

Income outcomes

Assessing income gaps between places across the UK

Lindsay Judge & Charlie McCurdy

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The Economy 2030 Inquiry

The Economy 2030 Inquiry is a collaboration between the Resolution Foundation and the Centre for Economic Performance at the London School of Economics, funded by the Nuffield Foundation. The Inquiry's subject matter is the nature, scale, and context for the economic change facing the UK during the 2020s. Its goal is not just to describe the change that Covid-19, Brexit, the Net Zero transition and technology will bring, but to help the country and its policy makers better understand and navigate it against a backdrop of low productivity and high inequality. To achieve these aims the Inquiry is leading a two-year national conversation on the future of the UK economy, bridging rigorous research, public involvement and concrete proposals. The work of the Inquiry will be brought together in a final report in 2023 that will set out a renewed economic strategy for the UK to enable the country to successfully navigate the decade ahead, with proposals to drive strong, sustainable and equitable growth, and significant improvements to people's living standards and well-being.

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Summary

There is a widespread view in the UK today that differences in living standards between places are large and enduring. The public cares very much about this issue: more than six-in-ten (61 per cent) people say that the gaps between areas are one of the most concerning types of inequality the country faces. In addition, spatial disparities loom large in politics, with the Government firmly committed to 'levelling up' opportunities between different areas. But why are place-based differences of such acute concern, especially when on some key measures the gaps between areas have actually reduced over time?

This briefing note uses a relatively under-exploited source of data to analyse how average incomes at the local authority level have changed since 1997. This allows us to look beyond variations across place in wages and salaries, to other sources of income; study the distribution of incomes at a lower level of geography than is often the case; and observe how incomes in different places have changed relative to each other over a period of more than 20 years. As a result, we present a more complete view of how incomes vary across the country than has been possible to date, vital as the Economy 2030 Inquiry seeks to answer the question: how can a new economic strategy address the spatial disparities that have beset the UK for so long?

We begin by showing that income differences at the local authority level are substantial. In 2019, before housing costs income per person in the richest local authority – Kensington and Chelsea (£52,451) – was 4.5 times that of the poorest – Nottingham (£11,708). These outliers clearly paint an extreme picture, but even when we compare incomes at the 75th and the 25th percentiles the differences remain significant. In 2019, for example, Oxford had an average per person income that was more than 20 per cent higher than Torbay (£18,700, compared with £15,372). More critically, the income gaps between places are enduring: the differences we observe in 1997 explain 80 per cent of the variation in average local authority income per person 22 years on. This means, for example, that the average income per person in Hammersmith and Fulham has stubbornly been two-to-three times higher than in Burnley for more than two decades.

When we look beyond this headline finding of persistence, however, there is much to note. First, although both gaps in employment and average weekly earnings have closed between local authorities over time, we find that these have not reduced disparities in labour market income overall. Interestingly, we find that the places that have seen people's earnings increase relative to the UK average are not necessarily those that have seen employment rates move in the same direction: formally, the correlation between employment and average earnings at the local authority level has increased over time (from 0.16 in 1997 to 0.22 in 2019). In real world terms, Gwynedd (one of the places with the lowest average earnings in 2004) saw its employment rate grow by 1 per cent between 2004 and 2019, while in Tower Hamlets (a higher-earning borough) it increased by 34 per cent.

Second, we find there are growing spatial disparities when it comes to often overlooked sources of income – largely driven by the gains of the richest people in the highestincome places. Self-employment income has become more unequally distributed across local authorities, for example, in part because growth of this type of work has been skewed to London, but also because there has been especially significant income growth for those in the highest-paid forms of self-employment in the capital. Moreover, we observe increased disparities in the income that households receive from investments such as stocks and shares. In cash terms, the numbers are striking: near the extremes, investment income per person was £9,135 in Camden in 2019, compared with £806 in Knowsley, while North Norfolk (at the 75th percentile – and notably, the local authority with the oldest population in the country) had an average per capita income from investments of £2,637 in 2019, compared with Sheffield (at the 25th) of £1,404 – almost 1.9 times as large. As with income from self-employment, this is very much a London story: boroughs such as Camden and Wandsworth have seen investment income per person increase much faster than the UK average over the last 20 years, even as the share of households in receipt of dividends has fallen.

Third, income from private pensions and benefits is far more evenly spread across local authorities than other sources, unsurprising given that older people and those supported by the social security system are widely dispersed. Nonetheless, there is still some spatial nuance. Income from non-labour market sources (benefits, pensions and investments) is far more important in some areas than others: in North Norfolk, just over half (54 per cent) of average total pre-tax income per person came from labour market sources in 2019, compared with 71 per cent in Oxford, the place with the lowest median age. Furthermore, although Universal Credit (UC) and Working Tax Credit (WTC) receipt is naturally skewed to poorer places, there are a non-negligible number of better-off local authorities where high housing costs mean that an above-average share of households require support from the state. For example, eight local authorities in the highest-income decile have more households on UC or WTC than four local authorities found in the poorest decile.

Given that the typical household will receive the bulk, if not all, of their income from wages and salaries, we infer from our analysis that the distribution of median incomes between places has changed little over time. But beyond the averages, the income story is very much about the top. 'Experimental' data from the ONS shows that there is greater

variation between places when it comes to those with the highest incomes than there is for those with the lowest incomes. In 2015-16, for example, income from earnings and benefits at the bottom of the distribution ranged from £2,500 per person (the lowest observed – in Newcastle) to £5,100 (the highest observed – in Spelthorne). In contrast, individual incomes at the top end were between £30,400 (the lowest – in Blackpool) and £130,600 (the highest – in Kensington and Chelsea). The equalising impact of the tax system may have increased by one-third (32 per cent) between 1997 and 2019, but as top incomes pull away there are spatial consequences both within and between places.

Finally, we reflect on the role that housing plays in different parts of the country when it comes to disposable household income. Given that house prices (a reasonable proxy for ongoing housing costs when it comes to relativities between places) have grown fastest in higher-income parts of the country in recent years, we infer that after-housing costs income gaps between local authorities will be smaller than those measured before housing costs. (We can observe this in the data at a regional level.) But this is not the end of the housing story. In pure economic terms, those who own their home can also be thought of as being in receipt of the money they would otherwise spend if they had to pay rent for their housing (i.e. 'imputed rent'). If we bring this element back into our measure of income, the income gaps between places widen, showing that the much higher housing costs we find in some local authorities more than offset the lower home ownership rates observed in such places too.

Overall, our analysis suggests that if policy makers truly want to tackle spatial disparities, they should be mindful of three things. First, action to close gaps in overall labour market income is key (the companion paper to this briefing note which looks at raising productivity is highly pertinent here). Second, they must not forget that for some places, income from outside the labour market is of increasing importance, in part because the country is growing apart when it comes to typical age, but also because rising housing costs leave low-income families in richer places exposed. Third, if the country wants to get serious about closing the stubborn income gaps we have documented in this briefing note, attention needs to focus on the top end of the income distribution, where disparities are not only large but increasing too.

