

Manuscript version: Working paper (or pre-print)

The version presented here is a Working Paper (or 'pre-print') that may be later published elsewhere.

Persistent WRAP URL:

<http://wrap.warwick.ac.uk/161967>

How to cite:

Please refer to the repository item page, detailed above, for the most recent bibliographic citation information. If a published version is known of, the repository item page linked to above, will contain details on accessing it.

Copyright and reuse:

The Warwick Research Archive Portal (WRAP) makes this work by researchers of the University of Warwick available open access under the following conditions.

Copyright © and all moral rights to the version of the paper presented here belong to the individual author(s) and/or other copyright owners. To the extent reasonable and practicable the material made available in WRAP has been checked for eligibility before being made available.

Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge. Provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.

Publisher's statement:

Please refer to the repository item page, publisher's statement section, for further information.

For more information, please contact the WRAP Team at: wrap@warwick.ac.uk.

Measuring and taxing top incomes and wealth

Arun Advani & Andy Summers

[\(This paper is also included in the CAGE Discussion paper series\)](#)

April 2022

No: 1403

Warwick Economics Research Papers

ISSN 2059-4283 (online)

ISSN 0083-7350 (print)

Measuring and taxing top incomes and wealth

Arun Advani (University of Warwick; IFS) and Andy Summers (LSE; IFS)¹

Introduction

Few topics attract such intense political debate as top tax rates: in the UK, this has led to two top income tax rate reforms since the financial crisis. Recently, the measurement of top incomes and wealth has also proved controversial, in both the UK and the US. The chapter by Delestre et al. (2022) examines both of these issues. It first studies the distribution of income in the UK, focusing on the income sources and demographics of those at the top, as well as non-taxable sources of income. It then describes the current taxation of top incomes, and suggests some directions for reform. Mirroring this structure, in this commentary we discuss first the measurement of financial inequalities, focusing on top income and wealth shares, and then the scope for policy reforms to tackle some of the issues raised, also focusing on the UK.

As Delestre et al. (2022) note, the availability of administrative data has been crucial in improving the measurement of top income shares. We highlight two areas where such data can be misleading. First, administrative data miss incomes for those at the bottom end of the income distribution, which can bias the denominator in top income shares. Second, the administrative definition of income excludes some receipts that nonetheless affect welfare, biasing both the level and trend of top share inequality. We then describe how a focus on trends in the share of income going to some top group, such as the top 1%, neglects the movements into and out of that group: in particular we emphasize the growing importance of migrants at the top of the UK income distribution.

We then briefly turn to wealth, and what is known about UK top wealth shares. Good quality administrative data on the wealth of the living are not available. Recent estimates, which correct survey measures, show that top wealth, and hence top wealth shares, have previously been underestimated, but the conclusion that the trend in top wealth shares has been flat is robust to these corrections. However, estimates of top wealth shares are very sensitive to the data sources used to estimate both aggregate wealth and the distribution of wealth. In the UK, National Accounts aggregates for housing and pension wealth are substantially lower than estimates from survey data, implying less wealth held by those in the middle – for whom this is a major share of the portfolio – relative to those at the top.

Turning to policy, we emphasise the role of capital taxes when considering top incomes and wealth. We begin with proposed reforms to the taxation of capital gains, which we show are a major reason for variation in effective average tax rates among people with otherwise similar incomes, even after accounting for the ‘lumpiness’ of gains. Treating gains more like income, with appropriate adjustments to the base and averaging provisions to account for lumpiness, would improve efficiency and equity (both horizontally and vertically), and raise substantial revenue. Inheritance tax too is in need of reform: at a minimum this should address some of the current reliefs that lead to a falling effective tax rate at the top.

Taken together, reforms to capital gains tax and inheritance tax could raise more tax from the wealthy. However, on their own, such reforms are unlikely to raise substantial revenues from the very wealthiest and there is a limit to how far they could reduce wealth concentration. This is because they rely (respectively) on asset disposals and deaths as triggering events, meaning the impact of reforms necessarily takes a long time to work through, even assuming that the taxes cannot be avoided in the

¹ This work contains statistical data from HM Revenue and Customs (HMRC) which are Crown Copyright. The research data sets used may not exactly reproduce HMRC aggregates. The use of HMRC statistical data in this work does not imply the endorsement of HMRC in relation to the interpretation or analysis of the information. The authors thank David Burgherr, Helen Hughson and Hannah Tarrant for excellent research assistance, numerous co-authors and funders for supporting much of the underlying research referenced herein, and Stuart Adam, Emma Chamberlain, Helen Miller and the Deaton editors for comments. Correspondence to a.advani.1@warwick.ac.uk and a.d.summers@lse.ac.uk.

long run. We argue that an annual wealth tax could be a useful additional tool at the very top of the wealth distribution, and that the common arguments against such a tax – from economic principle – have much less bite for this segment of the population.

In the aftermath of the COVID-19 pandemic, many policymakers are looking for tools to raise short-term revenue to ‘pay for the crisis’ or ‘build back better’. If substantial revenues are sought in the short term, a one-off wealth tax is more efficient and equitable than alternatives. It is more efficient because if it is unanticipated it would yield almost no behavioural response. It would also have much lower administrative costs as a proportion of revenue than an annual wealth tax, because the one-off nature means it would be possible to charge higher rates than under an annual wealth tax. It is more equitable because it is concentrated on those who, by construction, have assets that might help them weather the current shocks. It also undoes some of the distributional side effects of macroeconomic policy, where low real interest rates have led to sharp rises in asset prices, benefiting those with assets relative to those without. We adopt the recommendation of the Wealth Tax Commission that a one-off wealth tax would be preferable to any alternative tax rise aimed at dealing with the costs of the pandemic.

We next consider who should be liable for such taxes. Answering this question is crucial when considering those with the highest incomes and wealth. Here we focus on two key issues that are in need of reform, but where more work is needed before the full parameters of such reform can be determined. First, what ‘connecting factors’ should determine whether individuals are within the scope of the UK tax system? Second, who should be taxed in respect of assets that are held in a trust?

Finally, we briefly discuss how income and wealth inequality are likely to have evolved over the pandemic, and the implications this has for the proposals above.

Measuring top income inequality

As highlighted by Delestre et al. (2022), no definition of ‘income’ is uncontroversial. Broadly, there are three definitions used in the study of top incomes and income inequality:

- fiscal income – income assessable for income tax;
- national accounting definition of income, as set out according to the System of National Accounts – the total amount of money earned from the goods and services produced in a country;
- Haig–Simons ‘comprehensive’ income – the level of expenditure that is possible such that the value of assets an individual owns is unchanged.

Measuring top fiscal income inequality

Fiscal income has the singular benefit that it is relatively straightforward and uncontroversial to measure at the individual level when one has access to administrative tax data. However, it is sensitive to omissions from and changes in the definition of taxable income. For example, in 2016–17, the removal of a purely notional tax credit reduced apparent dividend receipts as recorded in fiscal income by 10%.

Additionally, substantial changes in the minimum level of income needed to pay any income tax (the ‘personal allowance’) have changed both the number of taxpayers and aggregate reported fiscal income over the past two decades. Measurement of fiscal income inequality through top shares is therefore not necessarily straightforward, as it depends on estimates of control totals for the population and for income.

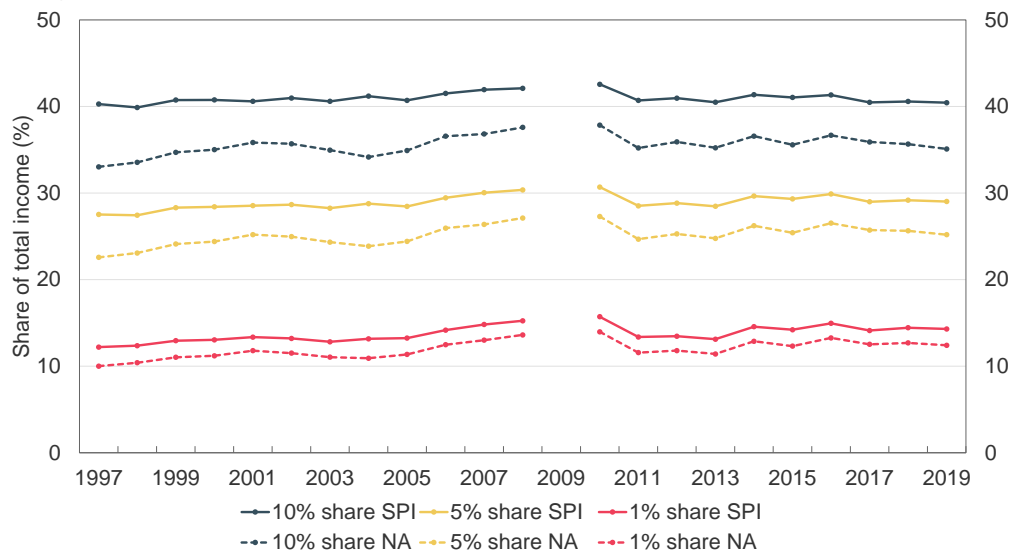
For the population control total – the total number of relevant individuals in the population – an ‘external’ total is relatively straightforwardly available, by taking the number of adults in the UK, as measured by the Office for National Statistics (ONS).

There are two ways to produce an income control total (i.e. aggregate fiscal income). One, an ‘augmented internal’ approach, is to use survey data to ‘fill out’ the incomes of those at the bottom of the income distribution, whose incomes are below the personal allowance for tax so do not appear in tax data. Alternatively, an external income control total can be produced on the basis of national

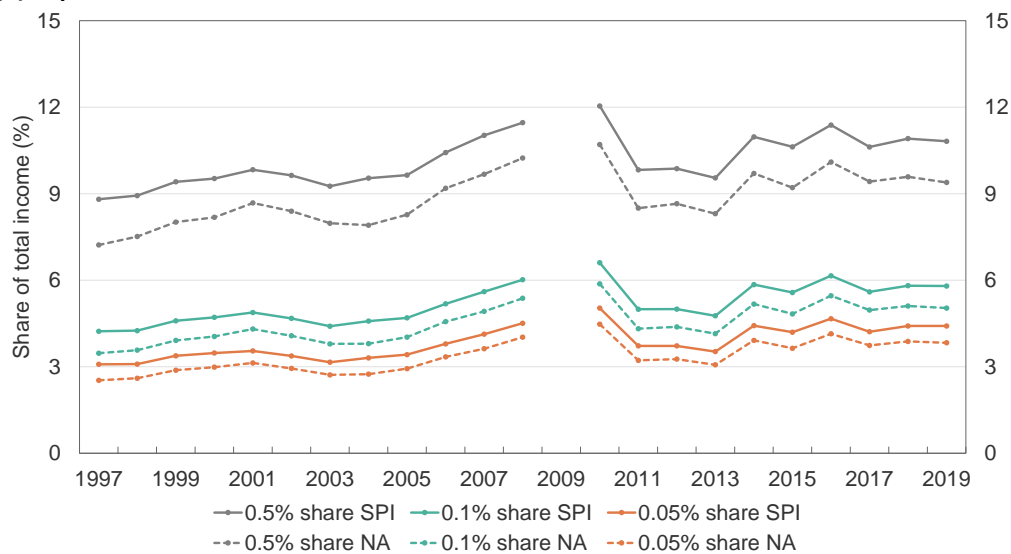
accounts, as the World Inequality Database (WID) has done for the UK since 2009.² In both cases, it is necessary to harmonise as far as possible the income definition in the survey data or national accounts statistics with the fiscal income definition, which can present significant challenges.

Figure 1. Share of income going to the top X% of the population, using different approaches to estimate aggregate fiscal income

(a) Top 10%, 5% and 1%



(b) Top 0.5%, 0.1% and 0.05%



Note: All top share series show the proportion of all fiscal income going to the top X% of the 15+ population ranked by fiscal income. 'SPI' top shares use an income control total based on the Survey of Personal Incomes (drawn from administrative tax data) augmented with data from the Family Resources Survey to 'fill out' the incomes of those at the bottom of the distribution. 'NA' top shares use an income control total produced from income components in the National Accounts, which are reconciled with fiscal income as closely as possible. The 15+ population control total is from the ONS mid-year population estimates.

Source: Advani, Summers and Tarrant (2022a).

² Prior to this, the WID used an internal control total (Atkinson, 2012). It did not augment the tax data with survey data, as the personal allowance was relatively low at the time, so there was relatively little fiscal income outside the tax system. The chapter by Delestre et al. also does not augment the tax data to account for low-income individuals, nor does it include taxable benefits, which make up part of fiscal income. This gives too small a denominator, and thus overestimates top shares slightly, taking them much closer to US top share numbers. It does not change the time trend, although it does create a break between their series and the Atkinson (2007) series, which they use for figures prior to 2004.

