct incorrect returns. To calculate the net tax losses it is therefore necessary to subtract the yield from this activity. The figures for yield are taken from HMRC's systems for recording the outcomes of enquiries, and relate to cases settled during each year rather than enquiries into returns relating to accounting periods ending in a specific year.

Supplementary results

C.17 Table C.2 shows that for the years 2001 to 2003, the proportion of small and medium-sized companies submitting an incorrect return leading to a loss of tax was in the range 37 per cent to 43 per cent. This should be considered to be relatively constant in the context of the margin of error of these figures. The latest figure – for 2003 – relies more heavily on forecast results for ongoing cases and is therefore more sensitive to revisions as further enquiries are settled.

C.18 For accounting periods ending in 2001 and 2002, about a quarter of cases were settled with an annualised additional liability of over £1,000. The proportion appears a little lower for 2003 but could well increase as the results of more on-going cases are known.

Table C.2: Small and medium-sized companies: Incorrect CTSA returns where additional tax liability established (per cent)

Accounting period ending in year	2001	2002	2003
Proportion	43	43	37
Of which, annualised additional liability			
£1 to £1,000	16	18	18
over £1,000	28	25	19

Annex D: Detail for Very Large Company Estimates

[we are continuing to refine the text in the very large companies section below, especially with respect to the description of avoidance, following recent discussions with business leaders for whom these estimates will be particularly sensitive]

Methodology

General Methodology

D.1. Tax specialists review each business' Corporation Tax position, accounts, and the Corporation Tax return to identify potential risks and produce estimates of the tax under consideration. These are recorded on the new case management system (known as Core System). This review of risks is shared with the company concerned.

D.2. As some of the tax under consideration will be recovered through HMRC activity, an estimate of the tax recoverable is subtracted to give a figure for estimated net losses. This estimate is defined by:

$$\text{Estimated Losses} = \text{Tax under consideration} - \text{Estimated Yield}$$

D.3. The proportion of these estimated losses as a percentage of all tax liabilities for this group is given by:

$$\text{Proportion of liabilities} = \frac{\text{Estimated Losses}}{\text{Liabilities}} \times 100$$

D.4. The theoretical corporation tax liability is total tax liabilities pre-compliance work for accounting periods ending in the financial year plus the estimated potential losses from incorrect returns.

Recording risk

D.5. The tax losses estimates are derived using information that is held on the LBS case management system. The Core System is a relatively new system, which was introduced in April 2006. Its primary purpose is to support effective management of risk and resource in the LBS. However, because it allows managers and staff to record and

monitor the tax under consideration for each business within the LBS's remit, the information it contains can be used to inform estimates of potential corporation tax losses.

D.6. The Department estimates the Corporation Tax under consideration against standard defined risk categories, such as: size structure and complexity of the business; legal complexity and challenges; and financial arrangements. In some respects there may be considerable uncertainty in the estimates of tax under consideration, for example when valuations of assets are involved. The Department then shares the assessment with the business to gain its views and try to resolve the issues through dialogue. The tax specialists are required to enter all estimates for all but the smallest risks on to the Core System and then to prioritise the risks and allocate resources to tackle them. The results presented in this document are a snapshot of data from the Core System in January 2008.

D.7. The outcome of the engagement with the business could be:

- (i) the enquiry is closed with no additional tax due;
- (ii) the department assesses that there is something wrong with the return and agrees with the company amendments to make to the return;
- (iii) the department assesses that additional tax is due that covers more than one year of assessment and may enter into a settlement with the firm;
- (iv) the department assesses that additional tax is due, but no agreement is reached with the company, and the enquiry is closed with a notice of the additional tax due sent to the company; or
- (v) the Department may proceed to litigation to bring the enquiry to an end.

D.8. As more information becomes available during the enquiry process, the accuracy of the information on the Core System will improve. This will be reflected in changes to the estimates recorded on the Core System.

D.9. The figures represent the first year of figures from a new computer system which may not have fully settled down yet. As with all new information systems, the Core System is in a transitional phase while the information recording practices are refined and a common approach to capturing information on the system becomes fully established.

Classifying risks

D.10. Commercial transactions can be complex and cover a wide range of activities. In general there is uncertainty in some areas of technical interpretation of the tax law or where a valuation of a transaction or asset is involved. Large one-off issues in companies' returns are also a possible further source of imprecision. As a result it can be challenging to classify risk between well defined and non overlapping categories. However, the recorded risks presented in Table D1 are summarised into 3 broad categories:

(i) Avoidance issues

This relates to the use of disclosed avoidance schemes by businesses and any other more bespoke schemes identified by HMRC tax specialists.

