

Social mobility and the intergenerational transfer of advantage in labour and housing markets in Scotland: some preliminary analyses

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Abstract

This paper presents new data on social mobility in Scotland. It examines the extent to which individuals' occupation as adults is correlated with the occupation of their parents. It considers the extent to which growing up in a workless household influences the likelihood of being employed as an adult. And it examines how the occupational class of one's parents influences the probability of being a homeowner, after controlling for individual characteristics (educational qualifications, health). The paper finds evidence that parental labour market status plays a significant role in influencing labour and housing market outcomes in Scotland, and that this intergenerational effect is at least as strong in Scotland as it is in the UK as a whole.

Introduction

Recent years have seen extensive debate about the causes and implications of income inequality in Scotland.

A big part of the reason for concern about income inequality is the link between inequality and what it might mean for social mobility and the intergenerational transfer of advantage. Across countries, high income inequality tends to be correlated with lower social mobility (where social mobility reflects, in some broad sense, the correlation between the economic activities or opportunities of parents and their children). This suggests that higher income inequality in the present results in family background playing a stronger role in determining the adult outcomes of young people, with those young people's own work or skills playing a commensurately weaker role (Corak, 2013).

The mechanisms through which income inequality may be inversely correlated with lower social mobility are not difficult to imagine. Those from higher income families may be afforded greater access to better quality curricular and non-curricular educational opportunities, or may have better access to employment opportunities through networks and cronyism (MacMillan et al. 2015).

But what do we actually know about social mobility in Scotland?

Whilst the data on income inequality in Scotland has been extensively analysed (see for example Bell et al. 2015; Bell and Eiser 2016; McQuigg et al. 2017), we know almost nothing about social mobility in Scotland specifically. Perhaps the one exception is the recent work on behalf of the David Hume Institute (Social Mobility and Child Poverty Commission, 2015) which analysed the background of almost 850 leaders in politics, business, the media and other areas of public life in Scotland and found that 'those educated at independent schools and at a handful of highly selective universities are still massively over-represented'. But this research focussed on a small group of public-sector leaders rather than the population at large, and did not specifically consider the socio-economic background of those individuals' parents.

Indeed, even at UK level, data on social mobility between generations has been limited. Much of the existing work has drawn on the cohort studies of 1958 and 1970, which enable a comparison of the activities of parents and their children in adult life. Analysis of this data has suggested that income mobility has declined over time (i.e. the correlation between the adult incomes of parents and their children has strengthened, see for example Gregg et al. 2016 and Blanden et al 2007). But the same data has suggested that class mobility (i.e. the extent to which the socio-economic class of parents is correlated to that of their children) has remained relatively stable over this period (Bukodi et al. 2015; Goldthorpe, 2013).

In recent years however a new data source on social mobility has emerged. Since 2013, the Labour Force Survey (LFS) has included some questions about respondents' socio-economic background. In particular, the survey asks respondents about the labour market activity of their main-earning parent when the respondent was aged 14.

Given the large sample size of the LFS (currently over 90,000 respondents per quarter at UK level) and the wealth of information collected from respondents about their current labour market status and education, this represents a useful new source of data on social mobility. And with a Scottish sample of 7,000 per quarter, it provides scope to undertake analysis for Scotland specifically.

The LFS social mobility data has been analysed extensively for the UK by Friedman et al. (2017). The authors find strong barriers to equality of opportunity in the labour market, with the odds of those from professional backgrounds being 2.5 times higher than the odds of those from less advantaged backgrounds reaching the professions. They also find evidence of a 'class pay gap' within the professions, with those from working class backgrounds earning less than those with equivalent qualifications and experience from professional backgrounds. And they also find that those from workless households are more likely to experience worklessness as adults, partly as a result of the intergenerational transfer of health issues.

Cribb et al. (2018) also use the new LFS data to look at the intergenerational transfer of advantage in UK housing markets, finding that young adults from more disadvantaged backgrounds are less likely to own their home, even after controlling for the kind of job they do and other characteristics.

In this paper, we undertake a preliminary analysis of the social mobility data for Scotland, and ask whether there is any evidence that social mobility in Scotland is different from the UK. Specifically, the paper considers three dimensions of social mobility and the transfer of intergenerational advantage. Section 2 describes the data in more detail, while the remainder of the paper is structured as follows:

- In section 3 the paper examines rates of intergenerational occupational mobility, in other words, to what extent are the occupations that people do as adults correlated with the occupations that their parents did?
- In section 4 we consider intergenerational worklessness, i.e. are people who grew up in a workless household more likely to be workless themselves?
- In section 5 we consider whether the probability of being a homeowner is correlated with the economic status of one's parents, even after controlling for one's own economic circumstances.

Section 6 concludes.

1. Data

The analysis in this paper draws on data from the Labour Force Survey (LFS). The LFS is a UK-wide survey of employment, designed to be representative of the UK population, and the population of each of the UK's regions and countries. Each quarter, around 90,000 respondents take part, of whom around 7,000 live in Scotland.

