

# Financial Scrutiny Unit Briefing

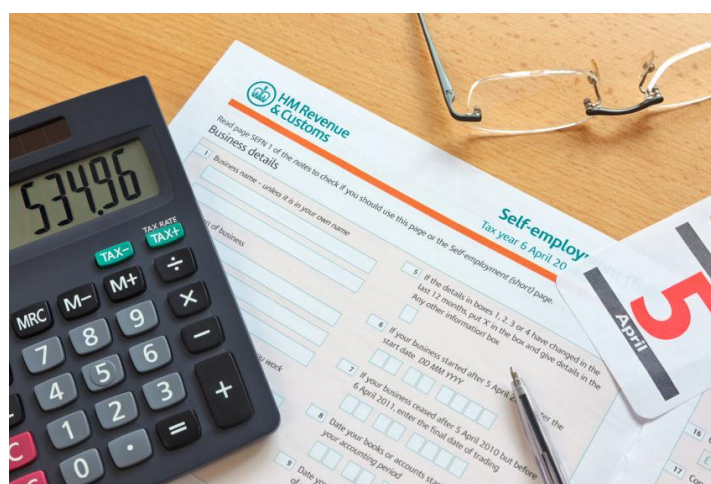
## The Scottish rate of income tax and additional rate taxpayers

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14/14

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The Scotland Act (2012) devolves stamp duty land tax and landfill tax to the Scottish Parliament from April 2015. It also provides for the introduction of a Scottish rate of income tax (SRIT) which will apply to the non-savings, non-dividend income of Scottish taxpayers from 1 April 2016. The UK Government will deduct 10 pence in the pound from the basic, higher and additional rates of income tax. The Scottish Parliament will then have the power to levy a Scottish rate that will apply equally across these three main tax bands. This briefing looks at income tax revenues in Scotland, the potential implications of introducing a tax border within the UK creating two different tax jurisdictions and the potential responses of taxpayers to changes in SRIT. It specifically focuses on the potential reactions of additional rate taxpayers.



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## EXECUTIVE SUMMARY

The Scotland Act 2012 provides for a new Scottish rate of income tax (SRIT) that will apply to the non-savings, non-dividend (NSND) income of Scottish taxpayers. From April 2016 the UK Government will deduct 10 pence in the pound at the basic, higher and additional rates of income tax for Scottish taxpayers. The Scottish Parliament will then have the power to set a different rate of income tax, SRIT, by adding a new amount uniformly to all rates. Thus if SRIT is set at 10p, income tax will remain the same for Scottish taxpayers as in the rest of the UK. If SRIT is set at 11p, income tax for Scottish taxpayers will be one pence higher in the pound than for taxpayers in the rest of the UK. Any change in SRIT will have a proportionally bigger impact on basic rate taxpayers than higher rate taxpayers and additional rate taxpayers because SRIT (at 10p) counts for 50 per cent of the basic rate of income tax for Scottish taxpayers but only 22.2 per cent of the additional rate of income tax for Scottish taxpayers.

A Memorandum of Understanding on SRIT sets out the terms of administration of SRIT for the Scottish Government and the UK Government. Her Majesty's Revenue and Customs (HMRC) will continue to collect income tax including SRIT. There will be a deduction from the Scottish block grant to offset the revenues raised from SRIT. The Scottish Government and the UK Government have agreed to develop a mechanism based on the proposals of the Holtham Commission in order to adjust the block grant. The Holtham method involves the indexation of the change in SRIT revenues over time on the change in the UK NSND income tax base using OBR forecasts. The Scottish Government and the UK Government have yet to agree how the initial forecasts for SRIT would be calculated if SRIT were set at a rate other than 10p. The Finance Committee has noted its concern over the lack of clarity in relation to the timing and data to be used by the OBR in carrying out its forecast for SRIT to inform Draft Budget 2016-17 and beyond.

This briefing looks at the consequences of setting a SRIT different from 10p, namely the potential fiscally-induced behavioural responses that Scottish taxpayers may have following a change in SRIT. Additional rate taxpayers play an important role in this regard. Although in it is estimated in 2013-14 that they will represent 0.55 per cent of Scottish taxpayers, they will account for almost 15 per cent of income tax revenues. Furthermore, additional rate taxpayers appear to be more reactive to changes in tax rates than basic and higher rate taxpayers. Accordingly, this briefing focuses on the characteristics and potential responses of Scottish additional rate taxpayers. It finds that while there may be incentives for physical or "paper" migration and tax planning created by the introduction of SRIT, even if a large scale behavioural response were to occur it would have only a marginal impact on SRIT revenues. This is because SRIT will account for a small proportion of tax levied on the income of additional rate taxpayers and so even a major change in SRIT leads to a small change in the amount these taxpayers keep for each extra pound they earn.

# BACKGROUND

## WHAT IS INCOME TAX?

Income tax is a government levy imposed on individuals or entities that varies with the taxable income of the taxpayer. It is most often divided into graduated rates and it is usually progressive, that is to say high income individuals have a higher rate of tax than lower-income individuals. The aim is to achieve “a more equal distribution of income after than before taxation” ([OECD 2013a](#)).

UK income tax is a progressive tax on individuals’ income over the course of a tax year. An individual’s tax liability depends on their level of income, the type of income and the level of allowance to which they are entitled. Taxpayers receive a personal allowance for an amount of income they receive without tax being charged on it. In 2013-14 the personal allowance is £9,440 for individuals under the age of 65. This is reduced or withdrawn for high income taxpayers.<sup>1</sup>

There are three different sources of income for tax purposes:

- All income other than savings and dividends. This is often referred to as “earned income”. It includes pay from employment but also profits from self-employment and unincorporated businesses, pensions (state, occupational and personal), taxable benefits (e.g. Jobseeker’s Allowance) and income from property
- Savings income (e.g. bank and building society interest)
- Dividends (income from UK-resident company shares, unit trusts and open ended investment companies)

Income is taxed on a stack basis: earned income is taxed first, followed by savings income and lastly dividends income.

For most taxpayers, income tax on employment income or occupational pensions is collected through Pay As You Earn (PAYE). It is collected “at the source” by the employer. Certain taxpayers are required to pay all or any additional tax due through Self Assessment (SA).<sup>2</sup> Tax liabilities for the fiscal year include both PAYE (largely paid in the same year as the activity which created the tax liability) and SA (usually paid in the year after the activity that took place to create the tax liability). Revenues are collected by HM Revenue and Customs (HMRC) and passed to HM Treasury.

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<sup>1</sup> The Personal Tax Allowance is reduced by 50p for every pound of income above £100,000, gradually reducing it to zero. Those with incomes above £116,210 have no personal allowance, thus additional rate earners do not qualify for Personal Allowance ([IFS 2012a](#)).

<sup>2</sup> Those who need to fill in a tax return are: the self-employed; company directors (unless it is of a non-profit organisation); ministers of religion; names or members of Lloyd’s; people whose total income is over £100,000; people pay income tax through a PAYE code but who get a) £10,000 or more from taxed savings and investments, b) £2,500 or more from untaxed savings and investments, c) £10,000 or more from property and d) £2,500 or more from property; people who don’t pay tax through a PAYE code but have income from savings, trusts or abroad, rental income from land or property.

## INCOME TAX RATES

The marginal tax rate is the proportion paid in tax of each additional pound received at the highest level of income. There are three main rates of income tax in the UK set by the UK Parliament for each tax year as shown in Table 1: the basic, higher and additional rates. For example, someone paid £50,000 a year has a Personal Allowance of £9,440 and is thus taxed on £40,560. They pay the basic rate on £32,010 and the higher rate on £8,550.

In addition to Personal Allowances, taxpayers may be entitled to other reliefs and allowances that can reduce their tax bill. The effective marginal tax rate (EMTR) is the proportion of each extra pound lost due to tax and takes into account income tax, national insurance contributions, tax credits, benefits and reliefs. Thus marginal tax rates as shown in Table 1 are different from EMTRs which vary from individual to individual. Marginal tax rates and EMTRs are also different from *average* tax rates, which also depend on the individual taxpayer and which take into account the different rate at each tax band.

Table 1 Income tax rates, 2013-14

Tax bracket	Starting rate for savings <sup>3</sup>	Basic rate	Higher rate	Additional rate
Income <sup>4</sup>	0-£2,790	0-£32,010	£32,011-£150,000	Over £150,000
Rate on earnings	10%	20%	40%	45%
Rate on dividends	10%		32.5%	37.5%

Source: [HMRC](#) website

## TRENDS IN INCOME TAX

### Across the OECD

Income tax rates in all OECD countries have declined between 2000 and 2012. Tax progressivity across income levels has also decreased ([OECD 2013a](#)). In particular, there has been an OECD-wide tendency to reduce top marginal personal income tax rates in the past three decades ([OECD 2012](#)). Generally the impact of this has been minimised by a parallel reduction in the income threshold for the highest rate.

### In the UK

In line with OECD trends, average rates of tax in the UK are projected to fall from 12.5 per cent in 2010-11 to 10.6 per cent in 2013-14 for basic rate taxpayers, 23.1 to 22 per cent for higher rate taxpayers and 39.9 to 38.8 per cent for additional rate taxpayers ([HMRC 2013b](#)). These projected falls reflect increases in personal allowances for people under the age of 65, as well as the reduction in the additional rate of income tax and the behavioural responses that follow.

The UK had three tax brackets in 2000, reduced it to two in 2008 and added a third bracket again in 2010. The new additional rate, announced as temporary, was set at 50 per cent in April

<sup>3</sup> The starting rate for savings is a special rate of tax for savings income only. It is only available to the extent that the individual's taxable income from earnings does not exceed the starting rate limit.

<sup>4</sup> This includes all taxable income not defined as savings or dividends

2010, marking the largest increase in the top statutory rate amongst OECD countries at the time ([OECD 2012](#)). This put the UK's additional rate in the top five rates of marginal income tax. The UK reduced the top rate to 45 per cent on 6 April 2013 in order to "improve the competitiveness of the UK, encourage entrepreneurship and support growth" ([HMRC 2012b](#)). This cut went against the global trend of increasing top marginal income tax rates between 2012 and 2013 (despite the longer-term trend towards lower rates) and marks by far the biggest decrease in any OECD country in 2013. The UK is now in the middle of the range in terms of top marginal income tax rates (see Annex 2).

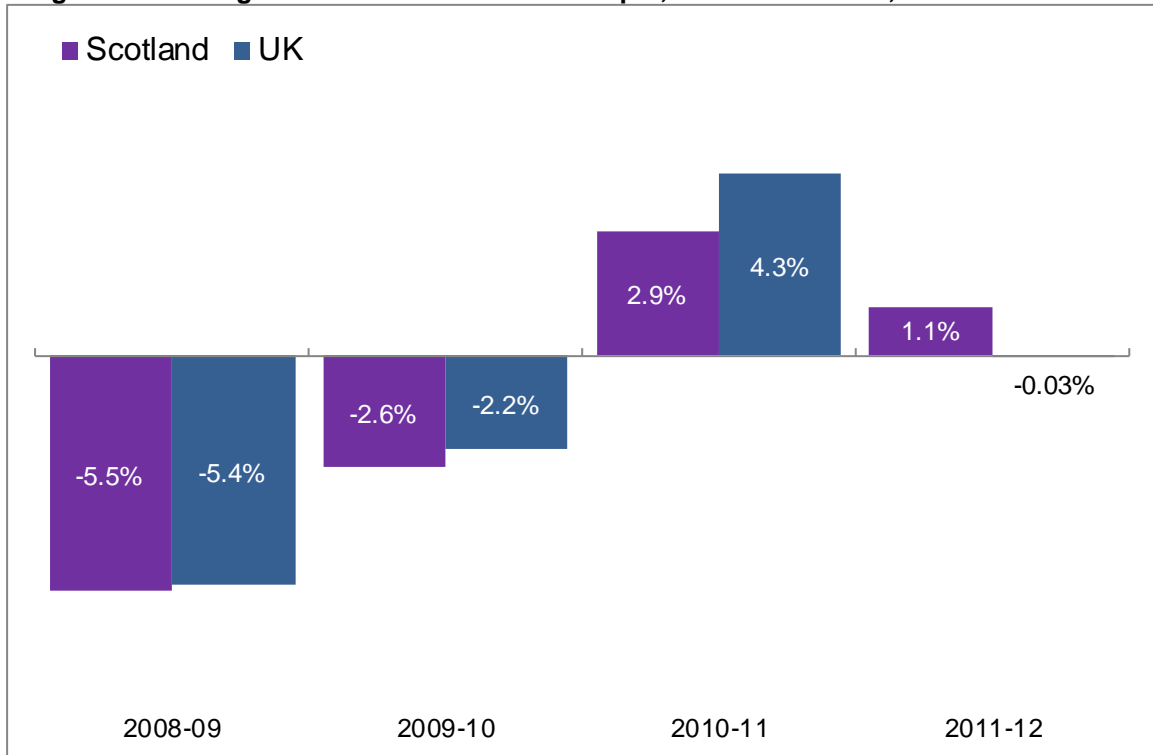
## **INCOME TAX IN THE UK AND SCOTLAND**

### **INCOME TAX REVENUES AND THE WIDER BASKET OF TAXES**

Income tax receipts in Scotland in 2011-12 amounted to £10.79 billion, equal to 7.36% of income tax receipts in the UK as whole. Despite the fact that income tax receipts grew more slowly in 2011-12 than in 2010-11 (Figure 1), income tax remains the single largest source of public sector revenue in Scotland, making up a quarter of public sector receipts in 2011-12 ([Scottish Government 2013a](#)). The Office for Budget Responsibility (OBR) estimates suggest that this will continue to be the case ([OBR 2013a](#)). Although the composition of tax revenue in Scotland does not differ greatly from that in the UK as a whole, Scotland generates less of its onshore revenue from income tax relative to the UK as a whole. This is partly because incomes are more equally distributed in Scotland than in the UK as whole which, given the progressive nature of income tax, leads to lower income tax revenues. In 2011-12 for example, income tax provided £2,102 per person in Scotland while it provided £2,391 per person in the UK as a whole ([IFS 2013](#)). Changes in income tax revenues over time "broadly speaking, move in line with movements in the economy as a whole" as noted by Robert Chote, chairman of the OBR ([Finance Committee 2013a](#)).