Advani, Summers and Tarrant (2022a) compare the results from these two alternative approaches to defining the income control total and find that they produce different results. To choose between these approaches, they set four goals for an ideal top share series: (i) comparability between numerator and denominator; (ii) comparability over time; (iii) international comparability; and (iv) practical considerations. They show that the external control satisfies none of these, while the (augmented) internal control, combining tax and survey data, meets all but (iii). Using the augmented internal control total, the UK top 1% share is 2 percentage points higher than using an external control total (Figure 1).

Alternative definitions of income

One important drawback of fiscal income is a lack of international comparability, although there are also significant issues around comparability over time, as highlighted by the dividend credit example.

This has motivated the Distribution of National Accounts (DINA) approach, because, in principle, national accounts are all constructed the same way – although this is not always true in practice. DINA is essentially a statistical rather than welfarist approach. Instead of looking directly at the income that each person receives, it statistically attributes the aggregate income within the economy to people based on their individual incomes observed in tax and survey data. This includes parts of aggregate income that individuals are not able to spend, such as investment income accrued on pension funds and insurance reserves. It also means that DINA ignores non-productive transfers between individuals, such as gifts and inheritances (as these net out in aggregate), even though these transfers are clearly relevant to individual welfare.

A full discussion of the merits and demerits of this approach is beyond the scope of the present paper. The chapter by Delestre et al. (2022) summarises clearly that the key trade-off here is between accuracy and comparability. DINA relies on attributing to individuals, income in the national accounts in excess of that measured in aggregate fiscal income; it therefore relies on both the accuracy of national accounts and the attribution method used. At the individual level, this is clearly less accurate, but this approach is potentially suitable for a statistical group (e.g. the top 1%). In exchange for the difficulties of attribution, DINA has a common benchmark across countries of the total income to be attributed. Nevertheless, the attribution method varies across countries according to the availability of information on different sources of income. As this often relies upon what is observed in tax data, the attribution is still affected by the vagaries of tax systems in individual countries.

A key drawback of both fiscal income and national accounts measures of income from a welfare standpoint is that they miss welfare-relevant changes in resources. The Haig–Simons ‘comprehensive’ definition of income instead measures the value of resources that could be consumed by an individual without a change in the value of assets. This captures resource increases such as inheritances/gifts and capital gains, which are not taxed under income schedules (so not part of fiscal income) and are not included in national accounts.³

For an individual, both gifts and gains can be important. Bourquin, Joyce and Sturrock (2021) show that inheritances have become an increasingly important share of a household’s lifetime resources, with inheritances worth around one-sixth of lifetime income for those born in the 1980s, compared with less than 9% for those born in the 1960s.

Advani and Summers (2020a) show the importance of capital gains among those with high incomes. Using administrative tax data, they study realisations of taxable gains.⁴ Around 15% of individuals who are in the top 1% by income receive some gains, with a mean (75th percentile) of £307,000 (£75,000)

³ The comprehensive income definition is not without problems. For example, a decline in interest rates will increase the present discounted value of consumption flows from an asset such as housing, and hence increase the asset price. An infinitely lived individual may therefore receive gains but not be better off than before, if an increase in the value of their assets is caused by a decline in interest rates (Weale, 2009; Mulheirn, 2020). However, particularly when the aim is to measure inequality, it is important to consider these gains, because clearly someone with assets that have increased in sales value (even if not implied income) when the interest rate falls is better off than someone without such assets.

⁴ Distributional statistics are limited by what is taxable: exempt gains (e.g. on main homes and assets held within ISAs or pensions) are not reported at individual level so are omitted from the analysis (see Corlett, Advani and Summers, 2020; Delestre et al., 2022). However, it is possible to estimate aggregate non-taxable gains. Even if these gains were distributed entirely to the bottom 99%, or distributed in proportion to income, the same headline results would be found in terms of rising top share inequality once gains are included.

among recipients. Gains are therefore substantial at the top, but only received by a minority in any given year.

Including gains therefore increases measured inequality even among those at the top. Gains are also larger and more prevalent among those with higher incomes. Of the next percentile of individuals, only 7% have any gains with a mean (75th percentile) of £120,000 (£48,000) among recipients.

These gains are large enough to make a noticeable difference to measured top shares. Advani and Summers (2020a) show that the share of income plus realised taxable gains is both more concentrated and has been rising over the past decade, in contrast to top income shares measured using fiscal income alone. One worry might be that realisations are lumpy, such that when the distribution is re-ranked on income plus gains, those individuals who happened to realise large gains in the year are catapulted to the top even though these receipts represent gains that have accrued over several years. However, when taxable gains are instead estimated on an accruals basis (by smoothing the realised gain evenly over the full period of holding), the same picture of higher and increasing top shares remains (Figure 2); the difference is just that the series is less volatile. The problem with fiscal income measures of inequality over time is therefore not just changes in legal definitions of what is included, but also changes in magnitude of items that are always excluded.

The UK's official statistics on income inequality rely mainly on data from surveys. These surveys adopt the 'Canberra' definition of income, which is closer to Haig–Simons than fiscal income, in that it includes some non-taxable income and some regular inter-household transfers, although not inheritances/gifts or gains.⁵ However, due to problems of survey under-coverage and under-reporting, which affect capital incomes in particular, these series require not only a 'top incomes adjustment' using tax data – as the ONS currently implements – but a 'capital incomes adjustment' further down the income distribution (Advani, Ooms and Summers, 2021).

Trends in income inequality

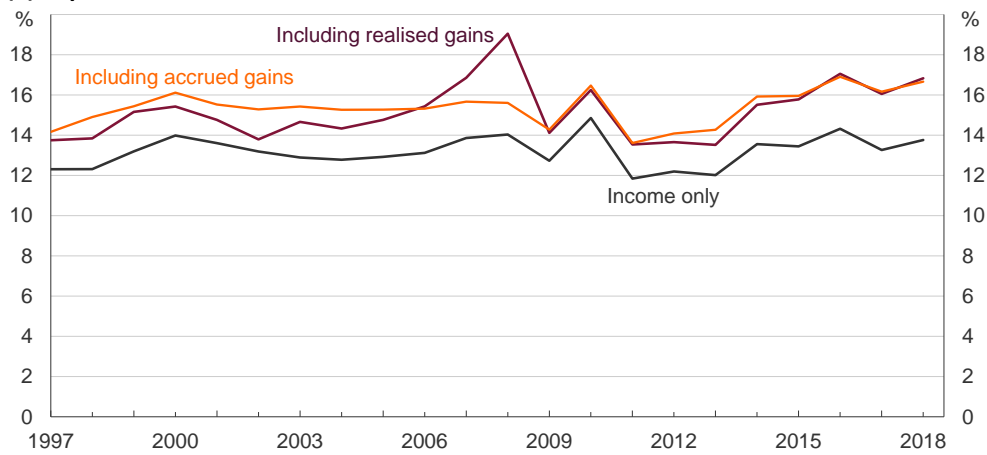
Measurement of top income shares matters both because of a direct interest in what is happening to inequality, and because trends in top income shares can be used to shed light on questions of entrepreneurship and innovation, growth and aggregate demand. Much of the work in this area has interpreted trends in these top shares as essentially equivalent to trends in the incomes of a stable set of people at the top. However, when interpreting such trends, it is important to recognise that people are moving in and out of this group.

This is partly driven by changes in the incomes of UK natives, moving them into (and out of) the top 1%, but more substantially in the UK it comes from the entry of migrants into the country. Advani et al. (2020) show three key facts about the role of migrants at the top of the UK income distribution.

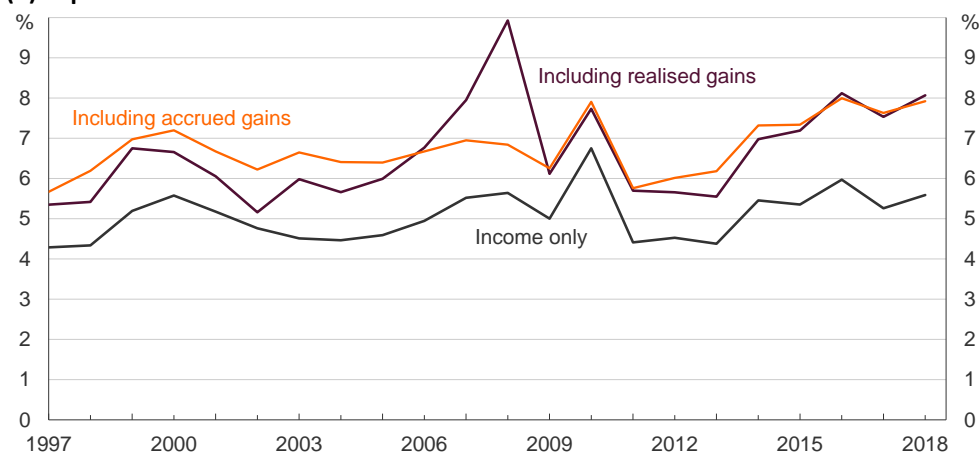
⁵ However, the Canberra income definition only includes sums that are received at annual or more frequent intervals, so in this respect it is narrower than fiscal income because most irregular payments (e.g. royalties) are nevertheless taxable.

Figure 2. Share of income or income + accrued gains going to the top, 1997–2018

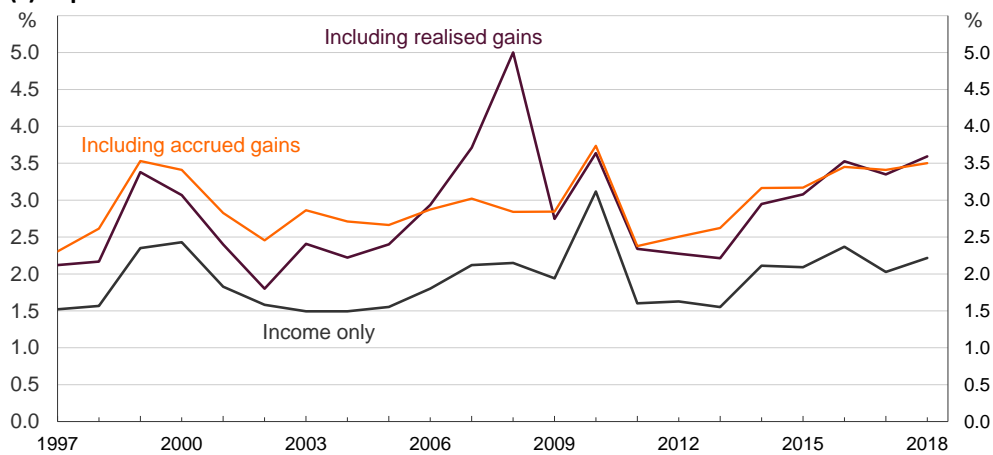
(a) Top 1%



(b) Top 0.1%



(c) Top 0.01%



Note: Constructed using data on all reported taxable capital gains and reported fiscal income. ‘Income only’ shows the proportion of all fiscal income going to the top 1%, 0.1% and 0.01% of the 15+ population ranked by fiscal income. ‘Including realised (accrued) gains’ shows the proportion of fiscal income and accrued gains going to the top 1%, 0.1% and 0.01% of the 15+ population ranked by income plus realised (accrued) gains. Realised gains are as reported in self-assessment returns; accrued gains are calculated by distributing realised gains over the average time period for which the assets were held according to HMRC annual statistics. The 15+ population control total is from the ONS mid-year population estimates.

Source: Advani and Summers (2020a).

