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The Social Mobility of Home Ownership: To What Extent Have the Millennials Fared Worse?

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Abstract

This paper considers home ownership rates for different generational cohorts in the UK, and how they are related to family background, as measured by parental occupation status. The results show home ownership rates have fallen across recent generational cohorts, even when they are compared at the same stage in their lives. Concurrent with this fall, there has been an increasing importance of family background in determining whether an individual owns their own home. While such an effect has always been present for individuals who do not reach the higher levels of education or occupation hierarchies, this is a newer phenomenon for successful graduates in professional/managerial occupations, for whom home ownership is also now strongly related to family background amongst the Millennial cohort.

Keywords: Home ownership, social mobility.

JEL Codes: D64, J62, O18

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1. Introduction

Studies show that home ownership rates in the UK have fallen rapidly over time, and especially so for young people in recent birth cohorts, whose rates of owner occupation are much lower than for older birth cohorts (for example see Griffith (2011), Cribb et al (2016), Clarke et al, (2016), Cribb et al. (2018). In addition to the academic literature, documentation and discussion of this fall in home ownership is a popular topic in the mainstream press, for example showing how the fall has affected younger cohorts¹ or how the fall between 2007 and 2016 has been larger in the UK than in any other country in the EU.² At the same time, there is a wealth of empirical evidence documenting the inter-generational transmission of income, social class and educational qualifications, see Blanden (2013) for a review of this extensive literature. However, there appears to be a dearth of empirical research investigating the relationship between social mobility and home ownership. This paper provides new information on this relationship.

Owning one's home is viewed in the UK not just a symbol of status and achievement, but also as an economically sound investment, particularly in the current period of low interest-rates when mortgage repayments are often lower than rental prices for similar properties, before any capital gain from rising prices is even considered. The fact that larger proportions of younger generations are missing out on such benefits is therefore an important issue for intergenerational inequality.

Cribb et al. (2018) reveal the extent of the fall in home ownership in the UK. Using data from the Labour Force Survey for the period between 1996 and 2016, they show that home ownership rates for all age groups have fallen over this period. The falls have been largest for the youngest two age groups however, from 46% to 25% for 25-29 year olds, and from 64% to 43% for 30-34 year olds. Amongst 40-44 year olds, there has still been a fall, though only around half of the magnitude as for the younger groups (75% to 64% over the same period)

¹ <https://www.theguardian.com/society/2018/apr/28/proportion-home-owners-halves-millennials>

² <https://www.independent.co.uk/news/business/analysis-and-features/uk-home-ownership-falls-more-than-eu-country-france-poland-property-market-a8501836.html>

Such falls in home ownership rates amongst the young are not due to younger people in more recent years delaying buying a house due to spending longer in education or living with their parents longer. The duration spent in the parental home has changed little in the UK, while the fall in home ownership is still observed when individuals are categorised by the duration of time since they left education rather than by age.

The more likely explanation for the fall in home ownership is the dramatic rise in house prices, which has far outstripped the rise in incomes over this period. Cribb et al. (2018) show that the average house price in the UK has increased by around two and half times in real terms between 1996 and 2016, from £79,000 to £198,000 in 2016-17 prices. In contrast, over the same period, net family incomes of those aged 25-34 only increased by 22%. The authors go on to create a regional house price to income index for each individual, and show that within bands of this index, the rate of home ownership has remained similar over time. The reason for the overall fall in ownership is therefore that many more people face a much higher index in recent years, where the rates of home ownership are lower.

Affordability of houses is therefore a big issue as far as home ownership is concerned. This is mostly in the form of deposits³ plus transaction costs of making a purchase (such as estate agent and solicitor fees, and property purchase taxes known as Stamp Duty in the UK). Both initial deposits and ongoing mortgage loan repayments are proportional to the purchase price of the house. This means that the rise in house prices relative to incomes has placed a large financial cost on house-buyers, which the young in particular are less likely to have the resources to afford. Young people with parents who can contribute to these costs are therefore in a better position to be able to buy their own home. For this reason, we might therefore expect to see a link between parents' socio-economic position and children's house-buying behaviour. This relationship is the focus of the current paper. In particular, we estimate the strength of the relationship between parental occupation and their progeny's likelihood of owning a home, focussing on changes in this relationship over time by considering broad generational cohorts.

There is little previous work in the economics literature on the topic of social mobility in home ownership. One exception is the paper by Blanden and Machin (2017), which quantifies the intergenerational transmission of home ownership, whilst also demonstrating increased

³ Deposits are typically required by mortgage lenders and are a share, often at least 5%, of the purchase price.

persistence across birth cohorts. Their paper shows declining social mobility in home ownership, by comparing the correlations of inter-generational owner-occupier rates for individuals aged 42 in 2012, relative to those of a similar age in 2000.

From the perspective of the broadly defined birth generations, Blanden and Machin (2017) compare the intergenerational transmission of home ownership for the Baby Boomer generation, (born between 1946 and 1964), to that for individuals from Generation X (born between 1965 and 1980), using the National Child Development Study (NCDS) for children born in 1958 and the British Cohort Study (BCS) for children born in 1970. Their results show a fall in the rate of home ownership in the later cohort particularly for those individuals whose parents did not own their own home themselves.

A limited number of other studies find similar results. Cribb et al. (2018) consider, as we do, parental occupational data from the Labour Force Survey (LFS), and show that it is positively related to their progeny's likelihood of owning a home. Controlling for education and labour market outcomes of the latter reduces this intergenerational correlation, though some effect of parental occupation remains. For the US, an unpublished paper by Bond and Eriksen (2017) uses data from the Health and Retirement Study, to demonstrate the importance of parental wealth for the likelihood that children own their home.

In this paper, we build on the existing research by considering more recent cohorts of young people, comparing the social mobility of home ownership for Generation X relative to the Millennial Generation, where the latter are defined as being born between 1981 and 1996. We do this by exploiting the parental occupation information from the publically available UK Labour Force Surveys. Our particular contribution to the literature is that we consider variation in the intergenerational home ownership relationship according to the skill level of the progeny, and show how this variation has changed between generational cohorts. This is important because of the large changes that have been experienced by graduates, meaning that a university is not necessarily the guarantee of social advancement and success, such as an ability to buy one's own home, that it once was. For example, rising participation in Higher Education has reduced the proportion of graduates who secure employment in an appropriate employment for their education level (Chevalier and Lindley, 2009). Further, the introduction of tuition fees in the UK in 1998, and their subsequent steep rise, has meant that younger cohorts are graduating with large amounts of debt to be repaid, having taken out student loans to pay for

their fees. It would therefore be interesting to see whether these factors have reduced more recent graduates' ability to buy their home via their own means, and increased their reliance on familial support.

