ARTICLE IN PRESS

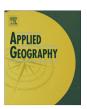
Applied Geography xxx (2015) 1-11



Contents lists available at ScienceDirect

Applied Geography

journal homepage: www.elsevier.com/locate/apgeog



Income inequality in the UK: Comparisons with five large Western European countries and the USA

Danny Dorling*

University of Oxford, OUCE, South Parks Road, Oxford OX1 3QY, UK

ARTICLE INFO

Article history: Available online xxx

Keywords: Inequality United States United Kingdom France Germany Italy

ABSTRACT

This paper concentrates on the 1% richest households in the UK in a comparison with the other four large Western European countries: Germany, France, Italy and Spain. In the European context the UK is an outlier of extreme inequality. Individual level tax data has shown this previously, but earlier research did not make comparisons at the household level, or in as much detail as it is possible to show now given new survey findings.

In the UK the geographical separation of the 1% from mainstream society increased in recent decades as their incomes levels diverged widely from that of the mainstream. There is now acute socioeconomic polarization in the UK as compared to the other large European states because of the current extent of income and wealth inequalities in the UK. Not so long ago members of the best-off 1% within the UK were far more evenly spread across both the space and society of the UK than they are today.

The UK is now the European country most similar to the USA in terms of income inequalities. Along with Sweden it was least like the USA in the 1960s. This paper concludes by considering what might happen (if current trends continue) to standards of living in general, social spatial polarization, fear and mistrust. Growing income inequalities increase wealth inequalities. Some info-graphics aimed at showing the contemporary extent of wealth inequalities in the UK and USA are presented in conclusion and for use in teaching

© 2015 Elsevier Ltd. All rights reserved.

Introduction

Geographers have long been interested in poverty and inequality. Their focus moved from more abstract reasoning in the 1970s towards concrete applied work in more recent years (DeVerteuil, 2009; Havey 1973; Hay, 2013; Li & Wei, 2010; Philo, 1995; Wyly, 2009). Outside of Geography there is a vast array of studies of inequality. It remains a mainstay of Sociology, and is of great interest to many historians, anthropologists, economists and epidemiologists (Nowatzki, 2012; Sassen, 2014; Sayer, 2014). Thomas Piketty's best selling 2014 blockbuster, Capital in the Twenty-First Century, has brought the subject of economic inequality to the top agenda of social science (Piketty, 2014) and a number of science journals have covered the issue, most often as

http://dx.doi.org/10.1016/j.apgeog.2015.02.004 0143-6228/© 2015 Elsevier Ltd. All rights reserved. concerns health inequalities (for a very recent review see Pickett & Wilkinson, 2015).

In 2014 world leaders ranging from presidents of America and China, the Pope, the Business leaders who meet at Davos and even those who now run the World bank all ranked economic inequality as an issue of importance among the top three in the world. Inequality ranks alongside climate change in importance, and then — depending on context, unemployment, species depletion or other environmental degradation, after which concerns tend to focus next on possible further crises of capitalism, communism or globalization (Dorling, 2014).

In early 2014 the charity Oxfam published research suggesting that just 85 people in all of humanity were now so rich that their wealth equated to that of the poorest half of humanity. During that year Forbes Magazine corrected that figure to 67 and then 66 of the world's richest people having such greater and growing wealth. The wealth of a few billionaires was rising so quickly that new statistics on global inequality both stagger and quickly date (Moreno, 2014).

Later in 2014 the bank Credit Suisse reported that the richest 1% of people in the globe had increased their share of world wealth

^{*} Tel.: +44 (0)1865 285070; fax: +44 (0)1865 275885. *E-mail addresses*: enquiries@geog.ox.ac.uk, danny.dorling@ouce.ox.ac.uk. *URL*: http://www.geog.ox.ac.uk

from 41% to 48% in just twelve months. Such an increasing concentration is clearly unsustainable; another seven years of 7% point increases would result in the best-off 1% holding 97% of all global wealth (48% + 7% \times 7). It should be clear that current polarizing trends cannot continue for very long at all (Dorling, 2015). At the Davos meeting of January 2015 Oxfam created headlines by showing that by 2016 the best-off 1% of people in the world would own half of all global assets. They also updated their estimate of how few people it takes to hold the same wealth as the poorest half of humanity. Forbes magazine had been a little to quick with their figures and it was now the richest 80 billionaires who held the same wealth as the poorest 50% of people.

Beneath the world's richest are the extremely rich, numbering roughly 1 in 1000 people on the planet (the 0.1%). Within the rich countries of the world these equate to about 1 in 100 people, colloquially known as "the 1%", the group that is likely to be holding 50% of all global wealth at the point this paper is published. Academics can often be surprised how near to the global 1% they — individually — are. Often the principals and vice chancellors of their universities are members, as well as several of their highest paid colleagues; especially those with well-paid spouses.

To qualify to be in the best-off 1% in the world requires a far lower level of income or wealth than is required to be a member of the richest 1% in an affluent country. If you are reading this paper in the USA then it may help to know that to be among the best-off 1% of all households there you need a gross household income, before tax, of at least \$394,000 a year. Below that you are a member of the '99%'. Because economic inequalities are lower in every European nation (as compared to inequality in the USA) the qualifying sum of money in pounds or euros is much lower than the dollar figure in the States. This is not because pounds and euros are worth less than dollars. You need even less to be a member of the best off 1% in Japan, a far more economically equitable country than anywhere in Europe even (Ballas, Dorling, Nakaya, Tunstall, & Hanaoka, 2013).

In this paper I concentrate on defining the 1% in Europe and especially the UK. I compare the larger five European countries and then compare these results to the USA. In short how much do the 1% have in each country compared to the rest of the population? What are divisions like within the 1% of each country, the 0.1%, 0.01% and 0.001%? And, finally what are the geographical implications of rising economic polarization?

