

# Who does and doesn't pay taxes?

**IFS Briefing note BN218**

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*Copy-edited by Judith Payne*

*Published by*

**The Institute for Fiscal Studies**

ISBN 978-1-911102-64-9

This research was funded by the Economic and Social Research Council (ESRC) through the Centre for Microeconomic Analysis of Public Policy (CPP) at IFS (grant number ES/M010147/1), the Tax Administration Research Centre (TARC, grant number ES/K005944/1), and a University of Warwick Impact Acceleration Award (grant number ES/M500434/1). This work contains statistical data from HM Revenue and Customs (HMRC) which are Crown Copyright. The research data sets used may not exactly reproduce HMRC aggregates. The use of HMRC statistical data in this work does not imply the endorsement of HMRC in relation to the interpretation or analysis of the information. The author, who is now at the University of Warwick, thanks William Elming and Jonathan Shaw for their earlier involvement in this project, and Carl Emmerson, Paul Johnson, Helen Miller and Jonathan Shaw for helpful comments. Correspondence to [arun.advani@ifs.org.uk](mailto:arun.advani@ifs.org.uk).

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This briefing note summarises new research on which types of people under-report the taxes they owe, and what effects audits have on government revenue.

## Key findings

- Every year, 10 million people file income tax self-assessments, around a third of all UK taxpayers. Using a sample of these who were randomly audited, we can learn about non-compliance among all self-assessment taxpayers.
- More than one-third of self-assessment taxpayers (36%) who were randomly audited were found to have errors in their tax returns that led to underpayments ('non-compliance'). The average additional tax owed by the non-compliant taxpayers is £2,320, equal to almost one-third (32%) of the initial tax amount they declared.
- HMRC has improved its targeting of non-compliant taxpayers, increasing the revenue raised per *targeted* audit conducted. However, the decline in the number of such audits reduced the total revenue raised from audits from a peak of £1.17 billion in 2002, to just over two-thirds of that by 2009.
- Most non-compliant taxpayers (60%) owe less than £1,000. A small number of taxpayers – less than 4% – owe more than £10,000, but they account for 42% of the missing revenue.
- Men are more likely to be non-compliant than women (40% versus 27%). However, among both men and women who are non-compliant, 32% of total tax owed was not declared.
- Non-compliance is greater among working-age individuals, at around 40% of those below state pension age (SPA), compared with only 21% of individuals above SPA.
- In part, this reflects the difficulty in under-reporting pension income compared with under-reporting self-employment income. 59% of taxpayers declaring only self-employment income were found to be non-compliant, compared with only 16% of those declaring only pension income. Surprisingly, 29% of those declaring only employment income were non-compliant, despite such income being also reported by employers.
- The likelihood that a taxpayer is non-compliant does not vary substantially with income. The cash amount of tax not reported by non-compliant individuals averages around £2,200 across all but the individuals with the top 20% of incomes. For those in the top 20%, with incomes above £47,270, it averages £3,530.
- Non-compliance is highest in the construction, transport and hospitality industries, where more than half of self-employed taxpayers were found to be non-compliant. In hospitality and transport, more than half of total tax owed was not reported.
- Random self-assessment audits recover an initial £830 per audit on average, since one in three audits yields a return and the average return among those is £2,320. Audits also bring in income for at least five years after the audit, by changing taxpayers'

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reporting behaviour: being audited leads taxpayers to declare more income subsequently. This raises another £1,230, one-and-a-half times the initial gain.

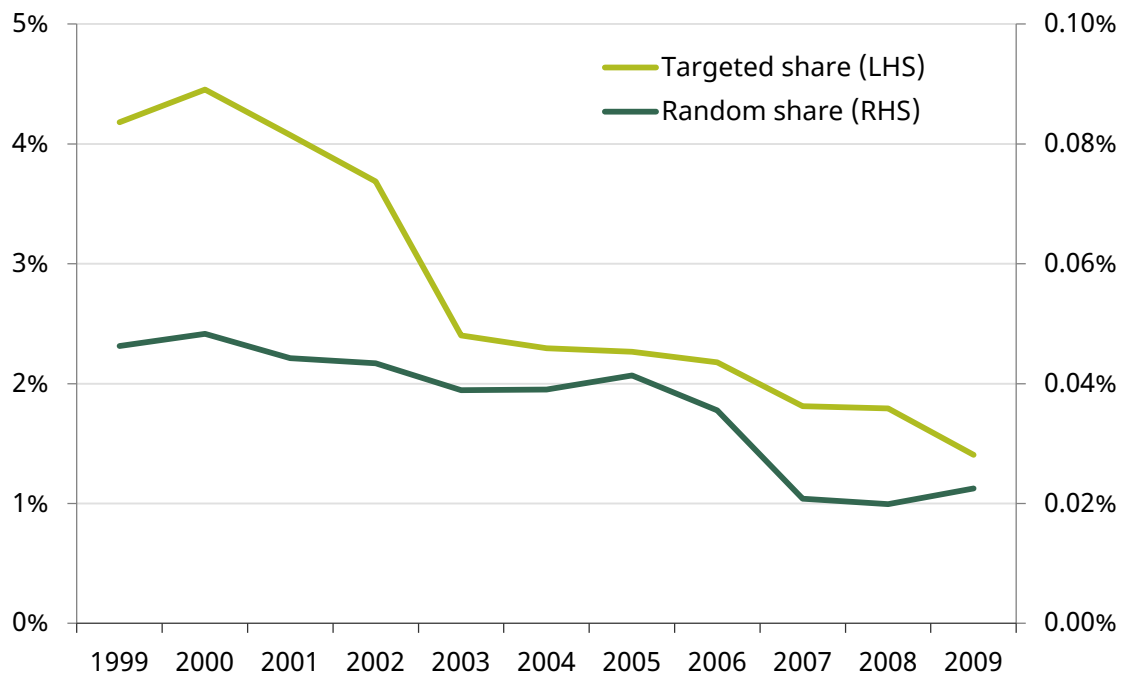
- The longer-run gains come from the additional information HMRC acquires about audited taxpayers' incomes. As this information becomes more dated, taxpayers again reduce their tax declarations.
- A reasonable estimate for the cost of an audit might be around £2,500. If correct then this would be slightly more than the total revenue raised from a random audit. But targeted audits can raise significantly more than they cost. For example, audits targeting those with the top 20% of reported incomes would have an average total yield of £10,870 per audit.