We start by documenting the correlation between home ownership and parental occupation across all generations, before focussing specifically on the Generation X cohort and the Millennial cohort, by comparing social mobility correlations for the BCS and the LFS when respondents were aged 34 in 2004 and in 2014-17, respectively. Following on from earlier studies that find increased heterogeneity in inequality growth for graduates vis-à-vis non-graduates, (see Lindley and McIntosh (2015) for wage inequality growth, and Lindley and Machin (2012) for social mobility decline), we also investigate to what extent social mobility in housing is more or less pronounced for high skilled workers, compared to the rest of the labour force.

The results of the analysis are important, because of the relevance of home ownership for well-being. For example, Foye et al (2018) for the UK, Rohe and Stegman (1994) for the US, Zumbro (2014) for Germany all demonstrate a relationship between home ownership and self-reported life satisfaction or well-being. Explanations for such an effect include the satisfaction gained from territorial ownership, the better living conditions people create, on average, when they own a home, and the security offered by being one's own landlord. Foye et al (2018) further argue, and provide evidence, that home ownership provides satisfaction in a relative positional sense, when we compare ourselves to others. If this is the case, then variation in ability to own a home due to one's upbringing and family background, the subject of the current paper, is likely in particular to cause feelings of unfairness, to the individual and to wider society.

On the other hand, home ownership can also negatively affect the workings of the economy, in particular the flexibility of the labour market. The cost of buying and selling a home can reduce regional mobility amongst home owners, and produce longer commute times, on average. Blanchflower and Oswald (2013) show that such effects lead to a positive association between rates of home ownership and unemployment, based on a panel of US states.

The rest of the paper is structured as follows. The next section investigates the relationship between home ownership and parental background and documents differences across broadly

defined birth generations. In this section we use multivariate regression analysis to estimate conditional home ownership rates by parental background, which we then compare across generations using cross sectional data. Of course these generational differences contain both age and cohort effects. Any differences observed could be a cause of younger workers being less likely to own their own home purely because they have not yet reached the time in their life where they are able to commit to a mortgage. In section three therefore, we use multivariate regression analysis to estimate conditional home ownership rates by parental background for individuals aged between 33 and 35 in 2004 to those of the same age in 2014-7. This allows us to compare the social mobility of home ownership across the Generation X cohort and the Millennial cohort, whilst holding age effects constant. In section 4 we investigate to what extent any observed trends in the social mobility of home ownership differ for high skilled workers relative to low skilled works. The final section concludes.

2. Trends in Home Ownership and Parental Background

In this section we document the relationship between home ownership and parental occupation. Data are taken from the July to September quarters of the Labour Force Survey (LFS) for 2014, 2015, 2016 and 2017. The LFS is a nationally representative survey of households in the UK, with approximately 38,000 households surveyed each quarter, with each household remaining in the sample for five successive quarters, in a rolling panel design. The starting point for the sample period of 2014 was chosen as this was the first year that the LFS asked respondents to report on the occupation of their parents, specifically asking the respondents to recall when they were aged 14. Laurison and Friedman (2016) provide a detailed description of these variables in their study on social class and earnings. After dropping observations with missing values we are left with 192,478 individuals aged over 16.

In addition to the parental occupation variable, the other key variable for the analysis is home ownership. Home ownership is defined as owning one's home outright or having a mortgage.

Table 1 presents the raw relationship at the centre of our analysis, showing the proportion of our sample who are home owners by occupational status of each respondent's main wage earning parent, when they were age 14. Not surprisingly perhaps, having a parent employed in a higher paying profession such as a manager or a professional is associated with a higher

incidence of home ownership. Table 1 shows that 77 percent of respondents who had a professional parent own their own home in 2014-2017, compared to only 50 percent for respondents who had no earners in their household. The first column of Table 2 tests for the statistical significance of the differences in home ownership for all parental occupations relative to having no earner in the family home at age 14, using a linear probability equation. This shows that the differences that can be inferred from Table 1 are statistically significant since the likelihood of home ownership is statistically higher for all parental occupation groups, with this being particularly large for managers, professionals and associate professions, at around 27 percentage points.

The second column of Table 2 includes controls for birth generations. These are for the Baby boomers (born between 1946 and 1964), Generation X (born between 1965 and 1980), the Millennials (born between 1980 and 1996) and Generation Z (born after 1997), with the default group being the Silent Generation (born before 1945). The coefficients on the cohort variables indicate lower home ownership rates amongst younger cohorts. Table 3 shows that the Silent Generation and the Baby Boomers have similar home ownership rates of 82 and 81 percent, respectively. However, there's a raw differential of 11 percentage points from the Boomers to Generation X, and then a larger differential of 26 percentage points from Generation X to the Millennials. It is this larger differential that we endeavour to explain in this paper.

The third column of Table 2 includes progeny controls in the home ownership linear probability equation. These include a graduate dummy, a gender dummy (where male is the default), a dummy for employment status, 11 regional dummies (where living in London is the default), 8 occupation dummies (where employment in an elementary occupation is the default) and three year dummies (where 2014 is the default). These all have the expected sign since they are positively related to home ownership. Note that the parental occupation effects become smaller once we control for the socio-economic characteristics of the progeny. This suggests that part of the intergenerational effect works through the characteristics of the younger generation, for example parents in more senior occupations having better educated children on average, and children who go on to work in more senior occupations themselves. Over and above these routes via children's educational and occupational success, column 3 shows that there is still a strong independent effect of parental occupation, however, in determining the next generation's home ownership likelihood.