Definitions of the 1%

The 1% are one of the best-defined categories in social science. Within any population their size is know exactly, as well as the exact definition of income or wealth employed, and data sources used. The least well defined groups tend to have labels such as "the middle class". In this paper the 1% are defined by annual income level as the best-off one in one hundred people among a particular group, and this is done for groups of people when people are clustered into households. Thus, if a household is considered to be in the best-off 1%, everyone in that household is so categorized. There are, of course, often gross inequalities within households, but it would be confusing not to include a grown son living in the household with a millionaire (earning) mother as rich, just because it was the mother (and not the son) who is earning.

There are many other issues that need to be tackled when the 1% are defined other than whether to call all members of a rich family who live under the same roof in the same household rich, or just those who might hold the cheque book, trust fund or employment contract. Then there is a basic question of whether to measure riches by wealth or income. In practice this is easily addressed because — although the *wealth* of the super-rich is assessed by several well known data sources and reported in many publications

— the *wealth* of the 1% most affluent is not well recorded, and so by default we are left with income as our best enumerated measure. To study the very best-off across a group of societies we have to define them by their annual income, we cannot achieve a reliable in depth and comparable study across countries with current measures of wealth

Finally there is the question of what income, what sources of income to consider. Here I've been able to use surveys to include all income received from all sources before tax is taken and before all other deductions are taken from original income. A case can be made for looking at income after housing costs. However, many of the housing costs of the best-off 1% are not essential. Almost all could quite *happily* live in more modest homes — or, if not happily, at least *comfortably*. Academics like to go further to try to explain the causes of inequality and growing inequality. That is outside the scope of this paper and requires a very long book to be written (say with a subtitle such as "on why social inequality still persists", Dorling, 2015); but before such books are written it helps to know what is happening, especially if the situation is changing rapidly.

So, to give an example, here is the situation where I am based as best as I can ascertain it as I am writing in early 2015. By 2013, in the UK, living in a household with two adults with an annual income of at least £160,000 would qualify you as being a member of the 1% best-off group. You would need a little more money should you have children (Cribb, Hood, Joyce, & Phillips, 2013). The equivalent annual sum required to enter the best-off 1% by income in the USA at the same time was \$394,000 (Currid-Halkett, 2013). These figures are income received before tax and are for entire households. The Institute for Fiscal Studies has calculated the UK statistics, but I verify them here by crosschecking with other sources and extend those analyses done by that Institute to other large countries in Europe.

Data for Europe

Using data from the European Union Survey of Income and Living Conditions (EU-SILC) new estimates where made for this paper of the household income distributions of all large European countries for the year 2012. The methods used to analyse this data are described below. First a summary of the findings is put in context.

For the UK just over 8000 households were included in the European sample and each household has been assign a cross-sectional weight such that the sample, when weighted, would produce national estimates of the population which were representative. The best-off 1% of all households by income all had an annual income of – at minima – £189,000 (or €227,000). Knowing that many will have contained children the IFS UK figure of £160,000 for households without children appears very plausible.

Table 1 suggests that the UK is an outlier because the threshold to be a member of the best-off 1% of households by income is so much higher in the UK, at 6.3 times median UK household income

Table 1 Summary of income inequalities in the five countries 2012.

	Sample	All HH	1% Cut-off	Median	Ratio
Germany	13,512	0.03%	€154,000	€36,400	4.2
France	11,360	0.04%	€189,000	€39,000	4.8
Italy	19,399	0.08%	€164,000	€33,400	4.9
Spain	13,109	0.08%	€105,000	€22,700	4.6
UK	8058	0.03%	€227,000	€36,300	6.3

Note: Median income shown in \in '000s and "All HH" column is the percentage of the entire households in the country in this sample.

Source: Calculations by Author EU-SILK weighted household sample.

as compared to the threshold in any of the other large European country (where the threshold varies between 4.2 and 4.9 times national median incomes.) The incomes shown here are gross annual incomes recorded before tax is deducted and including benefits, pensions and other non-earnings contributions.

Next consider Table 2. Table 2 is not enumerated in Euros but in pounds. It shows the estimates of annual income distribution for the UK only, as derived from the EU SILC sample of 8058 UK households and including their gross annual income including income from investments. The median annual income in 2012 for UK households was £30,267. After tax (including tax credits), benefits and pensions are excluded it was just £13,481. Because the UK income distribution is so skewed the (weighted) arithmetic mean annual household income is much higher at £43,909. The mean is weighted by individual household weights so that the sample population distribution is made representative of the UK population to allow for sample selection bias. However, we know that very well-off individuals are unlikely to included in the sample, so the degree of inequality in the sample itself is used to estimate the top incomes of those in the 0.01% and above.

The (weighted) mean income of the best-off 0.1% of households in the UK-SILK is just over a million pounds a year before tax (£1,041,213) and just eight members of the sample can be used to make this estimation. Although relying on such a small number of cases is very unreliable, comparisons can be made to changes in wealth in the Sunday Times Rich list suggest that these estimates of income are reliable. A change in wealth is one partial measure of income.

The best-off 0.1% group represents the best-off 29,000 households in the UK. Below them the rest of the 1% have a weighted mean annual income of £305,395 or 3.4 times less. Below them the rest of the top 10%, called "The top 9%" in Table 2 of this paper, have a weighted average annual income of £116,942 (2.6 times less) and below them the remaining 90% have a weighted average income of £32,863 (3.6 times less). Note that even excluding the top 10%, the weighted mean is still higher than the sample median — so skewed is income inequality in the UK today; but how to estimate the very high incomes?

One method of estimating top incomes — which has been used to fill in the rows above the 1 in 1000 household row (in Table 2 above), is to assume that the ratios of inequality remain roughly constant as you rise up the income scales. The geometric mean of the three ratios just mentioned (3.4, 2.6 and 3.6) is 3.2. If that ratio

Table 2Summary of UK household income distribution 2012.

