CAGE

Capital gains and UK inequality: New evidence from tax microdata

CAGE Policy Briefing no. 19

May 2020

Arun Advani
Andy Summers

LSE International Inequalities Institute
WARWICK THE UNIVERSITY OF WARWICK
UKRI Economic and Social Research Council

Capital Gains and UK Inequality: New evidence from tax microdata

Arun Advani[1] and Andy Summers[2]

[1]Assistant Professor, University of Warwick Economics, CAGE, IFS, III

[2]Assistant Professor, LSE Law, International Inequalities Institute (III), CAGE

Published by

CAGE Warwick

LSE International Inequalities Institute

warwick.ac.uk/cage

This research was funded by the Economic and Social Research Council (ESRC) through the CAGE Research Centre at Warwick (ES/L011719/1) and by LSE International Inequalities Institute, LSE Law, and Warwick Economics. 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 Helen Hughson for outstanding research assistance; Felix Koenig and Lorenzo Pessina for foundational work on which this analysis builds; Tim Monteath and Yannis Papadakis for additional assistance; the entire HMRC Datalab team – especially Yee Wan Yau, Alastair Currie, James Dainty and Marius Morkunas – for insights and support; and Tahnee Ooms for helpful comments. Correspondence to a.advani.1@warwick.ac.uk and a.d.summers@lse.ac.uk.

This briefing summarises new research on the impact of capital gains – which are excluded from existing income statistics – on measured inequality in the UK.

Key findings

- **Capital gains are highly concentrated.** Ranking people by their taxable gains, the top 5,000 people receive over half (54%) of all gains. For comparison, the top 5,000 people ranked by income receive just 2% of all income.
- **The majority of gains go to business managers** rather than arms-length investors — increasingly so among those with the highest gains. These gains are often in substitution for labour income.
- **For some, capital gains are regular part of their remuneration**, rather than a rare or once-in-a-lifetime event. A third of those with gains over £20,000 in 2017 also averaged gains over £20,000 in the previous four years.[1]
- **Gains are concentrated amongst those who already have high incomes.** Nine out of ten people who were in the top 1% by total remuneration (including income and gains) were already in the top 1% by income only.
- **Some people receive most of their remuneration in gains**, though many of these individuals have high incomes as well. Among those in the top 0.01% by total remuneration, almost 60% receive at least 90% of their remuneration in gains.
- **The one in ten people who "join" the top 1% when capital gains are included, are older and more likely to be female.** They are also more likely to be business owners and pensioners, rather than employees.
- **The top 1% share rises to 17% when including gains, compared with 14% based on income only.** You would need at least £132,000 to make it into the top 1% by total remuneration — this is £8,000 more than when measuring income only.
- **The effect on those at the very top is even larger.** The average remuneration of those in the top 0.01% (roughly 5,000 individuals) rises from £4.9mil to £8.4mil, increasing their share of all taxable income and gains from 2.2% to 3.6%.
- **The impact of capital gains on UK inequality peaked in 2008**, coinciding with record reported gains on the eve of the Financial Crisis. Following a large fall in 2009, the scale of gains and their impact on inequality **increased over the past decade and reached their second-highest level in 2018.**
- **Including capital gains reveals a rise in inequality over the past two decades.** While the share of all income going to the top 1% has remained at around 14% since 1997, including gains it has risen to 17%, with the largest growth towards the very top.

[1] Editorial note: all references to years in this briefing are based on tax years, giving the later year e.g. tax year 2017-18 is given as 2018.

Introduction

The UK's official statistics on economic inequality focus on incomes. The incomes of the top 1% (around 500,000 people) are measured using tax data, because it is well-known that surveys tend to understate their incomes. However, the tax data currently used by official statisticians for this purpose only capture sums that are liable to Income Tax; any sources of remuneration taxed on another basis – or not at all – are left out of our inequality statistics. The largest of these omissions is capital gains.

We use newly available Capital Gains Tax data to measure the impact of capital gains on the UK's inequality statistics. A 'realised' capital gain is the profit that someone makes when they sell (or otherwise 'dispose of') something they own; the gain is the difference between the price they paid for the asset and how much they sold it for (or the 'value on disposal'). Our focus in this briefing is on *taxable* capital gains; these cover realised gains in most types of asset except (importantly) people's main homes, which are exempt from Capital Gains Tax.[2]

Using these new data, we provide the UK's first inequality statistics that combine both income and capital gains. Our research shows that gains are extremely concentrated amongst relatively few very rich people. Most of these individuals also have high incomes, although a small minority receive most of their remuneration in the form of gains. Including capital gains in inequality statistics reveals that, whereas top incomes have changed very little over the past decade, during this time the total remuneration (including gains) of those at the top has grown significantly.[3]

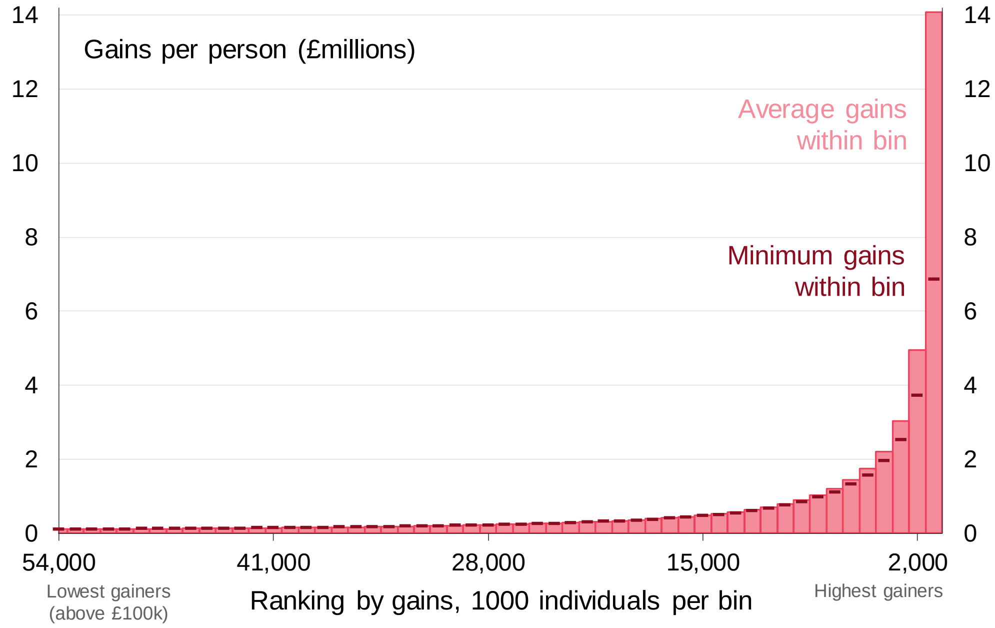
Capital gains are concentrated among a few people

Capital gains are highly concentrated. Ranking people by their total gains, the top 5,000 people receive over half (54%) of all gains. Each individual in this group receives at least £1.6 million per year in gains alone, excluding income. For comparison, the top 5,000 people ranked by taxable income receive just 2% of all income.