Figure 1 shows the annual growth in income tax receipts from 2008-09 to 2011-12 in Scotland compared to the UK as a whole ([Scottish Government 2013a](#)). From 2008-09 to 2010-11 income tax receipts in Scotland reduced more (or grew less) annually than in the UK as a whole. However, this trend reversed in 2011-12, with Scotland's income tax revenues growing by 1.1 per cent while the whole of the UK's decreased very slightly.

Figure 1 Annual growth in net income tax receipts, Scotland and UK, 2008-09 to 2011-12



Source: [Scottish Government](#) 2013a

## ESTIMATES OF SRIT REVENUES WITH SRIT AT 10 PENCE

SRIT will apply only to non-savings, non-dividend (NSND) income. Figure 1 shows that Scottish taxpayers will pay UK income tax on their savings and dividends, but will pay income tax that is made up of UK income tax minus 10p plus SRIT on their NSND income.

Figure 2 Structure of income tax in Scotland after April 2016

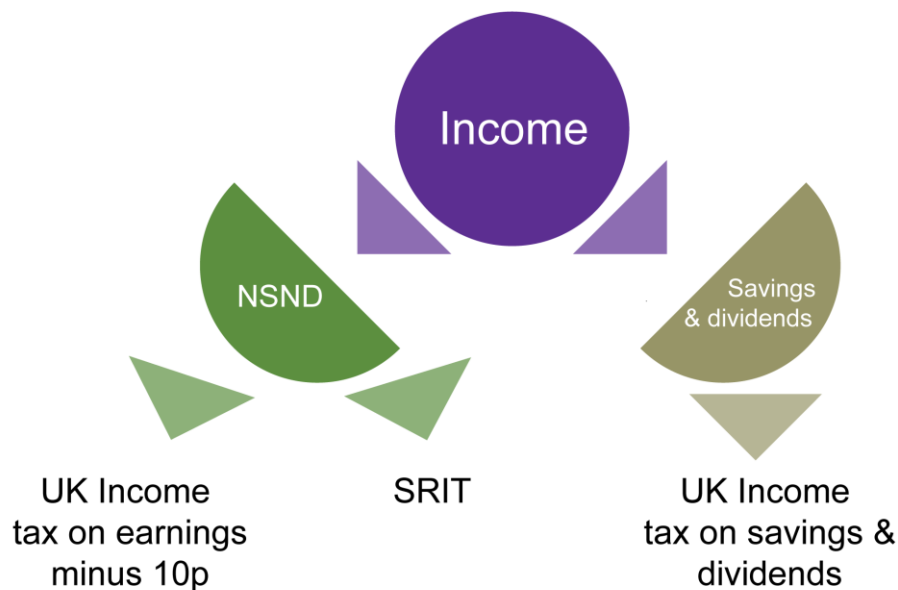
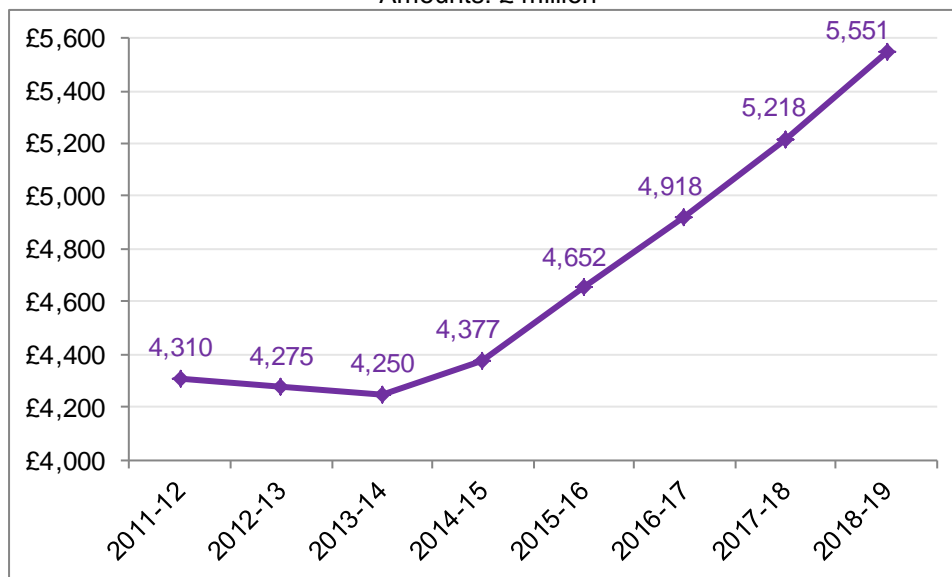


Figure 3 shows the forecasts for SRIT liabilities from 2011-12 to 2018-19. Scottish values are based on Scotland's historic share of UK liabilities, with this share decreasing gradually from 3.03 per cent in 2011-12 to an estimated 2.87 per cent in 2018-19 (OBR [2013c](#)).<sup>5</sup>

<sup>5</sup> While this share has remained stable over the past decade, a number of factors ([OBR 2012a](#)) could affect this:

For 2011-12, the OBR estimates that SRIT (10p) liabilities would have been £4.31 billion, equivalent to roughly 40 per cent of income tax revenues in Scotland. While the UK's NSND income tax liabilities are projected to rise by 30 per cent between 2010-11 and 2017-18, in Scotland they are projected to grow by roughly 20 per cent only (OBR 2013a). These differential growth rates reflect the OBR's view that policy measures will have a differential effect in Scotland and the UK (because of differences in income distribution between the UK and Scotland).<sup>6</sup>

**Figure 3 Forecast of Scottish income tax liabilities from SRIT**  
Amounts: £ million



Source: OBR [2013c](#)

The OBR have adjusted their estimates of SRIT liabilities since they started producing Scottish forecasts in March 2012 as seen in Figure 4.

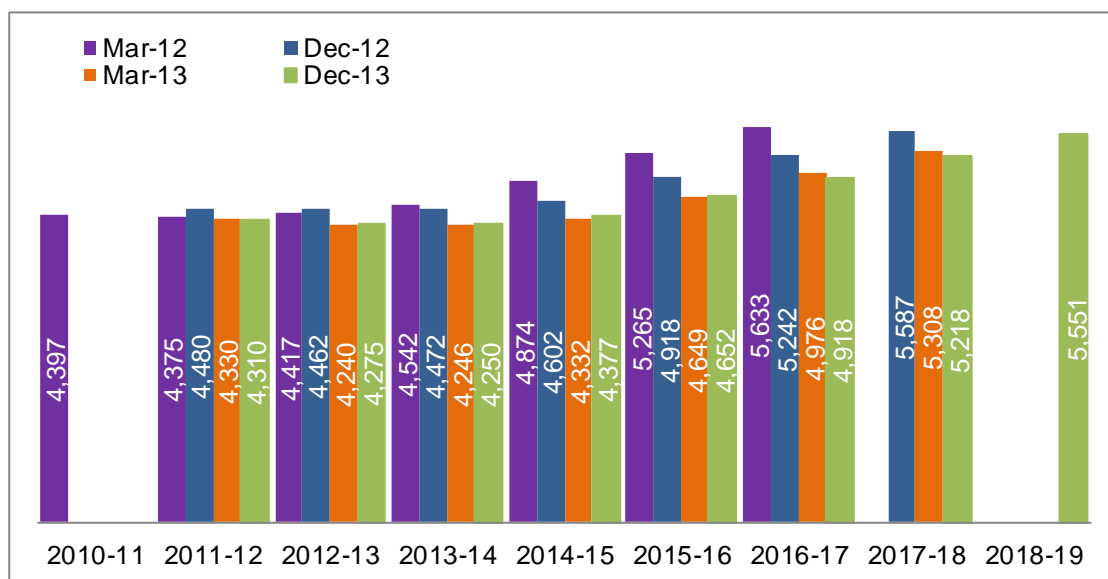
**Figure 4 Changes in OBR forecasts for SRIT tax liabilities, 2010-11 to 2018-19**

Amounts: £ million

- Differential Scottish economic trends
- Differential movements in the income distribution between Scotland and the UK
- Differential impacts of policy measures

<sup>6</sup> In particular, many of the revenue raising policies (except the policies announced at the end of the last government and by the Coalition) have generally been aimed at the highest income earners (e.g. pension tax relief, basic rate limits, etc.) so have a smaller proportional effect in Scotland. Many of the revenue-reducing policies (e.g. rises in personal allowance) have a greater effect at the lower end of the income distribution and thus have a larger proportional effect in Scotland.





Source: OBR [2012a](#), [2012b](#), [2013a](#), [2013c](#)

Table 2 compares HMRC calculations of SRIT revenues in 2013-14 and the OBR's forecasts.<sup>7</sup>

**Table 2 Estimates of SRIT liabilities, 2013-14**

	OBR	HMRC
SRIT (at 10p) forecast revenues	£4.25bn	£4.40bn

Source: OBR [2013c](#), HMRC personal correspondence

## THE TAX BASE

In 2011-12 there were an estimated 2.65 million taxpayers in Scotland. Table 3 shows that there are proportionally more basic rate earners and fewer higher and additional rate earners in Scotland relative to the UK as a whole. In particular, the proportion of additional rate earners in Scotland is almost half the proportion in the UK as a whole.

**Table 3 Estimate of taxpayers by tax rate, percentage, UK & Scotland, 2011-12**

	Starting	Savers	Basic	Higher	Additional
Scotland	0.6%	1.5%	86.8%	10.6%	0.5%
UK	0.8%	2.0%	84.2%	11.9%	0.8%

Source: [HMRC](#) 2013b

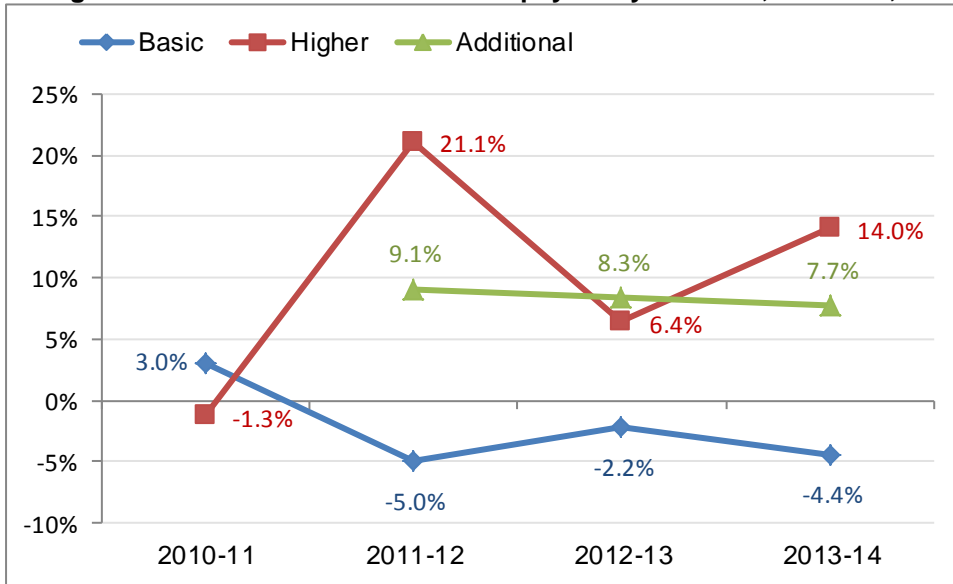
In both Scotland and the UK those with high incomes account for a disproportionately high share of total income tax liabilities. For example, the 0.8 per cent of the UK population with the highest incomes account for more than 20 per cent of income tax liabilities ([HMRC](#) 2013b). Data is available for the UK in Annex 1.

Figure 5 shows the projected growth of taxpayers in Scotland by tax band and shows that while the number of higher and additional rate taxpayers is projected to increase consistently from 2011-12, the number of basic rate taxpayers is projected to decrease annually from 2011-12 to 2013-14.<sup>8</sup>

<sup>7</sup> Both are derived from the Survey of Personal Incomes (SPI). HMRC calculations are not intended to offer a forecast but are simply inferred from the SPI while the OBR runs models on the SPI and officially forecasts tax liabilities.

<sup>8</sup> The decrease in the basic rate tax base is due to an increase in personal allowances and a decrease in the basic rate limit. The increase in the additional rate tax base is due to the fixed £150,000 entry level (HMRC personal correspondence).

