UKCPR
University of Kentucky
Center for
Poverty Research

Discussion Paper Series
DP 2019-09

ISSN: 1936-9379

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Preferred citation
Joyce, R. & Ziliak, J. (2019, August). Relative poverty in Great Britain and the United States, 1979-2017. *University of Kentucky Center for Poverty Research Discussion Paper Series, DP2019-09*. Retrieved [Date] from http://ukcpr.org/research.

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Abstract

This article examines the major changes to the face of poverty in Britain over the past few decades, assessing the role of policy, and compares and contrasts this with the patterns seen in the United States, using harmonized household survey data. There are various commonalities between the countries, including a shift in the composition of those in poverty towards working-age households without children, who have not been the focus of policy attention. There are also big differences, with a steadily increasing share of poverty in Britain – but a stable share in the US - found in households with an adult in paid work. This perhaps explains why the anti-poverty focus in Britain is now squarely on the plight of working households, while in the US it is focused on labour force participation among the low skilled – even though, as we show, the US has for decades been used to in-work poverty comprising a significantly higher proportion of overall poverty than in Britain.

* The authors thank three anonymous reviewers and Hilary Hoynes for helpful comments on an earlier version of the paper. All errors are our own.

I. Introduction

Research on the economics of poverty across the world is vast. Over the past fifty years there have been major advances in our understanding of how poverty levels and trends compare across the globe. Much progress has also been made in unpacking the underlying causes such as developments in labour markets, the consequences for family well being, and the role of social assistance programs – which vary widely, even across developed economies - in mitigating hardship.[1]

In this paper we conduct a two-country study of Great Britain (GB) and the United States (US) using near-harmonised data on income and its components, to compare and contrast levels of relative poverty, trends, drivers and associated policy developments.[2] The two-country approach complements previous research by allowing us to illuminate the differences and similarities between the countries, as well as their roots in policy, more thoroughly than most cross-national comparative exercises would be able to do. Our focus on two countries which are often considered to be in similar camps when it comes to broad typologies of developed economies or welfare states (when contrasted with, say, Scandinavia or southern Europe) also allows us to highlight what are in fact some crucial differences between them – including cases where the differing experiences are clearly related to different policy paths.

We begin with an analysis of trends in poverty in both countries over the past three and a half decades. We focus on the period since 1979, capturing the 'inequality boom' of the 1980s in both countries. This is a natural starting point for us, as that inequality boom splits the postwar period in both countries into two very different phases when it comes to levels of inequality and relative poverty.

For our measure, we adopt a relative scale defined as equivalised after-tax and transfer household income less than 60 percent of the median, which is the most common measure used in Britain, as in many other OECD countries - although not the only one (see Department for Work and

[1] For recent comprehensive surveys of poverty trends or poverty research in the UK see Hills, Sefton and Stewart (2009), Brewer, Browne and Joyce (201), Waldfogel (2011), Joyce and Sibieta (2013), and Bourquin et al (2019); for the US see Danziger and Haveman (2001), Ziliak (2006), Cancian and Danziger (2009), Moffitt (2016), Tickamyer, Sherman, and Warlick (2017).

[2] As discussed in the data section, we focus on Great Britain and not the United Kingdom overall because we lack data on Northern Ireland.

Pensions, 2019). The appropriate measurement of poverty, including the merits of relative and absolute approaches, has been much debated in public debate and policy circles (e.g. Citro and Michael, 1995; HM Government, 2012; Social Metrics Commission, 2018). The US adopted an absolute measure of poverty in the late 1960s as its official measure, based on the seminal research of Orshansky (1963) whereby families are deemed poor if their incomes fall below three-times the level of family-size adjusted minimum food needs. There are advantages and disadvantages to each which have been discussed in much greater depth elsewhere. Briefly, our view is that a key advantage of absolute scales is their ease of interpretation over short periods of time, while relative scales can be less straightforward to benchmark progress against poverty because the threshold changes with the economy – potentially rapidly so during booms or recessions; but on the flip side absolute measures can become dated and hence lose relevance over longer periods of time, and it seems reasonable to think that, given enough time, society's view of what is "poor" does evolve. There is no minimum food budget or other absolute scale in GB that is comparable to the one used in the US, and our focus is on longer-term trends where we believe the merits of relative measures to be strongest. Hence we have opted to focus on relative income poverty, which is readily implemented in both countries. We note that relative poverty in the US is much less a part of mainstream discourse than it is elsewhere, although in an academic context we are by no means the first to document relative poverty rates for the US.[3]

We next turn to a brief examination of research that attempts to explain the trends in poverty, focusing on developments in labour markets such as secular skill upgrading and technical change, on the decline in manufacturing and rise in part-time work, on family structure changes toward lone parenthood, and on demographic aging. We provide a decomposition of the role of demographic drivers in accounting for changes in relative poverty over the last 35 years. This is followed by an overview of developments in tax and transfer policy in both nations. The 1980s saw major tax reforms in GB and the US, followed by fundamental welfare reforms in the late 1990s that involved massive retrenchment of some programs in the US and expansion of others (Blank 2002; Grogger and Karoly

[3] Hoynes and Stabile (2019), Morelli et al (2015), OECD (2008), Wimer and Smeeding (2017).

2005; Ziliak 2008; Moffitt 2015), and a major commitment to eradicate child poverty in Britain (Waldfogel, 2011; Joyce and Sibieta, 2013). After the Great Recession of 2007-2009, GB began a period of fiscal austerity with direct implications for the generosity and reach of antipoverty programs that was not matched in the US. These developments on the policy front were met with an explosion of research in both nations, much of which focused on how the programmatic changes affected program participation, labour supply, income, and in limited cases, health and wealth. We provide a set of updated estimates of the anti-(relative)poverty effects of the safety net in each country.

We conclude by offering a set of open research questions that need answering in order to better inform evidence-based policymaking. These questions touch on research needs on social welfare programs (including the minimum wage), ranging from a need for basic research on labour supply and consumption over the life cycle to optimal program design. We also discuss issues of data infrastructure on poverty measurement and evaluation. Both countries rely on household survey data for measures of poverty and living standards, but these surveys face increasingly high rates of nonresponse and underreporting of income (Meyer, Mok, and Sullivan 2015; Brewer, Etheridge, and O'Dea 2017). This suggests a potential role of administrative data, but how such data are to be utilized is not settled.

II. Data and poverty measurement

Our analysis builds on the work in Blundell et al. (2018), which aimed to the extent possible to harmonize the main household income survey datasets across Britain and the US over the past three and a half decades. Below we first describe the key features of the data, borrowing heavily from the description in that prior research. We note at the outset that, because the data do not cover Northern Ireland before 2002-03, for consistency of our time series we exclude it throughout, and so the data we use only cover Great Britain (England, Scotland, and Wales) and not the entirety of the United Kingdom (UK). We thus refer to Great Britain, GB, or simply "Britain", throughout this paper when describing our results, rather than the technically-incorrect UK. Northern Ireland accounts for less than 3% of the UK population and its exclusion makes a negligible difference to all of the analysis here.

1. Data from Britain and the United States

For the research on Britain, we draw on two distinct sources of data: the 1979-1993 survey years of the Family Expenditure Survey (FES), and the 1994-2017 survey years of the Family Resources Survey (FRS).[4] Both datasets are annual household surveys and are commonly combined in this manner, including in the calculation of official statistics on poverty and inequality. We refer to financial years in the text throughout this paper, on the basis that the FRS covers financial years (running from April to March, i.e. the financial year 2017 begins in April 2017 and ends in March 2018); but note that the pre-1994 British data from the FES is in fact for calendar years, just like the US data described below. The FES and FRS collect data on various sources of income received and taxes paid close to the time of interview, and all income and tax amounts are based on the self-reported values. Some income components suffer from non-response and any missing values are imputed. However, as neither survey identifies the observations and income components that have undergone imputation, we are unable to restrict our sample to those without any imputed information.

For the US analysis, we use the Current Population Survey Annual Social and Economic Supplement (ASEC) for the 1980-2018 survey years, referring to activity in the 1979-2017 calendar (financial) years. The ASEC is a stratified random sample of 60,000-90,000 household addresses from the noninstitutionalized population in the US. It serves as the official source of income and poverty statistics. Compared to the FES and FRS, there are some important distinctions in the ASEC. First, all information refers to prior calendar year rather than the time immediately prior to the interview**.** Second, taxes and tax credits are self-reported in the British data, whereas the ASEC does not collect tax information. Instead we run the ASEC data through NBER's TAXSIM simulation program, which assumes 100 percent take-up among those eligible for tax credits. Third, nonresponse to earnings questions, and to the entire ASEC altogether, has been on the rise (Bollinger et al. 2019), and the US Census Bureau imputes values to nonrespondents. We drop those with imputed earnings and hours and reweight the ASEC data as described below.

2. Relative after-tax and transfer poverty

[4] Prior to 1993 the FES was collected on a calendar-year basis, while from 1993 onwards it was collected on an April-March financial year basis. The FRS began in 1994 with an annual sample of around 20,000 households, roughly double that of the FES, and was also collected on an April-March financial year basis.

We measure poverty in any time period *t* using the standard headcount ratio, defined as the fraction of persons whose income falls below the poverty threshold. Our analysis focuses on relative measures of poverty, in which the poverty line in each year is 60% of the contemporaneous median income. Individuals are the unit of analysis, with each individual attributed the equivalized (by the modified OECD scale) household income of the household to which s/he belongs.[5]

For our measure of income, we use after-tax and transfer income, which includes earnings, transfer income (inclusive of refundable tax credits) and nontransfer nonlabour income such as rent, interest, and dividend income, less tax payments. In the British data, transfers include all cash transfers and work-based tax credits, including the Child and Working Tax Credits, Child Benefit, Housing Benefit, Income Support and unemployment and disability benefits. For the US data, transfers include Social Security, Disability Insurance, Unemployment Insurance, Workers Compensation, Supplement Security Income, Temporary Assistance for Needy Families (cash only), Supplemental Nutrition Assistance Program (food stamps), Earned Income Tax Credit, and the Additional Child Tax Credit. In the British data, both transfers and tax payments are self reported (tax payments include income tax, employee National Insurance Contributions, and Council Tax). However, while most US transfers are self reported in the ASEC, tax payments and refundable tax credits (EITC and CTC) are not and must be simulated as described above.[6]

These definitions make our poverty measures analogous to the UK's official measure (Department for Work and Pensions, 2019) – subject to imperfections in the harmonisation of the US income data with the UK income data - which in turn is very similar to measures used by the OECD and EuroStat. Because the US has relied on a fixed, absolute measure of poverty since the 1960s, it is important to highlight a couple of key differences between our relative measure here and the official

[5] The reference household is a two-adult tax unit without children, and thus the expression for the equivalent income is $y_{it}^{e} = y_{it}/\{0.67 + 0.33 * [(n_{adult} - 1) + n_{child\ 14+}] + 0.2 * n_{child\ 0-13}\}$, where n_{adult} is the number of adults in the tax unit, $n_{child\ 14+}$ gives the number of dependent children in the tax unit aged 14 and above, and $n_{child\ 0-13}$ the number of children ages 0-13.