To illustrate this concentration, we take the 54,000 people who received more than £100,000 of gains in 2017, and split them into groups of 1000, ranking them on their gains received. Even within this group of high-gainers, gains are extremely concentrated at the very top. Whereas around half received less than £250,000 each, everyone in the top 1,000 received at least £6.9 million, averaging just over £14 million per person.

[2] Capital Gains Tax data also excludes gains from assets that are held in Individual Savings Accounts (ISAs), and gains that are realised through transfers between spouses, to charities, or on death. Individuals with gains below the tax-free allowance (currently £12,000 per year) are also typically excluded.
[3] For implications for official statistics, see Advani, Corlett and Summers (2020). For more details of our data and additional results see Advani and Summers (2020).

Figure 1. Distribution of capital gains among those receiving more than £100k in gains, 2017



Notes: 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 1000. Only individuals with gains over £100,000 shown here. Bars show minimum and mean gains within each bin.
Source: Authors' calculations based on HMRC administrative datasets.

Capital gains largely come from business activities

Using tax data, we are able break down capital gains into five main asset classes: shares in public (listed) companies; shares in private (unlisted) companies; residential property; the carried interest of fund managers; and a residual category of ‘other assets’. This last category includes – importantly – *all* assets to which Entrepreneurs’ Relief applies, regardless of specific asset type, as well as other miscellaneous tangible and intangible assets such as collectable items (e.g. fine artwork) and intellectual property.

Amongst those with the largest total gains in 2017, half of their gains come from ‘other assets’; these are most likely gains to which Entrepreneurs’ Relief applies, indicating returns to people who own and run their own business. Almost a quarter of gains come from unlisted shares, and most of the remainder come from listed shares.[4] A clear majority of gains therefore come from business activity rather than from passive investment, and so often reflect a choice to receive remuneration in the form of gains rather than wages.

The composition of gains differs strikingly across the distribution. Residential property makes up a substantial share of gains for those receiving £100,000 to £200,000 in total; however, gains in this type of asset are not very important in aggregate, because they hardly feature at the top of the distribution, where most gains are concentrated. The carried interest received by fund managers makes up a similar amount, but its distribution is reversed, as 85% of it goes to the top 5,000 individuals.

[4] As well as arms-length investments, these share categories include gains by owner-managers above the lifetime limit for Entrepreneurs Relief, and gains from management incentive schemes.

Figure 2a. Breakdown by asset type for those receiving more than £100k in gains, scaled by total gains within bin, 2017

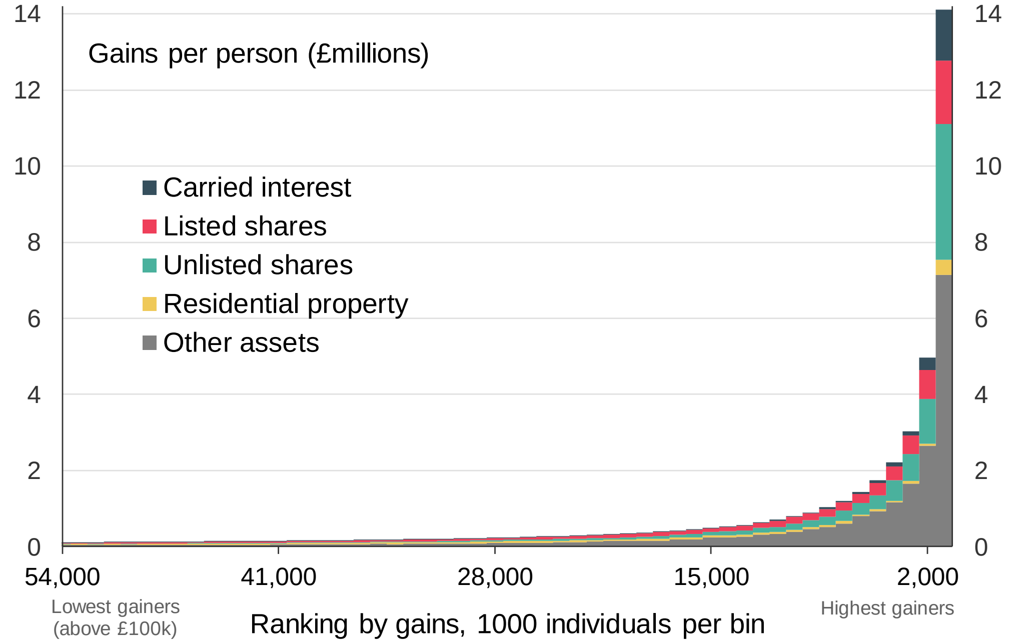
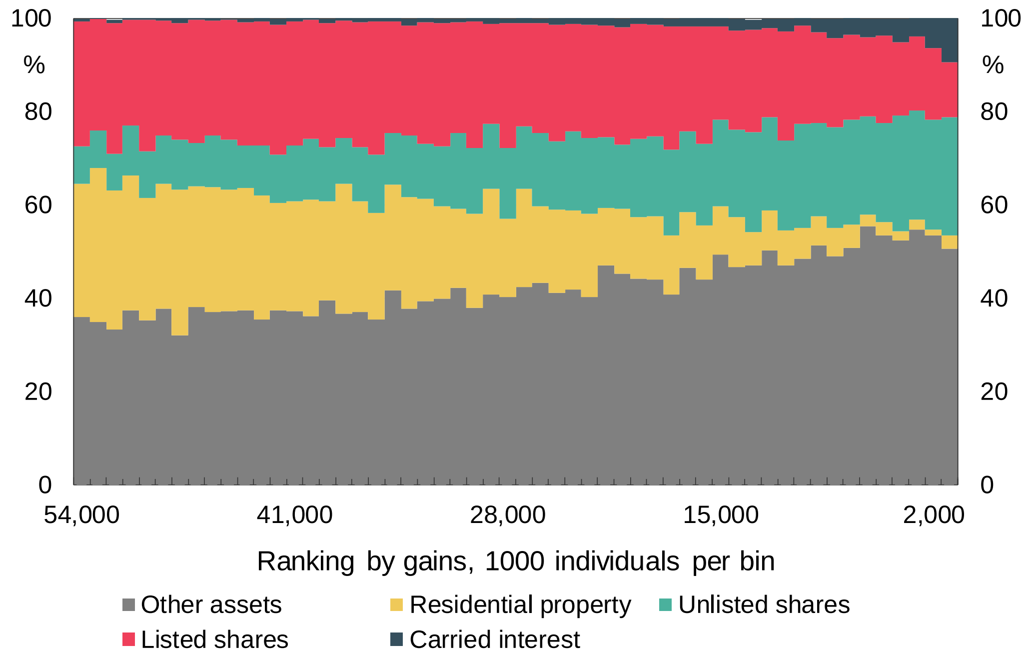


Figure 2b. Breakdown by asset type for those receiving more than £100k in gains, share of gains within bin, 2017



Notes: 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 1000. Only individuals with gains over £100,000 shown here. Bars show mean gains by asset type within each bin. In Panel (a) bar heights represent average total gains, in (b) they are normalised to 100.
Source: Authors' calculations based on HMRC administrative datasets.