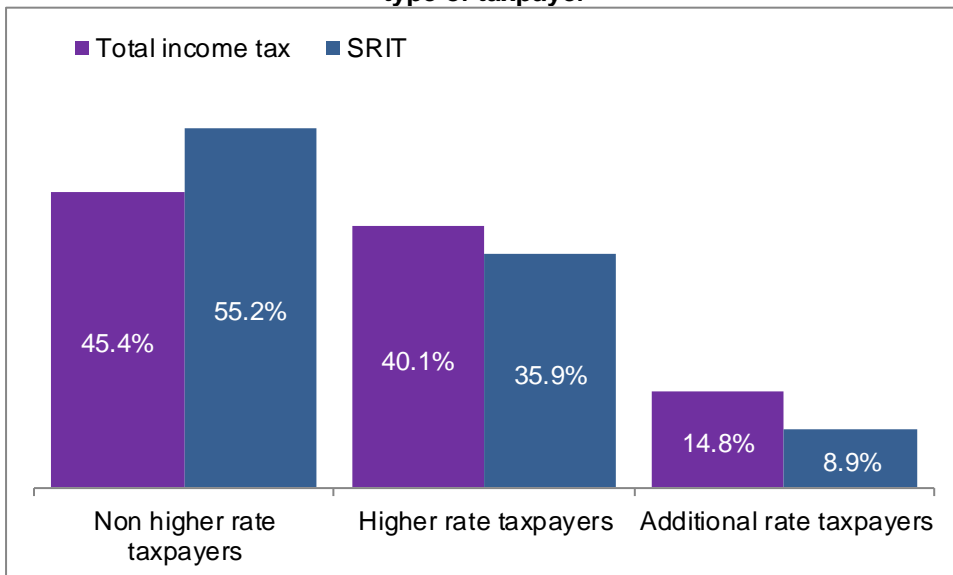
**Figure 5 Projected growth in numbers of individual taxpayers by tax band, Scotland, 2010-11 to 2013-14**



Source: [HMRC 2013b](#)

Figure 6 shows the estimated total income tax liabilities as well as SRIT liabilities on Scottish NSND income by type of taxpayer for 2013-14.<sup>9</sup> It shows that higher and additional rate taxpayers account for a smaller part of SRIT revenues than they do total income tax revenues while the opposite is the case for non higher rate taxpayers.

**Figure 6 Estimated total income tax liabilities and SRIT liabilities on Scottish NSND income in 2013-14 by type of taxpayer**



\* Non higher rate taxpayers include taxpayers at the basic and starting rates  
 Source: HMRC personal correspondence

<sup>9</sup> This is based on an estimate of total income tax liabilities on NSND income from Scottish taxpayers of £10.7 billion for 2013-14 (HMRC personal correspondence).

# SCOTLAND ACT 2012

## SRIT PROVISIONS

Sections 25, 26 and 27 of the Scotland Act 2012 introduce SRIT, due to take effect on 6 April 2016. As stated previously, SRIT will apply to NSND income only ([HM Government 2010](#)). [Section 26](#) of the Act provides for the basic, higher and additional rates applied to the NSND income of Scottish taxpayers (see definition in Box 1) to be reduced by 10 pence in the pound. The Scottish Parliament will then levy a SRIT which will apply equally to all of these rates. It can decrease SRIT to 0, leaving income tax in Scotland at most 10 pence less than in the UK. There is no cap on how high SRIT can be set. This power will supersede the existing tax varying power, the Scottish Variable Rate (SVR) set out in the Scotland Act 1998 which has never been used.

### Box 1 – The definition of a Scottish taxpayer

[Section 25](#) of the Act sets out the current definition of a Scottish taxpayer.

The two following conditions must be fulfilled for a person to be a Scottish taxpayer in relation to any year of assessment:

1. They must be treated as resident in the UK for income tax purposes in that year. There are a number of factors which the HMRC considers for determining residency in the UK, such as living 183 days or more in the UK in a tax year, moving permanently to the UK or spending time in the UK routinely.
2. Scotland must be the part of the UK with which they have the closest connection during that year. In order for this to be the case one or more of the following conditions must apply:
  - a. They spend at least a part of that year in Scotland; and for at least part of that time spent in Scotland, their principal UK home is located in Scotland and use of it is made as a place of residence; and the times in that year when Scotland is where their principal UK home is located comprise (in aggregate) at least as much of that year as the times (if any) in that year when the location of their principal UK home is not in Scotland
  - b. The number of days they spend in Scotland in that year is equal or above the number of days they spend elsewhere in the UK<sup>10</sup>
  - c. For the whole or part of the tax year they are an MSP, an MP representing a constituency in Scotland, or an MEP representing Scotland. This is regardless of the location in the UK of their main place of residence.

### *Setting the Scottish rate of income tax*

SRIT will need to be set every year by the Scottish Parliament for only one tax year and for the whole of that year. The Act requires that a Scottish Rate Resolution be made before the start of the tax year – i.e., by 5 April at the latest – to provide the statutory basis for the collection of receipts from the start of the tax year. SRIT may not be set more than 12 months before the start of that year. [Annex B](#) of the Memorandum of Understanding (MoU) ([Scottish Government 2013d](#)) on SRIT states that the Scottish Government should provide information to HMRC about the proposed SRIT for the coming tax year by 30 November before the tax year. The Scottish

<sup>10</sup> They spend a day in Scotland if but only if they are in Scotland at the end of that day.

Government has the right to change SRIT up to the last day before the start of the new tax year as is currently the case in the UK. The Act states that “only a member of the Scottish Government may move a motion for a Scottish rate resolution.”

### *Administration*

Unlike Landfill Tax and Land and Building Transaction Tax, SRIT is not a devolved tax. Income tax including SRIT will continue to be administered by HMRC, “who will therefore be responsible for setting up the necessary systems, identifying Scottish taxpayers, collecting sums due, ensuring compliance, following up unpaid tax, and reporting on performance. Revenues from SRIT will be collected by HMRC along with UK income tax receipts, but will be identified and reported separately and will form an element of the Scottish Government’s budget after 2016” ([Scottish Government](#) 2013b).

The MoU on SRIT sets out the arrangements for overseeing the implementation of SRIT. Before SRIT is implemented, HMRC will issue Scottish tax codes to all Scottish taxpayers within PAYE and SA systems so that Scottish taxpayers declare their status as part of their annual return. Flagging up Scottish taxpayers will allow for more accurate revenue forecasting than the OBR’s current top-down method based on a Scottish share of UK liabilities and receipts.

### *Policy challenges*

If SRIT were not set at 10p, this would introduce two different income tax regimes in the UK. Taxpayers may engage in tax planning in order to pay the lowest rate possible and advantages in terms of tax liabilities occurring in one tax jurisdiction may occur at the expense of the other. Equally, the fact that SRIT applies neither to savings nor dividends could incentivise taxpayers to shift income that is liable to SRIT to income that is not or vice versa. These factors introduce an extra margin of uncertainty in SRIT revenue forecasts.

SRIT will be set equally for all tax bands thus the Scottish Government will not have any powers to change the structure of the income tax system such as tax bands, reliefs and progressivity. For example, it will not be able to reduce just the higher or additional rate of income tax to attract high-income earners from the rest of the UK. This is in line with the recommendations of the [Calman Commission on Scottish devolution](#) (2009) which stated that the “redistribution of resources across society... should remain a function of national government.”

## **BLOCK GRANT ADJUSTMENT**

The Command Paper ([HM Government](#) 2010) explained that the block grant from the UK Government will be reduced each year to reflect the revenue impact of SRIT. The UK and Scottish Governments have agreed to utilise the indexed reduction method known as the Holtham method to adjust the block grant for SRIT although some of the details of this calculation are yet to be agreed upon by the UK and Scottish Governments. Under the Holtham method, the initial adjustment (revenues generated by SRIT at 10p) will be indexed against the UK’s non-savings, non-dividend (NSND) income tax base as this is the income on which SRIT will be paid.

During a transitional period of two or three years, the block grant adjustment will be based on annual OBR forecasts. As for the payment of SRIT revenues, there will be no reconciliation during this transitional period.

After the transition period, the outturn SRIT receipts and block grant adjustment (which relies on the size of the UK NSND tax base) will be reconciled with the OBR forecasts. Any difference between the size of the overall Scottish budget (Barnett-based block grant less block grant

adjustment plus SRIT receipts) using outturns and forecasts will lead to a corresponding transfer between the Scottish budget and the UK consolidated fund. The [Command Paper](#) (HM Government 2010) states that the reconciliation will occur no later than 12 months after the end of the financial year when it is expected that 99.3% of income tax will normally have been collected. No further reconciliation will be made. The Scottish Government will be able to use the resource borrowing and cash reserve facilities to manage deviations between forecast and outturn receipts.

More information on the block grant adjustment is available in Annex 4.

## THE EFFECT OF CHANGES TO SRIT

### MECHANICAL, BEHAVIOURAL AND WIDER EFFECTS

Taxpayers react to changes in the rate of taxation. A reduction in tax is generally expected to encourage economic activity and willingness to comply with the tax system while an increase in tax may lead to less investment in the country and an increased impetus to engage in activities that decrease taxable income.

The effect that a change in tax has on tax revenues<sup>11</sup> can be broken down into:

- The mechanical or pre-behavioural effect which is the direct impact on tax revenues and is proportional to the change in tax rate.
- Behavioural effects which refer to the range of different responses that taxpayers can engage in following a change in tax (discussed in more detail below).
- Indirect effects. These are wide-ranging. They may relate to the impact of the change in income tax on other tax revenues. For example, corporation tax also accounts for an important part of public sector revenue. Both of these may be affected by a change in declared income. Firstly, *ceteris paribus*, incorporating and declaring corporate profit and dividends rather than a salary will lead to smaller income tax liabilities but higher corporation tax liabilities thus potentially partly off-setting the loss of revenue from income tax. The indirect effects may also relate to the impact on investment. For example, companies may have an incentive to set up in Scotland instead of the rest of the UK (rUK) if SRIT is less than 10p, thus investing and creating employment where they otherwise would not have. However, studies on the correlation between income tax and FDI have found it difficult to isolate cause and effect.

Note that these are the effects arising solely as a result of a change in tax rate. There may also be wider “general equilibrium effects” arising, e.g. because changes in tax revenue affect Government expenditure and these might offset the initial effects.

The Laffer curve is used to model the effect that increasing the average tax rate has on the total amount of tax raised. Underpinning it is the assumption that if the average tax rate goes to 100% the tax base shrinks to zero and so does tax revenue. Thus tax revenue is zero both when the tax rate is zero and when it is 100%. This is because a 100% tax rate would discourage anyone from any activity that attracted tax. The Laffer curve is an inverse U-shape with the highest point on the Y axis corresponding to the tax rate on the X axis at which the highest revenue is collected. When the Laffer curve gets just past its peak, the additional tax raised becomes very small and does not offset the negative impact of a higher tax rate. While

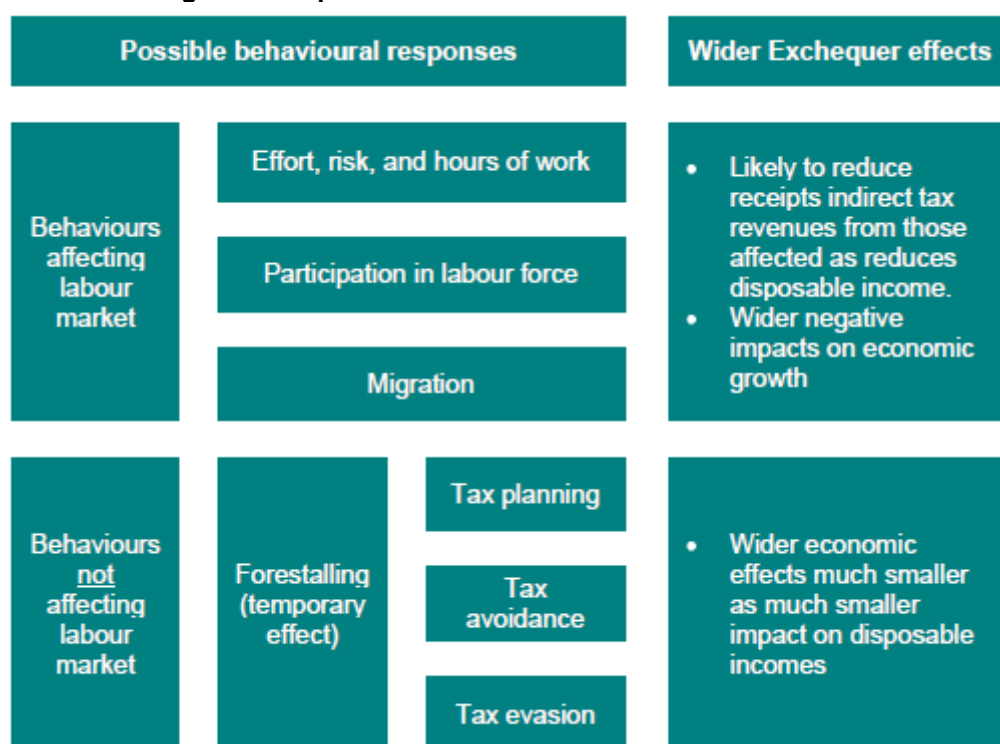
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<sup>11</sup> It is important to note that this briefing does not consider the general effects arising from a change in government expenditure following a change in tax revenue.

the Laffer curve shows the tax rate at which revenues are maximised, this may not be the optimal tax rate which depends namely on the government's redistribution policies.