[6] TAXSIM receives as inputs the tax unit marital status, ages of members, number of (child) dependents for (refundable) tax credits, earnings, taxable and nontaxable transfers, and other items. It then returns a simulated estimate of federal, state, and payroll tax liability, inclusive of tax credits. For the payroll tax, we just assign the employee share. A crucial step in the process is constructing the tax unit, which is not identified in the ASEC. See https://sites.google.com/site/jamesziliak/Home/Research for a sample Stata program.

US measure. First, income for official poverty measurement in the US is before-tax and in-kind transfers. This means tax payments and credits are not included, nor is food assistance from SNAP (or other in-kind payments such as housing assistance or health insurance), but other cash transfers are included. Second, in the US the unit of analysis is the family, not the household, the latter of which can contain both related and unrelated persons. Third, the official poverty line in the US is defined as three-times the minimally adequate food budget for a given family size. The budget of three-times is derived from a 1955 household survey that showed the typical family spent one-third of income on food, and starting in the late 1960s the food budget has been updated by annual food price inflation. This means that in real terms the line has been fixed for the past five decades.[7]

There is a strong case to be made that, when looking at long-term trends, "relative" measures like the one here are preferable conceptually because society's intuitions about what is enough to live on are not fixed for all time (as assumed with the US official measure), and with long-term growth in incomes, an absolute measure of poverty *should* tend to fall towards zero over time and therefore becomes an unhelpful tool to use to understand who is the worst off in society. We emphasize "should" here because if that long-term growth is not evenly distributed then it is possible for absolute measures like in the US to persist over time. But we note that, unlike in the UK and the rest of Europe, the notion of poverty as a relative concept is largely anathema to mainstream US discourse.[8]

Appendix Figure 1 shows how relative poverty rates are a moving target, plotting how the relative poverty lines have changed (in real terms) over time as median income has grown.[9] There was especially rapid growth during the recovery from the early 1980s recession (especially in GB) and in the mid- to late-1990s, implying that the incomes of low-income families needed to grow especially strongly over these periods just to keep up with those above them and hence to keep relative poverty

[7] See Citro and Michael (1995), Ziliak (2006), Smeeding (2016) for further discussion of the origins of the US poverty measure. In a typical year the average US poverty line is roughly 30% of median income.
[8] The US Census Bureau produces a Supplemental Poverty Measure (SPM), which is a quasi-relative poverty measure based on recommendations of a National Academy of Science panel recommendations (Citro and Michael 1995). The SPM poverty line is defined as a percentile of the (food, clothing, shelter, utilities) consumption distribution and is updated periodically to align more closely with contemporaneous spending patterns.
[9] For Britain, nominal incomes are converted to real terms using a modified Consumer Price Index that includes an adjustment for mortgage interest. In the US, income is deflated by the Personal Consumption Expenditure Deflator. In both cases we use a 2010 base year.

rates the same. The figure also shows that relative net income poverty is more cyclically sensitive in the US than in GB, hinting at less income smoothing in the US as discussed further below and in Blundell et al (2018). Appendix Figure 2 shows how poverty has evolved if we instead take an "absolute" approach, fixing the poverty line in all years at the (real) value of the relative poverty line in 2010-11 (this is not the same as the US absolute measure). This shows two things. First, over short periods, absolute poverty rates move in arguably a more reliably intuitive way than relative poverty rates, because it is negatively associated with the business cycle, falling strongly during booms and flatlining or rising during recessions. Second, however, over long periods these measures can arguably lose relevance. For example, using the absolute poverty line in Appendix Figure 2 would lead one to conclude that the vast majority of GB pensioners were in poverty in 1980. The only way of avoiding that conclusion whilst using an absolute measure would be to use a much lower poverty line throughout, which would lead one to conclude that virtually nobody is in poverty today, and this doesn't seem much more plausible. It is the long run that is our primary focus in this paper – hence our decision to focus on relative measures.

III. Trends in relative poverty

We begin by setting out the major shifts in the nature of poverty over the past few decades. This sets up the discussion and analysis in subsequent sections of the underlying drivers of change, how policy has responded, and the key challenges all this raises for the future.

[Figure 1 here]

Figure 1 shows how relative poverty has changed since 1979, with GB in the left-hand panel and the US on the right. As well as the overall figures, it splits the population according to whether or not there is at least one person in the household aged 65 or more (henceforth we will loosely refer to these as individuals in "pensioner households" and individuals in "working-age households"). The figure shows that relative poverty in GB rose sharply during the rapid rise in income inequality in the 1980s, but it has fallen significantly since the early 1990s.This is despite the fact that, in the top half of the income distribution, inequalities have remained at least as high as they were in the early 1990s (Blundell et al. 2018). The cumulative decline in relative poverty over the past few decades has been substantial (a fall of roughly 8 ppts, or one-third, since the 1989 peak), but the rate of change has been

much more gradual than the rise during the 1980s and as a result relative poverty remains higher than in 1979. That conclusion is different if focusing specifically on those in pensioner households, however. They have seen especially sharp reductions in poverty in recent decades—a decline of one-half since the late 1980s.

A comparison of the broad patterns between Britain and the US reveals both commonalities and differences. In terms of levels of relative poverty, these are clearly lower in GB for both pensioner and working-age households – which fits with the well-documented higher level of income inequality in the US.[10] Comparing 1979 with now, it is true in both countries to say that relative poverty has risen overall – driven by a rise among those in working-age households – but this masks a significant fall in poverty among those in pensioner households. Focusing on the period since the early 1990s, however, the fall in overall relative poverty in GB is not mirrored in the US, where poverty has remained remarkably flat for most of the period and has actually risen during the recovery from the recent recession (this is true in GB as well after the 2010 austerity measures discussed below). This is both because poverty among working-age households has fallen in Britain while rising in the US, and because poverty among pensioner households has fallen faster in GB than the US. The US trend is best understood by referring back to Appendix Figure 1. There it is shown that the poverty threshold falls in the US before 2009, thus picking up larger share of population just above line compared to Britain, while in the last few years the poverty line has increased faster than incomes in the bottom half, reflecting that the post Great Recession recovery primarily benefitted the upper half of the distribution through 2017.

[Figure 2 here]

Figure 2 focuses on the working-age households (those containing no adult aged 65 or above). It splits them into two sets of mutually exclusive groups: those containing at least one adult in paid work (henceforth referred to using the shorthand of "working households") and those containing

[10] Contrary to Figure 1, in the US persons age 65 and older have the lowest absolute poverty rates. In Appendix Figure 3, when we superimpose another line restricted to households where *all* members are age 65 and older we see that in every year their relative poverty rate is lower than the anyone 65+ line, and starting in the Great Recession, the over 65+ group has the lowest relative net income poverty rate overall, more closely mirroring absolute poverty age relationships. In GB, however, the over 65 households have the highest relative poverty rate in every year.

none[11]; and those containing at least one dependent child and those containing none. In both countries, rates of poverty are higher in households with children than those without, but there has been some convergence since 1979. As we explain in Section IV below, in large part this is because working-age adults without dependent children have not tended to be the focus of any of the major welfare expansions in either country, which instead have targeted children and pensioners (Browne and Phillips, 2010; Moffitt 2013; Bitler and Hoynes 2016). In Britain there has been a significant decline in relative child poverty since its peak in 1992– again, much of which is directly attributable to cash transfer policy (Joyce and Sibieta, 2013) – although it is now rising, at least in part because of cuts to cash transfers after the Great Recession.

The rate of relative poverty among working households has crept up in both countries, mostly during the 1980s, but with no unwinding since. Perhaps the most visually striking difference between the two countries here is in the rates of poverty among non-working households. Today this is far lower in Britain than the US, the former having fallen significantly over time. In fact, around half of Britain's non-working households today have sources of unearned income that are sufficient to take them above the poverty line (and recall that this does *not* include pensioner households). As one might expect, this is to a large degree explained by the welfare safety net: of those people in GB who are in a non-working household (of working age) and are not classified as in poverty, the majority of household income comes from state benefits, on average.[12] Meanwhile the non-working population in the US has been left behind, with just over three-fourths in relative poverty each year.

Demographic and economic trends have meant that these changes in poverty rates within groups have gone alongside changes in the relative sizes of the groups. Appendix Figure 4 shows the proportions of the British and US populations who live in pensioner households, working households, and households with children (note that the denominator here is the whole population in all cases, not

[11] We count any positive amount of paid work, with no minimum number of hours worked or earnings, and we include the self-employed as workers. Analysis later in the paper examines separately the role of hours worked and hourly wages.

[12] Authors' calculations using Family Resources Survey, 2017-18. A small minority of their income – about 15% on average – comes from housing benefit and benefits to help with the costs of disability. One could think of these income sources as (at least in part) simply compensating some households for additional needs that they have – needs which are not accounted for in the poverty measures used here.

just the subset in non-pensioner households as in Figure 2). Declining fertility and an ageing population have reduced the prevalence of households with children in both countries. A clear upward trend in the number of pensioner households is also visible in both countries in recent years, as the large post-war "baby-boomer" birth cohorts pass the age of 65. In the US, this also coincides with the growth of multi-generational households (Fry and Passel 2014).

Perhaps the most interesting points of contrast are with respect to the prevalence of working households. Throughout the period, the proportion of households with at least one adult in paid work has been significantly higher in the US than in Britain. But there have been more changes over time in GB, and these have been an important part of the story of poverty trends. Britain had a growing problem of "household worklessness" through the 1980s, but there was a turning point during the 1990s. Since then, overall employment has risen, and in a way that has been especially helpful in increasing the number of households with at least one worker (e.g. due to rises in employment rates among single parents) – reversing the previous trend towards an increasing polarisation of the employed population across households, as documented by Gregg and Wadsworth (2008). In the US, on the other hand, there was very little change in the prevalence of household worklessness from 1979 until the late 1990s, and since then there has been a slight increase. While men in the US have withdrawn from employment for the past 50 years, the rise in employment among women propped up household employment. This stopped around 2000 when women also began withdrawing from work (Abraham and Kearney 2018; Blundell et al. 2018).[13]

[Table 1 here]

The trends discussed so far have combined to produce large changes in the composition of poverty in Britain, whilst in stark contrast resulting in very little change in the nature of the low-income population in the US, as highlighted by Table 1. Poverty in Britain used to be overwhelmingly a story of old age or household worklessness. This is no longer the case. About 80% of those in poverty in Britain are now in non-pensioner households and this is more than 20 percentage points

[13] We also note in Appendix Figure 4 the sizable level difference in the fraction of GB and US households in work. Part of this is explained by differences in surveys—in GB employment is in the reference week, while our baseline US measure refers to any time in the prior year. When we use the survey week employment in the US we account for about half of the 10 percentage point gap.

higher than in 1979. As the table makes clear, much of this shift had occurred by the mid 1990s.[14] Meanwhile the proportion of those in poverty who are in a working household has approximately doubled in GB, from just over one quarter in 1979 to about one half now. This fraction has been rising almost continuously for the whole period.

