

9. The 50p income tax rate: what is known and what will be known?

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Summary

- There has been much discussion about the impact on tax revenues of the 50p income tax rate above £150,000 that was introduced in 2010–11, but, as we lack robust evidence, this is currently a debate characterised by much heat and little light.
- The impact of the 50p tax rate on revenues will depend not just on how many taxpayers there are with incomes above £150,000, but also on how taxpayers react to the increased rate of tax (the so-called behavioural response).
- The HM Treasury (HMT) estimate of how much revenue the 50p rate will raise assumes a lower level of behavioural response than previous UK and US studies have found, and does not allow for any impact on indirect tax revenues. This might imply that the 50p rate is raising less than HMT was expecting. On the other hand, the HMT estimate does not take account of the possibility that more tax will be raised later on, or through other taxes such as capital gains tax.
- It is important not to fixate just on whether any revenue is raised. Even if HMT's estimate is right, there will be a great deal of avoidance activity and changed economic behaviour. There are costs to this and there might well be better ways of raising a similar amount of revenue from a similar group of people.
- Experience from reforms to higher rates of tax in other countries suggests that most of the behavioural response to the 50p rate will take the form of increased (legal) tax avoidance. With or without the 50p tax rate, an effective way of increasing the tax take from high-income individuals would be to remove opportunities for tax avoidance.
- The Chancellor has asked HM Revenue and Customs to estimate the impact of the 50p tax rate on tax revenues and to report to him in time to inform his Budget 2012 decisions. The first shreds of evidence will appear shortly, once tax returns for the 2010–11 tax year have been processed. However, this will tell us, at most, only the very short-run impact of the 50p tax rate on revenues; the true impact in the long run could be higher or lower. If the future of the 50p rate is to be determined on the basis of evidence about its impact, then Budget 2012 will be too soon to form a robust judgement.

9.1 Introduction

Rarely has there been such a wide debate about an issue of tax policy based on so little empirical evidence as there has been over the 50p income tax rate applying to incomes above £150,000. Much of the discussion has focused on whether the increased rate will raise any revenue, as it is feared that those affected will reduce their taxable incomes to

such an extent that the lost revenue from the reduced income will exceed the additional tax paid on the income that remains.¹ However, despite the stridency of these calls, there is little robust evidence on how those affected have responded to the increased rate, and comprehensive evidence on this matter is unlikely to become available for some time. It is also the case that this is a narrow criterion on which to judge a particular tax: even if a given tax raises money, there may be more efficient ways of raising the same amount of money from the same (or, at least, very similar) people.

A 45p tax rate on incomes over £150,000 was announced by Alistair Darling in the Pre-Budget Report of November 2008 to take effect from April 2011. He then increased it to 50p and brought it forward to April 2010 in Budget 2009. This was accompanied by other measures to raise revenue from those with very high incomes, including the withdrawal of the income tax personal allowance from those with incomes greater than £100,000 (which creates a small band of income where the marginal income tax rate is 60p²) and a reduction in the generosity of tax relief on pension contributions made by high-income individuals. At the time, both Mr Darling and the two other main political parties agreed that the 50p rate should not be a permanent feature of the tax system, though Ed Miliband has since argued that it should remain permanent.³

The reason it is difficult to predict the impact of the 50p tax rate on tax revenues is that it will depend not just on how many taxpayers there are with incomes above £150,000, but also on whether (and how) actual or potential taxpayers react to the increased rate of tax. Section 9.2 discusses who has an income over £150,000, and Section 9.3 sets out in brief the sorts of ways in which very rich individuals might respond to the new tax rate. Section 9.4 examines empirical evidence on the likely scale of behavioural responses, and Section 9.5 discusses whether HM Treasury's (HMT's) original estimates of the amount of revenue raised are plausible. Section 9.6 discusses what we will learn when HM Revenue and Customs (HMRC) has received data from self-assessment forms covering 2010–11, and whether that would provide strong enough evidence on which to base firm conclusions about the future of the 50p rate. A final section concludes.

9.2 Who pays the 50p rate?

Only 1% of UK income taxpayers (or around 2/3% of adults in the UK) have incomes high enough to pay the 50p rate (this rises to 2% of those in London and the South East). The fraction of the population who would have an income of above £150,000 at some point in their life is higher than this – for example, 1.5% of 35- to 55-year-olds' incomes exceed this amount, and the proportion of households affected at some point will be higher still.⁴ But these statistics do not give the most important sense in which choices about the top rate really matter: in 2011–12, this richest 1% of income taxpayers are forecast to receive

¹ These arguments have been made by economists and business leaders on numerous occasions over the last year in the letters pages of the national press. See, for example, <http://www.ft.com/cms/s/0/d92b0bc4-d7e9-11e0-a5d9-00144feabdc0.html#axzz1iPOlpID6> and <http://www.telegraph.co.uk/comment/letters/8882298/British-business-urges-the-Chancellor-to-invest-in-infrastructure-cut-taxes-and-simplify-regulations.html>.

² This arises because 50p of personal allowance is withdrawn for each pound of income above £100,000: since 50p of personal allowance is worth 20p to a higher-rate taxpayer (40% of 50p), this means that total income tax rises by 60p for each additional pound earned once the usual 40p higher income tax rate is added on.

³ See <http://www.telegraph.co.uk/news/politics/7833345/Ed-Miliband-50p-tax-should-stay.html>.

⁴ Source: M. Brewer, L. Sibieta and L. Wren-Lewis, 'Racing away? Income inequality and the evolution of high incomes', IFS Briefing Note 76, 2008 (<http://www.ifs.org.uk/bns/bn76.pdf>).

12.6% of total UK taxable income and to contribute nearly 28% of the total income tax revenue.⁵ They have become increasingly important over time to the health of the exchequer as the share of total income that they receive has grown: in 1978–79, the richest 1% of taxpayers received only around 6% of total taxable income and contributed 11% of total tax revenues.⁶

Crucial to understanding this group, and the source of tax revenues from them, are the huge inequality within the group, and the sources of their income. The median income of 50p taxpayers is just over £200,000 a year – that is, half have incomes between £150,000 and just over £200,000. But the mean income of this group is nearly £400,000 a year and around half of the tax paid by additional-rate payers is forecast to be paid by the very small group of 43,000 taxpayers with incomes greater than £500,000 a year, who stand to lose an average of £100,000 each from the reform in the absence of any behavioural response.⁷ The behavioural responses, and opportunities for behavioural response, may differ substantially between those with the very highest incomes and the others.