Comparing the coefficients on the generation cohort variables between columns 2 and 3 of Table 2 shows that they increase in absolute size when the progeny control variables are added in column 3, in contrast to the parental occupation coefficients discussed above. Given changes in the Higher Education participation and the occupational structure of the labour market over time, the later cohorts are more likely to be graduates and to be in professional/managerial occupations, which are both associated with higher home ownership rates, *ceteris paribus*. In fact, as we have seen above, the younger generations are less likely to own their home, and so controlling for their higher education and occupation status simply exacerbates this ownership difference between cohorts. Therefore, had education and occupation structures not moved in favour for the younger generations, the inter-generational fall in home ownership observed in Table 3 would have been of a larger magnitude.

One more thing to note in Table 2 is the larger standard error of 0.029 on the Generation Z coefficient, which is a consequence of the small sample size of 213 individuals in the working sample for this cohort, as well as the low rate of home ownership for this group. Consequently, the final column of Table 2 presents the home ownership covariates excluding these individuals from our working sample. The results are almost identical to the previous column. The Generation Z group are therefore be excluded from the remainder of the analysis. Note also that the results are qualitatively robust to the estimation method used.⁴

In order to test for social mobility differences across birth generations, we estimate separate home ownership equations for each of our broadly defined generation groups. The results are presented in Table 4. There are some interesting inter-generational differences in the estimates for the controls. The graduate coefficient increases in magnitude between the Silent and the Baby Boomer generations and then declines across the Generation X and Millennial generations, suggesting that being a graduate has become slightly less important in predicting home ownership. Also, females from the Silent Generation were less likely to own their own home vis-à-vis men. However, this situation reversed between the Silent and the Boomer generations, and then remained relatively stable thereafter. Women from the Millennial generation were about 4 percentage points more likely to own their own home, after

⁴Table A1 in the appendix shows that our results are qualitatively robust to the choice of model and consequently we continue with the LPM because it is easier to interpret, especially when comparing changes in the marginal effects across generations. The LR statistics are similar across the logit and probit results and consequently, for robustness purposes, we also provide probit results for key results found in the paper.

conditioning on other characteristics. The effect of being employed falls for the Millennial group. Rather interestingly, the effect of living outside London and being in a relatively higher paying occupation (vis-à-vis an elementary occupation) become larger predictors of home ownership for the Baby Boomers and Generation X, but then their importance also falls again for the Millennials. Just looking at the raw data in this way suggests that there is something different about the Millennial group.

The social mobility variables, here measured using parental occupation (relative to having no wage earner in the household at age 14), demonstrate increasing predictive power between the Silent and the Baby Boomer generation. These patterns are more easily observed in Figure 1, which provides a plot of the parental occupation differentials from Table 4. From the Silent to the Baby Boomer generation, there is a clear increase in all of the parental occupation coefficients, relative to the ‘no occupation’ reference category. The increase in coefficient size is also larger for the parental occupations that are lower in the jobs hierarchy, so that the coefficients are more similar to each other in the Baby Boomer cohort.

Following this, though, the pattern of changes between the Boomers and Generation X, as well as between Generation X and the Millennials, is one of clear divergence. The children of parents in administration and secretarial, the sales and service, the caring and leisure, as well as the elementary occupations are all becoming relatively less likely to own their own home over time across cohorts, while the progeny of parents in the manager, professional, associate professional, skilled trade and process/plant operatives occupations are all becoming relatively more likely to own their own home. Given that this split of occupations exactly divides them into the four lowest paying occupations on average, and the five highest paying occupations⁵, then this polarisation pattern between parental occupations suggests a fall in social mobility, with parental income/wealth becoming an increasingly important determinant of the next generation’s home ownership.

One factor not controlled for in the analysis so far is the age of the progeny, since this would be strongly collinear with the generation cohort indicator. This is likely to influence the results, however, given that, at the fixed point in time of the LFS survey, the more recent cohorts will obviously be younger, which in turn is associated with a lower likelihood of home ownership.

⁵ Source: Annual Survey of Hours and Earnings (ASHE), 2017.

Comparing generation cohorts at different ages at the same point in time could therefore lead to over-estimates of the differences in home ownership between them. Consequently, in the next section we compare social mobility correlations across birth cohorts using respondents of the same age.

3. Cohort Changes in the Social Mobility of Home Ownership

In this section, we compare the home ownership of individuals born in 1970, from Generation X, to those born between 1981 and 1984, from the Millennial Generation, observing both generations when they were aged between 33 and 35. For the Generation X individuals, we use home ownership and progeny characteristic information from the 2004 sweep of the British Cohort Study (BCS)⁶. We take our parental occupation information from the 1980 BCS and match it to those still present in the follow-up dataset in 2004. Consequently parental occupation is measured when the progeny were aged 10.⁷ We use the occupation status of the father unless the father data is missing and then we use the mother's occupation. This gives us 8972 respondents. For the Millennial Generation, we use home ownership and progeny characteristics, as well as parental occupation at age 14, from the 2014-2017 LFS. To ensure that our Millennial sample were aged between 33 and 35, as well as being born between 1981 and 1984, we select respondents who were age 33 in 2014, aged between 33 and 34 in 2015, and finally aged between 33 and 35 in 2016 and 2017. This provides us with 6844 respondents.

The final row of panel b in Table 5 shows that home ownership was 74 percent in 2004 (Generation X cohort) compared to 56 percent in 2014-17 (Millennial Generation) at this age. Therefore the cross-cohort difference is 18 percentage points, compared to 26 percentage points for all individuals aged over 16 from the LFS as shown in Table 3. This suggests that differences in age explain around 8 percentage points of the difference in home ownership between Generation X respondents and Millennials, on average. Table 5 shows the coefficients in the home ownership equations for Generation X and the Millennials, as well as the cross-cohort change in coefficients in the final column. The upper panel included progeny controls

⁶ The BCS is a 'birth cohort' data set, where every individual born in Great Britain in a particular week in 1970 has been followed and periodically interviewed at various points in their lives. Since birth, there have been nine further sweeps of data collection. The cohort initially contained around 17,000 members.

⁷ The parental occupation data in the 1980 BCS is provided in KOSD format. It was necessary therefore to concord these occupational categories to the SOC 2000 one digit level.

for graduate status, sex, employment status and ten regional dummies, with London again being the default group.⁸ Panel b also includes eight progeny occupation dummies, with elementary jobs being the default group.