Individual behavioural responses come into two categories as seen in Figure 7 which lists potential behavioural responses of a rise in the income tax rate. A decrease is likely to incentivise the opposite reactions to the ones in Figure 7, i.e. instead of forestalling, people may delay receiving incomes in order to benefit from the lower rate in future. The behaviours that affect the labour market can have a lasting effect on the economy as changes in income are usually associated with changes in expenditure and corresponding indirect tax revenues. On the other hand, behaviours that do not affect the labour market should not affect productivity or consumption since the amount of income declared is different but expenditure patterns should remain the same.

**Figure 7 Responses to an increase in the tax rate**



Source: [HMRC 2012a](#)

There are two main types of labour supply responses. Firstly, a reduction in the number of hours people work or the amount of effort they put into work can have two effects that partially offset each other:

- **Income effect:** this arises because a change in tax rates leads to a proportional change in disposable income for a given amount of work. For example, if tax rates are reduced, the individual has more disposable income and may respond by working less.
- **Substitution effect:** this arises because, for example, a tax reduction means that for every additional hour of work the individual gets a higher disposable income, so more to spend per hour of work on food, clothing, holidays, etc. Sacrificing leisure for work has becomes worthwhile so people may respond by working more.

In principle, the net effect of a tax change on labour supply is ambiguous. In practice, income effects tend to be small so it is the substitution effect that dominates particularly for those with high incomes. Empirical evidence suggests that tax reductions tend to make people work slightly more and tax increases tend make people work less ([Blundell et al. 1998](#)).

Secondly, taxpayers can change whether or not they participate in the workforce through retirement (either advanced or delayed); deciding to seek a job if they are not employed; staying in a job or leaving the workforce if they are employed; staying in, leaving or returning to education or training; taking leave from work or extending leave (e.g. maternity leave). In addition to these responses, when competing jurisdictions offer different tax and expenditure packages, individuals that are sufficiently mobile have an incentive to migrate to the area that offers them the best combination of services and taxes.<sup>12</sup>

In addition to the labour supply effect, the “wage effect” must also be considered. For example, if income tax in Scotland becomes lower than in rUK, people in rUK may demand higher wages to compensate for the fact that they end up with lower disposable incomes. This may be particularly true for workers in rUK in the same company who could compare their income with their counterparts in Scotland. These wage effects could cause companies to shift employment between jurisdictions, which would affect the regional distribution of GDP.

Other responses include tax planning, tax avoidance and tax evasion. Tax planning complies with both the letter and spirit of the law and is difficult for the government to legislate on even if it has the incentive to do so. Tax planning can take the following forms in the case of a tax rise<sup>13</sup>:

- Forestalling, i.e. bringing income forward in anticipation of a higher tax rate. This can have a significant one-off impact on tax liabilities and is particularly relevant for owner-directors of companies as they have more scope to change the timing of their dividend payments ([HMRC 2012a](#)).
- Incorporating and receiving a dividend rather than a salary.
- Converting income to capital gains. The self-employed for example can forego some or all of their salary, increase the value of their business and later sell it on. Groups such as private equity fund managers can receive some of their income as ‘carried interest’, treated as a capital gain rather than income. Taxpayers with investment income can shift their asset portfolios towards assets that give returns in the form of capital gains rather than income ([IFS 2012b](#)).
- Taking compensation for labour services in forms that are untaxed or subject to lower tax rates (e.g. company cars, first-class travel, in-house sports facilities, child care, low-interest loans and stock options). This is facilitated by the UK Government’s attempts to align the interests of company managers with those of the company by introducing tax-favoured forms of share-based remuneration such as Company Share Option Plans (CSOPs).
- Transferring income between spouses where only of them is an additional rate earner. This is particularly easy for investment income as married couples can transfer the ownership of investments to the lower-income spouse without paying capital gains tax ([IFS 2012b](#)).
- Increasing pension contributions. Since contributions to private pensions attract tax relief, but pension income in retirement is subject to income tax, this is essentially 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 measure is limited by the UK Government’s decision to limit the total amount of pension contributions an individual can make a year. ([IFS, 2012b](#)).

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<sup>12</sup> However, changes in housing prices can reduce the benefit of moving to a more favourable tax jurisdiction as they are likely to go up following high inflows of home buyers to the area.

<sup>13</sup> A reduction in tax logically incentivises the opposite reactions.

- Increasing donations to charities.

Tax avoidance involves transferring tax liabilities across time, individuals and/or jurisdictions to take advantage of the lower tax rate. Although technically legal, it goes against the spirit of the law. It has no or few economic consequences other than loss of tax revenue.

Tax evasion contravenes both the spirit and letter of the law as it involves misrepresenting one's tax liabilities such as under-declaring income.

The above responses are to an extent substitutes for one another. For example, if the timing of income can be changed, there may be no reason to work less.

## ESTIMATING THE BEHAVIOURAL EFFECT

### Taxable income elasticity

Taxable income elasticity (TIE) “estimates the percentage change in total taxable incomes in response to a one per cent change in the net-of-tax rate (the proportion of each additional pound earned received by the individual after tax, also known as the marginal retention rate)” ([HMRC 2012a](#)). For example, if the TIE was 0.4 and the net-of-tax rate fell by 1 per cent (so, for example, if the rate increased from 50 to 50.5 per cent, reducing the net-of-tax rate from 50 per cent to 49.5 per cent), then taxable income would fall by 0.4 per cent.

Annex 5 provides an illustrative example of how [HMRC](#) (2012a) used TIEs to estimate the effect of a change in the tax rate. A similar model can be used to estimate the effect of a change in SRIT in Scotland.

### International evidence

TIE is a useful concept as it permits the calculation of the effect of a change in tax rates “without the need to specify the nature of the various adjustment processes involved or consider the details of tax regulations” ([Creedy 2010](#)). [HMRC](#) (2012a) provides a summary of the main studies that have been carried out on TIEs.<sup>14</sup> The overwhelming majority of studies focus on the fiscally-induced reactions of the highest income taxpayers. Reasons for this include their greater importance relative to lower income taxpayers in terms of tax revenues, the fact that most major tax reforms tend to provide tax variation mostly at the top of the income scale; and the empirical observation that high income taxpayers tends to be much more responsive than lower income taxpayers.

When using TIEs, it must be noted that “there are no convincing estimates of the long-run elasticity or reported taxable income to changes in the marginal tax rate” ([Saez et al. 2009](#)). This is because of the methodological difficulties in isolating the effect of a fiscal change from other economic and social factors and the idiosyncrasy of the TIEs generated by each study. TIEs tend to be calculated using “natural experiments” i.e. real fiscal changes in a given tax jurisdiction. They are thus contingent on numerous factors.<sup>15</sup>

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<sup>14</sup> A complete list of the studies most relevant to Scotland is available upon request.

<sup>15</sup> The factors include sample size and weighting, type of taxpayer (overall, low earners, high earners, etc.), method of estimation (particularly whether or not it differentiates between short and long term behavioural responses), income definition, taxpayer culture (compliance levels, social ideals, etc.), regulatory framework of the tax jurisdiction and its relationship with its neighbours, reform under examination (scope, target population, whether it is a permanent or temporary measure, whether it marks an increase or decrease in tax rates), international labour mobility, etc.



The first set of estimates was calculated in the US and yielded much higher TIEs than subsequent studies in other countries. Aside from differences in the methodologies used, this may be due to the differences in the scope of the tax cuts in the natural experiments analysed in different studies. For example the initial American studies looked mainly at the 1981 tax reform in the US which led to an immediate tax cut in the top personal rate from 70 to 50 per cent ([Lindsey 1987](#)). Differences in results between the US and elsewhere can also be attributed to the existence of a narrow tax base in the US and greater opportunities for tax planning ([HMRC 2012a](#)).

The most sizeable fiscally-induced variations in incomes were found to be at the top of the income distribution ([Gruber & Saez 2002](#)). The most reliable long-run estimates range from 0.12 to 0.4 ([Saez et al. 2009](#)) for the highest income earners. Most studies cite TIEs of 0.4 as a reliable estimate for high income taxpayers ([Giertz 2005](#)). This means that there is a 0.4 per cent decrease in declared income following a one per cent increase in the net-of-tax rate.

Minor fiscally-induced variations in taxable income were found at the bottom and middle income levels as well although few focus specifically on these tax bands. Examples include TIEs of 0.18-0.28 for low income earners and 0.1-0.26 for middle income earners according to [Gruber & Saez \(2002\)](#), 0.06 for all income taxpayers according to [Schultz \(2011\)](#), 0.17 at the median family income according to [Devereux \(2004\)](#).

Overall, studies show that those with high incomes are more responsive than those with lower incomes; the self-employed are more responsive than wage earners; and women are more responsive than men.

## Studies in the UK

A number of studies have looked at TIEs for those with high incomes in the UK. In 2008, the IFS prepared a report [Means-testing and tax rates on earnings](#) which looked at reforms in the 1970s and 1980s and concluded that:

“...if the richest 1% see a 1% fall in the proportion of each additional pound of earnings that is left after tax, then the income they report will rise by less than half that – only 0.46%. Although a tentative estimate, this suggests that the government would maximise the revenue it collects by imposing an overall marginal rate<sup>16</sup> on the highest earners of 56.5%.”

This is in line with the above studies.

### *The effect of the 50 per cent additional rate of income tax*

TIEs for additional rate earners were also considered in relation to the introduction of the 50 per cent additional rate of income tax. [HMRC](#) estimated that there had been a considerable behavioural response through forestalling (2012a). They concluded that the additional rate of income tax was a highly distortionary form of taxation. TIEs for additional rate taxpayers ranged from 0.14 to 0.81, with the most likely estimate at 0.48. The UK Government selected a TIE of 0.45 for additional rate earners subject to this particular tax reform. These values attempt to exclude forestalling as a response because it has a one-off effect on declared income.

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<sup>16</sup> This is the Effective Marginal Tax Rate, not the top marginal income tax rate.

## *Estimate of the effect in Wales of a devolved income tax*

In 2010 the Independent Commission on Funding & Finance for Wales [Fairness and accountability: a new funding settlement for Wales](#) estimated TIEs for taxpayers in Wales. These estimates are the most relevant to the Scottish context since the Welsh Commission looked at the effect the devolution of income tax would have in Wales. Based on the academic literature and characteristics of Welsh taxpayers, it estimated a TIE of 0.25 for basic rate earners and 0.5 for higher rate taxpayers.<sup>17</sup> It noted in particular that the “economy in Wales is very highly integrated with England, more so than is the Scottish economy.” Indeed, 30 per cent of the population of Wales and England, or over 16 million people, live within 50 miles of the border between the two countries.

In contrast, the Commission pointed out that only five per cent of the combined population of Scotland and England, or around three million people, live within 50 miles of the border between these countries. Every day around 100,000 people travel between Wales and England for work whereas the number of commuters crossing the Scottish border is roughly a third of that. The Commission concluded that:

- Increasing the higher rate would at best raise little additional revenue and would be quite likely to substantially reduce the income tax paid by Welsh residents;
- Decreasing the higher rate could potentially raise significant sums (though this effect could not be reasonably quantified), as high earning individuals in England would have an incentive to have a Welsh residence for tax purposes; and
- Variations in the higher rate would have to be limited if a serious degree of tax avoidance is to be prevented.

In addition, it recommended that “Welsh ministers should ideally be able to vary separately all rates of Welsh income tax. Income tax rates in Wales should be allowed to vary by no more than three pence relative to the prevailing rate in the UK.”

## **SPECIFICITIES OF ADDITIONAL RATE TAXPAYERS**

Those with high incomes typically have higher TIEs than those with middle incomes, who themselves have higher TIEs than those with low incomes ([Lindsey](#) 1987, [Saez et al.](#) 2009, [Gruber & Saez](#) 2002). This may be because the higher the income, the more at stake in a progressive tax system and the higher the awareness of the fiscal framework. There are also greater avoidance opportunities and there may be a higher propensity to migrate. TIEs are particularly high for those with high incomes who are self-employed ([Sillamaa & Veall](#) 2001) or who are in senior management ([Feldstein](#) 1995).

Top end executives with the possibility of exercising stock options also exhibit greater short-term reactions than any other category of taxpayer ([Goosbee](#) 2000). Most studies found little income effect. The main response from those with high incomes is tax planning, particularly bringing income forward in anticipation of the change in rates and (where different forms of income are taxed at different rates) shifting income into forms that are not earned, such as setting up a corporation, paying lower corporate tax rates on company earnings and paying oneself dividends.

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<sup>17</sup> The report states that “the empirical literature suggests that for low to middle income individuals the elasticity of income with respect to the tax rate is around -0.25.”

## ESTIMATING THE RESPONSE OF ADDITIONAL RATE TAXPAYERS IN SCOTLAND

No studies have estimated what a TIE might be for additional rate taxpayers in Scotland. In considering a TIE for those with high incomes, it is important to identify the reasons why the HMRC estimate for the UK might differ upon the introduction of SRIT.