Responses may also depend on the source of the income. On average, the top 1% received around 15% (and the top 0.1% 17%) of their income from investments in 2004–05, compared with just 10% for the next-richest 9%. Employment income for this group comes mainly from work in financial intermediation, real estate and other business activities (including the law and consultancy).⁸

The income share of the richest 1% increased by 2.6 percentage points between 1998 and 2007. Evidence suggests that almost all of the increase in incomes of the top 1% in this period came from earned income, and that the increase in income share of the top 1% entirely came from increases in bonuses and other performance-related incentive pay. This accrued substantially to workers in the financial sector: although this group only formed 12% of the top 1% in 1998, they received 60% of the increase in income among this group.⁹

9.3 How might the very rich respond to the 50p rate?

This section briefly considers possible ways in which individuals could change their behaviour in response to the 50p rate. Almost all taxes distort economic activity in some way, and can therefore lead to economic inefficiencies. Put simply, a rise in the income tax rate makes it less worthwhile to earn money (or otherwise accrue income) and increases the incentive to try to avoid paying tax. This distinction is important because the amount of tax lost for each pound of real activity that is lost entirely is more than the amount of tax lost for each pound that avoids tax. This is because avoidance activities usually

⁵ Source: Tables 2.4 and 2.5 of HMRC statistics (http://www.hmrc.gov.uk/stats/income_tax/table2-4.pdf and http://www.hmrc.gov.uk/stats/income_tax/table2-5.pdf).

⁶ Source: *Inland Revenue Statistics 1994*, A. Atkinson, 'The distribution of top incomes in the United Kingdom, 1908–2000', in A. Atkinson and T. Piketty (eds), *Top Incomes over the Twentieth Century: A Contrast between Continental European and English-Speaking Countries*, Oxford University Press, Oxford, 2007.

⁷ Source: Table 2.5 of HMRC statistics (http://www.hmrc.gov.uk/stats/income_tax/table2-5.pdf).

⁸ Source: M. Brewer, L. Sibieta and L. Wren-Lewis, 'Racing away? Income inequality and the evolution of high incomes', IFS Briefing Note 76, 2008 (<http://www.ifs.org.uk/bns/bn76.pdf>).

⁹ See B. Bell and J. Van Reenen, *Bankers' Pay and Extreme Wage Inequality in the UK*, CEPSP21, Centre for Economic Performance, London, 2010.

involve delaying income to future periods or shifting income to bases on which the tax rate is lower.

However, both forms of behavioural response represent some form of economic inefficiency: in the first form, the higher tax is inducing very rich individuals to make choices that they would not have made had the higher tax not existed; in the second, the very rich and their advisers are wasting resources on avoiding taxes – resources that could otherwise be put to productive use. Assessing the future of the 50p tax rate solely on the basis of whether it raises any net revenue is too narrow an approach to tax policy: even if it raised money, it may not be the least socially harmful way of raising the same amount revenue, even from the same or similar people.

Below, we discuss these two forms of behavioural response.

Responses that involve a real reduction in income in the UK

There are numerous ways in which high-income individuals could respond to the 50p tax rate that would involve a real reduction in the total amount of income generated in the UK. These include:¹⁰

- undertaking fewer hours of paid work each week;
- putting less effort into their work, causing them to earn less;
- retiring from paid work earlier;
- choosing a career that has lower remuneration;
- moving to a foreign country.¹¹

These behavioural responses all represent a genuine reduction in income for those concerned, and so, if they are occurring, they will probably reduce not only direct tax revenue, but also indirect tax revenue, as, presumably, the expenditure in the UK of the individuals concerned would also fall.

Responses that reduce taxable income but do not represent a real reduction in income in the UK

Individuals can also seek to reduce their taxable income in ways that do not involve a real reduction in the amount of income earned in the UK through various forms of legal tax avoidance. These generally involve shifting income to different time periods or to different tax bases where it will be taxed at lower rates. Of course, there would also be a greater incentive to engage in illegal tax evasion.

The main techniques individuals are likely to use (or to have used) to avoid paying the 50p income tax rate include (but are definitely not limited to) the following:¹²

¹⁰ The existence of the 50p tax may also deter those whose income is not currently subject to the 50p rate from undertaking more hours of paid work, putting more effort into their work, retiring from paid work later, choosing a career that has higher remuneration or migrating to the UK if that might mean they have to pay the 50p rate in the future.

¹¹ In principle, firms could also change their location if they feel that a sufficiently high fraction of their workforce is likely to be affected by this tax. This will presumably only apply to firms that pay their employees or managers very high incomes, and where the country in which they are based is largely irrelevant; hedge funds might be one example.

¹² A rise in the income tax rate also means that affected taxpayers now face a stronger incentive to make charitable donations, as these are tax-deductible and hence the cost of donating a pound in terms of the amount of after-tax income forgone is reduced.

- *Increasing contributions to private pensions.* Since contributions to private pensions attract tax relief, but pension income in retirement is subject to income tax, this is effectively a way of deferring paying tax on income until an individual's marginal income tax rate is lower. The extent to which this can be used as an avoidance mechanism has been reduced by the government's decision to limit the total amount of pension contributions an individual can make to £50,000 per year. This is still a large proportion of income for those with incomes just above the additional-rate threshold, but is likely to be a binding constraint for many of those with much higher incomes.
- *Bringing forward income to 2009–10, before the 50p rate was put in place, or delaying income in the hope that the 50p rate is abolished (or reduced) in the future.*¹³ Doing this can be particularly trivial for some of the incorporated self-employed as they can simply adjust their dividend payouts. There is evidence of this happening: the *Financial Times* reported on 24 March 2011 that 'Bigger or accelerated dividend payments by companies where directors own substantial chunks of equity were announced by companies including Hargreaves Lansdown, HomeServe, Pennon Group and Beazley' before the increase in the top tax rate in April 2010.
- *Converting income to capital gains.* The difference between the top income tax rate of 50% and the top capital gains tax (CGT) rate of 28% provides a strong incentive for individuals to obtain remuneration in the form of capital gains rather than income. This option may be available to the self-employed, who can forgo some or all of their salary to increase the value of their business and then sell it on,¹⁴ and to those who use service companies, who can put a proportion of their income – perhaps from personal endorsements – into a company that will pay corporation tax and allow income to be deferred. It also applies to groups such as private equity fund managers who receive much of their income as 'carried interest', which is treated as a capital gain rather than income.¹⁵ It is also relatively easy to convert investment income to capital gains: individuals can shift their asset portfolios towards assets that give returns in the form of capital gains rather than income. In some cases, income from employment can take the form of capital gains: UK governments have been keen to encourage company managers to align their interests with those of the company by introducing various tax-favoured forms of share-based remuneration such as Company Share Option Plans (CSOPs). Gains made when options are realised are taxed at CGT rather than income tax rates, giving substantial tax savings. In the long term, individuals may be encouraged by the 50p rate to become self-employed in order to enjoy the resulting tax advantages.