The avoidance disclosure regime was first introduced in 2004 and initially covered Corporation Tax (CT) financial. In August 2006 the regime was extended to the rest of CT. As part of the regime, promoters of schemes have to disclose to HMRC the details of the schemes developed and users should notify HMRC of the use of a scheme in their tax return. This provides an enhanced view of the use of marketed avoidance schemes and the potential associated tax at stake.

It should be noted that avoidance covers a wide range of activities. Some of these will be addressed with existing legislation and some will need to be resolved by legislation for the future only. Therefore in making assessment of avoidance schemes the department does not expect to collect all the identified tax under consideration. There will also be cases where issues have been identified but not recorded because it would not be practical to challenge.

(ii) Transfer Pricing and thin capitalisation issues

This relates to circumstances when HMRC is unsure whether the terms and pricing of [cross border] trading and financial transactions between affiliated entities have been treated as if the transactions had been made between completely independent parties.

(iii) General Non Compliance issues

This covers a wide range of issues, from genuine mistakes to negligent errors or omissions in the Company Tax return. Possible issues include computational errors, systems failures,

differences in interpretations and applications of accounting standards etc.

D.11. The precision to which the tax under consideration can be initially estimated varies across these categories. Judgements can generally be made with more confidence when the issues at hand falls into avoidance and technical categories, but where issues relate to valuation it is recognised that the figure may well converge on the ultimate settlement.

Quality Assurance

D.12. There remain uncertainties in such estimates of losses, which arise from development of the underlying data systems and changes in the nature of risk being assessed, as well as shifts in the focus and approach to engaging with large businesses. However, as the quality of the data in the Core System improves over time, the Department will be able to better use it to determine trends in tax losses.

On-going cases

D.13. It is essential to take account of the fact that the department will recover tax under consideration through its compliance activity, which results in compliance yield. However it may take many years for enquiry work on issues related to accounting periods ending in 2004–05 to be completed and for the yield from this work to be recovered. Therefore the likely compliance yield has to be partly forecast to derive figures for tax losses

D.14. The most recent available data shows that 56% of the issues that were opened in 2004–05 had been closed by the end of 2007 - covering 26% of the tax under consideration. While all 2004–05 issues will be closed over time to develop an estimate of tax losses for 2004–05, in the interim it is necessary to estimate the yield that will result from open enquiries.

D.15. To estimate the yield from all 2004–05 issues, a forecast of the aggregate results of cases yet to be settled is made. The forecasts for such cases are based on the actual results of long running cases from previous years. Once the actual results are known the losses figures are revised.[more difficult for some categories ; other specific issues w. yield ...]

Supplementary results

Table [D1]: Estimated tax losses for very large companies by category: accounting periods ending in 2004–05 (£ billions)

	Avoidance	Transfer pricing and thin capitalisation	General non-compliance	Total
Tax under consideration	5.5	1.2	4.0	10.7
Estimated eventual yield	2.7	0.4	2.2	5.2
Net losses	2.9	0.8	1.8	5.5
Total tax liabilities	[30.5]	[30.5]	[30.5]	[30.5]
Proportion of liabilities (per cent)	[9]	[3]	[6]	[18]

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

D.16. Table D1 shows a breakdown of estimated tax losses by broad category for very large companies.

D.17. The estimates presented in this document represent a step forward in understanding the potential tax losses in the very large business sector. However the figures will evolve both as the system matures and as we reinforce the use of it as a means to estimate the tax gap, which is ancillary to its original purpose as a device for optimising resource allocation in the LBS. There also remains further work to be done to develop the estimates in the future, particularly focusing the areas listed below. Depending on the results, this could lead to a review of the very large business estimates presented in this document.

- Recalculating the 2004–05 estimates as more issues are closed over time;
- Refining the information that is captured on the Core System;
- Enhancing understanding of the relationship between the tax under consideration and the final yield for which the issues are settled;
- Assessing the impact on the estimates of potential changes to the nature of risks and the business environment.

D.18. There is therefore a considerable margin of uncertainty in the estimates and they should therefore be treated particularly cautiously.

Annex E: Detail for Direct Tax Avoidance

[we are in discussion with HMT colleagues about this section]

Methodology

General Methodology

E.1. Promoters of schemes to avoid direct taxes covered by the avoidance disclosure rules must disclose any new schemes to HMRC when they are made available to potential users. Disclosures must contain sufficient detail for HMRC tax specialists to understand how the scheme works. For each disclosure, HMRC issues a reference number to the promoter, and taxpayers who participate in the scheme are required to notify HMRC of scheme number on their tax return.