UK an	nual income (£s)	Gross income	Post-tax	Post-benefit	Post-pension
	Variable	HY010	HY020	HY022	HY023
n	Median	30,267	25,458	22,469	13,481
8058	Wght. mean	43,909	33,121	29,809	23,808
	1/10million	104,386,279	56,138,025	56,138,025	56,138,025
	1/million —	32,988,872	17,741,126	17,741,126	17,741,126
	1/100,000	10,425,371	5,606,673	5,606,673	5,606,673
	1/10,000 —	3,294,698	1,771,859	1,771,859	1,771,859
8	1/1000 —	1,041,213	559,955	557,909	554,839
63	1/100-0.1%	305,395	180,487	179,204	168,586
678	The top 9%	116,942	80,326	78,828	74,533
7309	Bottom 90%	32,863	26,332	22,817	16,688
782	Bottom 10%	7671	6835	4358	194
8058	R Geo-mean	3.2	2.8	2.9	3.2
	EOnePercent	420,648	240,639	239,290	229,553
	E1%:median	14	9	11	17
	0.1%:10%	136	82	128	2857

Note: 1/10million is the best off 1 in 10 million households of which there are just three in the country. See text below for definitions.

Source: Calculations by Author EU-SILK weighted household sample.

is assumed to apply upwards then the average income of the best-off 0.01% (less the 0.001%) is £3.29 million a year; the average income of the best-off 0.001% (less the 0.0001%) is £10.43 million a year; the best off 0.0001%, (less the 0.00001%) secures £32.99 million a year and, finally, the best of 0.0001% of households, equating to 3 families, secure an average annual income of £104.39 million a year. The latter is not fanciful given that around 3 of the richest families in the UK saw the *Sunday Times* Newspaper estimate of their wealth rise by at least than much, by just a tenth of a billion pounds, between publications of two of the most recent super-rich lists.

For example, between 2013 and 2014 in the UK the wealth of the Hinduja brothers rose by £1.3bn (shared between their families); the wealth of the Mital family rose by £250 million. Similar rises were recorded for other very affluent families living in London so the estimate of incomes of £104.39 may be an underestimate (Sunday Times, 2014). Wealth increases of such sizes imply income gains of at least those amounts within a year.

All the figures needed to make these estimates are shown in Table 2 above. To draw up that table it is assumed that the very rich pay income tax at the same rate as the best-off 0.1% (who pay 46% of their income in income tax). It is also assumed that the very rich receive negligible benefits and pensions. However, it is worth noting that even the richest 0.1% in the UK in 2012 received just over £2000 a year in benefits (of which roughly half was child benefits) and about £3000 a year on average in pension payments. Child benefit payments for high earners were phased out that year and are no longer paid.

Having made these estimates it is then possible to calculate that the mean annual income of the top 1% in the UK (labelled "EOne-Percent" in Table 2 above) including the superrich is £420,648 (or €504,778) which is 14 times median UK income. Even excluding the estimate for the income of the super-rich, the best-off 0.1% receive 136 times more than the mean average member of the worse-off 10%, or 36% more than all of them put together despite there being 100 at the bottom for every 1 at the top!

Table 2 shows that these inequalities are muted a little after taxes are paid but then are higher after benefits are subtracted (benefits reduce income inequality but only slightly) and are much higher after pensions are subtracted. Without benefits or pensions, and even after having paid tax, the bottom 10% of the population would have, on average 2857 times less a year to live off than the best off 0.1%; or to put it in terms of actual money, just £194 a year or 53p a day! This detail has been provided for the UK only, but exactly the same methods were used to make the same estimates and calculations for the other four large countries of Europe. Only in the large countries are populations large enough that talk of the best off 1 in 10 million households can make any sense.

Table 3, below shows the average incomes in Euros of the best-off 1%, rest of the top 10% (the 9%), the remaining 90% and the bottom 10% of the population of households of each of these

Table 3Summary of Income inequalities in the five countries 2012.

€'s	Germany	France	Italy	Spain	UK
1%	257,067	375,063	270,099	126,285	504,778
9%	103,060	110,521	101,336	73,826	140,331
90%	33,466	35,776	31,362	23,558	39,436
Bottom 10%	7656	10,695	6280	3916	9206
Median	36,425	38,999	33,389	22,700	36,321
Mean	41,785	45,514	39,862	29,089	52,691
Ratio 1%/median	7	10	8	6	14
Ratio 1%/bot.10%	34	35	43	32	55

Source: Calculations by Author EU-SILK weighted household sample.

European countries. Note also that the median and mean income of households in each country is given and the ratio of the 1% to both the median household, and to the average household income within the worse-off 10% of the population. The table demonstrates that when it comes to household income distributions the four main European countries have far more in common with each other than with the UK.

On average the best-off 1% in the UK have a gross income almost twice that of Germany and almost exactly four times as great as that enjoyed by their contemporaries in Spain. In contrast, the median income of UK households is lower than that in both Germany and France. France is the next most unequal large European nation after the UK, but still far more equitable with its top 1% receiving ten times medium incomes, or 35 times the average incomes of the worse-off 10% in France (as compared to the 55 times more that the 1% enjoy in the UK). In short the UK is the outlier within Europe — it is the most grossly unequal country.

Caveats

Although it is possible to define the 1% with a remarkable degree of precision, there are still several ambiguities to bear in mind. To produce meaningful figures for any particular type of household can imply different thresholds if people are single, or are in a family with children. The figures present here apply to all households, not to individuals, although for historical time series that allow us to compare the growth of income inequalities over time, often it is individual taxation records that are used for part of the series (and not household records). Furthermore the figures presented here don't take into account wealth, mainly because data on wealth, especially on the wealth of the very richest, is very hard to find and often very unreliable. However, the EU-SILC based estimates do include income from certain forms of wealth, such as profit on investments.