In comparison, the US has seen very little change in the balance of poverty between pensioner and non-pensioner households or working and non-working households. But it started from a very different point in 1979. Back then, in the US it was already the case that around three quarters of those in poverty were in non-pensioner households (a figure that is now approximately matched in Britain) and it was already the case that a similarly large majority were in working households (almost the polar opposite to GB, and still very different from the approximately 50-50 split of poverty between working and non-working households that we see in Britain today). Hence, while the ascendancy of in-work poverty in the domestic policy debate is relatively new in Britain, poverty as primarily an in-work problem has been the norm for some time in the US. As the figures discussed above show, this is due to its higher proportion of households with someone in work and its higher rate of poverty among working households (offset only partially by a higher rate of poverty among its relatively small group of non-working households).

Why has the composition of poverty in this respect been so stable in the US while changing radically in Britain? The reasons, highlighted in Figure 2, are that the US did not experience the same scale of increase in its in-work poverty rate during the 1980s as was seen in Britain (though it started from a significantly higher base), and it has not seen the large fall in the out-of-work poverty rate. Both countries have, over the past 20 years, seen a shift in the composition of poverty away from families with dependent children. This reflects both the trends towards convergence between the poverty rates of families with and without children (Figure 2) and the decline in the relative prevalence of households with children (Appendix Figure 4).

IV. Demographic and economic drivers of poverty trends

[14] Other research (Cribb et al, 2013) has shown this shift in poverty towards the non-pensioner population to have been even stronger, and to have continued more clearly in recent years, if incomes are measured after deducting housing costs (which we do not do in this paper, as a comparable US measure is not available).

The patterns documented in the previous section provide a good starting point for understanding the drivers of change. We can also draw on much previous research, typically focused on particular time periods, causes, or subgroups (e.g. Brewer, Browne and Joyce, 2010; Joyce and Sibieta, 2013), as opposed to the broader and longer-term analysis presented here. One notable exception in the GB case is Brewer and Wren-Lewis (2016), which took a similarly long-term view to the one we take in this paper, focusing on decomposing trends in inequality rather than poverty.

The most dramatic change to the basic nature of poverty in Britain in recent decades has been the shift away from poverty in old age or among the workless, and towards poverty among households who have at least one adult in work but who are not earning enough to put them above the poverty line. As we have seen, this is partly the result of positive trends: falls in pensioner poverty and, since the 1990s, falls in the prevalence of household worklessness (as well as falls in rates of poverty among those out of work). Key factors driving the long-term decline in pensioner poverty have been higher private incomes for younger cohorts of pensioners, many of whom benefitted from the relatively generous defined benefit schemes that are now in retreat, and by higher state transfer receipts, due to increases in benefit rates and increases in the numbers entitled to state pensions (Cribb et al, 2013) – particularly among women, who have been retiring with fuller labour market histories than in the past and who have benefitted from changes which allow them to accrue state pension entitlements whilst caring for children. Policy can certainly take some of the credit for falls in household worklessness too, particularly in relation to single parents (e.g. see Blundell and Hoynes, 2004). But the rising share of those in poverty who are in a working household is partly because households who are in work but on low earnings have struggled to keep up with the rest (Bourquin et al, 2019).

The increase in earnings inequality in GB during the 1980s, which coincides with the increase in in-work poverty seen in Figure 2, has been extensively documented (see Blundell et al. (2018) for a systematic comparison between Britain and the US) and the reasons for it quite thoroughly examined, with the dominant explanation typically considered to be some variant of 'skill-biased technological change' favouring the wages of the more highly-skilled or –educated relative to other workers (e.g. Acemoglu and Autor, 2011). All else equal this clearly makes it harder for those towards the bottom of the wage distribution to keep up.

Since the 1980s, that increase in the in-work poverty rate in GB has not been reversed, despite falls in poverty overall. This is partly because earnings growth in general has been extremely weak since the early 2000s – and especially since the 2008 recession, from which real earnings levels have still not quite recovered. This is strongly related to a lack of productivity growth over the same period (Cribb and Joyce, 2015; Bank of England, 2018). It is also because household earnings growth at the bottom end of the earnings distribution has been even weaker than average earnings growth – although it is difficult to be sure how much of this is due to higher employment leading to an increasingly negatively selected workforce (Bourquin et al, 2019).

It is among male workers where there have been clear increases in earnings inequality in Britain. This is exemplified in Figure 3, which depicts the percentage change over the 1979-2015 period in male and female hourly wages and earnings at each centile of the respective wage and earning distribution.[15] Earnings among the lowest-wage working men in Britain today are little different from what they were decades ago, due to the fact that hours worked among the group is lower than it was. Belfield et al (2017) and Blundell et al (2018) show that the prevalence of very high numbers of working hours has fallen among the low-paid; but, perhaps more surprisingly, GB men with low hourly wages are also now much more likely to work part-time than they were in the past. In the mid 1990s virtually all working men worked full-time (defined here as at least 30 hours per week). Now, a quarter of men in the lowest quintile of hourly wages are working part time (Belfield et al, 2017). The reasons for this are yet to be properly understood, although the fact that the lowest-wage men are now much more likely to work part-time than mid- or high-wage men (among whom rates of part-time work have not changed) seems to fit most naturally with the root cause being on the demand side of the labour market. Figure 3 highlights a striking contrast with the US, where hours of work among lower-skilled men have also declined but where this is entirely due to extensive margin changes (declines in labour force participation).

[Figure 3 here]

[15] Figure 3 appeared in the working paper version of Blundell et al. (2018). The data for that analysis differs in that it is restricted to prime-age workers ages 25-55 and is at the individual level rather than equivalized family level as the other figures here. See the note to the figure and Blundell at al. (2018) for additional detail.

Research in the US is generally bifurcated into that focusing on poverty and that on inequality. This stems in part on the fact that the US measures poverty with the absolute scale and thus scores of papers have been written on the determinants of absolute poverty. This work has emphasized the roles of economic growth, inequality, the rise of single motherhood, immigration, and anti-poverty policy (we defer discussion on policy to the next section). Holding all else equal, including the dispersion of incomes, fixing the poverty line in real terms means that robust economic growth lifts incomes and thus reduces absolute poverty. Economic growth was strong from the mid-late 1980s, but little progress was made against absolute poverty. The reason for this is that the growth was unevenly distributed—both geographically and across the income spectrum; that is, a mean-preserving increase in inequality puts upward pressure on absolute poverty and thus the antipoverty effect of economic growth was partially wiped out with widening inequality (Blank and Card 1993; Gundersen and Ziliak 2004; Hoynes, Page, Stevens 2006). The late 1990s, on the other hand, was a period of economic growth that was more widely distributed across the US, resulting in substantial gains against absolute poverty. This, however, was short lived with the ensuing recession in 2001 and subsequent Great Recession of 2007-2009.

During this period there was also a substantial change in family structure, most notably the rise in lone parenthood. In 1960 only 1 in 100 children were born to a lone parent; this rose to 15 in 100 in 1980, and 40 in 100 by 2006 (Cancian and Reed 2009). Among African Americans, over 70 in 100 children are born to a lone parent (Martin et al., 2012). With few exceptions, these children are raised by a lone mother, and while there has been secular upgrading in human capital among this subpopulation, the earnings have not grown enough to make up for the loss of income from the earnings of a spouse or cohabiting partner and thus has put upward pressure on absolute poverty in the US. At the same time, after 1990 the skill mix of immigrants to the US tilted heavily toward the less skilled. There is controversy over how much this affected the wage structure in labour markets (Card 2001; Borjas 2003), and likewise how much this affected absolute poverty rates. The estimates of Raphael and Smolensky (2009) suggest it did result in upward pressure on absolute poverty, albeit small.

While there is clearly overlap between the drivers of absolute poverty and relative poverty, there is little research focused specifically on explaining relative poverty trends in the US in any detail.[16] However, the literature on explaining trends in inequality provides many insights. This work has emphasized changes in the wage structure from skill-biased technical change, trade and globalization, immigration and composition of labour force, and decline of institutions such as unionization and minimum wages (Bound and Johnson 1992; DiNardo, Fortin, and Lemieux 1996; Lee 1999; Card and DiNardo 2001; Lemieux 2006; Autor, Katz, and Kearney 2008; Autor, Dorn, and Hanson 2013). As observed in Blundell et al. (2018), after 2000 it is also important to understand how changes in employment of men and women in the US, and the shift in marriage towards the high skilled, have affected household incomes. Employment rates of low- and medium skilled men have plummeted since 1980, and so have marriage rates. This has contributed to stalled or declining incomes, and thus stalled relative poverty rates in Figures 1 and 2 (and to a doubling of absolute poverty rates among less-skilled male-headed households (Ziliak 2019)). Among women, employment and earnings levels have grown much more strongly than for men (but from a lower base) in both countries, and female earnings inequality has narrowed relative to male earnings inequality (and has narrowed greatly in the UK). But this has not been enough to prevent rises in household earnings inequality across households, in part because of increases in assortative mating.

To descriptively summarise some of the key economic and demographic trends which have, over the past few decades, contributed to changes in poverty in both countries, we provide a shift-share decomposition of relative poverty between 1979 and 2017. Specifically, for each country we estimate

$$(1) \qquad P_t = \alpha + \beta I_t^{work} + \gamma I_t^{65+} + \delta I_t^{child} + \theta I_t^{marry} + u_t, t = 1979, 2017$$

which is a regression of poverty status in year t, P_t, on indicators I_t for whether the year t household contained someone in paid work, whether it contained someone aged at least 65, whether it contained dependent children, and whether it contained a married or cohabiting couple.[17] The unit of analysis in

[16] Hoynes and Stabile (2018) are a recent exception.
[17] There is a measurement difference between the GB and US data. In the GB married and cohabiting are pooled together and not easily separated, while in the US data it is not possible to identify with much accuracy cohabiting couples until the mid 1990s. Thus, marriage in the US does not include cohabiters.

the regression continues to be the individual (though we suppress the i subscript in equation 1), even though poverty status is determined with reference to equivalised household income, and observations continue to be weighted using survey weights. The OLS point estimates and standard errors of this regression are presented in Table 2. The constant terms in Table 2 show remarkable similarity between Britain and US in terms of relative poverty rates in 1979 – 55%—among those households comprised of out-of-work, childless, non-pensioner single persons. The similarities in 1979 end there as the marginal effect of adding a worker has nearly twice as large an impact in GB than US in absolute value, while marriage has a marginal effect 10 times larger on US poverty than GB poverty. By 2017, however, there was convergence in the partial effects across the two countries, with employment in GB being much less protective against relative poverty and more like the US, and marriage or cohabitation becoming more predictive of being above the poverty line in GB and becoming slightly less so in the US. At the same time, poverty diverged between GB and the US among out-of-work, childless, non-pensioner single persons as reflected in the decline in the constant term to 41% in GB and its rise to 60% in the US.