Since 2013, the LFS has included questions designed to measure social mobility. Specifically, respondents are asked the occupation of their main earning parent when they were 14 years old. In the publicly accessible datasets (i.e. those available to researchers without access to a Special Licence), parental occupation is allocated to one of 90 occupations, defined by SOC2010.

The analysis in this paper essentially considers how various labour and housing market outcomes of respondents in the LFS are correlated with the occupational class of the respondents' main earning parent when the respondent was aged 14.

We restrict the analysis to those aged 25-60 (as those aged under 25 tend not to have settled into a career, whilst those aged over 60 tend to be exiting the labour force).

The social mobility questions are asked in the Q3 LFS. We pool data from the Q3 LFS in 2014, 2015, 2016 and 2017. We exclude Wave 5 respondents to avoid double-counting¹. This gives us a sample of almost 10,000 respondents in Scotland for whom we have answers to the social mobility questions.

The analysis draws on and takes inspiration from work that has been undertaken at UK level on behalf of the Social Mobility Commission (Friedman et al. 2017). However, the results presented in this paper tend not to be directly comparable with the analysis in Friedman et al. This is because Friedman et al. had access to some more fine grained data on occupational class, enabling them to define slightly different categories of parental occupation.

2. Intergenerational occupational mobility

To what extent are the occupations that people do as adults correlated with the occupations that their parents did? And to what extent are someone's chances of working in managerial or professional jobs influenced by having parents who worked in those kind of occupations?

These are the questions that we consider in this section. Note that we are looking here at relatively simple measures of intergenerational occupational mobility, i.e. what is the correlation between the jobs that people do as adults and the jobs their parents did when they were growing up? As such, it is not quite the same as comparing the socio-economic class of parents and their children, as identification of parents' social class would require more detailed data than we have here on occupation and other aspects of employment².

We start by dividing the occupations of LFS respondents and their main-earning parent into three broad groups, and consider rates of *absolute mobility* between these occupational categories. The three groups are:

- High occupational class: managers, directors, professionals, and associate professionals and technical staff (corresponding to SOC2010 groups 1-3).

¹ LFS respondents are interviewed over five consecutive waves, with one wave corresponding to a quarter. Thus an individual entering the survey in Q3 2014 would also be interviewed in Q3 2015. By excluding respondents in wave 5, we ensure that the same individual does not appear twice in our data.

² The standard definition of socio-economic class, the National Statistics Socio-Economic Classification (NS-SEC), classifies respondents into one of eight classes, defined not only by detailed 4-digit occupation, but also employment status (employer, employee or self-employed), size of organisation, and supervisory status. In contrast we only have data on 3-digit occupations.

- Medium occupational class: administrative and secretarial occupations, skilled trades, and caring and other services occupations (corresponding to SOC2010 groups 4-6).
- Low occupational class: sales and customer service occupations, process and machine based occupations, and other elementary occupations (corresponding to SOC 2010 groups 7-9).

Absolute mobility simply considers what proportion of the existing working population has moved up or down the occupational hierarchy, relative to their parents.

As can be seen from Table 1, rates of intergenerational occupational mobility appear relatively high. Just over one third of the population has experienced upward mobility, in other words they are working in a higher occupational group relative to that of their parents, while 23% have experienced downward mobility and 43% are working in the same broad group of occupations as their parents.

At first glance, upward mobility appears more common than downward mobility. This of course reflects in part the changing distribution of occupations over time. There is now more ‘room at the top’ than there used to be.

Table 1: Absolute occupational mobility

Occupation of respondent's parent at 14	Occupation of respondent			Total
	High	Medium	Low	
High	22.9%	9.5%	5.3%	37.7%
Medium	14.6%	11.3%	7.7%	33.7%
Low	9.5%	10.1%	9.1%	28.6%
Total	47.0%	30.9%	22.1%	100%

Notes: Individuals aged 25-60 reporting a current occupation and a main parent occupation at 14, from Q3 LFS in either 2014, 2015, 2016 or 2017. Individuals in green cells have moved ‘up’, those in red cells have moved ‘down’. Unweighted N = 7,211. Weighted N = 5,090,156. Weighted N used to calculate summary statistics.

Relative rates of intergenerational occupational mobility in contrast account for changes in the overall size of the occupational groups. Relative rates of intergenerational mobility capture the chances of individuals of a particular parental occupational group being found in different occupational groups themselves, taking into account structural changes in occupational groups over time.

Specifically, relative rates of occupational mobility are captured using odds ratios. Odds ratios tell us ‘*the chance of an individual originating in class A being found in class A rather than in class B, relative to the chance of an individual originating in class B being found in Class A rather than class B*’ (Goldthorpe, 2016). If the odds ratio is 1, this means that these chances are equal and there is no association between the occupation of one’s parent and one’s own occupation. As the odds ratio rises above 1, the more unequal are the relative chances, and the stronger the association between parent’s occupation and the occupation of the parent’s son or daughter.