The proportion of gross household income paid in the form of regular taxes on wealth (in the UK case 'council tax'), regular interhousehold payments (such as alimony) and national (mostly health) and social insurance is shown in Table 4 below. The best-off 0.1% of households in the UK qualify for the highest rate of income tax, at 46% on almost all of their income. This is because households almost always can only fall into that group if they consist of one, if not two, people earning large amounts. In the other countries of Europe — where incomes are more equitably distributed-households can be included in the top groups with lower amounts of earned income and higher proportions of their incomes being derived from other sources.

The UK raises relatively high rates of tax to pay essential benefits to the very poorest and subsidies to many of those living on low wages. Low wages are lower in the UK than in other large European countries In total all this taxation amounts to some welfare payments being made to both compensate for lack of wages (unemployment benefits) and low wages (tax credits), and a great deal

Table 4 Income and wealth taxation paid by households in 2012.

	Germany	France	Italy	Spain	UK
0.10%	28%	30%	39%	20%	46%
1%	33%	26%	36%	20%	41%
9%	33%	23%	32%	18%	31%
90%	23%	17%	22%	12%	20%
Bot. 10%	10%	6%	10%	8%	11%
Mean	26%	19%	25%	14%	25%
Ratio 0.1%:mean	1.1	1.6	1.5	1.5	1.9

Source: Calculations by Author EU-SILK weighted household sample.

Table 5Income received from the state by households in 2012.

	Germany	France	Italy	Spain	UK
0.10%	7%	0%	0%	0%	0%
1%	3%	1%	2%	2%	0%
9%	3%	3%	2%	3%	1%
90%	9%	9%	5%	9%	11%
Bottom 10%	56%	31%	10%	34%	32%
Mean	7%	7%	4%	7%	8%
Ratio bot10%:mean	7.6	4.4	2.6	4.8	4.3

Source: Calculations by Author EU-SILK weighted household sample.

being spent on housing benefits to allow rent payments to be made. Some 8% of all UK household income comes in the form of welfare state benefits of one kind or another. That 8% is the highest proportion in all these five countries and yet that still does not reduce overall inequalities to normal European levels because the high rate of overall inequalities makes paying such high aggregate amounts of benefit necessary for survival. This is because of very high average UK housing and other essential living prices (fuel, local transport and food).

The richest 1% and their behaviour in the UK have created circumstances in which taxes have to be raised to supplement the incomes of the poorest just so they can be housed and fed (and, to put it bluntly, not die in the street). Table 5 shows the proportions of household income received in the form of benefits by each of the five income groups in each of the 5 European countries. Note how unusual Germany is in that some 7% of the income of the best-off group is being received in the form of some kinds of benefits. Unemployment benefits in Germany can be very generous, a proportion of your normal wage for a limit period of time.

Despite the unusual proportion of benefits going to well-off households in Germany that country is also the most progressive of the 5 with 56% of the income of the poorest 10th in society being made up from benefits, some 7.6 times the mean amount. A great deal of this is pension income meaning that affluent people in Germany are less inclined that in other countries to belive they need to become even better off to help finance their own retirement. In contrast, mean benefit incomes are lowest in Italy, which has low average overall incomes making the raising of benefits through taxation there more difficult too.

Those at the top of the 1%: bankers

As a country becomes more economically unequal a higher and higher proportion of the 1% are drawn from just one sector — banking and finance. This is even truer of the 0.1% of very high earners. And at the very top there are hundreds of very highly paid bankers, but over ten times more bankers are very highly paid in the UK than in the next most highly stocked European country — Germany (see Table 6).

There are fewer bankers in every other EU country as compared to the five large countries (almost all extremely highly paid European bankers live in the UK), with the next highest being 48 individual bankers paid over a million Euros a year living and working

Table 6
The numbers of bankers paid over €1000,000 in 2012.

2714 in the United Kingdom 212 in Germany 177 in France 109 in Italy 100 in Spain

Source: EBA (2013).

D. Dorling / Applied Geography xxx (2015) 1-11

Table 7 Income inequality in the USA, 2008 and 1970–2008.

Income level	Number of people	Average income	Overall cha	nge 1970–2008	Annual salary in 1970	Salary with 20:1 limit
Top 0.1%	152,000	\$5.6 million	385%	J.M.	\$1.15 million	\$631,000
Top 0.1-0.5%	610,000	\$878,139	141%		\$364,000	\$199,000
Top 0.5-1%	762,000	\$443,102	90%		\$233,000	\$127,000
Top 1-5%	6.0 million	\$211,476	59%		\$133,000	\$72,000
Top 5-10%	7.6 million	\$127,184	38%		\$92,000	\$50,000
Bottom 90%	137.2 million	\$31,244	-1%		\$31,560	\$31,000

Sources: Whoriskey, P. (2011) With executive pay, rich pull away from rest of America. Washington Post. Washington. June 19th. http://www.washingtonpost.com/wp-srv/special/business/income-inequality/ Which in turned used The World Top Incomes Database and reports by Jon Bakija, Williams College; Adam Cole, U.S. Department of Treasury; Bradley T. Heim, Indiana University; Carola Frydman, MIT Sloan School of Management and NBER; Raven E. Molloy, Federal Reserve Board of Governors; Thomas Piketty, Ehess, Paris; Emmanuel Saez, UC Berkeley and NBER. Reproduced from Original Source (Washington Post, 2011).

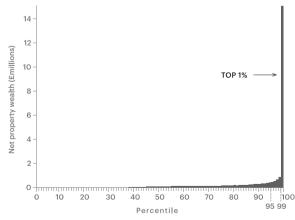
in Denmark. Thus there are more very highly paid bankers in the UK than the rest of the EU put together. This is possibly due to a contagion effect due to strong links between the UK and US.

In the UK it has become more common in recent decades to hear and read of US attitudes to very high pay being presented as being acceptable and the spreading of high banking salaries occurred by contagion in the 1980s from New York to London. Amazingly there are now more bankers paid over £million in just one bank in London (Barclays) than in all of Japan in all sectors of the economy combined (Jones, 2014). Recently these groups have been documented in great detail, not just the banking group of financiers but also others among the super-rich (Birtchnell & Caletro, 2013). Table 7 shows how the distribution of incomes within the USA is so much more extreme even than that shown above for the UK.