Spatial disparities in income are experienced, and therefore are best studied, at the local level

There is a widespread view in the UK today that spatial disparities are large and enduring. The public cares very much about place-based inequality: more than six-in-ten (61 per cent) people say that the gaps between areas are one of the most concerning types of inequality in the UK today.¹ In addition, the issue rides high on the political agenda, with the Government firmly committed to 'levelling up' opportunities between places.² But why are spatial disparities of such acute concern, especially when on key measures such as employment and average earnings the gaps between areas have actually reduced over time?³

One possible explanation is that much of the work analysing spatial disparities in the UK (and elsewhere) to date has focused on labour market outcomes. This is justified to a large degree: the typical household receives most, if not all, of its income from earnings.⁴ But living standards in different parts of the UK are determined not just by wages and salaries, but also by income from self-employment, pensions and returns on investments; by the way that total income is then redistributed between places through the tax and benefit system; and by differences in the costs of living (most obviously, housing costs).

Data constraints have also meant that most studies looking at spatial gaps in incomes (rather than earnings) have focused on the differences between English regions and between the nations of the UK.⁵ (Hereafter, we use the phrase 'region' as a shorthand for 'English regions and nations of the UK'). However, the lived experience of the economy is often much more local.⁶ Of course, good connectivity can expand horizons beyond one's immediate area, and moving may be an option for some, but for most, their economic reality is that close to home. What matters to people, then, is arguably broader than just labour market outcomes, but narrower in terms of geography than the high-level picture we observe when we focus on regional differences in household incomes.

This briefing note attempts to address both these issues. We use National Accounts Gross Disposable Household Income (GDHI) data to bring sources of income other than just wages and salaries into the picture, and analyse spatial disparities at the sub-regional

¹ B Duffy et al., <u>Unequal Britain: Attitudes to inequalities after Covid-19</u>, The Policy Institute, King's College London, February 2021.

² Department for Levelling Up, Housing and Communities, Levelling up the United Kingdom, February 2022.

³ See, for example: L Judge, <u>Moving matters: Housing costs and labour market mobility</u>, Resolution Foundation, June 2019; H Overman & X Xu, <u>Spatial disparities across labour markets</u>, IFS Deaton Review of Inequalities, February 2022.

⁴ See also the companion paper to this briefing note: P Brandily et al., <u>Bridging the gap: What would it take to narrow the UK's</u> <u>productivity disparities</u>?, Resolution Foundation, June 2022, showing what is needed to close productivity gaps between places – the prerequisite for reducing spatial disparities when it comes to labour market incomes.

⁵ Official data on household incomes is at the regional level. See, for example: DWP, <u>Households below average income: for financial years ending 1995 to 2020</u>, 25 March 2021 (Note: there were no regional cuts in the 2022 release); S Clarke, <u>Mapping gaps: Geographic inequality in productivity and living standards</u>, Resolution Foundation, July 2019. One exception to this is provided by the ONS, which has used a model-based approach to estimate mean household incomes in small areas. The latest example is: ONS, <u>Income estimates for small areas</u>, <u>England and Wales: financial year ending 2018</u>, 5 March 2020. Data on the number of people receiving means-tested benefits is available for very small areas and forms the basis of the 'income' domain in the Index of Multiple Deprivation, but this is not a good assessment of median or mean incomes in an area and it can only be used to rank areas, rather than track income growth in an area.

⁶ L Judge & D Tomlinson, All over the place: Perspectives on local economic prosperity, Resolution Foundation, June 2022.

level (specifically at the level of the local authority).⁷ There are a number of reasons why the GDHI data has not been exploited for such purposes to date. Most obviously, GDHI is a pure economic measure of income (for example, it includes imputed rent) that is not entirely akin to how most people think about income, differing from the concept used in the DWP's Households Below Average Income (HBAI) series, the main source of data on the distribution of household incomes.⁸ However, as Box 1 explains, by making a number of adjustments to the GDHI data, it is possible to estimate a 'cash measure' (i.e. money coming into, and money going out of, a household) which more closely aligns with what most understand as income when thinking about living standards.

BOX 1: Deriving a cash measure of income from Gross Disposable Household Income data

Conceptually, Gross Disposable Household Income (GDHI) is a broader measure of income than that which is recorded in surveys such as Households Below Average Income (HBAI). At its core it captures the same 'cash' elements of income (i.e. earnings, benefit income, pension income and investment income), but it also contains elements that are not found in HBAI, including income imputed from assets such as housing, pension funds and insurance policies.

Moreover, it makes deductions (Income Tax, National Insurance and 'other wealth taxes', which are largely Council Tax, mortgage interest paid and insurance policy premiums paid) that differ slightly from those made in HBAI. Figure 1 shows these differences.

To derive a cash measure from the GDHI data which is aligned as closely as possible with the disposable income measure found in HBAI, we removed the elements of income imputed from assets and we removed the deductions that would not appear on household balance sheets (most notably, insurance policy premiums). We then added back mortgage interest paid by home owners (which is deducted from the concept of income in GDHI) to create a 'before housing costs' measure.

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⁷ Throughout this note, we examine the gaps between household incomes at the local authority level. We have chosen this spatial unit of analysis in preference to Travel-To-Work-Areas (TTWAs) for two reasons. First, this paper is not concerned with where people generate their income, which may of course be outside their local authority of residence. As a result, the benefits of using the TTWA measure (that it corrals people into functional economic units) are not needed, while the cost (that it is a larger spatial unit than a local authority and so offers a less fine-grained picture) remains. Second, local authorities are the political units responsible for delivering local services and are accountable to their local populations – both relevant when it comes to thinking about the policy change required to address spatial gaps.

⁸ DWP, Households below average income: for financial years ending 1995 to 2021, March 2022.

The result is a cashflow measure of disposable household income that is very similar to the survey-based measures used in HBAI and related surveys.⁹ See Annex 1 for further details and the various robustness checks we have run.

FIGURE 1: By adjusting GDHI data we can create a cash measure similar to that used in surveys

Stylised comparison of UK income data sources, by element



NOTES: The height of the segments is not intended to indicate the relative importance of the different components of income.

SOURCE: ONS, Regional accounts methodology guide, June 2019. DWP, Households Below Average Income Quality and Methodology Information Report.

There are two other important differences to note between the cash measure we can back out of the GDHI data and the way that income is conceptualised and then measured in HBAI. First, the GDHI data only allows us to estimate the mean (average) income in a local authority area, rather than the median, which would be preferable given the skewed distribution of income (although we address this latter issue in a number of ways within this note). Second, our GDHI cash measure is a per capita measure, whereas HBAI uses a more complicated equivalence scale to adjust for the fact that households are of different sizes and compositions. Although it is possible to divide the aggregate GDHI figure per local authority by the published number of households in the same

⁹ Our method is very similar to that used in ONS, <u>Alternative measures of UK households' income and savings: April to June 2018</u>, October 2018. A similar exercise has also been undertaken in the US. See: B Cynamon & S Fazzari, <u>Household income, demand, and saving: Deriving macro data with micro data concepts</u>, Review of Income and Wealth 6(1), May 2015.

area, the ONS cautions against this exercise (and note that this still would not adjust for households being of different sizes and compositions).¹⁰

These caveats are not trivial but, overall, we regard the GDHI data as rich (in that it provides information on the sub-components of income and at a lower geographic level than any other income data source over a long period of time) and robust (in that it is largely derived from administrative data sources and therefore is not prone to large confidence intervals at a smaller spatial scale, as is the case for survey data or modelled estimates).¹¹ More prosaically, unlike many other sources of income data, GDHI data is available for the whole of the UK, and since 1997. As such, it is a valuable and under-exploited source of information on relative spatial differences when it comes to household income and how these have changed over time.