The concept of odds ratios and relative mobility can be best understood through a specific example. Let us consider the odds of an individual working in a managerial or professional occupation³ if that individual’s main earning parent worked in managerial or professional occupations, compared to the odds of ending up in a managerial or professional occupation if one’s parent worked in any other (lower) occupation.

³ In what follows we define managerial and professional occupations as occupations corresponding to SOC2010 groups 1 and 2. This is a slightly narrower definition than the preceding definition of ‘high occupational class’ which also included SOC2010 group 3.

Table 2 shows the transition matrix used to calculate this odds ratio. The occupation of the LFS respondent is shown in the columns, whilst the occupation of their parent at age 14 is shown in the rows. It shows for example that of all those in employment today, 13% work in managerial/ professional occupations and had a parent working in managerial/professional occupations; 20% work in managerial/ professional occupations but whose parent worked in other occupations; 16% had one or more parents working in management/professional occupations but work in a lower occupational group themselves.

Table 2: Intergenerational transition matrix to assess relative upward mobility

Occupation of parent at age 14	Occupation of current worker:	
	Managerial and professional occupations	Any other occupation
Managerial and professional occupations	13%	16%
Any other occupation	20%	52%

Notes: Individuals aged 25-60 reporting a current occupation and a main parent occupation at 14, from Q3 LFS in either 2014, 2015, 2016 or 2017. Unweighted N = 7,211. Weighted N = 5,090,156. Weighted N used to calculate summary statistics.

The odds ratio is then calculated as:

*The odds of working in managerial/ professional occupations if one’s parents worked in managerial/ professional occupations,
compared to
the odds of working in managerial/ professional occupations if one’s parents worked in any other occupation.*

Taking the transition matrix in Table 2, the odds ratio is:

$$\text{Odds ratio} = \frac{13\% / 16\%}{20\% / 52\%} = 2.21$$

What this tells us therefore is that the odds of an individual with a parent working in a professional or managerial occupation ending up in professional or managerial employment themselves are 2.2 times higher than the odds of someone from any other background ending up in professional employment.

What about relative downward mobility? We now consider the odds of working in an elementary or process based occupation (corresponding to SOC2010 groups 8 and 9) if ones parents worked in those occupations, relative to the odds of working in these occupations if ones parents worked in any other (higher) occupation.

The transition matrix is shown in Table 3.

Table 3: Intergenerational transition matrix to assess relative downward mobility

Occupation of parent at age 14	Occupation of current worker	
	Other occupations	Elementary/ process occupation
Other occupations	66%	9%
Elementary/ process occupation	18%	6%

Notes: Individuals aged 25-60 reporting a current occupation and a main parent occupation at 14, from Q3 LFS in either 2014, 2015, 2016 or 2017. Unweighted N = 7,211. Weighted N = 5,090,156. Weighted N used to calculate summary statistics.

The calculation of the odds ratio is given by:

$$\text{Odds ratio} = \frac{66\% / 9\%}{18\% / 6\%} = 2.51$$

The odds of individuals whose parents worked in elementary occupations working in an elementary occupation themselves are 2.5 times higher than the odds of working in an elementary occupation if ones parents worked in non-elementary occupations.

These measures of relative intergenerational occupational mobility in Scotland – both upward and downward – indicate that the intergenerational reproduction of advantage and disadvantage remain strong.

But how does Scotland compare with the UK on these measures?

Table 4 replicates the measures of inter-generational occupational mobility for Scotland already discussed, and presents them alongside the equivalent measures for the UK as a whole. Relative intergenerational occupational mobility – both upward and downward – appears broadly similar in Scotland to the UK.

Table 4: Comparing relative intergenerational occupational mobility in Scotland and UK

	Scotland	UK
Odds of an individual whose parent worked in professional or managerial job ending up in professional or managerial employment themselves, relative to the odds of someone whose parent was employed in lower occupational group working in professional or managerial job	2.21	2.17
Odds of an individual whose parent worked in elementary job ending up in elementary employment themselves, relative to the odds of someone whose parent was employed in higher occupational group working in elementary job	2.53	2.44

Notes: Individuals aged 25-60 reporting a current occupation and a main parent occupation at 14, from Q3 LFS in either 2014, 2015, 2016 or 2017. Unweighted N = 7,211. Weighted N = 5,090,156. Weighted N used to calculate summary statistics.

Is intergenerational occupational mobility in Scotland increasing or decreasing over time?

Note that we cannot answer this question directly. To answer this question robustly, we would need the social mobility questions in the LFS to have been asked repeatedly over many years, in order that we could compare intergenerational mobility of respondents of the same age in different years. The fact that the social mobility questions have been asked in just a few very recent years precludes this approach. We can compare rates of intergenerational occupational mobility for people born in different decades, and we present this information below. But remember that it is impossible to separate out differences that stem from intergenerational mobility changing over time versus intergenerational mobility being different for those of different age groups.