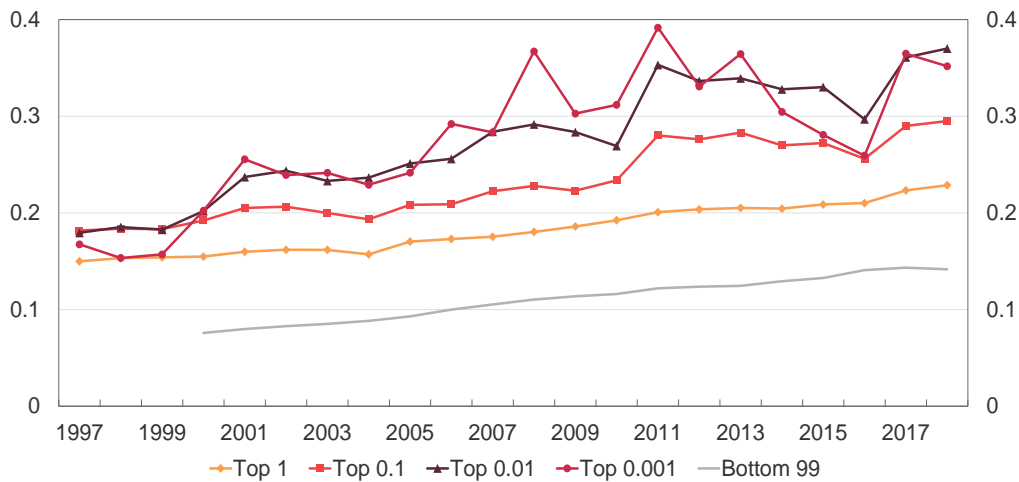
First, migrants make up a large and increasing proportion of top income shares. They are twice as prevalent in the top 0.01% as anywhere in the bottom 97% of the distribution, and their share of top incomes has increased from 16% to 27% over the past 20 years, driven by entry rather than rising relative incomes (see Figure 3).

Second, this growth has been driven by labour incomes, similar to findings in the US (Smith et al., 2019). Migrants are disproportionately likely to work in finance. Given the geographic concentration of finance in London, this suggests the presence of agglomeration rents. This has implications for top income taxation as it might reduce the potential for tax-induced emigration of these highly paid migrants.

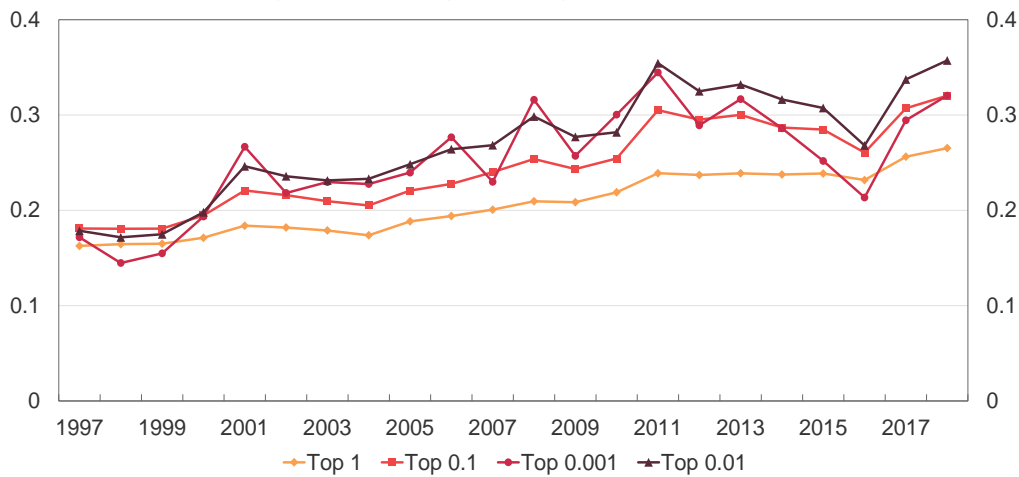
Third, the vast majority (90%) of the observed rise in the top 1% share over the past 20 years has accrued to migrants.

Figure 3. Migrants have become more prevalent at the top, and receive a larger share of top income

(a) Share of top individuals who are migrants



(b) Share of income in top fractiles that goes to migrants



Note: Panel (a) shows the cumulative growth in the ratio of the number of migrants and the total number of individuals in each fractile, normalised to 1 in 1997. Panel (b) shows, in levels, the share of top income going to migrants in each fractile. The unit of analysis is an individual. Income is defined as fiscal income. A migrant is defined as a taxpayer who received their national insurance number (NINO) at the age of 18 or older. All top shares are defined relative to the total number of individuals aged 18 or older in the population living in the UK.

Source: Advani et al. (2020).

Measuring top wealth inequality

It is typically even more difficult to measure top wealth shares than top incomes shares.⁶ Because most jurisdictions (including the UK) do not have a wealth tax, there is typically no administrative data on wealth. Top wealth also typically suffers from severe under-coverage in surveys.

In the absence of high-quality estimates from these sources, there are essentially three approaches to measuring top wealth inequality:

- ‘capitalisation method’ – using administrative data on income flows from wealth held in different forms, combined with estimates of the rates of returns on different assets, to estimate the distribution of wealth from which those incomes are received;
- ‘mortality multiplier’ – using administrative data on the estates of deceased individuals, combined with information on the probability of death, to estimate the distribution of wealth;
- ‘survey adjustment’ – using survey data on wealth, augmented statistically, and/or using external data such as ‘rich lists’ (which are compiled from a variety of public sources).

While the capitalisation method has been the subject of fierce debate in the US (Saez and Zucman, 2020; Smith, Zidar and Zwick, 2020), estimates for the UK wealth distribution have lagged behind, as sufficiently fine-grained information on capital incomes by source for recent years has not been readily available (older results are available from Atkinson and Harrison, 1974, 1978).

Instead, the main long-run top wealth inequality series for the UK is based on the mortality multiplier approach, produced by Alvaredo, Atkinson and Morelli (2018). These allow the creation of a time series going back to the 19th century. However, again there are some difficulties with using a fiscal definition as the basis for estimating inequality of wealth, here arising from missing wealth that is not taxable for inheritance/estate tax purposes.⁷ It is possible to correct for some of these missing sources of wealth, but others (e.g. the foreign wealth of non-domiciled individuals, or wealth held in trusts) are more difficult to account for.

Advani, Bangham and Leslie (2021) produce survey-adjusted top wealth series for the UK using the Wealth and Assets Survey (WAS). This provides a representative sample of households and their wealth, but is only available in the period 2006–18. The key limitation of these data is under-coverage of top wealth. Following Vermeulen (2018) and Bach, Thiemann and Zucco (2019), Advani, Bangham and Leslie therefore augment the survey data with data from an external ‘rich list’. They use the Sunday Times Rich List, covering the top 1,000 wealthiest individuals and families in the UK, and apply a statistical correction assuming that top wealth is drawn from a Pareto distribution.⁸ Figure 4 shows that the unadjusted survey measures of top wealth shares are in line with the measures from Alvaredo, Atkinson and Morelli (2018), for the period in which they overlap. But, as shown in the most recent year, once the survey data are corrected for under-coverage of top wealth, these shares rise: the top 1% share increases from 18% to 23%.

Further analysis by Advani and Tarrant (2022) finds that although the unadjusted WAS underestimates the level of top shares, it remains the case that top wealth shares have been relatively flat over the

⁶ There are also broader conceptual issues, as with income, about what precisely is meant by wealth. Without a fiscal definition as a focal point, wealth is often thought of as the value all marketable assets, as this would presumably be the maximal base for any wealth tax (Advani, Chamberlain and Summers, 2020). However, contingent resources provided by the state (unemployment insurance, health care) also matter for welfare, and are hugely different across states. Human capital is also a form of wealth and is particularly important for younger adults who have not had time to build up marketable assets.

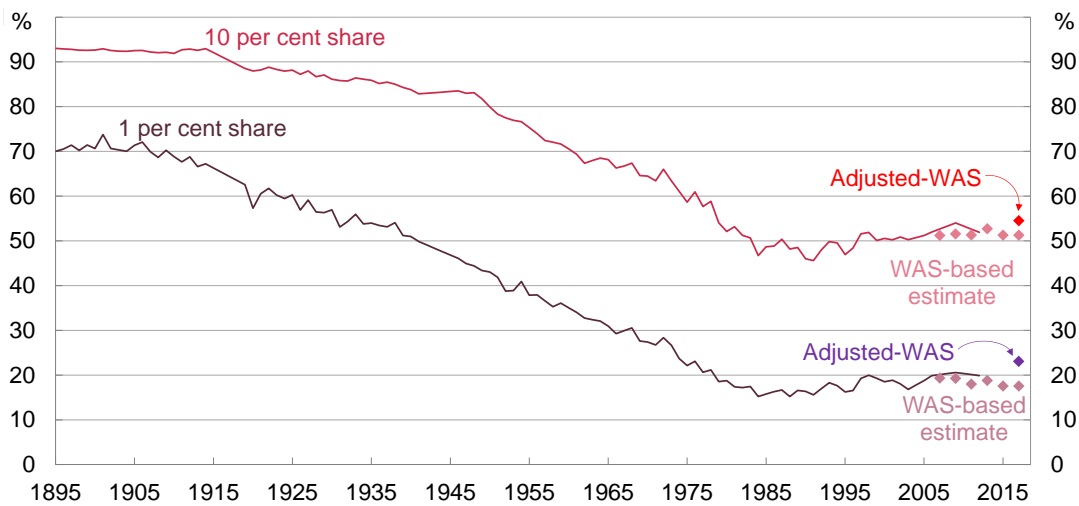
⁷ As with top income shares, there are also difficulties around the construction of a wealth control total, as the vast majority of estates are below the threshold for which a full tax return is required (currently £325,000).

⁸ Data from the Sunday Times Rich List is likely to underestimate the true wealth of the individuals listed, as it mainly relies on publicly available data on business wealth. It will therefore miss other types of asset (though it will also miss private debts). For the same reason, the Rich List is also likely to miss entirely individuals whose wealth is composed of assets that are harder to track publicly (e.g. land, or assets held via trusts).

decade between 2007 and 2017, at least for the top 10% and top 1%. However, survey data do not provide enough granularity to accurately estimate trends among smaller groups. Data from the Sunday Times Rich List do suggest faster growth for the very top individuals than for overall wealth, but these data are not robust enough to draw strong inferences.

Recent estimates produced using the capitalisation method provide further evidence that measurement choices matter quantitatively for top wealth shares in the UK (Advani, Summers and Tarrant, 2022b). Studies using the capitalisation method to measure wealth inequality in the US typically combine distributional information on capital incomes from administrative tax data with wealth aggregates from the National Accounts (Saez and Zucman, 2020; Smith, Zidar and Zwick, 2020). However, asset distributions inferred from UK income tax data differ significantly from those captured in the WAS, and aggregate wealth in the WAS is £4.3 trillion higher than the National Accounts, even after definitional reconciliation. Advani, Summers and Tarrant (2022b) show that the top 1% share is 2 percentage points higher when distributional information on income-yielding wealth is taken from the WAS rather than income tax data, holding aggregates fixed. Meanwhile, when distributional information on income-yielding wealth is taken from income tax data, applying aggregates from the National Accounts increases the top 1% share by 1 percentage points relative to using aggregates from the WAS. These findings highlight the importance of understanding what accounts for differences in the underlying data sources: where such differences are conceptual, different approaches may be appropriate for answering different questions.

Figure 4. Share of net personal wealth held by richest 1% and 10%, including adjustments using the Sunday Times Rich List



Note: Top shares for 1895–2012 come from Alvaredo, Atkinson and Morelli (2018). They are based on the ‘mortality multiplier’ method and refer to the whole of the UK. ‘WAS-based’ top shares exclude Northern Ireland. The ‘adjusted-WAS’ estimates add in the total wealth held by families covered by the Sunday Times Rich List as well as additional wealth estimated by fitting a Pareto distribution to the top tail. The definition of wealth used for the long-run estimates is not consistent with that from the WAS.

Source: Advani, Bangham and Leslie (2021).

Reforming the taxation of capital

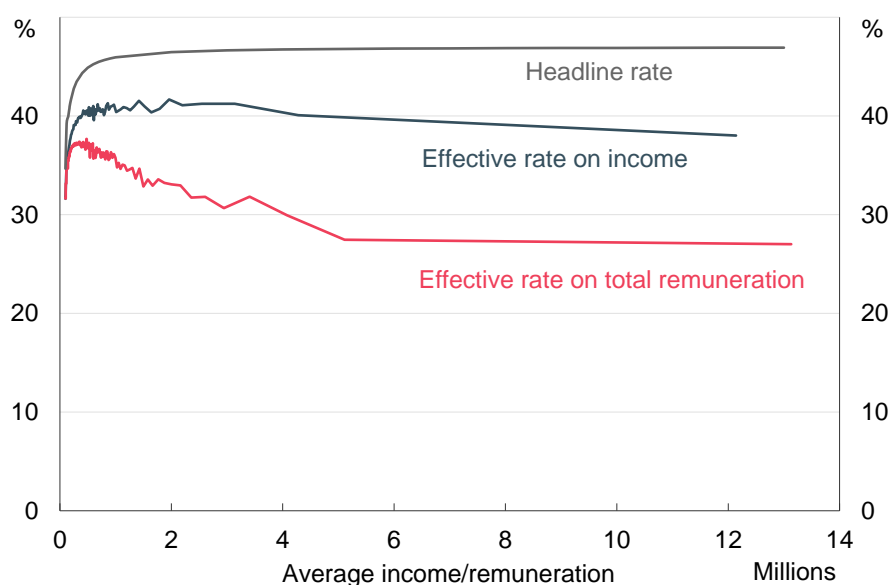
Given the importance of capital incomes (Delestre et al., 2022) and capital gains (Advani and Summers, 2020a) at the top of the income distribution, the taxation of capital is a central issue in addressing top end inequality.