The income gaps between places are substantial

So, what do we find when we use the GDHI data to compare average per capita income in order to examine differences between places? Figure 2 starts by showing how average income varies between local authorities. In 2019, the average income per person in the richest local authority – Kensington and Chelsea (£52,451) – was 4.5 times that of the average income in the poorest – Nottingham (£11,708).¹² These outliers produce an especially exaggerated picture, of course, but even when we make more nuanced comparisons, the differences between places are still striking. Average annual income per person at the 90th percentile of the local authority distribution was £22,109 in 2019 (East Hertfordshire), for example, compared with £14,203 at the 10th percentile (East Lindsey), more than 50 per cent larger. When we compare incomes at the 75th and the 25th percentiles, the difference is still substantial: Oxford had an average per person income of £18,700, compared with Torbay at £15,372 – more than 20 per cent higher.

¹⁰ This is because GDHI captures income for those living in communal establishments (such as student halls of residence or retirement homes), but data on the number of households at local authority level does not. If those living in communal establishments were evenly spread across geographies, the issue would be less important (at least as far as we are interested in income at the local authority level relative to one another rather than absolute levels). However, there are good reasons to think that this is not the case (for example, students clearly cluster in some locations and the increasing concentration of older people is well-documented. On the latter point, see: C McCurdy, Ageing, fast and slow: When place and demography collide, Resolution Foundation, October 2019.

¹¹ As noted earlier, since 2011-12, the ONS has modelled income estimates for small areas in England and Wales. However, the details of its method mean that it cautions against using these to track the performance of different areas over time. See: ONS, <u>Income estimates for small areas in England and Wales, technical report: financial year ending 2018</u>, March 2020 for further details.

¹² GDHI data is currently only available up to 2019. Much has been made of the differential spatial impacts of the pandemic but we have recently shown that on most measures, these have largely unwound. See M Brewer, J Leslie & L Try, <u>Right where you left me?</u>: <u>Analysis of the Covid-19 pandemic's impact on local economies in the UK</u>, Resolution Foundation, June 2022. Given this, there is little reason to think that the relative results we present here would be substantially different today compared with 2019 (although of course the cash levels most likely would be).

FIGURE 2: Even when we disregard the outliers, income gaps between local authorities are large

Income per capita (GDHI cash measure), local authorities grouped by nations and regions of England: UK, 2019



£10,000 £15,000 £20,000 £25,000 £30,000 £35,000 £40,000 £45,000 £50,000 £55,000 SOURCE: Analysis of ONS, Gross Disposable Household Income.

Figure 2 also provides insights when it comes to inter- and intra-regional differences. The average income per person in London (£23,070) was 1.6 times that of someone living in the North East (£14,621) in 2019, for example. But the chart also brings home what is widely acknowledged on other metrics: that the gaps within regions are often larger than the gaps between them.¹³ The average income per person in the richest local authority in London was 3.1 times higher than in the poorest (£52,451 in Kensington and Chelsea, compared with £16,808 in Barking and Dagenham). Even in the South East, the average income per person in the richest that in the poorest (£30,157 in Elmbridge, compared with £14,406 in Portsmouth). In contrast, in the most homogenous of regions – the North East – average local authority incomes varied by a factor of 1.2 (Hartlepool at £13,725, compared with Northumberland at £16,719).

Spatial income disparities have persisted over time

To understand how inequality is changing over time, it is helpful to condense the variation shown in Figure 2 into a single measure of spatial inequalities. Figure 3 does that by showing the coefficient of variation (a standard way of expressing the spread of observations – see Box 2 for a discussion of other measures that can be used) for average household income per person at the local authority and regional level from 1997

¹³ H Overman & X Xu, <u>Spatial disparities across labour markets</u>, IFS Deaton Review of Inequalities, February 2022 shows this is the case for earnings and employment, for example.

to 2019. It makes two points. First, it brings home how much higher the variation is when we analyse average household income per person at the level of the local authority as opposed to the region. Second, the amount of spatial inequality has broadly stayed the same over this 22-year period, with a suggestion of a small downward trend at the local authority level and small upward trend at the regional level, although both these trends are very small compared with the year-to-year fluctuations. Overall, however, the picture is one of very little change.¹⁴



SOURCE: Analysis of ONS, Gross Disposable Household Income.

14 At the regional level, this is consistent with what we observe in HBAI for mean, before housing costs, incomes. See Figure 3 in: S Clarke, Mapping gaps: Geographic inequality in productivity and living standards, Resolution Foundation, July 2019.

BOX 2: Comparing different measures of geographic income inequality

There is a large literature on the measures of spatial inequality and, as always, different measures have their pros and cons.¹⁵ The coefficient of variation is a common measure of geographic differences, which expresses the standard deviation as a share of the mean. The coefficient of variation puts a lot of weight on bigger income gaps – like between the richer parts of London and the UK average and treats every unit in the data (in our case, each local authority) as if each had the same size or importance (in our case, that is like assuming each local authority has the same population). An alternative approach is to use a dispersion measure, which puts less weight on bigger income gaps, but more weight on bigger places.¹⁶

There is no sense in which one of these measures is better than the other:

they simply tell us different things, and when income is highly skewed across areas, or areas are very unequal in size, they will give different results.¹⁷ At an international level, both metrics can provide very different outcomes when ranking countries against each other for spatial disparities.¹⁸ Here, as Figure 4 shows, using a dispersion measure makes no difference to the trends we see when we used the coefficient of variation in Figure 3. The slight upward trend for regions is more pronounced (because London, the richest region, is large); the overall trend for local authorities is unchanged. In other words, accounting for population size and using the dispersion measure does not alter our central finding: that income disparities have not changed very much over the last 22 years.

$$D = 100 \frac{1}{Y} \sum_{i=1}^{n} |y_i - Y| (p_i / P)$$

¹⁵ See, for example: P McCann, <u>Perceptions of regional inequality and the geography of discontent: Insights from the UK</u>, January 2019.

¹⁶ Formally, the dispersion measure is the sum of the absolute differences between regional and national income per person, weighted according to the regional share of population and expressed as a percentage of national income per person (see equation below).

Where y_i is the regional income per person of region; Y is the national average for income per person; p_i is the population of region i; P is the national population and n is the number of regions in the country. The value of this dispersion metric is zero if the values of regional income are identical across all regions of a country.

¹⁷ See: P Brandily et al, <u>Bridging the gap: What would it take to narrow the UK's productivity disparities</u>?, Resolution Foundation, June 2022 for further discussion of this issue.

¹⁸ See, for example: T Forth, Measuring regional inequality, November 2020.