A third of those with large gains receive these gains regularly

One common justification for not including capital gains in measures of economic inequality is that they are infrequent and much more volatile than incomes. Individuals who receive gains in a single year of observation may not be receiving these gains every year. To understand the persistence of gains i.e. how frequently they are received over a longer time period, we compare individuals' reported taxable gains in 2017 to their average gains over the previous four years.

Most individuals reporting gains in 2017 had average gains of under £20,000 over the previous four years. However, a substantial minority received significant gains in earlier years. One third of individuals who reported gains of above £100,000 also reported average gains of more than £20,000 over the previous four years, and of those, half had averaged more than £100,000. For those with gains between £20,000 and £100,000 in 2017, one in three averaged gains of more than £20,000 over the previous four years. For these individuals, capital gains are therefore not a rare event, but a regular part of how they receive remuneration.

This measure of persistence does not fully capture the *predictability* of gains. Even infrequent gains may be somewhat predictable, if remuneration has deliberately been structured to realise gains regularly over a long time-horizon. For example, fund managers may realise regular but infrequent gains in the form of carried interest, at intervals of between five to seven years since this is the typical lifespan of a fund. Likewise, executives may realise share options as part of a Long-Term Incentive Plan over a cycle lasting longer than five years. These gains do not appear as persistent in our measure, but could still be predicable from the perspective of recipients.

Figure 3a. Average gains received over preceding four years, for individuals who received gains over £100,000 in 2017

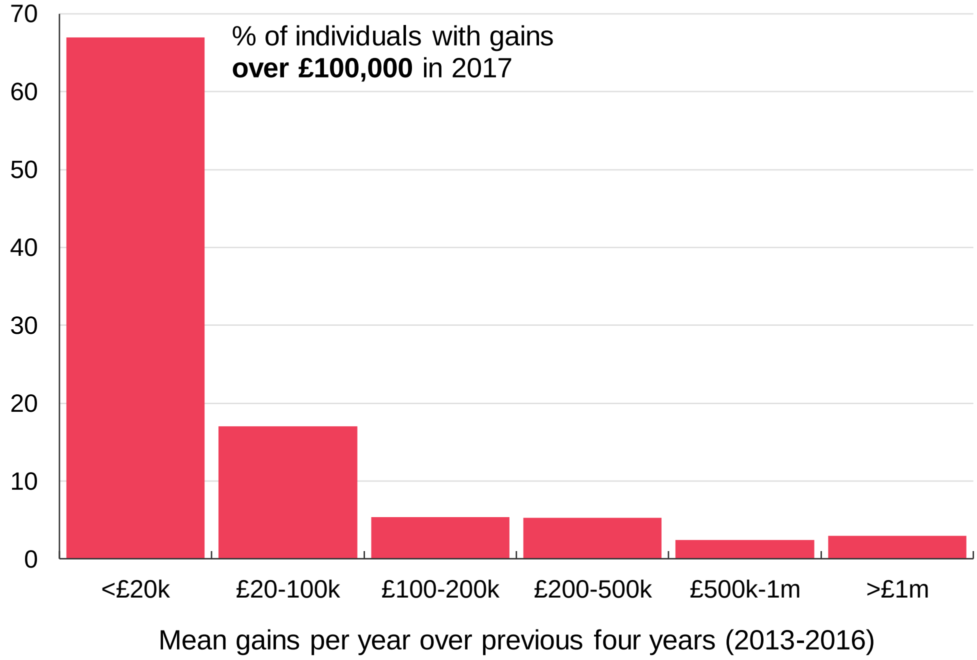
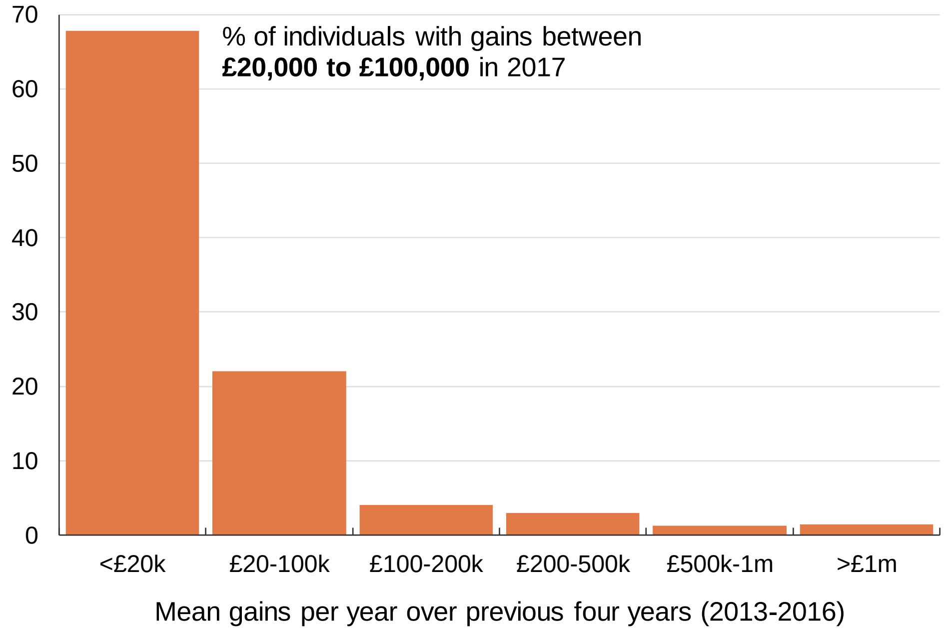


Figure 3b. Average gains received over preceding four years, for individuals who received gains between £20,000 to £100,000 in 2017



Notes: Constructed using data on all reported taxable capital gains going to individuals in 2017. Bars show the share of individuals receiving different mean gains between 2013 and 2016, given that they received more than £100,000 in 2017 (Panel a) or £20-100,000 in 2017 (Panel b).
Source: Authors' calculations based on HMRC administrative datasets.

The current "rich" are richer when capital gains are included

Nine out of ten people who were in the top 1% by income are also in the top 1% by 'total remuneration' (income plus gains), indicating that capital gains are concentrated amongst those who already have high incomes.

Ranking people by their income only, the top 1% (around 500,000 people) received 13.8% of all income in 2018. To be in this group, you needed an income of above £125,000. When we add the capital gains of these same people, their share of all income plus gains increases to 15.2%. This implies that each person on average received an extra £47,000 in gains, in addition to their income.