[Table 2 here]

Using the coefficients from this regression we can ask what would have happened to the overall poverty rate in each country if all that had changed was the proportion of individuals in each group, holding constant the (conditional) association between group membership and the probability of poverty for individuals in each group. For example, using the 1979 coefficients, if the only thing that had changed between 1979 and 2017 were the fraction of people in a working household then we predict the 2017 counterfactual relative poverty rates in each country *j* by

$$\hat{P}_{j,17} = \hat{\alpha}_j + \hat{\beta}_j \bar{I}_{j,17}^{work} + \hat{\gamma}_j \bar{I}_{j,79}^{65+} + \hat{\delta}_j \bar{I}_{j,79}^{child} + \hat{\theta}_j \bar{I}_{j,79}^{marry}, \quad (2)$$

where the country-specific coefficients are those from Table 2 and $\bar{I}_{j,l}^{k}$ are the country- and time-specific group means.

[Table 3 here]

The shift-share counterfactuals are presented in Table 3. We show the actual poverty rates in 1979 and 2017, as well as in 2007 to abstract from the effects of the Great Recession. For each

counterfactual in 2017 and 2007, we change the fraction of households in each group holding the others fixed at the 1979 values, and then allow all four demographic factors to change at once. In both countries, there have been quite significant demographic or economic shifts in the sense that they are large enough to explain much or all of the entire rise in poverty actually observed. In the US case the most significant of those considered is the proportion of people in married households, which fell dramatically from 75 percent in 1979 to 65 percent in. In GB, the decline in the proportion of households with at least one person in paid work would, if everything else had stayed the same, have been large enough to generate nearly all of the increase in relative poverty seen since 1979 (despite the reversal of this rise in household worklessness more recently, as discussed).

In addition to these within-country, over-time counterfactuals, we can perform a present-day cross-country counterfactual using the 2017 coefficients in Table 2 together with the current demographic structure of both countries. Specifically we ask what would happen today if each country had its own conditional poverty risks but the other country's demographics, using the coefficients from country j and group means from country k, $j \neq k$. The answer is that GB poverty would fall by about 1.5 percentage points while US poverty would be virtually unchanged. The reason is as follows. The impact of household employment in reducing the risk of relative poverty is now very similar for the two countries, and the US has a higher fraction of working households. So if the two countries swapped household employment rates, this would significantly reduce GB poverty and significantly increase US poverty, by approximately equal magnitudes. Meanwhile, Britain has a lower fraction of households with children and a higher fraction of people married or cohabiting. These factors are advantageous for poverty. If the two countries swapped demographics in these respects, it would increase poverty in GB and decrease it in the US. But the fall in poverty in the US would be larger than the rise in poverty in Britain, because having children and being single are associated with a far bigger increase in poverty risk in the US than GB. Hence in the US this would be large enough to completely offset the impact of cutting the employment rate to GB's level. But in Britain the impact would not be large enough to offset the impact of raising the employment rate to the US level.

V. The role of policy

The most direct, mechanical impact of government policy on the trends described by Figures 1 and 2 is its contribution to net household incomes through cash transfers and direct taxation. For each household in our micro-data we can construct a measure of "market" income, which is equal to the post tax-and-transfer measure considered thus far minus the government transfers and adding back on the direct tax payments. We can then compare the proportion of people who are in relative poverty based on net household incomes with the proportion in poverty on the basis of the market income distribution; that is, using the same net income poverty threshold, we compute the fraction of households whose market income places them in net-income poverty and the fraction of households whose net income places them in net-income poverty. We label the difference between these proportions as the fraction "thrown into" poverty by the absence of the tax and transfer system, and we plot these fractions in Figures 4 and 5. For data quality reasons, in the case of Britain we do this only from 1994–95.

[Figures 4 and 5 here]

In combination the figures show the following. First, it is very transparent that removing the safety net in Britain pushes a substantially greater share of households into poverty than removing the US safety net—in any given year about a 10 percentage gap exists in both pensioner and non-pensioner households without workers or with children (recall that in neither country do we include the money metric value of health insurance). Second, in both countries the insurance, or automatic stabiliser, role of the tax and transfer system is evident around the Great Recession. The fraction of the population that would have been thrown into relative poverty by removing the tax and transfer system increased markedly at this point (although some discretionary policy changes contributed to this, as well as the automatic stabiliser effect). Third, focusing on the longer-term secular trends that are the main subject of this paper, the role of policy has changed considerably more in the Britain than the US. Over the past 25 years, the UK tax and transfer system has been working increasingly hard to keep working households and households with children out of poverty. As has been detailed elsewhere, this is mostly a story of policy changes on the transfer side. The Labour governments of 1997 to 2010 presided over big increases in the generosity of social assistance and tax credits, in large part as a means of pursuing ambitious quantitative child poverty targets for 2010 and 2020 (Joyce and

Sibieta, 2013). 'Tax credits' in Britain in fact refer to two very different forms of support: a work-contingent transfer, currently named Working Tax Credit (WTC), and an additional means-tested element specifically for families with children (Child Tax Credit, CTC) which is available – since 2003 – to low-income families irrespective of work status. The out-of-work safety net was also made significantly more generous for families with children under Labour. The US also substantially tilted the safety net toward working households via the EITC (early 1990s) and refundable CTC (2000s), but unlike the UK, there has been a retrenchment of cash assistance to those out of work (Edin and Shaefer 2015). This does not mean that social welfare spending in the US fell, and in fact it increased substantially in inflation-adjusted terms, but as noted in Moffitt (2015) it tended to come in the form of health benefits not counted here and paid to those further up the income scale.

As discussed further in the final section, the more recent policy direction in the UK has been different. Since 2011, a broad-based set of cuts to means-tested working-age transfers has begun to unwind some of the increases in cash transfer generosity made since 1997, and these cuts are continuing. The flagship policy now being promoted by government as its way of supporting the incomes of the low paid is the national minimum wage. Having been introduced by a Labour government in 1999, and subsequently increased in several stages, by 2015 it was still only binding for approximately the bottom 4% of the employee wage distribution. In addition, its power as an anti-poverty tool was (and remains) limited by the fact that the overlap between individuals with low hourly wages and individuals with low net household incomes is far from perfect. For these reasons the minimum wage's impact on the poverty figures presented here is likely to have been very limited. But it is now being raised very significantly - for employees aged 25 and over it is set to cover around 12% of employees by 2020 (Cribb et al, 2017). The government is considering pushing the minimum wage even further up the wage distribution beyond 2020 (HM Government, 2019). This raises important questions about the effects of a much higher minimum wage, as well as the appropriate policy mix between cash transfers and minimum wages, which we discuss further in the final section. The US is confronting similar questions, but these discussions are being driven by state- and city-level changes in the minimum wage as the federal minimum has been fixed at $7.25 per hour since 2009. The 'Fight for $15' is an emerging issue in the Democratic primary leading toward the 2020

presidential election, but given the current split party control of Congress it is unlikely to receive a hearing.

Another focus of UK and US policy since the 1980s has been on increasing employment, and in particular reducing the number of workless households, in response to the growing problem of household worklessness and associated poverty in the 1980s. The structure of the financial incentives introduced by the rapidly-expanding tax credit system from the 1990s was tailored to this problem: it tended to strengthen financial work incentives at the extensive margin for the first earner in a family, while more commonly weakening incentives for second earners and at the intensive margin (Blundell and Hoynes, 2004; Meyer and Rosenbaum 2001). There is evidence, particularly for lone parents, that this had the desired impact in reducing the number of workless households (Blundell and Hoynes, 2004; Blundell, Brewer and Shephard, 2005). Research has also demonstrated that a toughening of work search requirements for lone parents claiming out-of-work benefits has resulted in significant increases in the number in paid work (Avram et al, 2013).

VI. Open questions and future challenges

In this final section we reflect on some of the important research challenges we face now. We take in turn the policy challenges and the data or research needs although, of course, these are closely linked.

The current policy debate in the UK is heavily influenced by the period of poor pay growth it has experienced lately and the increasing fraction of those in poverty who are in a working household. The contrast with the US is interesting, where much of the concern is instead about the recent trends in labour force participation among the low skilled, with policy discussion over things like expanding refundable tax credits, even though, as we have seen, it is still the case that a higher proportion of the bottom part of the income distribution are in working households in the US than in the UK. Raising wages is certainly a topic of much discussion in the US too—witness the 'Fight for $15' at the state and local levels—but the "productivity puzzle" seems to cut across most of the wage distribution, and is not restricted to poverty discussions (Syverson 2016). In short, the relative areas of focus of anti-poverty debate in the two countries seem to be explained by differences in the recent trends experienced rather than the differences in the current cross-sectional patterns of poverty. That is not

necessarily inappropriate, but the comparative data presented in this paper do provide some useful perspective.

An important consideration that recent research has begun to place at the front-and-centre of poverty policy discussion in the UK is a lack of pay progression. It is increasingly understood that low hourly wages among certain groups (e.g. the low-educated and women) are the result of a lack of wage progression over the lifecycle at least as much as they are explained by low wages at the start of careers. This is illustrated in Figure 6, which reproduces analysis from Costa Dias, Joyce and Parodi (2018). This insight is related to a number of policy challenges.

[Figure 6 here]

First, it appears to have constrained the long run positive impacts of tax credits (Blundell et al, 2016). These have been designed to strengthen work incentives at the extensive margin but, due to their targeting on low-income families, inevitably result in some weakening in work incentives for some workers along the intensive margin. This was quite deliberate, reflecting a well-evidenced belief that labour supply responds more along the extensive margin (Meghir and Phillips, 2009; Saez, 2002) and reflecting the economic context of the early 1990s in which the UK had seen a sharp increase in the prevalence of household worklessness. But because the returns to experience for the low skilled are low, nudging them into work appears not to have the longer-term benefits that were hoped for their labour market attachment, career development and wages. This problem may have been exacerbated by the fact that returns to part-time working experience appear especially low, and the incentive structure created by tax credits often encourages part-time over full-time work. There is scope for important further research in both the UK and US to understand the optimal design of tax credits or other cash transfer programs in a dynamic setting where current labour supply choices – on the intensive as well as the extensive margin - affect future wages.