¹³ Alistair Darling first announced in the Pre-Budget Report of November 2008 that a 45p rate of tax would apply on incomes above £150,000 from April 2011, and he later decided that it should be a 50p rate and be introduced in April 2010.

¹⁴ Indeed, in the case of owner-managed businesses, the incentive to take remuneration in the form of capital gains is particularly strong because of the existence of entrepreneur's relief, which allows the first £10 million of gains realised on unincorporated businesses or shares where the shareholder has been a full-time employee or director and owned at least 5% of the shares to be taxed at a lower rate of 10%.

¹⁵ Carried interest is a share of the profits of a private equity partnership that is designed to give managers an incentive to maximise returns on investment. There was a great deal of controversy in 2007 about this practice, which at the time enabled private equity managers to pay tax at a rate of 10% rather than the top income tax rate of 40% as a result of the taper relief system for CGT that was then in place. Subsequent reforms to CGT have increased the CGT rate on carried interest to 28%, but this is still substantially less than the 50% top income tax rate.

- *Transferring income between spouses where only one of them pays tax at the 50p rate.*
This is particularly simple for investment income, as married couples can transfer the ownership of investments to the lower-income spouse without paying any CGT as transfers between married couples are exempt from CGT.

As we said above, there are two important differences between these forms of behavioural responses and those set out in the previous subsection which genuinely reduce UK income. First, not all of the income tax revenue affected by these sorts of avoidance activities would be lost permanently to the government: some of it would show up in different time periods, coming from different individuals, or in other tax bases. Although the government would not collect the full 50p of each pound shifted in the ways described above, it would at least collect something at some point.¹⁶ Second, these responses should not significantly reduce the amount of income that will be spent, at least eventually, in the UK economy. Accordingly, we would not expect indirect tax revenues to be affected (assuming indirect tax rates are constant over time). This highlights that it is important to know not just the scale but also the nature of the behavioural response of high-income individuals when considering the revenue impacts of this tax change.

We should also note that the government does have some power to prevent, or at least limit, behavioural responses of this nature (and that is why, as we argue in the next section, the so-called taxable income elasticity should not be thought of as a fixed parameter). The government has already taken such a measure by placing an annual limit of £50,000 on pension contributions from 2011–12.¹⁷ It has also made a series of reforms to CGT, which involve raising the headline rate to 28%. Depending on how it weighs different costs, the government could do more. For example, it could close the gap between income tax and CGT rates (as was proposed in the Liberal Democrats' 2010 General Election Manifesto), thereby negating any advantage to taking capital gains rather than income, though this might impact on savings and investment incentives. Or it could take a tougher line on income shifting between spouses by husband-and-wife partnerships, though this might increase compliance burdens and be hard to monitor and police.¹⁸

9.4 Evidence on how high-income individuals respond to tax changes

This section discusses the economic literature that has sought to estimate the extent to which very rich individuals respond to high taxes. Rather than investigating directly the scale of the behavioural responses described in the previous section – many of which would be very hard to observe directly – researchers have tended to estimate a single

¹⁶ Although liquidity-constrained governments may prefer to receive tax payments now than higher tax payments in the future.

¹⁷ The government also changed the rules concerning the amount that can be contributed to a pension in the year it is withdrawn: previously, there was no limit to the amount individuals could contribute in the year they withdrew their pension, but the £50,000 limit applies in this year also, with the only exception being if an individual has a severe illness or on death.

¹⁸ Presently, dividends can be paid to a spouse who does not work for the company and has not provided any capital. This is advantageous if the spouse has a lower marginal tax rate. HMRC lost a case in the House of Lords in 2007 (*Jones v Garnett* (2007) HL35), which allowed this sort of arrangement to continue. Although the then government announced that it would introduce legislation to clamp down on income shifting, no such proposals have been introduced.

parameter: the taxable income elasticity. This summary statistic tells us how much individuals reduce their taxable income in response to an increase in the marginal tax rate they face.¹⁹ An advantage of this statistic is that it is easier to estimate than investigating the different forms of behavioural response identified in the previous section. A disadvantage is that, by taking into account all possible behavioural responses, it blurs together those responses that affect real economic activity and those that represent tax avoidance.

We first discuss the (extremely limited) UK evidence, and then that from other countries. We note, though, that evidence from other countries' experience may be of limited relevance to the UK, as tax bases and opportunities for avoidance will differ substantially between countries, and this will have a key impact on the taxable income elasticity. However, the evidence is indicative.

UK evidence on behavioural responses to tax changes among the very rich

The long period of stability in the UK's top income tax rate that preceded the introduction of the 50p rate in 2010–11 (40p had been the top rate since 1988–89) presents a challenge for researchers interested in the responsiveness of the very rich in the UK to changes in their marginal tax rate. The last time the top rate was changed significantly was when the top income tax rate on earned income fell from 83% in 1978–79 to 40% in 1988–89.

As part of the Mirrlees Review of the tax system, Brewer, Saez and Shephard (2010; henceforth BSS) investigated how the income share of the richest 1% changed in response to cuts in marginal tax rates during the 1960s, 1970s and 1980s.²⁰ Simply observing how much the income share of the richest 1% increased during this period is unlikely to give a good estimate of the taxable income elasticity: it is likely that other factors would also affect the income share of the richest 1%, given that this was a time of increasing inequality generally. But BSS argued that we would get a better view of the responsiveness of the very rich to changes in their marginal income tax rates by comparing the evolution of the richest 1%'s income share with that of the next-richest 4% (who did not see their marginal tax rate fall significantly, but did see their income share rise as a result of other factors that were tending to increase inequality). This is known as the difference-in-differences method and is discussed further in Box 9.1.

The data used by BSS are shown in Figure 9.1. The share of income going to the top 5% increased significantly over the period 1978–1991, but the increase was particularly large for the top 1%. The so-called difference-in-differences methodology used by BSS effectively assumes that the additional increase in the top 1%'s share over and above the increase in the share of the next-richest 4% (i.e. the difference between these differences over time) was caused by the cut in the marginal tax rate faced by the top 1%.

¹⁹ The taxable income elasticity relates the net-of-tax rate (i.e. 100% minus the tax rate) to the amount of income. If the taxable income elasticity was 0.3 and the net-of-tax rate fell by 1% (so, for example, if the tax rate increased from 50% to 50.5%, reducing the net-of-tax rate from 50% to 49.5%), then taxable income would fall by 0.3%.