However, there are also a substantial minority of people who have very large capital gains but relatively low incomes. These people are missing from the top 1% when we rank on income only. If instead we re-rank the population based on individuals' total remuneration (i.e. including gains), then one in ten people from the 'old' top 1% (on income only) are replaced by these high-gainers.

This re-ranking increases the share of total remuneration going to the top 1% even further: from 15.2% (ranking on income only) to 16.8% ranking on income plus gains. In 2018, to be in the top 1% you would have needed at least £132,000; this is £8,000 more than if we measure (and rank on) income only.

These differences are much larger when looking towards the very top. Focusing on the top 0.01%, the top share increases 60% from 2.2% when measured and ranked on income, to 3.6% when measured and ranked on total remuneration. This effect is mainly driven by re-ranking: before re-ranking the top share becomes 2.4%. This highlights the extent to which including gains not only changes top shares, but also affects *who* is at the top.

Figure 4a. Top 1%, 0.1% and 0.01% shares, based on income-only; income plus gains (ranked on income only); and income plus gains (re-ranked), 2018

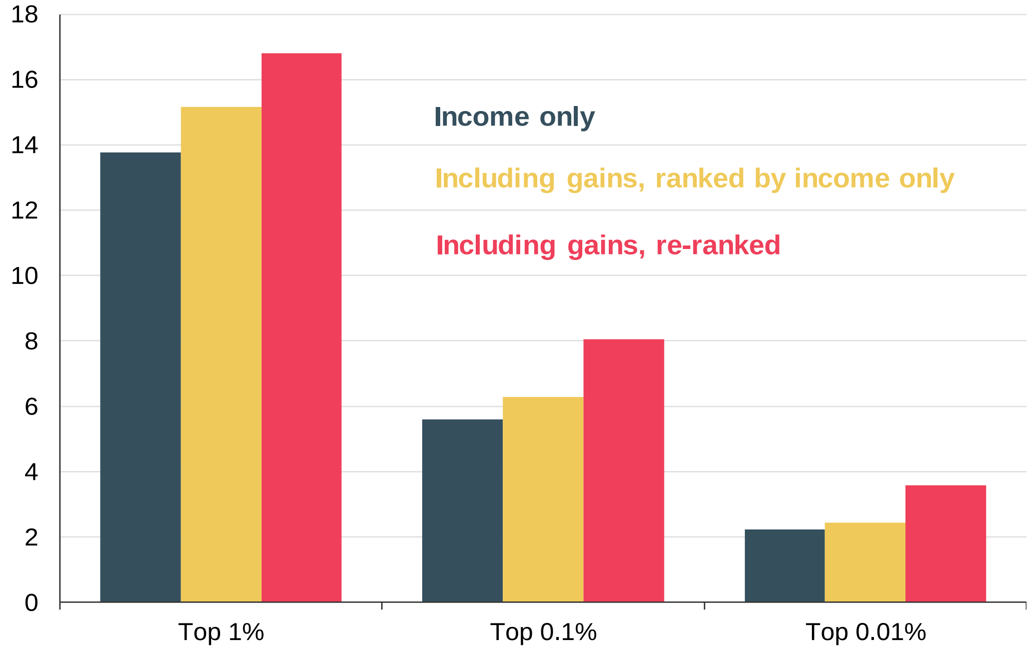
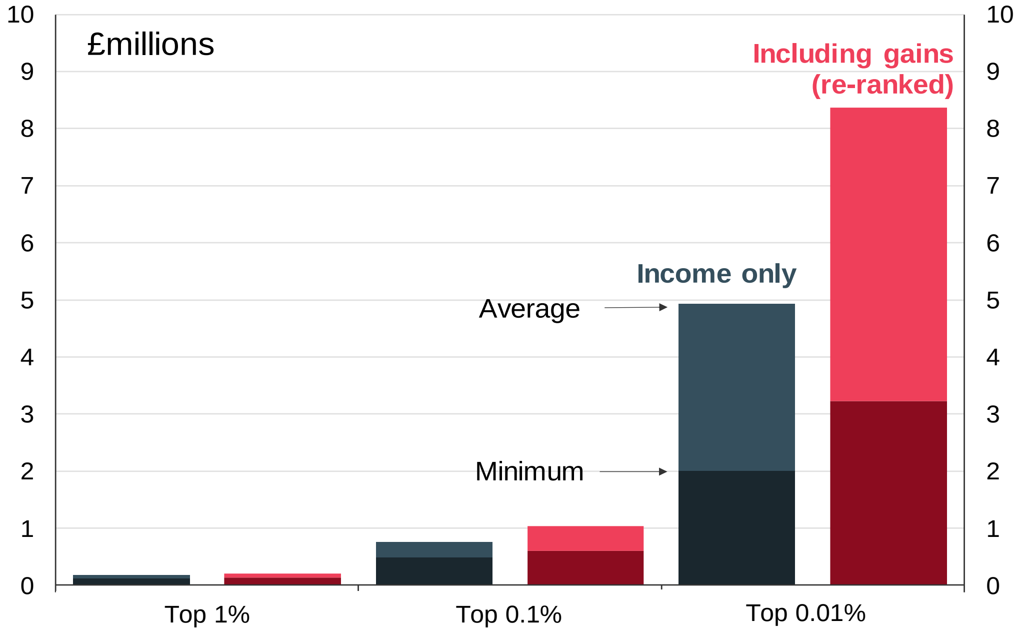


Figure 4b. Minimum thresholds and averages for the top 1%, 0.1% and 0.01%, based on income-only and income plus gains (re-ranked), 2018



Notes: Constructed using data on all reported taxable capital gains and reported fiscal income in 2018. Panel (a) shows the proportion of all resources going to the top 1%, 0.1%, 0.01% of the UK population aged 15+, under different definitions for resources and rankings. Panel (b) shows the minimum and average incomes needed to be in these top shares under different definitions. 'Income only' includes only fiscal income and ranks individuals on this. 'Including gains, ranked by income only' adds capital gains but still ranks individuals on income, while 'including gains, re-ranked' also ranks on the sum of income and gains.