Wealth in the UK and USA

Wealth inequalities are harder to measure but as wealth is so important it matters that we try. By wealth, to be in the best-off 1%

Figure 4.2: Property wealth in the UK: Net positive equity by wealth percentile



Source: George Monbiot and ONS, 2013

Source: http://www.monbiot.com/2013/03/25/line-of-bat-tle/ Note: the £15m figure represents "the estimated upper bound" for property wealth in the UK, 2008/10, rather than the average."

Fig. 1. Of this paper - UK wealth estimates by percentile.

of the population in the UK probably requires a household to have access to about £1 million in assets that are not tied up in their main residential property or in a pension. The scale of tax evasion on wealth is so high that it is almost impossible to be more precise

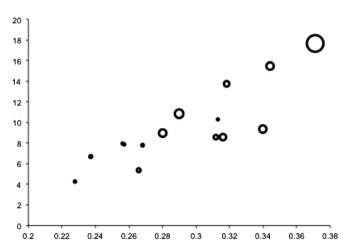


Fig. 2. Overall income inequality and the income share of the 1%, 15 affluent countries, 2012. Note: X axis Gini index, Y axis % share of 1%; Circle size: population. Source: Luxembourg income study and Paris top income dataset.

 $\begin{tabular}{ll} \textbf{Table 8} \\ \textbf{Share in top incomes of the 1\% and Gini measure of inequality, 15 affluent countries ranked by the take of the 1\%.} \\ \end{tabular}$

Country	Top 1% income share	Gini inequality measure
United States	17.7	0.37
United Kingdom	15.5	0.34
Canada	13.8	0.32
Germany	10.9	0.29
Ireland	10.3	0.31
Italy	9.4	0.34
France	8.9	0.28
Spain	8.6	0.32
Australia	8.6	0.31
Norway	7.9	0.26
Finland	7.9	0.26
Switzerland	7.8	0.27
Sweden	6.7	0.24
Netherlands	5.4	0.27
Denmark	4.3	0.23

Source: Fig. 2 of this paper.

ARTICLE IN PRESS



Fig. 3. Liquid Wealth distribution in the UK — info-graphic.

than this. The figure below, created using data released by the UK office for national statistics, suggests that the mean wealth of the best-off 1% in the UK is £15 million; but it is an estimate that was revealed when they released provisional figures. There is no official UK estimate of the wealth of the best-off 1% or of the threshold required to be passed to belong to that group. The threshold is likely to be even higher in the USA and the average wealth holding of the richest 1% to be yet higher again. Fig. 1

An improved definition of the 1% and other best-off brackets would, perhaps, combine wealth and income statistics such as for any particular level of wealth held the income required to fall within the best off 1% would be less. This measure of the economically best-off would be similar to a body mass index (BMI) which is calculated as the ratio of an individual's weight to the square of their height. Another possible improvement would be to include wider family wealth. The daughter of a billionaire does not suddenly become much poorer they day she moves out of the family home and household.

One important aspect of the best-off 1% that is often not well understood is that the higher the share of national income they take, the greater income inequalities within the 1% will tend to be. In the UK (when not including the income of the super-rich) the mean annual income of the 1% is £370,000 a year, over 2.3 times as much money than the threshold required to belong to that group. The mean in the USA will be a higher proportion of the threshold to belong still, whereas in more equitable countries like The Netherlands and Sweden the 1% both take far less and have less inequality within their group (Dorling, 2014). Thus in any society in which the 1% best-off take a low proportion of national income, overall income inequality within that society will be less, not only because the 99% will have more — but because there will almost certainly be less inequality within that 99%, and within the 1%

There is a very close correlation between the income take of the best-off 1% and the overall measures of income dispersion in each countries as measured within the Luxembourg in study (See Fig. 2). Table 8

Canadian data has revealed that of those within the top 1% who are receiving the bulk of their income from earning (rather than as interest on capital or in rent), more than 80% of them are men and, as the income share of the 1% has grown, so too has the share of that income taken by those men within the 1% (Breau, 2014). The 1% are also getting older, now mostly being in the 50 to 64 age bracket; and the largest, fastest growing, and best paid group within the 1% work in finance (Breau, 2014). There is no reason not to suppose a similar micro-demography in the UK and USA to that found in Canada.

Recent history of the 1%

In 2013 Robert Shiller, the Nobel Prize winning economist, suggested that in the USA the renewed greed of the top 1% was having a worse effect on the livelihoods and the well-being of most Americans than even the financial crash of 2008. To his fellow Americans he said: '...the most important problem we are facing now, today ... is rising inequality' (Wilkins, 2013).

The direct effect of the richest taking more and more leaves less for the rest but it is almost certainly the indirect effects of growing greed and the justification of greed as somehow reflecting desert does the more corrosive long-term harm to society. This can be seen as the most significant part of what another Prize winning economist, Paul Krugman, described as part of a growing understanding that "Wilkinson-type views about the corrosive

effects of inequality are going seriously mainstream." (Krugman, 2012).

The Wilkinson type views that Krugman is referring to are those of Richard Wilkinson and his co-author Kate Pickett who were among the founders of the Equality Trust in the UK. Wilkinson and Pickett noted that a large number of social ills appeared to be far more common in countries where income inequality is higher (see Pickett & Wilkinson, 2015; Wilkinson, 1996, 2005; Wilkinson & Pickett, 2010). They presented a series of possible reasons as to why this might be and used the ratio of the mean average income of the best-rewarded 20% of households living in any society to the worse-rewarded 20%: the 20-20 ratio.