Second, as mothers enter the labour market in greater numbers, the lack of pay progression in part-time work becomes increasingly important to understand if overall rates of low pay are to be tackled effectively. A number of possibilities have yet to be disentangled: it could be that these workers face greater barriers or costs to switching employer or are in less competitive labour markets and hence have less bargaining power; or that they are doing the kinds of work where low hours

intensity inhibits not only the level of productivity (Goldin, 2015) but also the accumulation of human capital with experience; or that they are doing the kinds of work where returns to experience more generally are low; or that they receive fewer formal investments such as on-the-job training, and so on. These questions around pay levels and pay progression in the UK must be met with more research in the US on unpacking the causes of the decline in employment coupled with wage stagnation (Abraham and Kearney 2018).

Third, the increase in part-time work among low-wage men in the UK raises the possibility that they too will increasingly suffer from the lack of wage progression that has long affected part-time working mothers. Understanding the causes, and the consequences, of that increase in part-time work should also be a priority. While this has been less of a factor in the US, the decline of marriage among low-wage men in the US help explain much of the rise in relative poverty as shown in the shift-share decompositions and more research is needed on the interaction of marriage and work.

Another major policy issue in both the UK and US now is the role of the minimum wage in anti-poverty policy. As mentioned, this is becoming increasingly central in both countries. It has been pointed out for some time that minimum wages can be a blunt instrument for tackling poverty as it is typically measured, since the overlap between those with low individual hourly wages and those with low household incomes is far from perfect. That said, the overlap has increased as the prevalence of low-earning workers at the bottom of the UK income distribution has increased, due to the rise in employment and stagnation in pay (Cribb et al, 2018). The same is true in the US where larger shares of household heads are working at jobs paying the minimum wage, in part a response to states and cities striking out on their own and setting the minimum wage well above the federal rate.

A crucial set of less-understood issues concern the various behavioural and general equilibrium effects of pushing the minimum wage into this virtually-uncharted territory: how will capital inputs and firm's organisational practices respond, and with what consequences for the employment, hours and progression opportunities of different kinds of workers (Aaronson et al. 2018)? The uncertainties are perhaps especially large given that the minimum wage will not simply affect more of the workforce, but will also start to affect different kinds of jobs: for example, those about to be brought within the minimum wage net are more likely to be in occupations that appear

relatively automatable (e.g. retail cashiers) than the workers covered by the minimum wage thus far such as many of those in personal service occupations (Cribb, Joyce and Norris Keiller, 2018). It is unclear how far we can raise the cost of employing low-skilled workers in this way, as a tool to address low pay, before we start incurring more negative employment side-effects.

The wider context for the minimum wage hikes that they have gone alongside cuts to cash transfers for low-earning families (and non-working families) since 2010 in the UK and the 1990s in the US. Hence the recent primary policy lever for trying to boost the incomes of low earners has been switched, from higher cash transfers to higher minimum wages. This raises the question of what the appropriate balance is between the two. Far from being substitutes for each other, as recent policy choices might suggest, they may in fact be complementary. Not only do they have different distributional implications – with one targeting low-paid individuals and the other targeting low-earning families – but a minimum wage floor is one way of trying to ensure that the gains from higher in-work cash transfers are retained by workers, rather than being captured by employers who hold down wages in response. There is scope for research to shed more light on how these two policy tools can best work alongside each other.

Finally, the research agenda on the behavioural effects of policy and family structure must be complemented with additional research on data quality and how our assessments of anti-poverty policy are influenced by data challenges (Ziliak 2019). In both countries survey nonresponse (unit and item) and under-reporting of transfers is pervasive, and thus securing a quality household survey for poverty measurement and research is under threat. The main survey dataset in the US used for poverty and inequality research is the ASEC, and as highlighted in Bollinger et al. (2019), nonresponse to earnings questions in the ASEC has doubled to over 40 percent since 1990 and this leads to substantial bias in poverty and inequality estimates, as well as estimates of other important labour-market outcomes such as wage differentials across race and gender. The level of item nonresponse to earnings questions in the UK data is unclear because, unsatisfactorily, the survey team impute missing values but do not provide imputation flags that allow these cases to be identified. The UK data certainly share with the ASEC (and other US datasets) the problem of under-reporting of transfer income (Meyer, Mok, and Sullivan, 2015; Brewer, Etheridge, and O'Dea, 2017). The evidence

suggests that over the past couple of decades, households have been increasingly unwilling to report (or unable to recall) participation in transfer programs, and conditional on correctly claiming participation, reporting the correct dollar amount of assistance. This means estimates of the anti-poverty effectiveness of social policy are understated. Further research is needed both on survey design and elicitation of information from respondents, as well as how to effectively incorporate administrative data from tax and transfer programs to fill in the missing survey data.

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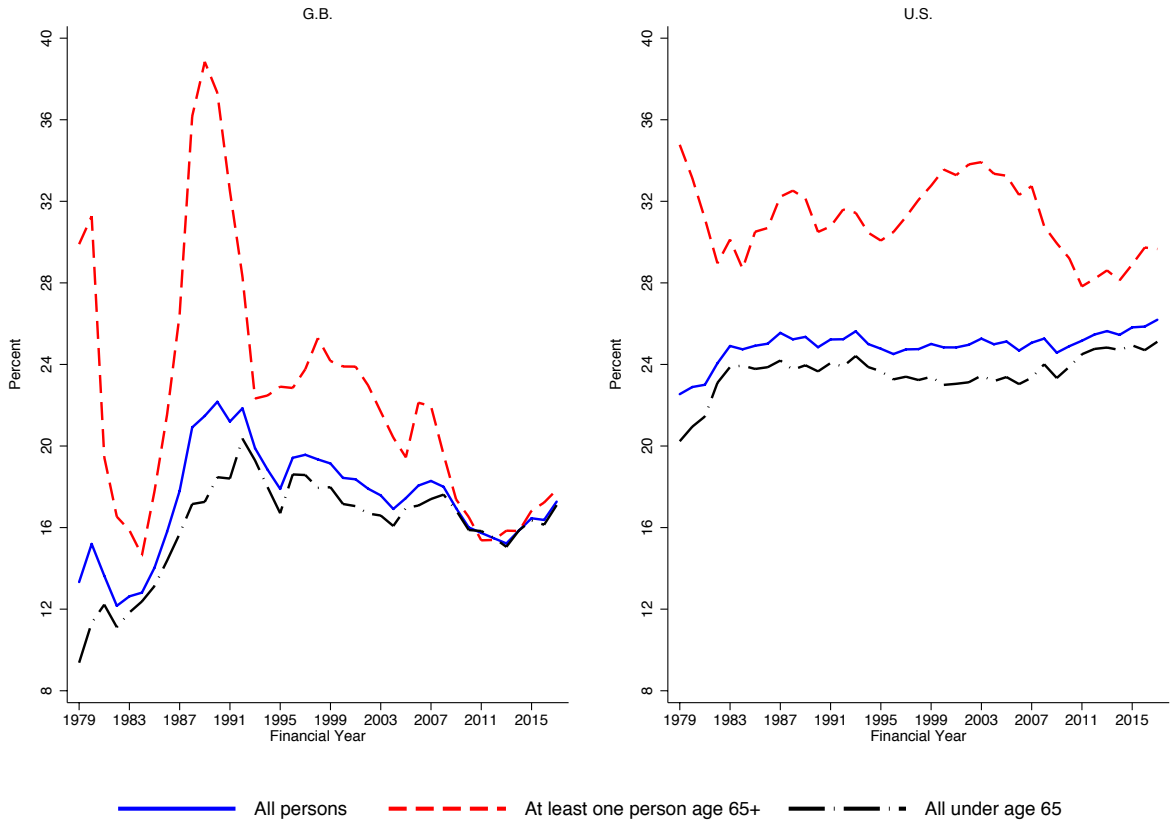
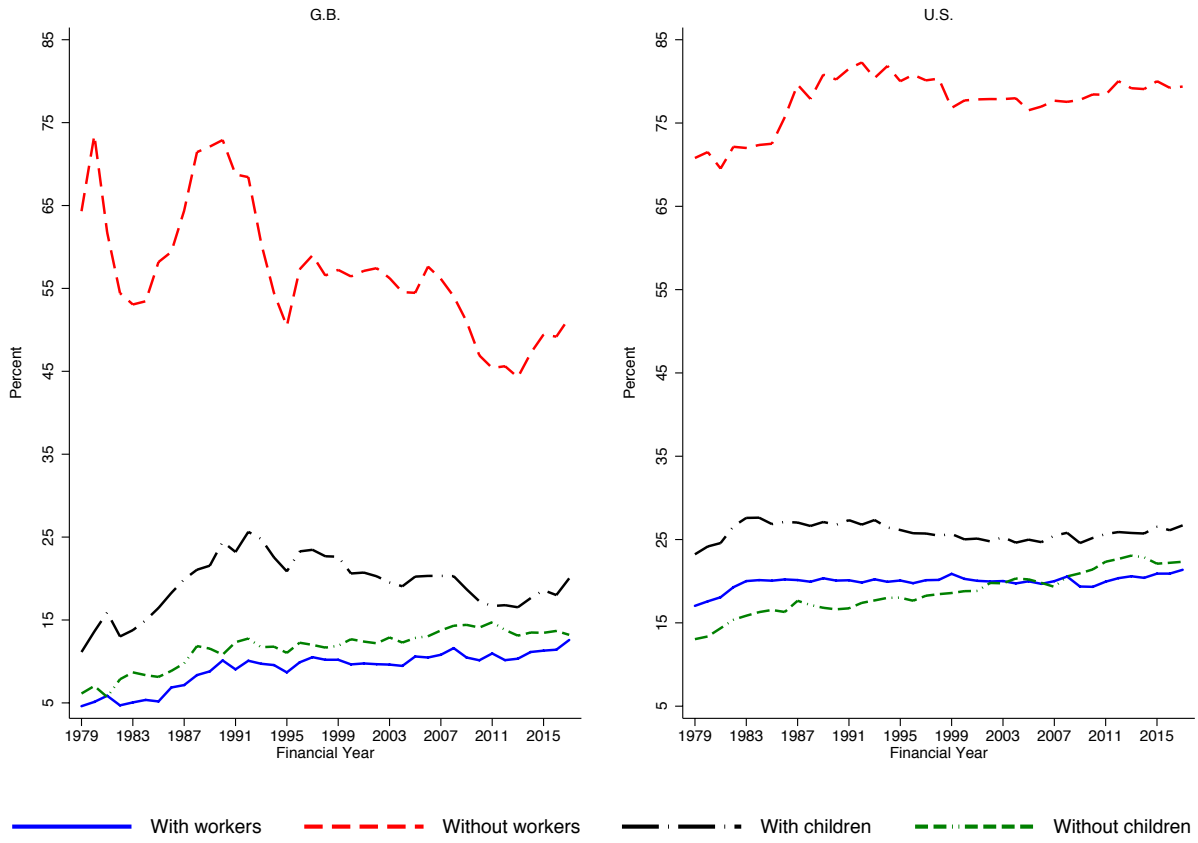
Figure 1. Trends in Relative After-Tax and Transfer Income Poverty Rates, 1979-2017