Of course, the coefficient of variation (or dispersion) of local incomes could stay the same over time, but the actual places could shift relative to one another. We investigate whether this has been the case in Figure 5, which charts the relationship between income per person at the local authority level relative to the UK average in 1997 (the horizontal axis), and in 2019 (the vertical axis). As this clearly shows, the relationship between the two is very strong: income per person in 1997 explains 80 per cent of the variation across local authorities in 2019. Put more simply, low-income local authorities have tended to remain low income, and high-income local authorities remain high. For example, the average income per person in Hammersmith and Fulham has been two-to-three times higher than in Burnley for more than two decades. Moreover, it is worth noting that this story of persistent geographic economic differences is not unique to the UK.¹⁹

¹⁹ Both the US and mainland Europe have also experienced long-lasting and persistent geographic economic differences. See: E Moretti, <u>Place-based policies and geographical inequality</u>, IFS Deaton Review of Inequality, February 2022.



Log local authority income per capita (GDHI cash measure) in 1997 compared to 2019, relative to the UK average



SOURCE: Analysis of ONS, Gross Disposable Household Income.

However, this overall trend does obscure the fact that there are some places where incomes have grown over the last 20 years by more than the average (those local authorities in Figure 5 that are above the trendline). London boroughs such as Newham, Hackney and Lewisham which were below average in 1997, in particular, have seen their income per person grow rapidly over time relative to their position then. This catch-up of low-income London boroughs and the particularly strong persistence of already highincome places such as Wandsworth, Camden, Westminster and Kensington and Chelsea is crucial to explaining why income gaps have remained so persistent in the UK over time.

On the other side of the ledger, Bradford, Blackburn, Nottingham and Leicester – all with industrial legacies – were in a poorer position relative to the UK average in 2019 than they were in 1997.²⁰ In that year, the average income per person was 13 per cent (Bradford), 17 per cent (Blackburn) and 20 per cent (Nottingham and Leicester) below the national average. Fast forward to 2019 and average incomes stood at 26 per cent (Bradford), 29 per cent (Blackburn), 33 per cent (Leicester) and 34 per cent (Nottingham) below the national average. Moreover, we note that 55 out of the 57 local authorities that are

²⁰ We can classify local authorities as 'old industrial' following the taxonomy in C Beatty & S Fothergill, The long shadow of job loss: Britain's older industrial towns in the 21st century, Frontiers in Sociology – Work, Employment and Organizations 5, 2020.

classified by the ONS as 'Services and Industrial Legacy' still have an average income per capita that is below the national average.²¹

Spatial disparities in wages and salaries have flatlined over time, but self-employed income has become less equally distributed

Although total income per person has become neither more nor less equally distributed between places over time, does the same hold true for its sub-components? Figure 6 shows the spatial distribution of income from wages and salaries and from self-employment between 1997 and 2019, behind which sits a number of interesting stories. First, although the gaps between local authorities have narrowed over time when we consider both average weekly earnings and the employment rate, the coefficient of variation for total wages and salaries (which is the number of people in work multiplied by average earnings, and then expressed on a per capita basis) has not fallen.²² This is because the places that have seen employment grow faster than the average in recent years are those with higher-than-average earnings (see Figure 21 in Annex 2).²³ For example, Gwynedd (one of the places with the lowest average earnings in 2004) has seen its employment rate grow by 1 per cent between 2004 and 2019; North East Derbyshire (a middle-earning local authority) by 11 per cent; and Tower Hamlets (a higher-earning borough) by 34 per cent.

Second, although the coefficient of variation for income derived from wages and salaries has changed very little over time, income from self-employment has become less equally distributed. Figure 7 shows that it is the high levels and growth of self-employment income in London that is driving this trend, with boroughs such as Tower Hamlets, Bexley and Lewisham – which in 1997 had below-UK average self-employed income per person – surpassing the national average considerably in 2019. Indeed, in 2019 there were 32 local authorities with self-employment income 50 per cent above the national average, 29 of which were in the capital.

²¹ The ONS Supergroup Classification assigns local authorities together into eight supergroups based on the general characteristics of the local authorities, including industries of employment, overcrowding of households, qualifications, median ages and population densities. The 'Services and Industrial Legacy' group comprises 57 local authorities, covering 11.8 per cent of the UK population, mainly concentrated in northern England and South Wales. In such area, there is a high prevalence of workers in the manufacturing and wholesale and retail trade industries. For more details, see: ONS, <u>Pen portraits for the 2011 Area Classification for Local Authorities</u>, July 2018.

²² See: S Clarke, <u>Mapping gaps: Geographic inequality in productivity and living standards</u>, Resolution Foundation, July 2019. H Overman & X Xu, <u>Spatial disparities across labour markets</u>, IFS Deaton Review of Inequalities, February 2022 find the same at the Travel-To-Work-Area. Note that if we divide total income from wages and salaries by the number of employees, we get the same result of unchanging spatial gaps.

²³ Formally, the correlation between local authority-level average earnings and the local authority-level employment rate has increased from 0.13 in 2004 to 0.22 in 2019.





Coefficient of variation of labour market income per capita, across local authorities: UK

SOURCE: Analysis of ONS, Gross Disposable Household Income.

FIGURE 7: Self-employed income has grown especially fast in the capital over the last 20 years

Log local authority income per capita from self-employment in 1997 compared with 2019, relative to the UK average



0.8 Log self-employment income relative to UK average, 2019

SOURCE: Analysis of ONS, Gross Disposable Household Income.

There are two possible explanations as to why this is the case. First, the rise in selfemployed income per person in the capital could simply be due to the fact that the number of self-employed people has grown more in London than elsewhere.²⁴ However, when we divide the total self-employed income by the number of those who work for themselves per local authority rather than the total population the upward trend remains (see Figure 22 in Annex 2). This suggests that although the rising number of self-employed in the capital plays a role, it is not the whole story. Figure 8 confirms this is the case. Using a different data source, it shows the growth in nominal income from self-employment across the income distribution, comparing London with what has been happening more broadly across the UK. As the chart makes very clear, there has been a significant rise in self-employment income among high-income households in the capital, with this source of income increasing by two-thirds (66 per cent) since the late 1990s, compared with around one-third to one-half for those in other income deciles and the whole of the UK.²⁵

FIGURE 8: There has been a rapid rise in self-employment income among welloff households in London

70% UK 66% London 60% 50% 459 $\Delta \Delta \%$ 40% 2% 41% 39% 36% 34% 30% 20% 10% 0% 5 Decile 1 2 3 4 6 7 8 9 Decile 10 (poorest) (richest)

Change in mean real (CPI-adjusted to 2019-20 prices) self-employed household income, by household income decile: 1996-1999 to 2017-2019, UK and London

NOTES: Decile 1 is excluded due to the unreliability of data at the very bottom of the income distribution. A self-employed household is any household where at least one member is self-employed full time. SOURCE: Analysis of DWP, Households Below Average Income.

24 See, for example: ONS, <u>Trends in self-employment in the UK</u>, February 2018.

25 It is worth noting that since the start of the pandemic, the number of self-employed workers (as measured by the Labour Force Survey) has fallen by 820,000 (16 per cent). Some of this fall is due to statistical reclassification, but we also know self-employed people were hard hit by the economic impacts of the Covid-19 pandemic, leading some to leave self-employment entirely. Moreover, tax changes have led some self-employed contractors to become payrolled employees. It is difficult to know how these changes will have played out spatially but there is little reason to think that the trends we observe here will have significantly reversed. See: M Brewer, C McCurdy & H Slaughter, Begin again? Assessing the permanent implications of Covid-19 for the UK's labour market, Resolution Foundation, November 2021; N Cominetti et al., Labour Market Outlook Q1 2022: How should we interpret strong nominal earnings growth?, Resolution Foundation, April 2022, for further details.