## The number of audits carried out has fallen significantly over time

Around 10 million people a year, a third of all individual taxpayers, file 'self-assessment' income tax returns. The main income sources reported are employment, self-employment, interest, dividends, pensions and properties. To encourage truthful reporting and detect errors, HM Revenue and Customs (HMRC) audits some taxpayers every year. For tax years ending 5 April 2000 to 5 April 2009 (the latest figures to which we have access), the share of taxpayers who were audited declined from a high of 4.5% to 1.4%.

Audits are split into two types, as shown in Figure 1. The majority of audits are targeted towards taxpayers that HMRC has some reason to suspect might be non-compliant, whilst a small proportion are conducted randomly so that HMRC can learn what characteristics predict non-compliance and better target its audits. Both audit types declined over 2000–09, although the decline was more severe for targeted audits.

**Figure 1. Share of self-assessment taxpayers audited each year**



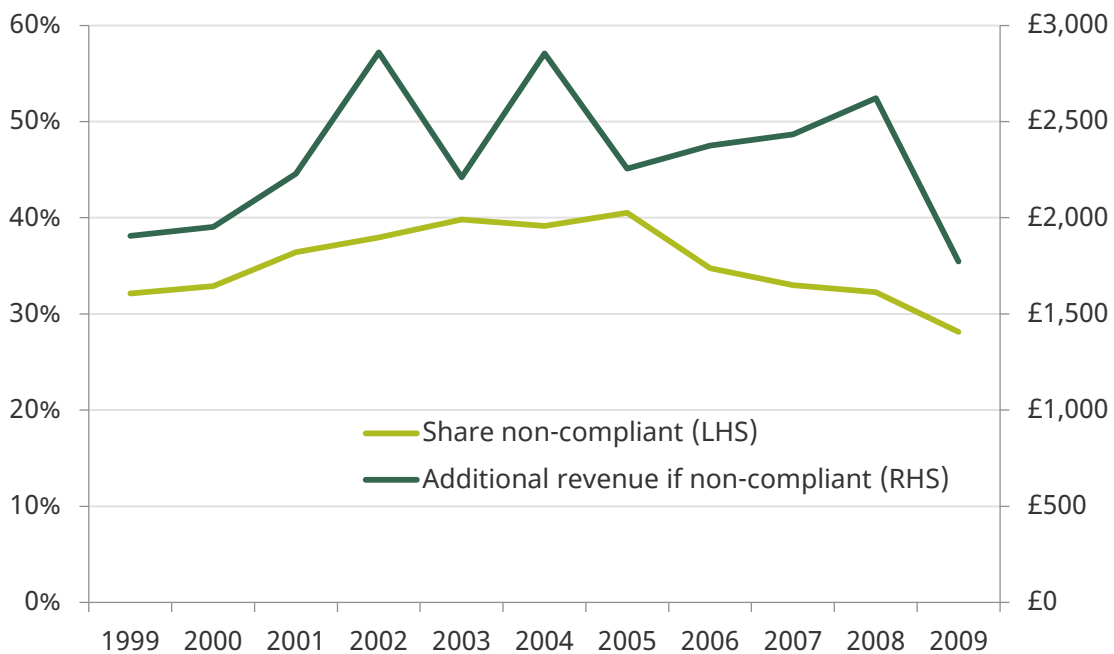
## Non-compliance by taxpayers has remained static ...

To understand the behaviour of self-assessment taxpayers as a whole, we use data from HMRC's random enquiries programme. The data we use cover almost 35,000 audits over more than a decade from 1999 to 2009. These data contain anonymised information on which individuals were subject to a random audit, whether these individuals were found to be non-compliant and, if so, how much additional revenue they were required to pay. A taxpayer is non-compliant if, after audit, the amount of tax they are found to owe is more than the amount they had 'declared', i.e. more than the amount of tax they are calculated to owe based on their declaration of incomes and expenses. Non-compliance includes both mistakes and deliberate under-reporting. Although only a small proportion of taxpayers are audited under this programme each year (see Figure 1), they are representative of all self-assessment taxpayers because they are selected *randomly* from this group.

Using data from these random audits, we see that non-compliance has remained relatively static, rising from 30% to 40% of self-assessment taxpayers in the early 2000s, before declining back to 30% by 2009. The amount of tax owed by the non-compliant has also remained stable, at between £1,800 and £2,900, with no clear trend (see Figure 2; all monetary figures throughout are in 2012 prices). Note that the amount 'owed' is measured throughout by the under-reporting *uncovered* by the audit; it is possible that audits do not fully uncover all misreporting.

On average, the direct yield from undertaking a random audit is £830, since one in three audits yields a return and the average return among those is £2,320. Since there are around 10 million taxpayers in self-assessment, this implies that in aggregate HMRC collects around £8.3 billion less from self-assessment taxpayers than would be paid if all these taxpayers were audited.