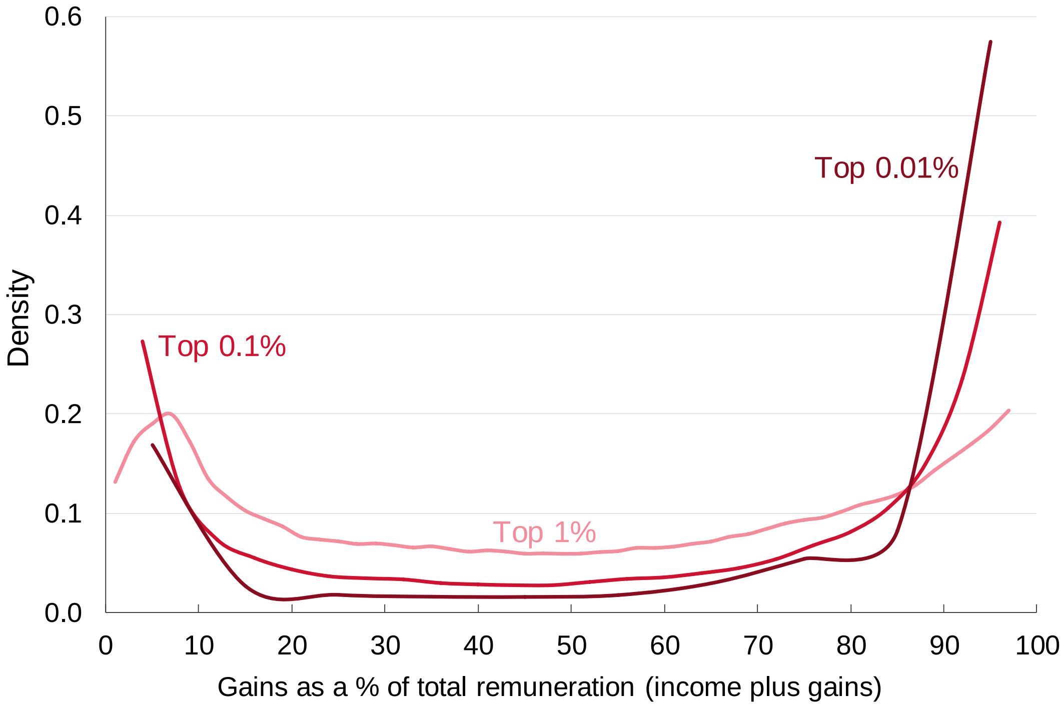
Source: Authors' calculations based on HMRC administrative datasets, and ONS 15+ population estimates.

Some people receive most of their remuneration in the form of gains

When we look at how individuals at the top (ranking on income plus gains) receive their remuneration, there is a U-shaped distribution. Especially in the top 0.1 and 0.01%, people tend to have either mostly income or mostly gains, rather than a more equal mix. For those in the top 1% in 2017, around 17% received less than one tenth of their remuneration in the form of gains; but at the other end of the scale, 18% received over 90% from gains. Amongst the top 0.01% this pattern becomes more extreme: nearly six in ten people (57%) received at least 90% of their total remuneration in the form of gains.

Individuals who receive a high proportion of their total remuneration in gains are the ones most likely to be excluded from top shares measured on income only. For those whose incomes are large enough in absolute terms that they remain included, excluding their additional gains substantially underestimates their economic well-being.

Figure 5. Density distribution of gains as a proportion of total remuneration, 2017



Notes: Constructed using data on all reported taxable capital gains and reported fiscal income going to individuals in 2017. Individuals are ranked into the top 1%, 0.1%, and 0.01% of the UK population aged 15+ based on total remuneration (the sum of fiscal income and capital gains), Each line shows the distribution of individuals in that group according to the share of total remuneration that comes from capital gains.
Source: Authors' calculations based on HMRC administrative datasets, and ONS 15+ population estimates.

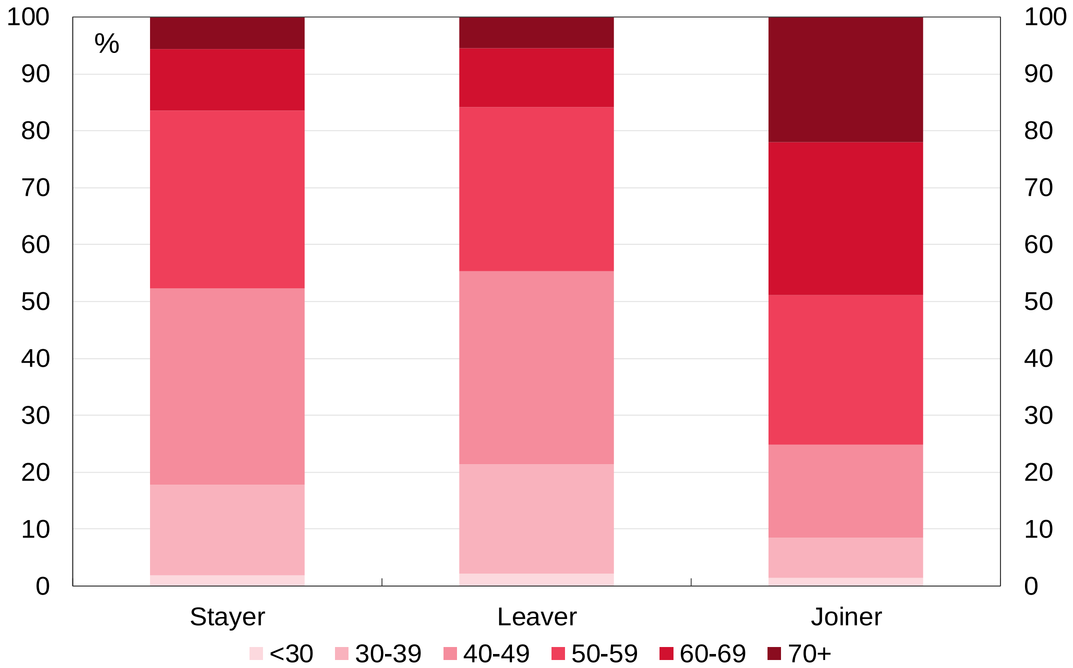
Taking into account capital gains, the rich are older, more likely to be female, and more likely to be business owners

One in ten people who are in the top 1% ranked by total remuneration (including gains) were not in the top 1% by total income. We can compare these "joiners" to the people they replace: the "leavers" who were in the top 1% by income but are no longer there once we include gains. The remaining nine in ten people are "stayers": those who are in the top 1% whether we rank on income only or on income plus gains. Joiners include people who were already at the margins of the top 1% by income, for whom a small amount in gains is enough to push them over the line, but also those who (as we saw above) have minimal incomes but very large gains.

Joiners to the top 1% tend to be older than stayers and leavers. Half of them are over sixty, compared with only one in seven leavers. Older joiners are likely to include both individuals topping up their pensions with investment gains, as well as retiring owner-managers realising large gains on exit from their business.

