

Top income inequality and tax policy

Isaac Delestre (IFS), Wojciech Kopczuk (Columbia University), Helen Miller (IFS) and Kate Smith (IFS; UCL)¹

Executive summary

- **The top 1% of UK adults received 15% of fiscal income in 2018–19.** This is more than flows to the bottom 55% of adults combined. The top 1% share was around 6% in 1980 and 10% in 1990.
- The majority (65%) of fiscal income for the top 1% of adults comes from employment. (Employment generates 77% of income outside of the top 1%.) **Top 1% wage earners work disproportionately in the financial sector, which is very geographically concentrated in London.** The financial sector has been important in driving the growth in the top income share.
- **Business income – from either self-employment or from owning and running a company – is much more important in the top 1%, and especially the top 0.1%.** It accounts for 21% (29%) of income for the top 1% (0.1%), compared with just 9% for those below the top 1%. The broad composition of top incomes has changed relatively little since at least the early 2000s.
- The self-employed in the top 1% work disproportionately in professional services partnerships, including large legal and accountancy practices. **Mean fiscal income of a self-employed person in the top 1% is £423,000, more than 30 times the UK median.** In comparison, company owner-managers in the top 1% have a lower income on average (£294,000), but are much more evenly spread across a range of industries.
- Taxes on UK incomes are progressive – those at the top of the income distribution pay a greater share of their (fiscal) income in tax than those at the bottom. **The top 1% of adults paid 34% of income tax in 2018–19. They paid 28% of income tax and National Insurance contributions (NICs) combined – a substantial increase from 20% in 2003–04.** Taxes are less skewed to the top when including NICs because the marginal NICs rate falls from 12% to 2% for higher-rate taxpayers.
- **Income taxes reduce post-tax top income inequality, and have done so to a larger degree since 2010.** The top 1% (0.1%) received 11% (4.6%) of post-tax income in 2018–19, compared with 14% (6.1%) in 2009–10. The fall in post-tax top income shares is in part due to policies that raised more tax from the top, most notably through a new 'additional rate' of income tax.
- **Average tax rates vary significantly within the top 1%.** For example, the average tax rate on wage earners in the top 1% is 42% (49% if including employer NICs). Company owner-managers will be able to access a rate of just 27% on income taken in the form of capital gains – or of 0% if the realisation of gains is deferred until death.

¹ This work contains statistical data from HM Revenue and Customs (HMRC) which are Crown Copyright. The research data sets used may not exactly reproduce HMRC aggregates. The use of HMRC statistical data in this work does not imply the endorsement of HMRC in relation to the interpretation or analysis of the information.

- **There is a strong case for aligning the tax rates on different forms of income, while reforming the tax base** so that taxes on business income do not discourage investment. This combined approach would directly improve horizontal equity, and allow more revenue to be raised from the top 1% if desired.

1. Introduction

Concerns about how much income 'the rich' have, the activities from which it is derived, and how much tax is paid on it are central to debates about inequality. In part, this is driven by the fact that the share of income flowing to the top of the income distribution has risen and is now much higher than in the early 1980s. A poll conducted for this review showed that 58% of Britons 'worried' that 'the top 1% of earners have more money than the other 99% of people' and that 42% agreed with the statement 'the rich should not be able to continue to get richer – it concerns me' (Garrett and Day, 2021). Such concerns have prompted significant debate about whether those at the top of the income distribution should face higher taxes on their incomes.

In this chapter, we use data from tax records, which provide better information on top incomes than is found in survey data, to set out what is known about who has top incomes in the UK and how much tax they pay. The main analysis is based on 'fiscal income' – a broad measure that captures most income sources but notably excludes capital gains and untaxed incomes (we discuss these income sources separately).² Taxable capital gains, including those from profits retained in businesses, flow disproportionately to the top 1% (Miller, Pope and Smith, 2019; Alstadsæter et al., 2021) whereas *untaxed* gains, notably including those from main residences, are more evenly spread across the income distribution.³

One of the most striking aspects of the (fiscal) income distribution is that the top 1% – and especially the top 0.1% – of UK adults are much more likely to get their income from active business ownership by either being a partner (a form of self-employment) or being the owner and manager of a 'closely held company' (one with no more than five shareholders). The resulting 'active' business income accounts for under 10% of income for most of the income distribution, but for 21% of income within the top 1% and 29% within the top 0.1%. This is not a recent development: the share of business income at the top of the income distribution has been similar since at least the early 2000s. Broadly, this greater importance of 'active' business income at the top of the income distribution mirrors the pattern seen in the US (Smith et al., 2019).

A key feature of the UK tax system (and of many systems around the world) is that business incomes are taxed at substantially lower rates than employment income. Partnerships (and the self-employed more broadly) are tax advantaged largely because work that happens through this legal form faces no equivalent to the employer National Insurance contributions (NICs) that are charged on employment incomes.⁴ Investment incomes, notably including dividends, are not subject to any NICs and are usually taxed at lower overall rates than employment incomes.

² Fiscal income, as measured on tax returns, captures employment, self-employment, dividend, rental, investment and pension income. We discuss implications of using a broader notion of 'national income' in Section 2 and implications of accounting for untaxed incomes in Section 5.

³ Incorporating *taxable* capital gains would increase the share of income attributable to the top 1% (Advani and Summers, 2020a). However, the 'lumpy' nature of taxable gains – which are taxed only in realisation – means statistics that include gains should be interpreted with caution. We discuss capital gains in Section 4.

⁴ National Insurance contributions are the UK's 'social security contributions' but are effectively a second layer of income tax that is levied on earnings since they have very little link with access to government benefits.

Company owner-managers (who can effectively choose to take income out of their company in the form of salary, dividends or capital gains) benefit from this, and from a preferential 10% rate of capital gains tax. As in many countries, there is no capital gains tax charged when an asset holder dies. This benefits not only those willing to bequeath gains, but those who can avoid tax by borrowing against unrealised capital gains.

The differences in tax rates across various forms of income matter directly for (post-tax) income inequality and for tax policy options. Taxes on (fiscal) income are progressive overall – average tax rates are higher for those with more income – and the top 1% pay a disproportionate and growing share of income taxes. There have been various policy measures since 2010 that increase the taxes on ordinary income, dividends and capital gains and, as a result, post-tax top income shares have been reduced relative to pre-tax shares. But there has long been and remains a great deal of heterogeneity within the top 1%. How much tax someone pays does not just depend on how much income they have but on how that income arose. This can lead to horizontal inequity when, for example, an employee and a partner get similar returns to their work effort but are taxed at different rates. The differences also affect how people behave, including how they choose to work and to take their income. For example, there is a strong tax incentive for professional services firms to operate as partnerships (rather than as companies in which executives are employees) and there is clear evidence that company owner-managers tend to favour paying themselves in dividends rather than in a salary. Such responses constrain policy options, including the ability to raise top income tax rates. The UK raised the top rate of income tax in 2010–11 by introducing a new 50% 'additional rate' on incomes above £150,000 (thereby predominately affecting the top 1%). But the rate was cut to 45% in 2013–14 following evidence that 50% may be above the revenue-maximising rate. Current official forecasts suggest that raising the additional rate above 45% would raise very little. At least in part, this is because people have scope to shift income to lower-taxed forms.

Policymakers wishing to raise more revenue from the top could raise rates of tax on business and capital incomes. This would reduce distortions associated with people shifting income from earnings to the more lightly taxed forms. However, the effect of taxes, including the way people respond, depends not just on tax rates but also, crucially, on the broader design of the tax system, including the tax base (Slemrod and Kopczuk, 2002; Kopczuk, 2005). Raising tax rates on self-employment profits, dividends and/or capital gains would entail a trade-off: due to the design of the tax base, higher rates would act to discourage some savings and investment. This is a key reason why policymakers have tended to favour reduced rates on capital incomes. The IFS-led Mirrlees Review (Mirrlees et al., 2011) argued that this trade-off could be largely avoided if the tax base were reformed so that, as far as possible, higher rates did not discourage investment. With a reformed tax base, there would be a strong case to align tax rates across different sources of income. This would include removing the preferential rate of capital gains tax given to business owners and the forgiveness of capital gains tax at death. Reforming the tax base and aligning rates across sources of income would – by reducing distortions and avoidance opportunities – almost certainly allow more revenue to be raised from high-income individuals, if desired.

We do not take a position on how high tax rates should be on top incomes or on how much should be raised from the top 1%. There remains considerable uncertainty about how responsive different types of people within the top 1% are to tax, and how this would change if there were fewer avoidance opportunities. For example, how higher taxes would affect the distribution of (pre-tax) income depends on how they would affect how much effort people are willing to exert to create innovations, how much effort they will exert in bargaining for higher pay, whether they are likely to move out of the UK and many other factors. People will hold different views on the

appropriate taxation of top incomes depending both on their judgement of how people will likely respond and on their preferences for redistribution. In turn, both factors will depend on views about why top income inequality has grown.

Much has been written about the possible causes of the rising share of pre-tax income flowing to the very top of the income distribution. This rise is evident in various English-speaking countries, including Canada, the US and Australia, but is more modest in continental Europe and Japan (Atkinson, Piketty and Saez, 2011; Alvaredo, 2017). It is beyond the scope of this chapter to comprehensively survey this extensive literature. But we note that the various possible explanations have different implications for policy and will affect perceptions of whether inequality is problematic (Benson et al., 2021).

Very broadly, some theories suggest that growing incomes at the top reflect (to at least some degree) increases in the returns to skills or effort. One line of argument is that technological change and globalisation may have allowed a small group of people at the top of their fields (so-called 'superstars') to capture large markets and reap much higher returns than peers that are only slightly less talented (see, for example, Rosen (1981), Atkinson (2003), Gabaix and Landier (2008), Kaplan and Rauh (2013) and Murphy and Topel (2016)). Other theories contend that income at the top reflects rents, which may, for example, arise when markets are not competitive and some people are able to capture the benefits of that (for example, Bertrand and Mullainathan (2001) and Bivens and Mishel (2013) discuss rents in relation to corporate executives).

The policy environment – including (but not exclusively) tax policy – will affect incentives in both cases. For example, higher taxes may discourage some forms of effort, but may also discourage some forms of rent-seeking. Some of the literature argues that rising inequality can be directly traced to changes in the institutional and policy environment. Piketty, Saez and Stantcheva (2014), for instance, suggest that cuts in top income tax rates have increased the incentive for highly paid workers to bargain for higher pay.⁵

Whether top incomes predominantly reflect productivity or rents, evidence suggests that firms are playing an important role in driving inequality. Notably, a large part of the increase in wage inequality seen since the 1980s can be accounted for by differences between firms (Card, Heining and Kline, 2013; Song et al., 2019; De Loecker, Obermeier and Van Reenen, 2022), with workers in highly profitable firms pulling away from workers in less profitable firms.⁶

In addition to uncertainty about what is driving top income shares, it continues to be difficult to get a complete measure of top incomes. One of the biggest difficulties with measuring top income shares is the lack of (tax or survey) data on incomes that evade taxes. Official HMRC estimates suggest that evasion among high-income individuals is low (HM Revenue and Customs, 2021c). However, these miss offshore evasion. A back-of-the-envelope calculation, based on studies that use leaked data such as the 'Panama Papers' (Alstadsæter, Johannesen and Zucman, 2018), suggests that around 8% of the income flowing to the UK's top 1% may go unrecorded as a result of undeclared holdings offshore. Note, however, that while these figures suggest that top income shares may be higher than current measures suggest, they probably overestimate how much

⁵ Changes in labour market institutions and corporate governance may have also played a role in driving top shares by increasing managerial power such that those at the top get higher pay (see Bebchuk and Fried (2004)). And an unequal income distribution may itself lead to those at the top being able to leverage disproportionate political influence to create favourable economic institutions (see Acemoglu and Robinson (2008)).

⁶ Autor et al. (2020) and De Loecker, Eeckhout and Unger (2020) discuss 'superstar' firms. There is also work, going back to Dickens and Katz (1987) and Katz and Summers (1989) that discusses wage differences across industries.

additional income could be taxed in the UK because much of the income likely accrues to 'non-doms' who only face UK tax when income is remitted to the UK. Setting policy with regards to this income relates not only to UK tax policy rules but also, for example, to information exchange with other countries.

Measures of fiscal income also miss gifts and inheritances. Survey data show that the magnitude of intergenerational wealth transfers in the UK has accelerated considerably in recent decades: inheritances are twice as important relative to earnings for those born in the 1980s as for the generation born in the 1960s (Bourquin, Joyce and Sturrock, 2020). Including inheritances tends to increase the share of lifetime income flowing to the top 20%; however, current data do not give a clear picture of the importance of inheritances for the top 1%.

Income taxes are important. They are the main way in which government raises large sums of revenue from those with higher incomes, with the benefit system acting to redistribute income to those on lower incomes (Hoynes, Joyce and Waters (2022) consider this for the IFS Deaton Review). There is significant scope to reform the taxation of UK incomes and thereby raise more revenue from the top 1% if desired. But there are also other ways to raise revenue from 'the rich' and to more directly tackle other aspects of inequality. For example, although income taxes will clearly affect how much wealth is accumulated and inherited, changes to inheritance tax could tackle this form of inequality much more directly. In the UK, taxes on property and inheritances are good candidates for reform. Section 8 briefly discusses these alternatives and the potential role of an annual or one-off wealth tax.

2. Measuring incomes

In this chapter, we describe the distribution of individual (not household) incomes as recorded in personal tax records. We use the Survey of Personal Incomes (SPI), a random sample of UK tax return data where the probability of selection rises to 100% for those with the highest incomes.⁷ We use the information on tax returns to describe 'fiscal income', which comprises: income from employment (inclusive of taxable employment benefits and net of tax-deductible employment-related expenses); profits from sole trading (net of capital allowances and losses brought forwards from previous years); partnership income; dividends from UK companies;⁸ rental income derived from property; investment income (such as income derived from interest, trusts, settlements and estates); and private pension income.⁹ We measure pension income on receipt (which is when it is subject to UK income tax) and not when pension contributions are made.¹⁰

⁷ Although the probability of selection rises to 100% at the top of the income distribution, those who are deemed to be potentially identifiable, including all of those with incomes above approximately £6 million, are combined into 'composite records' that provide information on small groups of taxpayers in order to preserve anonymity. For these records, variables take the mean value of constituent taxpayers. Among the top 0.1% of adults, where composite records are most prevalent, they make up a little under 4% of all observations. For this reason, as well as others, it would have been preferable to use the underlying tax records, but the HMRC Datalab was closed during this project as a result of COVID-19.

⁸ This includes dividends from UK authorised unit trusts. Dividend income from overseas companies is not recorded in the SPI.

⁹ Taxable benefits (including the state pension) are *excluded* from our definition of fiscal income.

¹⁰ Pension contributions are exempt from income tax and income withdrawn from a pension is taxed. 25% of pension savings can be withdrawn free of income tax; these untaxed withdrawals are missed in fiscal income measures. The UK has been restricting the amount that can be saved in a pension since the mid 2000s. Lower pension contributions of the top 1% could lead to a higher observed income share. We cannot accurately measure this with available data but, based on evidence from surveys, we do not think it is the driving force of the trends in top 1% shares that we show below.

This measures resources at the point they are available for consumption, but it does introduce inconsistency with the treatment of savings made out of taxable income (that will be measured at the point of saving). Fiscal income includes benefits-in-kind provided to employees, which are relatively modest and typically subject to income tax in the UK.¹¹ This is in contrast to the US where untaxed employee benefits – most notably health insurance – can be substantial (see Piketty, Saez and Zucman (2018)).

Administrative tax records provide much better information on high-income people than is available in surveys and, for this reason, it has become standard for research on income inequality to rely heavily on data of this kind (going back to Kuznets (1955) and more recently including Feenberg and Poterba (1993), Piketty and Saez (2003), Atkinson (2007) and Piketty, Saez and Zucman (2018)).

Fiscal income does not, however, capture everything. It does not capture comprehensively the income of those whose taxable income falls below the personal allowance – the point at which income tax starts to be due.¹² Failing to capture all low incomes will tend to make top income shares appear slightly larger, and could steepen the observed growth in top shares (particularly given the substantial real-terms increases in the personal allowance since 2010); we discuss this in Section 3. In Sections 4 and 5, we return to discuss what is known about incomes that are missing from fiscal income, including some capital gains, some forms of savings income and income that evades tax.

Finally, it should be noted that the objective of focusing on fiscal income is to characterise a pre-tax distribution. In particular, it does not reflect the equalising role that transfers and social insurance play.

Fiscal income versus national income

An alternative approach to measuring incomes is to take all income as measured in the national accounts – that is, the total amount of income associated with UK residents in a given year. In broad summary, 80% of national income is recorded as flowing to households. 76% of this income is captured by fiscal income. This rises to 90% when the national income measure is adjusted to make it more comparable to the fiscal income measure (including by measuring pension income rather than contributions). Fiscal income does not capture the 20% of national income that is assigned to the government or corporations. Both national income and (our measure of) fiscal income exclude capital gains, although national income effectively accounts for the part of accruing capital gains that reflects profit retention.

Table 1 provides a comparison of national income and fiscal income. In 2018–19, aggregate UK fiscal income was £1.1 trillion, compared with UK national income of £1.8 trillion. There are, broadly, three factors that account for the roughly £700 billion of income that is captured in national accounts but not recorded in tax data.

¹¹ Benefits-in-kind can still be tax advantaged because they are not subject to employee National Insurance contributions. One of the largest forms of tax-advantaged benefits-in-kind is company cars (Adam and Stroud, 2019). This is not a big issue at the top of the distribution, where the rate of NICs is 2%.

¹² A large number of individuals with incomes below the personal allowance are captured by the SPI (some 17 million individuals in 2018–19). But data on this group are incomplete.

Table 1. UK national income versus fiscal income, 2018–19

	National income		Fiscal income	
	£ million	Share of total	£ million	Share of national income captured
UK national income	1,848,000			
<i>Of which:</i>				
Households	1,476,000	80%	1,117,600	76%
<i>Of which:</i>				
Wages	873,000		835,800	96%
Employers' social contributions	186,000		N/A	N/A
Self-employment income	166,000		120,100	72%
Imputed rental income	129,000		N/A	N/A
Investment income paid on insurance & pension holdings	82,000		N/A	N/A
Dividend income	79,000		65,300	83%
Interest & other investment income	16,000		12,000	75%
Interest paid	-57,000		N/A	N/A
Pension income ^a	137,000		110,300	81%
Adjusted household total ^b	1,235,000		1,117,600	90%
General government	226,000	12%		
Financial corporations	94,000	5%		
Non-financial corporations	50,000	3%		
Non-profit-making institutions	2,000	0.1%		

^a Pension income is not included in the national accounts definition of household income.

^b The adjusted household total is designed to be comparable to income measured on tax returns; it equals the household component of national income minus private pension contributions, imputed rents, and income paid on insurance and pension holdings, plus interest payments made by households and withdrawals from private pensions.

Note: National income is gross domestic product (GDP) net of capital depreciation and international flows of income. It includes the incomes of UK residents domiciled overseas (so-called 'non-doms'). National income is published by calendar year. To make figures comparable to the SPI, we take a simple weighted average of the 2018 and 2019 national accounts figures, using weights of 0.75 and 0.25 respectively. Allocations are adjusted to assign financial intermediation services indirectly measured (FISIM) to their ultimate beneficiaries.

Source: UK Blue Book 2021 and Survey of Personal Incomes 2018–19.

First, national income captures around £130 billion of imputed rental income – the benefit that owner-occupiers derive from living in their house rent-free – none of which is captured in fiscal income.

Second, there is a difference in when income associated with pensions is counted. National income includes pension contributions (and income earned within a pension) at the point the money is earned. In contrast, fiscal income measures this income only when it is withdrawn from a pension.¹³

Third, national income subtracts all interest payments made by households from their income. Interest payments made by households (for example, on credit card debt) are not recorded on tax returns, so they are not deducted when measuring fiscal income.

We produce a measure of national income that adjusts for these three factors – i.e. that removes imputed rental income, measures pension income on receipt rather than at the point of contribution, and adds interest payments back into household income. Fiscal income captures 90% of this adjusted national income measure. The remaining 10% of household income that is not observed in tax records includes income earned in tax-exempt savings vehicles such as ISAs, some forms of foreign income, and some income that evades tax – we return to discuss these income sources in Section 5.¹⁴

Fiscal income does not capture any of the £370 billion of national income (20%) that is assigned to general government, (financial or non-financial) corporations, and non-profit-making institutions. General government income mainly consists of revenues raised through taxes on products and production (such as duties and VAT). The income assigned to companies and non-profit institutions is income that has been retained within the organisation, which will be used, for example, to cover corporate taxes or make future investments.

Ultimately, all income must be associated with people. The difficulty in some cases is knowing which people. Piketty, Saez and Zucman (2018) develop the distributional national accounts methodology through which the non-household portion of national income is imputed to households based on a series of assumptions. Notably, they allocate US corporate income to households in proportion to the distribution of dividends and realised capital gains. This has a significant effect on measured inequality because capital incomes are skewed to the top of the income distribution. But it is questionable whether this is a good reflection of the distribution of corporate profits.