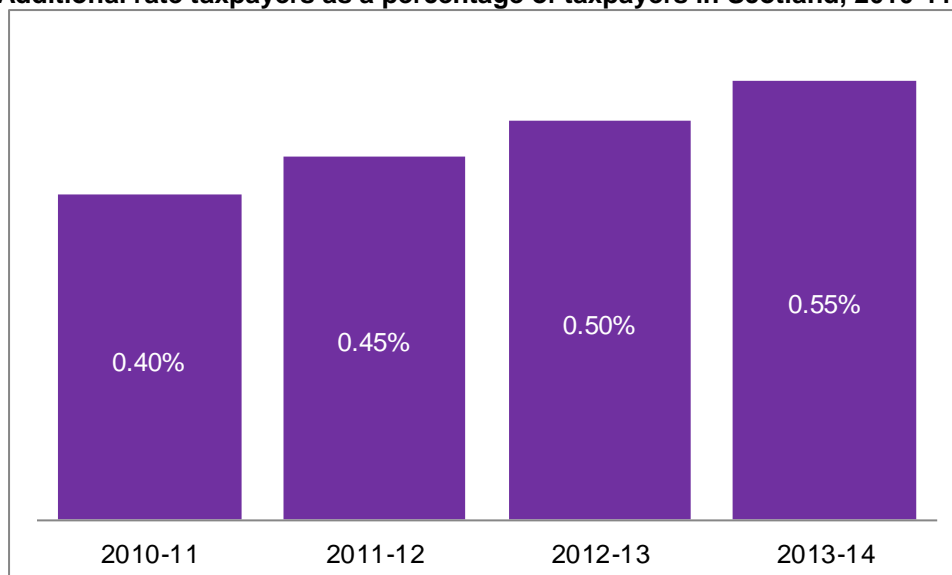
When looking at the response of additional rate earners, one must consider two situations:

- An increase in SRIT may incentivise Scottish taxpayers to declare less NSND income and to carry out procedures that enable them to no longer qualify as Scottish taxpayers
- A decrease in SRIT may incentivise Scottish taxpayers to declare more NSND income and non-Scottish taxpayers to become Scottish taxpayers

## CHARACTERISTICS OF ADDITIONAL RATE TAXPAYERS IN SCOTLAND

To understand how additional rate taxpayers might react to a tax change, it is useful to better understand who they are and how they differ from additional rate taxpayers in the UK as a whole, if at all.<sup>18</sup> In 2010-11 there were 11,000 additional rate taxpayers in Scotland and this figure is predicted to rise by 1,000 people each year from 2010-11 to 2013-14 (HMRC 2013b). Figure 8 shows additional rate taxpayers in Scotland as a percentage of all taxpayers in Scotland from 2010-11 to 2013-14 (HMRC 2013b).

Figure 8 Additional rate taxpayers as a percentage of taxpayers in Scotland, 2010-11 to 2013-14



Source: HMRC 2013b

The overwhelming majority of additional rate taxpayers in Scotland (over 85 per cent) are men.<sup>19</sup> Figure 9 shows the median incomes arising from investments, employment and other

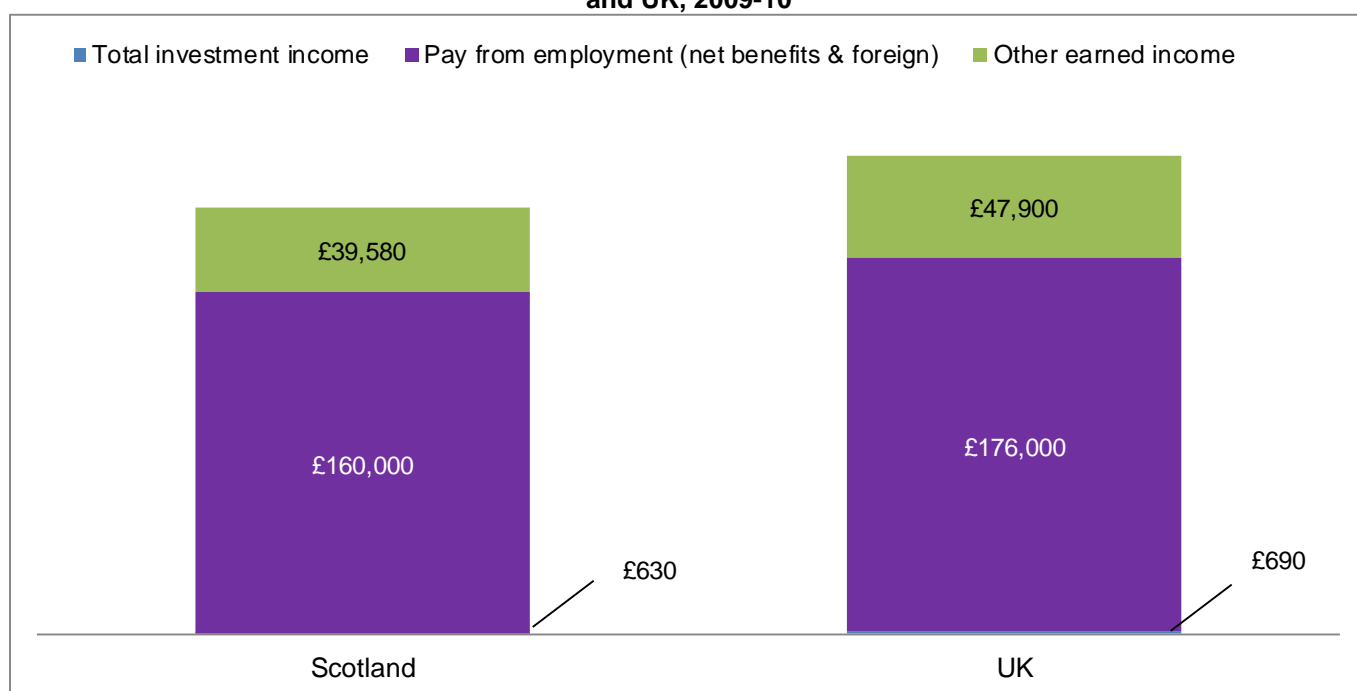
<sup>18</sup> The latest available data from the Survey of Personal Incomes (SPI) (HMRC 2012d) is for 2009-10 and from the Family Resource Survey (FRS) for 2010-11. Data from the FRS for additional rate earners is based on a small sample size of 20 people in Scotland and results must thus be interpreted with extreme caution, particularly at the tail end of normal distribution. Grossing factors vary from 359 to 804 meaning that one single survey respondent represents 359 to 804 people.

<sup>19</sup> SPICe estimates based on the 2010-11 FRS.

forms for additional rate taxpayers in both Scotland and the UK in 2009-10. The average total income of additional rate taxpayers is £270,000 whereas it is much higher in the UK as a whole, standing at £433,000. Half of additional rate taxpayers in Scotland have incomes lower than £209,000 compared to £235,000 for the UK as a whole. This indicates that total income amongst additional rate taxpayers is generally lower in Scotland than in the UK.

In 2010-11 in Scotland, 43 per cent of additional rate taxpayers in Scotland had investments compared to 60 per cent in the UK.<sup>20</sup> In 2009-10, on average 6 per cent of the total income of additional rate taxpayers in Scotland came from investments compared to twice that percentage (13 per cent) in the UK as a whole.<sup>21</sup> Although investment income is more equally distributed in Scotland than in the UK amongst additional rate taxpayers, in both cases there is a bunching at the bottom with a few high-earning outliers at the top end of the scale. Half of the additional rate taxpayers in Scotland and the UK had a return on their investments that is less than £630 and £690, respectively. Average investment returns in Scotland for additional rate taxpayers are £17,000 while the equivalent figure for the UK as a whole is £58,000.

**Figure 9 Median incomes incurring from different income sources for additional rate taxpayers, Scotland and UK, 2009-10**



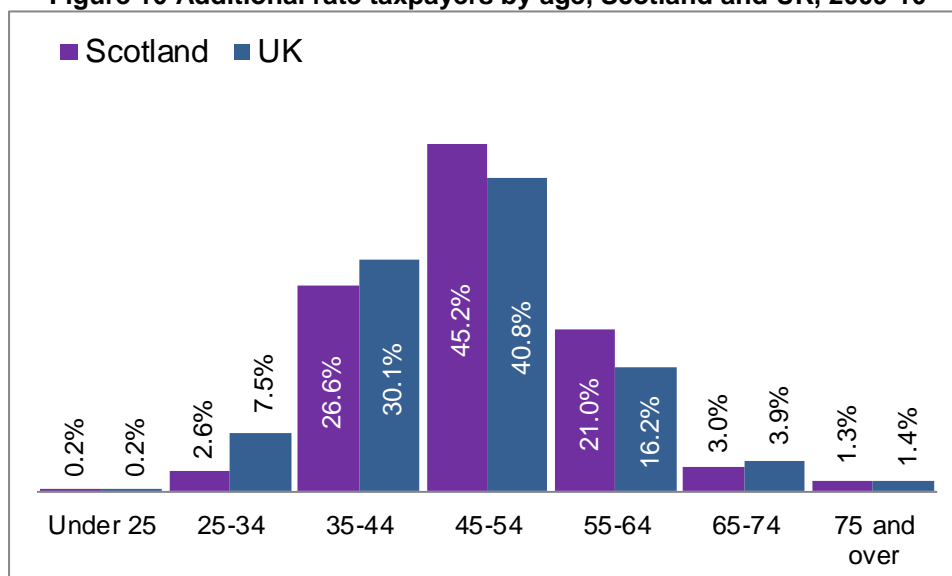
Source: SPICe estimates based on SPI

Figure 10 shows that Scotland's additional rate taxpayers generally tend to be slightly older than those in the UK as a whole. A smaller percentage of additional rate taxpayers in Scotland are between the ages of 25 and 44 in Scotland, while a larger percentage are between the ages of 45 and 64.

<sup>20</sup> SPICe estimates based on the 2010-11 FRS.

<sup>21</sup> SPICe estimates based on the 2009-10 SPI.

**Figure 10 Additional rate taxpayers by age, Scotland and UK, 2009-10**



Source: SPICe estimates based on SPI

Almost three quarters of additional rate taxpayers in Scotland have pay as their main source of income, followed by partnerships (17 per cent).<sup>22</sup>

There is a higher percentage of full-time employed additional rate taxpayers in Scotland (76 per cent) than in the UK as a whole (70 per cent) and a smaller percentage of full-time self-employed additional rate taxpayers in Scotland (15.1 per cent) than in the UK as a whole (22.5 per cent).<sup>23</sup> However, the highest taxpayers in Scotland<sup>24</sup> have a lower percentage of income coming from employment (57.8 per cent compared to 64.9 per cent) than they do in the UK as a whole, compensated by a higher percentage coming from self-employment (28.5 per cent compared to 22.8 per cent).<sup>25</sup>

The majority of additional rate taxpayers are managers and senior officials, the proportion in Scotland (60.4 per cent) being higher than in the UK as a whole (52.8 per cent).<sup>26</sup> Scotland had less than half the number of additional rate earners in professional occupations (10 per cent) compared to the UK as a whole (26 per cent), and more additional rate taxpayers in associate professional and technical occupations (20 per cent) than in the UK (12 per cent).

Figure 11 provides the breakdown of additional rate taxpayers by sector. The biggest differences between Scotland and the UK are:

- Fewer additional rate taxpayers in the financial industry in Scotland (half the percentage in Scotland than there is in the UK)
- More additional rate taxpayers in Scotland in mining and quarrying (e.g. oil), construction, human health and social work and in professional, scientific and technical activities

<sup>22</sup> SPICe estimates based on SPI

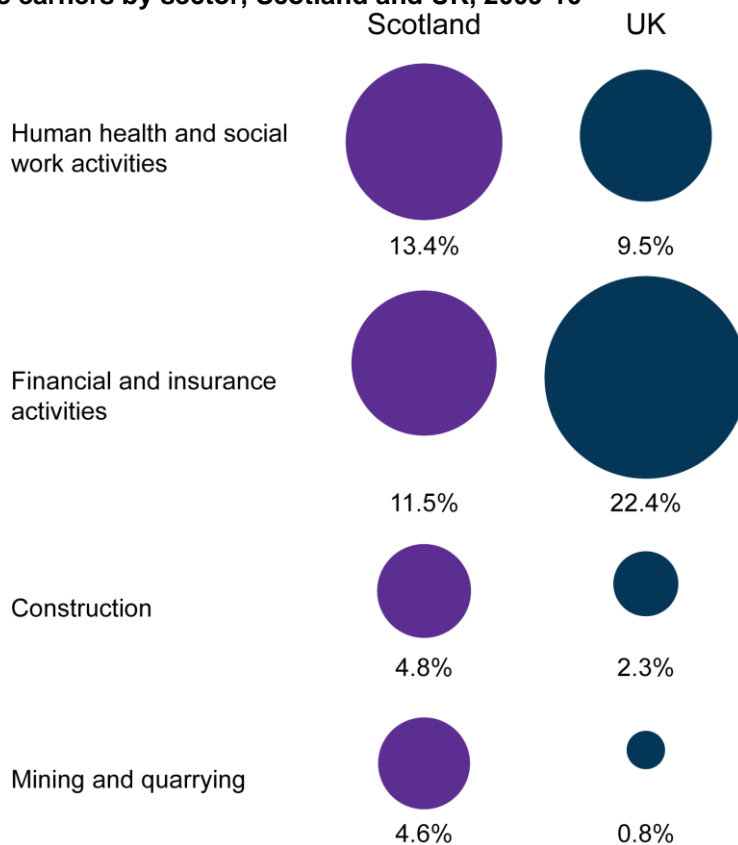
<sup>23</sup> SPICe estimates based on FRS

<sup>24</sup> There are 13,000 taxpayers with a total income above £150,000 in Scotland, but only 11,000 of these are additional rate earners. Deductions may account for this difference.