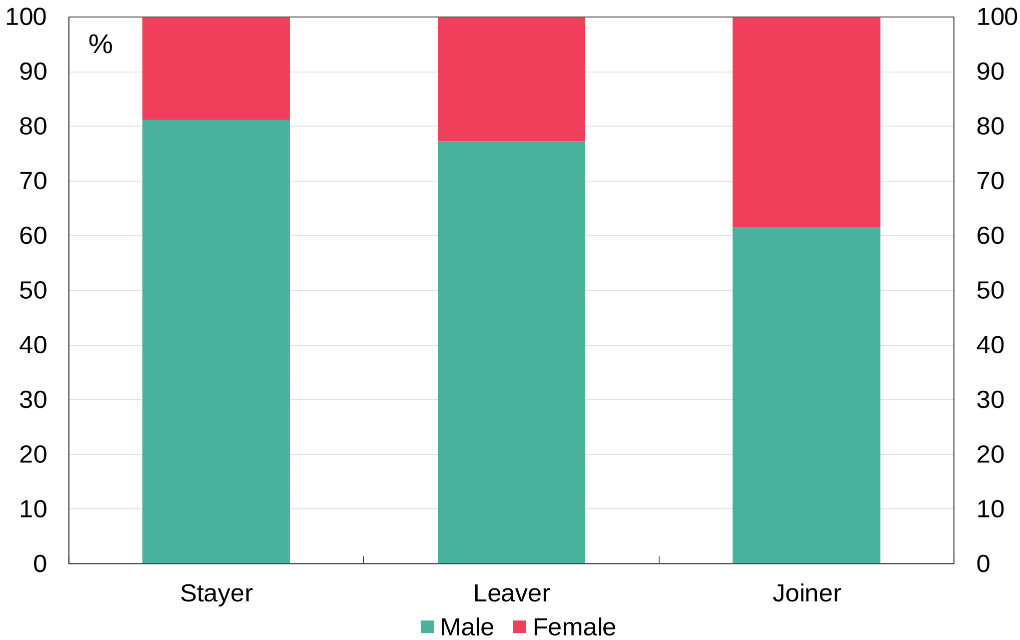
Joiners are also more likely to be female than leavers, although women still make up less than half of this group. 39% of joiners are female, compared with only 23% of leavers. This finding might be thought to indicate that the top 1% is more gender-equal taking into account gains. However, data linking individuals within a household would be useful to investigate the extent to which this is a result of income splitting between couples, spilling over into gains.

Figure 6a. Age of stayers, leavers and joiners, 2017



Notes: Constructed using data on all reported taxable capital gains and reported fiscal income going to individuals in 2017. 'Stayer' includes all individuals who are in the top 1% of the UK 15+ population when ranked by income and when ranked by total remuneration. 'Leaver' includes all individuals who are in the top 1% when ranked by income, and are *not* in the top 1% when ranked total remuneration. 'Joiner' includes all individuals who are in the top 1% when ranked by total remuneration, and are *not* in the top 1% when ranked fiscal income.
Source: Authors' calculations based on HMRC administrative datasets, and ONS 15+ population estimates.

Figure 6b. Sex of stayers, leavers and joiners, 2017

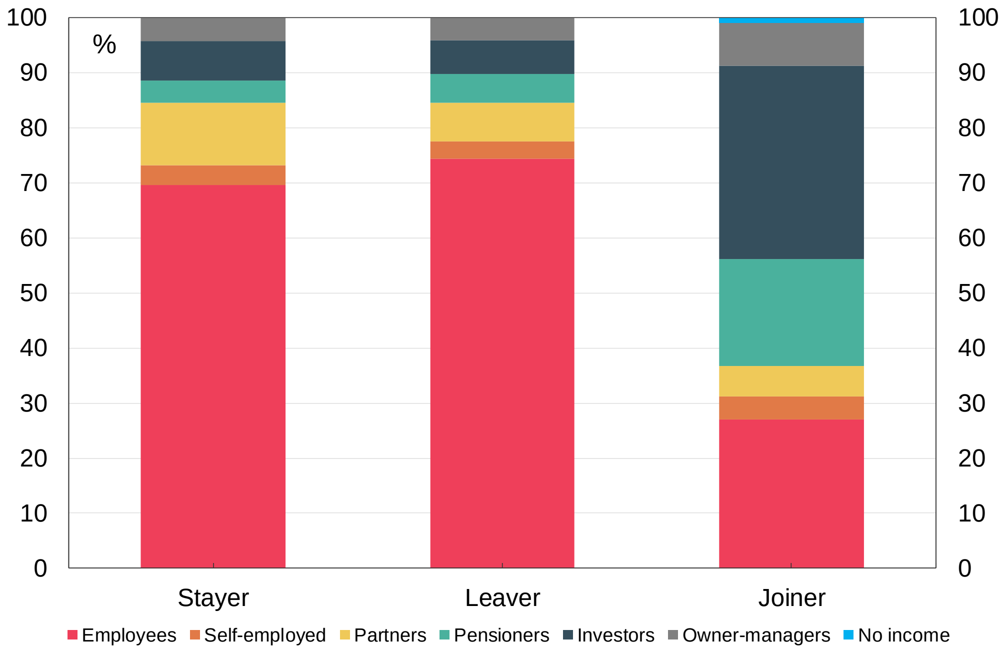


Notes: Constructed using data on all reported taxable capital gains and reported fiscal income going to individuals in 2017. 'Stayer' includes all individuals who are in the top 1% of the UK 15+ population when ranked by income and when ranked by total remuneration. 'Leaver' includes all individuals who are in the top 1% when ranked by income, and are *not* in the top 1% when ranked total remuneration. 'Joiner' includes all individuals who are in the top 1% when ranked by total remuneration, and are *not* in the top 1% when ranked fiscal income.
Source: Authors' calculations based on HMRC administrative datasets, and ONS 15+ population estimates.

We also compare joiners, leavers and stayers based on their main income-source. We identify individuals' largest income-source from the following: employment income; self-employment trading profits; partnership trading profits; income from state and private pensions; and investment income (e.g. interest, rent, dividends). Where an individual's single largest income-source is dividends and they also report being a director of a closely-held company, we reallocate them to a distinct sixth category of 'owner-manager'. Additionally, a small proportion of joiners report no taxable income at all.

Joiners are less likely to be employees, and more likely to be pensioners, investors and owner-managers. This is to be expected, since employees typically have fewer opportunities to receive their remuneration in the form of gains, other than occasionally through participation in employee share schemes. By contrast, investors can choose to target growth over income, and owner-managers can receive large gains in the year in which they exit their business. Pensioners may supplement their incomes through gains from investments made outside their pension scheme.