**Figure 2. Results from random audits**

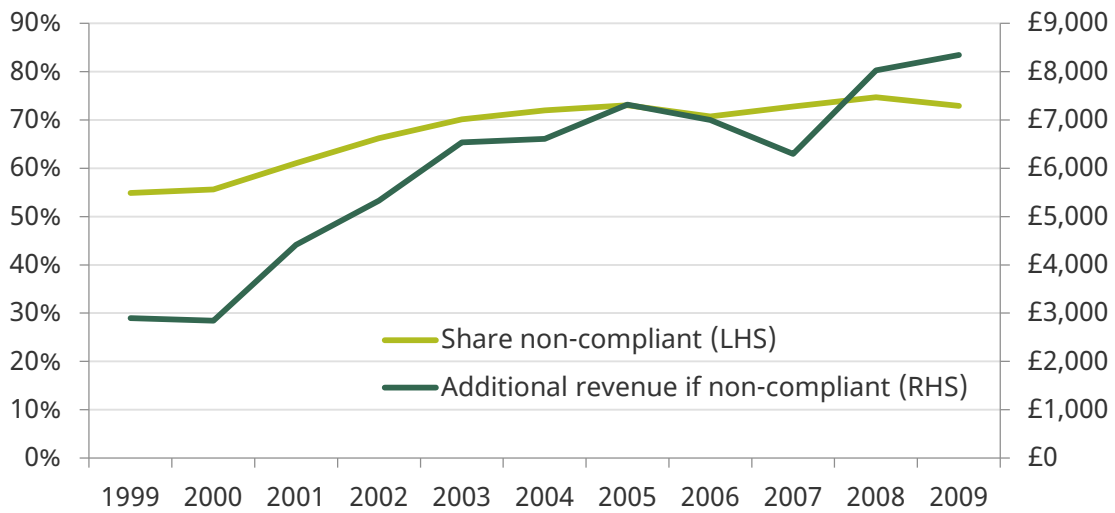


### ... but over the same period HMRC has got better at targeting the non-compliant

In contrast, using data from the targeted audits, Figure 3 shows that the probability a taxpayer selected for targeted audit is found to be non-compliant has risen steadily from 55% in 1999 to around 75% by 2009. These audits are specifically aimed at people who HMRC has some reason to suspect might be non-compliant. Since the likelihood of non-compliance among taxpayers has not changed over this period, as seen from the random audits in Figure 2, this implies that HMRC has improved the quality of its targeting.

Just as importantly, when a taxpayer is found to be non-compliant, the amount of revenue raised almost tripled in real terms between 1999 and 2009, from £2,900 to £8,340. The combination of better targeting of non-compliant taxpayers, and finding more valuable taxpayers to target, means the average return across all targeted audits has risen almost fourfold from £1,590 in 1999 to £6,080 in 2009.

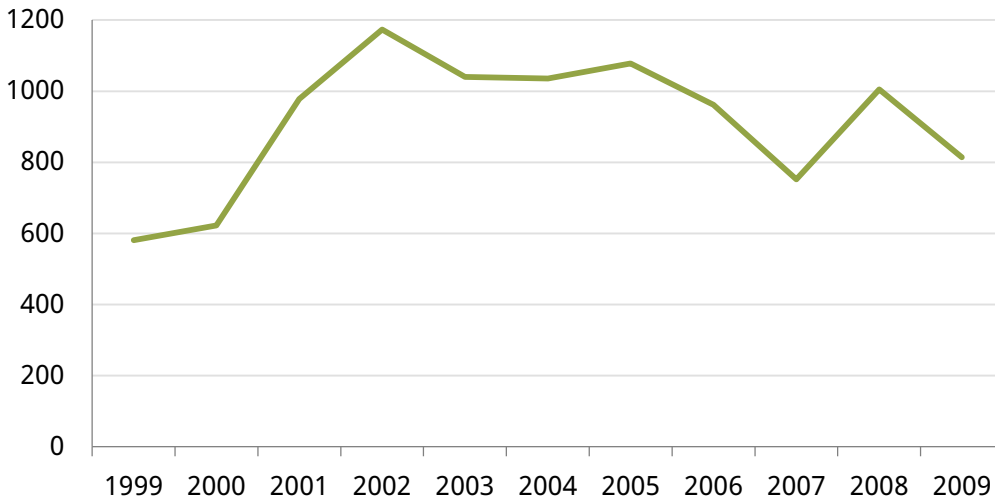
**Figure 3. Results from targeted audits**



**Improvements in targeting were enough to offset the decline in the number of audits until 2002; since then, total revenue raised has fallen**

Although better targeting has increased the amount of revenue from each targeted audit, since the mid-2000s the decline in the number of audits has offset much of this effect (see Figure 4). Total revenue raised from targeted audits peaked for tax year 2002, at £1.17 billion. By 2009 it had fallen to just over two-thirds of that amount (£814 million).

**Figure 4. Total revenue from targeted audits (£ million)**

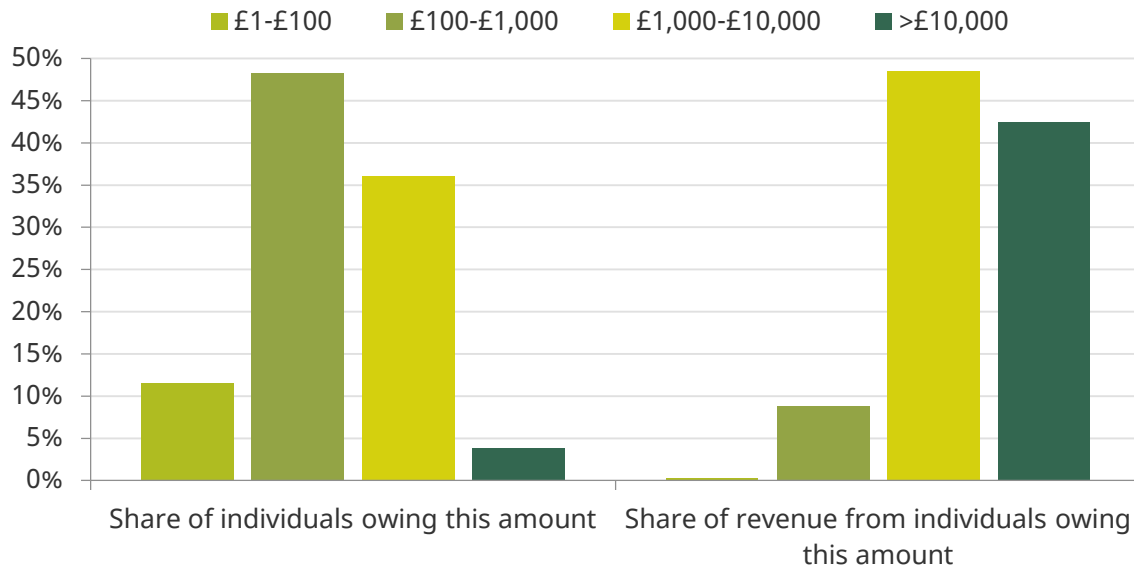


**Almost half of non-compliant taxpayers owe between £100 and £1,000, but almost half of the revenue raised comes from the small minority who owe more than £10,000**

Using the random audits, we look in Figure 5 at *who* owes money and *how much*. We divide up non-compliant taxpayers into groups according to how much money the audit suggests that they owe: less than £100, between £100 and £1,000, between £1,000 and £10,000, or more than £10,000. 48% of taxpayers owe between £100 and £1,000, with a

total of 60% owing less than £1,000. However, this 60% owe only 9% of the total missing tax. In contrast, 42% of the missing tax is owed by the 4% of people who owe more than £10,000.