The allocation of realised capital incomes (i.e. dividends and capital gains) is not necessarily a good measure of the distribution of unrealised income (i.e. retained corporate profits). Alstadsæter et al. (2021) show that, in Norway, allocating retained corporate profits based on dividends performs poorly in adjusting top shares. Mechanically, firms that retain earnings pay fewer dividends and, empirically, the relationship between dividends and realised incomes is both heterogeneous across firms and very heavily influenced by tax incentives. Alstadsæter et al. show that allocating corporate profits based on realised incomes leads to mismeasurement of both the level of and trend in top income shares. Even in a stable tax environment, allocating corporate

¹³ Similarly, the national accounts include National Insurance contributions made by employers. These contributions are not counted in our measure of fiscal income.

¹⁴ For example, since 2014, income derived from illegal activity (such as drug dealing and prostitution) has been estimated and included in the UK national income. These activities are categorised as mixed incomes (i.e. self-employment income) flowing to UK households.

profits based on shareholdings is problematic because direct shareholdings will miss the fact that corporate shares are often held by individuals indirectly (through financial institutions such as pension funds and unit trusts). This will be problematic when considering inequality because higher-income individuals are more likely to directly hold equities. Difficulties are also introduced by the international nature of share ownership: in 2018, 56% of listed UK equities by value were held overseas (Office for National Statistics, 2020).

In this chapter, we make no assumptions about the allocation of government or corporate income. Instead, the figures we report can be seen as representing the distribution of incomes that flow directly to households.

3. UK top incomes

In this section, we describe the scale and nature of UK fiscal incomes, as defined in Section 2, and with a focus on the top 1%. Incomes are measured prior to tax and transfers; Hoynes, Joyce and Waters (2022) show that government benefits are particularly important for the incomes of the bottom half of the distribution.¹⁵

Fiscal income is highly skewed

In 2018–19, the top 10% of adults received just under 42% of all (pre-tax) fiscal income – around the same amount that flows to the bottom 80% of adults (see Figure 1).¹⁶

The top 1%, which constitutes the 524,000 people with incomes above £128,000, received 15% of fiscal income – slightly more than flows to the bottom 55%. The top 0.1%, the 52,400 people with incomes above £515,000, received 6% of total fiscal income – 60 times greater than their share of the population.¹⁷

Broadly, top income shares in the UK have followed a U-shaped trajectory over the course of the 20th century. Figure 2 shows that top shares of pre-tax income fell steadily between 1913 and the mid 1970s, then started to rise so that by 2000 they were at their highest level since before the Second World War. This is a similar trend to that seen in the United States – albeit with the income share of the top 1% considerably lower in the UK than in the US (Piketty and Saez, 2003; Auten and Splinter, 2019). Top income shares increased further in the run-up to the Great

¹⁵ Atkinson and Jenkins (2020) and Jenkins (2022) discuss trends in overall UK income inequality and highlight that trends are sensitive to the inclusion of the very highest incomes, the specific income measure used, and whether the unit of analysis is the household or the individual.

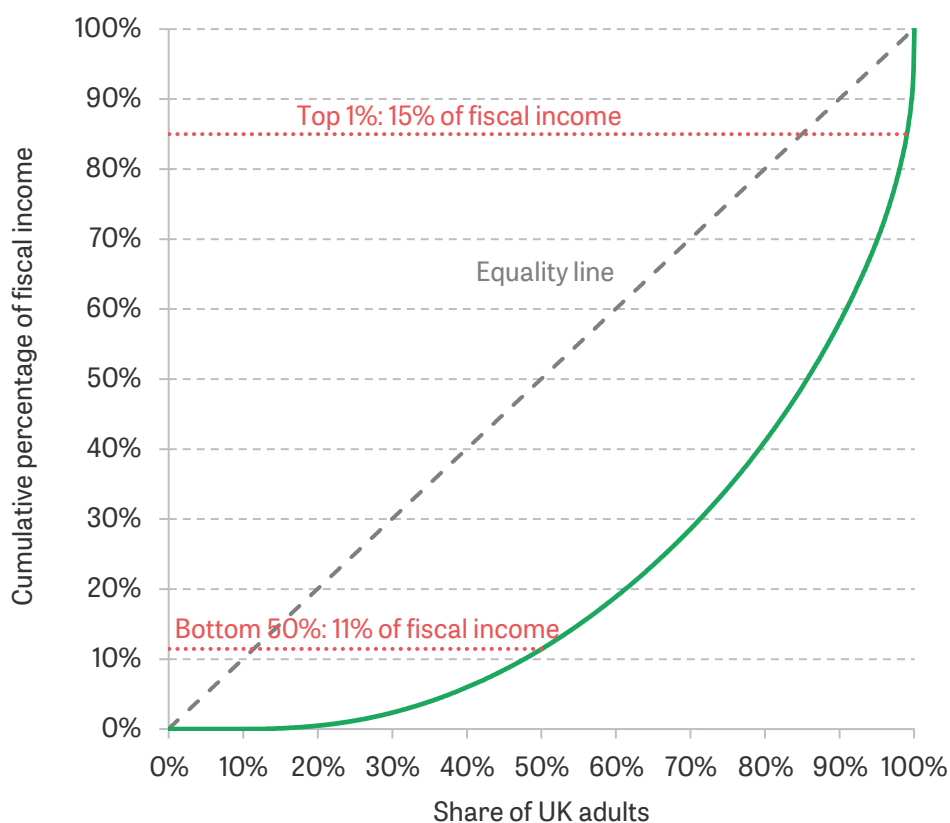
¹⁶ In calculating top income shares, we use total fiscal income observed in the SPI as the denominator. A drawback of this is that measured total income depends on the tax system, with some low-income people (with incomes below the personal allowance) not observed. Alternative approaches include (i) using an external denominator from the national accounts (as in Atkinson (2007)) or (ii) augmenting the SPI with survey data on those at the bottom of the income distribution (as in Advani, Summers and Tarrant (2022)). These alternative approaches yield somewhat lower top income shares. Measures of top income shares will also differ due to different 'fiscal income' definitions, including, for example, whether (taxable) state benefits are included and how incomes associated with pensions are counted. However, the various measures in the literature produce similar levels and virtually identical trends to the measure we present here. For example, Advani et al. (2021) produce a top 1% share that is around 0.7 percentage points lower than our measure in all years, but follows the same time trend, including the rise in the 2000s and peak in 2009–10.

¹⁷ The top 1% and 0.1% of UK taxpayers (as opposed to all UK adults) are those earning above £169,000 and £711,000 respectively.

Recession. In 2009–10, the top 1% and 0.1% received 17% and 7% of fiscal income respectively.¹⁸ Top income shares then fell substantially in the subsequent three years and, after a partial rebound, have been largely flat since around 2013. By 2018–19, top shares were at around their 2005–06 level. After almost three decades of growth, the recent trajectory of top income shares is a major change in the long-run trend.

Incomes at the very top of the distribution are volatile. For example, the share of income received by the top 0.1% of adults increased by considerably more in the run-up to the Great Recession, and fell by more subsequently, than the share of the top 1% (although somewhat difficult to see from Figure 2, the top 0.1% share of income increased 44% between 2003–04 and 2009–10 – from 5% to 7% – compared with a 19% increase in the top 1% share over the same period). This more pronounced pro-cyclicality at the very top of the income distribution is partly due to the greater prevalence of business incomes amongst these groups (see Figure 3), which tend to be more volatile than wage income.

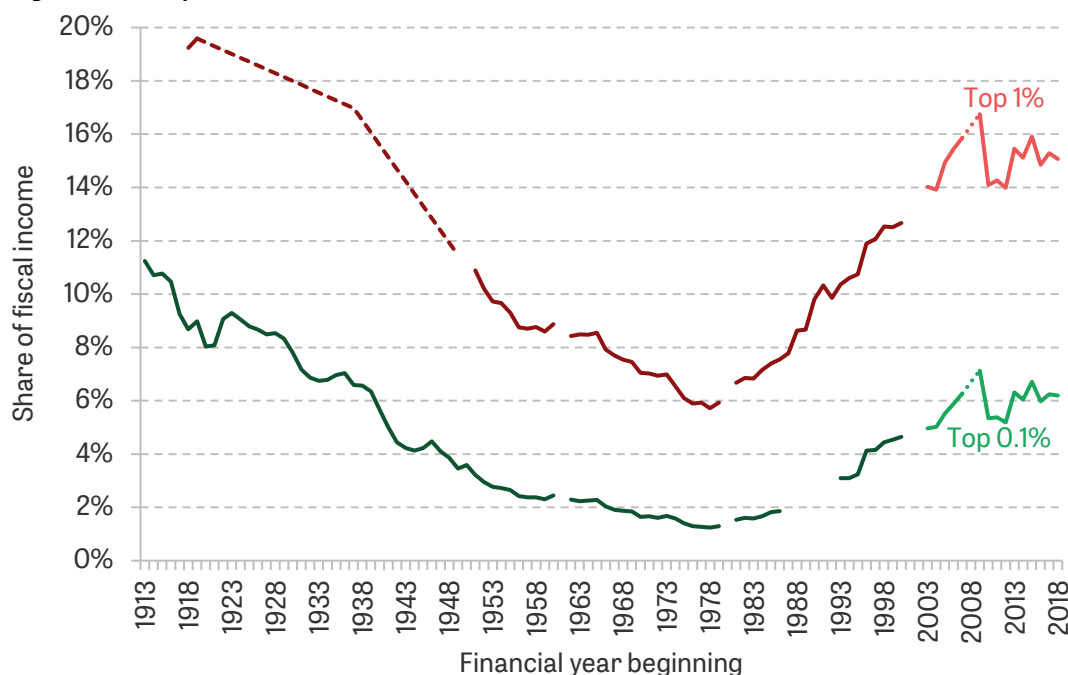
Figure 1. Cumulative distribution of UK fiscal income, 2018–19



Note: The graph shows the cumulative distribution of fiscal income (as described in Section 2) for UK adults, defined as individuals aged 18 and over. The grey dashed line shows an income distribution in which all adults have the same level of fiscal income.

Source: Survey of Personal Incomes 2018–19.

¹⁸ Short-run fluctuations in income shares can reflect individuals retiming their income to avoid anticipated tax changes. For example, the big increase in top shares in 2009–10 (and subsequent drop in 2010–11) is partly due to large amounts of dividend income being brought forward to 2009–10 in response to increased top tax rates from 2010–11 onwards.

Figure 2. UK top income shares over time

Note: The graph shows the share of aggregate fiscal income flowing to the top 1% and 0.1% of UK adults between 1913–14 and 2018–19. Figures prior to 2003–04 are taken from table 4.1 in Atkinson (2007) and measure top income shares using administrative records of the 'super tax' introduced on high incomes in 1909. The paler coloured series show our calculations of the same percentile shares using the Survey of Personal Incomes. These differ in two important respects from those of Atkinson (2007). First, the definition of income used by Atkinson (2007) is inclusive of pension contributions and taxable state benefits, both of which are excluded from our definition of fiscal income. Second, the Atkinson (2007) series uses an external denominator derived from the UK national accounts, while our series uses an internal denominator comprising all fiscal income observed in the SPI. See footnote 16 for a discussion of alternative methodologies.

Source: Survey of Personal Incomes, various years; Atkinson, 2007.

Financial sector wages and business income are important at the top

The source of top incomes has important implications for the design of tax policy. Evidence also suggests that the source of high incomes affects people's views on inequality (Benson et al., 2021; Stantcheva, 2021) and on how top incomes should be taxed (Dahl and Ransom, 1999; Alesina and La Ferrara, 2005; Kuziemko et al., 2015).

Figure 3 decomposes top incomes into four broad sources: employment income; 'active' business income (defined as the income from 'closely held' companies¹⁹ or self-employment); 'passive' business income (dividends from non-closely held companies); and other capital income (all income from interest payments, trusts and other passive investments²⁰ as well as income from property).²¹ Figure 4 classifies people based on whether they report being a closely held company

¹⁹ This is a definition used by the UK tax authority, which states: 'A company is considered closely held by HMRC if it is under the control of five or fewer persons that have an interest in the company'. 69% of UK companies have two or fewer directors and shareholders; for 90% of these companies, at least one director is also a shareholder (see Miller, Pope and Smith (2019)).

²⁰ Such as, for example, National Savings products, interest on securities, interest from partnerships, and income from settlements and estates.

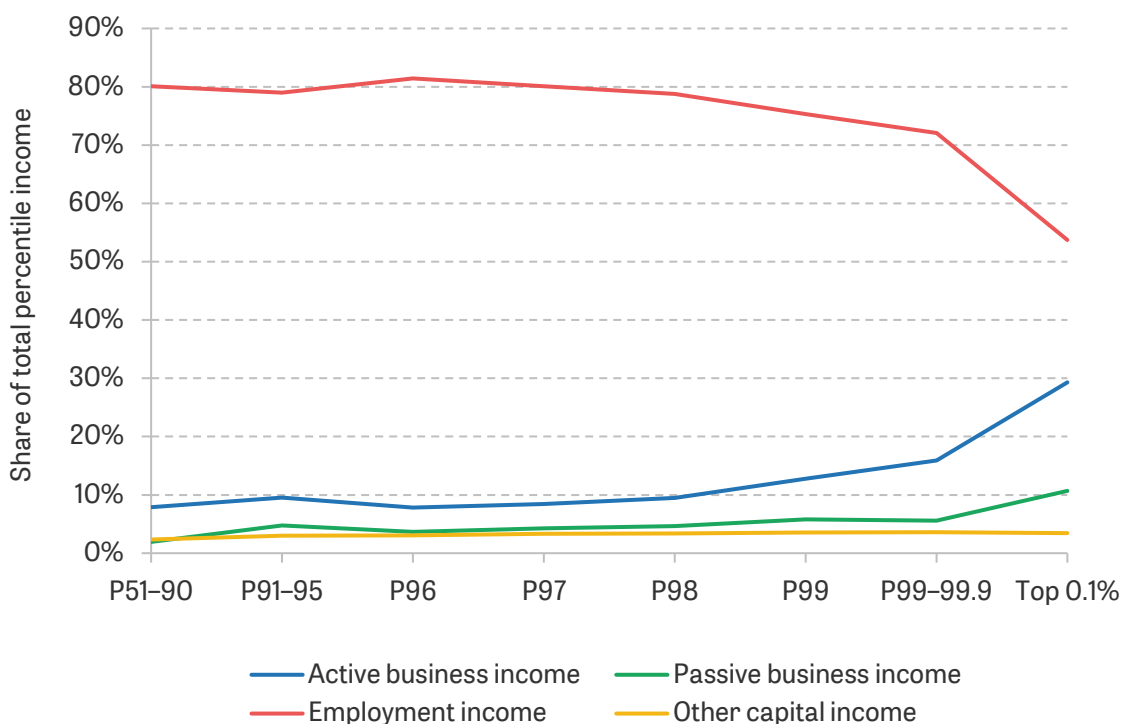
²¹ Recall that these measures do not capture capital gains, which may be important for 'rentiers' and, as we return to below, are important for company owner-managers and are a form of remuneration for fund managers.

director (which we label a company owner-manager)²² and, for everyone else, on their main source of income. For example, those who receive at least 80% of their income from wages are classified as wage earners. Panel a shows the distribution of these types across the income distribution; panel b shows the main industries in which the different types work. Three things stand out clearly from these figures (the first two of which we discuss in more detail below).

First, employment income is less important for the top 1% than for the rest of the income distribution, but it is the single most important form of income for the whole distribution. At the top, wage earners work disproportionately in financial services.

Second, active business income is much more important at the top, and particularly within the top 0.1%; it comprises 21% of fiscal income for the top 1% and 29% for the top 0.1%, compared with only 9% for adults outside of the top 1%.²³

Figure 3. Income sources for the top 50% of UK adults, 2018–19



Note: Employment income is inclusive of taxable employment benefits and net of employment-related expenses. Active business income measures dividend income paid to company owner-managers and income from self-employment and partnerships. Passive business income is dividend income paid to non-owner-managers. Other capital income includes all income from interest payments, trusts and other passive investments as well as income from property. For composite records (see footnote 7), owner-managers cannot be identified. In this graph, all dividend income captured in such records is designated as passive business income.

Source: Survey of Personal Incomes 2018–19.

²² For company owner-managers, we cannot distinguish dividends paid from the closely held company from any third-party dividends. There is a strong tax incentive for owner-managers to pay themselves predominately in dividends, which Miller, Pope and Smith (2019) show is true in practice for companies with one director. We therefore expect most of the dividends of company owner-managers to reflect returns on their own business's activities.

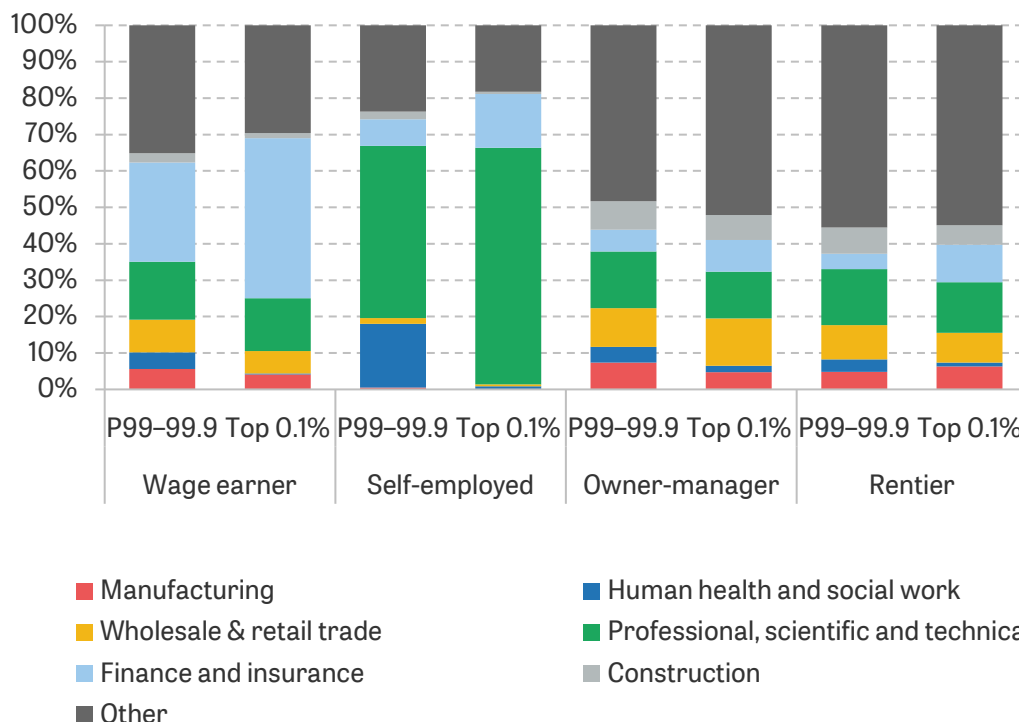
²³ These figures are based on assuming that all dividend income attributable to composite records (see footnote 7) is passive business income. 42% of the total dividend income recorded in non-composite records of those in the top 1% flows to owner-managers. If we assume that the same share of dividend income recorded on composite records flows to owner-managers, then the share of active business income in the top 0.1% increases from 29% to 32%.

Figure 4. Top earners by income profile 'type', 2018–19

(a) Distribution of 'types' by income



(b) Distribution of 'types' across industries



Note: The self-employed are individuals with at least 80% of their income from sole-traderships or partnerships. Owner-managers are those identified by HMRC as directors of closely held companies. Wage earners are those with at least 80% of their income from wages. Rentiers are those with at least 80% of their income from property, interest and dividends from companies that are not closely held. Pensioners are those with at least 80% of their income from state or private pensions, or who are given an industry code of 'pensioner'. Individuals who do not meet any of these criteria are categorised as 'other'.

Source: Survey of Personal Incomes 2018–19.

Third, investment incomes are a small share of total income across the income distribution. Dividend income from businesses that are *not* closely held ('passive business income') is more important at the top – it is 8% (11%) of income for the top 1% (0.1%), compared with 3% of income for those outside the top 1% – but still relatively small.²⁴

In the US, the share of income (both active and passive) from businesses is similar to that in the UK up to the 99th percentile, rising even more sharply than in the UK after this point.²⁵

Other capital income comprises only a modest share of fiscal income that is relatively constant across the distribution (incomes of this kind account for 3.5% of income for the top 1% and 2.9% of fiscal income outside the top 1%). Correspondingly, 'rentiers', who get most of their income from these sources, are a minority (3.8%) of the top 1%.

These broad patterns have been true since at least the early 2000s. That is, there have not been significant changes in the composition of top income.

Business owners

Both the self-employed and company owner-managers are more prevalent at the top of the income distribution, and in particular at the very top. The self-employed make up 10% of the top 1% and 21% of the top 0.1% of adults, compared with just 6% outside of the top 10%. A substantial majority of the self-employed in the top 1% are working in partnerships (as opposed to being sole traders) and, as seen from panel b of Figure 4, most are engaged in 'professional, scientific and technical activities', a category that includes, for example, accountants, architects, lawyers and vets.²⁶ Largely as a result of partnerships, these industries account for around 19% (20%) of total income flowing to the top 1% (0.1%), compared with just 6% between the 50th and 90th percentiles. Within the top 1%, the self-employed enjoy particularly high levels of income: mean fiscal income of a self-employed individual in the top 1% is £423,000, more than 30 times the UK median.²⁷

Company owner-managers make up 10% of the top 1% of adults, but just 2% outside of the top 10%. In contrast to partners, company owner-managers are much more evenly spread across

²⁴ Our definition of 'passive income' will be an overestimate to the extent that it includes the returns to owner-managers running companies with a small number of shareholders but more than five, such that they are not classified as 'closely held'.