Overall, the first column in Table 5 shows qualitatively similar results using the BCS on the control variables for Generation X, to those found in Table 4, using the LFS. This is reassuring given we are now using a different dataset. The main differences between the coefficients in Table 5 and those in Table 4 are for the Millennials aged between 33 and 35 compared to those aged between 18 and 36 in Table 4. At the former age, the effect of a degree on home ownership is higher (21 percentage points compared to 7 percentage points in Table 4), while female millennials are no more likely to own their own home than men at age 33-35 (having been 4 percentage points more likely between ages 18 and 36 in Table 4). The employment differential is also now higher (27 percentage points compared to 9 percentage points in Table 4), using estimates from the upper panel of Table 5. Again, these results are intuitive and this is reassuring. Given that the Millennial group in Table 4 contains the youngest respondents, we would expect the age differences in the correlations between the controls and home ownership to differ more between data sets for this group than for the Generation X respondents.

For Generation X, the parental occupation coefficients are statistically significant for managers, professionals, associate professionals and administrators/secretarial jobs in the upper panel of Table 5. These show that relative to having no earners in the household when the child was 10 years old, having a parent employed as a manager, professional, associate professional or in an administrator/secretarial job increases the likelihood of home ownership. The coefficients are smaller in magnitude than those in Table 4, but they are qualitatively similar in that there is little difference in the magnitude of the coefficients across these groups. These magnitudes are significantly larger for the millennials, across most parental occupation groups, with administrators/secretarial jobs and caring/leisure being the only exceptions.⁹ The lower panel shows that these results are qualitatively robust to including one digit occupational controls for the progeny, although the magnitude of the coefficients are smaller in most cases.¹⁰ The

⁸ The BCS does not sample Northern Ireland and consequently the data used throughout this section are for Great Britain only.

⁹ The latter would have been statistically significant had a 10% significance level been used.

¹⁰ Our results are qualitatively robust to our choice of model. The probit results for the lower panel are presented in Table A2. The coefficients are similar in magnitude, although some of the cross-cohort changes are no longer statistically significant.

parental effect is therefore working over and above any effects due to intergenerational links in occupation, whereby the progeny of parents in more senior occupations are more likely to work in senior occupations themselves. Overall these results demonstrate an increase in the predictive power of parental occupation, which is larger for parents employed as managers, skilled tradesmen, in caring/leisure jobs, and in sales and service jobs. Consequently there has been a fall in the social mobility of home ownership.

4. Cohort Changes in Social Mobility by Skill Groups

In this section we investigate whether the high skilled respondents, who have invested in various forms of human capital, in part to protect themselves against changes in social mobility, have been affected more or less, relative to those who have made lower investments in education. Firstly we classify high skilled respondents as being highly educated by comparing graduate and non-graduate differences. Figure 2 uses the cross-sectional LFS data to compare home ownership conditional parental occupation differentials for Baby Boomers, Generation X and Millennials across graduate status. The upper figure refers to graduates and the lower to non-graduates. We have focussed on the younger cohorts here because of the small number of Silent graduates (2.1 percent), compared to the Boomers (21 percent), Generation X (35 percent) and Millennials (40 percent) in the LFS data.¹¹ Figure 2 shows a very clear difference in intergenerational effects on home ownership between graduate and non-graduate progeny. For non-graduates, the effect of parental occupation is falling across cohorts, suggesting falling differentials relative to the omitted non-working parents category, while the spread across the parental occupation categories remains about the same in each cohort, even if the ordering of categories changes somewhat. For graduates, on the other hand, the upward-sloping profiles show increasing parental occupation effects for every occupation, and a clear spreading out of the range of effects across categories. This suggests that the fall in the social mobility of housing observed so far in this paper, has only been there for those people who have invested the most in their own human capital. However, we still need to take into consideration the cross-cohort differences in age.

¹¹ Figure A1 in the Appendix includes the silent generation and this shows a sharp fall in the parental occupation differentials between the silent and boomer generation, for graduates. With a sharp rise in the predictive power of parental occupations for non-graduates. The latter suggesting that for the majority, there was a fall in social mobility.

In Tables 6 and 7 we estimate home ownership equations separately for 4407 graduates and 11409 non-graduates aged between 33 and 35 in 2004 and 2014-2017, again using BCS and LFS data respectively, as described in the previous section. The final row in Table 6 shows that, amongst graduates specifically now, the percentage of Millennials that owned their own home is still lower (70 percent) compared to those from Generation X (81 percent) when aged between 33 and 35. The first column of Table 6 shows that very few covariates are of statistical significance for the Generation X graduate cohort. Being female involves a 4.6 percentage point higher propensity for home ownership, whilst having a parent employed as a process or plant worker involves a 9 percentage point lower likelihood of home ownership. Also living outside London and being employed involves a higher likelihood of home ownership. For the Millennials, there are significantly larger parental occupation effects for all occupations vis-à-vis Generation X, except for administrator/secretarial jobs, caring/leisure jobs and elementary jobs, relative to having no wage earners in the household at age 14 (the cohort difference for those with managerial and professional parents being statistically significant at the 10% significance level only). Indeed the final column shows that there has been a significant fall in the social mobility of home ownership for graduates and this is especially large for those with parents employed in sales and service jobs, as well as process and plant jobs.¹²

Table 7 reports the equivalent results for non-graduates. The bottom row shows again a lower home ownership rate amongst Millennials compared to Generation X for this subgroup, while it is also clear that fewer non-graduates are home owners compared to graduates within each generational cohort (73 percent of non-graduate Generation X were home owners in 2004, and 47 percent of non-graduate Millennials were home owners in 2014-2017). For non-graduates, we can see that there are strong parental occupation effects already present for the 2004 Generation X cohort, which were not observed for graduates above. These do increase in magnitude for the Millennial cohort, but the cross-cohort changes are much smaller than they were for graduates, and indeed only statistically significant for those with parents who were managers or employed in the skilled trades. Overall, Tables 6 and 7 suggest that the social mobility of housing has decreased much more for graduates than it has for non-graduates.