What is crucial about the Wilkinson-Pickett measure is that it is driven by the incomes of the best-off 1%. The best-off 1% in any one society are - by definition - the very highest paid of the best-off 20%, they constitute 5% of that group by population and can receive each year as much as 50% of the income of that group. Thus the 20-20 ratio largely reflects the share of income held by the 1%. Furthermore, the more the top 1% take in any given society the more the next 2% is likely to take (as compared to the next 2% in other societies) and so the take of the 1% pulls up other incomes within the top fifth. Conversely, the more the 1% take as a share of all income, the less there is for the rest of the population and so low-incomes then tend to be much lower and benefit levels tend to be much lower in those countries where the 1% take the most. However, so many people end up relying on benefits that the 1% end up, in the case of the UK, paying nearly a third of all income tax. It is because of the recent rapid rise in the overall take of this highest tax-contributing proportion, and many other pressing reasons, that interest in the 1% is becoming so acute.

A year after Wilkinson and Pickett's book 'The Spirit Level" pushed inequality onto the agenda the academic and anarchist David Graeber was credited with coining the phrase 'we are the 99%'. This made the best-off 1% the object of opposition. For the 99%, as Graeber explains, for "... most people the fear of losing your job is far greater than the hope of finding a truly fulfilling one" (Runciman, 2013). However, not all of the 99% are unfulfilled. Many of the 1% undertake work they find dull but do just to remain in that income bracket. However, for the 1% their income often means that in the rest of life they have choices that others only dream of, other than the choice to be normal.

A year later again, in 2012, in the UK, it was revealed that compared to the very top 1% of households, the rest of the top 20% in Britain were taking home less and less. Between 2007 and 2012 the real disposable income of the top fifth of households in Britain dropped by £4200 a year, a 6.8% fall for that group (ONS, 2013). The average fall for all households was a drop of £1200 a year to live on. This has reduced differences within the 99%. In just the final year of the one year period 2011 to 2012, the median household income in the UK fell by 2.8% (when taking inflation into account), but mean (average) incomes fell by only 1.6% because the very rich, the top 1%, did not see a fall. Very similar findings were reported in the USA at the same time where they was consternation when President Obama agreed that since he had come to office 95% of all income gains made had gone to the top 1% (Yousuf, 2013).

By 2014 fatigue was setting in among reporters and pundits. Over four years worth of post-great-recession news kept repeating that while most people in affluent countries, and especially the most unequal of affluent countries, were becoming a little or a lot poorer, a few were doing better and better. At the very top the average wealth of billionaires was soaring upwards as was that of the multi-millionaires just beneath them, and there we also rises

D. Dorling / Applied Geography xxx (2015) 1-11



 $\textbf{Fig. 4.} \ \, \textbf{Liquid Wealth distribution in the USA} - \textbf{info-graphic.}$

for the large majority of the 1% who fall beneath that group. As 2015 began it emerged that defense of inequality was one of the key battlegrounds for political parties in the UK general election (Dorling, 2015). However, high, rising and prolonged economic inequality is not a static phenomenon. It changes fundamental relationships in society and touches on the lives of everyone, especially the 1% themselves.

Segregation of the 1%

In Canada: "... the biggest change observed over time is in the geography of the top 1%" (Breau, 2014, p.29). The 1% have become more crowded in a few places and where they have moved to in greatest numbers most recently, to places such as Calgary, that city has "earned the dubious distinction of being the country's most unequal city". In the USA this distinction is often given to New York. In the UK it is in London where the greatest gaps between the living standards of rich and poor are now experienced and these two cities often top international league tables of inequality by city area (Ross et al. 2005).

There is always a 1%. In more equal times the 1% are spread more evenly around a country. When inequalities rise fewer and fewer areas contain members of the 1% and the 1% tend to crowd into particular neighbourhoods where they feel more normal and near to where the few jobs that pay 1% wages are to be found. A good example of the process is to consider the salaries of medical practitioners.

Medical practitioners are very well paid. They tend to be better spread out among the population because they need to be near the people who need their services. Some forty years ago they were less well paid in absolute terms, but were often within the top 1% of income earners in both the UK and USA. Today not much more than 2% of all General Practitioners (GPs) in the UK are in the top 1% of earners (Technical Steering Committee, 2013). The large majority feels they are not as well paid as their predecessors did a generation ago despite often being paid two or three times as much in real terms. That is because financiers and a few other small groups who are now receiving large multiplies of their incomes have overtaken them. GPs who live near areas where the 1% congregate often complain of how hard they find it to buy a home.

Were the 1% to be spread out more evenly in a country then they, and those just beneath them, would have no difficulty purchasing a home near where they worked. To purchase a home requires wealth, or a loan of that wealth which is secured on the property and the loan is only given if the future expected income of the purchaser is thought to be likely to be enough, and secure enough, to pay off that loan. Figs. 3 and 4 below illustrate just how unevenly wealth is now distributed in both the UK and the USA.

By wealth the best-off 1% in the UK now hold over half of all the liquid assets in that country. Fig. 4 for the USA includes the worth of the property a person lives in (if they own it) and so appears a little more even than Fig.3 for the UK. However, the bottom 40% of households in the USA are far poorer than the bottom 40% of households in the UK. The USA data is for 2007 as by 2010 that bottom 40% had, in total, negative wealth due to the negative equity on that property which they did own. In both countries inequalities in wealth as well as income have returned to levels last experienced before the Second World War and are moving towards the heights

D. Dorling / Applied Geography xxx (2015) 1-11

17.7	Singapore	****
15.9	United States	 * * * * * * * * * * * * * * * * *
15.0	Portugal	 * * * * * * * * * * * * * * * * * *
13.8	United Kingdom	***
13.4	Israel	***
12.5	Australia	***
12.5	New Zealand	***
11.6	Italy	***
10.3	Spain	ጵጵጵጵጵጵጵ
10.2	Greece	乔乔乔乔乔乔乔乔乔.
9.4	Canada	ጵጵጵጵጵጵጵ
9.4	Ireland	ጵጵጵጵጵጵ
9.2	Netherlands	乔乔乔乔乔乔乔乔.
9.1	France	乔乔乔乔乔乔
9.0	Switzerland	***
8.2	Belgium	乔乔乔乔乔乔乔.
8.1	Denmark	乔乔乔乔乔
7.8	S Korea	***
7.3	Slovenia	乔乔乔乔乔
6.9	Austria	***
6.9	Germany	乔乔乔乔
6.2	Sweden	乔乔乔乔
6.1	Norway	介介介介介
5.6	Finland	***
4.5	Japan	***