²⁵ Smith et al. (2019) show that 16% of the income received by those in the 98th to 99th percentile is business income attributable to private pass-through firms (a category broadly comparable to the 'active business income' described in Figure 3), rising to around 27% for the 99th to 99.9th percentile, and 39% for those in the top 0.1%. The comparable numbers for the UK are 13%, 16% and 29% respectively.

²⁶ At high levels of income, there can be tax advantages to operating through a company rather than through a partnership. However, in professional industries, it remains more common (particularly for larger firms) to use a limited liability partnership (LLP) structure, which combines tax advantages for partners (at least relative to the taxation of employees) with the ability for partners to flexibly enter and exit partial ownership of the firm without having to acquire and dispose of stock as would be required in the case of a limited company.

²⁷ Joyce, Pope and Roantree (2019) show that partners are significantly over-represented in the top 1% of all income tax payers: 7% of all partners are in the top 1% of income tax payers and together they earn 58% of all partnership income.

industries.²⁸ They have lower incomes than the self-employed; the average income of a company owner-manager in the top 1% is £294,000.²⁹

There has been debate about the extent to which the incomes of business owners reflect the returns to capital investments or entrepreneurial risk-taking, versus the return to labour effort. Smith et al. (2019) study the impact of owner deaths on the profitability of US pass-through businesses and estimate that around three-quarters of pass-through businesses' income can be attributed to the labour inputs of the owner.

We lack the data to conduct a similar exercise for the UK but, based on the activities of UK business owners, we think it likely that a large part of UK business income is also the return to labour. Some business owners are undoubtedly making large capital investments, trying new ideas and/or taking risks. But this description does not characterise the average business owner. There is a strong tax incentive in the UK to work as a self-employed person or company owner-manager rather than as an employee (we return to this below). This is true even for those who intend only to sell their own labour (imagine, for instance, an accountant who sells their services through a limited company). A large portion of UK closely held companies have no employees other than the owner, and carry out little or no investment activity (Miller, Pope and Smith, 2019). These companies tend to have higher profit to turnover ratios than larger businesses, likely due to the fact that profit reflects the labour returns of the owners. Partners in large law or accountancy firms, for instance, are often more closely analogous to senior employees in a limited company than to entrepreneurs.³⁰

Wage earners

Highly paid executives, such as CEOs, receive much attention in the popular press, but they are not a majority of top earners. Figures compiled by Hildyard, Kay and Shand (2019) show that in 2018–19 the total remuneration paid to CEOs of the UK's 100 largest public companies (the FTSE 100) was just over £450 million; total wage income received by the top 0.1% in the same year was £37 billion.³¹ For executive pay to make up even half of the wage income flowing to the top 0.1%

²⁸ Cribb, Miller and Pope (2019) provide further description of owner-managed companies, including documenting significant heterogeneity (that correlates with industries) in whether companies make significant capital investments or employ others.

²⁹ Many closely held companies are not large – the median turnover of companies with two or fewer directors and two or fewer shareholders is £82,000, with median profit of £17,000. However, there is a long right tail, with 10% of these companies having turnover in excess of £600,000 (Miller, Pope and Smith, 2019).

³⁰ Most individuals working through UK partnership structures take an active role in managing the business, such that at least part of their return will reflect the return to their own efforts. However, there is a class of limited partnerships (not to be confused with limited liability partnerships) that are used as investment vehicles through which 'limited partners' make financial investments (with liability limited to their capital contribution). Limited partnerships are relatively uncommon, but some individuals classified as 'self-employed' will be individuals making 'passive' capital income through a structure of this kind.

³¹ Some senior executives will receive performance-related remuneration in the form of awards of shares or options. These are, in general, subject to income tax in the same way as wages in the UK and will be included in the definition of 'wages' given above (although it should be noted that options are taxed when exercised and so will not necessarily appear on tax returns at the date of award). One exception to this are shares and options awarded through approved 'share schemes'. In most cases, limits on the value of awards in such schemes mean that income of this kind will not constitute a significant share of income for those with the highest incomes. One possible exception is Enterprise Management Incentives (EMIs), which allow smaller firms to award an employee options on stock worth up to £250,000 per three-year period. The difference between the purchase and exercise price of these options is entirely free from tax. However, as the total value of EMI-related option income in 2018–19 was £680 million (HM Revenue and Customs, 2021b), EMIs should not alter our broader conclusion that CEO pay is unlikely to make up the lion's share of top incomes.

would require there to be a further 3,800 executives earning salaries as large as those paid to FTSE 100 CEOs.

Instead, many of the top earners are working in highly profitable industries. 29% of wage earners within the top 1%, and 44% of those in the top 0.1%, work in financial services, compared with just 5% across the top half of the income distribution. Denk (2015) finds a similar picture in Europe, where financial services workers comprise around 20% of the top 1% of employees by income compared to just 5% of those in the bottom 99%.

This speaks to the increasingly well-documented international trend that increases in income inequality that have taken place since the 1980s have been primarily driven by increases in wage differences *between* firms rather than within them (Card, Heining and Kline (2013) and Song et al. (2019) study the phenomenon in Germany and the US respectively, while De Loecker, Obermeier and Van Reenen (2022) provide evidence for similar trends in the UK). That is, the top of the income distribution seems increasingly populated not by the most senior individuals from a wide range of firms, but by the employees of a narrower group of high-paying companies concentrated in, for example, the finance industry.

The finance sector has become more important for top incomes in the UK. Bell and Van Reenen (2014) find that two-thirds of the increase in the income share of the top 1% of UK wage earners between 1999 and 2008 is attributable to workers in the finance sector.

These figures will underestimate the incomes of some employees who also get remuneration in the form of capital gains. For example, Advani and Summers (2020a) show that 5.5% of taxable capital gains (equating to over £2.3 billion in 2016–17) are from carried interest – essentially labour income for fund managers – and that 85% of this goes to the top 5,000 individuals. Note, however, that this will not necessarily increase the relative importance of those in the wage earner group, since business owners also receive capital gains.

Top incomes flow disproportionately to men in London and the South East

Those at the top of the income distribution are significantly more likely to live in London and the South East, to be male and to be aged 35–64 (Table 2). As a result, income inequality and its sources interact with other inequalities.

80% (87%) of those in the top 1% (0.1%) are men. This likely reflects a complex combination of factors, including occupational choice, career interruptions, specialisation within the family, part-time work, propensity to start a business and willingness to bargain over remuneration. Gender dimensions of income inequality are discussed further by Andrew et al. (2021).

Geographical inequality in incomes is striking. 46% of those with incomes in the top 0.1% of adults live in London, despite the fact that Londoners make up only 13% of UK adults. This is linked directly to financial services. 40% of the top 0.1% who live in London work in financial services. Outside of London and the South East, there is much more variation in the industries in which people work and individuals are more likely to be company owner-managers (they are 13% of the top 1% outside of London compared with 6% in London). These results suggest that people in different parts of the country face different routes for entering the top 1%. In London, the presence of a globalised ecosystem of highly profitable firms appears to offer greater opportunities for wage earners to obtain the highest incomes. Outside of London, the ability to obtain top incomes through wage earning appears more limited, with business incomes

Table 2. Demographic composition across the UK fiscal income distribution, 2018–19

	P50–90	P90–99	P99–99.9	Top 0.1%	All UK adults
Sex					
Male	56%	70%	79%	87%	49%
Female	44%	30%	21%	13%	51%
Age					
<25	8%	1%	0%	1%	9%
25–34	24%	16%	8%	4%	17%
35–44	19%	27%	27%	22%	16%
45–54	21%	29%	36%	43%	17%
55–64	17%	19%	21%	23%	16%
65–74	8%	5%	6%	5%	13%
75+	4%	2%	3%	2%	11%
Region					
North of England	23%	17%	10%	6%	22%
Midlands	16%	13%	9%	5%	16%
East of England	9%	11%	9%	5%	9%
London	13%	20%	33%	46%	13%
South East	14%	19%	22%	21%	14%
South West	9%	8%	5%	4%	9%
Wales	5%	3%	2%	1%	5%
Scotland	8%	7%	5%	3%	9%
Northern Ireland	3%	2%	1%	0.5%	3%

Note: Each row shows the share of individuals within each percentile bin that have the demographic characteristic shown in the first column. Region shares will not always sum to 100%. This results from the fact that the SPI does not provide a region for all records. Most notably, composite records (which combine the tax records of multiple individuals to preserve the anonymity of the highest earners) often comprise individuals from multiple regions. Even among the top 0.1% however (where composite records are most prevalent) only 4% of records lack a regional identifier.

Source: Survey of Personal Incomes 2018–19; Office for National Statistics, 2019a.

providing a more important route to the top of the income distribution. Other aspects of geographical inequality are discussed by Overman and Xu (2022).

Given the large differences in income across the UK, the income required to be in the top 1% of the income distribution of an area varies considerably. For example, in 2018–19, to be in the top 1% of adults in London required a fiscal income of just under £250,000, whereas to be in the top 1% in Wales required a fiscal income of just £82,000. This means that two people with similar income levels could feel very differently about how rich they are, depending on where they live. One reason this matters is that there is evidence that people's utility may depend on their relative

position, and, correspondingly, this may impact how they view redistributive policies (Stantcheva, 2021).

Persistence of high incomes

There are clear life-cycle trends in income. As shown in Table 2, people are much more likely to be in the top 1% during their prime working years, and especially aged 45–54.³²

Some people enter the top 1% for a relatively short period, whereas others are there for many years. Who is in the top 1% and how long they are there can influence perceptions of inequality. For example, people may find high incomes less problematic if they simply reflect a transitory state that a larger proportion of the population pass through at some point.

Joyce, Pope and Roantree (2019) use administrative UK tax records to show that a member of the top 1% of UK income tax payers (essentially a subset of the top 1% of *adults* that we focus on in this chapter) has a 74% chance of remaining in the top 1% the following year, a 50% chance of still being in the top 1% after five years and a 36% chance of still being there after ten years.³³ They find that younger individuals are more likely to remain in the top 1%, as are those whose main income source is partnership income. Those who rely primarily on dividend income are less likely to remain in the top 1% persistently.³⁴

Available evidence suggests that the degree of persistence in the top 1% is very similar to that found in elsewhere. Auten and Gee (2009) find that around 40% of individuals in the US whose incomes placed them in the top 1% in 1996 were still in the top percentile in 2005. Evidence from Germany finds a 75% probability of remaining in the top 1% after a year (Jenderny, 2016), evidence from Norway shows persistence of 60–70% after one year and 50–60% after three years depending on whether retained earnings are accounted for (Alstadsæter et al., 2021) and evidence from Canada finds that – between 1982 and 1998 – members of the top 0.1% had around a 60% chance of remaining in that group from one year to the next (Saez and Veall, 2005).

Both in the UK and elsewhere, therefore, current evidence suggests that there is clearly some degree of 'churn' in the upper reaches of the income distribution and that more people will enter the top 1% at some point than are there in any year. Joyce, Pope and Roantree (2019) find that of those born in the UK in 1963 (aged 53 in 2016), around 10,000 (1.1%) were in the top 1% of income tax payers in any given year between 2000–01 and 2015–16, but three times as many – 31,000, or 3.4% – had been in the top 1% of income tax payers at some point over that period. However, a clear majority of those who find themselves in the top 1% can expect to remain there for several years. Ultimately, the picture that emerges is that while it would be misleading to think of the top 1% as being an entirely stable group of individuals across time, it nevertheless remains the case that a relatively narrow group of individuals can ever expect to find themselves within the top percentile.

4. Capital gains

In this section, we discuss what is known about capital gains and their effect on top incomes. Including capital gains in measures of income is not straightforward because realised gains have

³² Those in the top 1% aged over 65 predominantly get their income from pensions and investment, rather than wages and business income. A similar pattern is seen in the US (Smith et al., 2019).

³³ Results in Joyce et al. (2019) are based on pooling statistics across 2000–01 to 2015–16.

³⁴ People are more likely to enter the top 1% temporarily when capital gains are accounted for. See Section 4.

usually accrued over many years (such that they are not directly comparable to other incomes earned within a given year). Including only capital gains that are measured on tax returns is problematic because many gains are not taxed. We show that taxable capital gains flow disproportionately to the top of the fiscal income distribution, whereas untaxed gains are more equally distributed.

Taxable capital gains are skewed towards the top

In 2018–19, UK taxpayers received a total of £64 billion in taxable capital gains; half of these gains (£32 billion) were associated with the sale of business stock not listed on the London Stock Exchange, with the remainder earned on land and buildings, UK listed stocks and shares, financial assets, and other assets such as works of art (HM Revenue and Customs, 2021a).

Taxable capital gains flow to a relatively narrow group of individuals. In 2018–19, all the gains flowed to just 281,000 taxpayers (HM Revenue and Customs, 2021a). This means the average gains were £228,000, which is enough to put an individual in the top 1% based on gains alone. Advani and Summers (2020a) show that one in ten people who enter the top 1% based on fiscal income *and* gains were not in the top 1% based on only fiscal income. Those who 'join' the top 1% on this measure are more likely to be pensioners, investors and owner-managers, and less likely to be employees.

Nonetheless, taxable capital gains flow disproportionately to individuals whose fiscal income is already high. In 2018–19, 42% of taxable gains went to individuals with a fiscal income of £150,000 or more (the top 0.7% of adults) (HM Revenue and Customs, 2021a). Advani and Summers (2020a) show that adding taxable capital gains to fiscal income increases the share of income flowing to the top 1% by 3 percentage points (in 2018).

However, there are important caveats to this analysis. First, because gains are taxed on realisation, they reflect income accrued over many years. Simply adding realised capital gains to fiscal income, which is measured on an annual basis, will therefore lead to an overstatement of the importance of gains at the top. This will be compounded if individuals tend to realise gains during their peak earning years (i.e. between ages 45 and 65). Second, capital gains that are subject to tax are only a fraction of overall capital gains in the UK.

Untaxed capital gains are spread more equally across the income distribution

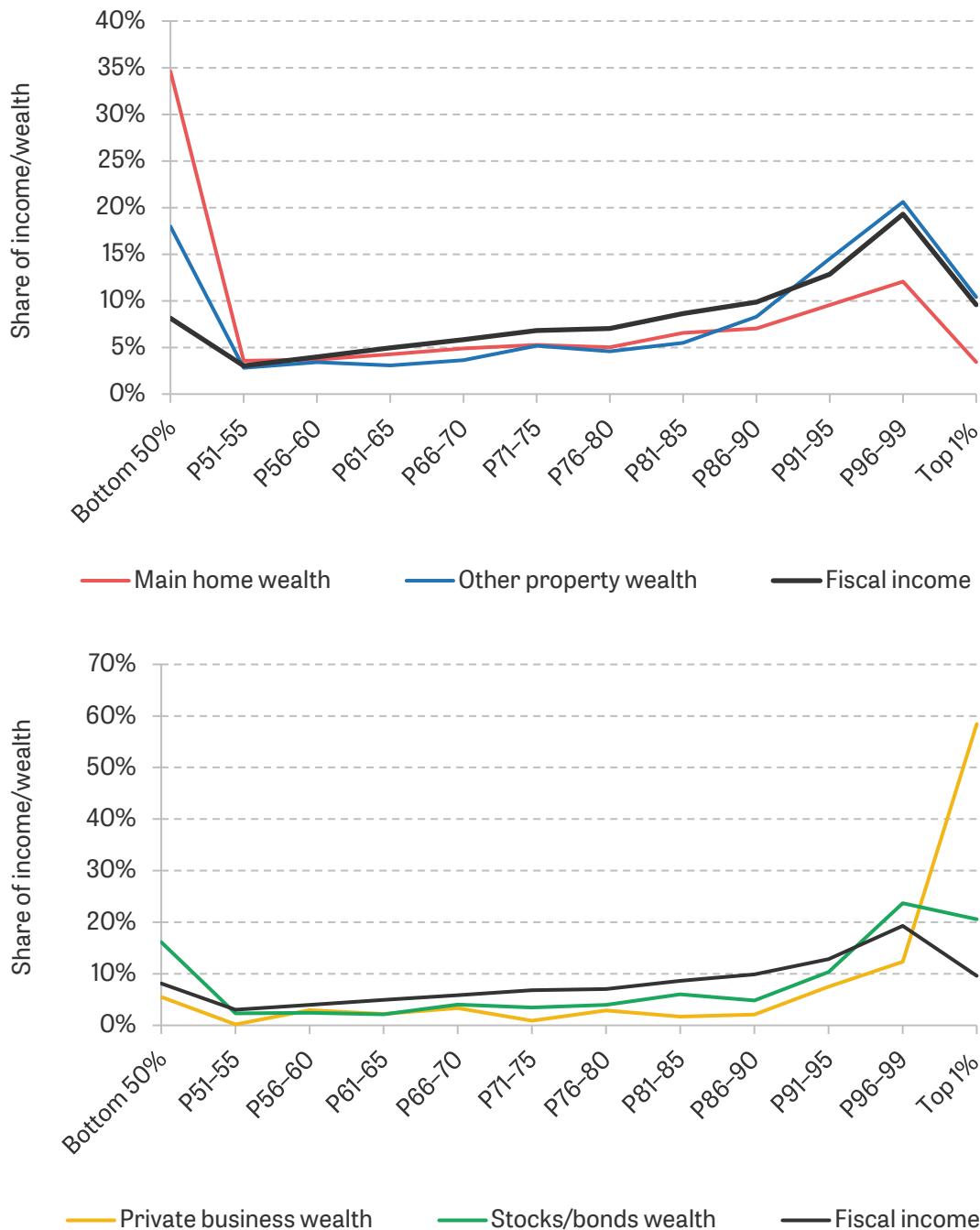
There are three main sources of untaxed capital gains. First, any gains made below an annual tax-free allowance (£12,570 in 2021–22) are not subject to tax and do not have to be reported. This is relevant both for those making small gains and those who can spread their gains over multiple years (including those who get ongoing remuneration in the form of gains). Second, capital gains unrealised before death are untaxed. Third, and most notably, gains on main homes are exempt from tax. This is important: property constitutes over a third of UK wealth, or almost two-thirds when pension wealth is excluded (Office for National Statistics, 2019b).

We use the Wealth and Assets Survey (WAS) to describe the distribution of assets across the fiscal income distribution.³⁵ Although the WAS does not measure capital gains, it provides data on the current value of individuals' asset holdings. This offers a broad guide to who is likely to benefit

³⁵ We use data from the most recent wave (April 2016 – March 2018), which covers 18,000 households in Great Britain (i.e. excluding Northern Ireland). The WAS oversamples addresses that tax data suggest are likely to fall in the wealthiest 1% of households. However, it is likely that the WAS does not fully capture the top of the distribution: 10% of fiscal income can be observed to flow to the top 1% in the WAS, compared with 15% in the SPI (the same cut-offs are used in both cases).

as these assets appreciate in value. Figure 5 shows how holdings of different asset types vary across the fiscal income distribution. Total wealth in main homes constitutes around £4,500 billion, compared with £750 billion for other property, £400 billion for stocks and bonds, and £90 billion for private business assets.

Figure 5. Distribution of wealth by percentiles of fiscal income, 2016–18



Note: The black lines show the share of fiscal income flowing to each percentile bin. Bins of fiscal income are defined using cut-offs taken from the Survey of Personal Incomes 2018–19. Asset ownership is measured on an individual basis. Where ownership of a main home is shared between multiple members of a household, we assume equal ownership shares.

Source: Wealth and Assets Survey Wave 6 (EUL).

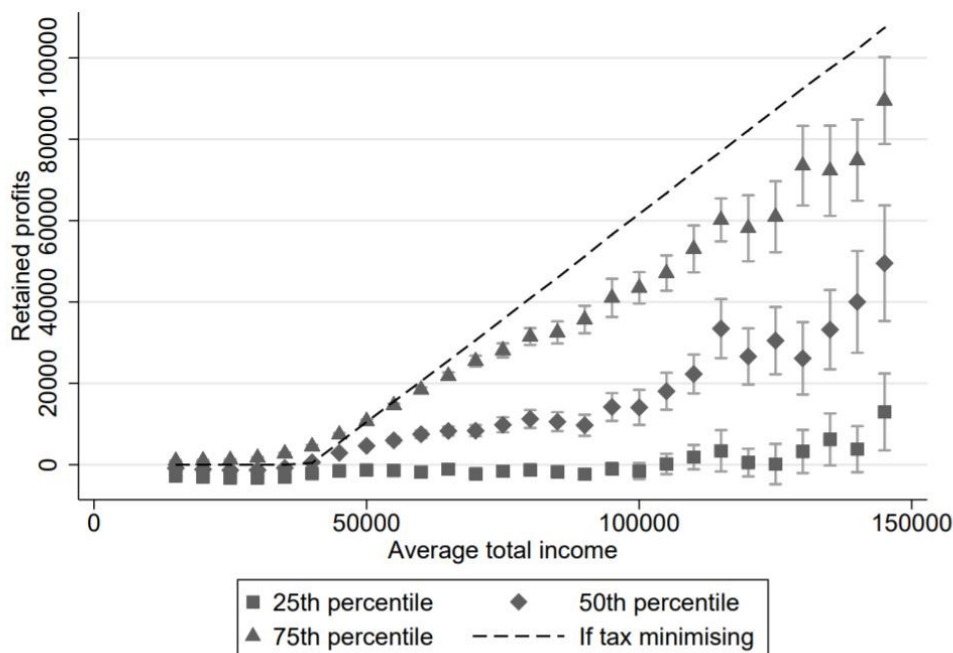
Holdings of business assets, particularly those that are privately held, are skewed towards the top of the income distribution. 21% of stocks and bonds and 58% of private business holdings are owned by individuals whose fiscal income places them in the top 1%. Capital gains derived from these asset classes comprise around 70% of gains visible on tax returns (Corlett, Advani and Summers, 2020). It should not be surprising, therefore, that the inclusion of these gains increases measured income inequality.