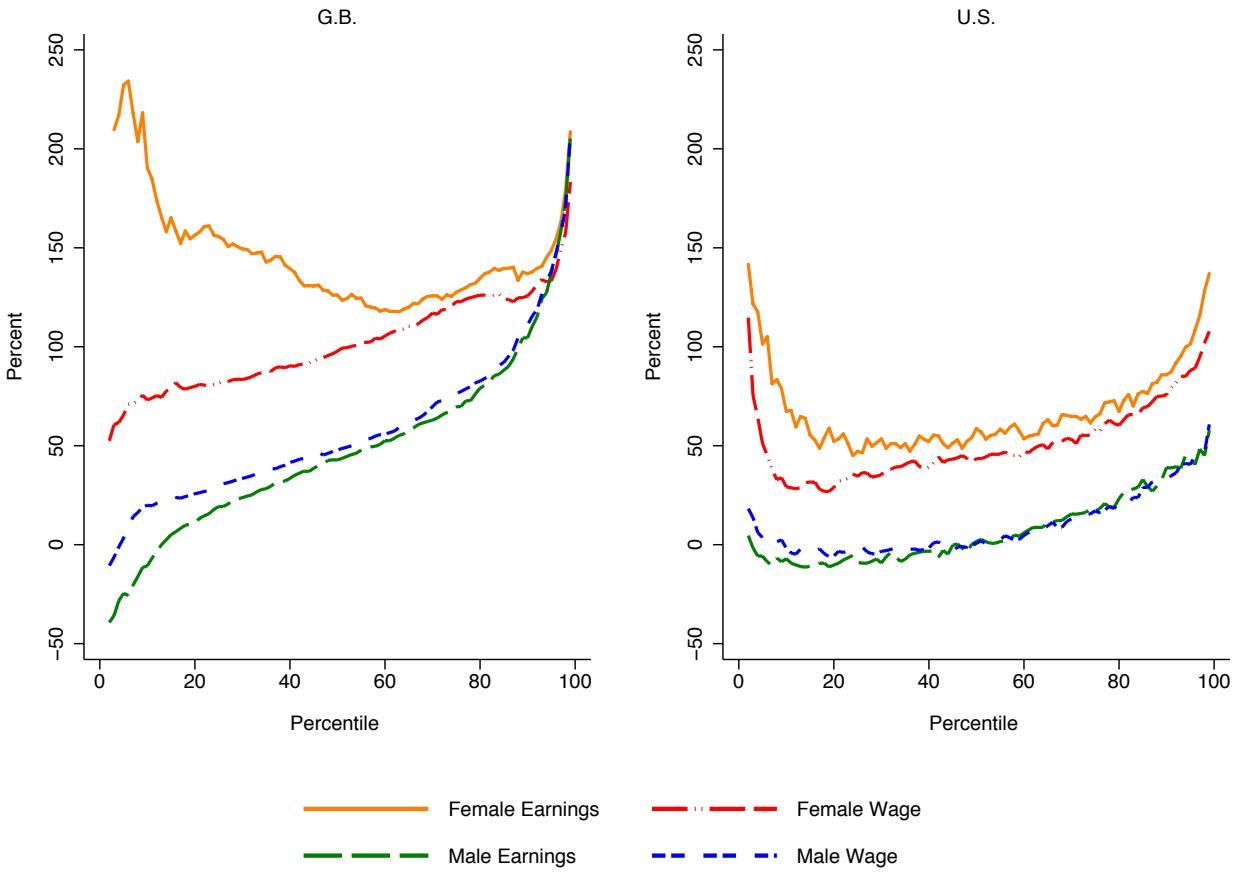
Note: Relative poverty in each country and year is measured by the fraction of persons living in a household with a household net income is less than 60% of the country median household income in that year. Household income is equivalized post-tax post-transfer household income.

Figure 2. Trends in Relative After-Tax and Transfer Poverty Rates:
Households under age 65 with and without workers and children, 1979-2017



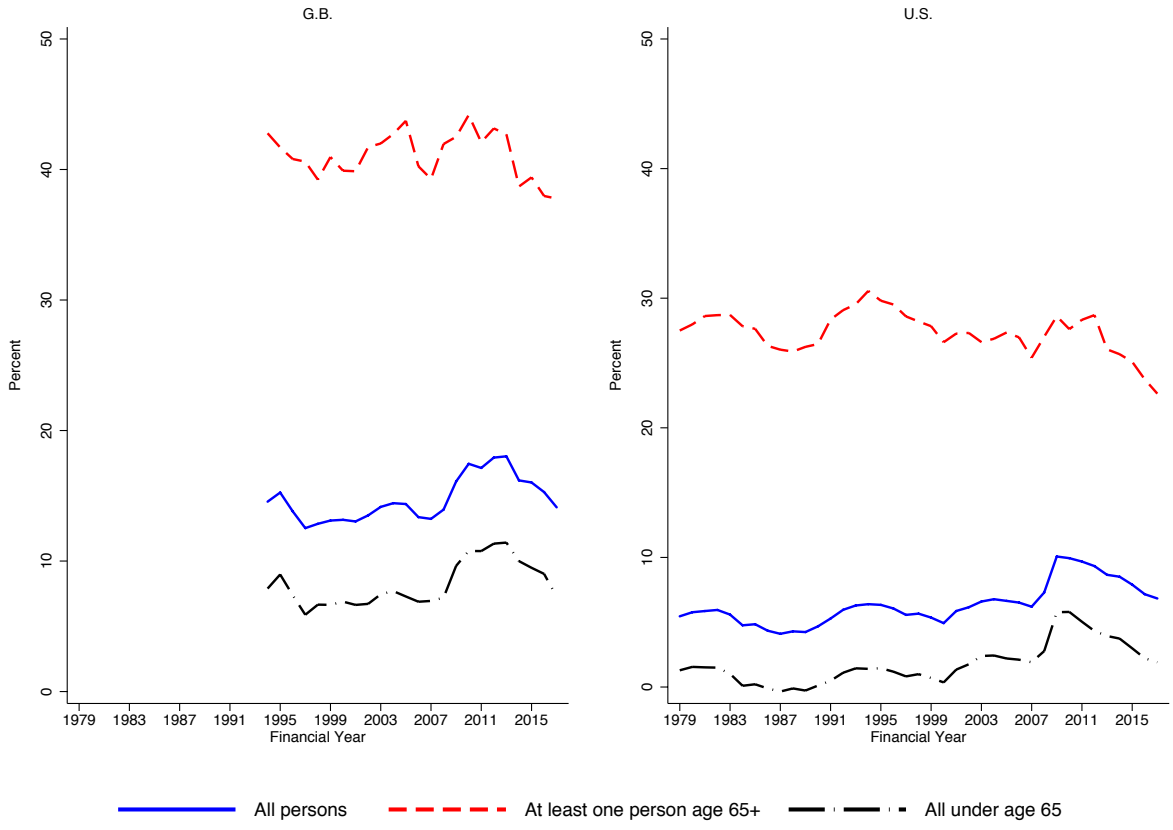
Note: Relative poverty in each country and year is measured by the fraction of persons living in a household with a household net income less than 60% of the country median household net income in that year. Household income is equivalized post-tax post-transfer household income.

Figure 3. Changes in Wages and Earnings by Percentile and Gender, 1979-2015



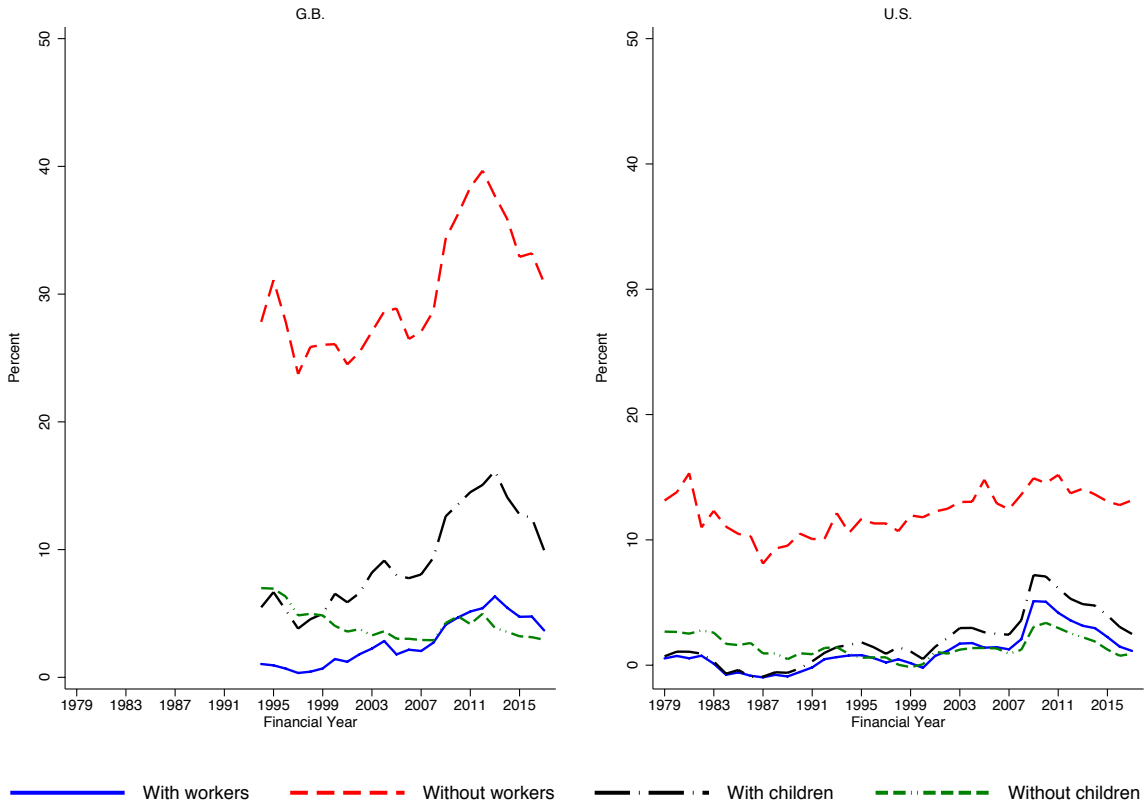
Note: Sample is individuals aged 25-55 with positive earnings. Individuals with imputed earnings and hours in the US data are excluded and the remaining sample reweighted. Individuals with hourly wages less than the bottom 1% or greater than the top 0.1% of the gender-specific wage distribution of each country are excluded and the remaining sample reweighted. Source: Blundell, Joyce, Norris-Keiller, and Ziliak (2018).