Fig. 5. Ratio of the mean income of the best-off 10% to the worse-off 10% in Each of the 25 richest countries (90:10 ratio). Note: countries with a population below 2 million are excluded. Those that head the list are most unequal.

of inequality that were reached immediately prior to WWI. These abstract spatial images help illustrate the extent of issues and the great size of the gaps. They were produced by agitators attempting to resist ever growing inequalities by drawing attention to the size of the problem. However, again lethargy can set in and a sense that this is just how things have to be can strengthen by such images.

It is worth asking for whom in the US are high living standards being maintained? It is also worth asking whether the median North American experiences a good life compared with the median citizen of the five other affluent nations examined in this paper. As reported above, the median household in Britain received an income before housing costs, but after tax of the equivalent of €36,300 in 2012. In Germany the equivalent figure was €36,400, in the USA it was €36,450, in France €39,000 and housing costs are lower outside of Britain and health costs are much higher in the USA (Dorling, 2015, Chapter 6, footnote 74). After adjusting for

health costs/insurance in the USA it is the median family there that will have the lowest standard of living among all six large countries, due mainly to inequalities.

Figs. 3 and 4 showed two graphics designed to expose the extent of wealth inequalities in the USA and UK but they might also present the impression that such inequalities are inevitable. In the face of such a huge wall of money and power what chance have the "little people" got?

Conclusion and discussion

The UK sits half way between the USA and mainland Europe in economic space. The UK levels of inequality are now huge by normal European standards, but not so huge when compared to the average levels of economic inequality experienced within the USA.

10

Of course, there are huge variations within the USA as well. A small number of US states remain somewhat equitable — almost reaching European standards of low inequality, but others have far higher inequalities within them than anything seen within Europe, or indeed anywhere in the rich world other than Singapore with its 100,000+ imported servants from poorer countries employed only as guest-workers.

To produce a fair set of statistics on economic inequalities a particular form of triangulation is needed and many data sources have to be combined. This paper has tried to show ways in which that can be done. Estimates have to be made of the incomes of the 0.01%, 0.001% and so on, up to the very smallest groups of extremely rich households and these then compared with what is published about the numbers of highly-paid bankers in each country and then that data compared in turn with information from the various 'rich-lists', from census data on median household income and as many other sources as possible. This is especially the case for the US and USA where so few hold so much. If triangulation is carried out then sample surveys of the national population can be used to estimate the income distribution of the bulk of the 1%.

The distribution of income is, as Jonathan Swift observed over three hundred years ago, fractal. As you rise up the income distribution the slope just above you gets ever steeper the higher up you climb. Those above you have very much more than you, whereas you just have much more than those beneath you who only, (in turn) have a little more than those beneath them who just have a little more than ... or as Swift put it:

"So nat'ralists observe, a flea

Hath smaller fleas that on him prey;

And these have smaller fleas to bite 'em.

And so proceeds Ad infinitum."

Swift (on poetry, A Rhapsody, 1733).

It is time British and American Geographers woke up to how unusual Britain and America are in the global order of income inequality. In turn this makes US and UK societies extremely unrepresentative to use as models to study affluent societies and may make a very large number of academic studies by geographers in these two areas studies of the extreme, not of the normal.

Among the 25 richest nations on earth the UK and US rank, in terms of being most unequal, within the top 4 (Dorling, 2010) and possibly when figures are updated within the top 3. The most unequal of rich nations, and yet another country famous for geographers, is Singapore (Fig. 5). Could it be that Geography, the discipline of Empire, mainly still survives and prospers where great economic inequalities remain?

Just how much of our discipline does have its thought skewed by the contexts in which we are writing and researching? Could this be as true for radical and critical geographies as for the more mainstream kind? This simple, largely empirical paper ends only with questions. If you were choosing to study the world and could

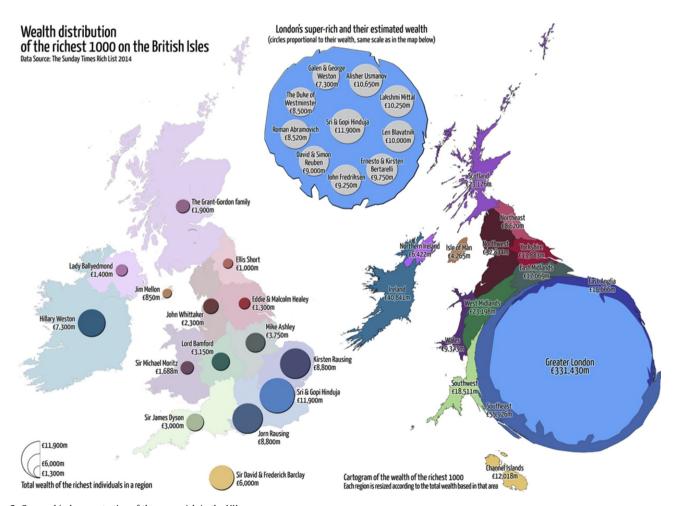


Fig. 6. Geographical concentration of the super-rich in the UK. Source: Hennig, B.D. and Dorling, D. (2014) The Shape of the nation's wealthiest Political Insight, November 20–21.