Growing investment income disparities are driven by London

When we look beyond income from the labour market, we find another element of total income which has become less evenly distributed between places over time. In Figure 9 we now add on to our chart the coefficient of variation for investment income (i.e. income derived from financial assets such as shares and land).²⁶ The chart shows plainly that investment income spatial disparities are high compared with earned income, and have become more unequally distributed across local authorities over time. When we look at the cash figures in 2019, the numbers are striking: investment income per person was more than 11 times higher in Camden, for example, than in Knowsley (places near the top and bottom of the distribution, at £9,135 and £806 respectively). But for places that are not outliers, the differential is still significant: North Norfolk (at the 75th percentile – and notably, with the oldest population in the UK) had an average per person income from investments of £2,637 in 2019 compared with Sheffield (at the 25th) of £1,404 – almost 1.9 times as large.²⁷





Coefficient of variation of labour market and investment income per capita (GDHI cash measure), across local authorities: UK

²⁶ It is important to note that GDHI captures rent paid to private landlords as income from self-employment.

²⁷ As with the coefficient of variation for self-employed income, it is plausible that the increase we observe with respect to investment income is also driven by an increase in the number of people with this source of income in certain parts of the country. Analysis of ONS, Wealth and Assets Survey shows, however, that direct ownership of shares has become more concentrated over time (11 per cent of households owned shares in 2019-20 compared with 16 per cent in 2008-09) and there is no clear regional skew to this finding.

When we look to see which places have seen particularly large increases in investment income per person over time, London stands out once again. In Figure 10, we plot investment income per person in London relative to the UK average in 1997 and 2019. London boroughs have seen investment incomes increase much faster than the UK average over the last two decades. In 1997, Camden, Hammersmith and Fulham, and Wandsworth all had investment income per person between 1.3 and 1.7 times the national average. Fast forward to 2019, and these ratios had shot up to 2.5 times the national average in Wandsworth, three times in Hammersmith and Fulham and four times in Camden – these London boroughs are now in the UK's top 10 highest investment areas. Investment income in the top 10 per cent of local authorities ranked by household income has grown at six times the rate of the middle 10 per cent. Put differently, the spatial differences in investment income are being driven by growth at the top of the distribution.

FIGURE 10: London boroughs such as Camden and Wandsworth have seen investment income per person increase much faster than the UK average over the last 20 years



Log local authority income per capita (GDHI cash measure) from investments in 1997 compared with 2019, relative to the UK average

SOURCE: Analysis of ONS, Gross Disposable Household Income.

Benefit and pension income is more evenly spread across the country than other types of income

The spatial distribution of income per person that is derived from benefits and private pensions (the GDHI does not allow us to separate these two income sources) stands

in stark contrast to the distribution of investment income. In Figure 11, we add the coefficient of variation for this into the picture. This shows that investment income is the most evenly spread element of total income across local authorities, although a small upward trend in the coefficient of variation is evident since 2013. In 2019, income from benefits and private pensions was highest in Dorset (at £8,022 per person) – reflecting the fact that around 29 per cent of residents are over the age of 65, compared with just 18 per cent nationally. This figure for Dorset is 2.3 times that of the local authority with the lowest benefit and pension income in 2019: Tower Hamlets (£3,480). But if we instead look at places which are not at the extremes, the differences are much less significant: Herefordshire (at the 75th percentile) had an average income from benefits and pensions per person of £6,425 in 2019, compared with Burnley's (at the 25th) £5,422 – only 20 per cent higher.





Coefficient of variation of labour market, investment, and benefit and pension income per capita (GDHI cash measure), across local authorities: UK

SOURCE: Analysis of ONS, Gross Disposable Household Income.

However, that is not to say that there is no nuance to the spatial benefits and private pensions picture. Thinking first about pension income, it is entirely to be expected that this is fairly evenly distributed throughout the country: after all, there are older people living in all local authorities. However, as we have shown in previous work, parts of the UK that already have an older population are ageing the fastest, and many places with a younger population have either aged the slowest or, in some cases, the typical age of their residents has actually reduced over time.²⁸ As a result, there are places where labour market income is less important than in others. Figure 12 illustrates the point. It shows the share of total gross income per person comprising labour market income (wages and salaries, as well as income from self-employment) for the 10 local authorities in the UK with the oldest population and with the youngest. The differences are striking: in the oldest place – North Norfolk – just over half (54 per cent) of average total pre-tax income per person came from labour market sources in 2019, compared with 71 per cent in the youngest place, Oxford.

FIGURE 12: Labour market income constitutes a low share of gross income in the oldest parts of the country



SOURCE: Analysis of ONS, Gross Disposable Household Income; ONS, mid-year population estimates.

It may perhaps be more surprising that benefit income is also spread relatively evenly throughout the country. After all, as we have noted above, there are considerable differentials when it comes to labour market income and the social security system is there to support those on the lowest levels. Figure 13 provides a clue as to why this is the case. Here, we plot the share of households in receipt of Universal Credit (UC) or Working Tax Credit (WTC) (the two main income support benefits for those of working age) by local authority income decile. Although there is an obvious skew – with a higher share of households in receipt of working-age benefits than in the richer local authorities – there are a number of better-off places where an above-average

28 C McCurdy, <u>Ageing fast and slow: When place and demography collide</u>, Resolution Foundation, October 2019.

share of households receive support. Indeed, there are eight local authorities in the top income decile where there are more households on UC or WTC than in four places found in the poorest decile.²⁹



Share of households claiming either Universal Credit or Working Tax Credit, by local authority income decile: Great Britain, 2021



NOTES: Household Annual Population Survey data used as denominator. Numerator includes December data for UC, November data for WTC. Numbers rounded to nearest hundred. SOURCE: Analysis of DWP, Stat-Xplore; ONS, Gross Disposable Household Income; ONS, Household Annual Population Survey.

So why is this the case? One reason is that the benefits system increasingly supports households not just with low labour market incomes, but also with high housing costs.³⁰ The latter are naturally found in areas with higher wages, explaining why some of the richest parts of the country – Ealing, Tower Hamlets, Brent and Haringey, for example – are also places where a considerable share of households receives benefit support. Further, past modelling shows that families in the South East, East and London gain more from the switch to Universal Credit than the North, Midlands and Wales, suggesting that as the UC roll-out continues, benefit income will become even more spatially dispersed.³¹

²⁹ The eight local authorities in the top income decile are: Haringey, Ealing, Hammersmith and Fulham, Harrow, Islington, Southwark, Lambeth and Barnet. The four local authorities in the bottom income decile are: Gwynedd, Ceredigion, East Lindsey and Sheffield.

³⁰ L Gardiner, <u>The shifting shape of social security: Charting the changing size and shape of the British welfare system</u>, Resolution Foundation, November 2019.

³¹ C McCurdy et al., Painting the towns blue: Demography, economy and living standards in the political geographies emerging from the 2019 General Election, Resolution Foundation, February 2020.