E.2. In conjunction with the disclosure rules, HMRC introduced a new system of project working for avoidance schemes. The projects are organised in themes and the themes include, but are not limited to, disclosed schemes. Under this approach project managers coordinate the work of the various HMRC offices involved in each project, and ensure that a consistent approach to progressing and resolving cases is taken.

E.3. A project will normally be based on one or more known scheme users that have come to the attention of HMRC through the disclosure provisions or in other ways. As time goes on, a project may well be divided into various sub-projects.

E.4. Each quarter HMRC tax specialists review the recorded avoidance schemes to produce a risk estimate that is recorded as tax under consideration, and an estimate of the yield likely to be recovered.

E.5. The total expected revenue losses are given by subtracting the estimate of the compliance yield from the tax under consideration. This estimate is defined by:

$$\text{Estimated Losses} = \text{Tax under consideration} - \text{Estimated Yield}$$

E.6. Since the risk register does not record an annual breakdown of the tax under consideration and estimated yield the figures captured represent the total amounts recorded on the register over time. To produce an annualised loss estimate, the overall estimates for losses, tax under consideration and estimated yield are each divided by the

typical time that it takes to resolve cases. The formula below gives an example of this for revenue losses:

$$\text{Estimated annual loss} = \frac{\text{Total Losses}}{\text{Typical case duration}}$$

Recording risks and expected yield

E.7. Each quarter the risk register project managers collate the estimates of tax under consideration and expected yield across their projects. The figures are then captured in the central avoidance risk register.

E.8. Risk registers are important tools in building estimates of the scale of avoidance across direct tax, but a number of issues remain with using the avoidance risk register to estimate tax losses. These include:

- the risk register is a fairly new system and the avoidance disclosure regulations have been gradually introduced – as a result the register may not yet give a stable view of the scale of avoidance schemes;
- the figures include only those avoidance schemes which have been identified, and reflect only the instances in which use of the schemes has been detected;
- Inheritance Tax avoidance and schemes that avoid National Insurance Contributions alone with no affect on other liabilities are not at present on the Risk Register, similarly some areas of Stamp Duty Land Tax avoidance remain to be added;
- the register is relatively new, and so the estimates are based on the expert opinion of those working the cases. Thus, this may change as more information becomes available or as more of the cases are settled
- the register does not attribute the amount of tax under consideration to the period to which is applies. Therefore the conversion of the total value of schemes into annual figures requires a broad assessment of time needed to resolve cases;
- the LBS risk register also records details of avoidance schemes and the split of the figures between the avoidance risk register and the LBS case management system has to be estimated.

E.9. As a result of these factors the figures presented in the document are likely to be revised as more information becomes available.

Quality Assurance

E.10. The figures held on the avoidance risk register are reviewed by members of the Anti Avoidance Group's Operational Co-Ordination Team, and other HMRC analysts, for consistency and accuracy, and any resulting queries are referred back to project managers. As a result the information currently on the Risk Register is believed to be reasonably robust. Over time as the quality of the data in the risk register improves further and it contains data compiled over a longer period, the Department will be able to better use it to determine trends in tax losses.

E.11. The scope of the Register is due to widen in the coming year to cover all direct tax avoidance across HMRC and so the total figures produced are likely to increase.

Estimating annual figures

E.12. Finally, to produce annual estimates, the totals for tax under consideration, estimated yield and net losses are divided by an assessment of the typical duration of cases. The estimate used at present is that it takes on average three years to resolve cases. This figure is expected to be refined as more data becomes available.

Results

E.13. Once very large companies are excluded from the figures, the estimates produced from the avoidance risk register cover mostly disclosed avoidance schemes for individuals, trusts, partnerships, employers and the remaining companies.

E.14. At present the only available results are based on a snapshot of the total stock of risks on the avoidance risk register taken in February 2008. The stock has been converted into an annual estimated.

E.15. The estimate of tax under consideration is £2.8 billion. The estimated compliance yield is £1.4 billion and the total estimated tax loss is £1.4 billion.

E.16. As mentioned above, the estimates are to be may be subject to significant revisions, especially since they have been derived from a new system that may not yet have fully stabilised.

Annex F: Earlier estimates of Direct Tax Losses

Earlier estimates

F.1. Today we are also releasing figures relating to earlier work carried out in 2004 and 2005. Table F1 shows the internal estimates made in 2005 of revenue losses by type of tax.