As Delestre et al. describe, there is currently substantial variation in the tax rate for remuneration from different sources. Advani and Summers (2020b) show that, combined with selective access to deductions and reliefs, this leads to large differences between effective tax rates paid, even across individuals with similar levels of overall remuneration.

Figure 5 shows the mean effective rates of tax paid on income and on total remuneration (income plus capital gains) by individuals with different levels of income/total remuneration. The difference between the headline rate and effective rate on income is driven by a combination of lower/nil rates of national insurance on some sources of income, lower income tax rates on dividends, and the use of various deductions and reliefs (see Advani and Summers, 2020b, for details).⁹ The even lower rate paid on total remuneration is driven by the treatment of capital gains, which faces even lower tax rates.

Figure 6 shows the *distribution* of effective average tax rates at different levels of remuneration, highlighting the vast difference in amount of tax paid by individuals with otherwise similar levels of remuneration.

Figure 5. Mean effective average tax rates on income and on total remuneration among those receiving more than £100,000 in income/remuneration, 2016

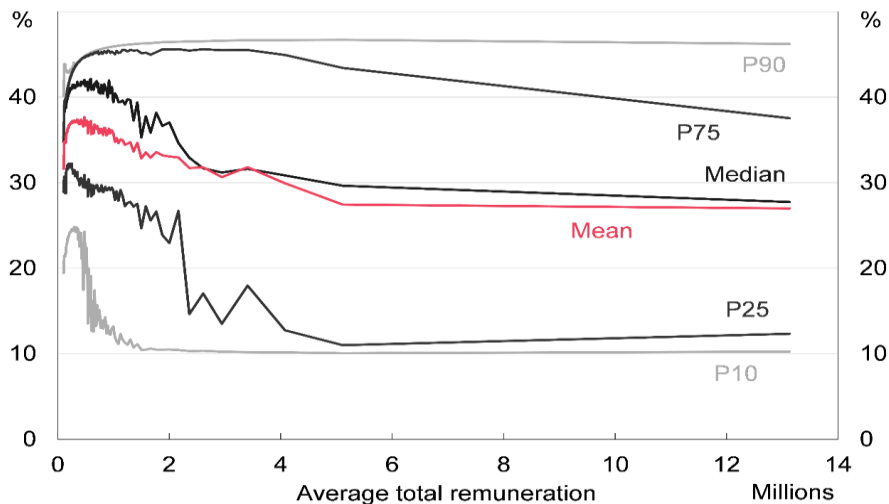


Note: Constructed using data on all reported taxable income and capital gains going to individuals in 2016. 'Effective rate on income' shows the effective average tax rate (EATR) on income only. 'Effective rate on total remuneration' shows the EATR on income plus gains. 'Headline rate' shows the headline (statutory) rate on earnings.

Source: Advani and Summers (2020b).

⁹ Note that Advani and Summers (2020b) compare total tax statutorily incident on the individual that is paid with headline statutory rates. They discuss in Appendix A of that paper the rationale for this choice. Their Appendix B shows that including taxes that are statutorily incident on the employer/firm does not significantly affect the overall results.

Figure 6. Distribution (mean and percentiles) of effective average tax rates on total remuneration among those receiving more than £100,000 in remuneration, 2016



Note: Constructed using data on all reported taxable income and capital gains going to individuals in 2016. All lines show the EATR on income plus capital gains. 'Mean' shows the average (mean) EATR at different levels of remuneration (income plus gains). 'Median' shows the median EATR at different levels of remuneration, and 'PXX' shows the XX percentile of EATR at any given level of remuneration.

Source: Advani and Summers (2020b).

Capital gains tax

A key part of the differences across individuals seen in the previous figures is driven by the treatment of capital gains, which are taxed at much lower rates than income. The central trade-off in the taxation of gains is that lower rates may (potentially) encourage investment; but, creating a difference between the taxation of income and gains encourages individuals to structure returns in the form of gains rather than income. We see three major problems with taxing gains at a reduced rate relative to income.

First, using reduced rates of tax on capital gains is a relatively inefficient way to support risk-taking, as it only provides a benefit to those who are successful, when the marginal utility of consumption is anyway lower. If support for risk-taking is desired, *ex ante* support is likely to be more cost-effective.

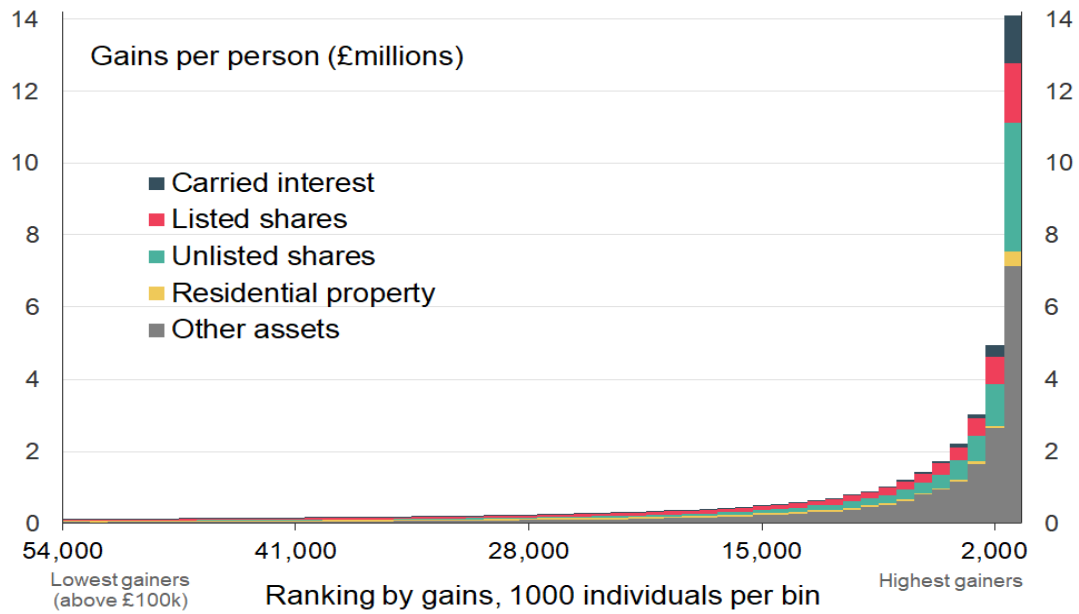
Second, as seen in Figures 5 and 6, the reduced rate for capital gains is strongly regressive in practice. Advani and Summers (2020a) show that around 92% of all taxable gains, by value, go to the top 1% ranked on total remuneration; 88% go to individuals with total gains exceeding £100,000.

Third, these reduced rates distort how people structure their remuneration. Advani and Summers (2020a) demonstrate that, in practice, gains currently largely reflect returns to labour, rather than passive investments. In some instances, labour income is directly shifted into gains: for example, capital distributions of retained profits following the liquidation of an owner-managed business. Miller, Pope and Smith (2021) show that such shifting is a major driver of the observed responsiveness of owner-managers to income tax rates. Other times, individuals forego wages now in exchange for the prospect of gains later, typically on exit from a business.

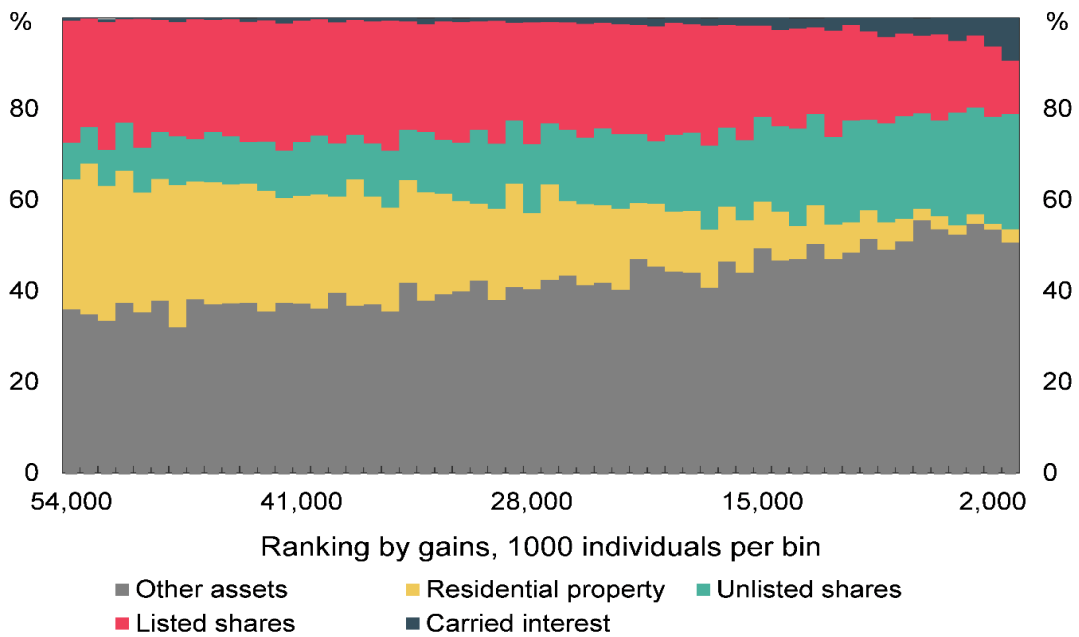
Figure 7 shows the underlying asset for people with gains exceeding £100,000 in 2017. Around half of all gains come from 'other assets', which in practice mainly includes returns to an owner-managed business qualifying for 'entrepreneur's relief' (recently renamed business asset disposal relief); almost a quarter come from unlisted shares; and more than 5% from carried interest (labour income of fund managers). Although residential property is the prototypical example asset on which gains might be realised, by value gains on additional properties are relatively small (around 5% of all gains) and these are concentrated among individuals with gains at the lower end of the distribution here (although these are still substantial gains).

Figure 7. Distribution of gains among those with >£100,000 in gains, and breakdown by source

(a) Average gains and breakdown by source



(b) Share of gains by source



Note: Constructed using data on all reported taxable capital gains going to individuals in 2017. Individuals are ranked by reported capital gains and grouped into bins of 1,000. Only individuals with gains over £100,000 are shown here. Bars in Panel (a) show democratic mean gains within each bin, and breakdown of these by asset type. Panel (b) shows bars scaled to 100, and show within each bin the breakdown of gains by asset type. ‘Carried interest’ is remuneration for fund managers, which is reported and taxed as capital gains. ‘Other assets’ is predominantly composed of assets eligible for entrepreneur’s relief – a 10% tax rate for owner-managers on disposals relating to their business – though it also contains miscellaneous tangible and intangible assets, including fine artwork and intellectual property.

Source: Advani and Summers (2020a).

Given these findings, we recommend a move to taxing gains more like income, consistent with the recommendations of Mirrlees et al. (2011) and Advani (2021). In practice, this means aligning headline capital gains tax (CGT) rates with the combined rate of both income tax and national insurance contributions, and the introduction of an allowance to adjust the tax base (see below). Aligning rates eliminates the need to ‘police’ the legal boundary between income and gains, so would solve the problems associated with restructuring of remuneration described above. However, if (as recommended by Mirrlees et al.) alignment were accompanied by a more symmetrical treatment of capital losses, including allowing these to be offset against income, this could create new opportunities for tax avoidance.

Historically, CGT rates in the UK were aligned with income tax between 1988 and 1998, with an allowance for inflation. Mirrlees et al. (2011) recommended returning to something similar, but with an allowance for the normal rate of return – measured as the interest rate on medium-term government bonds – rather than inflation. Either of these approaches would be a definite move in the right direction, and for as long as both inflation and the normal rate of return remain similar and close to zero, there is little practical difference (although this may not last). Such a reform could raise £12–14 billion (Advani and Summers, 2020b; Office of Tax Simplification, 2020), although this is a static estimate.

The size of the behavioural response to aligning rates on income and gains would depend crucially on other policy choices. Alignment must be accompanied by removal of the uplift at death, whereby (at present) accrued gains escape tax altogether on death (i.e. these gains are not taxed on either the deceased or their heirs). This uplift is costly, both in terms of revenue forgone by the exchequer (around £1.6 billion a year in equilibrium; Office of Tax Simplification, 2020) and for the ‘lock-in’ it creates: individuals are incentivised to hang on to assets with substantial gains until they die, to avoid the tax.