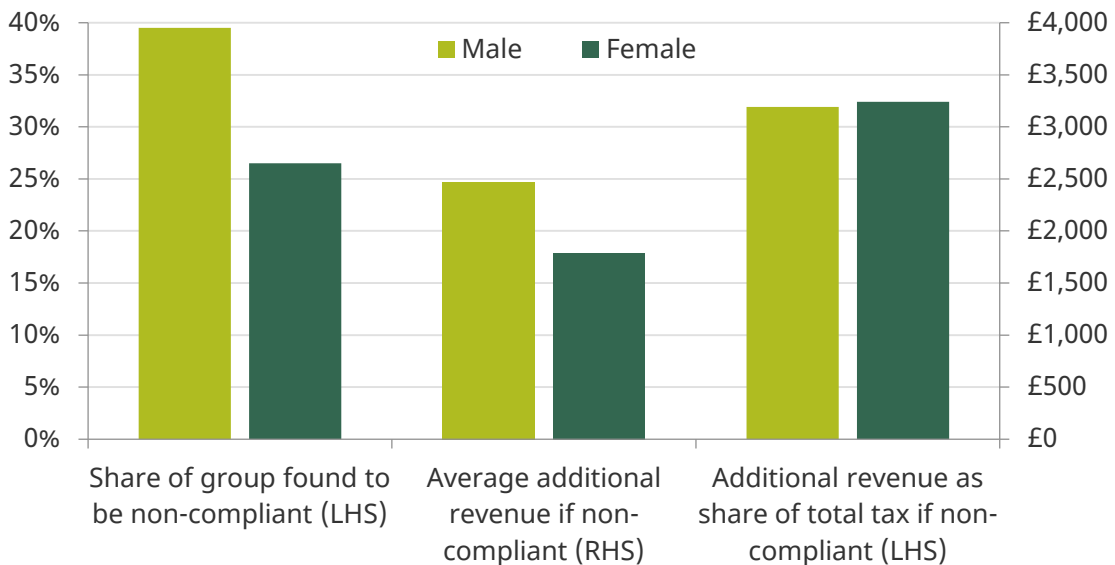
**Figure 5. Distribution of tax owed among the non-compliant**



**Non-compliance is higher among men, although the share of tax under-reported is the same for non-compliant men and women**

Comparing men and women in Figure 6, we see that men are more likely to be non-compliant. 40% of men are found to owe additional tax revenue, compared with only 27% of women. Non-compliant men also owe more money (£2,470 on average) than non-compliant women (£1,790). However, this difference is driven by differences in male and female incomes. The additional amount owed is 32% of the total tax owed for both non-compliant men and non-compliant women.

**Figure 6. Impact of audits by sex**

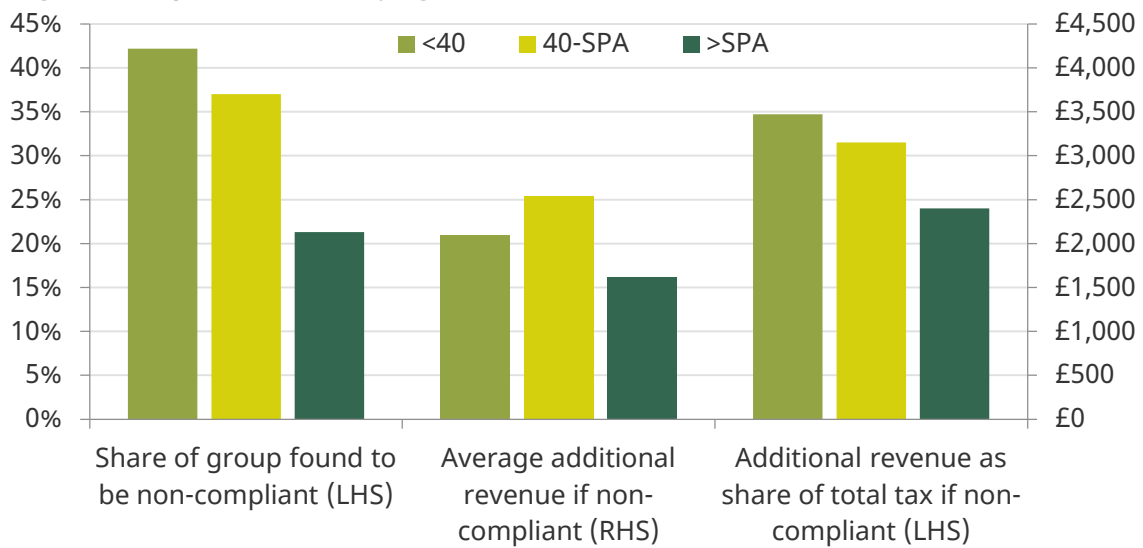




**Working-age individuals are more likely to be non-compliant because self-employment income is harder than pension income to verify without an audit**

Looking at non-compliance by age, Figure 7 shows that it is broadly similar for those below state pension age (SPA), with around 40% of individuals found to be non-compliant and, among these individuals, around a third of total tax being undeclared. Among those above SPA, non-compliance is much lower, at 21%, and less than a quarter of total tax due was undeclared among the non-compliant in this group. A large part of this difference is driven by differences in the types of income received: it is harder to detect both mistakes and deliberate errors in declared self-employment income than in declared pension income.