²⁰ M. Brewer, E. Saez and A. Shephard, 'Means-testing and tax rates on earnings', in J. Mirrlees et al. (eds), *Dimensions of Tax Design: The Mirrlees Review*, OUP for IFS, Oxford, 2010 (<http://www.ifs.org.uk/mirrleesreview/dimensions/ch2.pdf>).

Box 9.1. The difference-in-differences methodology for estimating taxable income elasticities

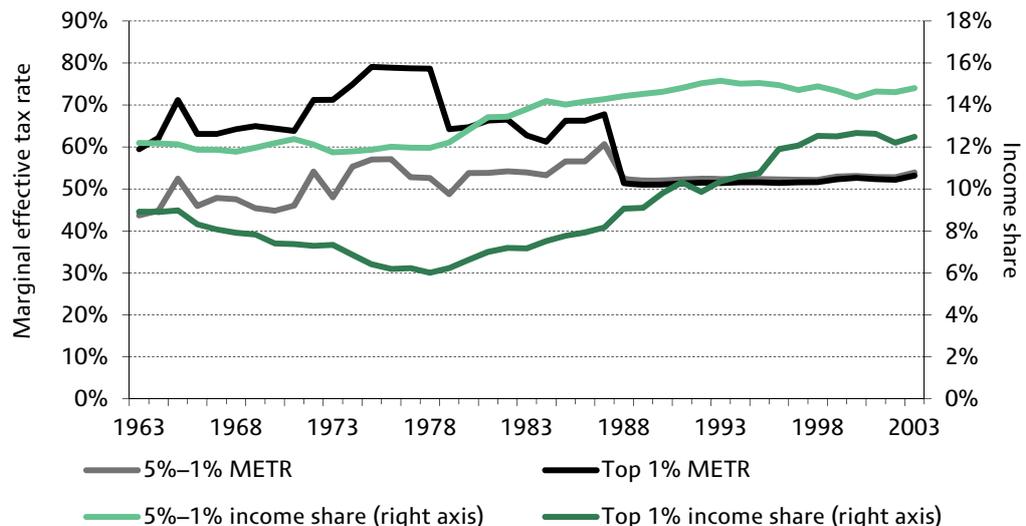
The difference-in-differences methodology used by BSS is common in the literature in this area. Typically, a group affected by a tax change is compared with one that is slightly richer or poorer that is not affected. The key assumption that enables identification of the taxable income elasticity is that, in the absence of a change in the tax rate, the share of income going to the two groups would have changed by the same amount. This assumption may not hold during periods when the level of income inequality is changing for reasons that are not related to changes in tax rates, or (in the case of the 50p rate) if there are factors that particularly affect the richest 1% relative to the next-richest 4%. It may be possible to account for these, but it is always difficult to know whether that has been achieved.

There are further problems that arise when investigating pre-announced tax rises, such as the 50p rate, using this methodology. Saez, Slemrod and Giertz (forthcoming) examine the increase in the top federal income tax rate in 1993 in the US using this methodology and find a positive elasticity, but they show that this is driven by a spike in the richest 1%'s income share in the last year of the lower tax rate (1992).^a They cite several studies that show that much of the drop in income share between 1992 and 1993 was caused by high-income individuals shifting their income forwards.^b (Indeed, the income share of the richest 1% continued to increase between 1994 and 2000.) This is likely to be a problem faced by HMRC staff using this methodology, particularly as they will only have one year of data after the 50p rate is introduced to work with for their report to the Chancellor in advance of the March 2012 Budget.

^a E. Saez, J. Slemrod and S. Giertz, 'The elasticity of taxable income with respect to marginal tax rates: a critical review', *Journal of Economic Literature*, forthcoming (<http://elsa.berkeley.edu/~saez/saez-slemrod-giertzJEL10final.pdf>).

^b A. Goolsbee, 'What happens when you tax the rich? Evidence from executive compensation', *Journal of Political Economy*, 108, 352–75, 2000; A. Parcell, *Income Shifting in Response to Higher Tax Rates: The Effects of OBRA 1993*, Office of Tax Analysis, US Department of the Treasury, Washington, DC, 1995; F. Sammartino and D. Weiner, 'Recent evidence on taxpayers' responses to the rate increases in the 1990s', *National Tax Journal*, 50, 683–705, 1997.

Figure 9.1. Income shares and marginal tax rates of richest 1% and next-richest 4%, 1963–2003



Sources: Income share – Atkinson, 2007, op. cit. (in footnote 6). Marginal tax rates – BSS.

BSS obtained an estimate for the taxable income elasticity of the richest 1% in the UK of 0.46. This means that a 1% reduction in the net-of-tax rate would lead to a 0.46% reduction in income. But, for several reasons, we would hesitate to describe this estimate as being particularly robust.

First, BSS used aggregate data on income shares, rather than micro-data. Accordingly, the level of precision of their estimate is very low, and there is a wide confidence interval around their central estimate.

Second, the difference-in-differences method used by BSS is open to question: if there were other factors that were tending to increase inequality over the period studied, then the increase in the income share of the richest 1% would have occurred without the tax change; if this was the case, then BSS have overestimated the responsiveness of the very rich to tax changes.

More significantly, the taxable income elasticity is not a fixed parameter that describes some unchanging aspect of human behaviour, but instead depends to a large extent on the opportunities available for avoidance; it is a function, therefore, of the economic conditions, and of the design of the tax system and the way that it is enforced. Marginal tax rates affecting the very rich have hardly changed since 1988, and so all of the data that lie behind BSS's estimate are essentially coming from the 1960s, 1970s and 1980s. This means that we can question whether the BSS estimate is relevant to the current debate: opportunities for high-income individuals to move to other countries have undoubtedly increased in the last twenty years, and this would lead us to expect a higher taxable income elasticity today; but on the other hand, changes in the tax compliance regime might have reduced the ability of high-income individuals to avoid paying tax.

Empirical evidence on the responsiveness of the very rich to tax changes from other countries

Much of the literature from outside the UK comes from the US, and has tended to find empirical estimates of the taxable income elasticity that are quite high.²¹ For example, Gruber and Saez (2002), using – like BSS – evidence from the 1980s, find an elasticity of 0.57 for those with incomes greater than \$100,000.²² Saez (2004) uses a longer time series from 1960 to 2000 and finds a taxable income elasticity of 0.62 for the richest 1%.²³ Using more recent evidence from the Bush tax cuts of 2001 and 2003, Auten, Carroll and Gee (2008) find an elasticity of around 0.4 for those with incomes greater than \$50,000.²⁴

Taken together, these studies suggest that those with very high incomes are more responsive to changes in tax rates than those with less-high incomes, as we would expect.²⁵ They also suggest that the richest 1% in the US might be more responsive to

²¹ A good summary is given by E. Saez, J. Slemrod and S. Giertz, 'The elasticity of taxable income with respect to marginal tax rates: a critical review', *Journal of Economic Literature*, forthcoming (<http://elsa.berkeley.edu/~saez/saez-slemrod-giertzJEL10final.pdf>).