There are administrative and political challenges with full alignment.¹⁰ Administratively, the key issue is to address concerns about lumpiness of gains relative to income. There are several possible solutions to this: the most straightforward is ‘backwards averaging’, such that the marginal tax rate depends on the marginal rate over a number of past years.¹¹ Given that income data are already held by HMRC, and viewable through taxpayers’ ‘personal tax accounts’, this is technically very feasible.

Politically, it is likely to be possible to explain an alignment with income tax rates. However, it is potentially harder to get people to understand alignment including national insurance contributions (especially employer contributions), as this is often not recognised by the public as part of the effective tax rate on (employment) incomes. It also implies very high headline rates, although a revenue-neutral reform could combine alignment of CGT rates with a (small) reduction in the current rate on employment income; such a reform would also be very progressive.

Inheritance tax

Inheritances and lifetime gifts are estimated to total approximately £127 billion per year in UK, around 7% of GDP (Corlett, 2018). Rising wealth as a share of GDP means inheritances are also forecast to become an increasingly important determinant of inequality over coming years (Bourquin, Joyce and Sturrock, 2021). The taxation of inheritances is therefore a crucial part of policy relating to equality of opportunity.

Inheritance tax (IHT) has a high headline rate (40%) but large categories of relief and exemption, such that effective rates are frequently much lower, especially for those with the largest estates. Analysis by the Office of Tax Simplification (2018) shows how the average effective tax rate declines with increasing wealth above £2 million, to just 10% for estates above £10 million.

This result is mostly driven by agricultural property relief (APR) and business property relief (BPR), which (broadly) exempt farmland and private businesses from IHT. Because larger estates on average comprise

¹⁰ See Advani (2021) for a more complete discussion, including approaches to dealing with the transition to a reformed CGT.

¹¹ For other options, see Meade et al. (1978). Note that under income tax, averaging provisions already apply for certain types of irregular income (e.g. the profits made by artists and authors), so this approach is not alien to the UK tax system.

a larger share of these types of asset, this means that effective rates tend to decline with increasing wealth. These exemptions also introduce distortions by incentivising the wealthy to increase holdings of farmland and private businesses relative to other assets, especially in older age.

There are several other significant exemptions from IHT, the effects of which are not accounted for in the Office of Tax Simplification analysis because the exempted assets are not (routinely) reported to HMRC, so are not included in the denominator used to compute effective tax rates. Accounting for these exemptions would push effective rates even lower.

A major class of exemption is lifetime gifts made more than seven years prior to death. This is in contrast to US estate tax, where all lifetime gifts above the allowance are taxable. Lifetime gifts are likely to be heavily skewed towards the wealthiest donors, for two main reasons. First, most ordinary people's wealth is tied up in their house and pension (Advani, Bangham and Leslie, 2021), which are not liquid, so are hard to give away. Second, the wealthy are more able to give away assets during their lifetime without affecting their current standard of living.

Another important exemption is for transfers to a spouse or civil partner. This policy might be thought merely to postpone the time at which IHT is paid on the estate until the death of the surviving spouse. However, in practice, it allows some wealth to escape tax permanently, by providing additional time for tax planning using lifetime gifts and other reliefs (such as APR and BPR).

Various other exclusions from the tax base also reduce effective rates. One of the most widely applicable is for pension wealth. Lump sums from a defined benefit or defined contribution scheme can be passed on free of IHT, and where the deceased was aged under 75, there is also no income tax to pay when the fund is drawn down by the beneficiary. This policy encourages individuals to save into a pension but then – perversely – to spend all other assets first during retirement.

Affecting a much smaller number of individuals, there are also exemptions from IHT for gifts to charities and political parties, and for heritage assets (under condition of public access). Additionally, the foreign wealth held by non-domiciled individuals ('non-doms') is excluded from IHT, and there are further opportunities to reduce IHT liability using trusts settled prior to acquiring UK domicile. The issues of non-doms and trusts are discussed further below.

There have been recommendations for major reform to taxation of inheritances and gifts by switching to a tax based on the amount received by the donee, rather than (as currently) on the amount given away by the deceased (Dolphin, 2010; Mirrlees et al., 2011; Corlett, 2018; Roberts, Blakely and Murphy, 2018). Such a system is in place in some other jurisdictions, for example the capital acquisitions tax in Ireland.

Even without such radical reform, IHT could be made significantly fairer and more effective by broadening the tax base through removal of existing reliefs and by bringing all lifetime gifts (above a set amount) into tax. Advani, Hughson and Tarrant (2021) estimate that the removal of APR and BPR would increase the revenue from IHT by almost £1 billion (around 20% compared to the current base), and the removal of the pensions exemption would raise almost £1.5 billion (about 30%). These are static estimates, and do not account for any alternative strategies that individuals may use to reduce the tax paid by their estate.

Wealth tax

The authors of this commentary were Commissioners at the Wealth Tax Commission, which reported in December 2020. We do not propose to detail here every aspect of the Commission's findings, but instead to set out the key conclusions and rationale from the final report (Advani, Chamberlain and Summers, 2020).

The Commission had two main findings, as follows.

- If a temporary increase in revenues is required as a result of the COVID-19 pandemic, the government should implement a **one-off** wealth tax in preference to increasing taxes on work or spending.

-
- It would be better to reform existing taxes on wealth rather than introduce a new **annual** wealth tax at a low threshold. However, an annual wealth tax starting at a high threshold, covering only the very top of the wealth distribution, may be justified to reduce inequality.

One-off wealth tax

The focus of the final report was largely around a one-off wealth tax. In the aftermath of the COVID-19 pandemic, many policymakers are looking for tools for how to raise short-term revenue to ‘pay for the crisis’. We make no comment on whether the crisis and its after-effects need to be paid for over any short horizon. However, after an extreme event such as a global pandemic, a one-off wealth tax is a better way to raise short-term revenue (if this is needed) than alternatives such as higher income or expenditure taxes, for four reasons.

First, it is more efficient than those alternatives as it has weaker (or no) disincentive effects. Second, it would also be paid by those who, by construction, have assets that might help them weather extreme circumstances more easily than others. Third, in the context of the current pandemic, the fact that a one-off wealth tax would bear most heavily on older households is also potentially justified, as older households have generally been less hurt by the economic impacts of the crisis while having been the main beneficiaries of the lockdown measures taken. As a group, this cohort has also benefited from a period of strong house price growth, generous occupational pension provision and healthy wage growth, along with government policies such as free university tuition that enabled them to accumulate more wealth than other generations can expect to in future. Finally, since the financial crisis, the macroeconomic policies of low interest rates and quantitative easing have increased asset prices. This has the unintended distributional consequence of providing windfall gains to owners of wealth relative to those without wealth (Fagereng et al., 2019; Andersen et al., 2021). A one-off wealth tax would (partially) offset this.

A one-off wealth tax can raise substantial sums of money. There are many different ways to structure such a tax, in terms of the threshold at which it starts being paid, and the tax rate(s) above that threshold. Starting at £500,000 of net wealth (i.e. after accounting for mortgage and other debt) for an individual, the wealth tax would cover around one in six adults. If charged at a one-off rate of 5%, this would raise £260 billion after accounting for non-compliance and administration costs. To remove liquidity concerns, it could be paid over a number of years (e.g. 1% per year over five years). At a threshold of £2 million, it would cover just the top 1% of adults, but at the same rate would still raise more than £80 billion after non-compliance and administration costs (Advani, Hughson and Tarrant, 2021).

Although a one-off wealth tax has effects on the overall wealth distribution, these would by definition be transient as it does not affect future accumulation. It is therefore not a suitable policy tool if the primary objective is reducing wealth inequality.

Annual wealth tax

By contrast, an annual wealth tax would have a larger effect on wealth inequality as it entails an ongoing redistribution of wealth.

Advani, Chamberlain and Summers (2020) note that the administrative costs of an annual wealth tax are prohibitive if the intention is to tax a large share of the population. The key difficulty is the valuation of assets, which is relatively costly compared with the tax revenue raised for lower-wealth individuals and would largely be borne by taxpayers themselves (Burgherr, 2021; Daly, Hughson and Loutzenhiser, 2021). Concessions to reduce the cost of valuation – such as formulary approaches – have been adopted in other countries, but these have tended to undermine the efficiency and fairness of the tax.

Table 1 shows the revenue raised by a UK annual wealth tax at different possible thresholds, the number of individuals that would be covered by such a tax, and the administrative costs (Advani, Hughson and Tarrant, 2021). Given the presence of other taxes on capital (not least CGT and IHT), reform of these existing taxes on wealth should certainly be the priority (Summers, 2021), as these can

be an effective way to raise more money from the top (if desired) without the need for such substantial administrative costs.

Table 1. Revenue estimates for an annual wealth tax

Threshold (£)	Rate	Gross revenue (£bn)		Taxpayers (in thousands)	Administrative cost (£bn)	
		Low avoidance	High avoidance		One-off to government	Per year to government
Flat taxes						
10,000,000	1.12%	10.0	8.8	22	0.6	0.003
5,000,000	0.90%	10.0	9.0	83	0.6	0.01
2,000,000	0.57%	10.0	9.4	631	0.6	0.1
1,000,000	0.31%	10.0	9.7	3,035	0.6	0.5
500,000	0.17%	10.0	9.8	8,240	0.6	1.2
250,000	0.12%	10.0	9.9	15,537	0.6	2

Note: The rates target £10 billion in revenue, taking a low level of avoidance into account, before the deduction of administrative costs. Analysis is based on data from the Wealth and Assets Survey (2016–18) and the Sunday Times Rich List (2020).

Source: Advani, Hughson and Tarrant (2021).

However, at higher thresholds the relative administrative costs are substantially reduced. For government, the reduction comes about purely because there would be fewer people to manage, and relative to the likely tax revenue (depending on the rate chosen) a reasonable cost–benefit ratio can be obtained (Advani, Chamberlain and Summers, 2020). The administrative costs on taxpayers are also likely to be lower proportionally for those with more wealth, as there are some fixed cost elements to valuation and filing (Burgherr, 2021).

The economic arguments around wealth taxes are also substantially different in the context of these high levels of wealth. Banks and Diamond (2010) articulate that the principled economic case against a wealth tax rests on three key premises:

- the accumulation of wealth (saving) merely reflects the transfer of consumption value between periods of time;
- wealth has no intrinsic value to individuals beyond this consumption value;
- wealth does not provide any additional information about earnings capacity.

The implication of these points together is that taxing wealth inefficiently distorts savings decisions, without achieving any outcome that could not be better achieved some other way. However, in our view, all of these premises are doubtful – or, at least, much less likely to be true – in the context of individuals at the very top of the wealth distribution. For those individuals, it is also less clear that an alternative policy could anyway achieve the same aims.

On the first premise, for much of the population, wealth builds up over an individual’s life, as their incomes rise and they build up savings (Browning and Crossley, 2001; Attanasio and Weber, 2010). Wealth peaks around retirement age, and is then (partially) run down through retirement, with some

being left as a bequest on death (Davies and Shorrocks, 2000; Advani, Bangham and Leslie, 2021).¹² A wealth tax could potentially discourage this kind of life-cycle saving (Adam and Miller, 2021), although the (limited) empirical evidence available suggests this effect is likely to be small in practice (Advani and Tarrant, 2021). However, wealth accumulation at the very top of the wealth distribution bears hardly any resemblance to this life-cycle model. Indeed, much of that accumulation comes not from any active decision to accumulate at all, but from ‘saving by holding’ (Fagereng et al., 2019), which ‘canonical models cannot rationalize [sic]’.

Once we move away from the idea that saving and wealth are merely intertemporal transfers, the taboo on taxing the stock of wealth is broken. While this does not in itself imply that wealth ought to be taxed, the negation of either the second or third premise would provide a positive case for doing so.

In relation to the second premise, the Meade Report argued in favour of taxing wealth precisely on the basis that wealth provides benefits such as ‘security, independence, influence and power’, rather than merely being a transfer of value over time (Meade et al., 1978). There is unfortunately little direct empirical evidence on the extent to which wealth has additional value – beyond merely the ability to postpone spending – for the majority of the population.¹³ However, the wealthiest individuals have levels of wealth that they cannot ever spend; they have more even than their heirs can spend (Carroll, 2000, 2002). This must mean that either they do not value the wealth, or they value it for reasons other than the ability to spend it (Bakshi and Chen, 1996; De Nardi, 2004; De Nardi et al., 2021).