**Figure 7. Impact of audits by age**

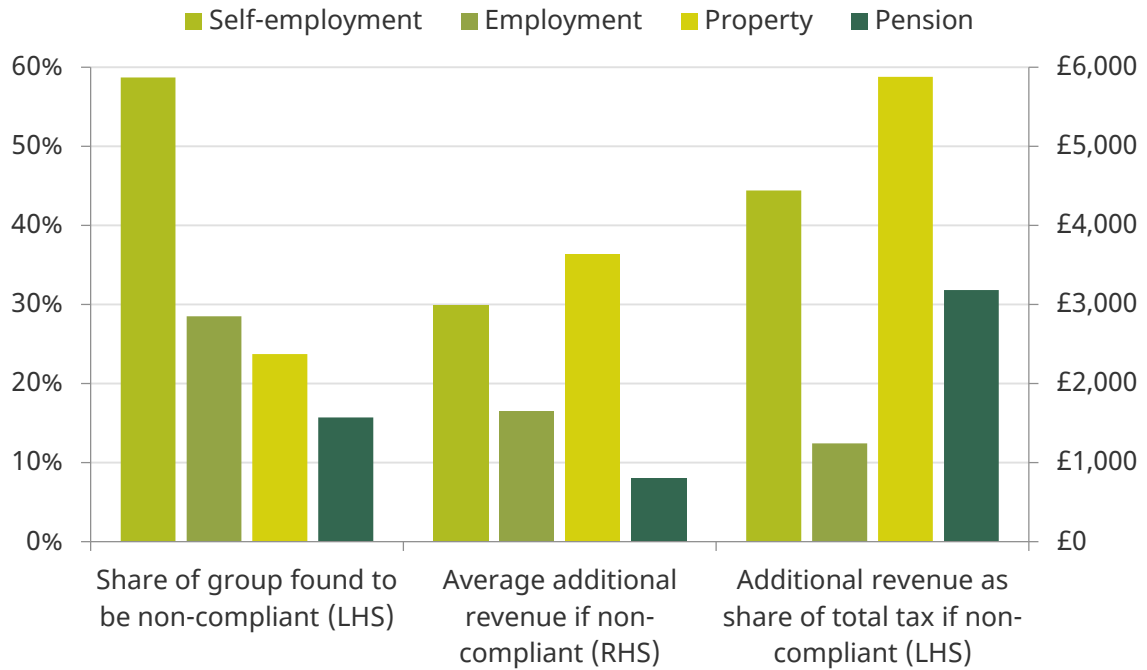


**The likelihood of non-compliance is highest among those with self-employment income, but among the non-compliant those with property income owe the most**

Comparing individuals who have income from only one income source other than bank interest gives an indication of how non-compliance varies by the type of income. Figure 8 shows that 59% of taxpayers declaring only self-employment income are found to be non-compliant, double the rate of non-compliance among those declaring only employment income (29%) and almost four times the rate among those declaring only pension income (16%). This is not surprising since self-employment income is almost entirely self-reported, and income is often received from a large number of small transactions, making it is easier both to make mistakes and to obscure deliberately. More surprising is perhaps that non-compliance is so high for those reporting only employment income, even though such income is also reported by the employer, which should reduce the scope for non-compliance. This may be because some other source of income was entirely unreported, rather than because of errors in reporting employment income and expenses, but it highlights the importance of audits even in cases where non-compliance seems more unlikely.

In terms of revenue, the largest amount of tax is owed by non-compliant taxpayers declaring only property income. Although only 24% of those declaring only property income are found to be non-compliant, they owe an average of £3,630. This is almost 60% of the total tax they owe.

**Figure 8. Impact of audits by sole income source**



**Individuals who have accountants are still likely to be non-compliant, misreport a significant share of their tax liabilities and owe a large amount of tax**

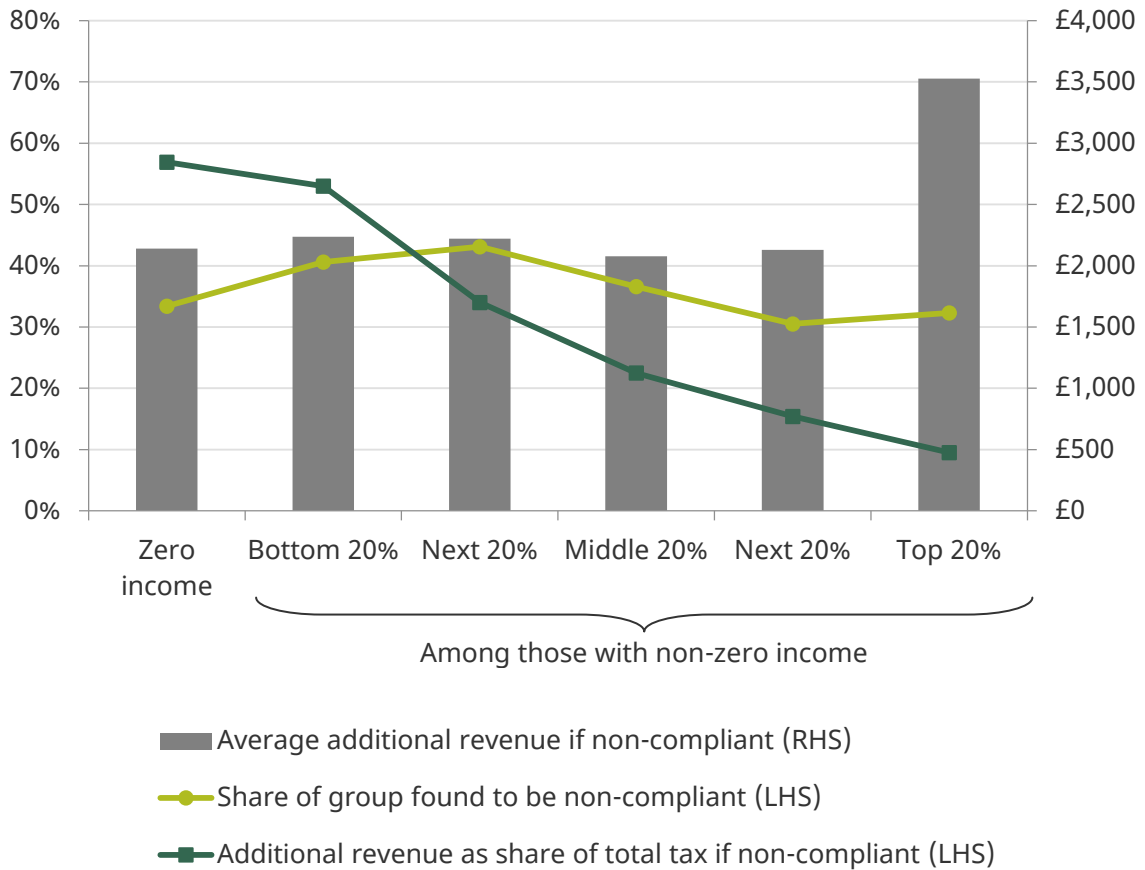
Around 40% of taxpayers with tax agents (accountants or other tax preparers) are found to be non-compliant. Among these non-compliant taxpayers, the average additional tax owed is £2,740, around 35% of the total tax owed.