²² J. Gruber and E. Saez, 'The elasticity of taxable income: evidence and implications', *Journal of Public Economics*, 84, 1–32, 2002.

²³ E. Saez, 'Reported incomes and marginal tax rates 1960–2000', in J. Poterba (ed.), *Tax Policy and the Economy*, Volume 18, MIT Press, Cambridge, MA, 2004.

²⁴ G. Auten, R. Carroll and G. Gee, 'The 2001 and 2003 tax rate reductions: an overview and estimate of the taxable income response', *National Tax Journal*, 61, 345–64, 2008.

²⁵ A number of studies have examined the taxable income elasticity across all taxpayers and have come up with taxable income elasticities of around 0.4, though as Giertz (2004) argues when examining this literature, these

changes in their marginal tax rate than the equivalent group in the UK (if we believe BSS's estimate). This is probably not surprising since there seem to be rather more opportunities for individuals to avoid tax in the US as a result of its narrower income tax base relative to the UK: for example, the US still has tax relief on mortgage interest, meaning that it is possible to avoid tax liabilities by purchasing a more expensive property.²⁶

What evidence is there on the form of the behavioural response?

Section 9.3 argued that there is an important distinction between responses that reduce genuine activity and those that take the form of avoidance (or evasion). Although the taxable income elasticity accounts for (and therefore blurs together) all possible behavioural responses, researchers have investigated the nature of the behavioural response of the very rich to high tax rates.

We can say something about the plausibility of the sorts of responses in Section 9.3 that represent real changes in activity. Studies that have examined labour supply behaviour have tended to find that weekly hours of work, particularly among prime-age men, are almost completely unresponsive to changes in marginal tax rates.²⁷ It is more difficult to say anything about effort, as this is not something that can be directly observed. But we do know from the economic literature that workers are particularly responsive to financial incentives around retirement age,²⁸ and there is certainly anecdotal evidence that some very rich people are geographically mobile.²⁹

Evidence of a different sort has been presented in a recent working paper.³⁰ Taking a large number of developed economies since 1975, the authors observed that there was very little relationship between GDP growth and the size of the marginal income tax rate affecting the very rich. On the other hand, they did find a relationship between top tax rates and the income share of the very rich. This is suggestive, but by no means conclusive, that higher tax rates on the very rich do reduce the income of the very rich (as more tax is extracted from them) but have no discernible impact on the performance of the economy as a whole.

results are highly sensitive to the specifications of the models used to estimate these elasticities and the precise subsamples used. S. Giertz, 'Recent literature on taxable income elasticities', Congressional Budget Office, Technical Paper 2004-16, 2004 (<http://www.cbo.gov/ftpdocs/60xx/doc6028/2004-16.pdf>).

²⁶ Glaeser and Shapiro (2003) argue that mortgage interest relief encourages people to purchase more expensive properties but does little to encourage greater home ownership. E. Glaeser and J. Shapiro, 'The benefits of the home mortgage interest deduction', in J. Poterba (ed.), *Tax Policy and the Economy*, Volume 17, MIT Press, Cambridge, MA, 2003 (<http://www.nber.org/chapters/c11534.pdf>).

²⁷ For a survey of the literature, see C. Meghir and D. Phillips, 'Labour supply and taxes', in J. Mirrlees et al. (eds), *Dimensions of Tax Design: The Mirrlees Review*, OUP for IFS, Oxford, 2010 (<http://www.ifs.org.uk/mirrleesreview/dimensions/ch3.pdf>).

²⁸ See J. Gruber and D. Wise, *Social Security Programs and Retirement around the World: Micro-Estimation*, University of Chicago Press, 2004.

²⁹ For example, a recent survey of 549 millionaires found that only 44% considered themselves to be 'very committed' to remaining in the UK, and the Swiss Federal Migration Office reported a 28% increase (to a total of 383) in the number of individuals working in banking and finance relocating from the UK to Switzerland in 2010, although we cannot say what the number would have been had there not been a 50p tax rate. See Centre for Economics and Business Research, *The 50p Tax – Good Intentions, Bad Outcomes*, London, 2011 (<http://www.cebr.com/wp-content/uploads/50p-Tax.pdf>) and <http://www.channel4.com/news/british-bankers-head-to-switzerland>.

³⁰ T. Piketty, E. Saez and S. Stantcheva, 'Optimal taxation of top labor incomes: a tale of three elasticities', NBER, Working Paper 17616, 2011.

The insight that the taxable income elasticity is not a fixed parameter, but rather depends on the opportunities available for avoidance, has formed a key part of the US literature. Kopczuk (2005) presents evidence to suggest that the US Tax Reform Act of 1986, which significantly reduced the number of tax-deductible items and closed a number of tax loopholes, led to a reduction in the taxable income elasticity.³¹ This helps explain why taxable income elasticity estimates obtained for the 1990s tend to be significantly lower than those for the 1980s,³² and suggests that much of the observed increase in taxable income among the very rich after reductions in the top tax rates has been the result of less avoidance activity rather than more economic activity. This is confirmed by the results of other studies that have examined the responsiveness of 'broad income' – defined as income before various deductions such as pension contributions, mortgage interest and charitable donations – to changes in income tax rates. Gruber and Saez (2002) find a much lower elasticity for broad income in their data from the 1980s: the broad income elasticity for those with incomes above \$100,000 is 0.17 rather than 0.57.³³ Therefore, it would appear that those with very high incomes respond to tax rises by changing their avoidance behaviours rather than by doing less paid work.

Other international evidence corroborates these findings. For example, Denmark has a very broad tax base with few items that can be fully deducted from income, and Kleven and Schultz (2010) find that the taxable income elasticity is lower than in other countries (less than 0.2), although still two or three times higher among the top income quintile than in the bottom quintile.³⁴ This means that the very high tax rates seen in Denmark do not exceed the estimated revenue-raising point (known as the Laffer bound). They also find that deductibles (Denmark allows mortgage interest, for example, to be less than fully deducted from income) are particularly responsive to changes in marginal tax rates, again reinforcing that these sorts of avoidance responses predominate.

9.5 HM Treasury's estimate of the level of revenue raised

This section gives details of the forecast produced by HMT for the amount of revenue raised by the 50p tax rate, with a focus on the degree of behavioural response assumed in this estimate.