The former seems unlikely, but if it were true there would be no downside to taxing this wealth on equity or efficiency grounds, as there would also be no incentive for avoidance in this case. Taxing the wealth would then be a Pareto improvement, because the revenue could be used to reduce some other (distortionary) tax. If instead there are other reasons that this wealth is valued – as an end in itself, for the status it brings, or (under certain conditions) to make bequests – then there is explicitly a case for taxing it (Saez and Stantcheva, 2018).¹⁴ The precise structure of the implied tax varies across different models, but as Stiglitz (2018) notes ‘there is a presumption that Pareto-efficient taxation entails a positive tax on capital’, and ‘possibly at high rates’. If individuals are thought to receive benefits from wealth per se, as the Meade Report suggested, rather than (only) from returns on wealth, then the appropriate form of tax to account for this is on the stock of wealth, rather than just through higher taxes on ‘excess returns’.¹⁵

On the third premise, if wealth is positively related to earnings capacity, then an efficient tax system should again tax capital. The rationale is to perform redistribution while minimising overall distortions in the tax system (Atkinson and Stiglitz, 1976; Saez, 2002, Diamond and Spinnewijn, 2011; Stiglitz, 2018).¹⁶ Here the evidence, though not irrefutable, is much clearer. Both Carroll (2000) and Dynan, Skinner and

¹² Savings behaviour after retirement produces something of a challenge to standard life-cycle models of consumption smoothing (De Nardi, French and Jones, 2016). Recent contributions suggest medical expenses and bequests largely explain continued saving (De Nardi et al., 2021), while complementarity between good health and the consumption of luxuries can explain some of the ‘excess’ response of consumption to health shocks (Blundell et al., 2020). It is also important to note that much of the growth in private wealth has been driven not by active saving, but by rising asset values, so it may be harder to access for spending (Fagereng et al., 2019; Advani, Bangham and Leslie, 2020; Mulheirn, 2020).

¹³ Note that measurement of whether wealth has such effects can only come from understanding, within individual, preferences over the time path of income conditional on the same consumption flow. Comparisons over choice of consumption path conditional on income path cannot shed light on this question.

¹⁴ If the only value of that wealth were the ability to pass it on, one might argue that this is in principle already taxed through IHT and consumption taxes paid by the recipient. In this case, a wealth tax would essentially be a pre-payment on future IHT that is owed, and one might want to offer (non-refundable) credit against future IHT liability. The advantage of this approach, relative to relying solely on IHT, is that it makes avoidance harder; ‘deathbed planning’ would not be sufficient to remove most tax liability. However, there would be substantial administrative complexities in offering the relief against IHT. Note that there are also models in which – perhaps counterintuitively – inheritances should be subsidised (Kopczuk, 2010).

¹⁵ This does not in any way imply that a tax on the stock of wealth should replace other capital taxes that are levied on (excess) returns. The latter have a different set of justifications relating to the benefits from the returns on wealth (Adam and Miller, 2021). However, the interaction between these taxes must be managed carefully (Summers, 2021).

¹⁶ Beyond these points, there are other principled cases that are made for a wealth tax, including the effects on productivity (Güvenen et al., 2019), aggregate demand (Mian, Straub and Sufi, 2021), and the pre-tax distribution of returns (Stiglitz, 2018). We do not attempt to provide a comprehensive review of the theoretical issues, but direct the interested reader to surveys by Banks and Diamond (2010), Bastani and Waldenstrom (2020), and Scheuer and Slemrod (2020).

Zeldes (2004) find compelling evidence of a positive relationship between lifetime incomes and individual savings rates. There is also evidence of a positive relationship between cognitive ability – itself positively related to lifetime earnings capacity – and both savings and wealth (Banks and Oldfield, 2007; Banks, O’Dea and Oldfield, 2010; Benjamin, Brown and Shapiro, 2013). Taxing wealth directly in this context allows redistribution to take place in a less distortionary way than levying higher tax rates on top incomes.

An additional argument commonly made against wealth taxes on the super-wealthy – not by economists, but anecdotally by the very wealthy themselves – is that such a tax would require them to dilute control over their businesses. Controlled businesses make up a large share of wealth for the very wealthiest, and business owners often claim that fragmentation of business control would reduce productivity. If this is the case, then borrowing to pay any wealth tax is an alternative that should be supported by lenders. It may be that there are capital market imperfections that make this difficult, but the case that is then being made is not an optimal tax concern, but a claim that one should accept a distortion away from a neutral tax system because the economic benefits are large enough given other market failures. As with all arguments against neutrality, such a claim requires both evidence that the benefits outweigh the distortion, and a demonstration that there is no alternative way to achieve the benefits with lower distortion.

Taken together, current theory and empirical evidence thus suggest that there is a principled economic case for a recurrent tax on wealth applied to those with very high levels of wealth. While such a case is not incontrovertible, it is certainly hard to argue – as the older theoretical literature did – that there should be any strong presumption against such a tax. The considerations are therefore more practical in nature: is a wealth tax, rather than some other form of capital tax, the best way to achieve some particular goal?

For individuals who favour redistribution of top wealth, which is clearly an important motivator for many, there are few other options that can achieve such redistribution. The power of a wealth tax is twofold. First, it does not rely on realisations (as with CGT) or deaths (as with IHT). This means redistribution begins now: tax is received from high-wealth individuals without needing to wait for gains to be crystallised, or for the individuals to die, and without the risk that they restructure their holdings or (depending on the connecting factors; see below) move abroad in a way that means they go untaxed. Second, unlike the taxation of accrued gains, a wealth tax can in principle be at a rate exceeding the rate of return on wealth, so it can actively reduce wealth concentration if desired.

For these reasons, our view is that an annual wealth tax on very high levels of wealth could be justified if there were a desire to raise more tax revenue from the very wealthiest individuals. We also think that behavioural responses to a tax at this level could be kept manageably low *if* the tax were well designed. In particular this implies the following.

- The tax base should be comprehensive (i.e. applied to all types of asset) and applied to worldwide wealth. This ensures that shifting the form in which assets are held, or moving assets abroad, would not be effective to avoid the tax.
- Taxation should be on the basis of citizenship or long-term residence in the recent past. This would limit any emigration response, although the disincentive to immigrate and take up residence or citizenship may then be a concern.
- Assets should be valued based on the open market value, as anything else is likely to create distortions across asset classes as individuals seek to avoid the tax.
- Measures are needed to counter divesting ownership of assets for tax purposes whilst maintaining control and/or benefits in practice. Such measures already exist and are used for IHT purposes (e.g. the ‘gift with reservation of benefit’ rules), and could be applied to a wealth tax. Chamberlain (2021) proposes an effective approach for dealing with trusts.

Under such a design, the only response available to avoid the tax is for individuals to fragment their wealth by making outright gifts of their assets. Where fragmentation is just between spouses, Advani, Hughson and Tarrant (2021, Table G1) show that the revenue effects of this are minimal. Further fragmentation could be achieved through gifts to family members. However, provided that such gifts were genuine (i.e. did not involve retention of control and/or benefit, as discussed above), it is not obvious that this raises any serious cause for concern. Although it would reduce revenues, fragmentation entails a real reduction in wealth concentration.

Reforming who is taxed

Who is taxed is less often thought about than what is taxed and how it is taxed. Where economists have thought about who is taxed, it has largely been a debate around the tax unit (Boskin and Sheshinski, 1983; Piggot and Whalley, 1996; Apps and Rees, 1999) – should taxation be individual or household? In the context of capital taxation, the UK does not neatly adhere to either an individual or household model. The complexities arising from this approach are particularly important at the top, where inconsistencies allow opportunities for arbitraging behaviours. Below we also examine two other important issues regarding who is taxed, which are much less well studied. First, what connecting factor(s) should determine when an individual is within the scope of UK taxes? Second, who should be taxed in respect of assets that are held in a trust?¹⁷

Tax unit

It is often said that the UK taxes on an individual basis (since 1991), but this is not an accurate picture for CGT and IHT because:

- transfers between spouses do not count as realisation for CGT purposes (instead assets are transferred on a ‘no loss, no gain’ basis) so the couple is effectively treated as a single tax unit, albeit they benefit from separate allowances;
- transfers to spouses (bequests or lifetime gifts) are exempt from IHT regardless of size, and the non-taxable allowance can be transferred to the surviving spouse or civil partner, such that again the tax operates in practice more like a household basis of assessment;
- various anti-avoidance rules apply to transactions between ‘related’ and ‘connected’ persons, including spouses and children, recognising that they will often make arrangements as if they are a single unit.

However, the general rule for income tax (subject to certain anti-avoidance rules) is that income from investments is assessed on an individual basis. This offers opportunities to minimise income tax by transferring ownership of income-yielding assets to a spouse or civil partner with a lower marginal tax rate (known as ‘income splitting’).¹⁸ Such transfers to someone other than a spouse trigger a CGT or potential IHT liability, which might deter such (tax-motivated) behaviours. However, because of the special treatment of spouses within CGT and IHT, individuals can effectively ‘have their cake and eat it’ – taking advantage of income splitting for income tax purposes without incurring the CGT/IHT consequences.¹⁹

Connecting factors

It is generally accepted that someone whose only connections are with the UK should be taxed in the UK, and nowhere else, with the exception of real estate – where most countries tax a non-resident on land they own there. However, many people – especially those towards the top of the income/wealth distributions – have a more global profile in which they have connections (of various types) with

¹⁷ For a fuller discussion of these issues, see Summers (forthcoming).

¹⁸ This practice can also occur in relation to gains, by giving away assets that have accrued unrealised gains.

¹⁹ An exception is where the asset given away comprises *only* income (e.g. some special classes of shares). In these cases, the transfer would be caught by the settlements legislation.

multiple countries. For example, a Swiss citizen who was born and raised in Germany and who now works in the UK but also spends significant time abroad.

The UK has historically relied on three main ‘connecting factors’: residence, domicile and ‘situs’ (the location of assets). Residence concerns where an individual lives currently. Domicile concerns where an individual considers their permanent home to be. Since 2013, there has been a statutory test for residence, which applies fixed criteria based on the number of days (more specifically, midnights) that an individual was present in the UK, combined with other ties such as whether they have work, family and/or accommodation in the UK. By contrast, the test for domicile remains notoriously nebulous, depending to a significant degree on an individual’s future intentions, which are inevitably contingent and difficult to prove.

Individuals who are resident but not domiciled in the UK (non-doms) are entitled to special tax treatment known as the remittance basis, under which foreign-source income and gains are only liable to UK tax if they are remitted to the UK. In practice, this regime operates more like an exemption from paying UK tax on the returns from foreign wealth. If the individual is resident only in the UK, then they will generally not be taxed where the assets are located either (with the exception of real estate). In this way, the non-dom regime allows the globally connected to reside in the UK and avoid paying tax on their foreign wealth altogether. Non-doms are also exempt from IHT on their foreign wealth when they die.

The remittance basis is a historical anomaly that originated as a concession to colonial traders following the inception of the income tax in the 18th century (Avery-Jones, 2004). Unlike the modern foreigner tax regimes of many other countries, it was not designed purposefully to encourage wealthy individuals to migrate to the UK, although that is now the basis on which it tends to be defended. The remittance rules also have the perverse effect of incentivising migrants, once they have arrived in the UK, to keep their investments abroad.²⁰

Although non-dom status is claimed by only around 0.1–0.2% of UK adults each year (approximately 80,000 individuals), at the top of the income distribution it is of first-order importance. As noted earlier, the share of migrants substantially increases at the top of the income distribution. Figure 8 shows that, among migrants, the probability of claiming non-dom status is also increasing with income. The net effect is that one in ten individuals with £200,000–£1 million in income are non-doms, rising to three in ten individuals with income above £5 million. These statistics are based only on the income that is reported to HMRC, which misses the unremitted foreign income and gains of non-doms: if one were to include this foreign income, the share of non-doms at the very top of the income distribution would be even larger.

The common perception of non-doms is driven by the isolated anecdotes available to the public, and hence focuses on foreign oligarchs and other business owners with foreign connections listed in the Sunday Times Rich List. However, looking across all those who ever claimed non-dom status, a different picture emerges. Advani et al. (2022) show that around 80% of non-doms have earnings from some form of work as their main source of income in the UK.