¹² Table A3 in the Appendix shows that the results for graduates are robust to the choice of model, although the cross-cohort changes are smaller and some are no longer statistically significant, when a probit model is used instead of the LPM. Only the skilled trades, sales and service, as well as process and plant parental occupations are now statistically significant.

Given that human capital can take many forms, including life-long training, career progression and work experience, we also classify high skilled respondents as those employed in the high skilled occupations. These are for managers, professionals and associate professionals. This provides 6666 workers. The remaining 9150 working and non-working respondents are classed as relatively low skilled. The results for high skilled occupations are presented in Table 8, whilst the results for low skilled occupations and those not in employment are given in Table 9. Overall, these provide a very similar picture to that for graduates verses non-graduates in Tables 6 and 7. However, the fall in the social mobility of housing is much stronger for high skilled occupations vis-à-vis low skilled respondents, than it is for graduates vis-à-vis non-graduates.¹³ The cohort change in parental occupation effect is statistically significant for every parental occupation group except admin/secretarial and elementary in the case of high-skilled progeny (Table 8), while there is not a single parental occupation that experiences a statistically significant increase in progeny home ownership effect for lower-skilled progeny (Table 9).

Tables 6 and 8 demonstrate a large decline in the social mobility of housing for graduates and workers employed in high skilled occupations. It might therefore be interesting to compare these to patterns for employment propensity, as an alternative measure of social mobility. Table 10 uses the same samples as were used in Table 5 to compare the social mobility of employment propensity for all workers aged between 33 and 35 from the 2004 BCS and the 2014-17 LFS. This shows a similar pattern for reduced social mobility in employment since the predictive power of parental occupations has increased over time. However, Table 11 uses the same samples as were used for Table 6 and this demonstrates unlike for home ownership, the reduction in the social mobility of employment is not being driven by changes for high skilled workers. The increased importance of parental occupation in explaining outcomes for graduate/high skilled progeny therefore seems to be something that is specific to home ownership.¹⁴

¹³ Table A4 in the Appendix shows that the results for high skilled workers are robust to the choice of model. The cross-cohort changes are smaller and just as statistically significant when a probit model is used.

¹⁴ Laurison and Friedman (2016) consider wage outcomes in the UK, and show that, even with high status occupations, family background (as measured by parental occupation) is still related to wage levels, though they do not perform a generational cohort comparison, and so we cannot say from their results, whether the social mobility for wage outcomes has deteriorated for recent cohorts.

5. Conclusion

This paper has made use of recently-added variables on parental occupation to the UK Labour Force Survey (LFS), to add to the small existing literature on social mobility in home ownership. In particular, we conduct a comparison of generational cohorts, considering more recent cohorts (the Millennials) than most existing papers in the literature. In addition, we also explicitly add to the literature by considering differences in social mobility by skill level of the progeny.

Our results show that there has been a reduction in home ownership across generational cohorts. Focussing specifically on the fall in home ownership between the Generation X and Millennial cohorts, the results show that this fall is still in evidence even when we consider both cohorts at the same point in their lives (specifically their early thirties), by comparing LFS data for Millennials to British Cohort Study (BCS) data for Generation X. An important part of this story is social mobility, and the growing importance of family background (as measured by parental occupation) in determining whether individuals own their own home. Thus, as home ownership rates have fallen across generational cohorts, the gap in ownership rates has widened between those with and without parents in high status occupations.

Furthermore, and the key contribution of our paper, when the sample of progeny is split by skill level (as measured by graduate/non-graduate status or by occupation) the increase in importance of parental background (i.e. reduction in social mobility) is observed to a much larger extent for the graduate/senior occupation subsample. Amongst Generation X, for these high-skilled progeny, their family background when adolescents is irrelevant to their own home ownership as adults. None of the small differences in home ownership rates of Generation X members by parental occupation are statistically significant. For Millennials in the same skill group, this is no longer the case, however, and there are significant differences in their home ownership rates across parental occupation categories. Home ownership has vanished from being the norm for all members of such groups, to being dependent on family background. While this reliance on family background has always been the case for those progeny who did not themselves achieve to a high level in education and the jobs market, the change has therefore been for those progeny who have been successful in their own right, who are now increasingly restricted by family background when it comes to the purchase of a home. The

fact that we do not observe a similar increase in the importance of family background for the employment likelihood of graduate progeny, suggests that this falling social mobility in the housing effect between cohorts is not working through increasing employment effects of family background. Rather, the most likely reason for this is that rising house prices, relative to incomes, has made home ownership unaffordable for many, without additional help and support from parents, even amongst those who have been successful in terms of their education achievements and occupation level reached. Where previously a university education and a graduate job would virtually guarantee an ability to buy one's home, this is therefore now not always the case, particularly for those with a less advantaged family background.

Though there are too few Generation Z in our sample to make analysis possible, the likelihood is that stagnating real wages, continuing rises in house prices, plus the additional burden of university tuition fee repayments, are likely to make the situation even worse for this most recent cohort, than observed for the Millennials in our sample. If home ownership is to remain as something desirable, and life satisfaction studies suggest that it is, then unless house prices begin to fall, to a significant extent, relative to income, then policy-induced support will be needed to help those without parental help to get them onto the housing ladder.

References

Blanchflower, D. and Oswald, A. (2013). 'The Danger of High Home Ownership: Greater Unemployment.' The CAGE-Chatham House Series, Number 10.

Blanden, J. (2013) 'Cross-National Rankings of Intergenerational Mobility: A Comparison of Approaches from Economics and Sociology.' *Journal of Economic Surveys*, 27, 38-74.

Blanden, J and Machin, S. (2017). 'Home Ownership and Social Mobility.' CEP Discussion Paper 1466.

Bond, S. and Eriksen, M. (2017). 'The Role of Parents on the Home Ownership Experience of their Children: Evidence from the Health and Retirement Study.' University of Cincinnati Lindner College of Business Research Paper Number 2017-001.

Chevalier, A. and Lindley, J. (2009). 'Overeducation and the Skills of UK Graduates. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 172, 307-337.

Clarke, S., A. Corlett and L. Judge (2015). 'The Housing Headwind: The Impact of Rising Housing Costs on UK Living Standards.' Resolution Foundation report.

Cribb, J., Hood, A. and Joyce, R. (2016). 'The Economic Circumstances of Different Generations: the Latest Picture.' Institute for Fiscal Studies Briefing Note BN187.