If there were no behavioural response to the introduction of the 50p rate, it would increase income tax revenues by £6.5 billion in a full year (see Figure 9.2 below). However, HMT's latest estimate is that total income tax and National Insurance revenues will only increase by £2.7 billion in a full year.³⁵ It is therefore clear that a substantial degree of behavioural response has been incorporated into this estimate; when

³¹ W. Kopczuk, 'Tax bases, tax rates and the elasticity of reported income', *Journal of Public Economics*, 89, 2093–119, 2005 (<http://www.columbia.edu/~wk2110/bin/taxBase-final.pdf>).

³² See S. Giertz, 'Recent literature on taxable income elasticities', Congressional Budget Office, Technical Paper 2004-16, 2004 (<http://www.cbo.gov/ftpdocs/60xx/doc6028/2004-16.pdf>).

³³ A similar result is found by S. Giertz, 'The elasticity of taxable income over the 1980s and 1990s', *National Tax Journal*, 60, 743–68, 2007 (<http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1056&context=econfacpub>).

³⁴ H. Kleven and E. Schultz, 'Identifying the elasticity of reported income using a large panel of Danish tax payers', Centre for Economics and Business Research, Working Paper, 2010.

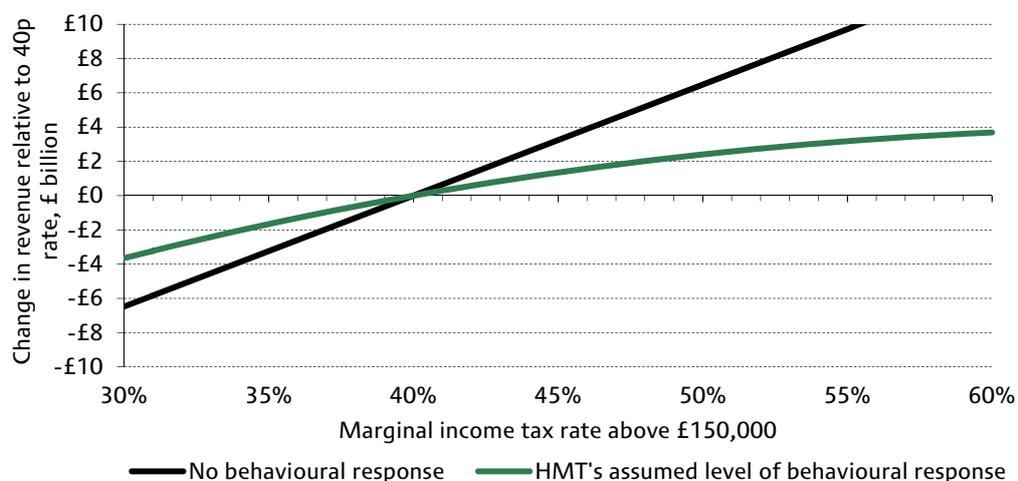
³⁵ See table A11 of HM Treasury, *Budget 2010: Securing the Recovery*, HC 451, The Stationery Office, London, March 2010.

calculating the revenue implications of the 50p rate, HMT used a taxable income elasticity of 0.35.³⁶

The 50p rate causes the marginal tax rate on earned income faced by this group to increase from 56.8% to 64.3% once both employee and employer National Insurance contributions and an average indirect tax rate of 18% are taken into account. This represents a 17% decrease in the marginal net-of-tax rate. Hence HMT's estimate of the taxable income elasticity implies that the total taxable income of these individuals will fall by 6%.³⁷ Note that the government not only does not receive the additional 10p of income tax on this income, but also loses the income tax and National Insurance it was previously collecting on this income; this is why the increased tax rate could lead to a reduction in tax revenue.

Figure 9.2 shows our estimate of the relationship between the marginal income tax rate and total income tax and National Insurance revenues relative to a 40p income tax rate (commonly known as the 'Laffer curve') assuming (a) no behavioural response and (b) the level of behavioural response assumed by HMT. Note that this does not allow for any effect on indirect tax revenues, a point we return to below. The graph shows estimates of the change in revenue from income tax and National Insurance based on our own analysis of the 2007–08 Survey of Personal Incomes (suitably uprated), as described in Brewer and Browne (2009, op. cit.). The estimates do not replicate exactly those published by HM Treasury, probably because it has access to more recent data than we do.

Figure 9.2. Estimated change in income tax and National Insurance revenues relative to 40% income tax rate



Note: Assumes marginal rates of 2% for employee National Insurance and 13.8% for employer National Insurance and an 18% indirect tax rate.

Source: Authors' calculations using the 2007–08 Survey of Personal Incomes and assumptions specified in the text.

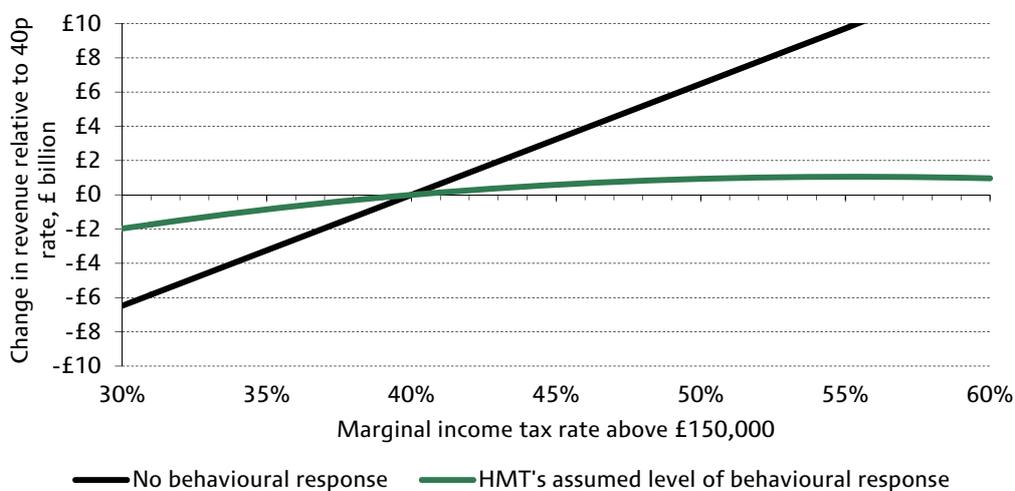
³⁶ Details of HMT's methodology were obtained by IFS through a Freedom of Information Request. For more details, see M. Brewer and J. Browne, 'Can more revenue be raised by increasing income tax rates for the very rich?', IFS Briefing Note 84, 2009 (<http://www.ifs.org.uk/bns/bn84.pdf>).

³⁷ 17% is equal to $((35.7\% - 43.2\%) / 43.2\%)$ and $0.35 \times 17\%$ is 6%. For more details of how these rates are calculated, see Brewer and Browne (2009, op. cit.). The marginal tax rate on unearned income increases from 49.2% to 57.6% as a result of the introduction of the 50p rate.