However, wealth held in main homes (in aggregate more than three times larger than the other three asset classes combined) is much more equally distributed across the fiscal income distribution. Over 30% of main home wealth is owned by those in the bottom 50% of the fiscal income distribution, compared with 3% for those in the top 1%. Including capital gains associated with main homes would thus likely flatten the income distribution.³⁶

Business owners retain significant profits

There is a significant tax incentive for company owner-managers to retain profits in a company and to take income in the form of capital gains. In short, this is because capital gains realised by owner-managers are – up to a limit that is currently £1 million – tax advantaged. The lack of capital gains tax at death can also make profit retention attractive to some. (We discuss the tax treatment in Section 6.)

Figure 6. Retained profits across the fiscal income distribution, 2013–15



Note: Figures refer to single-owner owner-managed companies operating between 2013 and 2015. Error bars show 95% confidence intervals.

Source: Figure 5.6 of Miller, Pope and Smith (2019).

³⁶ Mapping asset holdings to capital gains depends crucially on the asset's rate of return. If main homes owned by those at the top of the fiscal income distribution appreciate more than those at the bottom, then this would act to increase income inequality (relative to assuming an equal rate of return).

Miller, Pope and Smith (2019) show that owner-managers of high-profit closely held companies retain considerable amounts of profit in their companies each year. For example, half of owner-managers making profits of £150,000 retain more than £50,000 each year (see Figure 6). Miller et al. show that much of the profit retained will eventually be taken as capital gains, and thus will be excluded from our fiscal income measure.

Alstadsæter et al. (2021) use tax records from Norway to attribute business income to owners on accrual (as opposed to realisation). They find that this leads the top 0.1% share to more than double in some years, with patterns driven by the behaviour of closely held firms. They also emphasise that changes in the tax incentives to retain profits lead to mismeasurement not only in the level of inequality but also in its trend.

It thus seems likely that measuring business owners' income on accrual, rather than realisation, would lead to an increase in top income inequality in the UK, though the magnitude is uncertain (at the time of writing, a similar analysis is not possible for the UK). Even if the effect of retained profits has a relatively small impact on the top 1% share, the tax advantage associated with taking capital gains has important implications for *post-tax* income inequality, which we discuss in more detail in Section 6.

5. Untaxed income, gifts and saving

The fiscal income measure underpinning the results in Section 3 represents the most comprehensive single measure of top incomes currently available in the UK. By definition, however, fiscal income necessarily excludes incomes that are not recorded on tax forms. Below we discuss what is known about: tax evasion (which, using available evidence, could plausibly represent 8% of the income of the top 1%); inheritances (which are becoming more important for lifetime resources relative to earnings in the UK and are increasing the share of lifetime income flowing to the top of the distribution); and tax-exempt savings (which account for a greater share of income outside of the top 1%).

One potentially important source of income for the top that we are not able to quantify is foreign income – that is, income received by UK taxpayers from overseas. Such income is generally subject to UK tax, but is not covered by the SPI. More research is therefore needed on the nature and importance of foreign income.

Tax evasion

HMRC produces estimates of the 'tax gap' – the difference between the amount of tax that should, in theory, be paid and what is actually paid. In 2019–20, the estimated total tax gap for income tax, National Insurance contributions (NICs) and capital gains tax was 3.5% (or £12.6 billion) of total theoretical tax liabilities (HM Revenue and Customs, 2021c). Less than half of this (£5.5 billion) is thought to reflect evasion; the overall tax gap captures a range of other factors, including some avoidance schemes and error. The tax gap for wealthy individuals – defined as those with incomes greater than £200,000 or assets more than £2 million – is estimated to be 4% (£1.5 billion).³⁷ Based on this information alone, therefore, adding in incomes that evade taxes would not significantly change top 1% shares.

³⁷ The tax gap is much higher for incomes reported through 'self-assessment', but most of this relates to under-reporting of income by sole traders and small partnerships (i.e. by groups that, for the most part, are not in the top 1%).

However, the official tax gap calculations, which are based largely on information from audits, will miss some forms of evasion. For example, one form of evasion for business owners is the tax deduction of 'business assets' that are used for personal use. Individuals who run a business and purchase a car or a laptop, for example, may fully deduct this from tax as a business expense but also use the item for personal use. Although there are rules preventing such behaviour, they are difficult to enforce. See Kopczuk and Zwick (2020) for discussion.

Importantly, audits will also tend to miss evasion related to offshore asset holdings. Guyton et al. (2021) argue that US random audits are significantly less successful at picking up evasion associated with offshore sheltering, and that those at the very top (0.01%) of the *wealth* distribution are much more likely to be in leaked data such as the 'Panama Papers' and therefore more likely to be sheltering income offshore.

Alstadsæter, Johannesen and Zucman (2018) use a variety of data sources to estimate the total offshore financial wealth holdings of a range of countries, including the UK.³⁸ They suggest that in 2007 (the most recent figures available), UK residents held \$498 billion (£249 billion at contemporary exchange rates) of financial wealth in offshore tax havens. Drawing on this evidence, we do a back-of-the-envelope calculation to estimate the flow of income associated with the offshore wealth of UK residents. We assume a rate of return on offshore wealth of 6%.³⁹ This leads to an estimate that around £15 billion of income accrued to the offshore assets of UK residents in 2007. If we also assume that all of this income went untaxed (and was therefore not captured in fiscal income), and that the underlying offshore wealth is distributed similarly for the UK to that in the US,⁴⁰ then adding this missing income would increase the top 1% (0.1%) share of UK income in 2007 from 15.9% (6.3%) to 16.9% (7.0%). That is, as much as 8% (12%) of the income flowing to the top 1% (0.1%) may go unrecorded as a result of undeclared holdings in tax havens.

Of course, there is considerable uncertainty around these figures, not least because of the imperfect nature of the underlying data on wealth holdings and the lack of information on how rates of return may vary across such wealth holdings. However, the figures are indicative that evasion linked to offshore wealth holdings could mean that top income shares are underestimated, possibly significantly.

If we assume that all of the estimated £15 billion of investment income related to offshore assets would have been taxed at the UK's top dividend tax rate (25% in 2007), revenue would have been £3.8 billion (around 2.5% of total income tax receipts for 2007–08). However, this is almost certainly an overestimate because much of the income would likely accrue to 'non-doms' (those resident but not domiciled in the UK), who only face UK tax when income is remitted to the UK. While offshore wealth has the potential to provide a more complete picture of income inequality among UK residents, therefore, the total amount of tax evaded through the use of tax havens may be relatively modest.

³⁸ The study combines data on asset holdings by overseas residents published by the Swiss National Bank, bilateral data on overseas bank deposits held by the Bank of International Settlements and aggregate estimates of offshore wealth compiled by Zucman (2013).

³⁹ Guyton et al. (2021) estimate the rate of return on overseas financial wealth holdings as the weighted average of the interest rate paid by Swiss banks to depositors and half of the return to S&P 500 securities (the other half being assumed to constitute unrealised capital gains). The weights for the two groups, taken from Zucman (2013), are 25% and 75% respectively. For 2007, this method produces an average estimated rate of return of 6%.

⁴⁰ Very little is known about the UK residents who own offshore wealth. Guyton et al. (2021) estimate that around 50% of offshore wealth is owned by the top 0.1% of individuals in the US by income.

Gifts and inheritances

There is considerable interest in how intergenerational transfers may drive inequality. Inheritances and gifts are not captured in tax records.⁴¹ But survey data show that the importance of inherited wealth as a source of income has been increasing across generations in the UK, driven by a combination of increases in parental wealth and a reduction in the average number of siblings. Specifically, Bourquin, Joyce and Sturrock (2021) estimate that the median inheritance of an individual born in the 1980s is likely to represent around 16% of lifetime net income (excluding inheritances), compared with 9% for those born in the 1960s. Inheritances are typically distributed highly unequally. Hood and Joyce (2017) show that for individuals born in the 1930s and 1940s, those in the top 20% by lifetime earnings inherited four times as much on average as those in the bottom 20%. They also find that, for this cohort, inheritances were not only largest in absolute terms for those in the top 20% by lifetime income, but also largest as a *share of lifetime income*. This implies that, for these generations at least, inheritance income would tend to increase the share of lifetime income received by the top 20%.⁴² The UK data are not sufficient to study the role that inheritances play in incomes within the top 20%.

Perhaps surprisingly, the impact of inheritances on *wealth* inequality is less clear. Crawford and Hood (2016) find that inheritances are smaller in absolute terms for those lower down the wealth distribution, but are more important relative to other wealth holdings when pensions are excluded (implying that inheritances may actually have the impact of *reducing* wealth inequality). When pensions are included in the measure of household wealth, inheritances appear to have an essentially neutral effect on UK wealth inequality (Karagiannaki (2017) also finds a similar result for the UK). These findings are echoed by Boserup, Kopczuk and Kreiner (2016), who find that, in Denmark, bequests increase the level of absolute wealth inequality (i.e. the percentiles of the wealth distribution increase), but this is not reflected in relative inequality measures (e.g. the top 1% wealth share *decreases* by 6 percentage points, because smaller inheritances at the bottom of the distribution are still a relatively larger share of smaller wealth there). Nekoei and Seim (2018) confirm this finding in Sweden, but find that over a longer term the equalising effect of inheritances wanes.

Tax-exempt savings

Individuals are permitted to save a limited amount in an Individual Savings Account (ISA) each year (the annual ISA allowance has been £20,000 since 2017). These savings can be held in cash or invested in financial assets (shares, bonds, unit trusts, etc.). Investment income earned on these savings (i.e. interest income, dividends and capital gains) is free of tax and therefore not captured in measures of fiscal income.

No data exist on the aggregate amount of income earned within ISAs. To approximate the magnitude of this unobserved stream of income, we make use of the distribution of ISA wealth across individuals as observed in the Wealth and Assets Survey (2016–18), in combination with estimated rates of return on assets held in ISAs to provide a rough estimate of the relative importance of ISA income.⁴³ Our estimates suggest that: (i) income earned within ISAs was

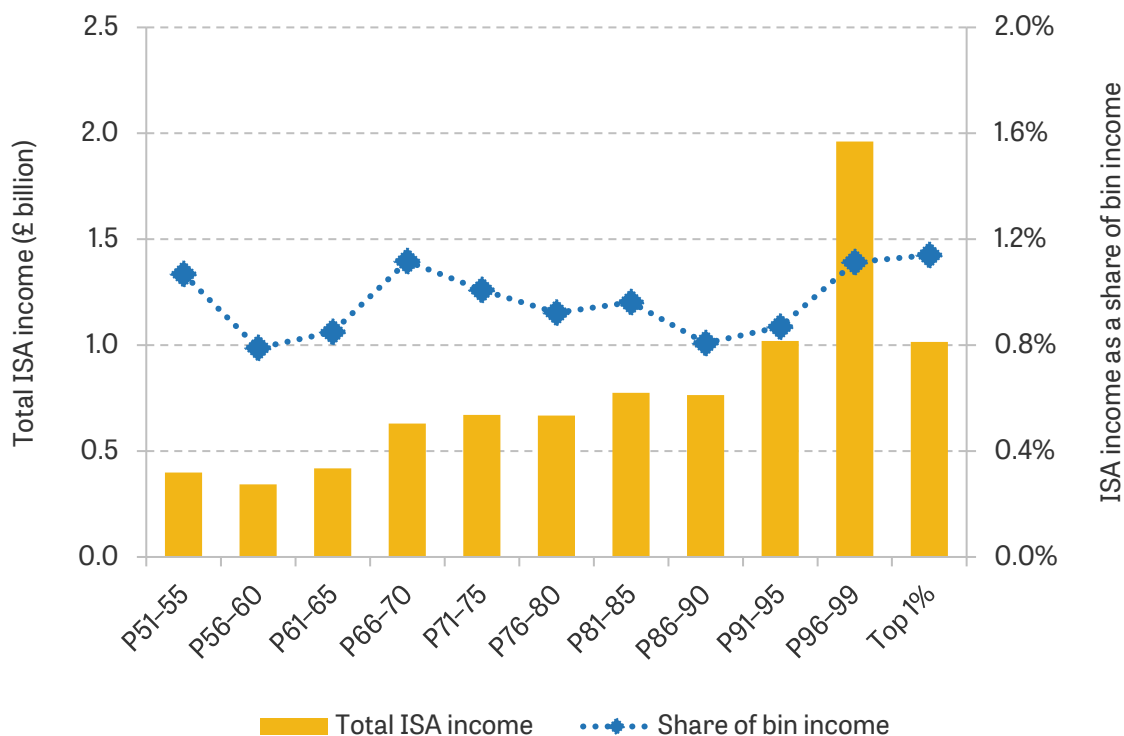
⁴¹ While large inheritances are subject to tax in the UK, inheritance tax is levied on the estate of the deceased individual and not the income of the inheritor. Gifts made more than seven years prior to death are not taxable in the UK and therefore leave no trace in tax records.

⁴² It should be noted that Hood and Joyce (2017) find a U-shaped distribution of inheritances when considered as a share of lifetime income, suggesting that inheritances will tend to increase income shares both for the top *and* bottom quintiles of the distribution.

⁴³ The Wealth and Assets Survey provides measures of wealth held in both 'cash ISAs' and 'investment ISAs'. To these two categories we apply an assumed rate of return of 0.25% (the Bank of England base rate in April 2017) and 5.1% (the

roughly £12 billion in 2018–19, just 1.1% of aggregate fiscal income; (ii) ISA income makes up a relatively stable share of income across the top half of the fiscal income distribution (see Figure 7). This suggests that including ISA income would be unlikely to change the pattern of income inequality seen in fiscal income. Indeed, given the relatively modest magnitudes involved, this conclusion seems likely to hold even if (as seems possible) those with higher incomes experience systematically higher returns to their ISA savings.

Figure 7. Estimated total ISA investment returns by fiscal income band



Note: Bars show the total estimated income flowing from ISA investments to each fiscal income bin. The line shows ISA investment income as a share of each income bin's total fiscal income. Income bins are defined using percentile cut-offs taken from the Survey of Personal Incomes 2018–19.

Source: Authors' analysis using WAS Round 6 2016–18 and the Survey of Personal Incomes 2018–19.

6. Taxation of top incomes

In this section, we briefly summarise UK income taxes and how much tax is paid on top incomes. We show that income taxes are progressive – average tax rates rise with income. The top 1% receive 15% of fiscal income and pay 28% of income tax and (employee and self-employed) National Insurance contributions. Variation in how different incomes are taxed – in particular the fact that combined tax rates on business incomes are lower than those on employment incomes – translates into variation in how much tax different people within the top 1% pay.

average total return to the FTSE 100 between 2011 and 2019, net of an assumed annual investor's fee of 1.5%) respectively.

Statutory top rates are highest on employment income

The top statutory marginal rate of UK income tax (called the 'additional rate' and which applies to income over £150,000) is 45% in 2021–22.⁴⁴ The top statutory marginal rate on earnings rises to 47% if employee National Insurance contributions (social security contributions) are included and to just over 53% if employer NICs are also accounted for.⁴⁵ There is very little link between the amount of NICs paid and benefit entitlement, such that NICs are best thought of as an additional income tax applied to earnings (and not to investment incomes).⁴⁶ The marginal employee (self-employed) NICs rate falls from 12% (9%) to just 2% for those earning above £50,270. As a result, while NICs are progressive across most of the earnings distribution, they are regressive at the top (see IFS Taxlab (2021c)).

Figure 8 shows how the top, combined statutory tax rate on employment income (i.e. including income tax and NICs) compares with the top combined rates for other types of income.⁴⁷

Overall taxes on employment incomes are higher than taxes on other forms of income.⁴⁸ Dividends are subject to a lower income tax rate (and not subject to NICs). Even when accounting for corporation tax, dividends are taxed at a lower combined rate than employment income. Capital gains can be taxed at much lower rates. This is particularly true for capital gains accruing to business owner-managers, since they can access a preferential 10% rate (called business asset disposal (BAD) relief) on up to £1 million of capital gains; between 2011 and 2020, the relief applied to up to £10 million of gains.⁴⁹ Company owner-managers have a strong tax incentive to pay themselves in capital gains or dividends rather than in salary (and there are no rules preventing this).

Effective tax rates on personal income vary due to various features of the tax base. Three factors are particularly notable. First, the personal allowance (which is the amount of income that can be received before any income tax is charged) is withdrawn at a rate of 50p for each £1 that an individual's income exceeds £100,000. As a result, those with incomes between £100,000 and £125,140 face an effective 60% marginal rate of income tax. Second, for business owners, effective tax rates also depend on the extent to which business costs can be deducted from taxable income. Third, capital gains that are passed on at death are not subject to capital gains tax. This so-called 'forgiveness' or 'uplift' or 'stepped-up basis' of capital gains tax arises because

⁴⁴ Income tax is charged on wages, profits from self-employment, pension withdrawals (but where 25% of income can be taken tax free), savings and investment income earned outside of ISAs, and dividends (which are taxed at lower rates). Business costs of the self-employed, charitable gifts and pension contributions (up to lifetime and annual allowances) are deductible when calculating income tax; see IFS Taxlab (2021b). There are essentially no other personal tax deductions available to UK income tax payers; this is in stark contrast to the US tax code (Kopczuk, 2005).

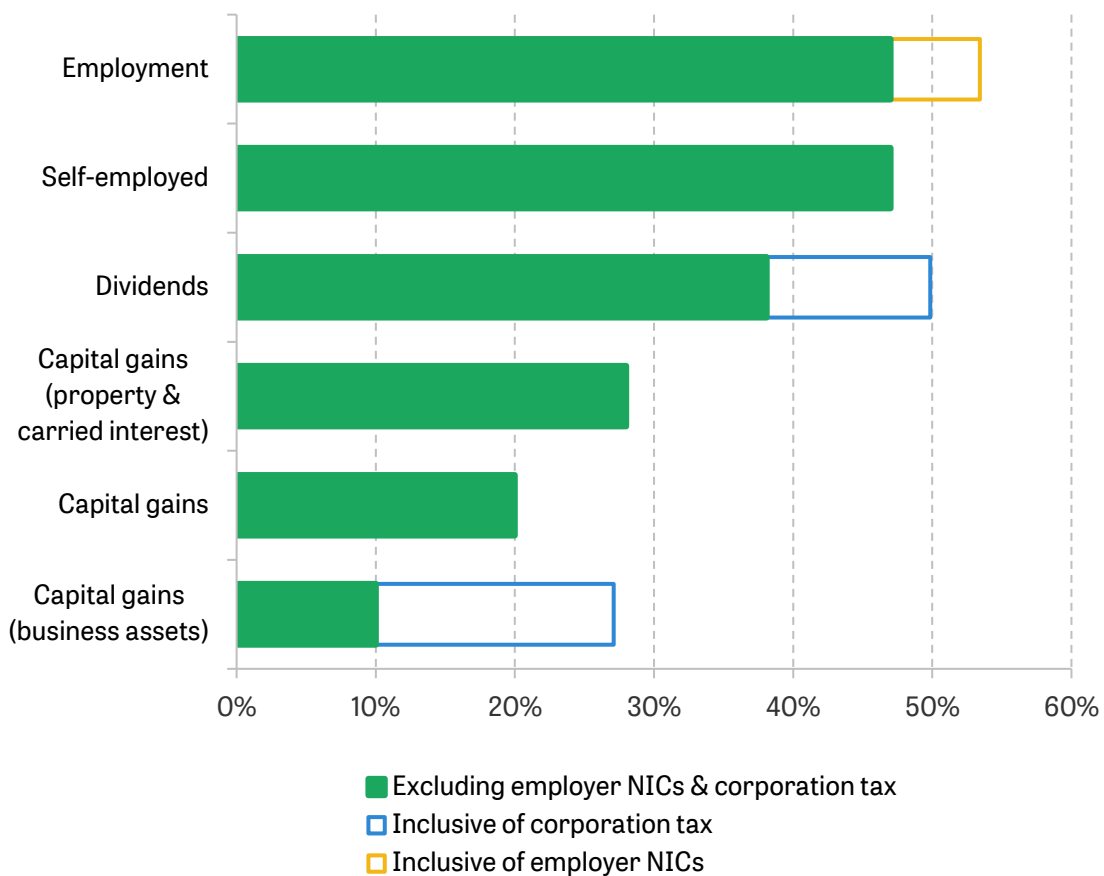
⁴⁵ Employer NICs have a flat rate of 13.8% on employees' salaries (in excess of £8,840).