People who have agents are likely to have more complex tax affairs than those without. This leaves more scope both for mistakes and for the use of allowances and other tax reduction methods. A direct comparison to taxpayers without agents is therefore not sensible. However, these numbers show that the use of agents, who have experience of preparing tax returns so can reduce mistakes, certainly does not solve the problem of non-compliance. Hence continued targeting of such taxpayers for audit is valuable.

**Individuals with different levels of declared income are equally likely to be non-compliant, but the top 20% misreport more in cash terms than other groups**

To understand how tax compliance varies with reported income, in Figure 9 we divide taxpayers up according to the level of total income they declare the year before they are audited. Around 16% of taxpayers previously declared a zero income, whilst the others are divided into five equal groups. Across all these groups, the likelihood of non-compliance was relatively similar. The total cash amount misreported was also similar, at around £2,200, for all but the highest income group, for whom it was £3,530. However, since total tax owed is generally larger with higher previous incomes, the share of tax misreported is lower for higher income groups.

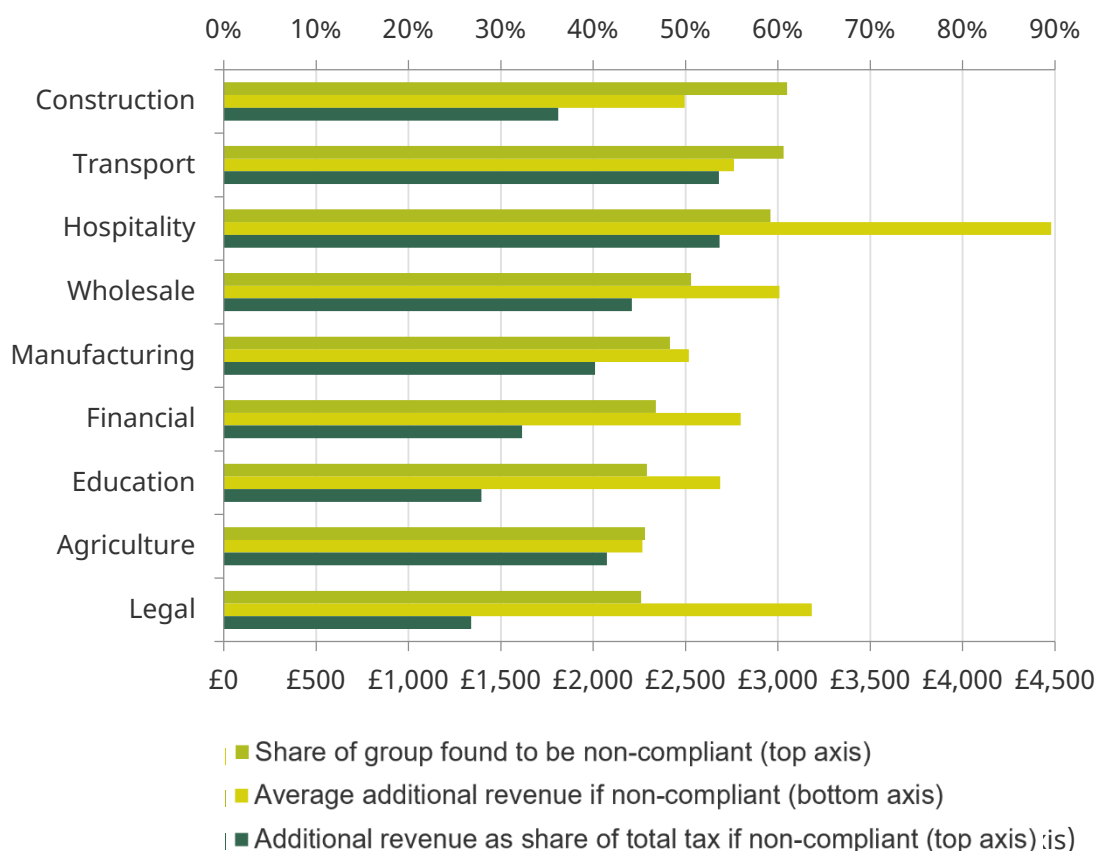
**Figure 9. Impact of audits by declared income quintile**



## More than half the taxpayers working in construction, transport and hospitality are found to be non-compliant, and less than half of all tax owed is declared in the latter two

Among those taxpayers who have self-employment income (43% of all self-assessment taxpayers), non-compliance is highest among those in the construction, transport and hospitality sectors (see Figure 10). In these sectors, around 60% of taxpayers were non-compliant. In revenue terms, non-compliant taxpayers in hospitality owe by far the most, at an average of almost £4,500. Across other industries, the amount owed varies between £2,500 and £3,200. Taxpayers in both hospitality and transport under-reported the largest shares of the total tax they owed, at 54% in both cases.