Figure 4. Estimates of the Fraction of Households Thrown into Net Income Poverty by Removal of Taxes and Transfers



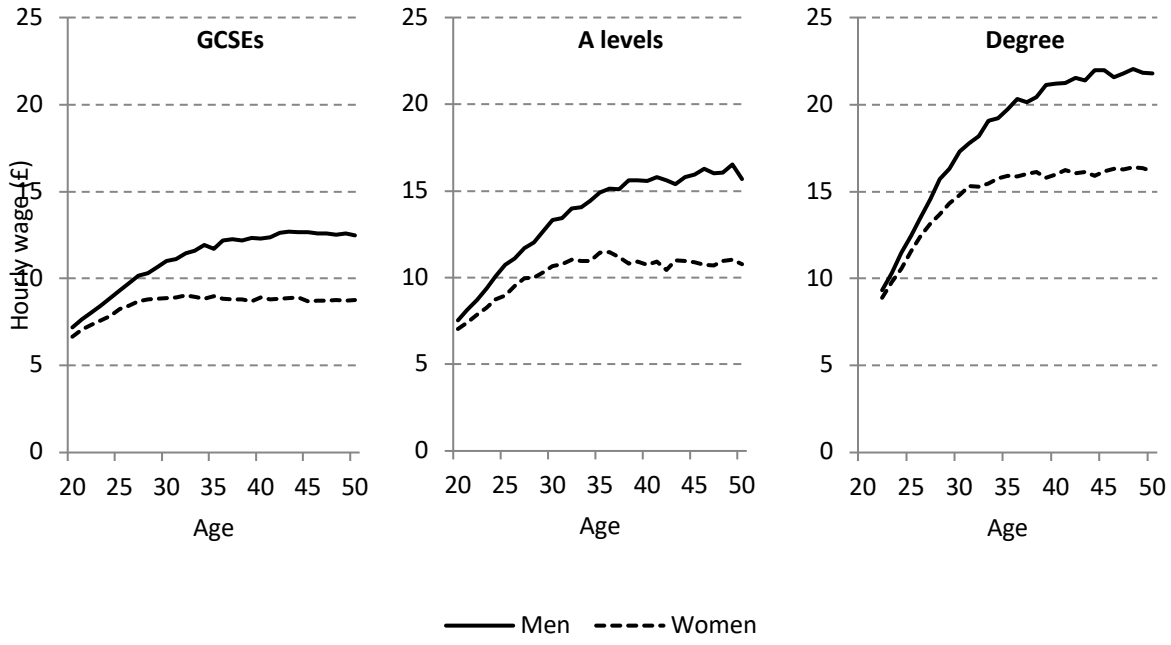
Note: The graph shows the fraction of persons lifted out of equivalised market income poverty (before tax and transfer income), where relative poverty in each country is measured by the fraction of persons living below 60% of equivalised household after-tax and transfer income. Relative poverty in each country and year is measured by the fraction of persons living in a household with a household income less than 60% of the country median household income in that year. Household income is equivalized post-tax post-transfer household income.

Figure 5. Estimates of the Fraction of Households Households Thrown into Net Income Poverty by Removal of Taxes and Transfers: Households under age 65 with and without workers or children



Note: The graph shows the fraction of persons lifted out of equivalised market income poverty (before tax and transfer income), where relative poverty in each country is measured by the fraction of persons living below 60% of equivalised household after-tax and transfer income. Relative poverty in each country and year is measured by the fraction of persons living in a household with a household income less than 60% of the country median household income in that year. Household income is equivalized post-tax post-transfer household income.

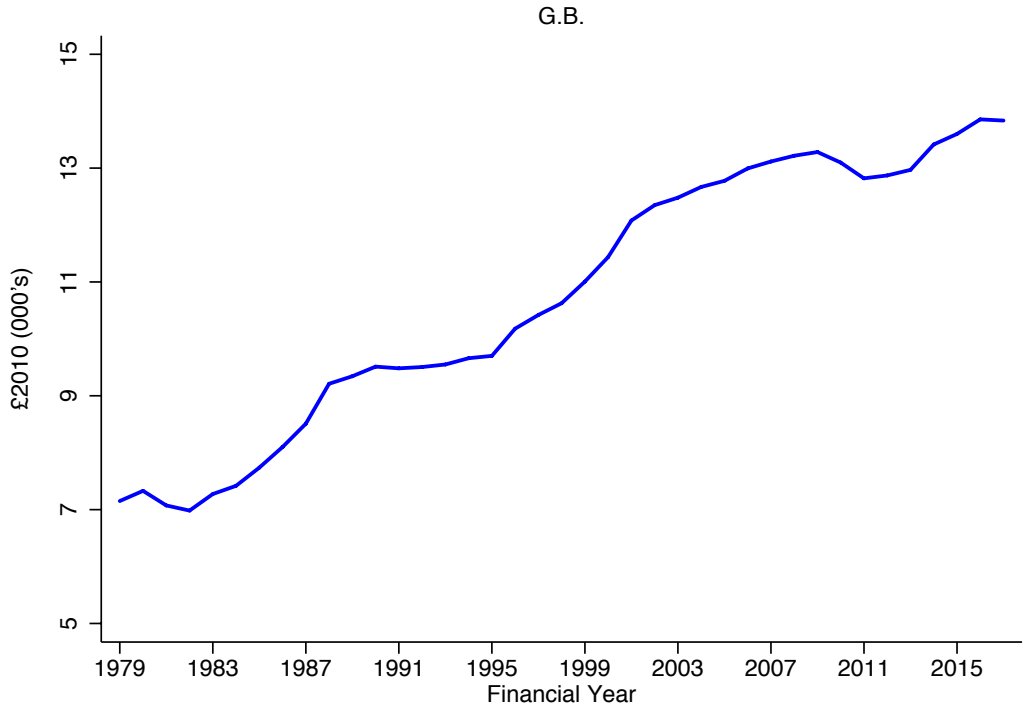
Figure 6. Mean hourly wages in Great Britain, in 2016 constant-wage terms, age, gender and education

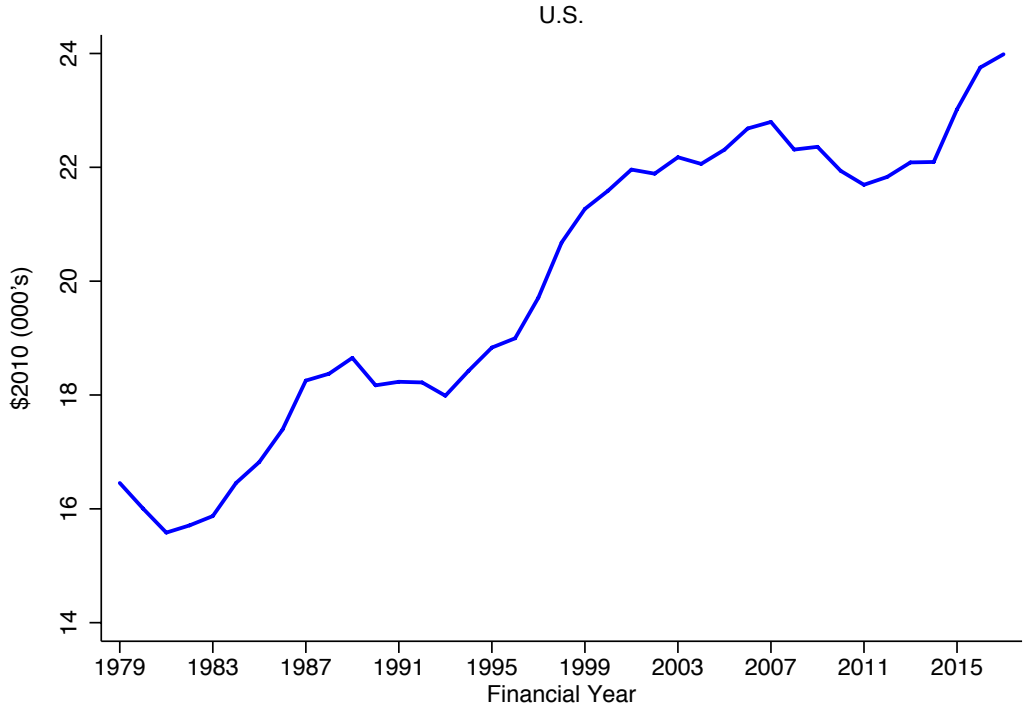


Note: Wages are shown in 2016 constant-wage terms, for workers only. Individuals in the bottom two and top one percentiles of the gender- and year-specific hourly wage distributions are excluded.

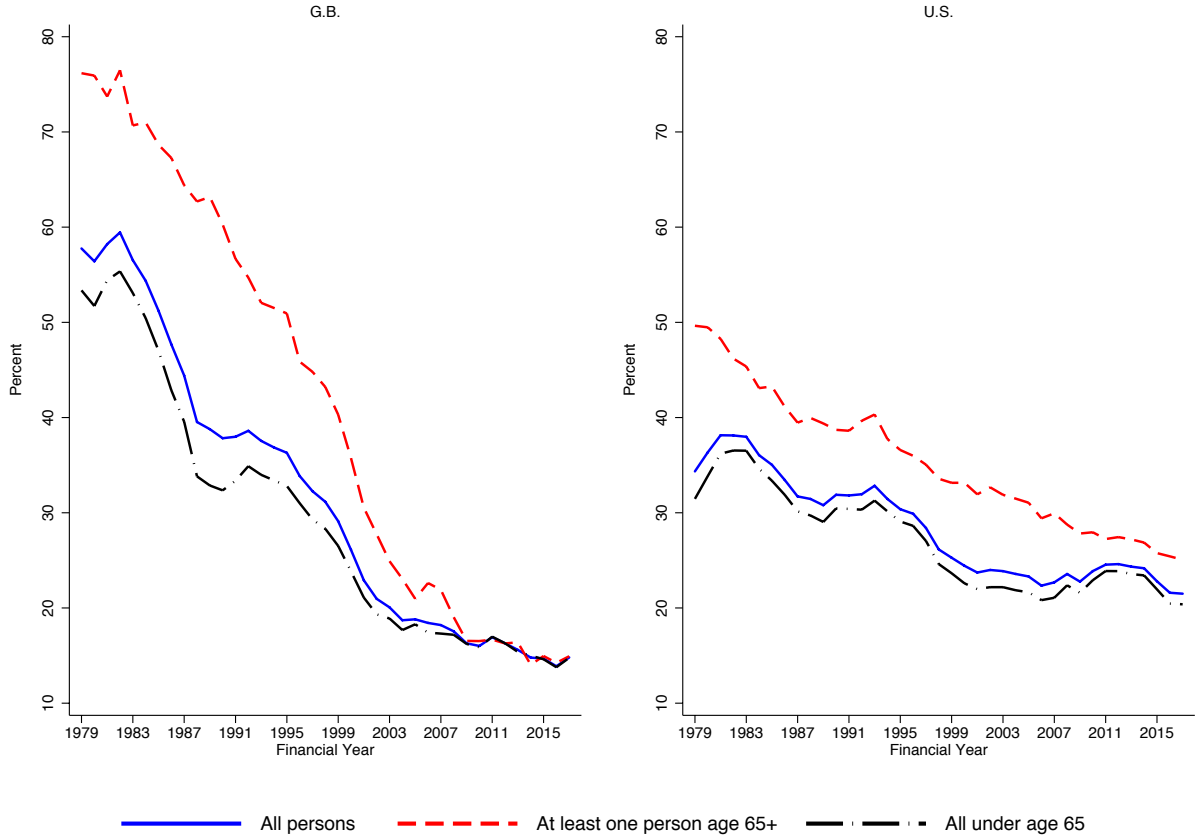
Source: Costa Dias, Joyce and Parodi (2018), based on Labour Force Survey 1993Q1–2017Q2.