⁴⁶ The link between NICs payments and access to government benefits has weakened significantly over time. By far the biggest contributory benefit is the state pension, the size of which is affected by the number of years in which an individual has paid or been credited with NICs. Credits are given in a wide range of circumstances, including when people are looking for work or caring for children. In practice, the vast majority of long-term UK residents qualify for the full state pension, which is flat rate (i.e. is not higher for those who have made higher NICs). See IFS Taxlab (2021c).

⁴⁷ From 5 April 2022, the rates of employee, self-employed and employer NICs and dividend tax will increase by 1.25 percentage points. The top combined marginal statutory rates will therefore increase to 48.25% (55.02% if employer NICs are included) for employment income, 48.25% for self-employment income and 39.35% for dividend income (50.87% if corporation tax is included). This reform thus widens the gap between tax rates on employment income and those on capital incomes.

⁴⁸ Note that the differences in marginal tax rates across income types is larger at lower income levels; see Adam and Miller (2021).

⁴⁹ Prior to April 2020, BAD relief was called 'entrepreneurs' relief'.

Figure 8. Top marginal statutory tax rates, 2021–22

Note: Hollow bars show rates inclusive of employer NICs (in yellow) in the case of employment income, and corporation tax (in blue) in the case of capital gains tax and income tax on dividends. 'Capital gains (business assets)' refers to business assets disposal (BAD) relief, which can be claimed on gains made on the disposal of company stock so long as an individual holds at least a 5% stake in the company and is either an employee or an officer of the company. BAD relief has a lifetime limit of £1 million. Capital gains from primary residences are tax exempt. Capital gains from carried interest are taxed at the same rate as gains on property. From 5 April 2022, the rates of employee, self-employed and employer NICs and dividend tax will increase by 1.25 percentage points.

a person is effectively assumed to inherit an asset at its current market value, such that any prior gains (or losses) are wiped out for tax purposes. This creates an incentive for people to hold onto unrealised capital gains. Forgiveness of capital gains at death is not a benefit only to those who are willing to bequeath their gains; in at least some cases, it is possible for individuals to effectively access their gains (while avoiding tax) by taking out a loan against the unsold asset.⁵⁰ The way that capital gains are taxed also creates a 'lock-in effect' – an incentive to hold onto an asset that has risen in value, rather than selling it (triggering a tax liability) and reinvesting the money in another taxed asset.

Broadly, while top UK income tax rates are lower now than at the start of the 1980s, in the last decade there have been various moves to raise taxes on those with the highest incomes (IFS Taxlab (2021a) documents rates over time). Notably, the top rate of income tax applied to earned

⁵⁰ Broadly, if a loan can be secured on a capital asset, there will be an interest charge but no tax charge (because no gains will have been realised). Loans can be paid off at death, at which point realised capital gains will not be taxed. There is a lack of evidence on how widespread this practice is. It is gaining attention in US public debates, where there are concerns that it is used by the very wealthy to avoid taxes (see, for example, Eisinger, Ernsthauten and Kiel (2021)).

income was cut from 83% in 1978–79 (although few people faced this rate) to 40% by 1988–89.⁵¹ However, in 2010–11, following the financial crisis, the top rate of income tax was raised from 40% to 50% (through the introduction of the 'additional rate'), before being reduced to 45% in 2013–14. Alongside these changes, a new 'additional rate' of dividend tax was introduced. Rates of dividend tax were further increased in 2016–17.⁵² There have also been various increases to rates of NICs. Rates of capital gains tax have gone up and down and, as highlighted above, the preferential rate of capital gains tax for business owner-managers was significantly restricted in 2020. There were also changes to the tax base in 2010–11 that acted to raise more tax from those with high incomes without raising statutory rates.⁵³

Income taxes are progressive

At each income level, there is a range of average tax rates – i.e. tax paid as a share of income – driven by the fact that people face different statutory rates depending on the form of their income (as shown in Figure 8). Figure 9 plots mean average tax rates across the fiscal income distribution. It shows that taxes on personal incomes are progressive – average rates rise with income and are highest for those with the highest incomes. Average tax rates are significantly higher when accounting for NICs, although the effect is smaller at the top than for most of the distribution.⁵⁴ Within the top 1%, the mean average tax rate is 38% when considering only income tax; 41% when including employee and self-employed NICs,⁵⁵ and 46% when including employer NICs.⁵⁶

Of course, Figure 9 does not include all UK taxes, some of which are less progressive (such as value added tax) and some of which will be more progressive (such as capital gains tax).⁵⁷

⁵¹ Different (and in some cases higher) rates applied to other forms of income in this period. For instance, the top rate of income tax on savings income was 98% in 1974–75 and 1975–76. But few taxpayers were subject to these rates. In 1977–78, for instance, just 42,000 taxpayers (out of a total 20.9 million) paid the 83% marginal rate (Inland Revenue, 1980).

⁵² Prior to 2010–11, the higher rate of dividend tax was 25%. In 2010–11, an additional rate of 36.12% was introduced. This was cut to 30.56% in 2013–14 and increased to 38.1% in 2016–17.

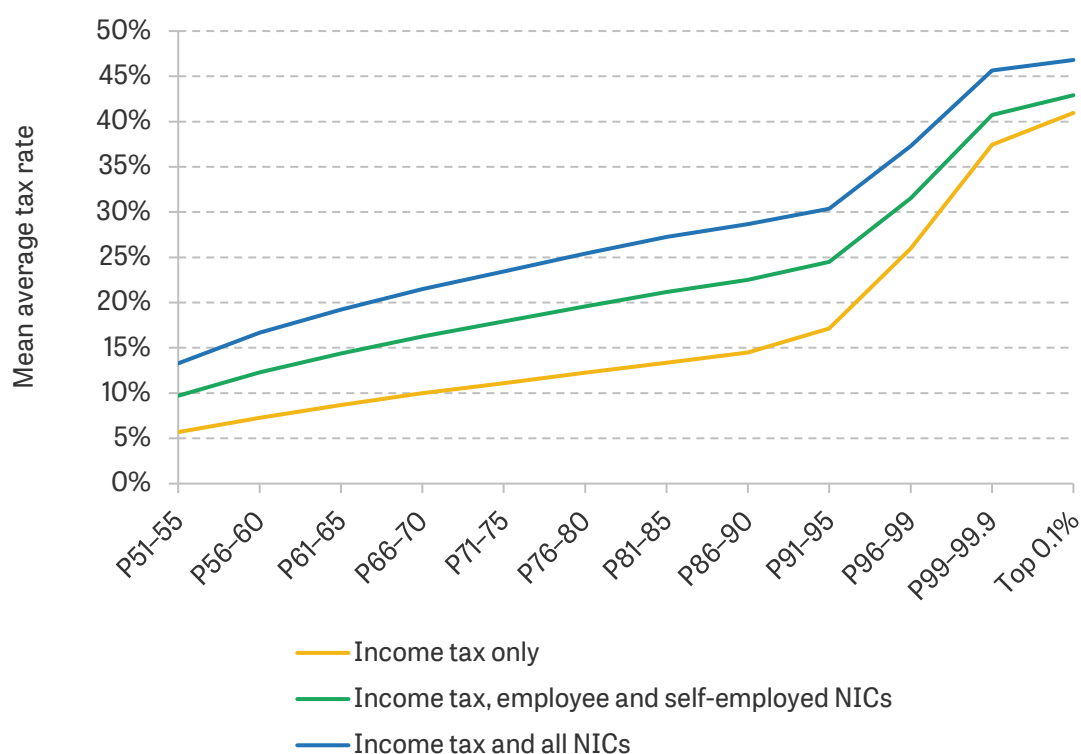
⁵³ Specifically, these were: a cut to the higher-rate threshold (in 2011); the withdrawal of the personal allowance for taxable incomes over £100,000 (in 2010); and cuts in income tax relief on pension contributions (in 2011).

⁵⁴ Income tax payments are directly observed in the SPI. We estimate individual-level NICs liability by applying statutory rates of Class 1, 2 and 4 NICs to relevant incomes. Because tax-free allowances for NICs apply *per job*, our methodology will tend to *overestimate* the NICs liability of individuals with multiple employments. This should be a minor source of error since only 3% of all workers were recorded as having second jobs in 2018–19 (Office for National Statistics, 2021). Similarly, because the SPI records only annual income while NICs liability is typically assessed on a monthly basis, we will tend to *overestimate* the NICs liabilities for individuals whose income was unevenly distributed across the year.

⁵⁵ Advani and Summers (2020b) study average top tax rates using the complete HMRC tax records (rather than the SPI, which includes only composite tax records for the very top of the distribution). They find that the mean average tax rate (including income tax and employee and self-employed NICs) for individuals with incomes of £500,000 is 41% and falls very slightly (to 40%) for those with incomes above £2 million.

⁵⁶ Employer NICs will not necessarily be incident on employees. Regardless of which party ultimately bears the costs of employer NICs, the tax adds a bias against activities that lead to employment income relative to those that create other forms of income. As such, it will affect choices over legal form. Interpreting the average tax rates of individuals (inclusive of employer NICs) as the tax that an individual pays requires the assumption that it is ultimately workers who pay the cost of employer NICs (i.e. employers respond to NICs payments by reducing wages by an equivalent amount). While Piketty, Saez and Zucman (2018), amongst others, have taken this approach in describing the impact of US payroll taxes across the income distribution, there is empirical evidence (Melguizo and González-Páramo, 2013) to suggest that at least some of the economic burden of payroll taxes is shared by employers.

⁵⁷ As a result, Figure 9 is not comparable to the estimated average tax rates of Saez and Zucman (2020), which suggest that, over the last 70 years, US taxes have gone from being strongly progressive to essentially flat and regressive for

Figure 9. Mean average tax rates across the fiscal income distribution, 2018–19

Note: The figure shows mean average tax rates across the fiscal income distribution. 'Income tax and all NICs' (blue line) includes employee, self-employed (classes 2 and 4) and employer NICs. All three lines include the imputed corporation tax paid on the dividend income of owner-managers. All dividend income received by owner-managers is assumed to have been subject to corporation tax at the 2018–19 rate. Corporation tax and employer NICs (when included) are also added to the denominator when calculating the average tax rate.

Source: Authors' calculations using the Survey of Personal Incomes 2018–19.

Table 3. Share of total tax revenue paid by fiscal income percentile of UK adults, 2018–19

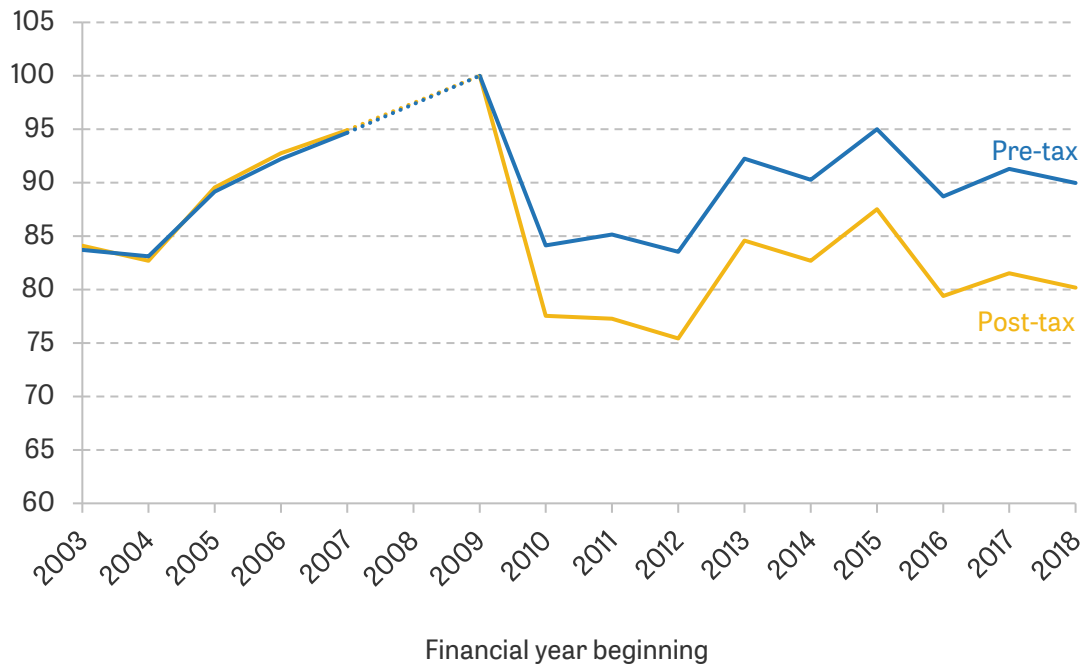
	<P90	P90–99	Top 1%
Income tax	32%	34%	34%
Total NICs	54%	32%	13%
<i>Employee NICs</i>	62%	32%	6%
<i>Employer NICs</i>	49%	34%	18%
<i>Self-employed NICs</i>	59%	22%	19%
Total NICs & income tax	41%	33%	25%
Total NICs (excluding employer) & income tax	39%	33%	28%
Total fiscal income	58%	27%	15%

Source: Authors' calculations using Survey of Personal Incomes 2018–19.

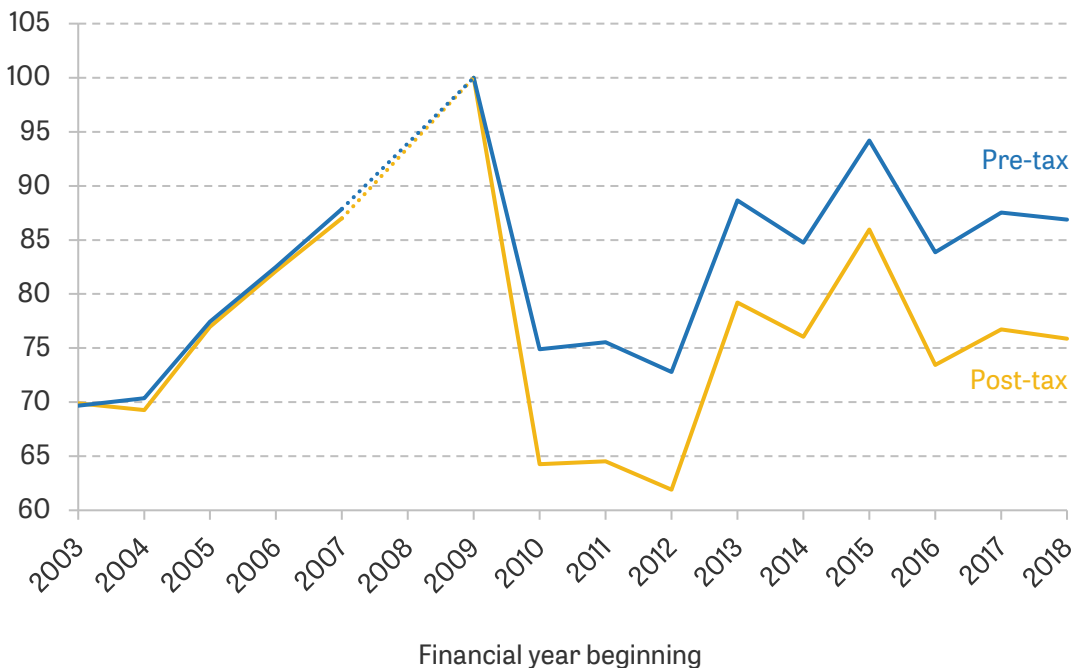
those at the very top. Accounting for all taxes requires a series of assumptions about how some tax liabilities (such as corporate tax) are allocated to individuals.

Figure 10. Trends in pre- and post-tax top income shares (2009–10 = 100)

(a) Top 1%



(b) Top 0.1%



Note: Post-tax shares represent the share of income flowing to the top 1% (top panel) and 0.1% (bottom panel) after the deduction of income tax, NICs (excluding employer contributions) and corporation tax charged on profits distributed as dividends to owner-managers. We do not account for partial NICs rebates available to those with contracted-out pensions prior to April 2016. Profits paid out as dividends to owner-managers are assumed to have been taxed at the small profits rate of corporation tax in years where this rate diverged from the main rate. We do not deduct corporation tax paid on any profits distributed to non-owner-managers (deducting this at the main rate of corporation tax leads to a small upward shift in the yellow line post-2009, but it still remains well below the blue line). No SPI is available for 2008–09; graphs give a linear interpolation for this year.

Source: Survey of Personal Incomes, various years.

As a result of the overall progressive structure of income taxes (Figure 9), revenue from direct taxes on incomes is raised disproportionately from those at the top. The top 1% of UK adults receive 15% of fiscal income and pay 34% of income tax – almost exactly the same share as is paid by the bottom 90% (see Table 3).

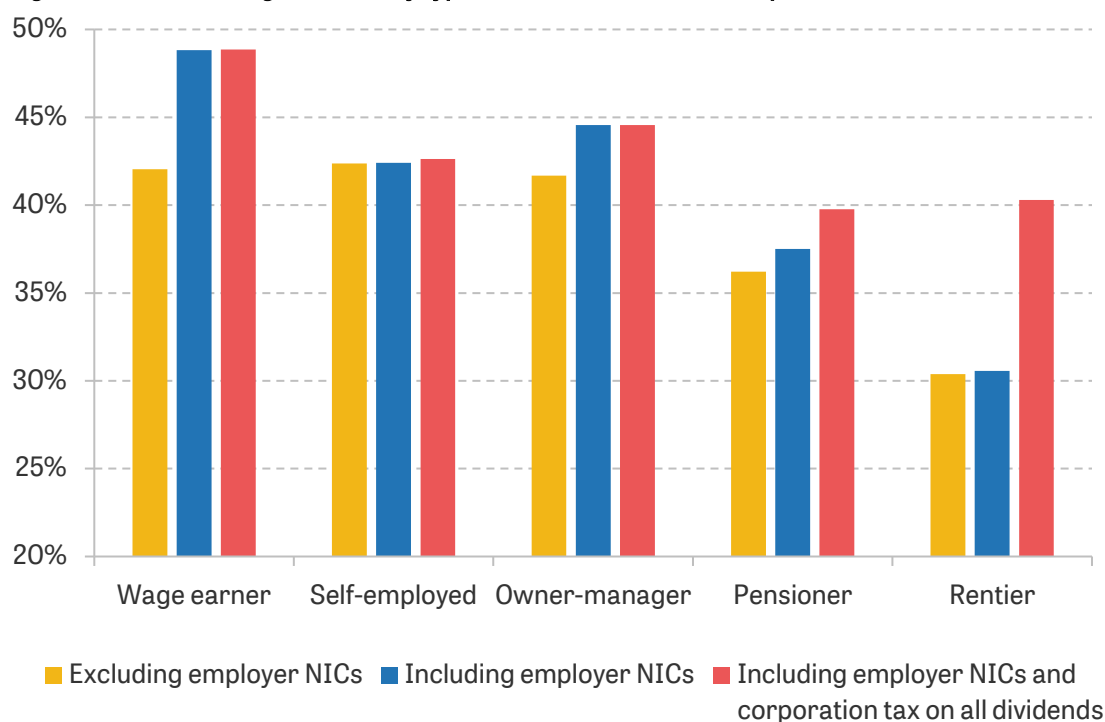
The share of tax paid by the top is less skewed if NICs are included. Overall, the share of employee NICs paid by the top 1% is just 6%, considerably below their share of fiscal income (the top 1% account for 13% of all NICs if employer contributions are included). Broadly, this is because statutory NICs rates fall to 2% on earnings above (in 2021–22) £50,270. The top 1% pay a larger share of self-employed NICs, which is driven by the over-representation of partnerships at the top of the income distribution. The top 1% pay 28% of income tax and NICs combined (or 25% if employer NICs are included). Ignoring NICs (as is common in public debates) therefore leads to an overestimate of the extent to which income taxes are skewed to the top of the income distribution. The share of personal tax revenue attributable to the top 1% of adults has grown considerably in recent years. In 2003–04, the top 1% were responsible for 25% of income tax receipts and 5% of NICs receipts (excluding employer NICs), compared with 34% and 7% respectively by 2018–19. The share of income tax and NICs combined (excluding employer NICs) paid by the top 1% rose from around 20% in 2003–04 to 28% in 2018–19.

The progressivity of income taxes is also reflected in post-tax income shares.⁵⁸ We showed in Section 3 that, in 2018–19, the top 1% (0.1%) received 15% (6.2%) of pre-tax income. In the same year, the top 1% (0.1%) received 11% (4.6%) of post-tax income – i.e. the top receives a lower share of *post-tax* income than of pre-tax income. Figure 10 compares the trends in pre- and post-tax income shares. The shares rose at the same rate up to 2009–10, but diverged in 2010–11. This can, at least in part, be attributed to policy action. In 2010, a new additional rate of income tax was introduced (that included a new higher rate on dividends), alongside some other measures (see footnote 53). The top 1% (0.1%) received 14% (6.1%) of post-tax income in 2009–10, compared with 10.9% (3.9%) in 2010–11. The share of post-tax income flowing to the top 1% in 2018–19 is essentially the same as that in 2010–11, and slightly lower than in 2003–04. The post-tax share of the top 0.1% has risen relative to 2010–11 (and 2003–04). The income tax system therefore offsets some top income inequality, and has done so to a larger degree since 2010–11. The growing share of revenue that comes from the top results both from rising inequality in pre-tax incomes and from policy action.