In Table 5 we present the figures for absolute and relative occupational mobility for four different age groups: those born in the mid-1950s to mid-1960s, those born in the mid-1960s to mid-1970s, those born from 1975-1984, and those born between 1985-1993⁴.

There is evidence that absolute upward mobility is declining for each cohort, whilst absolute downward mobility has increased for the youngest cohort in the sample. Care needs to be exercised in interpreting this latter statistic in particular, given that this youngest group may not have reached ‘occupational maturity’ at the time they were surveyed.

Table 5: Intergenerational occupational mobility by birth cohort, Scotland

	1954-1964	1965-1974	1975-1984	1985-1993
<i>Absolute mobility</i>				
Upward	40%	37%	32%	26%
Downward	19%	19%	20%	29%
Horizontal	41%	44%	48%	45%
<i>Relative mobility</i>				
Relative upward	2.34	2.13	2.64	1.85
Relative downward	2.21	2.31	3.03	2.42
Unweighted N	2,126	2,223	1,832	1,030

Notes: Individuals aged 25-60 reporting a current occupation and a main parent occupation at 14, from Q3 LFS in either 2014, 2015, 2016 or 2017. ‘Absolute mobility’ is calculated by dividing occupations into three groups, high, medium and low, corresponding to SOC2010 classes 1-3, 4-6 and 7-9 respectively. Relative upward mobility is analysed by studying movements into managerial and professional occupations (SOC2010 groups 1 and 2); relative downward mobility is analysed by studying movements into elementary and process occupations (SOC2010 groups 8 and 9). Unweighted N = 7,211. Weighted N = 5,090,156. Weighted N used to calculate summary statistics.

Table 5 also shows the trends in relative occupational mobility. Recall that the closer that relative mobility is to one, the more even the chance of ending up in a particular occupation, regardless of ones parent’s occupation. The data suggests that social mobility is lowest for those born during the late 1970s and early 1980s, relative to other cohorts. These individuals were growing up in the late 1980s and early 1990s, a period during which the UK (and Scotland) experienced substantial increases in income inequality, however whether these facts are related is unclear. For the youngest cohort, upward and downward relative mobility look more similar to the earlier two cohorts than the 1975-1984 cohort (and relative upward mobility is higher for the youngest cohort than for the preceding cohorts), but previous caveats about age v. cohort effects should be borne in mind.

3. Intergenerational worklessness

Are people from workless households more likely to be workless as adults?

A somewhat rudimentary but nonetheless informative way to answer this question is to consider whether individuals who lived in a workless household at 14 are more or less likely to be employed themselves when they take part in the Labour Force Survey⁵.

⁴ Note that the occupational groups we use to assess absolute mobility differ slightly from those we use to assess relative mobility. ‘Absolute mobility’ is calculated by dividing occupations into three groups, high, medium and low, corresponding to SOC2010 classes 1-3, 4-6 and 7-9 respectively. Relative upward mobility is analysed by studying movements into managerial and professional occupations (SOC2010 groups 1 and 2); relative downward mobility is analysed by studying movements into elementary and process occupations (SOC2010 groups 8 and 9), as discussed in the preceding text.

⁵ A more interesting analysis might be to consider whether people from a workless household at 14 are more likely to spend more time out of work as adults, rather than simply whether they are in or out of work at a specific point in time. Unfortunately the data do not allow us to consider this question.

The results are shown in Table 6. The first column shows that the employment rate of males aged 25-60 in Scotland and from a household where at least one adult was working when they were 14 is 84.7%; the equivalent figure for males from a workless household at 14 is 66.9%. There is therefore an 18 percentage point difference in employment rate between the two groups.

For females, the difference in employment rate between those from a working and those from a workless household is larger, at 22 percentage points.

Table 6: Employment rates as adult by working status of household at age 14

	Scotland	
	Males	Females
Working household at 14	84.7%	77.5%
Workless household at 14	66.9%	55.6%
Difference	-17.9%	-21.9%
Unweighted N	4,489	5,194
Weighted N	3,321,373	3,526,818

Notes: All individuals aged 25-60 in waves 1-4 in LFS Q3 2014, 2015, 2016 or 2017.

Why might individuals from workless households be less likely to be employed themselves? We can use the LFS data to test two specific ideas:

- Do people living in workless households at 14 achieve lower education qualifications and are therefore less employable?
- Do people from workless households have worse health experiences, and does this explain their lower likelihood of being employed?