Cribb, J., Hood, A. and Hoyle, J. (2018). 'The Decline of Homeownership Among Young Adults.' Institute for Fiscal Studies Briefing Note BN224.

Foye, C., Clapham, D., and Gabrieli, T. (2018). 'Home-ownership as a Social Norm and Positional Good: Subjective Wellbeing Evidence from Panel Data. *Urban Studies*, 55, 1290-1312.

Griffith, M. (2011). 'Hoarding of Housing: the Intergenerational Crisis in the Housing Market.' London: The Intergenerational Foundation.

Laurison, D. and Friedman, S. (2016). 'The Class Pay Gap in Higher Professional and Managerial Occupations.' *American Sociological Review*, 81, 668-695.

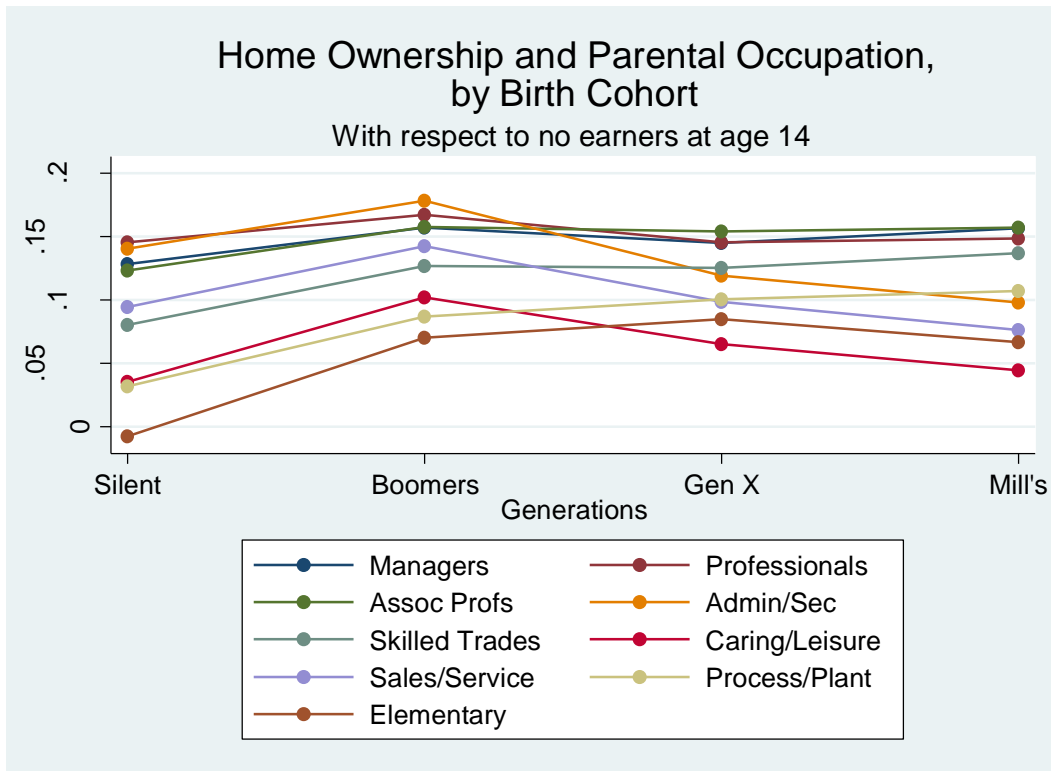
Lindley, J. and McIntosh, S. (2015). 'Growth in Within Graduate Wage Inequality: The Role of Subjects, Cognitive Skill Dispersion and Occupational Concentration,' *Labour Economics*, 37, 101-111.

Lindley, J., and Machin, S. (2012). 'The Quest for More and More Education: Implications for Social Mobility.' *Fiscal Studies*, 33, 265-286.

Rohe, W. and Stegman, M. (1994). 'The Effects of Homeownership: On the Self-esteem, Perceived Control and Life Satisfaction of Low-income people.' *Journal of the American Planning Association*, 60, 173-184.