<sup>25</sup> SPICe calculations based on [HMRC](#) 2013a

<sup>26</sup> SPICe estimates based on FRS.

**Figure 11 Additional rate earners by sector, Scotland and UK, 2009-10**



Source: SPICe estimates based on SPI

Table 4 summarises the basic socio-economic profile of additional rate taxpayers in Scotland as well as their occupational and income characteristics in comparison to the UK as a whole.

**Table 4 Additional rate taxpayers in Scotland compared to the UK as a whole**

<b>Taxpayers</b>	<b>11,000 (0.4 per cent of Scottish taxpayers - half the UK value)</b>
<b>Gender</b>	Mostly men (as in the UK)
<b>Age</b>	Average age higher than in the UK
<b>Occupation</b>	Higher percentage in full-time employment than in the UK
	Smaller percentage in self-employment (but higher earnings from self-employment) than in the UK
	Smaller percentage in the financial industry than in the UK
<b>Income</b>	Lower average total income than in the UK
	Half the average investment income compared to the UK
	More equal income distribution than in the UK

## LIKELY RESPONSES TO A CHANGE IN SRIT

The likely responses that pertain specifically to the Scottish case are changes in labour supply excluding migration and tax planning.

### How likely is a change in labour supply?

Apart from one study ([Mosberger](#), 2011), academic evidence overwhelmingly points to low income effects amongst additional rate earners<sup>27</sup> following a change in the top marginal tax rate. The substitution effect is also likely to be small. However, there may be change in earned income through changes in unobserved effort etc., which is a margin of labour supply.

Changes to labour supply are likely to be small and at the margin.

### How likely is migration?

It is likely that Scottish taxpayers will respond in a broadly similar way to UK taxpayers as a whole to a change in income tax. Notwithstanding, as pointed out by the [IFS](#) (2013):

“...what is clear is that taxable income elasticities with respect to either Scottish or rUK income tax rates would be higher than taxable income elasticities with respect to the tax rates of a unified UK. If either Scotland or rUK changed its income tax rate, all the ways in which people can currently respond to an increased or reduced UK tax rate would still be available, *plus* people would also be able to respond by crossing the new Scotland-rUK border to the lower-tax country.”

Nothing in the literature can be used to serve as a proxy for the potential migratory response of additional rate earners in Scotland. However, Switzerland, the US and Canada offer some useful comparisons.

#### *Evidence of migration*

##### **Switzerland**

The Swiss context offers the most relevant studies on behavioural responses to income tax, as it is the country with the highest sub-central government tax share. Cantons are largely autonomous regarding the base and rates of income tax. Large disparities exist on a small geographical scale between tax rates despite recent attempts at harmonisation, particularly for high income earners. For example, “marginal rates at an annual income of 500,000 Swiss Francs ranged from about 21% (...) to more than 46%” in cantons less than 200km apart ([Liebig & Sousa-Poza](#) 2006).

[Feld and Kirchgassner](#) (2000) found evidence that those with high incomes choose their place of residence depending on the amount of income taxes they have to pay. [Schmidheiny](#) (2003) found similar results although he did not control for the fact that rich households may prefer to live near other rich households. However [Liebig & Sousa-Poza](#) (2006) found no relation between migration and tax burden or between migration and gross household income. This is confirmed anecdotally by the fact that, asked why they migrated, no respondent in the survey

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<sup>27</sup> The literature on labour supply shows that the responsiveness of male labour supply to after-tax wages is low, although it is higher (and perhaps much higher) for female/secondary earner labour supply ([Gruber & Saez](#) 2002).

used in this study reported taxes as the prime motivation. One must bear in mind however the absence of a major overhaul in the tax system during the study period.

Switzerland differs from the UK namely in its much higher levels of public consultation on a cantonal level and higher public expectations of government services and infrastructure. This may cause Swiss taxpayers to place more importance on where their tax goes than in the UK and could lead to different behavioural responses.

### **North America**

The federal nature and decentralisation of their income tax make the US and Canada good case studies for fiscally-induced migration. Canada also has the highest share of sub-national government tax receipts in the world ([Joumard & Kongsrud 2005](#)). [Young & Varner \(2011\)](#) carried out a recent study on the migration of top income earners in the American state of New Jersey following a 2.6 per cent increase in the income tax rate for incomes above US\$500,000. They found a minimal effect of the change in tax rate on the migration of the wealthiest: a 2.6 percentage point increase in the top marginal tax rate led to a loss of less than one-tenth of 1 per cent of the stock of millionaires in New Jersey.

Rich people in retirement and rich people who earn (all) their income from investments are the most sensitive. The authors suggest that the out-migration that they observed during the study period was due to a housing boom and not a change in tax. [Bakija & Slemrod \(2004\)](#) looked at how wealthy elderly taxpayers reacted to a range of different taxes over an 18-year period in the US. They found “robust evidence of some sort of behavioural response to state taxes by the rich” but could not isolate the migratory factor from other behaviours. In addition, the loss of revenue caused by behavioural responses was small. [Coomes and Hoyt \(2007\)](#) studied whether new migrants favour locating in states with low taxes when moving into multistate metropolitan areas close to state borders in the US. The authors did find an effect on residential choice, particularly when tax differences between two jurisdictions were 1.5 per cent or more. Again, the revenue loss was small. [Day & Winer \(2005\)](#) studied the effect of a broad range of policies in Canada and found no evidence that inter-provincial migration was caused by marginal changes in tax rates and social policies.

### *Scottish estimate*

The additional rate taxpayers who may be most likely to physically migrate in response to a change in SRIT are estimated to be:

- Those who live close to the border and work on the other side. Additional rate taxpayers in this situation are likely to be limited in number. For example, in 2011 there were 30,000 individuals living and working on different sides of the England-Scotland border, 13,000 of whom lived in Scotland and worked in the north of England ([HM Government 2013](#)).
- Those who are not close to the border but still work in either rUK or Scotland and live in the other country e.g. the people who live in Edinburgh and work in London, commuting on a regular basis from one capital to the other. In addition to tax incentives to migrate from one jurisdiction to the other, this group may have incentives to reduce commuting costs which would be an additional reason to migrate.
- Those who have a first home in rUK or Scotland and a second home in the other. For example, wealthy people from rUK who invest in holiday or retirement homes in the Highlands, the Hebrides and the Scottish Borders.



- Non-Scottish taxpayers in Scotland. For example, 60 per cent of additional rate taxpayers in Scotland do not define themselves as Scottish.<sup>28</sup>

The extent to which physical migration is likely to occur is limited by the following:

- People do not generally move homes in response to tax increases because of the cost of moving, not wanting to commute<sup>29</sup> or give up one's neighbourhood, job, friends or family ([Young & Varner 2011](#)). The taxpayers who may move, however, are those who are on the verge of moving anyway and who may decide to do so because of a higher tax rate.
- People who moved for tax reasons would have to do so for at least five years to benefit from the lower tax rate on certain types of income.
- Major urban areas in both the UK and Scotland are far from the border except Newcastle upon Tyne (which has less than 300,000 inhabitants). There is unlikely to be a large number of additional rate taxpayers living close to the border.
- As a strong flux of people to one side or the other of the border may in principle increase the price of housing in the area and this must be weighed against the lesser tax liabilities incurred by living in a lower tax zone. The extent to which this occurs is dependent on the number of people migrating to one area and is likely to be small in the Scottish context.

While those with high incomes are clearly sensitive to marginal changes in tax rates and more sensitive than those with middle or low-incomes, it seems that fiscally-induced physical migration would be at best a minor phenomenon.

The additional rate taxpayers who may be most likely to migrate "on paper" in response to a change in SRIT are:

- Those who work in either the rUK or Scotland and live in the other country e.g. the people who live in Edinburgh and work in London, commuting on a regular basis from one capital to the other.
- Those who have a first home in rUK or Scotland and a second home in the other.

The extent to which "paper migration" could occur depends on the effectiveness of compliance regimes put in place by HMRC.

It is estimated that physical migration in response to a change in SRIT is unlikely to be significant. However, additional rate taxpayers, such as those who work in either rUK or Scotland and live in the other and those who have second homes in Scotland or rUK, may find ways to migrate across the fiscal border between Scotland and rUK "on paper". The extent to which paper migration is likely to occur will depend on HMRC's efficiency in identifying and monitoring "Scottish" and other taxpayers.

## How likely is tax planning?

Scottish taxpayers may try to maintain or increase their net income following a change in SRIT by changing the timing of their income and/or the form in which it is declared.

<sup>28</sup> SPICe calculations based on the 2010-11 Family Resources Survey

<sup>29</sup> Commuting costs are already a given for people who live in one country and work in the other. For example, an individual living in Scotland but working in London has even more reason to continue to do so if the overall rate of income tax is higher in Scotland.

## *Changing the timing of income*

Changing the timing includes forestalling i.e. pulling income forward in anticipation of a tax increase and delaying income in anticipation of a tax reduction. Forestalling includes for example:

- receiving higher earnings at one point in time under the lower tax rate and lower earnings at another point in future under the higher tax rate
- not claiming income from investment e.g. holding on to company shares or stock options when one would otherwise have sold them

Forestalling i.e. bringing income forward is the most obvious short-term tax planning in response to a rise in tax rates. According to Robert Chote, chairman of the OBR, about £16 billion of income was pulled forward in anticipation of the introduction of the 50p additional rate of income tax in April 2010, leading to a loss in revenue that [HMRC](#) (2012a) estimated could be as high as £1 billion.<sup>30</sup> Conversely, a decrease in tax rates incentivises people to delay income until the new tax rate comes into effect, as noted by Chote regarding the introduction of the 45p rate in April 2013 ([Scottish Parliament Finance Committee](#) 2013).

## *Changing the form in which income is declared*

The ways in which taxpayers are incentivised to change the form of their income depends on the rates at which different forms of income are taxed. For example, as SRIT applies only to NSND income, increasing it would increase the differential that already exists between taxes on earnings and taxes on dividends which may give Scottish taxpayers the incentive to incorporate and declare dividends instead of a salary. As noted by the [IFS](#) (2013), “personal and corporate taxes need to fit together such that the form in which income is received does not imply very different amounts of tax paid. Otherwise, some forms of activity are favoured over others and people are led to alter the legal form of their activity for tax reasons.” For example, dividends are currently taxed at 37.5 per cent at the additional rate. If SRIT were set at 15p; and if the additional rate of income tax and dividend tax in the UK remained the same; then income tax for Scottish additional rate taxpayers would be 50 per cent, creating a 12.5 percentage point difference between income tax and dividend tax. Another way in which an individual can change the way in which their income is taxed is through incorporation.<sup>31</sup> After incorporation, an individual can declare company profits which are liable to corporation tax (20 per cent for small profits) and receive compensation in the form of dividends (taxed between 10 and 37.5 per cent).

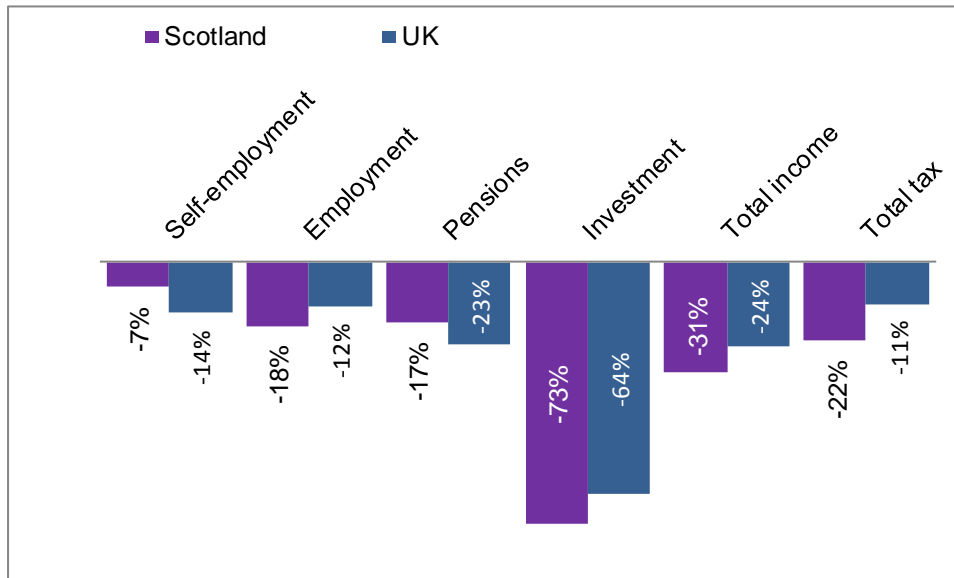
## *Tax planning in response to the additional rate of income tax*

Figure 12 illustrates the changes in declared income by income type in the UK and Scotland from 2009-10 to 2010-11, the year the 50p top marginal rate of income tax was introduced.

**Figure 12 Change in income by type and tax, people earning £150,000 or more, 2009-10 to 2010-11**  
Amounts: £ million

<sup>30</sup> There was £12 billion less total income declared in the UK in 2010-11 compared to 2009-10 [HMRC](#) (2013a) with a £28 billion decrease in total income from additional rate earners. Total income tax revenues were £2 billion lower in 2010-11 than in 2009-10, but £4.7 billion lower for additional rate earners.