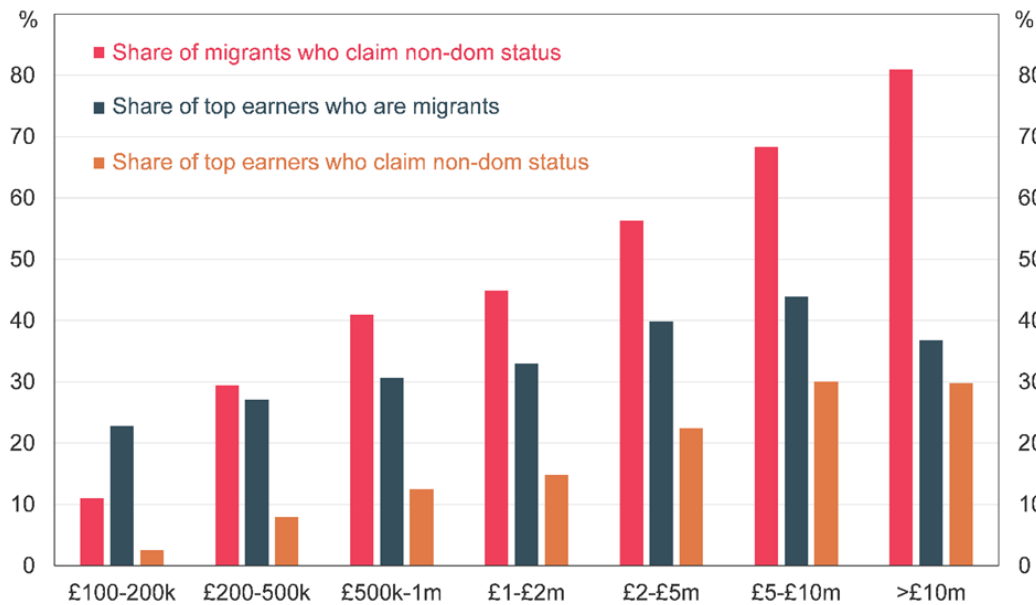
Non-doms are therefore mainly not the footloose global wealthy, coming to shop and live part-time in the UK but largely based elsewhere (indeed, such individuals may often escape UK tax residence altogether). Instead, non-doms are mainly workers, often in finance and professional services, arriving from continental Europe, the Anglosphere (Australia, Canada, Ireland, South Africa and the US) and India (Advani et al., 2022).

There remains very little evidence on the effectiveness of the non-dom regime at attracting and retaining valuable individuals. The remittance basis has a large static cost in terms of foregone revenue on foreign income and gains. It has undergone numerous reforms over the past decade, including the introduction of a fixed fee on long-term residents who claim the remittance basis and new rules to ‘deem’ UK domicile for those who have lived in the UK for more than 15 of the past 20 years. Despite

²⁰ In 2012, a new business investment relief was introduced to try to mitigate this effect but it has had limited impact.

these reforms, a more fundamental question remains about whether special status for non-doms should be retained at all.

Figure 8. Share of migrants, and of non-doms within migrants, at different fiscal income levels, 2017



Note: Constructed using data on reported fiscal income. Migrants are identified using a combination of HMRC administrative records and the age at which a taxpayer received their national insurance number (NINO). Non-domiciled UK residents in any given year are individuals who file an income tax return as a UK tax resident in that year, and tick the relevant box asserting that they are not domiciled in the UK in that year. All top shares are defined relative to the total number of individuals aged 18 or older in the population living in the UK.

Source: Advani et al. (2020, 2022).

In our view, it is time for a root-and-branch review of the UK's connecting factors. This would be a major undertaking and we do not offer any firm recommendations here. However, some options and factors to consider include the following.

- The connecting factor(s) need not be the same for all taxes (and currently they are not). For example, income tax is more naturally suited to looking at the position within a single tax year, whereas for IHT looking at only the year of death could give rise to unfairness.
- CGT presents a distinctive set of issues because tax is charged in the year of realisation but is assessed by reference to gains accruing over a longer period. One option would be to provide for 'rebasement' of assets on arrival to the UK, but with a deemed disposal of assets on departure, such that only the gains accruing whilst resident in the UK are charged to UK tax.
- A deemed disposal for CGT on departure from the UK would also function like an 'exit tax'. Other forms of exit tax could also be considered (instead or additionally) – for example, a tax assessed on an individual's stock of wealth at the point of departure, by way of proxy for IHT.
- Various connecting factors could be used besides residence or domicile. The concept of long-term residence is already used as part of the non-dom regime but could assume a more central role. Another option is to rely on citizenship, which is the approach currently taken by the US.
- The effect of being connected to the UK (or not) need not be binary (i.e. switching sharply between full liability or none). A graduated approach reflecting the degree of connection to the UK is also possible, as suggested by Advani, Chamberlain and Summers (2020) in the context of liability for a one-off wealth tax.

Trusts

The tax treatment of trusts is highly complex, and remains something of an enigma to non-lawyers.²¹ Most people (including economists) are used to thinking of ownership in binary terms: either you own an asset or you don't. If you own an asset, you get to choose what happens to that asset (control) and you get to make use of it and any income from it (benefit). In short, a trust allows you to split these two key features of ownership – benefit and control – such that they are vested in different people. The trustee controls the asset whilst the beneficiary benefits from it.

From the perspective of the person who puts assets into a trust (the 'settlor'), this action is different from both making an outright gift of the asset (where benefit and control are given to someone else) or retaining the asset outright (where benefit and control are fully retained). Consequently, it is not clear what it means to say that the tax treatment of trusts should be 'neutral', as has often been suggested (HMRC, 2018). Should it be neutral by comparison with outright gift or neutral by comparison with full retention of ownership?

This means there is no obvious, off-the-shelf answer on how to tax trusts. But getting this right is again a first-order policy issue for top-end inequality, given that assets held in trust are likely to be concentrated amongst individuals (both settlors and beneficiaries) towards the top of the income and wealth distributions.

Despite many years of complex reforms, the UK still does not have a satisfactory approach to trusts. This is largely because the approach is piecemeal – there are different rules for different taxes for no apparent reason, and no answer to the conceptual question of how to deal with circumstances where ownership is split. Tied up with this is also the issue of connecting factors once again: for example, if a settlor or beneficiary is resident in the UK, does this mean that the entire trust assets should be liable to UK tax?

Assessing tax on the beneficiary might seem fairest from a welfare perspective, as this party (by definition) is the one who benefits from the trust assets. However, this approach runs into difficulties in relation to discretionary trusts, where it may not be possible to determine the identity of the beneficiaries prior to a distribution from the trust being made. Another option would be to treat trusts as a separate taxable person (like companies), but this opens the door to reducing tax by fragmenting wealth across multiple trusts. Chamberlain (2021) proposes a hybrid approach that assesses tax on the trust but by reference to the residence status of the settlor or beneficiaries and the situs of the assets.

Under the current regime, the most egregious circumstances are those in which placing assets in trust means that neither the settlor nor beneficiary is liable (i.e. effectively an arbitrage where less tax is paid than either if the asset had been given away or if it had been retained in full). There are still some contexts in which trusts can facilitate this kind of arbitrage, particularly where the settlor was non-domiciled when they created the trust.²² These circumstances ought to be the focus of reform efforts in the short term, pending a more comprehensive review of the taxation of trusts.

Conclusion

Time lags in the availability of data mean that we cannot yet say anything comprehensive about what has happened to either income or wealth top shares over the past two years since the COVID-19 pandemic started. At the top of the income distribution, there is likely to have been substantial heterogeneity in the effect of the pandemic by income source. Top employees have largely remained in their jobs, their incomes almost entirely sheltered. Business owners, by contrast, have had a much more mixed experience, with some businesses prospering while for others the pandemic has been disastrous.

²¹ For an accessible summary of the issues, in more detail than is possible here, see Chamberlain (2020, Appendix A).

²² For UK-domiciled settlors, there are some respects in which trusts are disadvantageous – for example, higher income tax rates on income from trust assets and IHT liability on gifts into trust.

Therefore, whatever the effect on the level of top shares, there is likely to have been substantial churn in those who appear amongst the top earners.

Predictions for wealth are somewhat easier. House prices have increased rapidly, rising more than 20% since the beginning of the pandemic. Continued low interest rates mean the value of pension wealth remains high. After a large fall at the beginning of the pandemic, the main UK stock market index is roughly where it was before the pandemic, though the impact on the value of private businesses is less easy to measure. On balance, this pattern suggests a widening gulf between those with and without assets, and in particular between homeowners and renters. The wealthiest will have gained most in cash terms. However, apart from among the super-wealthy – where there has been very rapid wealth growth (Watts, 2021) – the effect on wealth concentration is likely to be smaller, because there have been large percentage gains for those in the middle as well as those at the top.

The current political environment is one in which, after substantial government support, there has been a move to raise revenue. This has largely been done through freezing tax thresholds and a large rise in national insurance contributions. The latter is expected to raise around £12 billion, but it will tax income from work more than from wealth, will further distort the form in which people earn, and will preserve the regressive structure of national insurance (Advani et al., 2021). This only makes the case stronger for reforming capital taxes – to reduce some of these distortions – and raising additional revenue in a more progressive way. Reforming CGT, as we propose, would raise more money than the national insurance rise, and improve both horizontal and vertical equity.

Another important option for raising revenue, as proposed by the Wealth Tax Commission (Advani, Chamberlain and Summers, 2020) and recently adopted by the International Monetary Fund (2022), is a one-off wealth tax. This can raise substantial revenue, which could be used to tackle some of the major inequalities described elsewhere in the IFS Deaton Review of Inequalities. While not an ongoing source of revenue, a one-off wealth tax would be both efficient and equitable: efficient because it does not discourage work, and (assuming it were not pre-announced) it would not distort savings behaviour; equitable because it would be able to offset some of the effects of macroeconomic policy, which has increased the value of assets, benefiting those with wealth relative to those without. A one-off wealth tax would be preferable to any alternative tax rise aimed at dealing with the costs or aftermath of the pandemic.

Neither reform of existing capital taxes, nor a one-off wealth tax, will slow the apparent rise in wealth among those at the very top, which continued even through the pandemic (Watts, 2021). Reforms to the tax base – in particular, to connecting factors (which determine who is taxable in the UK) and to trusts – would help ensure that existing taxes work better. However, if there is a desire to raise additional revenue (on an ongoing basis) from the very wealthiest, for whom there are many ways to avoid existing taxes, an annual wealth tax is perhaps the only option. Such taxes are no longer taboo among public economists, as richer theoretical models show contexts where these may be supported, and the (limited) empirical evidence shows how they can be designed to minimise distortions. An annual wealth tax on very high levels of wealth would not be a huge revenue raiser in the UK, but it could easily raise more than IHT, and be harder to plan around. Whether or not an annual wealth tax is brought in, it is not a substitute for fixing the problems with existing capital taxes.

References

- Adam, S., and Miller, H. (2021), 'The Economic Arguments for and against a Wealth Tax', *Fiscal Studies*, 42, 457–83.
- Advani, A. (2021), 'Policy Forum: The Taxation of Capital Gains – Principles, Practice, and Directions for Reform', *Canadian Tax Journal*, 69, 1231–50.
- Advani, A., Bangham, G., and Leslie, J. (2021), 'The UK's Wealth Distribution and Characteristics of High-Wealth Households', *Fiscal Studies*, 42, 397–430.
- Advani, A., Burgherr, D., Savage, M., and Summers, A. (2022), 'The UK's Global Economic Elite: A Sociological Analysis Using Tax Data', CAGE Working Paper 570.
- Advani, A., Chamberlain, E., and Summers, A. (2020), 'A Wealth Tax for the UK', Wealth Tax Commission Final Report, <https://warwick.ac.uk/fac/soc/economics/research/centres/cage/news/a-wealth-tax-for-the-uk.pdf>.
- Advani, A., Hughson, H., and Tarrant, H. (2021), 'Revenue and Distributional Modelling for a Wealth Tax', *Fiscal Studies*, 42, 699–736.
- Advani, A., Hughson, H., Summers, A., and Tarrant, H. (2021), 'Fixing National Insurance: A Better Way To Fund Social Care', CAGE Policy Briefing 33, <https://warwick.ac.uk/fac/soc/economics/research/centres/cage/manage/publications/bn33.2021.pdf>.
- Advani, A., Koenig, F., Pessina, L., and Summers, A. (2020), 'Importing Inequality: Immigration and the Top 1 Percent', CAGE Working Paper 508, <https://warwick.ac.uk/fac/soc/economics/research/centres/cage/manage/publications/wp508.2020.pdf>.
- Advani, A., Ooms, T., and Summers, A. (2021), 'Missing Incomes in the UK: New Evidence and Policy Implications', CAGE Working Paper 543.
- 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. (2022a), 'Measuring Top Income Shares in the UK', Institute for Fiscal Studies (IFS) Working Paper W22/06, <https://ifs.org.uk/publications/15909>.
- Advani, A., Summers, A., and Tarrant, H. (2022b), 'Measuring Top Wealth Shares in the UK', CAGE Working Paper 610.
- Advani, A., and Tarrant, H. (2021), 'Behavioural Responses to a Wealth Tax', *Fiscal Studies*, 42, 509–37.
- Advani, A., and Tarrant, H. (2022), 'Official Statistics Underestimate Wealth Inequality in Britain', LSE Blog, <https://blogs.lse.ac.uk/politicsandpolicy/official-statistics-underestimate-wealth-inequality/>.
- Alvaredo, F., Atkinson, A. B., and Morelli, S. (2018), 'Top Wealth Shares in the UK over More Than a Century', *Journal of Public Economics*, 162, 26–47.
- Andersen, A. L., Johannesen, N., Jørgensen, M., and Peydró, J. L. (2021), 'Monetary Policy and Inequality', Centre for Economic Policy Research (CEPR) Discussion Paper 15599.
- Apps, P. F., and Rees, R. (1999), 'Individual versus Joint Taxation in Models with Household Production', *Journal of Political Economy*, 107, 383–403.
- 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: A Contrast Between European and English-Speaking Countries*, Oxford: Oxford University Press, 82–140.