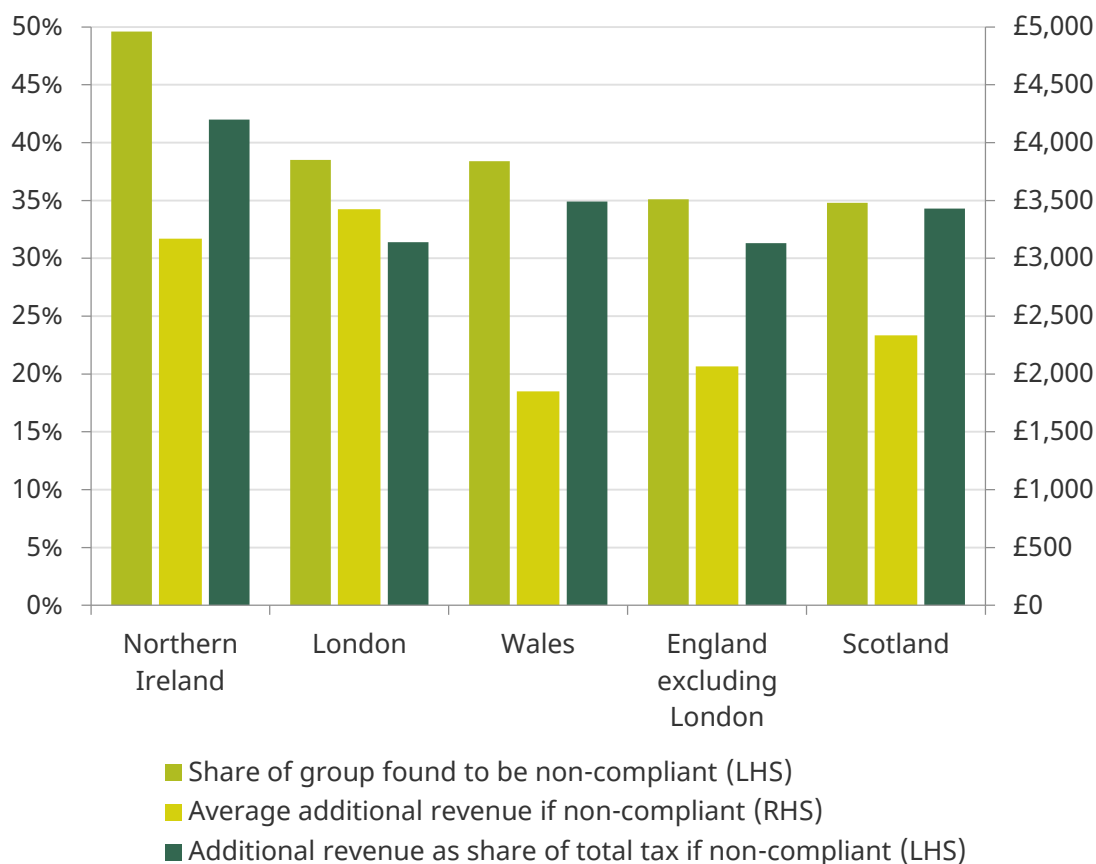
**Figure 10. Impact of audits by industry**



## Half the taxpayers in Northern Ireland are found to be non-compliant, and they misreport the highest share of total tax

Looking across the United Kingdom, Northern Ireland stands out as the region with the highest level of non-compliance. Figure 11 shows that 50% of self-assessment taxpayers from Northern Ireland were found to be non-compliant, compared with between 35% and 39% across the rest of the UK. Northern Ireland is also unusual in having an average of 42% of total tax being unreported among those who are non-compliant, compared with 31% to 35% elsewhere. However, in cash terms, non-compliant taxpayers from London owe the largest amount (£3,420), driven by higher incomes in the capital. Within England excluding London, there is little difference across regions.

**Figure 11. Impact of audits by region**



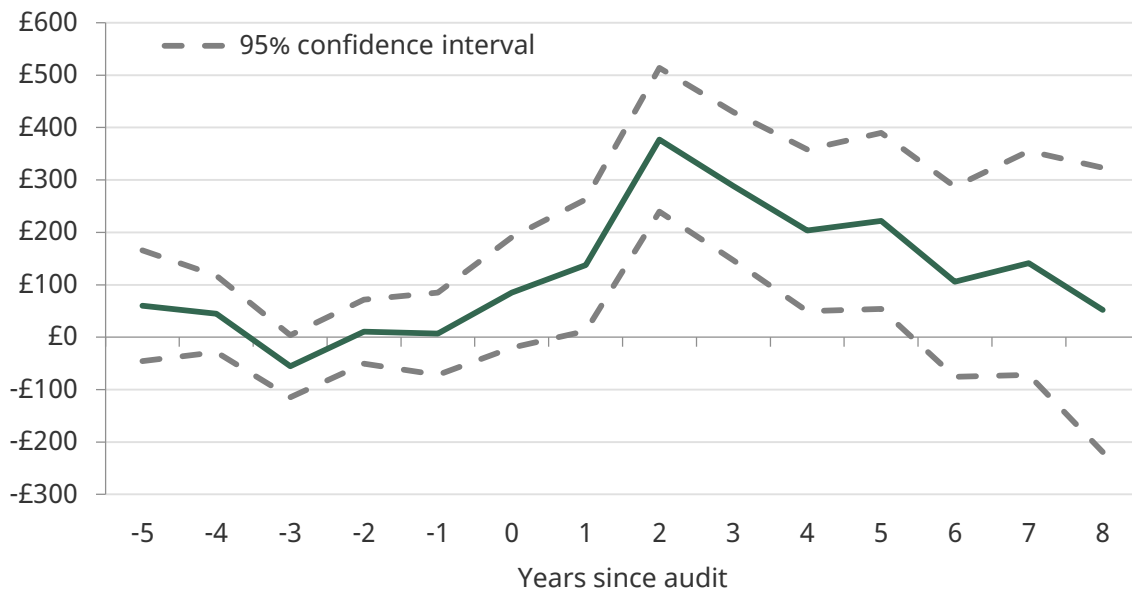
**Audits have important *dynamic* effects: taxpayers declare more tax in the years following audit, and this increase is larger than the direct revenue raised from the audit**

So far, we have looked at the direct effect of audits: the additional revenue raised by audits themselves. But audits may also have a subsequent *dynamic* effect: taxpayers may respond to an audit by filling in their future tax returns differently.

To study whether and how audits affect future tax declarations, we compare randomly audited taxpayers and a sample of taxpayers who *could have* been selected for a random audit but were not. If audits did not change future tax declarations, we would see those who were randomly selected for an audit reporting *on average* the same tax owed as those who were randomly not selected.

Instead, we see in Figure 12 that in the years before the audit these two groups look the same, but audited taxpayers report owing more tax for a few years after the audit. The effect peaks two years after the audited tax year. This is because there is a time lag after submitting a tax return before an audit can be opened, so some taxpayers may not find out they are to be audited for more than a year after the tax year has ended. They therefore cannot adjust their tax return for the tax year immediately after the year being audited.

**Figure 12. Increase in total tax paid by audited individuals**



Summing up, the additional tax revenue raised in the five years after the audit gives an additional £1,230 per audited individual. This is one-and-a-half times the direct effect from the audit of £830 per individual audited.