<sup>31</sup> Registering a private limited company takes as little as 48 hours and costs as little as £15. This is obviously not possible for all taxpayers e.g. the self-employed.



Source: [HMRC Archives](#), [HMRC 2013a](#)

Figure 12 highlights a number of points:

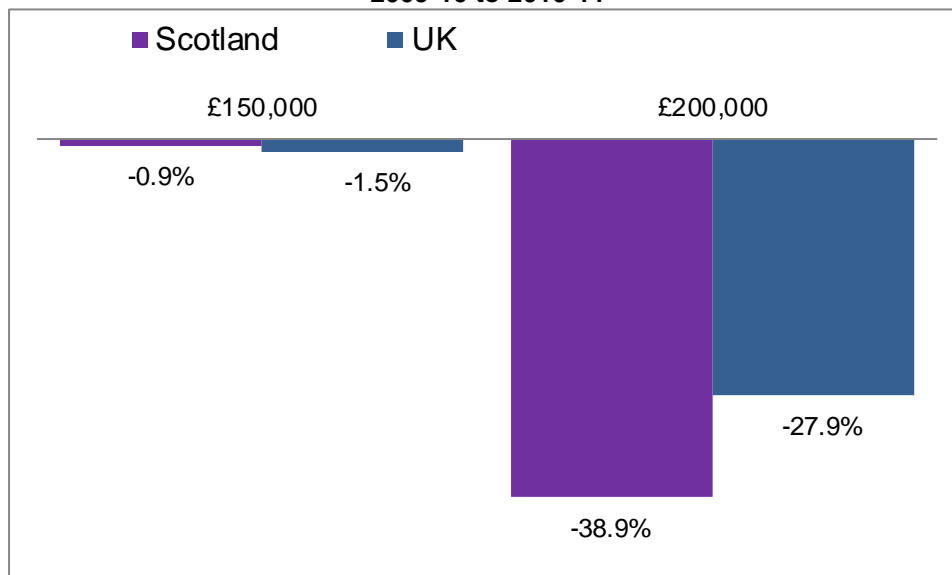
- Notwithstanding non-fiscal economic factors, additional rate earners in the UK seem to have reacted strongly to the introduction of the additional rate of income tax (this is consistent with HMRC 2012a): their taxable income was 24 per cent less in 2010-11 compared to 2009-10, causing an 11 per cent decrease in income tax from this tax band in 2010-11.
- The biggest change was a reduction in dividend income for the year the tax increase came into force. For example, in Scotland dividend income declared by additional rate taxpayers decreased by 73 per cent in 2010-11 compared to 2009-10.
- Additional rate taxpayers in Scotland seem to have reacted more strongly relative to those in the UK as whole: their taxable income marked a 31 per cent decrease in 2010-11 compared to 2009-10, leading to a 22 per cent decrease in income tax from additional rate taxpayers. This difference between Scotland and rUK is due to the different composition of earners and the spread of incomes at this income level.

Figure 13 shows that the higher the income, the bigger the reduction in taxable income following the 50p additional rate. It is reasonable to assume this is in accordance with the notion and empirical evidence that the higher the income, the more responsive the taxpayer is to a change in after-tax income.<sup>32</sup>

Taxpayers with a total income between £150,000 and £200,000 (the only available breakdowns for Scotland) declared a similar value of taxable income in Scotland in 2010-11 compared to 2009-10, but taxpayers with incomes above £200,000 declared 40 per cent less taxable income in Scotland in 2010-11 than in 2009-10.

<sup>32</sup> Annex 6 illustrates this trend for additional rate taxpayers in the UK as a whole.

**Figure 13 Change in total income for taxpayers with a total income of £150,000 or more, Scotland and UK, 2009-10 to 2010-11**



Source: [HMRC Archives](#), [HMRC 2013a](#)

Tax planning in the form of forestalling is a likely response in relation to a change in the SRIT. However, tax can only be brought forward or delayed once in relation to a change in the SRIT and so this is a one-off effect. Given that SRIT applies only to NSND income, tax planning in the form of shifting income from one taxable form to another is also likely to occur. In addition, a change in SRIT may also result in greater or lesser levels of incorporation. All of these responses would have an impact on overall tax revenues.

## Summary

The potential responses to a change in SRIT are:

- changing the amount of total income that one declares:
  - by changing one's gross income through changes in labour supply (e.g. retirement)
  - by changing where one declares income (through physical or paper migration)
- shifting income from a high-tax category to a lower-tax one:
  - by changing the timing of income
  - by changing the form of income e.g. incorporating and declaring corporate profits rather than self-employment income, and dividends rather than a salary.

Changing the timing of income has a one-off effect. Other responses could be said to matter more given that these may cause a longer-term change in tax revenues and they may have an effect on the Scottish economy through a change in labour supply and a change in expenditure in Scotland.

## IMPACT OF A MINOR CHANGE IN SRIT

It is possible to use the model developed by [HMRC](#) (2012a) and SPICe shown in simplified form in Annex 4 to estimate the impact of a change in SRIT in tax revenues. The model considers the tax year 2013-14. HMRC forecasts for NSND income and total NSND income tax revenues imply that tax liabilities arising from SRIT would be £4,249.5 million, close to the OBR's ([2013c](#)) forecast of £4,246 million.

The fiscal year 2013-14 is taken as an illustrative example only. It is important to note that 2013-14 is unlikely to be representative of the scale of income tax revenues at the additional rate because incomes in this year will be particularly high due to people postponing their incomes into 2013-14 to take advantage of the cut in the additional rate to 45p.

Table 5 summarises the estimated change in SRIT revenues due to the mechanical effect (i.e., not taking into account any behavioural response).

**Table 5 Change in total income tax liabilities on NSND income by changing SRIT from 10p, 2013-14**

Amounts: £ million

SRIT	Difference from 10p SRIT revenues due to the mechanical effect	Pre-behavioural SRIT revenues to the Scottish budget
0	-4,249.5	0
5p	-2,124.8	2,124.8
8p	-849.9	3,399.6
9p	-425	3,824.6
<b>10p</b>	<b>0</b>	<b>4,249.5</b>
11p	+425	4,670.6
12p	+849.9	5,099.4
15p	+2,124.8	6,374.3
20p	+4,249.5	8,499.0

Based on the academic literature, the chosen SPICe estimates of TIEs are 0.1, 0.2 and 0.45 respectively for basic, higher and additional rate taxpayers. This is referred to as the “baseline scenario”<sup>33</sup> as it uses the same TIE for additional rate taxpayers as [HMRC](#) (2012a). Two “higher behavioural response scenarios” consider the effect on revenues if the TIEs of additional rate taxpayers are 0.5 and 0.1. A TIE of 0.5 for additional rate taxpayers may be plausible if there are high levels of “paper migration” or if forestalling and shifting income from one taxable form to another occurs. A TIE of 1.0 for additional rate taxpayers, although unlikely, has been documented in the academic literature, mostly for major tax reforms in the 1980s in the US. For example, if the UK Government cut savings tax - one of the recommendations made in the Mirrlees Review ([IFS](#) 2010) - and the Scottish Government increased SRIT, the differential introduced between income tax and savings tax may incentivise additional rate taxpayers to shift a substantial amount of income away from the NSND tax base. Table 6 summarises the results.

<sup>33</sup> The results from using different TIEs for different taxpayer bands are available upon request e.g. ‘low reaction’ and ‘high reaction’ scenarios.

**Table 6 SRIT revenues for TIEs of 0.45, 0.5 and 1.0 for additional rate taxpayers**

Amounts: £ million

SRIT	Post-behavioural revenues to the Scottish budget		
	Baseline scenario (TIE: 0.45)	Alternative scenario 1 (TIE: 0.5)	Alternative scenario 2 (TIE: 1.0)
0	0	0	0
5p	2,154.5	2,155.4	2,164.4
8p	3,418.7	3,419.2	3,425.0
9p	3,835.3	3,835.6	3,838.8
<b>10p</b>	<b>4,249.5</b>	<b>4,249.5</b>	<b>4,249.5</b>
11p	4,661.3	4,661.0	4,657.5
12p	5,070.8	5,069.9	5,061.4
15p	6,284.9	6,282.2	6,255.4
20p	8,260.7	8,253.6	8,182.1

Table 5 shows that if SRIT were set one pence higher in 2013-14 from the 10p baseline (SRIT = 11p), this would mechanically raise an additional £425 million, bringing revenues to £4,670.6 million. Under the baseline scenario, Table 6 shows that the total SRIT post-behavioural revenues when SRIT = 11p are estimated as £4,661.3 million. Thus, the behavioural response as a result of tax being 1p higher in Scotland than in rUK is estimated to reduce SRIT revenues by £9.3 million. If SRIT were set 10 pence higher (SRIT = 20p), this would mechanically raise an additional £4,249.5 million revenues, taking total SRIT revenues to £8,499 million (Table 6). Again, under the baseline scenario, total SRIT post-behavioural revenues when SRIT = 20p are estimated as £8,260.7 million. Thus, the behavioural response as a result of tax being 10p higher in Scotland than in rUK is estimated to have reduced SRIT revenues by £238.3 million.

In the two “higher behavioural response scenarios,” post-behavioural revenues do not differ significantly from the baseline scenario. The main reasons that we do not see significant revenue impacts due to behavioural responses are as follows:

- The NSND income tax base accounts for less than half of income tax revenues in Scotland. In addition, SRIT accounts for a small portion of tax paid on this income. For example, SRIT at 10p makes up less than one fifth of income tax paid at the additional rate (the rest is non-SRIT income tax and NICs).
- Even a major change in SRIT leads to a small change in the amount taxpayers keep for each extra pound they earn. For example, setting SRIT at 15p from 10p is a 50% increase in SRIT but this only decreases the marginal retention rate (how much of each pound the taxpayer gets to keep after taxes) by 7.4% for each pound taxed at the basic rate.<sup>34</sup>

Sensitivity testing reveals that changing the elasticities of the different taxpayer bands has a very small effect on SRIT revenues.<sup>35</sup>

A change in SRIT has implications for both Scottish Government revenues and UK Government revenues due to the behavioural response that would be expected from a change in SRIT. If the Scottish Government chooses to reduce SRIT below 10p, a positive behavioural response would be expected (with the reduced tax rate leading to an increase in declared taxable income). But the Scottish Government would only receive 50% of the revenues from the behavioural response at the basic rate, 25% of revenues from the behavioural response at the

<sup>34</sup> National insurance contributions are included.

<sup>35</sup> The effect of specific elasticities can be provided upon request.

higher rate and 22% of revenues from the behavioural response at the additional rate. Thus, the UK Government would receive the majority of revenues from the positive behavioural response brought about by a reduction in SRIT. On the other hand, an increase in SRIT from 10p would be expected to lead to a negative behavioural response (with the higher tax rate leading to a decrease in declared taxable income and acting to offset the increase in tax revenues from the mechanical effect). In this instance, the UK Government would suffer the majority of the reduction in revenues brought about by negative behavioural response to the increase in SRIT. In short, the Scottish Government does not see the full benefits of any positive behavioural response resulting from a decrease in SRIT but, equally, does not suffer the full effects of any negative behavioural response resulting from an increase in SRIT. These factors might influence any decision of the Scottish Government in respect of SRIT, depending on the anticipated scale of any behavioural response.

## IMPACT OF A MAJOR CHANGE IN SRIT

While this model is helpful for examining the impact of small changes in SRIT, larger changes might induce more dramatic taxpayer responses. It might be the case that when the difference in income tax that would be paid in Scotland compared with the rUK reach certain psychologically significant amounts (“tipping points”) taxpayers engage in activities that lead to them declaring none of their income in the tax jurisdiction that has the higher rate, through responses such as physical migration. This may occur particularly where people are already on the verge of migrating anyway. These people may be tipped over the edge by a change in tax rate.

Table 7 identifies the individual income beyond which the taxpayer reaches specific “tipping points” according to different Scottish rates of income tax. For example, if SRIT were set at 13p and the tipping point was £5,000 of extra tax paid in one tax jurisdiction compared to the other, all taxpayers earning £166,666.7 or above in the higher-tax zone would migrate to the lower-tax zone.

**Table 7 How much each additional rate taxpayer would have to earn to reach specific “tipping points” under different SRITs**

SRIT (pence)	Tipping point				
	£2,500	£5,000	£10,000	£15,000	£20,000
+/- 1p (9p or 11p)	≥ £250,000	≥ £500,000	≥ £1,000,000	≥ £1,500,000	≥ £2,000,000
+/- 2p (8p or 12p)	All additional rate earners	≥ £250,000	≥ £500,000	≥ £750,000	≥ £1,000,000
+/-3p (7p or 13p)	All additional rate earners	≥ £166,667	≥ £333,333	≥ £500,000	≥ £666,667

The table highlights that for small changes (+/- 1p) taxpayers would have to earn at least £250,000 before the difference in tax paid between the higher and lower-tax jurisdiction is £2,500 or more. However, for larger changes (+/-3p), all additional rate taxpayers would pay at least £2,500 more tax in the higher-tax jurisdiction.

It is clear that a large scale, and unlikely, behavioural response would be needed for a rise in SRIT to result in a net reduction in SRIT revenues. For example, if SRIT were set at 11p in 2013-14, 3850 people (35 per cent of all additional rate taxpayers in Scotland) earning the average income of additional rate taxpayers in Scotland (£270,000) would have to stop

declaring any NSND income in Scotland for the effect of the change in revenue to become negative.