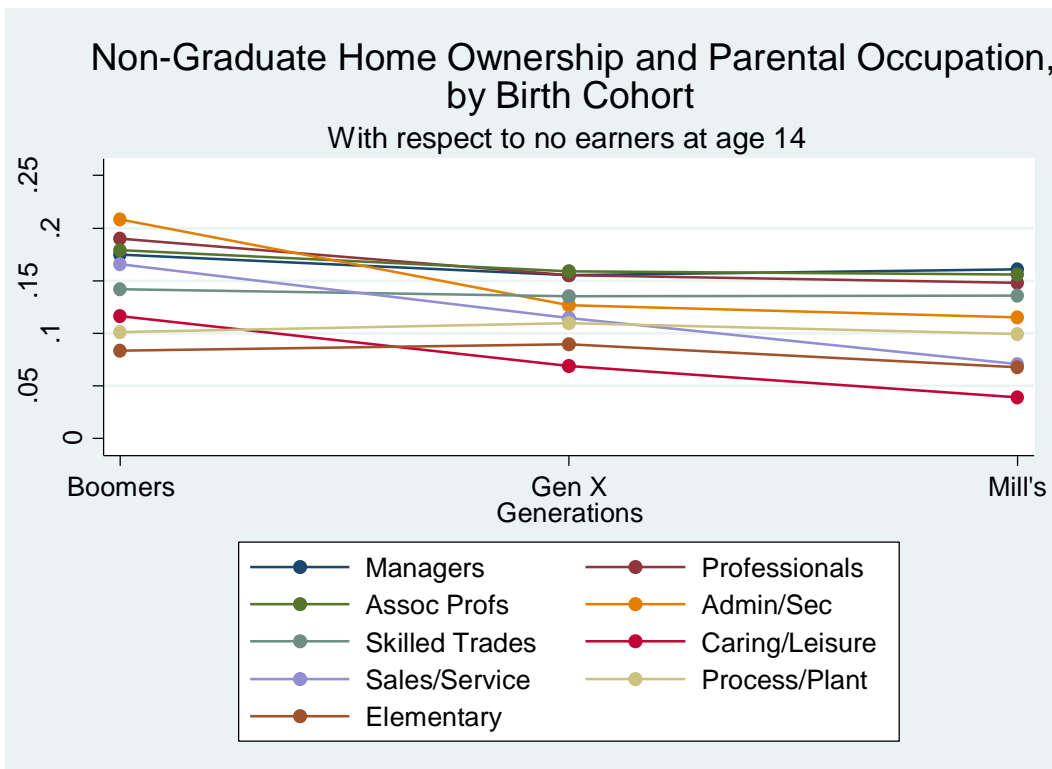
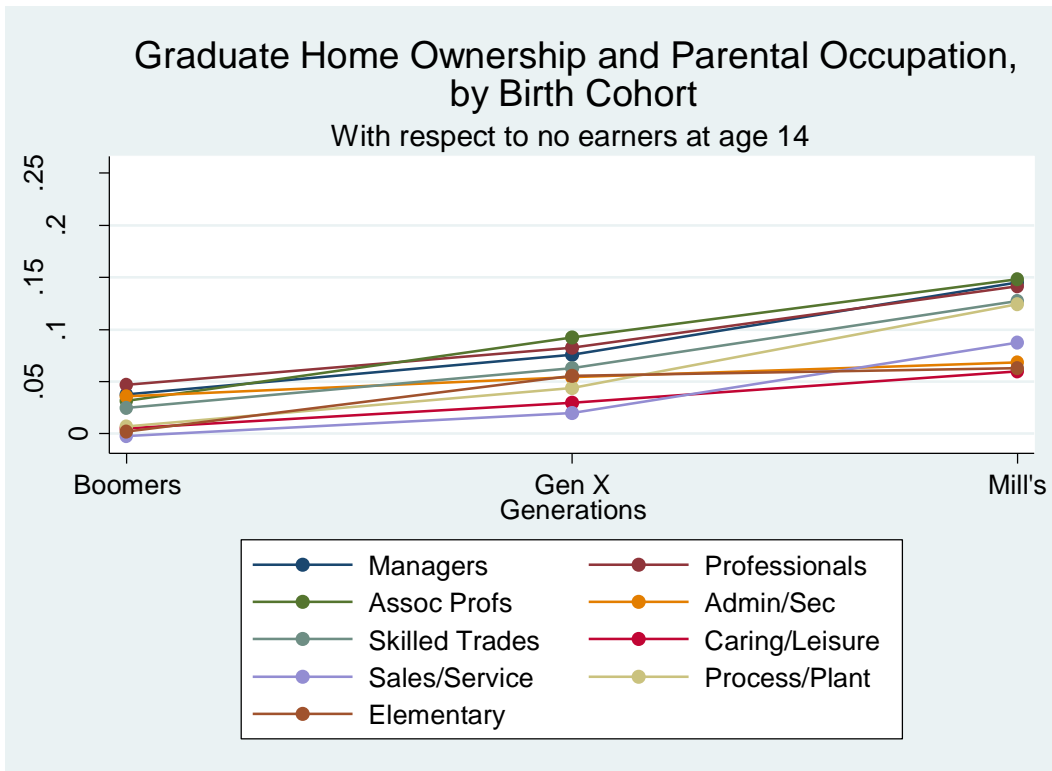
Zumbro, T. (2014). 'The Relationship Between Homeownership and Life Satisfaction in Germany.' *Housing Studies*, 29, 319-338.

Figure 1: Parental Occupation Differentials for Home Ownership, by Birth Cohort



Notes: See Table 2.

Figure 2: Graduate and Non-Graduate Parental Occupation Differentials for Home Ownership, by Birth Cohort



Notes: See Table 2.

Table 1. Family Background and Home Ownership in 2014-2017

Main Parental Occupation when Progeny Age 14	Percentage of Progeny owning their own home in 2015-2017	N
No Earners in the Household	49.58	7,806
Managers	76.44	22,504
Professionals	77.24	26,089
Associate Professionals	76.36	15,349
Admin/Secretarial	75.6	10,395
Skilled Trades	73.55	48,475
Caring/Leisure	60.28	5,076
Sales/Service	68.79	6,674
Process/Plant Operators	69.26	27,638
Elementary Occupations	65.51	22,472
Total	71.68	192,478

Notes: Using 2014-2017 QLFS July-September quarters, for 192478 individuals aged 16 and over and not living with their parents. We drop 10,514 individuals who have missing data for either of the parental background questions on occupation or economic activity for the main wage earner at age 14.

Table 2. LPM for Home Ownership and Parental Occupation.

	Base		Plus Birth Cohort of Progeny		Plus Controls for Progeny		Excluding Gen Z	
	Coeff	SE	Coeff	SE	Coeff	SE	Coeff	SE
Parental Occupation								
Managers	0.269*	0.006	0.229*	0.006	0.163*	0.005	0.164*	0.005
Professionals	0.277*	0.006	0.258*	0.005	0.167*	0.005	0.168*	0.005
Assoc Profs	0.268*	0.006	0.234*	0.006	0.167*	0.006	0.167*	0.006
Admin/Sec	0.260*	0.007	0.214*	0.006	0.156*	0.006	0.157*	0.006
Skilled Trades	0.240*	0.005	0.175*	0.005	0.135*	0.005	0.135*	0.005
Caring/Leisure	0.107*	0.008	0.105*	0.008	0.077*	0.007	0.078*	0.007
Sales/Service	0.192*	0.007	0.157*	0.007	0.121*	0.007	0.122*	0.007
Process/Plant	0.197*	0.006	0.119*	0.005	0.097*	0.005	0.098*	0.005
Children's Generation								
Elementary	0.159*	0.006	0.090*	0.006	0.073*	0.005	0.073*	0.005
Boomers	-	-	-0.024*	0.003	-0.147*	0.003	-0.148*	0.003
Gen X	-	-	-0.138*	0.003	-0.325*	0.004	-0.325*	0.004
Millennials	-	-	-0.397*	0.004	-0.575*	0.004	-0.576*	0.004
Gen Z	-	-	-0.738*	0.029	-0.808*	0.028	-	-
Children's Characteristics								
Graduate	-	-	-	-	0.079*	0.003	0.079*	0.003
Female	-	-	-	-	0.019*	0.002	0.019*	0.002
In Employment	-	-	-	-	0.088*	0.003	0.088*	0.003
Constant	0.496*	0.005	0.660*	0.005	0.520*	0.006	0.519*	0.006
F Stat for Region	-	-	-	-	1865.29*	[0.000]	1862.19*	[0.000]
F Stat for Year	-	-	-	-	89.78*	[0.000]	90.88*	[0.000]
F Stat for Occupation	-	-	-	-	1661.84*	[0.000]	1663.08*	[0.000]
N	192478		192478		192478		192265	