Tax rates vary by income composition

The mean average tax rate (see Figure 9) for the top 1% – including employee and self-employed NICs but excluding employer NICs – is (just under) 41%. But this can mask significant heterogeneity across people depending on exactly how they earn their income. Figure 11 shows the mean average tax rates for individuals in the top 1% of adults, by the five categories of taxpayer described in Section 3 and based on three measures of the mean average tax rate.

⁵⁸ Here, and in what follows, post-tax shares are calculated by deducting income tax, NICs (excluding employer contributions) and the implied corporation tax charged on profits distributed as dividends to owner-managers. The trends shown below are very similar if employer NICs and/or corporation tax on all dividends are included. Post-tax shares do not account for income from state benefits, which is concentrated amongst those on lower incomes. Including this would thus further reduce top shares.

Figure 11. Mean average tax rate by type of individual within the top 1% of UK adults, 2018–19

Note: The figure shows mean average tax rates (after Winsorising between 0 and 100% at the individual level) for different types within the top 1% highest-income adults in the UK. The tax rates shown by the yellow bars include income tax, employee and self-employed NICs, and corporation tax for owner-managers. Blue bars further include employer NICs. Red bars include UK corporation tax on dividends. See notes to Figure 9.

Source: Survey of Personal Incomes 2018–19.

The yellow bars show the average tax rates including income tax and employee and self-employed NICs (i.e. excluding employer NICs).⁵⁹ On this measure, the average tax rate is similar across wage earners, the self-employed and company owner-managers – around 42%.⁶⁰ This is unsurprising given that, for higher earners, the combined top statutory tax rates on the different forms of income are relatively similar (the rates are much more different for those in lower income brackets; see Adam and Miller (2021)). However, this masks two important sources of heterogeneity.

First, employment income is subject to employer NICs. The effects of this are shown in the blue bars. When included, the average tax rate on wage earners is 49%. Regardless of the ultimate incidence of employer NICs, the tax provides a strong incentive to operate through a business – work that happens through employment is tax-penalised relative to work that happens through other legal forms. For example, there is a strong tax incentive for professional services firms to operate as partnerships rather than as companies in which executives are employees. Employer

⁵⁹ In all calculations, we include corporation tax paid by owner-managers on dividends received. Owner-managers can flexibly choose whether to pay themselves in salary or dividends; excluding corporation tax would overstate the tax advantage of choosing the later. The corporation tax liability of owner-managers is calculated as $y^d \tau^c / (1 - \tau^c)$, where y^d is the dividend income received by the owner-manager and τ^c is the rate of corporation tax.

⁶⁰ Even these figures mask significant variation in tax rates because within the five categories there are differences in the mix of incomes people have. For example, a wage earner with only employment income will pay a rate higher than 42%, while an owner-manager with significant investment income will pay a rate below 42%.

NICs will also matter directly for individuals (and therefore for inequality) to the extent that employer NICs are passed on to individuals in the form of lower wages.⁶¹

Second, Figure 11 excludes capital gains, which are taxed at substantially lower rates. This is particularly important for company owner-managers – the graph shows the tax they pay on income they are taking out of their company in the form of salary or dividends (at the mean, this is 42% (45% when employer NICs are excluded (included)). But most would be able to pay just 27% (in 2018–19, accounting for corporation tax and capital gains tax) on income (up to £1 million) that is retained and later taken in the form of capital gains. Capital gains on business assets that are not subject to the preferential rate (because, for example, they are above £1 million) are taxed at 35%.

Average tax rates are always lower for pensioners and rentiers than for those getting their income predominately through work. The extent of the difference depends on how corporate tax is accounted for. The yellow bars show that the average personal tax rates on pensioner and rentier incomes are 36% and 30% respectively. Some of this income comes from dividends, where corporation tax will have first been paid on corporate income. There is a large degree of uncertainty about the ultimate incidence of corporation tax and the extent to which it is borne by shareholders (as opposed to workers or consumers). If UK corporation tax is added to the measure of tax rates, the average rate rises to around 40% for both pensioners and rentiers.⁶²

7. Reforming the taxation of top incomes

There is much interest in the impact of tax on how much income flows to different parts of the income distribution (through shaping incentives) and the distribution of post-tax incomes.

Governments deciding how much tax the rich – for example, the top 1% – should pay will want to consider both preferences over redistribution and the likely effects that taxes have on people's choices, including over how much to work, how hard to bargain for higher income, and whether to avoid taxes. People will differ in their preferences for redistribution. Moreover, people's stated views on redistribution will be affected by *perceptions* of how high inequality actually is and views of whether, for example, high incomes are the returns to skills and efforts, or to luck or market power (Benson et al., 2021; Stantcheva, 2021).

There is a large body of work that tries to determine the 'optimal' top tax rates for different sources of income. Loosely, an optimal rate can be thought of as the rate that accounts for both how people respond to tax and how policymakers weight the welfare of those with different incomes. The optimal rate is not a fixed number. It will depend, for example, on the shape of the distribution and features of the tax base, including the extent of avoidance opportunities. There is a range of estimates of optimal top income tax rates, often driven by different assumptions about which factors are most important. For example, Saez (2001) shows that, if the government does not value the additional benefit that high-income individuals get from an extra unit of consumption, then the optimal tax rate at the top (i.e. the tax rate faced by individuals who earn more than some threshold) is equal to the revenue-maximising rate. This standard analysis assumes no spillover effects from individual decisions to the rest of the society. Jones (2019) argues that, even if the welfare of the rich is not valued, optimal top income tax rates are

⁶¹ See footnote 56.

⁶² The corporation tax calculation is carried out using the same method as for owner-managers (see footnote 59).

significantly lower when top incomes reflect the rewards for successful innovation that, in turn, drive economic growth and boost the income of others.

Below, we briefly review what is known about how people respond to income taxes. Importantly, responses depend on both the tax base and tax rates. For example, people are likely to be less responsive to a rate increase when there are fewer opportunities for tax avoidance (Kopczuk, 2005). We then consider reform options for the UK that would affect 'the rich', which we will think of broadly as the top 1%. This includes changes to the tax base and structure of rates that would likely reduce the responsiveness of people to rate increases and therefore allow more revenue to be raised from income tax at the top, if desired.

Evidence on responses to top tax rates

There is a large economics literature that studies how people respond to tax. A common approach is to estimate the elasticity of taxable income (ETI) – this is the percentage change in reported taxable income when the net-of-tax rate increases by 1%.⁶³ The ETI captures all the margins of behavioural response, not just changes in labour supply.⁶⁴ Evidence suggests that the ETI is relatively modest for most employees, but can be substantially higher for top earners and, especially, business owners (for example, Adam et al. (2021) show this for the UK).

A lot of the high responsiveness to tax is due to avoidance in the form of shifting income across tax bases, time or people. This includes people operating through a business as a means to access lower rates (for example, Gordon and MacKie-Mason (1994), MacKie-Mason and Gordon (1997), Goolsbee (1998) and Gordon and Slemrod (2000)). It also includes the relabelling of labour income as capital income. Miller, Pope and Smith (2019) show that UK company owner-managers (of single-owner companies) commonly take most income as dividends rather than more heavily taxed salary. They also show that all of owner-managers' responsiveness to personal tax changes reflects shifting of income across tax years, with many taking income out of their company many years after it is earned and in the form of (preferentially taxed) capital gains.⁶⁵

Alongside avoidance opportunities, business owners have greater scope for evasion, including by under-reporting their incomes or inflating their costs. Kleven et al. (2011) show that the lack of third-party reporting leads to higher evasion among the self-employed (and others who self-report income). Advani, Elming and Shaw (2021) present evidence supporting this in the UK.

The ability of some high earners to easily shift, relabel and under-declare taxable income by working through their own business makes it harder to raise revenue by increasing income tax rates. Reforms could close or at least reduce many of these opportunities, which we discuss in more detail below. However, estimates suggest that top wage earners (who have fewer opportunities to avoid taxes) also have high elasticities. It is not known exactly what drives this – there are a variety of potentially important response margins.

⁶³ See Saez, Slemrod and Giertz (2012) for further details and a survey of the empirical evidence.

⁶⁴ Under certain conditions, the ETI can be used to infer the efficiency costs associated with a tax change (Feldstein, 1995 and 1999). However, these conditions often do not hold in practice – for example, if there are spillovers between tax bases.

⁶⁵ They find that lower capital gains tax rates encourage retention of profits within companies, but these profits are *not* used for investment. Other examples of shifting across tax bases and time include Gordon and Slemrod (2000), Alstadsæter and Fjærli (2009), le Maire and Schjerning (2013), Alstadsæter, Kopczuk and Telle (2014) and Harju and Matikka (2016).

An important margin is labour supply.⁶⁶ Much of the microeconomic evidence suggests that labour supply elasticities are low, especially for prime-age men. In contrast, the macro labour supply elasticities are larger. Chetty et al. (2011b) argue that small elasticities estimated from micro data are likely attenuated by search costs and hours constraints. Adam et al. (2021) provide direct evidence that frictions play an important role in attenuating the responses of employees. However, evidence from these studies applies predominately to people outside of the top 1%. There is a lack of strong evidence on the extent to which top earners face frictions, and on how much their labour supply responds to tax – and how it would respond if there were fewer avoidance opportunities.

There are at least three other elements of people's real responses to taxes that may be particularly important at the top. One is the extent to which taxation has dynamic labour supply effects by, for example, disincentivising investment in human capital (Best and Kleven, 2012). Another is how much taxation affects not only how much people work, but the types of work they do, including individuals' involvement in innovation. This is particularly important because the generation of new ideas can benefit not only the innovators but also wider society, to the extent that it drives economic growth and incomes more broadly. There is limited evidence on the role of top personal income taxes in driving innovation. Akcigit et al. (2022) conclude that higher personal taxes negatively affect the quantity of innovation. Bell et al. (2019) find that the elasticity of occupational choice for inventors with respect to the top tax rate is small.

A third important real response is migration. Even if the number of people who move in response to tax is small, this can have large revenue effects because the tax authority will often lose the ability to tax *all* of their income. This was much discussed in the 1970s when there were high-profile cases of pop stars leaving the UK in response to high taxes.⁶⁷ Kleven et al. (2020) survey the evidence on tax and migration and conclude that, 'There is growing evidence that taxes can affect the geographic location of people both within and across countries'. However, they emphasise two caveats. First, the empirical estimates relate to specific groups and countries⁶⁸ – the extent to which these generalise is unclear. Second, the strength of migration depends upon many other forces that govern the movement of people and can be influenced by policy. We show that there are lots of top earners working in finance and professional services in London. Estimates of mobility from the literature may be less informative here. For example, there may be agglomeration rents that mean companies and their workers would be very likely to stay in London, even if taxes were higher (which may also have changed after Brexit). We also show that business owners are very important at the top of the UK income distribution, and it seems likely that they will be less internationally mobile than, for instance, pop stars and sports stars. But even if international mobility is less of a concern for large parts of the top 1%, mobility *within* the UK could matter. Scotland and Wales can set different income tax rates from the rest of the UK. If those with high incomes are willing to move within the UK, this could limit the ability of any one part of the UK to levy substantially higher top rates of income tax.

One issue that has received more attention recently is the effect that tax can have on incentives to bargain over pay and undertake rent-seeking behaviour. The basic idea is that some people may

⁶⁶ It is important to account for both extensive margin (i.e. whether or not to work) and intensive margin (i.e. how many hours to work) responses – see, for example, Chetty et al. (2011a and 2011b).

⁶⁷ This included The Rolling Stones, David Bowie, Ringo Starr and Rod Stewart.

⁶⁸ For example, superstar football players (Kleven, Landais and Saez, 2013), inventors (Akcigit, Baslandze and Stantcheva, 2016; Moretti and Wilson, 2017) and migration in and out of Denmark (Kleven et al., 2014).

not be paid their marginal economic product⁶⁹ – for example, because there might be rents to be shared that arise from frictions in the job market.⁷⁰ Higher marginal income tax rates reduce the incentives to bargain (which is costly) over additional compensation. Piketty, Saez and Stantcheva (2014) argue that bargaining effects increase the optimal rate of tax on top earners (however, they also note that if bargaining comes entirely at the expense of other top earners then bargaining does not affect optimal top tax rates). There is a wide literature in corporate finance that suggests that CEOs influence their pay through bargaining (see Frydman and Saks (2010)). Piketty et al. (2014) use data on CEO pay and a methodology pioneered by Bertrand and Mullainathan (2001) to argue that CEOs receive larger rewards for luck (which are unrelated to their performance) when top tax rates are lower. As we discussed in Section 3 though, despite their visibility, CEOs likely account for a fairly small share of the top incomes. For closely held businesses with no employees, the bargaining channel is clearly less relevant; however, Risch (2019) finds that higher taxes on business owners are partially passed through to their employees.⁷¹

To summarise, there are a variety of ways people can respond to higher taxes, with evidence suggesting that avoidance behaviours such as income-shifting are particularly important at the top of the distribution. Some of these opportunities can be removed through careful design of the tax system, which we discuss below. There remains uncertainty about how high the various real responses are, and how high they would be if there were fewer avoidance opportunities; nonetheless, considering real responses is important for assessing the costs of increasing taxes on the rich.

Policy options for raising more from top incomes

Policymakers wishing to raise more revenue from those with high incomes could simply raise income tax rates; raising any of the rates of income tax would be progressive. But estimates suggest that the UK's top marginal income tax rate (which applies to the roughly top 1% of taxpayers) is already close to revenue maximising. In part, this is likely related to the fact that tax rates on dividends, capital gains and self-employed profits are lower than the main rate of income tax; people can and do respond to higher income tax by changing how they get their income. In what follows, we discuss the options for increasing various top rates of tax and argue that, ideally, this would be accompanied by reform of the tax base to ensure that higher taxes on business income do not come at the expense of greater distortions to investment and saving decisions.

Revenue potential for raising tax rates

Table 4 presents official HMRC estimates of the forecast revenue effects of increasing the listed tax rates by 1 percentage point.

⁶⁹ An individual's marginal economic product is the additional value brought by the worker to the enterprise. In practice, this is often very difficult to measure, especially for managers working in large corporations.

⁷⁰ For example, when there are significant search costs and people are uncertain about their productivity in different jobs, they may stay in a job even if they are being paid less than their marginal product. This creates extra profits for the employer. Some employees – for example, executives – may be able to bargain to share in these profits by getting paid above their marginal product.

⁷¹ More broadly, the corporate income tax literature generally finds reductions in wages in response to higher corporate tax rates (Suárez Serrato and Zidar, 2016; Fuest, Peichl and Sieglöck, 2018).

Table 4. Estimated revenue effects of increasing marginal statutory tax rates by 1 percentage point

	Revenue estimate, 2021–22 terms (£m)	Additional revenue as a share of total revenue from tax
Income tax		
Higher rate	1,390	0.65%
Additional rate	90	0.04%
National Insurance contributions		
Employee (class 1) top rate	1,090	0.69%
Self-employed (class 4) top rate	160	0.1%
Capital gains tax		
Business assets disposal relief rate	130	1.41%
Main higher rate	55	0.61%

Note: Figures are based on the official costing for 2024–25 (to give a better sense of long-run revenue, after any initial timing effects). Numbers have been expressed as an equivalent share of GDP in 2021–22. Note that the numbers are not additive, since the behavioural response to a change in one tax rate can affect the tax base of another tax.

Source: HM Revenue and Customs, 2022.

Income tax is the UK's single largest tax and is the key tool used to create a progressive tax system. HMRC's central estimate is that a 1 percentage point increase in the additional rate of income tax (i.e. an increase in the rate that starts to be paid on income above £150,000 from 45% to 46%) would raise a small amount of revenue – just £90 million. This is partly because the change applies to a relatively small group, but also because there is estimated to be a large behavioural response to the additional rate.⁷² The responses will reflect not only (and likely not even predominantly) people choosing to work less in response to higher rates but also, for example, people being more inclined to take income in the form of dividends or capital gains, choosing to save more in a pension or transferring income between spouses.⁷³

The magnitudes of the behavioural responses are highly uncertain, however. For example, if those subject to the additional rate were evenly slightly more responsive to tax than assumed, an increase in the additional rate could actually reduce revenue (Adam et al., 2017). Current estimates therefore suggest that the top UK rate is close to revenue maximising, but there is a very large degree of uncertainty around this. Importantly, this conclusion hinges also on the other features of the tax system – for example, the effect of raising the top rate could be very different if elements of the tax base were also changed.

Rather than increase income tax, the government could increase taxes on dividends, capital gains and/or self-employed profits. Raising the top rates of these taxes is forecast to raise additional revenue. It is also highly likely that if rates were more similar across different types of income,

⁷² HMRC estimates draw on evidence from the introduction (in 2010–11) of the short-lived 50% tax rate on incomes above £150,000. Both the official HMRC analysis of the policy (HM Revenue and Customs, 2012) and Browne and Phillips (2017) found significant responses to that change. See also Brewer, Saez and Shephard (2011).

⁷³ Transferring income between spouses is particularly simple for investment income as married couples can transfer the ownership of investments (to the lower-income spouse) without being subject to capital gains tax.

people would be less responsive to higher rates of income tax, such that the top income tax rate could be increased (and more revenue raised), if desired. However, raising tax rates on business and capital income does come with costs and therefore entails a trade-off. Due to the design of the tax base, higher rates would worsen a range of problems, including by increasing the disincentive to make some investments. In the next subsection, we argue that while this trade-off exists at present, it could be largely eliminated through careful reform of the tax base.

The UK's overall combined top (statutory) marginal rate on employment income (including employee and employer NICs) is 53.4%. If a government were looking to raise tax rates on business income so that they were aligned with, or at least substantially closer to, the current overall tax rates on employment income, some rates would need to increase by a lot. Of course, the government could also choose to reduce tax rates on employment income and, for example, align at lower rates.

The overall top marginal rate on self-employment income (currently 47%) could be aligned with that on employment income if, for example, the additional rate of (class 4) self-employed NICs was increased from 2% to 8.4%.⁷⁴ This would make rates of self-employed NICs higher than employee rates, reflecting the absence of employer NICs charged on work that happens through self-employment. Some other countries, including the US, set social security contributions for the self-employed at higher rates than for employees to reflect the absence of an employer contribution. However, in the UK this is seen as controversial.⁷⁵ From Table 4, it can be seen that a 6 percentage point increase in the additional rate of self-employed NICs is forecast to raise roughly £1 billion, but this should be viewed with caution. The actual amount raised would depend heavily on how people respond, including the extent to which a higher rate leads more people to incorporate.

Aligning the top marginal rate of tax on dividends (currently 49.9% inclusive of corporation tax) with the top rate on employment income would require a relatively small change: the top dividend tax rate would need to increase from 38.1% to 42.5%. There are no official revenue forecasts for this but, given the fairly small change, the revenue implications would likely also be relatively small.⁷⁶

Capital gains that accrue to business owner-managers (up to a lifetime limit that is currently £1 million) are currently taxed at just 10% – 27.1% if corporation tax is accounted for. The capital gains tax rate would need to be increased substantially (to 42.5%) if the overall top marginal rate were to be aligned with the combined rate on employment income. For this size of change, revenue estimates should not be extrapolated from the official forecasts. On the one hand – and as set out by Sarin et al. (2021) for the US – official forecasts may underestimate, possibly substantially, the revenue potential of raising capital gains tax rates. For example, the estimated

⁷⁴ For income below the higher-rate threshold, the rate of self-employed NICs would need to rise from 9% to 20.2% to reach the same overall marginal tax rate as applied to employees.

⁷⁵ Since discrepancies between employees and the self-employed are largely caused by levying employer NICs only on payments to employees, the natural solution may appear to be to levy an equivalent tax on payments to other service providers as well (sometimes called an 'engager NICs'). In practice, that is not an attractive approach; Adam and Miller (2021) discuss.

⁷⁶ There is a much bigger discrepancy between the taxation of dividends and employment income in lower tax bands; for income below the higher-rate threshold, the dividend rate would need to increase from 7.5% to 26.2% to produce alignment.

taxpayer responses on which revenue forecasts are based tend to focus on short-run responses and thereby miss the revenue that could (later) be gained from deferred capital gains.

On the other hand, large increases in rates would lead to a large but uncertain behavioural response that could reduce expected revenue. One particular concern is that higher capital gains tax rates would lead more people to delay realising gains in order to benefit from the forgiveness of capital gains tax at death. There is a very strong case for removing that relief, which would in turn raise both current revenue from capital gains tax and the revenue potential of higher capital gains tax rates.⁷⁷ However, even if capital gains were taxed on death, higher capital gains tax rates would still worsen the more general 'lock-in effect' (described in Section 6), such that there would be a greater disincentive to rebalance portfolios by selling an asset that has risen in value in order to buy another asset. People would also likely delay realising capital gains if they expected that a subsequent government might reduce rates.⁷⁸ To the extent that tax leads people to hold onto assets when they would prefer to trade them, there is a misallocation of capital. How people would respond to any change in capital gains tax rates – which depends heavily on how rates are changed, and whether reliefs are changed at the same time – has a large effect on revenue estimates.

In summary, there are various ways to raise tax rates on top incomes. Broadly, opportunities to shift income fall and the corresponding gains increase as overall tax rates on dividends, capital gains and self-employed profits get closer to each other and to taxes on employment income. Larger rate increases would also likely raise more revenue. However, the larger the rate increases, the more concern policymakers should have about the effect on investment incentives; we return to this below.