-
- Atkinson, A. B. (2012), 'UK Estimates of Top Income Shares 2009–10: Revised Note on Methods', WID.world Technical Notes Series 2012/5.
- Atkinson, A. B., and Harrison, A. J. (1974), 'Wealth Distribution and Investment Income in Britain', *Review of Income and Wealth*, 20, 125–42.
- Atkinson, A. B. and Harrison, A. J. (1978). The distribution of personal wealth in Britain. Cambridge University Press, Cambridge.
- Atkinson, A. B., and Stiglitz, J. E. (1976), 'The Design of Tax Structure: Direct versus Indirect Taxation', *Journal of Public Economics*, 6, 55–75.
- Attanasio, O. P., and Weber, G. (2010), 'Consumption and Saving: Models of Intertemporal Allocation and Their Implications for Public Policy', *Journal of Economic Literature*, 48, 693–751.
- Avery-Jones, J. F. (2004), 'Taxing Foreign Income from Pitt to the Tax Law Rewrite – The Decline of the Remittance Basis', in J. Tiley (ed.), *Studies in the History of Tax Law*, Oxford: Hart Publishing, 15–56.
- Bach, S., Thiemann, A., and Zucco, A. (2019), 'Looking for the Missing Rich: Tracing the Top Tail of the Wealth Distribution', *International Tax and Public Finance*, 26, 1234–58.
- Bakshi, G. S., and Chen, Z. (1996), 'The Spirit of Capitalism and Stock-Market Prices', *American Economic Review*, 86 (1), 133–57.
- Banks, J., and Diamond, P. (2010), 'The Base for Direct Taxation', in S. Adam et al. (eds), *Dimensions of Tax Design*, New York: Oxford University Press.
- Banks, J., O'Dea, C., and Oldfield, Z. (2010), 'Cognitive function, numeracy and retirement saving trajectories', *Economic Journal*, 120 (548), F381–410.
- Banks, J., and Oldfield, Z. (2007), 'Understanding Pensions: Cognitive Function, Numerical Ability and Retirement Saving', *Fiscal Studies*, 28, 143–70.
- Bastani, S., and Waldenstrom, D. (2020), 'How Should Capital Be Taxed?', *Journal of Economic Surveys*, 34, 812–46.
- Benjamin, D. J., Brown, S. A., and Shapiro, J. M. (2013), 'Who is "Behavioural"? Cognitive Ability and Anomalous Preferences', *Journal of the European Economic Association*, 11, 1231–55.
- Blundell, R., Borella, M., Commault, J., and De Nardi, M. (2020), "Why does consumption fluctuate in old age and how should the government insure it?" National Bureau of Economic Research (NBER), Working Paper 27348.
- Boskin, M., and Sheshinski, E. (1983), 'Optimal Tax Treatment of the Family: Married Couples', *Journal of Public Economics*, 20, 281–97.
- Bourquin, P., Joyce, R., and Sturrock, D. (2021), 'Inheritances and Inequality over the Life Cycle: What Will They Mean for Younger Generations?', Institute for Fiscal Studies (IFS), Report R188, <https://ifs.org.uk/publications/15407>.
- Browning, M., and Crossley, T. F. (2001), 'The Life-Cycle Model of Consumption and Saving', *Journal of Economic Perspectives*, 15 (3), 3–22.
- Burgherr, D. (2021), 'The Costs of Administering a Wealth Tax', *Fiscal Studies*, 42, 677–97.
- Carroll, C. D. (2000), 'Why Do the Rich Save so Much?', in J. Slemrod (ed.), *Does Atlas Shrug? The Economic Consequences of Taxing the Rich*, Cambridge, MA: Russell Sage Foundation Books at Harvard University Press, 465–84.
- Carroll, C. D. (2002), 'Portfolios of the Rich', in L. Guiso, M. Haliassos and T. Jappelli (eds), *Household Portfolios*, Cambridge, MA: MIT Press.
-

-
- Chamberlain, E. (2020), 'Defining the Tax Base – Design Issues', Wealth Tax Commission Evidence Paper 8, https://www.wealthandpolicy.com/wp/EP8_TaxBase.pdf.
- Chamberlain, E. (2021), 'Who Should Pay a Wealth Tax? Some Design Issues', *Fiscal Studies*, 42, 599–613.
- Corlett, A. (2018), 'Passing On: Options for Reforming Inheritance Taxation', Resolution Foundation, <https://www.resolutionfoundation.org/app/uploads/2018/05/IC-inheritance-tax.pdf>.
- Corlett, A., Advani, A., and Summers, A. (2020), 'Who Gains? The Importance of Accounting for Capital Gains', Resolution Foundation, <https://www.resolutionfoundation.org/app/uploads/2020/05/Who-gains.pdf>.
- Daly, S., Hughson, H., and Loutzenhiser, G. (2021), 'Valuation for the Purposes of a Wealth Tax', *Fiscal Studies*, 42, 615–50.
- Davies, J., and Shorrocks, A. (2000), 'The Distribution of Wealth', in A.B. Atkinson and F. Bourguignon (eds), *Handbook of Income Distribution*, Vol. 1, Amsterdam: North-Holland, 605–75.
- Delestre, I., Kopczuk, W., Miller, H., and Smith, K. (2022), 'Top Income Inequality and Tax Policy', IFS Deaton Review of Inequalities.
- De Nardi, M. (2004), 'Wealth Inequality and Intergenerational Links', *Review of Economic Studies*, 71, 743–68.
- De Nardi, M., French, E., and Jones, J. B. (2016), 'Savings After Retirement: A Survey', *Annual Review of Economics*, 8, 177–204.
- De Nardi, M., French, E., Jones, J. B., and McGee, R. (2021), 'Why Do Couples and Singles Save During Retirement?', National Bureau of Economic Research (NBER), Working Paper 28828.
- Diamond, P., and Spinnewijn, J. (2011), 'Capital Income Taxes with Heterogeneous Discount Rates', *American Economic Journal: Economic Policy*, 3 (4), 52–76.
- Dolphin, T. (2020), 'Death and Taxes: Why Inheritance Tax Should Be Replaced with a Capital Receipts Tax', Institute for Public Policy Research (IPPR) Briefing, https://www.ippr.org/files/images/media/files/publication/2011/05/Death%20and%20Taxes%20Dec2010_1818.pdf.
- Dynan, K. E., Skinner, J., and Zeldes, S. P. (2004), 'Do the Rich Save More?', *Journal of Political Economy*, 112, 397–444.
- Fagereng, A., Holm, M. B., Moll, B., and Natvik, G. (2019), 'Saving Behavior Across the Wealth Distribution: The Importance of Capital Gains', National Bureau of Economic Research (NBER), Working Paper 26588.
- Güvenen, F., Kambourov, G., Kuruscu, B., Ocampo-Diaz, S., and Chen, D. (2019), 'Use It or Lose It: Efficiency Gains from Wealth Taxation', National Bureau of Economic Research (NBER), Working Paper 26284.
- HMRC (2018), 'The Taxation of Trusts: A Review', https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/754210/The_Taxation_of_Trusts_A_Review.pdf.
- International Monetary Fund (2022), 'United Kingdom: Staff Report for the 2021 Article IV Consultation', IMF Country Report No. 2022/056, <https://www.imf.org/-/media/Files/Publications/CR/2022/English/1GBREA2022001.ashx>.
- Kopczuk, W. (2010), 'Economics of Estate Taxation: A Brief Review of Theory and Evidence', National Bureau of Economic Research (NBER), Working Paper 15741.
-

-
- Meade, J., Ironside, D., Avery Jones, J., Bell, L., Flemming, J., Kay, J. A., King, M., Macdonald, M., Sandford, C. Whittington, G., and Willis, J. (1978), *The Structure and Reform of Direct Taxation*, London: George Allen & Unwin.
- Mian, A., Straub, L., and Sufi, A. (2021), 'Indebted Demand', *Quarterly Journal of Economics*, 136, 2243–307.
- Miller, H., Pope, T., and Smith, K. (2021), 'Intertemporal Income Shifting and the Taxation of Business Owner-Managers', Institute for Fiscal Studies (IFS) Working Paper W21/49, <https://ifs.org.uk/publications/15885>.
- 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: The Mirrlees Review*, Vol. 2, Oxford: Oxford University Press.
- Mulheirn, I. (2020), 'Sources of Wealth and Their Implications for Taxation', Wealth Tax Commission Background Paper 122, https://www.wealthandpolicy.com/wp/BP122_Sources.pdf.
- Office of Tax Simplification (2018), 'Inheritance Tax Review – First Report: Overview of the Tax and Dealing with Administration', <https://www.gov.uk/government/publications/office-of-tax-simplification-inheritance-tax-review>.
- Office of Tax Simplification (2020), 'Capital Gains Tax Review – First Report: Simplifying by Design', <https://www.gov.uk/government/publications/ots-capital-gains-tax-review-simplifying-by-design>.
- Piggot, J., and Whalley, J. (1996), 'The Tax Unit and Household Production', *Journal of Political Economy*, 104, 398–418.
- Roberts, C., Blakely, G., and Murphy, L. (2018), 'A Wealth of Difference: Reforming the Taxation of Wealth', IPPR Commission on Economic Justice, Discussion Paper, <https://www.ippr.org/research/publications/a-wealth-of-difference>.
- Saez, E. (2002), 'The Desirability of Commodity Taxation under Non-Linear Income Taxation and Heterogeneous Tastes', *Journal of Public Economics*, 83, 217–30.
- Saez, E., and Stantcheva, S. (2018), 'A Simpler Theory of Optimal Capital Taxation', *Journal of Public Economics*, 162, 120–42.
- Saez, E., and Zucman, G. (2020), 'Trends in US Income and Wealth Inequality: Revising After the Revisionists', National Bureau of Economic Research (NBER), Working Paper 27921.
- Scheuer, F., and Slemrod, J. (2020), 'Taxation and the Superrich', *Annual Review of Economics*, 12, 189–211.
- Smith, M., Yagan, D., Zidar, O., and Zwick, E. (2019), 'Capitalists in the Twenty-first Century', *Quarterly Journal of Economics*, 134, 1675–745.
- Smith, M., Zidar, O., and Zwick, E. (2020), 'Top Wealth in America: New Estimates and Implications for Taxing the Rich', National Bureau of Economic Research (NBER), Working Paper 29374.
- Summers, A. (2021), 'Ways of Taxing Wealth: Alternatives and Interactions', *Fiscal Studies*, 42, 485–507.
- Summers, A. (forthcoming), 'Is It Possible to Tax the Super-Rich?', *LSE Public Policy Review*.
- Stiglitz, J. E. (2018), 'Pareto Efficient Taxation and Expenditures: Pre- and Re-distribution', National Bureau of Economic Research (NBER), Working Paper 23892.
- Vermeulen, P. (2018), 'How Fat Is the Top Tail of the Wealth Distribution?', *Revenue of Income and Wealth*, 64, 357–87.

Watts, R. (2021), 'Rich List 2021: How the Covid Pandemic Spawned More Billionaires than Ever', *The Sunday Times*, 21 May, <https://www.thetimes.co.uk/article/sunday-times-rich-list-2021-covid-billionaires-uk-57vjgrp7s>.

Weale, M. (2009), 'Saving and the National Economy', NIESR Discussion Paper 340.