Figure 6c. Main income-source of stayers, leavers and joiners, 2017



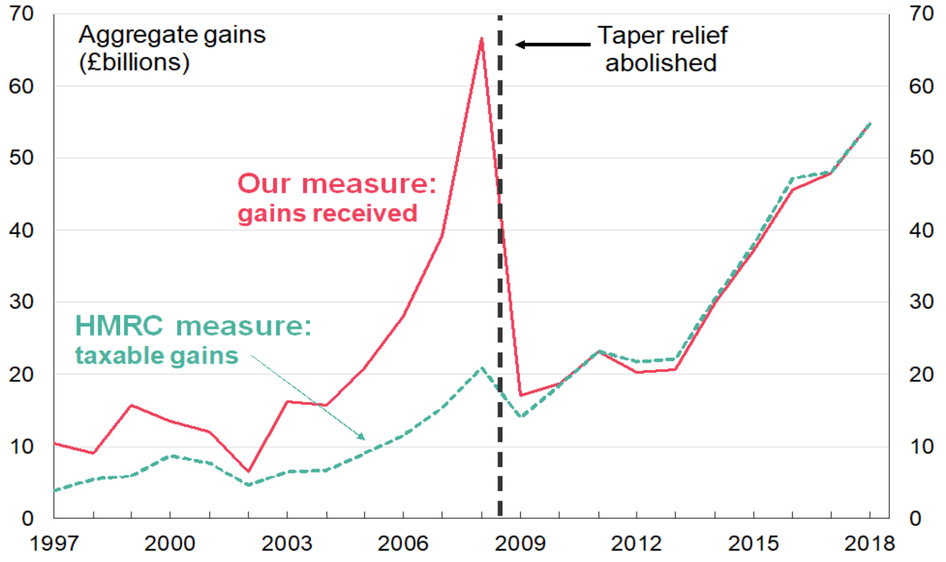
Notes: Constructed using data on all reported taxable capital gains and reported fiscal income going to individuals in 2017. 'Stayer' includes all individuals who are in the top 1% of the UK 15+ population when ranked by income and when ranked by total remuneration. 'Leaver' includes all individuals who are in the top 1% when ranked by income, and are *not* in the top 1% when ranked total remuneration. 'Joiner' includes all individuals who are in the top 1% when ranked by total remuneration, and are *not* in the top 1% when ranked fiscal income. The bars are divided into shares of individuals whose main source income is from employment, self-employment, partnerships, pensions, or investment. There is also a category for 'owner-managers': individuals who are directors of closely held companies and report investment as their main source. Among joiners, the 'no income' category comprises individuals with no reported income but whose gains are large enough to bring them into the top 1%.
Source: Authors' calculations based on HMRC administrative datasets, and ONS 15+ population estimates.

Aggregate capital gains have been growing rapidly over the past decade, but peaked in 2008

Across the economy as a whole, taxable capital gains received by individuals (i.e. excluding trusts) totalled £55 billion in 2018. This reflects rapid growth over the past decade, rising more than 300% from a total of only £17 billion in 2009 (in nominal terms). Although this recent rise has been commented upon, less attention has been paid to the fact that when measured on a consistent basis, aggregate gains actually peaked in 2008, totalling £67 billion.

The record peak in aggregate gains shortly before the Financial Crisis has been overlooked because HMRC's official CGT Statistics include an important discontinuity in the way that gains were measured, reflecting different tax treatment before 2009. We provide a new long-run time-series for taxable gains that allows a more consistent comparison of the periods 1997-2008 and 2009-2018.

Figure 7. Aggregate gains using different measures, 1997-2018



Notes: Constructed using data on all reported taxable capital gains going to individuals. Prior to 2009, our measure of gains differs from HMRC aggregates. Our series describes the full nominal gains realised by taxpayers, whereas the main series provided by HMRC shows gains after taper relief and indexation allowances---policies which reduce the amount of gains on which tax was due. These policies were removed from 2008, as noted in the figure.
Source: Authors' calculations based on HMRC administrative datasets.

For 2009-onwards, our series is based on reported net gains, which (subject to some minor deductions and reliefs) represents the full nominal gains realised by the taxpayer and is almost exactly the measure used in HMRC's official CGT Statistics for this period.[5]

For 1997-2008, our measure of gains differs from HMRC's. The difference is attributable to indexation allowance, which applied between 1988 and 2008, and more importantly taper relief, which applied between 1999 and 2008 (inclusive). Both reduced the gain chargeable to CGT the longer an asset had been held. HMRC's series measures gains *after* these policies, while our measure is *before* them. This means that our series for 1997-2008 is consistent with 2009-onwards, because it is closer to the full nominal gain realised by the taxpayer.

The impact of taper relief on the measurement of gains before 2009 is huge. Whereas HMRC's official CGT Statistics estimate aggregate net gains at £21 billion in 2008, our analysis of gains before taper relief puts this total at £67 billion. The discrepancy initially widens in 2003 (when the first gains significantly reduced by taper relief were realised) and increases rapidly up to 2008.

In 2009, taper relief and indexation allowance were abolished, at the same time as a new flat Capital Gains Tax rate of 18% was introduced. Anticipation of these reforms is likely to have had significant behavioural effects in 2008, in particular by incentivising the early realisation of long-held assets that would no longer benefit from the reliefs, pushing up gains realised and reported in that year. Of course, the decline in 2009 and years immediately following is also likely to reflect the impact of the Financial Crisis.

[5] Our population and definition of net gains differs slightly from HMRC's current approach in the following two respects: (1) HMRC statistics only cover individuals with CGT liability, whereas we also include individuals who reported net capital losses; (2) HMRC statistics are based on net gains *chargeable* in the year, whereas our measure includes net gains from all disposals in the year but excludes losses brought forward from previous years.

The impact of capital gains on UK inequality, 1997-2018

What does this mean for trends in inequality over time? Having seen that capital gains have grown over time, are highly concentrated, and are also persistent for some, it is natural to ask what this means for our understanding of inequality.

Most inequality statistics focus on income only. On this measure, the top 1% share has hovered consistently at around 14% for the past decade, rising slightly between 1997 and the 2008 Financial Crisis, but hardly increasing since. When gains are included, the share going to the top 1% is both higher and has been rising. The difference between the two measures mirrors the pattern of aggregate gains over the same period; since gains are highly concentrated, when aggregate gains increase, so does the impact of gains on measured inequality.

This pattern is exacerbated when we look at the top 0.1% and 0.01% shares over time. Since the Financial Crisis, the share of total remuneration going to the top 1% rose by two and a half percentage points from 14.1% (in 2009) to 16.8% (in 2018), a rise of 19%. Over the same period, the shares going to the top 0.1% and 0.01% both rose by around one third: from 6.1% to 8.1% percentage points for the top 0.1% (around 50,000 people) and from 2.7% to 3.6% for the top 0.01% (around 5,000 people).

These findings change the story of top income inequality in the 2010s. Although top incomes as measured in official statistics did not increase significantly, this masks an important shift in the way that the richest received their remuneration. Inequality had not abated, just taken a different form. Unless a wider definition of income is adopted in official statistics, we are liable to miss important trends in inequality over the coming decade too.