Please cite this article in press as: Dorling, D., Income inequality in the UK: Comparisons with five large Western European countries and the USA, *Applied Geography* (2015), http://dx.doi.org/10.1016/j.apgeog.2015.02.004

choose from which vantage point to look, why would you choose to look from the extreme edges and not from some place that it was more normal to be living? Would it not be better to observe the world from a place where life was more normal and less divided? Fig. 6

There is, of course, one great antidote to being placed with such a poor view of the world, obstructed by the strangeness of where you happen to be looking from, where you happen to be based. That antidote is to travel. Don't just look at the statistics of other places and other people. Go see for yourself what it is like to live in a more average affluent nation where people are more similar to each other economically. See how they treat each other, the extents to which they trust or fear each other. Spend a little longer living there and see how it might also change you. Explore!

References

- Ballas, D., Dorling, D., Nakaya, T., Tunstall, H., & Hanaoka, K. (2013). Income inequalities in Japan and the UK: a comparative study of two island economies. Journal of Social Policy and Society, 60(12), 2865–2875.
- Birtchnell, T., & Caletro, J. (Eds.). (2013). Elite mobilities. Abingdon: Taylor and
- Breau, S. (2014). The occupy movement and the top 1% in Canada. *Antipode*, 46(1), 13–33.
- Cribb, J., Hood, A., Joyce, R., & Phillips, D. (2013). Living standards, poverty and inequality in the UK: 2013. Institute for Fiscal Studies Report R81 (pp. 30–45) http://www.ifs.org.uk/comms/r81.pdf.
- Currid-Halkett, E. (2013). The 21st century silver spoon. *The New York Times*. November 9th http://opinionator.blogs.nytimes.com/2013/11/09/the-21st-century-silver-spoon.
- DeVerteuil, G. (2009). Inequality. In R. Kitchin, & N. Thrift (Eds.), *International, encyclopedia of human geography* (pp. 433–445). Amsterdam: Elsevier.
- Dorling, D. (2010). *Injustice*. Bristol: Policy Press.
- Dorling, D. (2014). Inequality and the 1%. London: Verso.
- Dorling, D. (2015). *Injustice: Why does social inequality still persist* (2nd ed.). Bristol: Policy Press.
- EBA. (2013). EBA presents data on high earners in EU banks for 2012. November 29th. European Banking Authority http://www.eba.europa.eu/-/eba-presents-data-on-high-earners-in-eu-banks-for-2012.
- Havey, D. (1973). Social justice and the city. Oxford: Blackwell.
- Hay, I. (Ed.). (2013). Geographies of the super-rich. Cheltenham: Edward Elgar.
- Hennig, B. D., & Dorling, D. (2014). The shape of the nation's wealthiest. *Political Insight*. November 20–21.

- Jones, O. (2014). The establishment. London: Allen Lane.
- Krugman, P. (12 May 2012). The economics of marginalization and hopelessness. New York Times. http://krugman.blogs.nytimes.com/2012/05/12/the-economics-of-marginalization-and-hopelessness/.
- Li, Y., & Wei, Y. H. D. (2010). The spatial-temporal hierarchy of regional inequality of China. Applied Geography, 30, 303—316.
- Moreno, K. (2014). The 67 people as wealthy as the world's poorest 3.5 billion, 25 March Forbes Magazine http://www.forbes.com/sites/forbesinsights/2014/03/25/the-67-people-as-wealthy-as-the-worlds-poorest-3-5-billion/.
- Nowatzki, N. R. (2012). Wealth inequality and health: a political economy perspective. *International Journal of Health Services*, 42(3), 403–424.
- ONS. (2013). The effects of taxes and benefits on household income, 2011/12. July 10th. London: Office for National Statistics http://www.ons.gov.uk/ons/dcp171778_ 317365.pdf.
- Philo, C. (1995). Off the map: Social geography of poverty. London: Child Poverty Action Group.
- Pickett, K. E., & Wilkinson, R. G. (2015). Income inequality and health: a causal review. Social Science and Medicine. http://dx.doi.org/10.1016/j.socscimed.2014. 12.031
- Piketty, T. (2014). *Capital in the twenty-first century*. Cambridge: Harvard University
- Ross, N., Dorling, D., Dunn, J. R., Henriksson, G., Glover, J., Lynch, J., et al. (2005). Metropolitan income inequality and working-age mortality: a cross-sectional analysis using comparable data from five countries. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 82(1), 101–110.
- Runciman, D. (2013). The democracy project: A history, a crisis, a movement by David Graeber Review, 31st March http://www.anarchistnews.org/content/democracy-project-history-crisis-movement-david-graeber-%E2%80%93-review
- Sassen, S. (2014). Expulsions: Brutality and complexity in the global economy. Cambridge: Harvard University Press.
- Sayer, A. (2014). Why we can't afford the rich. Bristol: Policy Press.
- Sunday Times. (2014). The rich list. An open access copy is available here http://en. wikipedia.org/wiki/Sunday_Times_Rich_List_2014.
- Technical Steering Committee. (2013). *GP earnings and expenses* 2011/12. Health & Social Care Information Centre. September 25th http://www.hscic.gov.uk/catalogue/PUB11702/gp-earn-ex-1112-rep.pdf.
- Washington Post. (2011). Not spreading the wealth. *The Washington Post*. June 18th http://www.washingtonpost.com/wp-srv/special/business/income-inequality/.
- Wilkins, B. (2013). Nobel prize winner shiller: inequality biggest problem facing US. *The Digital Journal*. October 15th http://www.digitaljournal.com/article/360347.
- Wilkinson, R. (1996). *Unhealthy societies*. London: Routledge. Wilkinson, R. (2005). *The impact of inequality*. London: Routledge.
- Wilkinson, R., & Pickett, K. (2010). The spirit level. London: Allen Lane.
- Wyly, E. (2009). Strategic positivism. The Professional Geographer, 61(3), 310–322.
- Yousuf, H. (2013). *Obama admits 95% of income gains gone to top 1%, CNN money.*September 15th http://money.cnn.com/2013/09/15/news/economy/income-inequality-obama/.