But this pattern also reflects that some local authorities are very unequal, and this is notably so for those in London, which can contain areas with high deprivation as well as very affluent workers.

The tax system plays an important role in reducing spatial income inequalities

Figure 14 brings together each of the elements of income discussed so far with the final part of the income picture: tax and National Insurance. Here, we present the results of a decomposition that allows us to identify the absolute contribution made by each element to overall spatial income inequality (I2 measure), and how this has changed over time.³² Two findings stand out. First, the largest contributor to spatial inequalities is clearly employment income. This is perhaps unsurprising when we consider that employment income is by far the largest source of household income (74 per cent of pre-tax average income in 2019). Of those sources pushing income inequality up: employment income 18.6 per cent; and self-employment income 12.6 per cent. (The remaining 1.3 per cent is driven by benefits and private pensions). Second, and on the other side of the ledger, the tax system, including taxes paid on employment income, has a large downward effect on geographic inequality.³³

Has the contribution to inequality made by these different income sources changed over time? Over the last two decades the contribution to inequality from wages and salaries has remained largely the same. However, investment income's contribution to geographic inequality (when assessed with the I2 measure) has almost doubled (up by 93 per cent) since 1997. Given that overall spatial inequality barely changed over that period, this means that investment income is now a more important determinant of income gaps between places than it was in 1997. The other major movement over the past 20 years has been on tax: its inequality-reducing effect has gone up by a third (32 per cent). This means that the direct tax system reduced spatial income inequality by more in 2019 than it did in 1997. Both of these trends reflect the fact that there has been an overall increase in the share of high-income individuals, paying higher-rate taxes. These individuals are disproportionately concentrated in London and the South East and receive a lot more of their income from investments than the rest of the distribution.³⁴

³² We measure income inequality here using the I2 measure, which is half the squared coefficient of variation. We used the Stata package ineqfaq, which implements the method developed by: A Shorrocks, Inequality decomposition by factor components, Econometrica, 50(1), January 1982.

³³ GDHI data captures information on income and wealth taxes such as Council Tax, Capital Gains Tax and Inheritance Tax, but it does not capture the impact of indirect taxes, such as VAT.

³⁴ For a discussion on how the top 1 per cent have become more geographically concentrated since 2000, see: R Joyce, T Pope & B Roantree, <u>The characteristics and incomes of the top 1%</u>, IFS Briefing Note 254, August 2019. For a more recent examination that highlights how top incomes are slanted towards London and to self-employment and business income, see: I Delestre et al., <u>Top income inequality and tax policy</u>, IFS Deaton Review of Inequalities, April 2022.

FIGURE 14: Employment income still plays the largest role in determining spatial income disparities but the contribution of investment income has almost doubled

Absolute contribution to local authority inequality (I2 measure) from different sources of income per capita (GDHI cash measure): UK



SOURCE: Analysis of ONS, Gross Disposable Household Income.

Indirect evidence suggests gaps between median as well as mean local authority incomes are large and persistent too

So far, all the results we have shown tell us about the relative fortunes of the mean per capita income in each local authority, which carries the risk of being skewed by outlier results. But is there anything we can conclude about the geographic differences in the income of the person at the median of the income distribution in each local authority over time? To begin, the findings we presented in Figure 6 on wages and salaries are instructive: the typical person in any local authority is likely to receive the vast bulk, if not all, of their income from this source. Given that wages and salaries have not become any more spatially unequal, it is reasonable to assume that neither has the local authority-level median income.

But we can also check how well the GDHI data compares with median income at the local authority level by plotting it with an experimental data source that is available for 2015-16 (albeit for England and Wales only).³⁵ We present the results of this exercise in Figure 15. As this shows, the levels at the mean are higher than the median (as one would

³⁵ These experimental admin-based statistics are produced by the ONS and include model individual and household gross income distributions at lower-level geographies, including local authorities. For more details, see: ONS, Research outputs: Income from Pay as You Earn (PAYE) and benefits for tax year ending 2016, October 2017. They are, however, limited to income from the Pay As You Earn (PAYE) and benefit systems (which include tax credits), and therefore do not include income processed through the self-assessment system (from self-employment, property rental and investments).

expect) but the relationship between the two is strong.³⁶ The most significant outliers we observe are the London boroughs of Kensington and Chelsea and Westminster. But when we drop these two local authorities from the data and re-run the coefficient of variation, the level drops slightly (from 0.21 with the outliers to 0.18 without) but the flat trendline we report in Figure 3 remains. If this relationship between these simulated medians and the mean income in GDHI holds in all years, then it seems likely that the gaps between median incomes are also high and persistent over time between local authorities.



There are large income gaps within places, and these have grown slightly over time

Whether we use the average or the typical income, looking just at differences between local authorities will, of course, mask the significant variation within local areas. Although there is no single dataset that we can use to learn about income inequalities within local authorities and how they have changed over time, there are ways to get at least a partial impression. For example, Figure 16 uses the same experimental data as above to plot various points across the income distribution within each local authority, having sorted

³⁶ The same holds true when we look at the rank correlation between the median and mean income at local authority level (coefficient=0.9).

local authorities by the median income.³⁷ Although not a full measure of income, this shows within-area disparities are greater at the top of the individual income distribution than at the bottom.³⁸ For example, incomes from earnings and benefits range from £2,500 (the lowest observed – in Newcastle) to £5,100 (the highest observed – in Spelthorne) for those at the bottom end, while individual incomes at the top end of the distribution range from £30,400 (the lowest - in Blackpool) to £130,600 (the highest - in Kensington and Chelsea). As a result, income inequality (at least when it comes to earnings plus benefits) is higher in richer local authorities than in poorer.³⁹

FIGURE 16: There are large disparities in individual incomes within local authorities, and between the highest individual incomes across local authorities



The distribution of gross individual income (CPI-adjusted, 2020-21 prices) across local

SOURCE: Analysis of ONS, Income from PAYE and benefits for tax year ending 2016.

Moreover, we can get some sense of how income inequality within local authorities has changed over time (in England, at least) by exploiting the Index of Multiple Deprivation (IMD) dataset which is available at a highly localised level (Lower Super Output Area, or LSOA).⁴⁰ In Figure 17, we plot the mean average of (a modified version of) the coefficient

³⁷ It should be noted that income measured here is only individuals' income from the Pay As You Earn (PAYE) and benefit systems (which include tax credits), and that the sample in each local authority is limited to those with positive income.

³⁸ Given what we have shown previously, it is reasonable to conclude that if this income measure had also captured investment and private pension income, then the findings from Figure 16 would be even stronger. A similar point is made about the distribution of wages in Travel-To-Work-Areas in: H Overman & X Xu, Spatial disparities across labour markets, IFS Deaton Review of Inequalities, February 2022.

³⁹ This does beg the question which matters more: between- or within-local authority income inequalities? This is beyond the scope of this project, but it is also worth noting that some studies also show that deprived parts of local authorities are often highly contiguous, creating 'islands' of deprivation even in poorer local areas such as Blackpool. See: A Rae & E Nyanzu, An English atlas of inequality: Technical report, University of Sheffield, November 2019 for further details.