Appendix Figure 1. Trends in Equivalised Household Relative After-Tax and Transfer Income Poverty Thresholds



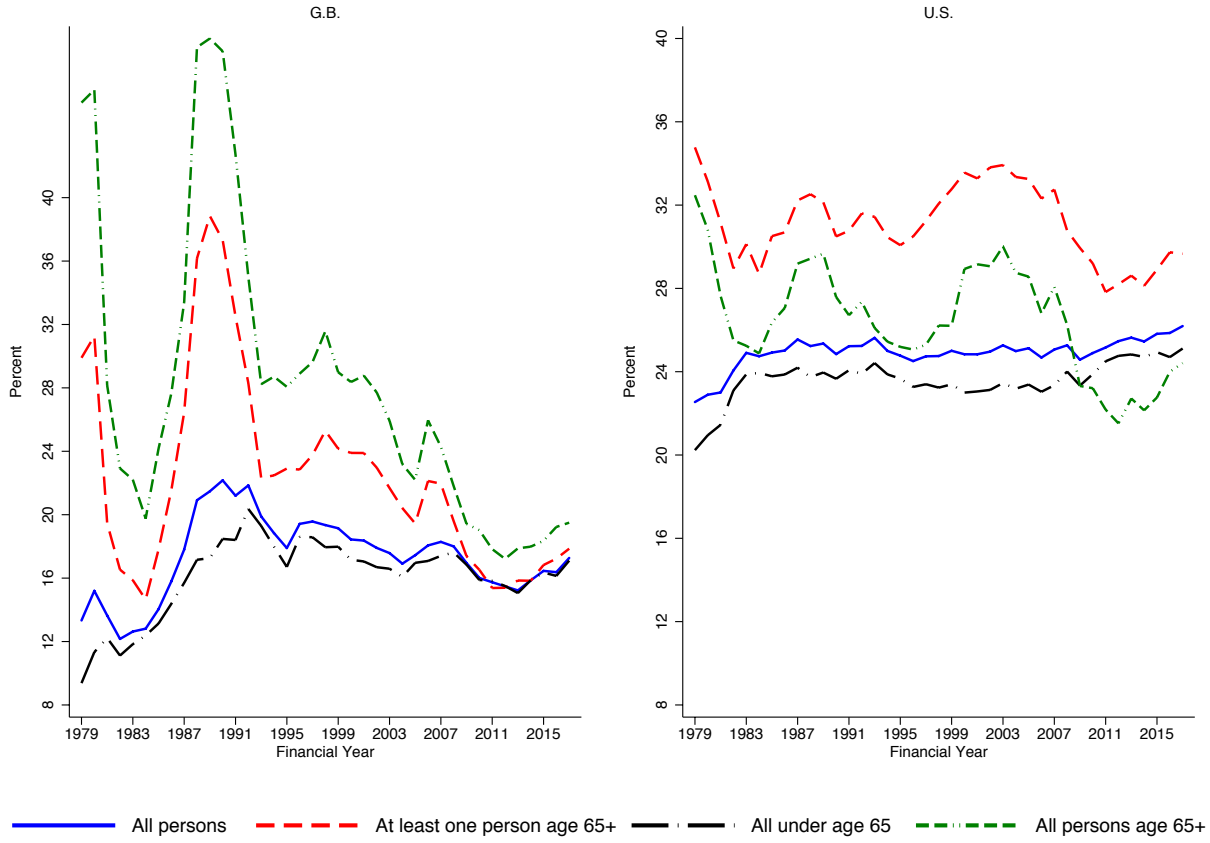


Appendix Figure 2. Trends in Absolute After-Tax and Transfer Income Poverty Rates: Threshold set at 60% of 2010-11 median equivalized household income



Note: Poverty in each country and year is measured by the fraction of persons living in a household with a household net income less than 60% of the country median household income from 2010-11. Household net income is equivalized post-tax post-transfer household income.

Appendix Figure 3. Trends in Relative After-Tax and Transfer Income Poverty Rates: Inclusive of Households with Minimum Age 65, 1979-2017



Note: Poverty in each country and year is measured by the fraction of persons living in a household with a household net income less than 60% of the country median household income from 2010-11. Household net income is equivalized post-tax post-transfer household income.

Appendix Figure 4. Trends in Household Composition

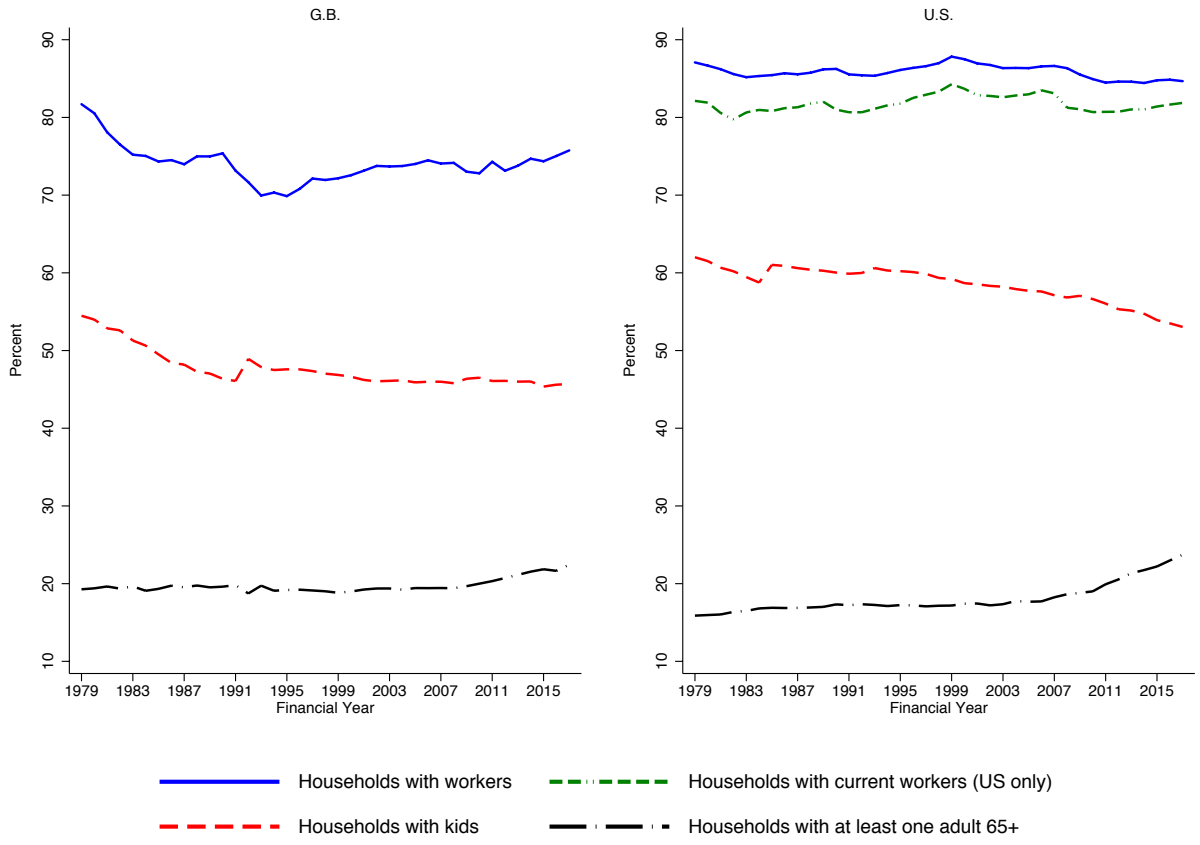


Table 1. Trends in the Composition of Households in Poverty

Year	With 65+ (%)	No 65+ (%)	With Workers (%)	No Workers (%)	With Kids (%)	No Kids (%)
			Great Britain			
1979	43	57	28	72	45	55
1984	22	78	31	69	59	41
1989	35	65	30	70	47	53
1994	23	77	34	66	57	43
1999	24	76	38	62	55	45
2004	23	77	41	59	52	48
2009	20	80	44	56	51	49
2014	22	78	50	50	51	49
			United States			
1979	25	75	70	30	66	34
1984	20	80	71	29	67	33
1989	22	78	71	29	66	34
1994	21	79	70	30	65	35
1999	23	77	77	23	63	37
2004	24	76	71	29	59	41
2009	23	77	70	30	59	41
2014	24	76	69	31	57	43

Table 2. Ordinary Least Squares Estimates of Demographic Factors on Relative Poverty in 1979 and 2017

	Great Britain		United States	
	1979	2017	1979	2017
Household contains at least one worker	-0.525	-0.282	-0.301	-0.318
	(0.015)	(0.010)	(0.004)	(0.004)
Household contains persons 65+	-0.047	-0.109	0.069	-0.019
	(0.011)	(0.009)	(0.004)	(0.003)
Household contains dependent children	0.062	0.093	0.163	0.133
	(0.007)	(0.008)	(0.002)	(0.002)
Household contains married persons	-0.022	-0.057	-0.227	-0.202
	(0.010)	(0.009)	(0.003)	(0.003)
Constant	0.555	0.411	0.547	0.596
	(0.015)	(0.010)	(0.004)	(0.004)
Adjusted R-squared	0.321	0.360	0.143	0.118

Note: Robust standard errors are reported in parentheses. The regression is weighted using survey weights for each country.

Table 3. Counterfactual Predictions of Relative Poverty Based on 1979 Structure

	Great Britain	United States
1979 Poverty Rate	0.133	0.225
2017 Poverty Rate	0.173	0.262
% in Poverty 2017 if only % worker changed	0.165	0.233
% in Poverty 2017 if only % gt65 changed	0.132	0.231
% in Poverty 2017 if only % child changed	0.128	0.211
% in Poverty 2017 if only % married changed	0.135	0.250
% in Poverty 2017 if % all changed	0.159	0.248
2007 Poverty Rate	0.183	0.251
% in Poverty 2007 if only % worker changed	0.173	0.227
% in Poverty 2007 if only % gt65 changed	0.133	0.227
% in Poverty 2007 if only % child changed	0.128	0.218
% in Poverty 2007 if only % married changed	0.135	0.246
% in Poverty 2007 if % all changed	0.170	0.241

Note: The table uses the 1979 coefficients reported in Table 2 for each country, and uses own country group means for 2007 and 2017.