Figure 8a. Top 1% share based on income-only and income plus gains (re-ranked), 1997-2018

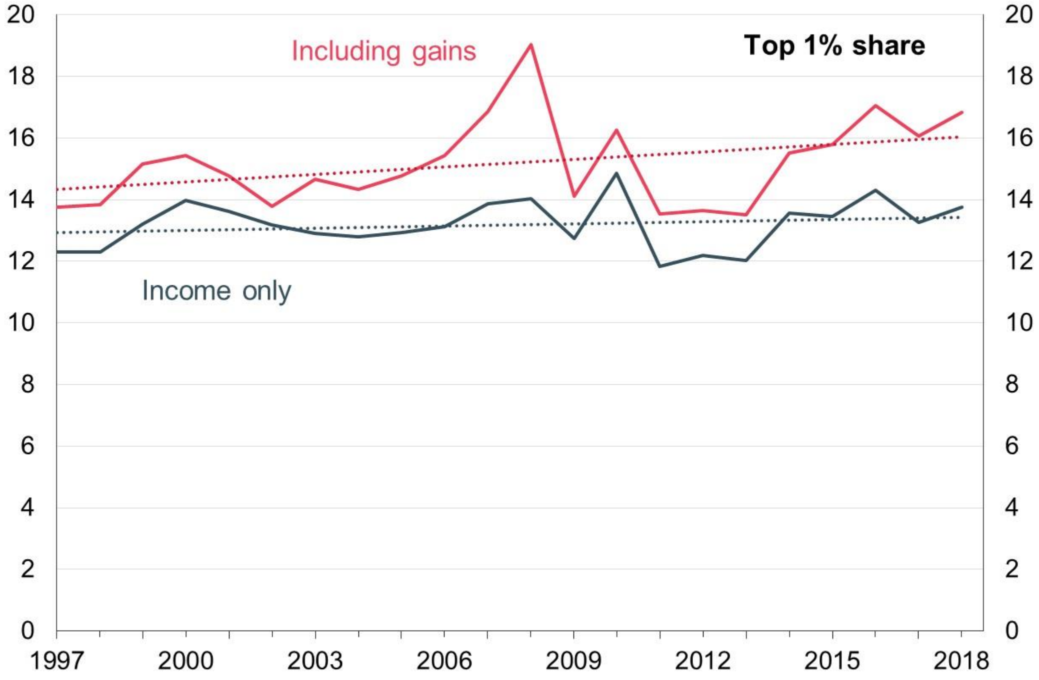


Figure 8b. Top 0.1% share based on income-only and income plus gains (re-ranked), 1997-2018

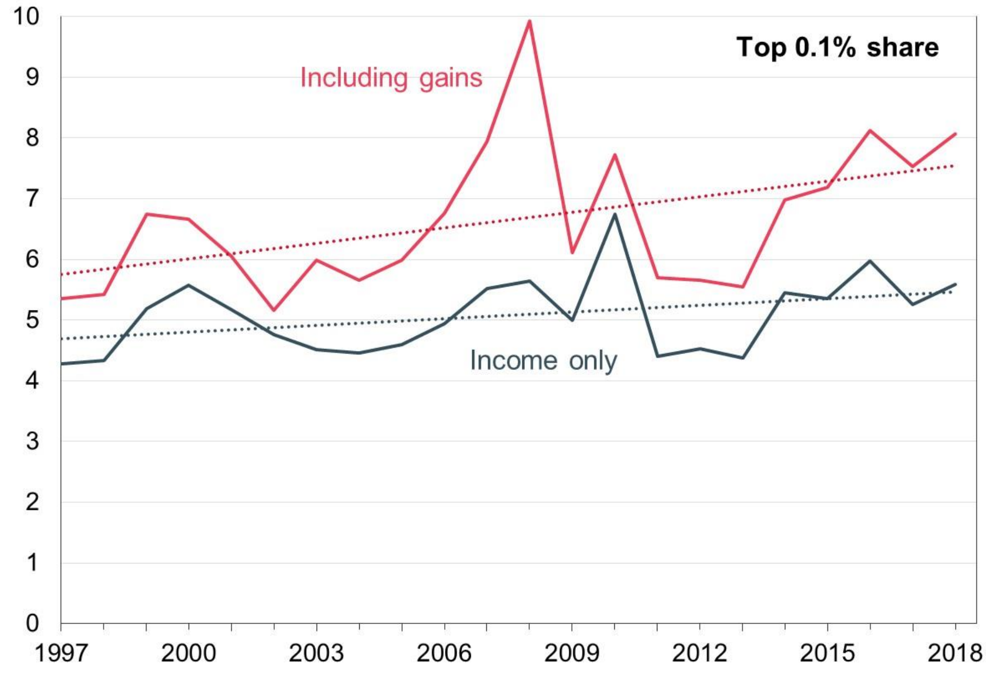
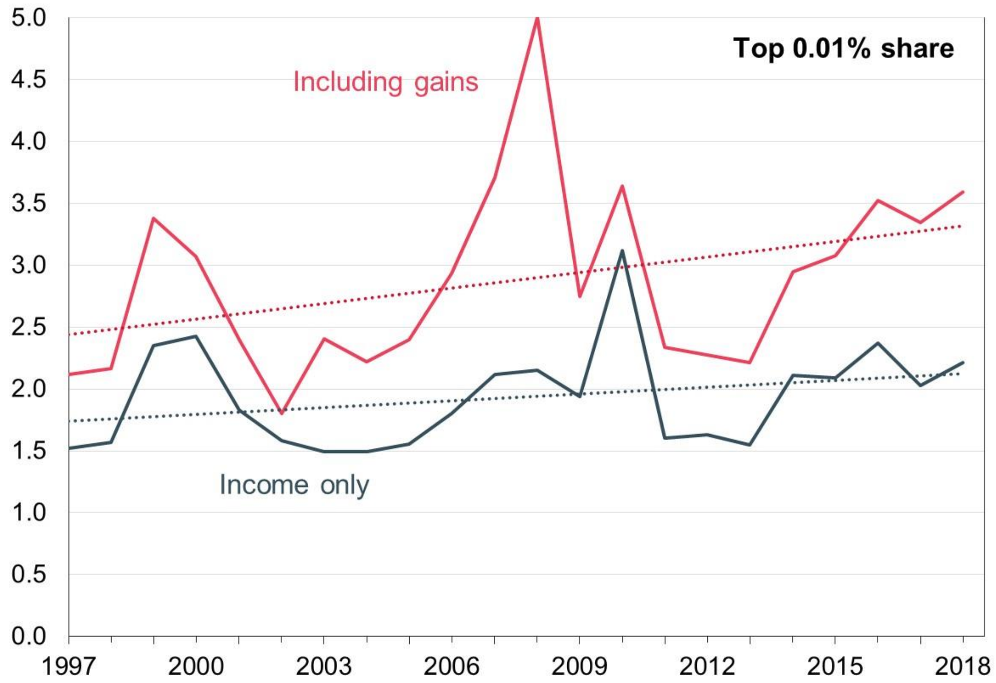


Figure 8c. Top 0.01% share based on income-only and income plus gains (re-ranked), 1997-2018



Notes: 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%, 0.01% of the UK 15+ population ranked by fiscal income. 'Including gains' shows the proportion of total remuneration (fiscal income and realised gains) going to the top 1%, 0.1%, 0.01% ranked by total remuneration.
Source: Authors' calculations based on HMRC administrative datasets, and ONS 15+ population estimates.

References

Advani, A., and Summers, A. (2020) 'Capital Gains and UK Inequality', CAGE Working Paper no. 465

Advani, A., Corlett, A., and Summers, A. (2020), *Who gains*, Resolution Foundation report