⁴⁰ Lower Super Output Areas, often referred to as 'neighbourhoods', have an average population of 650 households or around 1,500 individuals.

of variation of the IMD LSOA income rankings within each local authority, between 2004 and 2019.⁴¹ Two takeaways are important. First, we note that income inequality (as proxied by spatial inequality in the income-domain rankings at the LSOA level) is high. Second, the chart suggests that income inequality within local authorities has worsened slightly between 2004 and 2019, increasing on this measure by around 4 per cent over that period.



SOURCE: Analysis of DLUHC, English Indices of Deprivation.

Housing costs drive down living standards more in places with higher incomes

In this final section, we complete our examination of spatial income disparities by considering what role housing costs are likely to play in determining gaps at the local level. Previous work has shown that, when we look regionally, bringing housing costs into the picture reduces differences between places to a degree.⁴² This is because the higher housing costs that households face in London and the South East, for example, act as a living standards headwind, reducing disposable incomes to a greater extent than in

⁴¹ To create the coefficient of variation, we first calculate, for each local authority in each year, the standard deviation of the set of LSOA ranks on the income domain. We then divide all the standard deviations by the mean rank of the LSOA calculated over all local authorities in that year (which, in effect, is the number of LSOAs in the country in that year divided by two).

⁴² See, for example: Figure 3 in S Clarke, <u>Mapping gaps: Geographic inequality in productivity and living standards</u>, Resolution Foundation, July 2019; H Overman & X Xu, <u>Spatial disparities across labour markets</u>, IFS Deaton Review of Inequalities, February 2022.

other parts of the country. So, is this still the case when we look at disposable income at a more local level? Comparing 2019 local authority house prices to income per person (GHDI cash measure) suggests it is: we find a very strong relationship between higher house prices and incomes, with a correlation coefficient of 0.88 (see Figure 23 in Annex 2). As a result, we can infer that housing costs are reducing income gaps (at the mean) between places at the local authority level.⁴³

Moreover, Figure 18 suggests that the downward effect of housing costs on spatial income inequalities has strengthened over time. Here, we plot the change in house prices since 2005 (the year from which local authority data for the whole of the UK became available) against income per person (GDHI cash measure) in 2019. The upward tilt of the line makes clear that there has been faster growth in house prices in higher income areas over that period, with London once again at the forefront, but not driving this picture (the trendline looks no different if we exclude London). This pattern has changed somewhat since the pandemic, with house prices in rural and small towns outpacing larger cities, including the capital, and house price in low-paid areas rising by more than in high-paid areas, but, overall, the cost of housing generally looks to drive down spatial disparities in average disposable income.⁴⁴

However, this trend is not entirely positive. First, high housing costs make it even more difficult to be a lower-income household in such an area (or, as we showed in the benefits section, more burdensome for the state). Before taking account of housing costs, the highest child poverty rates are found in Northern and Midlands local authorities: Stoke-on-Trent Central, for example. After housing costs, child poverty estimates are highest in large cities, particularly London (58.5 per cent in Poplar and Limehouse), Birmingham (53.5 per cent in Hodge Hill) and Manchester (52.1 per cent in Gorton).⁴⁵ Second, higher housing costs in more productive places inhibit mobility especially for those lower down the income distribution, who, as we showed in Figure 16, do not command significantly different incomes wherever they live.

⁴³ House prices are an imperfect measure of ongoing housing costs, but reliable data is not available on average rental prices at the local authority level. However, it is reasonable to assume rents and house prices change in local areas relative to each other. For further discussion about changing housing costs by local areas over time, see: L Judge, <u>Moving matters: Housing costs and labour market mobility</u>, Resolution Foundation, June 2019.

⁴⁴ Changes in house prices since 2019 are shown in: M Brewer, J Leslie & L Try, <u>Right where you left me?: Analysis of the Covid-19</u> pandemic's impact on local economies in the UK, Resolution Foundation, June 2022.

⁴⁵ The UK average is 30 per cent. These after housing costs child poverty estimates for parliamentary constitutions in 2017-18 are taken from: J Stone & D Hirsch, Local indicators of child poverty, 2017/18: Summary of estimates of child poverty in small areas of <u>Great Britain</u>, Loughborough University, May 2019.





Change in average local authority house price (2005=100) compared to local authority

NOTES: Local authority house price data for the UK is only available from 2005 onwards. SOURCE: Analysis of ONS, Gross Disposable Household Income; ONS, UK House Price Index.

Another angle on the housing costs story is provided by the GDHI series which attributes to each local authority an income stream known as 'imputed rent'. This attempts to reflect the benefit of being a home owner by attributing to them a flow of income equal to the 'imputed rent' - the money they would otherwise pay if they had to pay rent for their housing instead. If we bring this element back into our measure of income and plot the coefficient of variation one final time, we find the picture presented in Figure 19. As this clearly shows, when the value of owner-occupied housing in each local authority is factored in, the income gaps between places get larger, and have even potentially fanned out slightly over time. This is surprising in some respects: although the places with very high house prices are those with high incomes (London, most obviously), those areas also tend to have lower home ownership rates.⁴⁶ But Figure 19 makes it clear that the higher housing costs we find in such local authorities more than offset these lower home ownership rates, and the implicit income being received by owner occupiers acts to increase spatial inequalities.

⁴⁶ See, for example, Figure 3 in: A Corlett & F Odamtten, Hope to buy: The decline of youth home ownership, Resolution Foundation, December 2021.



Coefficient of variation of income per capita (GDHI cash measure and including imputed rent), across local authorities: UK



Conclusion

At the outset of this briefing note we asked why both the public and politicians are so vexed about spatial inequalities, when on metrics such as employment and earnings gaps between places have fallen over time. Using the under-exploited GDHI dataset has allowed us to improve our understanding of spatial disparities not just when it comes to wages and salaries, but also for total income, leaving us with a far more rounded picture of how living standards across the country compare. We find that income gaps are substantial between places and (possibly of greater importance for the public) highly persistent over time. Although the labour market is the key determinant of the gaps between places, we observe that other sources of income are also important, not least because they can matter much more for living standards in some places than others.

Overall, our analysis suggests that if policy makers truly want to tackle spatial disparities, they need to be mindful of three things. First, action to close gaps in overall labour market income is key (the companion paper to this briefing note which looks at raising productivity is highly pertinent here).⁴⁷ Second, they must not forget that for some places, income from outside the labour market is of increasing importance, in part because the

⁴⁷ P Brandily et al., <u>Bridging the gap: What would it take to narrow the UK's productivity disparities</u>?, Resolution Foundation, June 2022.

country is growing apart when it comes to typical age, but also because rising housing costs leave low-income families in richer places exposed. Third, if the country wants to get serious about closing the stubborn income gaps we have documented in this briefing note, policy makers would be wise to look to the top end of the income distribution, where disparities are not only large but increasing.

Annex 1: Adjusting Gross Disposable Household Income data to derive a cash measure of income

This report makes extensive use of the ONS's Gross Disposable Household Income (GDHI) dataset, which provides a National Accounts income measure that contains aggregate and per person income data at a national, regional and local authority level.⁴⁸ From a living standards point of view, we are interested in a disposable income measure that captures the flows of money into and out of households and excludes anything that is 'imputed' or simply would not appear on household balance sheets. Consequently, we make a series of adjustments to the GDHI data to bottom out a cash measure of income that is as close as possible, conceptually, to the disposable household income measure we find in the DWP's Households Below Average Income dataset (HBAI).