## CONCLUSION

SRIT may incentivise behaviours in a number of ways:

- Reducing income liable to income tax by changing the form in which income is obtained e.g. getting dividends instead of a salary
- Eliminating income altogether through physical or “paper” migration or leaving the workforce e.g. retirement
- Changing the timing of income: forestalling or pulling income forwards

Having two different income tax rates will increase compliance costs for HMRC. It also implies extra effort for people and firms potentially touched by both tax systems. The optimal<sup>36</sup> income tax rates in Scotland and rUK will be lower than the optimal tax rates for the UK as a whole insofar as there is a certain amount of mobility across the Scotland-rUK border.

When considering a change in SRIT, policy makers must bear in mind the potential behavioural responses of taxpayers particularly at the top end of the income distribution. In Scotland additional rate taxpayers appear to be slightly more responsive to changes in the additional income tax rate in the short-term than those in the UK as a whole. However, even in the very unlikely scenario that additional rate taxpayers in Scotland react to an extent rarely described in the academic literature and the Scottish Government sets SRIT very high e.g. at 20p, taxpayers’ behavioural responses would have a marginal impact on SRIT revenues. This is because SRIT will account for a small proportion of tax levied on the income of additional rate taxpayers and so even a major change in SRIT leads to a small change in the amount these taxpayers keep for each extra pound they earn.

Other factors that must be considered when considering a change in SRIT are the wider economic effects. For example, lowering SRIT may incentivise more foreign direct investment which could increase income tax revenues, national insurance contributions, corporation tax, etc. as well as the revenues raised from indirect taxes such as VAT.

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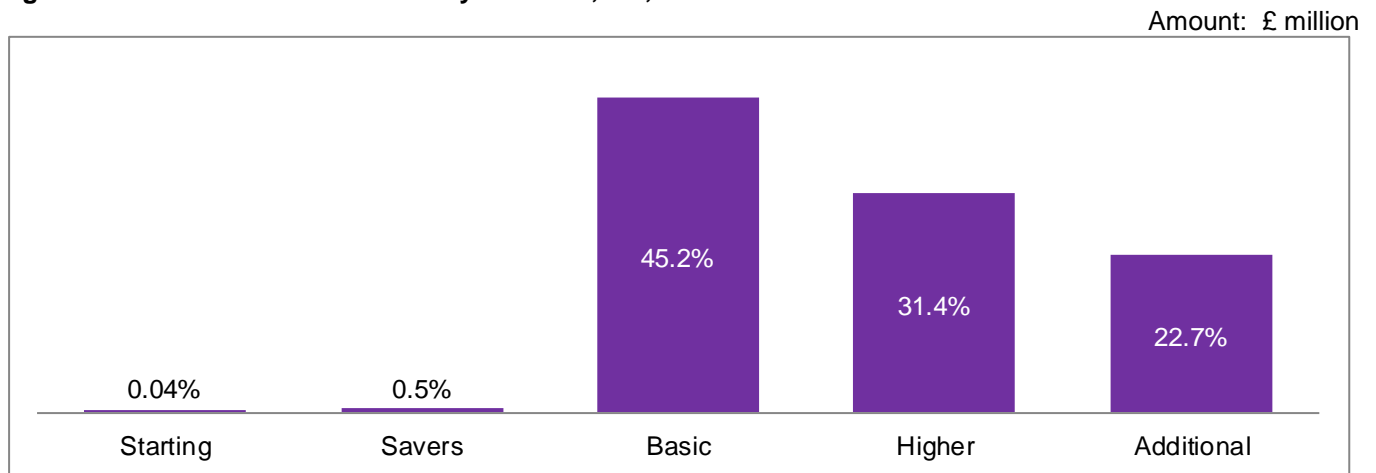
<sup>36</sup> The optimal tax rates depends on the strength of society’s preference for redistribution, the shape of the income distribution, the degree of responsiveness to taxation of people at different points in the distribution ([IFS 2013](#)).



## ANNEXES

### ANNEX 1 INCOME TAX LIABILITIES BY TAX BAND, UK, 2010-11

Figure 14 Net Income tax liabilities by tax band, UK, 2010-11

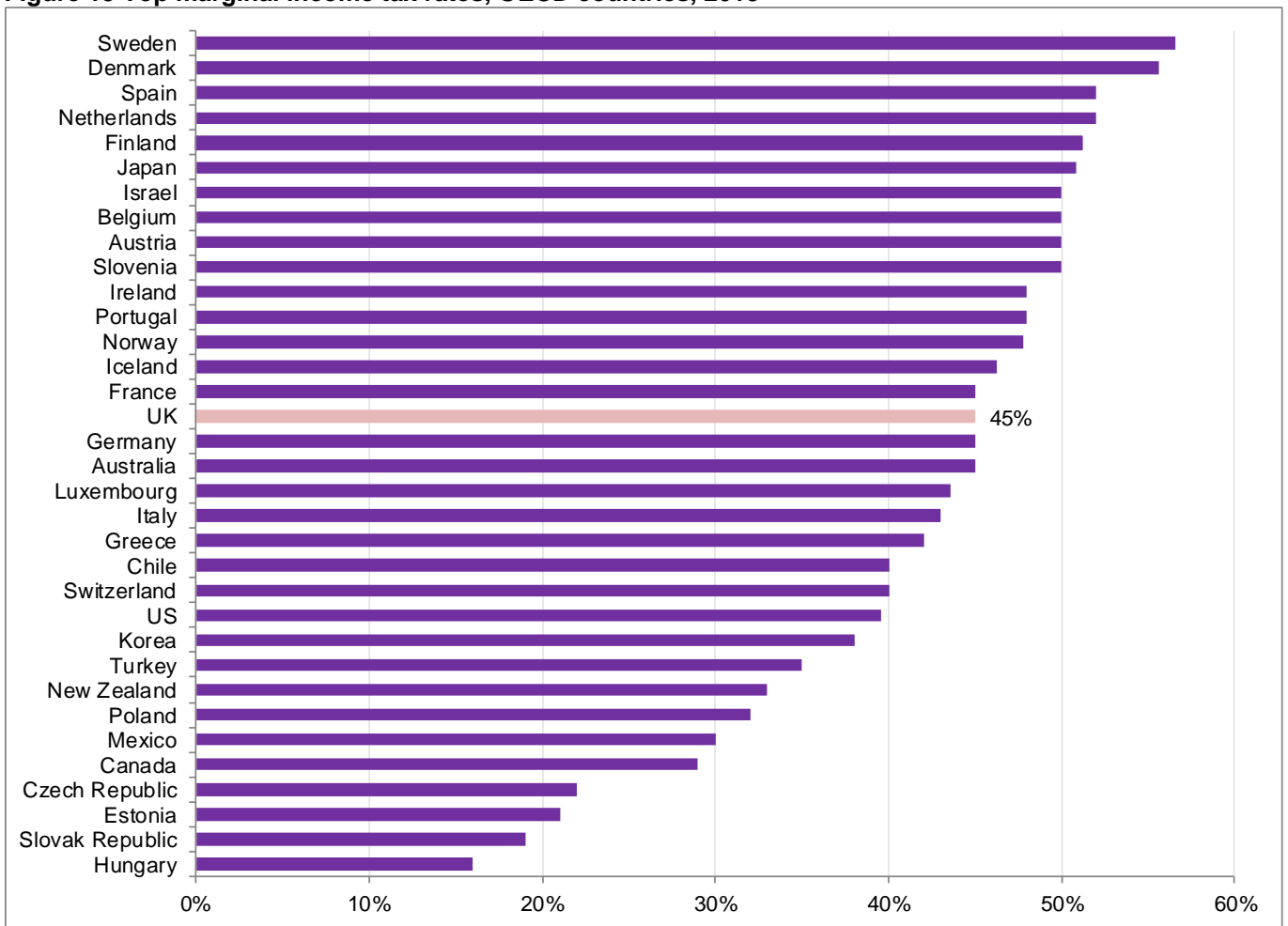


Source: [HMRC](#) 2013b

Similar data is publicly available by income bracket only for Scotland (see Annex 3).

## ANNEX 2 TOP MARGINAL INCOME TAX RATES IN OECD COUNTRIES

Figure 15 Top marginal income tax rates, OECD countries, 2013



Source: [KPMG](#) 2013

## ANNEX 3 INCOME TAX LIABILITIES

**Table 8 Income tax liabilities by income range, Scotland, 2010-11**

Range of income (lower estimate)	Number of individuals	Total income (£ million)	Total tax (£ million)
6,475	344,000	2,860	107
10,000	592,000	7,340	567
15,000	498,000	8,680	1,000
20,000	620,000	15,200	2,100
30,000	477,000	18,000	2,790
50,000	109,000	6,280	1,270
70,000	48,000	3,980	987
100,000	22,000	2,680	778
150,000	7,000	1,150	368
200,000	6,000	2,560	1,010
<b>Total</b>	<b>2,720,000</b>	<b>68,700</b>	<b>11,000</b>

Source: [HMRC](#) 2013a

## ANNEX 4 BLOCK GRANT ADJUSTMENT

### Block grant adjustment

1. From April 2016, Scotland's overall budget will be determined as follows:
  - Pre-adjusted block grant determined via Barnett
  - Minus the block grant adjustment based on the Holtham method
  - Plus the revenues generated by SRIT
2. In Year 1, the OBR will forecast SRIT revenues using the rate set by the Scottish Government (F-SRIT@Xp).<sup>37</sup> A forecast of SRIT revenues at 10p will constitute the Year 1 block grant (F-SRIT@10p)
3. F-SRIT@10p will be deducted from the block grant and F-SRIT@Xp will be added to this adjusted block grant to produce the Scottish budget. Therefore if the Scottish Government sets a rate of 10p then overall resources will be unchanged. A rate of 11p would increase the Scottish Government's overall resource while a rate of 9p would lead to lower overall resource.
4. In Year 2, the pre-adjusted block grant and SRIT revenues forecast will be calculated as in Year 1. The block grant deduction in Year 2 is calculated by indexing the Year 1 deduction against the UK's NSND income tax base as follows:

$$Y2reduction = Y1reduction * \frac{Y2.UK.NSND.income.tax.base}{Y1.UK.NSND.income.tax.base}$$

5. As SRIT revenues are determined by Scottish NSND income tax base, the overall Scottish budget will be determined by the extent that the NSND income tax base in Scotland grows faster/slower than in the UK as a whole.
6. However, it should be noted that the size of the Scottish and UK NSND income tax bases are initially forecasts. While these forecasts will be used to calculate the Scottish Government's budget, there will be a reconciliation process (around a year after the end of the financial year) whereby forecasts are replaced with actuals. This will determine whether an adjustment for over- or under-payments (by the UK Government to the Scottish Government) needs to be applied to the Scottish Government's budget for the following financial year/
7. The expectation is that forecast error for SRIT revenues (based on Scotland's NSND income tax base) will be similar to forecast error for the block grant adjustment (based on the UK's NSND income tax base). This should therefore minimise the extent to which post-reconciliation adjustments need to be made to a future Scottish Government budget.

Source: HM Treasury, personal correspondence

<sup>37</sup> If the Scottish Government sets a Year 1 rate different from 10p then the OBR will need to produce a forecast in addition to its F-SRIT@10p. How this will be done has not been decided yet given the potential behavioural effects resulting from the rate changes.

## ANNEX 5 TAXABLE INCOME ELASTICITY

Formulas within the model hinge on  $TIE = \left( \frac{1-t}{z} \right) \frac{dz}{d(1-t)}$  where z is the total income taxable, dz

is the difference in total taxable income between the old and the new rates; t is the marginal tax rate, the net-of-tax rate (Creedy 2010). The net-of-tax rate, or marginal retention rate, is the amount of each extra pound retained by the individual after paying tax at the marginal rate and is equal to 1-t. d(1-t) is the difference between the marginal retention rate before and after tax.

Table 9 is an illustrative example of the model that SPICe uses to generate the values provided in the briefing. It draws on the model used by HMRC (2012a).

**Table 9 An illustrative example of the impact of behaviour on yield from a ten percentage point increase in the tax rate**

	Base	Option	Value	Impact
Income tax rate (A)	40%	50%		
Employee NIC rate (B)	1.0%	1.0%		
Employer NIC rate (C)	12.8%	12.8%		
MRR ( $D = 1 - \frac{A+B+C}{1+C}$ )	52.30%	43.44%		-17%
Total taxable income (E)			70	
Change in tax rate (F)				+10%
Pre-behavioural yield (G=E*F)			7.0	
Taxable Income Elasticity (H)			0.35	
Percentage change in MRR (I)				-17%
Reduction in total taxable income (J=H*I)				-5.9%
Reduction in total income (K=E*J)				-7.1
Average tax rate of income (inc. NICs) (L=A+B+C)			63.8%	
Impact of behaviour on yield (M=L*K)				-4.5
Post-behavioural yield (N=H+O)			2.5	

## ANNEX 6 CHANGE IN DECLARED INCOME FOLLOWING THE INTRODUCTION OF THE ADDITIONAL RATE OF INCOME TAX IN 2010

Figure 16 Change in total income for taxpayers with a total income above £150,000, UK, 2009-10 to 2010-11



Source: [HMRC Archives](#), [HMRC 2013a](#)

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