The difference in revenue yield implied by the gap between the two lines in Figure 9.2 shows us that HMT's estimate of the revenue raised by the 50p rate incorporated a significant degree of behavioural response. Had individuals left their taxable income unchanged when the income tax rate was increased from 40% to 50%, the reform would have increased income tax revenues by around £6.5 billion in a full year according to our calculations, rather than the £2.7 billion by which HMT estimates total income tax and National Insurance revenues would increase under its assumed level of the taxable income elasticity.

It is also important to consider which taxes HMT is including in its estimate – namely, only income tax and National Insurance revenues. As we discussed in Section 9.3, this could give a misleading impression of the overall effect on tax revenues on two counts.

Figure 9.3. Estimated change in income tax, National Insurance and indirect tax revenues relative to 40% income tax rate



Note: Assumes marginal rates of 2% for employee National Insurance and 13.8% for employer National Insurance and an 18% indirect tax rate.

Source: Authors' calculations using the 2007–08 Survey of Personal Incomes and assumptions specified in the text.

First, HMT is not allowing for any impact on indirect tax revenues in its estimate, but, as we argued previously, it is likely that expenditure and hence VAT revenues will fall if the behavioural response to the 50p rate represents a real reduction in income.³⁸ Taking things to the other extreme, if expenditure falls by the same amount as income, the Laffer curve under HMT's assumed value for the taxable income elasticity changes to that shown in Figure 9.3. If we assume that all of the behavioural response represents a real reduction in income, the 50p rate raises less than £1 billion in a full year.

Second, and working in the other direction, HMT's assumption does not take account of any possible 'fiscal externalities' when calculating the amount of revenue raised. As discussed in Section 9.3, it is possible that some of the tax revenue could be collected at a

³⁸ Note that this does not necessarily mean that there is a 'black hole' in the public finances if indirect tax revenues are in fact affected. The Treasury's methodology for policy costings in Budgets only allows for the base of the tax in question and closely related tax bases to be affected by behavioural responses to a tax change. Therefore, in this case, the £2.7 billion estimate only includes the impact on income tax and National Insurance revenues. However, official forecasts for revenues from different taxes do account for the impacts of all tax changes. Therefore the figures that appear in the Budget table on the revenue effects of policy decisions do not represent the estimated total revenue effects of Budget measures in all cases.

later date or in different tax bases (CGT, for example). To the extent that the behavioural response amounts to activities that reduce but do not eliminate the taxpayer's tax liability, HMT's estimate does not fully capture the long-term impact of the tax rise on future government revenues. This would lead to the increase in revenue resulting from the introduction of the 50p rate being higher than the figures suggested above in present-value terms.

We saw in the previous section that both of these are likely to be partly true: some (probably only a small portion) of the behavioural response is likely to be a genuine reduction in income that leads to lower indirect revenue (which tends to reduce the total revenue raised), but the majority is likely to be avoidance activity that still leads to the government collecting a proportion of the revenue. Much will therefore depend on how much of this revenue the government collects in either the current or subsequent periods.

There is clearly uncertainty over the correct elasticity to use, and the amount of revenue raised by the 50p rate is highly sensitive to this parameter. If we use the BSS estimate of 0.46, based on the experience of the 1980s, rather than the 0.35 used by HMT, then we estimate that only £1.1 billion would be raised (assuming no effect on indirect revenues). Table 9.1 shows how much revenue is estimated to be raised with different values of the taxable income elasticity, both under the assumption that indirect tax revenues are unaffected and under the assumption that expenditure falls by as much as income. Using the BSS estimate, the 50p rate is close to (but still below) the revenue-maximising level in the case where indirect tax revenues are unaffected, but raises less revenue than a 40p rate in the case where expenditure falls by as much as income.

BSS do not give any evidence of which of these scenarios is likely to be closer to the truth, nor do they investigate the possibility of 'fiscal externalities'. Recent work suggesting that most of the response is likely to be avoidance rather than reduced real activity indicates both that spending falls may be limited and that 'fiscal externalities' may be significant.³⁹ The truth is that there remains a great deal of uncertainty over the revenue-maximising top income tax rate.

Table 9.1. Revenue raised by 50p rate under different assumptions about taxable income elasticity and revenues affected

Taxable income elasticity	Revenue raised by 50p rate assuming:	
	Indirect tax revenues unaffected (£ billion)	Expenditure falls as much as income (£ billion)
0.20	4.1	2.9
0.25	3.5	2.2
0.30	3.0	1.6
0.35 (HMT)	2.4	0.9
0.40	1.8	0.3
0.45	1.3	-0.4
0.46 (BSS)	1.1	-0.5
0.50	0.7	-1.0

Note and Source: As Figure 9.3.

³⁹ See E. Saez, J. Slemrod and S. Giertz, 'The elasticity of taxable income with respect to marginal tax rates: a critical review', *Journal of Economic Literature*, forthcoming (<http://elsa.berkeley.edu/~saez/saez-slemrod-giertzJEL10final.pdf>).

Furthermore, even if it were thought that the revenue-maximising tax rate was less than 50p, we must remember that the underlying taxable income elasticity depends upon the nature of the tax system and its enforcement, and can be altered. In principle, it would be possible for the government to increase the revenue-maximising tax rate by restricting opportunities for tax planning. As we discussed earlier, one way of doing that might be to close the gap between capital gains and income tax rates. It would be desirable, though, to make changes to other aspects of the CGT system at the same time. There is currently no recognition of purely inflationary gains in the system – meaning that purely nominal increases in asset values are taxed. At the very least, it would probably be necessary to reintroduce some allowance for inflation (as existed between 1982 and 1998) to ensure that purely nominal gains were not taxed.⁴⁰ Additionally, as was argued in the Mirrlees Review, to prevent a more general bias against savings and investment in the tax system there is a strong case for introducing a so-called Rate of Return Allowance, which exempts ‘normal’ returns to capital. The advantage is that this allows the marginal rate of CGT for any excess returns to be aligned with the full tax rate on labour income. This reform would have the advantage of removing the incentives for individuals to dress up labour income as capital gains without taxing the normal return to capital.