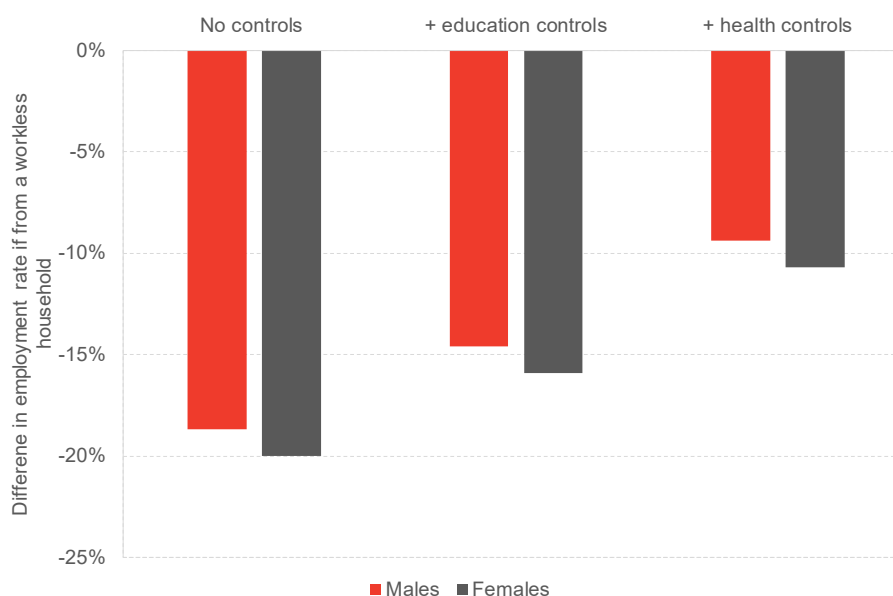
Chart 1 plots, for men and women separately, the ‘raw’ difference in employment rate between those from working and workless households. It then plots, in the second set of columns, this difference after having controlled for education qualifications of individuals. If people from workless households had lower educational qualifications, and this resulted in them being less employable, then inclusion of the education variables would result in a fall in the intergenerational association.

Even after controlling for education men are still 15 percentage points less likely to be employed if they are from a workless household, and women are 16 percentage points less likely to be employed⁶. Education does influence employment prospects: for example, men with a degree are almost 10 percentage points more likely to be employed than men with standard grades only, whilst men with no qualifications are almost 10 percentage points less likely to be employed than those with standard grades. Furthermore, educational attainment is correlated with household working status at age 14: those from workless households are only around half as likely to have a degree as those from working households, and are twice as likely to have no qualifications. However, education itself is not the only, or even the dominant driver of the difference in employment rates between those from workless and working households.

In the third pair of columns, Chart 1 plots the intergenerational worklessness effect after controlling for past and current health problems. The inclusion of these controls reduces the intergenerational worklessness effect further: controlling for education and health, men from workless households are 9 percentage points less likely to be employed than those from working households, and women are 11 percentage points less likely to be employed. These results imply that those from workless households are more likely to experience health problems that lower their employment prospects, potentially through the intergenerational transmission of poor health.

⁶The full table of regression results is included in Annex 1.

Chart 1: Difference in employment rates for those growing up in a workless household compared to a working household, Scotland



Notes: All individuals aged 25-60 in waves 1-4 in LFS Q3 2014, 2015, 2016 or 2017. N = 4,459 (males) and 5,152 (females). See Annex for statistical inference.

So a significant part of the difference in employment rates between those from working and workless households can be attributed to the facts that those from workless households tend to achieve a lower standard of education, and tend to be more likely to have health problems. But even after accounting for these two transmission mechanisms, there is still a strong association between the working status of the household at 14 and working status today.

One potential explanation for the remaining association between the working status of parents and their children might be that, as adults, people often live close to the area in which they grew up. If the areas of relatively weak and relatively strong labour demand remain consistent over time, then this may explain some of the remaining part of the gap. Unfortunately however we are not able to test this hypothesis specifically with the current dataset.

How does intergenerational worklessness in Scotland compare to the UK?

Table 7 shows the equivalent figures for Scotland and for the UK as a whole. What is striking is that being from a workless household at 14 appears to be associated with a smaller employment rate penalty in the UK compared to Scotland. In the UK, the employment rate of males from a workless household at 14 is 13 percentage points below the employment rate of those from a working household (compared to 18pp in Scotland). In the UK, the employment rate of females from a workless household at 14 is 17 percentage points lower than the employment rate of those from a working household (compared to 22pp in Scotland).

These differences in our measure of intergenerational worklessness between Scotland and UK do not 'go away' (or change to any significant extent) if we exclude those born outside the UK (if immigrants are systematically more or less likely to be employed conditional on parental worklessness than the UK-born, then the fact that immigrants form a larger proportion of the UK as opposed to Scottish population might influence the observed gap).

Nor do the differences between Scotland and the UK ‘go away’ if we exclude London from the definition of the UK (it is sometimes assumed that a global city like London might provide enhanced opportunities for intergenerational social mobility, although Friedman and MacMillan 2017 find evidence to refute this hypothesis).

The gap in the intergenerational worklessness effect between Scotland and the UK remains too after controlling for education and health. Males and females from workless households in the UK are 6pp and 9pp less likely to be employed than those from working households⁷, compared to 9pp and 12pp in Scotland. This does not suggest that people from workless households in Scotland are less likely to gain educational qualifications, or are more likely to have health problems relative to those from working households, compared to the UK.