One common argument made in favour of maintaining lower rates on capital income (other than to mitigate the effects on investment) is as a way to boost entrepreneurship. It is likely that there are suboptimal levels of investment in new ideas and start-ups as a result of market failures, including externalities (for example, related to trials of innovative new ideas) and imperfect credit markets. However, lower rates of tax on business incomes relative to labour income are poorly targeted at addressing such market failures (Gordon and Sarada, 2018).

Reform of capital taxes to reduce trade-offs

The design of the tax base – the definition of precisely what is taxed – can be as important as tax rates for determining incentives. When considering investment and business incomes, the tax base is dictated by features of the tax code such as capital allowances, allowances for finance costs and the treatment of losses.⁷⁹

⁷⁷ At present, when a person dies and passes on an asset, the value of the asset is effectively reset for tax purposes such that there is no capital gain (or loss) for the person inheriting. This forgiveness of capital gains tax could be removed by: (i) valuing, and levying a tax on, capital gains at the point of death; (ii) treating the inheritance of an asset as a 'no-gain no-loss transfer', meaning that the asset is inherited with a latent capital gain (or loss) which is calculated as if the new owner acquired the asset themselves at the date, and for the purchase price, the previous owner acquired it for, but the gain remains unrealised at that point.

⁷⁸ The UK capital gains tax regime has been changed various times in the last 20 years. For example, a single flat rate of capital gains tax was announced in 2008, but (following a backlash from business lobby groups) a preferential rate for business owner-managers was announced shortly afterwards.

⁷⁹ Here we focus on the tax base as it applies to investors and largely domestic businesses. However, the problems associated with the tax base extend more broadly, including, for example, to the treatment of rental property. And there are additional issues when considering the treatment of multinational corporations. But in all cases, there are

The design of the UK's tax base (and almost all other countries' tax bases) means, among other things, that: there is a disincentive to make some investments; there is a bias towards some assets and towards businesses using debt rather than equity finance; saving and investment incentives are sensitive to inflation rates; risk-taking is discouraged; and there are incentives to hold onto existing assets rather than sell them and invest in different ones (the 'lock-in effect').⁸⁰ These are all problems that merit attention; ultimately, by depressing investment and distorting capital allocation, they will reduce economic efficiency and productivity. But most of the problems embedded in the tax base are worse at higher tax rates (including higher rates on personal incomes). And, crucially, the efficiency costs created by a distorted tax base rise more than in proportion to tax rates. This is because low tax rates only change behaviour when the decision is marginal anyway, whereas higher tax rates discourage not only more activities but also more valuable activities.

As such, policymakers are right to perceive that increasing tax rates on self-employed profits, dividends and/or capital gains entails a trade-off: increasing these rates towards labour income tax rates can help create a fairer system and stop tax-motivated income-shifting, but setting lower rates helps mitigate the effect of tax on saving and investment incentives. To date, policymakers have tended to, effectively, pick a point on this trade-off. However, the IFS-led Mirrlees Review (Mirrlees et al., 2011) argued that this trade-off could be largely avoided if the tax base were reformed so that, as far as possible, taxes did not affect investment decisions.

Here we briefly summarise what tax base reform would mean in practice. The punchline is that almost all of the problems created by the tax base could be greatly alleviated if not entirely fixed. Or, absent large-scale changes to the tax system, moves could be made to at least mitigate some of the most problematic elements. With a reformed tax base, higher tax rates would do less damage, such that the trade-off policymakers face in setting rates could at least be lessened. This in turn would likely mean that any tax increases would be more stable: to date, UK capital gains tax has often been raised with a view to making the system fairer, only to be cut again when concerns are raised about the effects of higher rates on investment.

To understand the effect of the tax base and the broad reform options, it is useful to think of capital incomes – including dividends, interest and capital gains – and income from self-employment as comprising two elements: a 'normal return' and 'excess returns'. There are good reasons to tax these components differently.

The normal return is the rate of return available on a risk-free asset. It is the minimum return that an investor (or saver) needs to receive from their financial investments (or savings) in order to be willing to make an investment. If, for example, investors are considering investing in a new business venture (possibly their own), they will invest only if they expect the investment to return at least as much (after adjusting for risk) as a safe alternative such as a government bond. If an investment would yield at least the normal return before tax but less than the normal return after tax, the tax will stop the investment taking place. That is, taxing the normal return to capital discourages saving and investment. Importantly, any tax on the normal return also discourages saving and investment to an extent that varies both over time and across assets (Adam and Miller, 2021). Returns above the normal rate of return – so-called 'excess returns' – can reflect: economic rents (which commonly arise when there is market power or other advantages that

large benefits to considering tax base reform alongside rate changes, and much commonality between the broad direction of reform.

⁸⁰ Adam and Miller (2021) discuss the effect of UK tax on investment incentives in detail.

are not competed away); the return to risk-taking (risk premium); and the return to effort or skill (which could reflect, for example, skill in choosing investments, or returns to work that business owners are 'disguising' as capital income). There are good reasons to tax excess returns, and doing so does not necessarily discourage investment.

Overall then, the broad approach to preventing taxes on capital incomes from discouraging investment is to remove the normal return from tax and levy tax only on excess returns.⁸¹ In principle, we might want to set different tax rates on different types of excess return – to tax economic rents at a higher rate than returns to effort, for example. In practice, doing this would be very difficult and in many cases not possible. Mirrlees et al. (2011) argued that (with normal returns taken out of the tax base) taxing excess returns at labour income tax rates is a good compromise.

There are broadly two approaches to reforming the tax base so as to remove the normal return from taxation.⁸² Both can be thought of as ensuring that the full cost of an investment can be deducted (when defining taxable income) at both the personal and, where relevant, the corporate level.

One option is to adopt a 'cash-flow' tax approach that gives 100% up-front deductions for all money that is saved or invested and then taxes all incomes when they are received.⁸³ For an individual investing (in their own or another's business), this would mean that the initial investment could be fully deducted from their personal tax bill. Any subsequent income from the investment would be taxed at the individual's marginal income tax rate. At the business level, a cash-flow approach requires that a business can immediately deduct ('expense') the full cost of any investment – for example, the full cost of buying a machine. Again, any income that subsequently flowed from the investment would be taxed at the business level. In the UK, most businesses actually already have this treatment – they can fully deduct most investment costs (up to £1 million in 2022–23) under the 'annual investment allowance' (AIA). (It is this treatment, in conjunction with a deduction for debt interest costs, that creates a subsidy of debt-financed investments.)

An alternative, 'deferred-allowances' approach would give a stream of annual allowances (at the personal and corporate level) that reflect the normal rate of return to capital previously saved or invested. (The net present value of the stream of allowances is equivalent to the 100% up-front allowance provided under the cash-flow approach.)⁸⁴

⁸¹ Within economics, there is a large body of work and ongoing debate on how normal returns should be taxed and, notably, on whether they should be taxed on equity grounds. Bastani and Waldenström (2020) provide a recent review and chapter 13 of Mirrlees et al. (2011) provides a discussion.

⁸² Adam and Miller (2021) discuss the full range of problems that can be solved by removing the normal return to business assets from tax, and highlight the problems that would remain. They also discuss (i) how the treatment of financing costs would need to be reformed – there are options that parallel the two approaches set out in the main text – and (ii) how losses could be allowed to be offset as freely as possible (subject to not opening avoidance opportunities) for tax purposes so as to reduce the effects of tax on risk-taking.

⁸³ The benefits of cash-flow taxes have long been known. See Brown (1948), Kaldor (1956), Meade Committee (1978), Bradford and US Treasury Tax Policy Staff (1984) and especially Kay and King (1990).

⁸⁴ At the personal level, this approach leads to a personal income tax with a 'rate-of-return allowance' (RRA) – i.e. individual investors would get an allowance each year, the size of which depended on their level of investment. At the company level, it would lead to a corporation tax with an 'allowance for corporate equity' (ACE). See Sørensen (2005 and 2007).

The two approaches offer many of the same benefits. Notably, they both remove the disincentive to save and invest and the 'lock-in effect' that currently applies to capital gains.⁸⁵ Yet they can differ, including in terms of administration, the timing (though not the present value) of government revenue, asset portfolios and prices, and their properties in transition and adjustment.⁸⁶ These differences provide a basis for choosing between the two approaches. Governments could also mix elements of the two approaches (for example, using different approaches at the corporate and personal level). One benefit of this is that they could choose reforms that would require the least change relative to the current system. And, while partial reforms need to be made with care (to ensure problems are not simply shifted), it would be possible to reform only some parts of the tax base (i.e. rather than reform everything at once).

For example, there is a disincentive for people to invest equity into companies. Preferential rates of capital gains tax for investors and various venture capital schemes aim to alleviate this but do so imperfectly and at a cost (including that people respond to preferential rates by changing how they get their income). Simply increasing tax rates on dividends or capital gains (including by removing preferential reliefs) would reduce the incentive for people to buy shares (in their own or another's company) and make it harder for businesses to raise investment finance. But this could be addressed directly by increasing rates alongside, for example, introducing a new investment vehicle that effectively gave people a cash-flow personal tax treatment when buying shares.⁸⁷ Effectively, people would deduct their equity investments from personal tax at the point the investment is made, and subsequently be taxed on any incomes taken out of the investment vehicle. This would be familiar in that it would have much in common with the broad treatment of UK pensions. There would no longer be a disincentive for investors to buy equities. And there would be no 'lock-in effect' in relation to investments made within the investment vehicle – that is, no disincentive to sell one asset and buy another asset (as long as the other asset was also subject to the new cash-flow treatment).

In summary, there are strong reasons to reform the tax base so as to reduce the effects that tax has on the level and allocation of investment. There are various ways to achieve this in practice. With a reformed tax base, higher tax rates on self-employment profits, dividends and capital gains could be achieved with fewer side effects.

8. Other options for raising more from the richest

We have focused in this chapter on top *incomes* and the associated taxes. However, if policymakers want to raise extra revenue from the richest, there are various other tax-raising options that would be focused on this group. For example, council tax (an annual tax on domestic

⁸⁵ In the US, there is a debate about whether capital gains should be taxed on accrual as an alternative route of reform (i.e. rather than continuing to tax gains at the point income is received but to adjust the tax base to remove distortions related to the timing of tax payments). Broadly, capital gains could be assessed each year and taxed, regardless of whether they were realised. If achieved, this approach could remove the lock-in effect, but would still entail a discouragement to investment. However, this 'marked to market' approach entails significant administrative challenges: all assets would need to be valued in years when they are not traded, which would be particularly difficult for some assets, including private companies and unincorporated businesses. It would also be necessary to address liquidity issues (i.e. people having a large tax bill but no income) and losses (which would arise when asset prices fell).

⁸⁶ The approaches also differ somewhat in their effects if people face different tax rates over time.

⁸⁷ Adam and Miller (2021) refer to this as a 'personal shareholding account' and discuss how it could be implemented. The new vehicle would mean that excess, but not normal, rates of return were taxed. This could replace a range of venture capital schemes (that, broadly, aim to incentivise equity investment but do so through a mixture of well and badly targeted provisions), BAD relief and investors' relief (a reduced rate of capital gains tax for external investors in unlisted companies).

property) in Great Britain is regressive with respect to property values. It is also based on property values from 1991 and therefore extremely out of date. Reforming council tax to be a proportional tax on up-to-date values could raise significant extra sums from those living in expensive properties, many of whom will also have high incomes (Adam et al., 2020). There are also reforms that could be enacted to inheritance tax (which currently applies to roughly 4% of estates (HM Revenue and Customs, 2021d)). For example, the UK is unusual in offering unlimited 100% relief on business assets – this is not available in France, Germany or the US. There is also relief for agricultural land and some bequeathed pension pots. Such reliefs could be restricted or removed. (See chapter 15 of Mirrlees et al. (2011) for a discussion and Advani, Hughson and Tarrant (2021) for recent revenue estimates.)

A policy idea that has received more attention recently is taxing stocks of wealth. There are ongoing debates, mostly notably in the US, about whether an annual wealth tax could be an effective way of raising revenue from the rich.⁸⁸

One can make principled arguments for an annual wealth tax based on there being negative externalities or private benefits that flow from wealth. However, to justify taxing wealth rather than income or consumption, the harm would have to derive from inequality of wealth *per se*, rather than income or consumption (indeed, it would have to be contingent on not spending the wealth). In practice, it is difficult to identify exactly what the externalities from wealth are. In many commonly cited examples – such the externalities related to political power – the externality may be more likely associated with spending (or other factors that are correlated with but distinct from wealth) and should be targeted more directly.

Often, a wealth tax is discussed as a second-best way to tax people who are very rich but who pay very little tax because, for example, their wealth is formed from very lightly taxed (or untaxed) capital gains. A wealth tax could be designed to target only the very rich (for example, by setting a high threshold and/or by exempting assets such as main homes or pensions). However, a recurrent tax on the stock of wealth effectively imposes high tax rates on normal returns (and can therefore discourage investment) and does not tax excess returns (Kopczuk and Mankiw, 2019; Adam and Miller, 2020). As discussed above, there are strong arguments in favour of taxing excess returns (and of taxing them at higher rates than normal returns). As such, a wealth tax is a poor substitute for reforming capital income taxes.

Even if a wealth tax is deemed desirable, there are a variety of practical challenges with administering such a tax, including the need to value wealth. A recent 'Wealth Tax Commission' for the UK considered the arguments for a wealth tax and the ways in which practical difficulties could be overcome (Advani, Chamberlain and Summers, 2020). It did not recommend an annual wealth tax be introduced in the UK.

Relative to an annual wealth tax, it is relatively straightforward to make a case for a tax based on a one-off wealth assessment (whether or not it is collected as a one-off payment). If such a tax is unexpected and believed to be one-off – major requirements – it does not create economic distortions: it is a very efficient way to raise revenue. A one-off tax could, for example, be motivated by a desire to reduce current levels of inequality, some of which will have arisen as a result of the relatively low levels of tax on many forms of capital income in the past. It could also be linked to increases in wealth inequality that arose during the COVID-19 crisis. Both motivations

⁸⁸ Saez and Zucman (2019) make the case for a progressive US wealth tax with a high threshold; Boadway and Pestieau (2019) and Kopczuk and Mankiw (2019) argue against an annual wealth tax; and Scheuer and Slemrod (2019) provide a discussion.

may help to establish the move as credibly one-off. Whether such a tax should be enacted, and, if it is, to what assets it should apply and at what rate, depend primarily on how it would affect expectations of future taxes and on what would be deemed fair. There will be a wide spectrum of views on the latter.

9. Conclusion

Income inequality is clearly an important and salient form of inequality. The share of pre-tax fiscal income going to the top 1% of UK adults has risen from around 6% in 1980 to around 15% today, having reached a peak before the financial crisis. Top shares would likely be at least somewhat higher if it were possible to account for foreign income and the effect of gifts and inheritances. (They would be lower if accounting for state benefits, since these play an important role in redistributing to the bottom of the income distribution.)

Income taxes play an important role in redistributing incomes. UK income taxes – including income tax and National Insurance contributions – are progressive. This is reflected in the fact that the top 1% pay a disproportionate share of tax revenues (28% of income tax and NICs in 2018–19) and that post-tax top income shares are below pre-tax income shares (the top 1% received 11% of post-tax income in 2018–19).

In the last decade, a range of policy measures have increased the revenue raised from the top 1%. Notably, since 2010, the UK has introduced a new top rate of income tax for those earning over £150,000, begun withdrawing the tax-free personal allowance from those with incomes over £100,000, raised dividend tax rates, placed annual and lifetime caps on how much can be saved in a pension and reduced (from £10 million to £1 million) the amount of business owner-managers' capital gains that can be subject to a preferential tax rate (known as 'BAD relief'). As a result of such policy action, there was a greater drop in post-tax top 1% income shares in 2010 than in pre-tax shares. The share of post-tax income flowing to the top 1% in 2018–19 is essentially the same as that in 2010–11 and slightly lower than it was in 2003–04. The post-tax income share for the top 0.1% is higher than in 2003. The income tax system offsets some top income inequality, and has done so to a larger degree since 2010.

But what remains striking about UK income taxes is how much heterogeneity there is in tax rates, depending on how income is earned. Dividends, self-employed profits and capital gains are much more prevalent at the top of the income distribution, and, in particular, within the top 0.1%. Overall tax rates on these incomes are lower than the overall rate on employment income. To highlight the extremes, the work of an employee who is in the top 1% will be taxed at an overall marginal rate of just over 53% (including all forms of National Insurance contributions). If the same work was done by a company owner-manager who could arrange their affairs to take their income in the form of capital gains, it could be taxed at just over 27% under BAD relief, or at 0% if the realisation of gains is deferred until death.

Policymakers perceive a genuine trade-off in altering this situation. While there would be many – equity and efficiency – benefits from more closely aligning overall rates across different forms of income, higher tax rates on capital incomes would worsen a range of current distortions, including increasing a disincentive to make certain kinds of investments. In this chapter, and following on from the work of the IFS-led Mirrlees Review, we argue that policymakers can best address this by reforming the tax base so that taxes on business incomes do not distort investment decisions – or at least reforming the base to mitigate as many problems as possible.

With a reformed base, there would be a very strong case to better align tax rates across different forms of income. Absent a wholesale reform of the tax system, policymakers could start with some of the most problematic elements. We would suggest this include, for example, ending the forgiveness of capital gains tax at death and removing (effectively through the design of new reliefs) the disincentive to invest equity in a company.

The dual approach of raising tax rates on capital incomes while reforming the tax base would have distributional effects within the top 1%. Where individuals are effectively only generating labour income and taking it in the form of self-employment income, dividends or capital gains, the approach we propose would represent a tax increase; if capital income tax rates were fully aligned with current labour income tax rates then in some cases it would be a very large increase. Arguably, this could be seen as (horizontally) fair in that it would be removing tax advantages that such people receive under the current tax system.

Individuals making genuine business investments would benefit from a reformed tax base, but could lose out from higher tax rates on capital incomes. Whether they were better or worse off overall depends on the nature of, and return on, those investments. Many of those making relatively low returns (for example, those operating in highly competitive industries and those taking risks that do not pay off) would pay less tax under such reforms. In contrast, those whose investments make high returns – which could reflect some combination of effort and skill, privileged access to scarce opportunities, and luck – are likely to pay more tax. Low-return investments are those where tax is likely to make the most difference to whether they happen – this highlights that the benefits of tax reform in this area relate not only to equity, but also to efficiency.

We expect that closer alignment of tax rates across income forms (while adjusting the tax base) would allow more revenue to be raised from the top 1%, if desired. It is, however, highly uncertain exactly how much could be raised because we lack good evidence on how responsive different types of people at the top of the income distribution are to tax – and how responsive they would be if there were fewer avoidance opportunities. There is also uncertainty about what is driving growing top income shares and the extent to which it is, for example, related to the talent of people at the top, or to market imperfections that mean people at the top can capture outsized rewards. This makes it difficult to assess what the top rate of tax *should* be. The UK, in particular, would benefit from better evidence on what is driving top incomes in London's financial industry and related professional services, and on the types of closely held companies that create very high incomes for their owners.

References

- Acemoglu, D., and Robinson, J. A. (2008), 'Persistence of Power, Elites, and Institutions', *American Economic Review*, 98(1), 267–93.
- Adam, S., Browne, J., Phillips, D., and Roantree, B. (2021), 'Frictions and Taxpayer Responses: Evidence from Bunching at Personal Tax Thresholds', *International Tax and Public Finance*, 28(3), 612–53.
- Adam, S., Hodge, L., Phillips, D., and Xu, X. (2020), 'Revaluation and Reform: Bringing Council Tax in England into the 21st Century', IFS Report R168.
- Adam, S., Hood, A., Joyce, R., and Phillips, D. (2017), 'Labour's Proposed Income Tax Rises for High-Income Individuals', IFS Briefing Note BN209.
- Adam, S., and Miller, H. (2020), 'The Economics of a Wealth Tax', Wealth Tax Commission, Evidence Paper 3.
- Adam, S., and Miller, H. (2021), 'Taxing Work and Investment across Legal Forms: Pathways to Well-Designed Taxes', IFS Report R184.
- Adam, S., and Stroud, R. (2019), 'A Road Map for Motoring Taxation', in C. Emmerson, C. Farquharson and P. Johnson (eds), *The IFS Green Budget: October 2019*.
- Advani, A., Chamberlain, E., and Summers, A. (2020), 'A Wealth Tax for the UK', Wealth Tax Commission, Final Report.
- Advani, A., Elming, W., and Shaw, J. (2021), 'The Dynamic Effects of Tax Audits', *Review of Economics and Statistics*, 1–45.
- Advani, A., Hughson, H., and Tarrant, H. (2021), 'Revenue and Distributional Modelling for a UK Wealth Tax', *Fiscal Studies*, 42(3–4), 699–736.
- Advani, A., and Summers, A. (2020a), 'Capital Gains and UK Inequality', CAGE Working Paper 465.
- Advani, A., and Summers, A. (2020b), 'How Much Tax Do the Rich Really Pay? New Evidence from Tax Microdata in the UK', CAGE Policy Briefing 27.
- Advani, A., Summers, A., and Tarrant, H. (2022), 'Measuring Top Income Shares in the UK', IFS Working Paper W22/06.
- Akcigit, U., Baslandze, S., and Stantcheva, S. (2016), 'Taxation and the International Mobility of Inventors', *American Economic Review*, 106(10), 2930–81.
- Akcigit, U., Grigsby, J., Nicholas, T., and Stantcheva, S. (2022), 'Taxation and Innovation in the Twentieth Century', *Quarterly Journal of Economics*, 137(1), 329–85.
- Alesina, A., and La Ferrara, E. (2005), 'Preferences for Redistribution in the Land of Opportunities', *Journal of Public Economics*, 89(5), 897–931.
- Alstadsæter, A., and Fjærli, E. (2009), 'Neutral Taxation of Shareholder Income? Corporate Responses to an Announced Dividend Tax', *International Tax and Public Finance*, 16(4), 571–604.