Other options could include taking a harsher line on income shifting between spouses through husband-and-wife partnerships – though this might involve some additional enforcement costs. Further restrictions to tax relief on pension contributions, perhaps by restricting relief to the basic rate, might also increase revenue.⁴¹ But this would introduce a set of different problems and inequities and would not, in general, be desirable in the context of wanting an efficient and equitable tax system. A better way of reducing the generosity of the tax treatment of private pensions might be to limit the total amount that can be taken as a tax-free lump sum on retirement.⁴²

Finally, as we said earlier, assessing the future of the 50p tax rate solely on whether it raises any net revenue is a very narrow approach to tax policy: even if it raised money, it may not be the least socially harmful way of raising the same amount revenue, even from the same or similar people. If the main intention of the 50p rate is to extract additional tax from the very richest, then it might also be worth considering other elements of the tax system. The band structure of council tax in Great Britain, for example, means that council tax bills are regressive with respect to property values both within and between bands. Reforming it (in a similar way to how domestic rates have been reformed in Northern Ireland, although perhaps without the cap that exists on rental value equivalents in Northern Ireland) could raise significant extra sums from those living in expensive properties, who are probably a group with high values of wealth. There appear to be loopholes in the stamp duty land tax system which the wealthiest are also able to exploit. Reforms to inheritance tax and to the treatment of capital gains at death may also offer opportunities to tax this group.

⁴⁰ For more discussion, see S. Adam, ‘Capital gains tax’, in R. Chote, C. Emmerson, D. Miles and J. Shaw (eds), *The IFS Green Budget: January 2008* (<http://www.ifs.org.uk/budgets/qb2008/08chap10.pdf>).

⁴¹ Restricting tax relief to the basic rate would significantly weaken the incentive for higher-income individuals to save in a pension, particularly if this were not accompanied by only taxing pension income at the basic rate. It would also be administratively difficult for those in defined-benefit schemes. For a fuller discussion of this policy, see S. Adam, M. Brewer, J. Browne and D. Phillips, ‘Taxes and benefits: the parties’ plans’, IFS Briefing Note 100, 2010 (<http://www.ifs.org.uk/bns/bn100.pdf>).

⁴² Current total pension contribution limits mean that up to £375,000 can be taken as a tax-free lump sum on retirement. Income taken in this way escapes income tax both at the point it is earned and at the point of withdrawal. Reducing this limit would neither penalise saving as opposed to immediate consumption nor significantly reduce the attractiveness of saving for a pension.

9.6 When will we know more about the revenue raised by the 50p tax rate?

The first evidence on the revenue raised by the 50p tax rate will be contained in tax returns for the 2010–11 tax year, which need to be submitted to HMRC by 31 January 2012. The Chancellor has asked HMRC to examine how much revenue the 50p rate is raising in time for a review in Budget 2012. This gives less than two months for this review to take place, even assuming the data will be fully processed and available to researchers at the beginning of February. But tax records for just one year after the introduction of the 50p rate are unlikely to provide a robust estimate of how much revenue the 50p rate will raise, for several reasons.

First, the 50p tax rate was announced over a year before its implementation. As we discussed in Section 9.3, this gave high-income individuals the incentive to bring forward income to 2009–10 to avoid paying the increased tax rate. So tax revenues in the first year of the 50p tax's operation are likely to be particularly low and those in the prior year particularly high.

Second, one year after the tax's implementation might be too soon for some individuals to respond fully to the new tax rate. In particular, those who decided to leave the UK following the announcement of the 50p rate might not have had enough time to arrange this, such that the revenue implications might be higher going forward.

Third, because the Chancellor has said that he views the 50p rate as a temporary measure, individuals are likely to behave differently from if the tax change were believed to be permanent. On the one hand, individuals are more likely to engage in responses that involve shifting income to a future date when an increase is temporary. On the other hand, individuals are less likely to engage in responses that have a large fixed cost, such as moving away from the UK.

A separate issue is that the ongoing economic crisis will likely make it difficult for HMRC staff to distinguish between the impact of the 50p rate on tax revenues and the impact of other economic forces on the incomes of the richest 1%. For example, many of the richest 1% are employed in the financial services industry and are likely to have seen their incomes fall significantly during the early part of the recent recession before rebounding strongly in 2010–11. This has nothing to do with the introduction of the 50p rate, but it is difficult to disentangle the two effects. This difficulty would apply if HMRC staff attempted to use the difference-in-differences method, which we discussed in Box 9.1.

For all these reasons, it seems to us most unlikely that HMRC will be able to provide the Chancellor with anything approaching a definitive view of the effects of the 50p rate in time for this year's Budget. As was the case when the 50p rate was introduced, any policy decision is likely to have to be based on a combination of limited evidence, judgement and views about the trade-off between possible additional revenue and the importance attached to the welfare of the richest 1%.

9.7 Conclusions

Despite the level of debate that has surrounded the 50p income tax rate above £150,000, there remains a very high level of uncertainty around how much revenue it will raise. HMT's estimate that the new tax rate will bring in an additional £2.7 billion in a full year

may be somewhat optimistic. It relies on a fairly low level of responsiveness compared with some estimates, and it does not account for any reduction in indirect tax revenue. On the other hand, it does already assume some significant behaviour change and does not account for the possibility that some of the tax revenue lost might be recouped either in later periods or through other tax bases. There was certainly risk involved in introducing the 50p rate, not least because those affected are so important to overall income tax revenues. But there is an upside risk too – HMT might turn out to have been right, or even unduly conservative in its estimates.

The Chancellor has asked HMRC to estimate the impact of the 50p tax rate on tax revenues and to report to him in time to inform his Budget 2012 decisions. The first shreds of evidence will appear shortly, once tax returns for the 2010–11 tax year have been processed. However, this will, at best, tell us only the very short-run impact of the 50p tax rate on revenues; the true impact in the long run could be higher or lower. Although it will never be possible to be certain about the impact of the 50p tax rate, as we will never know exactly how high-income individuals would have behaved had the highest rate of income tax remained at 40%, Budget 2012 is almost certainly too soon to be making decisions on the future of the 50p rate if they are to be informed by reliable, robust empirical evidence.

Finally, assessing the future of the 50p tax rate solely on whether it raises any net revenue is an unduly narrow approach to tax policy: even if it raised money, it may not be the least socially harmful way of raising the same amount of revenue, even from the same or similar people. Since most of the behavioural response to high tax rates appears to take the form of tax avoidance, an obvious way to increase revenue might be to reduce the opportunities that exist for tax avoidance – for example, by aligning income and CGT rates, thereby negating any advantage to taking remuneration as capital gains rather than income. But any reforms such as this would need to be carefully thought through and implemented as part of a wider strategy for tax policy.

Effective tax policy requires a clear strategy, an understanding of how the system as a whole works together, and a consistent and concerted approach to reform. Decisions about the abolition or retention of the 50p rate, and about any measures to increase revenues from the richest individuals, should be considered as part of a clear forward strategy. We can ill-afford poorly-thought-out, short-term and un-joined-up tax policymaking.