Table F1: Range estimates of net revenue losses made in 2005 by type of tax (£bn)

	General non-compliance			Avoidance			Non Payment			Total		
	Point	Lower	Upper	Point	Lower	Upper	Point	Lower	Upper	Point	Lower	Upper
Income Tax, CGT, NIC	8.1	3.7	17.1	3.9	1.9	5.9	0.5	0.5	0.5	12.5	6.1	23.4
Corporation Tax	2.9	1.4	6.9	4.4	2.1	6.6	0.2	0.2	0.2	7.2	2.9	13.7
Inheritance Tax	0.5	0.2	1				0	0	0			
Stamp Duty	0.1	0.1	0.4	1.5	0.7	2.2	0	0	0	2.0	1.0	3.5

F.2. Added together the ranges estimates produced a combined range of around £10bn to £40bn with a “best” estimate of £22bn. This compared to receipts of £246bn (tax and NIC) in 2003/04. Note that adding the upper end of ranges produces an extreme answer for the total because it is very unlikely that the real answer for each of these estimates lies at the top end of the range.

F.3. The width of the ranges shown demonstrates represents both the inherent difficulty involved in estimating the direct tax gap and the very early stage that the methodology had reached. The data available at the time was limited and therefore many of these estimates are heavily dependent on assumptions. In particular there was very little departmental data available to support with estimates for Avoidance, Large Business, the Informal Economy, Inheritance Tax and Stamp Duty Land Tax. Work since then to develop management information has focussed on the areas where we believed the largest losses may lie: Avoidance and Very Large Business.

F.4. It is not straightforward to compare these estimates to our latest estimates of [£12bn] net revenue losses. This estimate is not strictly comparable to the analysis produced in 2005 because:

- The methodology used to calculate revenue losses from avoidance and Large Business has completely changed since then.
- This latest figures do not include anything for Individuals not included in Self Assessment, the Informal Economy,

Inheritance Tax and Stamp Duty Land Tax where work is still progressing to produce robust estimates of revenue losses.

- In the latest analysis no conjecture is made to the extent to which random enquiries do not detect non-compliance. We now believe that without hard evidence it is not helpful to make such an adjustment.

Estimates of avoidance made in 2005

F.5. The work described in the 2005 paper represented a first attempt to get a broad handle on the scale of avoidance. There were two strands of work. The first strand obtained information from HMRC in the course of case work and mainly focussed on activities that were potentially challengeable. This led to a lower limit of £5bn revenue losses per annum. The second strand was based upon an analysis of amounts paid to the top 50 agents for tax related work as described in Accountancy Age. This method will pick up activities not identified by HMRC case workers and as well as broader activities that were clearly within the law. This analysis of fees produced an estimate with a range of £5-15bn revenue losses per annum. In practice the upper limit is likely to include a significant element of tax planning.

F.6. The width of the range results from the speculative nature of this method of calculating revenue losses. Hence not much use is now made of this method or the figures emanating from it, other than as a very broad credibility check of internal analysis.

Glossary of technical terms

Bootstrapping: A statistical method that can be used to calculate confidence intervals using only the sample data as a distribution. It involves resampling with replacement, and is often used where the data values are particularly skewed.

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.

Confidence Interval: A range of values that has a specified probability of containing the true value of interest.

Econometrics: Combination of statistics and economic theories, principally used to analyse and test economic theories.

Estimates: Approximate result calculated from approximate or incomplete data.

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.

Margins of Errors: Measures of how reliable the estimated value is.

PAYE Scheme: Each employer operating PAYE registers a PAYE scheme with HMRC, which allows for the issue and monitoring of returns.

Remissions: Debts that HMRC is not pursuing.

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: A system for reporting income and capital gains to, and claiming tax allowances from, HMRC. It involves completing a paper or online form.

Settlement: Closure of a direct tax enquiry, resulting in the agreement of any additional tax liability.

Write offs: Debts that are considered to be irrecoverable.

Yield: Money collected from compliance activity.

Abbreviations

CGT: Capital Gains Tax.

CT: Corporation Tax.

CTSA: Corporation Tax Self Assessment.

EU: European Union.

HMRC: Her Majesty's Revenue and Customs.

IHT: Inheritance Tax.

IRS: Internal Revenue Service.

IT: Income Tax.

SA: Self Assessment.

LBS: Large Business Service.

LFS: Labour Force Survey.

NAO: National Audit Office.

NICs: National Insurance Contributions.

ONS: Office for National Statistics.

PAYE: Pay as You Earn.

PBR: Pre-Budget Report.

SDLT: Stamp Duty Land Tax.

UK: United Kingdom.