- Alstadsæter, A., Jacob, M., Kopczuk, W., and Telle, K. (2021), 'Accounting for Business Income in Measuring Top Income Shares: Integrated Accrual Approach Using Individual and Firm Data from Norway', Statistisk sentralbyrå (Statistics Norway), Working Paper.
- Alstadsæter, A., Johannesen, N., and Zucman, G. (2018), 'Who Owns the Wealth in Tax Havens? Macro Evidence and Implications for Global Inequality', *Journal of Public Economics*, 162, 89–100.
- Alstadsæter, A., Kopczuk, W., and Telle, K. (2014), 'Are Closely Held Firms Tax Shelters?', *Tax Policy and the Economy*, 28(1).
- Alvaredo, F. (2017), 'UK Estimates of Top Income Shares 2013-2014 and 2014-2015: Note on Methods', *WID.world*, Technical Note 2017/2.
- Andrew, A., Bandiera, O., Costa-Dias, M., and Landais, C. (2021), 'Women and men at work', IFS Deaton Review of Inequalities.
- Atkinson, A. B. (2003), 'Income Inequality in OECD Countries: Data and Explanations', *CESifo Economic Studies*, 49(4), 479–513.
- Atkinson, A. B. (2007), 'The Distribution of Top Incomes in the United Kingdom, 1908-2000', in A. B. Atkinson and T. Piketty (eds), *Top Incomes over the Twentieth Century*, Oxford University Press.
- Atkinson, A. B., and Jenkins, S. P. (2020), 'A Different Perspective on the Evolution of UK Income Inequality', *Review of Income and Wealth*, 66(2), 253–66.
- Atkinson, A. B., Piketty, T., and Saez, E. (2011), 'Top Incomes in the Long Run of History', *Journal of Economic Literature*, 49(1), 3–71.
- Auten, G., and Gee, G. (2009), 'Income Mobility in the United States: New Evidence from Income Tax Data', *National Tax Journal*, 62(2), 301–28.
- Auten, G., and Splinter, D. (2019), 'Income Inequality in the United States: Using Tax Data to Measure Long-Term Trends', Working Paper.
- Autor, D., Dorn, D., Katz, L. F., Patterson, C., and Van Reenen, J. (2020), 'The Fall of the Labor Share and the Rise of Superstar Firms', *Quarterly Journal of Economics*, 135(2), 645–709.
- Bastani, S., and Waldenstrom, D. (2020), 'How Should Capital Be Taxed?' *Journal of Economic Surveys*, 34(4), 812–46.
- Bebchuk, L. A., and Fried, J. M. (2004), 'Pay without Performance: The Unfulfilled Promise of Executive Compensation', SSRN Scholarly Paper ID 537783.
- Bell, A., Chetty, R., Jaravel, X., Petkova, N., and Van Reenen, J. (2019), 'Who Becomes an Inventor in America? The Importance of Exposure to Innovation', *Quarterly Journal of Economics*, 134(2), 647–713.
- Bell, B., and Van Reenen, J. (2014), 'Bankers and Their Bonuses', *Economic Journal*, 124(574), F1–21.
- Benson, R., Duffy, B., Hesketh, R., and Hewlett, K. (2021), 'Attitudes to Inequalities', IFS Deaton Review of Inequalities.

Bertrand, M., and Mullainathan, S. (2001), 'Are CEOs Rewarded for Luck? The Ones without Principals Are', *Quarterly Journal of Economics*, 116(3), 901–32.

Best, M., and Kleven, H. (2012), 'Optimal Income Taxation with Career Effects of Work Effort', SSRN Electronic Journal.

Bivens, J., and Mishel, L. (2013), 'The Pay of Corporate Executives and Financial Professionals as Evidence of Rents in Top 1 Percent Incomes', *Journal of Economic Perspectives*, 27(3), 57–78.

Boadway, R., and Pestieau, P. (2019), 'Over the Top: Why an Annual Wealth Tax for Canada Is Unnecessary', SSRN Scholarly Paper ID 3407614.

Boserup, S. H., Kopczuk, W., and Kreiner, C. T. (2016), 'The Role of Bequests in Shaping Wealth Inequality: Evidence from Danish Wealth Records', *American Economic Review*, 106(5), 656–61.

Bourquin, P., Joyce, R., and Sturrock, D. (2020), 'Inheritances and Inequality within Generations', IFS Report R173.

Bourquin, P., Joyce, R., and Sturrock, D. (2021), 'Inheritances and Inequality over the Life Cycle: What Will They Mean for Younger Generations?', IFS Report R188.

Bradford, D. F., and US Treasury Tax Policy Staff (1984), *Blueprints for Basic Tax Reform*, Tax Analysts.

Brewer, M., Saez, E., and Shephard, A. (2011), 'Means-Testing and Tax Rates on Earnings', in J. Mirrlees, S. Adam, T. Besley, R. Blundell, S. Bond, R. Chote, M. Gammie, P. Johnson, G. Myles and J. M. Poterba (eds), *Tax by Design*, Oxford University Press.

Brown, E. C. (1948), 'Business Income, Taxation, and Investment Incentives', in L. Metzler (ed.), *Income, Employment and Public Policy: Essays in Honor of Alvin H. Hansen*, Norton.

Browne, J., and Phillips, D. (2017), 'Estimating the Size and Nature of Responses to Changes in Income Tax Rates on Top Incomes in the UK: A Panel Analysis', IFS Working Paper W17/13.

Card, D., Heining, J., and Kline, P. (2013), 'Workplace Heterogeneity and the Rise of West German Wage Inequality', *Quarterly Journal of Economics*, 128(3), 967–1015.

Chetty, R., Friedman, J. N., Olsen, T., and Pistaferri, L. (2011a), 'Adjustment Costs, Firm Responses, and Micro vs. Macro Labor Supply Elasticities: Evidence from Danish Tax Records', *Quarterly Journal of Economics*, 126(2), 749–804.

Chetty, R., Guren, A., Manoli, D., and Weber, A. (2011b), 'Are Micro and Macro Labor Supply Elasticities Consistent? A Review of Evidence on the Intensive and Extensive Margins', *American Economic Review*, 101(3), 471–5.

Corlett, A., Advani, A., and Summers, A. (2020), 'Who Gains? The Importance of Accounting for Capital Gains', Resolution Foundation.

Crawford, R., and Hood, A. (2016), 'Lifetime Receipt of Inheritances and the Distribution of Wealth in England', *Fiscal Studies*, 37(1), 55–75.

Cribb, J., Miller, H., and Pope, T. (2019), 'Who Are Business Owners and What Are They Doing?', IFS Report R158.

- Dahl, G. B., and Ransom, M. R. (1999), 'Does Where You Stand Depend on Where You Sit? Tithing Donations and Self-Serving Beliefs', *American Economic Review*, 89(4), 703–27.
- De Loecker, J., Eeckhout, J., and Unger, G. (2020), 'The Rise of Market Power and the Macroeconomic Implications', *Quarterly Journal of Economics*, 135(2), 561–644.
- De Loecker, J., Obermeier, T., and Van Reenen, J. (2022), 'Firms and Inequalities', IFS Deaton Review of Inequalities.
- Denk, O. (2015), 'Who Are the Top 1% Earners in Europe?', OECD Economics Department Working Paper 1274.
- Dickens, W. T., and Katz, L. F. (1987), 'Interindustry Wage Differences and Industry Characteristics', in K. Lang and J. Leonard (eds), *Unemployment and the Structure of Labor Markets*, Basil Blackwell.
- Eisinger, J., Ernsthausen, J., and Kiel, P. (2021), 'The Secret IRS Files: Trove of Never-Before-Seen Records Reveal How the Wealthiest Avoid Income Tax', *Propublica*.
- Feenberg, D. R., and Poterba, J. M. (1993), 'Income Inequality and the Incomes of Very High-Income Taxpayers: Evidence from Tax Returns', in *Tax Policy and the Economy*, 7, MIT Press.
- Feldstein, M. (1995), 'The Effect of Marginal Tax Rates on Taxable Income: A Panel Study of the 1986 Tax Reform Act', *Journal of Political Economy*, 103(3), 551–72.
- Feldstein, M. (1999), 'Tax Avoidance and the Deadweight Loss of the Income Tax', *Review of Economics and Statistics*, 81(4), 674–80.
- Frydman, C., and Saks, R. E. (2010), 'Executive Compensation: A New View from a Long-Term Perspective, 1936–2005', *Review of Financial Studies*, 23(5), 2099–138.
- Fuest, C., Peichl, A., and Siegloch, S. (2018), 'Do Higher Corporate Taxes Reduce Wages? Micro Evidence from Germany', *American Economic Review*, 108(2), 393–418.
- Gabaix, X., and Landier, A. (2008), 'Why Has CEO Pay Increased So Much?', *Quarterly Journal of Economics*, 123(1), 49–100.
- Garrett, C., and Day, H. (2021), 'Public Perceptions of Inequality in the UK: Findings from Quantitative Research for the IFS Deaton Review', Ipsos MORI.
- Goalsbee, A. (1998), 'Taxes, Organizational Form, and the Deadweight Loss of the Corporate Income Tax', *Journal of Public Economics*, 69(1), 143–52.
- Gordon, R., and MacKie-Mason, J. K. (1994), 'Tax Distortions to the Choice of Organizational Form', *Journal of Public Economics*, 55(2), 279–306.
- Gordon, R., and Sarada (2018), 'How Should Taxes Be Designed to Encourage Entrepreneurship?', *Journal of Public Economics*, 166, 1–11.
- Gordon, R., and Slemrod, J. B. (2000), 'Are "Real" Responses to Taxes Simply Income Shifting between Corporate and Personal Tax Bases?', in J. B. Slemrod (ed.), *Does Atlas Shrug? The Economic Consequences of Taxing the Rich*, Harvard University Press.

Guyton, J., Langetieg, P., Reck, D., Risch, M., and Zucman, G. (2021), 'Tax Evasion at the Top of the Income Distribution: Theory and Evidence', NBER Working Paper 28542.

Harju, J., and Matikka, T. (2016), 'The Elasticity of Taxable Income and Income-Shifting: What Is "Real" and What Is Not?', *International Tax and Public Finance*, 23(4), 640–69.

Hildyard, L., Kay, R., and Shand, L. (2019), 'FTSE 100 CEO Pay in 2019 and during the Pandemic', High Pay Centre Research Report 26.

HM Revenue and Customs (2012), 'The Exchequer Effect of the 50 Per Cent Additional Rate of Income Tax'.

HM Revenue and Customs (2021a), 'Capital Gains Tax Statistics',
<https://www.gov.uk/government/statistics/capital-gains-tax-statistics>.

HM Revenue and Customs (2021b), 'Employee Share Schemes Statistics',
<https://www.gov.uk/government/collections/employee-share-schemes-statistics>.

HM Revenue and Customs (2021c), 'Measuring Tax Gaps 2021 Edition: Tax Gap Estimates for 2019 to 2020'.

HM Revenue and Customs (2021d), 'Inheritance Tax Statistics',
<https://www.gov.uk/government/collections/inheritance-tax-statistics>.

HM Revenue and Customs (2022), 'Direct Effects of Illustrative Tax Changes, January 2022',
<https://www.gov.uk/government/statistics/direct-effects-of-illustrative-tax-changes>.

Hood, A., and Joyce, R. (2017), 'Inheritances and Inequality across and within Generations', IFS Briefing Note BN192.

Hoynes, H., Joyce, R., and Waters, T. (2022), 'The Transfer System', IFS Deaton Review of Inequalities, forthcoming.

IFS Taxlab (2021a), 'IFS Fiscal Facts', <https://ifs.org.uk/taxlab/data-item/ifs-fiscal-facts>.

IFS Taxlab (2021b), 'Income Tax Explained', <https://ifs.org.uk/taxlab/taxes-explained/income-tax-explained>.

IFS Taxlab (2021c), 'National Insurance Contributions Explained', <https://ifs.org.uk/taxlab/taxes-explained/national-insurance-contributions-explained>.

Inland Revenue (1980), 'Inland Revenue Statistics 1980'.

Jenderny, K. (2016), 'Mobility of Top Incomes in Germany', *Review of Income and Wealth*, 62(2), 245–65.

Jenkins, S. P. (2022), 'Getting the Measure of Inequality', IZA Discussion Paper 14996.

Jones, C. I. (2019), 'Taxing Top Incomes in a World of Ideas', NBER Working Paper 25725.

Joyce, R., Pope, T., and Roantree, B. (2019), 'The Characteristics and Incomes of the Top 1%', IFS Briefing Note BN254.

Kaldor, N. (1956), *An Expenditure Tax*, George Allen and Unwin.

- Kaplan, S. N., and Rauh, J. (2013), 'It's the Market: The Broad-Based Rise in the Return to Top Talent', *Journal of Economic Perspectives*, 27(3), 35–56.
- Karagiannaki, E. (2017), 'The Impact of Inheritance on the Distribution of Wealth: Evidence from Great Britain', *Review of Income and Wealth*, 63(2), 394–408.
- Katz, L. F., and Summers, L. H. (1989), 'Industry Rents: Evidence and Implications', *Brookings Papers on Economic Activity: Microeconomics*, 209–90.
- Kay, J. A., and King, M. (1990), *The British Tax System*, 5th edition, Oxford University Press.
- Kleven, H., Knudsen, M. B., Kreiner, C. T., Pedersen, S., and Saez, E. (2011), 'Unwilling or Unable to Cheat? Evidence from a Tax Audit Experiment in Denmark', *Econometrica*, 79(3), 651–92.
- Kleven, H., Landais, C., Muñoz, M., and Stantcheva S. (2020), 'Taxation and Migration: Evidence and Policy Implications', *Journal of Economic Perspectives*, 34(2), 119–42.
- Kleven, H., Landais, C., and Saez, E. (2013), 'Taxation and International Migration of Superstars: Evidence from the European Football Market', *American Economic Review*, 103(5), 1892–924.
- Kleven, H., Landais, C., Saez, E., and Schultz, E. (2014), 'Migration and Wage Effects of Taxing Top Earners: Evidence from the Foreigners' Tax Scheme in Denmark', *Quarterly Journal of Economics*, 129(1), 333–78.
- Kopczuk, W. (2005), 'Tax Bases, Tax Rates and the Elasticity of Reported Income', *Journal of Public Economics*, 89(11), 2093–119.
- Kopczuk, W., and Mankiw, N. G. (2019), 'Comments and Discussion', *Brookings Papers on Economic Activity*, Fall, 512–33.
- Kopczuk, W., and Zwick, E. (2020), 'Business Incomes at the Top', *Journal of Economic Perspectives*, 34(4), 27–51.
- Kuziemko, I., Norton, M. I., Saez, E., and Stantcheva, S. (2015), 'How Elastic Are Preferences for Redistribution? Evidence from Randomized Survey Experiments', *American Economic Review*, 105(4), 1478–508.
- Kuznets, S. (1955), 'Economic Growth and Income Inequality', *American Economic Review*, 45(1), 1–28.
- le Maire, D., and Schjerning, B. (2013), 'Tax Bunching, Income Shifting and Self-Employment', *Journal of Public Economics*, 107, 1–18.
- MacKie-Mason, J. K., and Gordon, R. H. (1997), 'How Much Do Taxes Discourage Incorporation?', *Journal of Finance*, 52(2), 477–506.
- Meade Committee (1978), *The Structure & Reform of Direct Taxation*, George Allen & Unwin.
- Melguizo, A., and González-Páramo, J. M. (2013), 'Who Bears Labour Taxes and Social Contributions? A Meta-Analysis Approach', *SERIEs*, 4(3), 247–71.
- Miller, H., Pope, T., and Smith, K. (2019), 'Intertemporal Income Shifting and the Taxation of Owner-Managed Businesses', IFS Working Paper W19/25.

Mirrlees, J., Adam, S., Besley, T., Blundell, R., Bond, S., Chote, R., Gammie, M., Johnson, P., Myles G., and Poterba J. M. (2011), *Tax by Design*, Oxford University Press.

Moretti, E., and Wilson, D. J. (2017), 'The Effect of State Taxes on the Geographical Location of Top Earners: Evidence from Star Scientists', *American Economic Review*, 107(7), 1858–903.

Murphy, K. M., and Topel, R. H. (2016), 'Human Capital Investment, Inequality, and Economic Growth', *Journal of Labor Economics*, 34(S2), S99–127.

Nekoei, A., and Seim, D. (2018), 'How Do Inheritances Shape Wealth Inequality? Theory and Evidence from Sweden', SSRN Scholarly Paper ID 3259361.

Office for National Statistics (2019a), 'Population Estimates for UK, England and Wales, Scotland and Northern Ireland: Mid-2019',
<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>.

Office for National Statistics (2019b), 'Total Wealth in Great Britain: April 2016 to March 2018',
<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/bulletins/totalwealthingreatbritain/april2016tomarch2018>.

Office for National Statistics (2020), 'Ownership of UK Quoted Shares: 2018',
<https://www.ons.gov.uk/economy/investmentpensionsandtrusts/bulletins/ownershipofukquotedshares/2018>.

Office for National Statistics (2021), 'Summary of Labour Market Statistics',
<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/summaryoflabourmarketstatistics>.

Overman, H., and Xu, X. (2022), 'Spatial Disparities across Labour Markets', IFS Deaton Review of Inequalities.

Piketty, T., and Saez, E. (2003), 'Income Inequality in the United States, 1913–1998', *Quarterly Journal of Economics*, 118(1), 1–41.

Piketty, T., Saez, E., and Stantcheva, S. (2014), 'Optimal Taxation of Top Labor Incomes: A Tale of Three Elasticities', *American Economic Journal: Economic Policy*, 6(1), 230–71.

Piketty, T., Saez, E., and Zucman, G. (2018), 'Distributional National Accounts: Methods and Estimates for the United States', *Quarterly Journal of Economics*, 133(2), 553–609.

Risch, M. (2019), 'Does Taxing Business Owners Affect Their Employees? Evidence from a Change in the Top Marginal Tax Rate', SSRN Working Paper ID 3411847.

Rosen, S. (1981), 'The Economics of Superstars', *American Economic Review*, 71(5), 845–58.

Saez, E. (2001), 'Using Elasticities to Derive Optimal Income Tax Rates', *Review of Economic Studies*, 68(1), 205–29.

Saez, E., Slemrod, J., and Giertz, S. H. (2012), 'The Elasticity of Taxable Income with Respect to Marginal Tax Rates: A Critical Review', *Journal of Economic Literature*, 50(1), 3–50.

Saez, E., and Veall, M. R. (2005), 'The Evolution of High Incomes in Northern America: Lessons from Canadian Evidence', *American Economic Review*, 95(3), 831–49.

- Saez, E., and Zucman, G. (2019), 'Progressive Wealth Taxation', *Brookings Papers on Economic Activity*, Fall, 437–533.
- Saez, E., and Zucman, G. (2020), 'The Rise of Income and Wealth Inequality in America: Evidence from Distributional Macroeconomic Accounts', *Journal of Economic Perspectives*, 34(4), 3–26.
- Sarin, N., Summers, L. H., Zidar, O. M., and Zwick, E. (2021), 'Rethinking How We Score Capital Gains Tax Reform', NBER Working Paper 28362.
- Scheuer, F., and Slemrod, J. (2019), 'Taxation and the Superrich', NBER Working Paper 26207.
- Slemrod, J., and Kopczuk, W. (2002), 'The Optimal Elasticity of Taxable Income', *Journal of Public Economics*, 84(1), 91–112.
- Smith, M., Yagan, D., Zidar, O., and Zwick, E. (2019), 'Capitalists in the Twenty-First Century', *Quarterly Journal of Economics*, 134(4), 1675–745.
- Song, J., Price, D. J., Guvenen, F., Bloom, N., and von Wachter, T. (2019), 'Firming Up Inequality', *Quarterly Journal of Economics*, 134(1), 1–50.
- Sørensen, P. B. (2005), 'Neutral Taxation of Shareholder Income', *International Tax and Public Finance*, 12(6), 777–801.
- Sørensen, P. B. (2007), 'The Nordic Dual Income: Principles, Practices, and Relevance for Canada', *Canadian Tax Journal*, 55(3), 557–602.
- Stantcheva, S. (2021), 'Perceptions and Preferences for Redistribution', IFS Deaton Review of Inequalities.
- Suárez Serrato, J. C., and Zidar, O. (2016), 'Who Benefits from State Corporate Tax Cuts? A Local Labor Market Approach with Heterogeneous Firms', *American Economic Review*, 106(9), 2582–624.
- Zucman, G. (2013), 'The Missing Wealth of Nations: Are Europe and the U.S. Net Debtors or Net Creditors?', *Quarterly Journal of Economics*, 128(3), 1321–64.