Further investigation is warranted into the reasons for Scotland’s apparently higher intergenerational worklessness gap.

Table 7: Employment rates as adult by working status of household at age

	Scotland		UK	
	Males	Females	Males	Females
Working household at 14	84.7%	77.5%	87.6%	76.4%
Workless household at 14	66.9%	55.6%	74.3%	59.3%
Difference	-17.9%	-21.9%	-13.3%	-17.1%
Unweighted N	4,489	5,194	54,435	61,375
Weighted N	3,321,373	3,526,818	40,064,372	41,012,490

Notes: All individuals aged 25-60 in waves 1-4 in LFS Q3 2014, 2015, 2016 or 2017.

4. Homeownership

Is the probability of being a homeowner influenced by the economic status of one’s parents?

There has recently been growing concern about the implications of house price growth for homeownership. One of the main concerns is that, as the deposit required to become a homeowner increases relative to average incomes, whether one is able to become a homeowner or not depends increasingly on the scale of any inheritances of wealth from parents or grandparents, and less and less about the incomes of individuals themselves.

In this section, we consider the extent to which the probability of being a homeowner is influenced by the economic status of ones parents, relative to one’s own economic status presently. Whilst we cannot observe the level of inheritance or parental financial support in supporting the acquisition of a home, we can nonetheless examine how homeownership varies with the economic status of ones parents, while controlling for other factors likely to affect current income.

⁷ Regression results available on request.

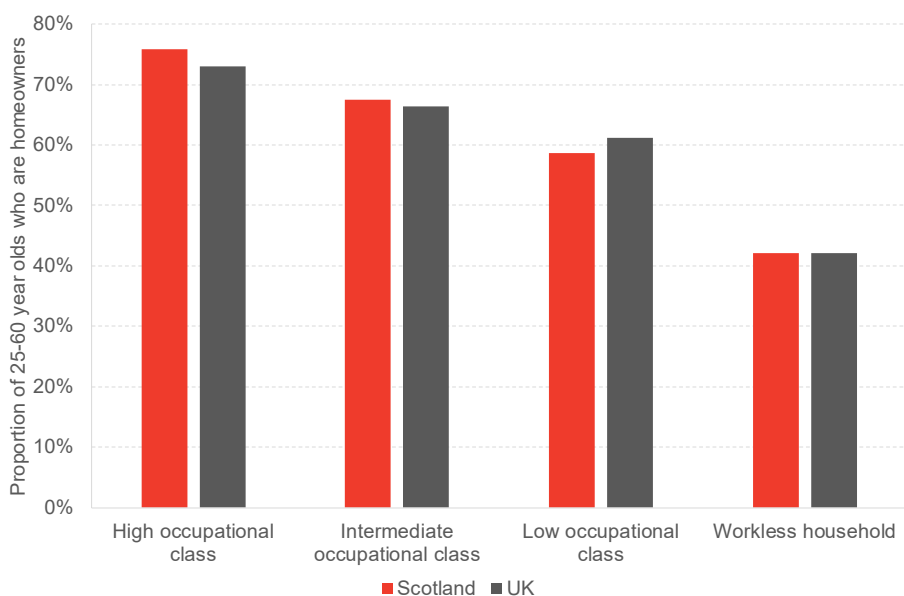
We first classify individuals into one of four groups to reflect the economic status of their parents at 14:

- High occupational class: main wage earner was in managerial, professional or associate professional occupation (corresponding to SOC2010 groups 1-3).
- Medium occupational class: main wage earner was in intermediate occupation (corresponding to SOC2010 groups 4-6).
- Low occupational class: main wage earner was in sales or elementary type occupation (corresponding to SOC 2010 groups 7-9).
- Workless household: no wage earner in the household when respondent was 14.

Chart 2 shows the rate of homeownership among each of these four groups. There is a clear gradient in homeownership: among those whose parent was working in a professional/ managerial job at 14, 76% of 25-60 year olds are homeowners; among those from a workless household, only 41% are homeowners.

The intergenerational social gradient appears broadly similar in Scotland to the UK (in both Scotland and UK, 67% of 25-60 year olds are homeowners).

Chart 2: Rate of homeownership by parental occupational class



Notes: Weighted N = 6,575,210 (Scotland) 76,885,575 (UK). Unweighted N = 9,314 (Scotland); 109,854 (UK)

Of course the fact that individuals from more advantaged backgrounds are more likely to be homeowners is not in itself surprising. People from more advantaged backgrounds are (as we have already seen), more likely to be in high earning occupations themselves. What we are interested in is whether the intergenerational effect remains even after controlling for the factors likely to affect income in the present.

In other words, we want to look at the difference in the likelihood of homeownership between two people who are identical in their own observed characteristics (sex, age, qualifications, occupation, etc.) but who come from different parental backgrounds.