### **Audits raise revenue in the long run by giving HMRC additional information about taxpayers' incomes**

To understand why audits raise this additional revenue, we develop an economic model.<sup>1</sup> There are three possible explanations:

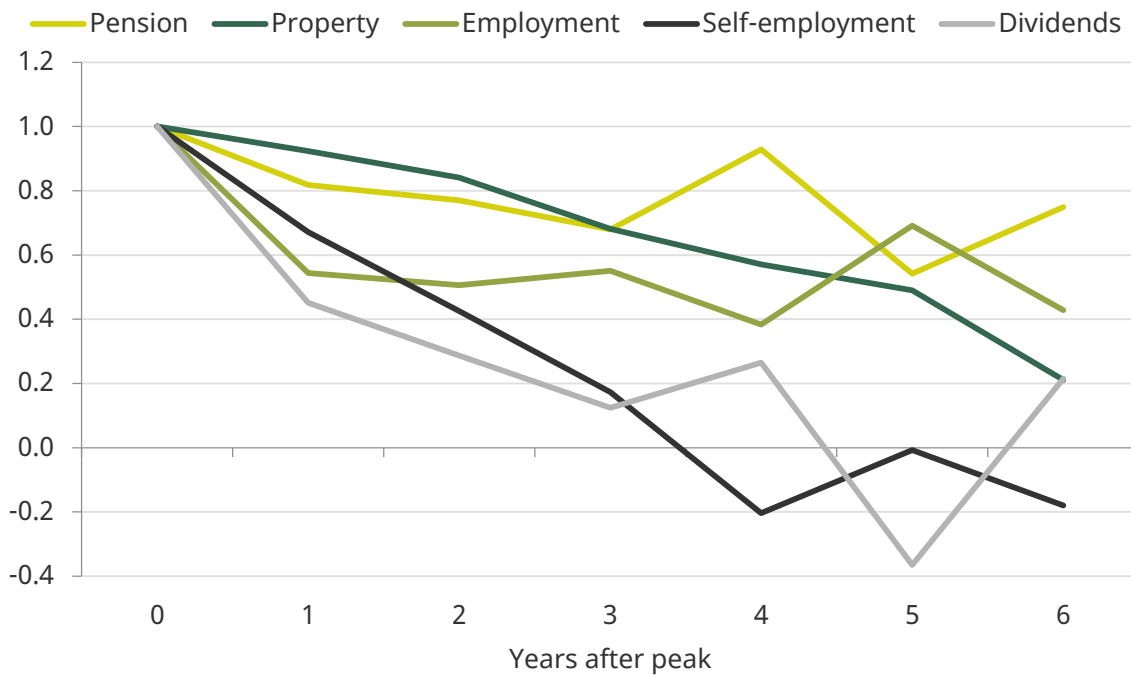
1. Being audited changes a taxpayer's information about how effective audits are.
2. Taxpayers think they are more likely to be re-audited soon after an audit.
3. The audit provides additional information about taxpayers' incomes to HMRC.

Each of these explanations gives different predictions for the dynamics of any additional tax revenue. In the first case, revenue should increase permanently. In the second, it should decline over time, and this decline should not depend on the type of income a taxpayer receives. In the third, additional revenue from more volatile sources of income should decline more quickly than additional revenue from less volatile sources. For example, since pension incomes tend to be very stable, additional tax on pension income should also remain very stable: once HMRC knows a taxpayer's current pension income, it effectively has good information on this income in the future, so could easily pick up on future non-compliance. On the other hand, self-employment incomes are typically more variable, and so information about self-employment income in the audit year is less informative about future self-employment income.

<sup>1</sup> For details, see A. Advani, W. Elming and J. Shaw, 'The dynamic effects of tax audits', IFS Working Paper no. W17/24, <https://www.ifs.org.uk/publications/9996>.

Comparing the average declarations of income for each income source between individuals who were and were not selected for random audits, we see that more volatile sources of income do indeed decline faster than less volatile sources. Figure 13 shows how the dynamic impact varies by income source in the years after this impact peaks. The impact is normalised to 1 in the peak year, and the legend orders income sources from lowest to highest volatility, so pension income in some year is most correlated with the previous year's pension income. The impact on self-employment income declaration is large (£280 in absolute terms) but temporary, while for pension income it is smaller (£170) but more sustained. This tells us why audits raise revenue in the long run: they give HMRC information about taxpayers' incomes.

**Figure 13. Size of dynamic impact in years after peak**



### Random audits are likely to be nearly financially neutral, while targeted audits can raise significantly more than they cost

The primary roles of random audits are to ensure that all taxpayers have some chance of being audited, and to provide statistical information that allows learning about how much non-compliance there is and how best to target it. As well as providing this information, random audits also provide a source of revenue. The total yield from a random audit, combining the direct and indirect yields over the subsequent five years, is £2,060. To get a sense for whether this is large or small, it is useful to compare it with the cost of an audit.

The cost of an audit is not publicly reported. We create a rough estimate by considering the cost of employing an auditor for a year and the average number of audits they conduct in a year. The National Careers Service advertises an annual salary range of £27,000 to £53,250 for tax inspectors ('senior tax professionals'). A reasonable estimate of overheads, including employer National Insurance contributions, pension contributions, office space and management costs, might be around 100%. So the cost of an auditor to HMRC might be around twice their salary. Using the midpoint of the salary scale for tax

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inspectors (£40,000) therefore suggests a cost of £80,000 per year to employ an auditor. Dividing this by the average number of audits performed by an auditor per year (32), which we can measure in the audit data from HMRC, suggests an average cost of £2,500 per audit. If correct then this would imply the cost is three times the size of the direct effect of a random audit (£830). Once the indirect yield is included a random audit is likely to yield a similar amount to its cost, as well as providing valuable statistical information to HMRC, for use in targeting.

Targeted audits focus on taxpayers who are most likely to be under-reporting. They are therefore more likely to uncover non-compliance and to recover higher direct yields. The direct yield from targeted audits is £6,080 on average. Details on how these audits are targeted is not made public. However, if the indirect yield for these audits were similar to those with, say, the top 20% of reported incomes, this would yield an additional £4,180 over the subsequent five years. This gives a total yield of £10,260, more than four times our rough estimate of the cost of an audit.