The original GDHI measure is constructed as follows: operating surplus (capturing the value of owner-occupiers living in their home) + self-employment income (including private landlord income) + wages and salaries + income from shares, savings and other investment income + benefits and private pensions + other current transfers received (miscellaneous income) – taxes on income and wealth – property income paid (largely interest paid on mortgages) – social benefit contribution (largely employer and employee National Insurance contributions) – other current transfers paid (property, health, vehicle insurance premiums).

To make GDHI comparable to a before housing costs HBAI income measure, we remove operating surplus, the element of property income attributable to insurance policy holders and pension entitlements (which essentially captures the growing value of any funds), and other current transfers. We add back in property income paid (so that this is a before housing costs measure as far as can be) and other current transfers paid (so they are not deducted from our final household income estimate, given that expenditures of this type would not be deducted in HBAI).

In order to estimate the income imputed from insurance policies and pension funds that we wish to deduct, we must split up one of the local authority-level income components (property income) into its sub-components. We do this by using data on the share of national property income which is imputed from insurance policies and pension funds, and applying this national share to each local authority.⁴⁹ To illustrate, in 2019, 36 per cent of total national property income stemmed from this source. We therefore deduct 36 per cent from every local authority's property income figure. This means that for all local authorities, our estimate for investment income will be an approximation only.

⁴⁸ See: ONS, <u>Regional gross disposable household income, UK: 1997 to 2019</u>, October 2021.

⁴⁹ We use the following national dataset to look at more granular components of income than that provided in the main GDHI dataset: ONS, <u>UK Economic Accounts: institutional sector – households and non-profit institutions serving households</u>, March 2022.

To summarise, our HBAI-like GHDI cash measure is:

GDHI – operating surplus – (property income paid x national share of property income that is attributed to insurance policy holders/payable on pension entitlements) – other current transfers received + property income paid + other current transfers paid.

As validation, we have compared our adjusted GDHI data to equivalent estimates from the HBAI dataset at the regional and UK level. To do this, we used the HBAI microdata to construct estimates of mean average (as opposed to the more standard median) income per person, and without equivalising for household size. We also worked with the before housing costs measure of income in HBAI. Figure 20 compares the coefficient of variation of income per capita (GDHI cash measure) with that of the mean unequalised household income per capita (HBAI) for the UK's nations and regions.⁵⁰ Using this measure of regional income gaps, we can see that our adjusted GDHI cashflow measure aligns relatively well with HBAI up until 2013, after which it diverges to a small degree.



NOTES: HBAI data is GB from 1997-98 to 2001-02, and UK thereafter. To make the datasets comparable we report three-year averages for each series, which is the standard approach for regional HBAI analysis. We also make adjustments to allow for one series being reported in financial years (HBAI) and the other series being reported in calendar years (GDHI).

SOURCE: Analysis of DWP, Households Below Average Income; ONS, Gross Disposable Household Income.

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⁵⁰ To fully harmonise our measures, we take three-year moving averages of both series (the standard approach for regional analysis in HBAI) and adjust the HBAI series to allow for the fact that the dataset is provided in financial years, whereas the GDHI dataset is provided in calendar years.

Inspection of the individual series shows that this is because high-income regions have pulled away more in our GDHI series than they have in HBAI in recent years. After comparing the levels and growth rates of the different income sources in the two different datasets, we come to the following conclusions:

- The most notable difference between the two datasets is when it comes to investment income (which is almost entirely comprised of interest and dividends).
 GDHI appears to pick up more income from this source than HBAI, and this has a particularly strong feed-through in London (and to a lesser extent in the South East and East of England). HBAI documentation acknowledges investment income is a known limitation of the survey.⁵¹ When we drop the investment income element from both datasets, the regional-level coefficient of variation in the two datasets is much more similar.
- GDHI has higher levels of benefit income than HBAI (this is another recognised area where HBAI underestimates income).⁵² This is particularly true in the South East and East of England.
- Even with three-year smoothing (recommended for all regional HBAI work), there are some year-on-year variations in HBAI that are hard to understand. For example, self-employment earnings relative to national averages show a recession-like fall in 2017-18 in HBAI, which is at odds with other labour market data, and is not present in GDHI. HBAI also suggests that self-employment income per capita in some parts of the country has fallen in nominal terms since 2014, and that benefit income per capita has fallen in nominal terms in London since 2013 but not elsewhere.

As a result, our view is that GDHI is a superior data source to HBAI for investigating income disparities at the regional level (although as noted at the outset of this note, it has its shortcomings – most obviously that it is mean and not median income, and per capita and not per household).

⁵¹ DWP, Households below average income series: quality and methodology information report FYE 2020, March 2021.

⁵² For a full discussion of benefit under-reporting in the official survey data, see: A Corlett et al., <u>The Living Standards Audit 2018</u>, Resolution Foundation, July 2018.

Annex 2: Additional charts



SOURCE: Analysis of ONS, Annual Survey of Hours and Earnings; ONS, Annual Population Survey.

FIGURE 22: Even accounting for the rising number of self-employed people, this source of income is still more unevenly distributed than in the past



Coefficient of variation of income from self-employment per capita, across local authorities: UK

SOURCE: Analysis of ONS, Gross Disposable Household Income; ONS, Annual Population Survey.



FIGURE 23: House prices are closely correlated with income across the country

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- 14. Under pressure: Managing fiscal pressures in the 2020s
- 15. Under new management: How immigration policy will, and won't, affect the UK's path to becoming a high-wage, high-productivity economy

- 16. <u>Shrinking footprints:</u> The impacts of the net zero transition on households and consumption
- 17. <u>Enduring strengths</u>: Analysing the UK's current and potential economic strengths, and what they mean for its economic strategy, at the start of the decisive decade
- 18. Listen up: Individual experiences of work, consumption and society
- 19. <u>Growing clean</u>: Identifying and investing in sustainable growth opportunities across the UK
- 20. Low Pay Britain 2022: Low pay and insecurity in the UK labour market
- 21. <u>Bouncebackability:</u> The UK corporate sector's recovery from Covid-19
- 22. All over the place: Perspectives on local economic prosperity
- 23. <u>Right where you left me?</u> Analysis of the Covid-19 pandemic's impact on local economies in the UK
- 24. Big welcomes and long goodbyes: The impact of demographic change in the 2020s
- 25. Net zero jobs: The impact of the transition to net zero on the UK labour market
- 26. The Big Brexit: An assessment of the scale of change to come from Brexit
- 27. Income outcomes: Assessing income gaps between places across the UK



The UK is on the brink of a decade of huge economic change – from the Covid-19 recovery, to exiting the EU and transitioning towards a Net Zero future. The Economy 2030 Inquiry will examine this decisive decade for Britain, and set out a plan for how we can successfully navigate it.

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For more information on The Economy 2030 Inquiry, visit economy 2030.resolutionfoundation.org.

For more information on this report, contact:

Lindsay Judge Research Director lindsay.judge@resolutionfoundation.org





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