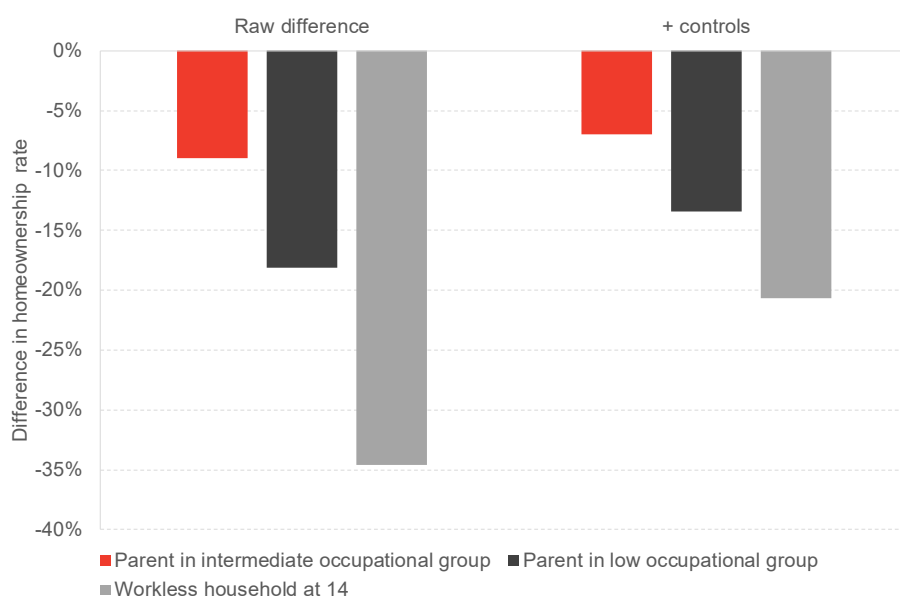
To do this, we regress the probability of being a homeowner on a basket of explanatory variables. These include gender, age, highest qualification, whether or not the respondent was born in the UK, whether the respondent is single or married/co-habiting, whether or not the respondent is employed/self-employed, and the type of occupation that the respondent does. Ideally we would observe respondents' income from employment, but this is not available in our current dataset⁸. As a proxy, we rank 80 two-digit occupational classes into ten deciles of average hourly pay, and allocate each working respondent into an appropriate wage decile based on their occupation.

The regression results are presented in Annex 2.

Chart 3 shows the differences in homeownership rates between individuals from a high occupational class background and those from other backgrounds, before and after controlling for the individual's own observed characteristics.

The chart shows for example that, before controlling for individual characteristics, there is a 35 percentage point difference in homeownership rate between an individual whose parents are from a high occupational background and an individual from a workless household. After controlling for individual characteristics, this gap reduces to 21pp.

Chart 3: Difference in homeownership rate by parental occupational class



Notes: Chart shows difference in homeownership rate for each of the three categories of parental occupational class, relative to have a parent in a high occupational grouping at age 14. Unweighted N = 9,314 (Scotland). See Annex 2 for regression results and detail of controls

The gap in homeownership between individuals of different parental occupational class, even after controlling for individual characteristics, broadly supports the hypothesis that individuals whose parents worked in higher occupational groups are more likely to have benefited from financial support from their parents in acquiring a home.

⁸ The questions on parental occupational class are asked in the Q3 LFS. But questions about employment earnings are only asked when respondents are in waves 1 and 5. This means that we can only observe earnings data and parental occupation simultaneously for individuals who enter the LFS in Q3. Individuals entering the LFS in Q1, Q2 or Q4 answer earnings questions in those quarters uniquely. Matching individuals across quarters is only possible for users with a special licence.

However, it is also likely that our results exaggerate the role of parental social class in influencing homeownership. This is because we have only partially been able to account for relevant individual characteristics. Ideally we would like to control for the net earnings of the household over time. Controlling only for the occupational wage decile, age and qualification status of one member of the household (who may not necessarily be the main wage earner) is in reality a relatively poor proxy of household lifetime income.

In future work we hope to investigate this issue further by accessing more detailed data on respondents' earnings, and various characteristics of the household.

5. Conclusions

This paper sheds new light on various aspects of intergenerational social mobility in Scotland, using data from the Labour Force Survey.

The results show that the occupation of ones parents at age 14 has a strong influence on the occupations that people do as adults. The influence of parental occupational class on one's own occupation appears at least as strong in Scotland as it is in the UK.

Evidence as to whether intergenerational occupational mobility is increasing or decreasing is mixed, and is in any case difficult to assess definitively with the current dataset.

The data also show that growing up in a workless household significantly increases the chances of being workless as an adult. This intergenerational worklessness effect appears stronger in Scotland than the UK, even after controlling for the effect of the intergenerational transmission of education and health. Understanding the causes of this gap is worthy of further research.

There is also a strong association between the occupation of ones parents at age 14 and the probability of being a homeowner, even after controlling for age and the type of job that one does as an adult. This suggests that intergenerational transfers of wealth are significant in influencing housing tenure.

Access to 'special licence' versions of the LFS will permit further analysis of social mobility in Scotland. The special licence versions of the LFS include more finely grained occupation data, smaller area geographical data, and data on individual wages.

In summary, the occupation of one's parents does play a significant role in influencing the labour market and housing market opportunities one has as an adult in Scotland. And the significance of intergenerational transfer of opportunity appears at least as great in Scotland as in the UK.

Low levels of social mobility are objectionable on moral grounds in the context of what might be perceived as fair. But low levels of social mobility may also have wider economic implications if this limits the extent to which talented individuals are able to fulfil their potential within the economy.

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Annex: further data tables

Table A1: Difference in employment rate between those from a workless as opposed to working household, regression results

VARIABLES	(1) Males	(2) Females	(3) Males	(4) Females	(5) Males	(6) Females
Workless household at 14	-0.187*** (0.034)	-0.200*** (0.034)	-0.146*** (0.033)	-0.159*** (0.034)	-0.094*** (0.033)	-0.107*** (0.035)
Degree or higher			0.092*** (0.014)	0.129*** (0.015)	0.039** (0.015)	0.096*** (0.015)
Other HE			0.074*** (0.015)	0.057*** (0.017)	0.043*** (0.016)	0.050*** (0.017)
Highers or equivalent			0.030* (0.016)	0.043** (0.018)	0.007 (0.016)	0.031* (0.019)
National Level 5			Baseline	Baseline	Baseline	Baseline
Other qualifications			-0.017 (0.024)	-0.075** (0.030)	-0.021 (0.025)	-0.052* (0.031)
No qualifications			-0.177*** (0.029)	-0.223*** (0.028)	-0.091*** (0.028)	-0.138*** (0.029)
No current health problems			Baseline	Baseline	Baseline	Baseline
Current health problem					-0.042** (0.016)	-0.026 (0.018)
Current health problem limits activity					-0.166*** (0.029)	-0.116*** (0.025)
Current health problem limits activity a lot					-0.658*** (0.031)	-0.518*** (0.028)
No past health problem					Baseline	Baseline
Past health problem limits activity					-0.114 (0.070)	-0.093 (0.070)
Past health problem limits activity a lot					-0.019 (0.065)	-0.032 (0.076)
Observations	4,489	5,194	4,473	5,186	4,459	5,152

Notes: dependent variable is binary variable to reflect employment status (1= employed, 0= not in employment). Regression restricted to individuals aged 25-60. Results are unweighted. All explanatory variables are dichotomous.

Table A2: Homeownership by parental occupational class

VARIABLES	(1) Scotland	(2) UK	(3) Scotland	(4) UK
Intermediate occupational class	-0.090*** (0.012)	-0.073*** (0.003)	-0.070*** (0.013)	-0.042*** (0.004)
Low occupational class	-0.181*** (0.014)	-0.130*** (0.004)	-0.134*** (0.015)	-0.078*** (0.004)
Workless household	-0.346*** (0.025)	-0.319*** (0.007)	-0.207*** (0.030)	-0.185*** (0.008)
Age			0.011*** (0.001)	0.011*** (0.000)
Gender			0.036*** (0.011)	0.034*** (0.003)
Married			0.222*** (0.012)	0.189*** (0.003)
UK born			0.263*** (0.020)	0.247*** (0.004)
Employed			0.360*** (0.033)	0.296*** (0.009)
PT			0.017 (0.015)	0.012*** (0.004)
Occ. Decile 1			-0.259*** (0.038)	-0.220*** (0.010)
Occ. Decile 2			-0.191*** (0.037)	-0.164*** (0.010)
Occ. Decile 3			-0.134*** (0.036)	-0.098*** (0.009)
Occ. Decile 4			-0.074* (0.038)	-0.059*** (0.010)
Occ. Decile 5			-0.062* (0.037)	-0.047*** (0.009)
Occ. Decile 6			-0.042 (0.039)	-0.032*** (0.010)
Occ. Decile 7			-0.038 (0.040)	-0.055*** (0.010)
Occ. Decile 8			-0.009 (0.033)	-0.018** (0.008)
Occ. Decile 9			-0.023	0.007
Occ. Decile 10			Baseline (0.032)	Baseline (0.008)
Degree or higher			0.125*** (0.015)	0.106*** (0.004)
Other HE			0.073*** (0.015)	0.066*** (0.005)
Highers or equivalent			0.070*** (0.015)	0.043*** (0.004)
National Level 5			Baseline	Baseline
Other qualifications			-0.063** (0.025)	-0.070*** (0.006)
No qualifications			-0.141*** (0.023)	-0.127*** (0.007)
Observations	9,314	109,854	9,293	109,680

Notes: dependent variable is binary variable to reflect homeownership status. Regression restricted to individuals aged 25-60. Results are unweighted. All explanatory variables are dichotomous other than Age which is continuous. The Occupational Decile variables are ten dummy variables to indicate which occupational decile the respondent works in, where 80 occupational sub-groups have been ranked according to median UK wage in 2014.