Notes: See Table 1. The dependent variable is equal to 1 if the progeny owns their own home and zero otherwise. * denotes statistically significant at the 5 percent level. Controls also include eleven regional dummies, eight occupation dummies and three year dummies and the joint probability > F are in square brackets. Birth cohorts are the Silent Generation before 1945, Baby boomers 1946-1964, Generation X 1965-1980, Millennials 1981-1996 and Generation Z 1997-1999. The final column excludes 213 individuals from Generation Z and consequently this sample is aged 18 and over.

Table 3. Home Ownership by Birth Generation in 2014-2017

Cohort of Birth	Percentage of Progeny owning their own home in 2014-2017	N
Silent Generation born before 1945	82.17	26,687
Baby Boomers born 1946-1964	80.56	76,625
Generation X born 1965-1980	69.98	58,445
Millennials born 1981-1996	43.90	30,508
Generation Z born 1997-1999	7.51	213

Notes: See Table 2.

Table 4. LPM for Home Ownership and Parental Occupation, by Birth Generation.

	Silent		Boomers		Gen X		Millennials	
	Coeff	SE	Coeff	SE	Coeff	SE	Coeff	SE
Parental Occupation								
Managers	0.128*	0.015	0.157*	0.009	0.145*	0.010	0.157*	0.013
Professionals	0.146*	0.015	0.168*	0.009	0.146*	0.009	0.149*	0.012
Assoc Profs	0.124*	0.016	0.158*	0.010	0.154*	0.010	0.157*	0.013
Admin/Sec	0.141*	0.016	0.179*	0.010	0.120*	0.011	0.098*	0.015
Skilled Trades	0.081*	0.013	0.127*	0.009	0.126*	0.009	0.137*	0.012
Caring/Leisure	0.036	0.020	0.102*	0.013	0.065*	0.014	0.045*	0.016
Sales/Service	0.095*	0.018	0.143*	0.011	0.099*	0.012	0.076*	0.016
Process/Plant	0.032*	0.014	0.087*	0.009	0.101*	0.010	0.107*	0.013
Elementary	-0.008	0.014	0.071*	0.009	0.085*	0.010	0.067*	0.013
Children's Characteristics								
Graduate	0.035	0.020	0.087*	0.004	0.068*	0.004	0.065*	0.007
Female	-0.014*	0.005	0.024*	0.003	0.038*	0.004	0.035*	0.006
In Employment	0.023*	0.006	0.124*	0.004	0.136*	0.008	0.086*	0.012
Constant	0.659*	0.016	0.410*	0.010	0.063*	0.012	-0.160*	0.017
F Stat for Regions	120.07*	[0.000]	572.75*	[0.000]	751.30*	[0.000]	285.02*	[0.000]
F Stat for Years	0.36	[0.547]	21.23*	[0.000]	9.67*	[0.002]	48.93*	[0.000]
F Stat for Occ	4.45*	[0.035]	50.95*	[0.000]	1474.93*	[0.000]	873.66*	[0.000]
N	26687		76625		58445		30508	

Notes: See Table 2. * denotes statistically significant at the 5 percent level.

Table 5. LPM for Home Ownership and Parental Occupation, aged 33 to 35.

Panel a: Without One Digit Occupations

	Generation X (BCS in 2004)		Millennials (LFS in 2014-17)		Change Across Cohorts	
	Coeff	SE	Coeff	SE	Coeff	SE
Parental Occupation						
Managers	0.069*	0.017	0.180*	0.029	0.111*	0.033
Professionals	0.099*	0.019	0.179*	0.028	0.080*	0.034
Assoc Profs	0.105*	0.020	0.194*	0.031	0.089*	0.036
Admin/Sec	0.104*	0.030	0.110*	0.035	0.006	0.045
Skilled Trades	0.023	0.015	0.138*	0.028	0.115*	0.030
Caring/Leisure	0.002	0.051	0.116*	0.039	0.115	0.065
Sales/Service	0.039	0.028	0.130*	0.037	0.091*	0.046
Process/Plant	-0.006	0.016	0.079*	0.031	0.085*	0.033
Elementary	-0.018	0.022	0.057	0.031	0.076*	0.037
Children's Characteristics						
Graduate	0.058*	0.013	0.207*	0.012	0.149*	0.018
Female	0.059*	0.009	0.004	0.012	-0.055*	0.015
In Employment	0.235*	0.012	0.274*	0.024	0.038	0.026
Constant	0.393*	0.022	-0.064*	0.036	-	-
F Stat for Regions	27.33*	[0.000]	94.45*	[0.000]	-	-
N	8972		6844		15816	

Panel b: Within One Digit Occupations

	Generation X (BCS in 2004)		Millennials (LFS in 2014-17)		Change Across Cohorts	
	Coeff	SE	Coeff	SE	Coeff	SE
Parental Occupation						
Managers	0.056*	0.017	0.138*	0.029	0.082*	0.032
Professionals	0.073*	0.019	0.129*	0.028	0.055	0.033
Assoc Profs	0.089*	0.020	0.156*	0.030	0.067	0.035
Admin/Sec	0.089*	0.029	0.077*	0.034	-0.012	0.044
Skilled Trades	0.025	0.015	0.120*	0.027	0.095*	0.030
Caring/Leisure	-0.008	0.050	0.099*	0.038	0.108	0.063
Sales/Service	0.024	0.028	0.116*	0.036	0.093*	0.045
Process/Plant	0.008	0.016	0.067*	0.030	0.059	0.033
Elementary	-0.006	0.021	0.053	0.030	0.059	0.037
Children's Characteristics						
Graduate	0.009	0.013	0.112*	0.014	0.103*	0.019
Female	0.064*	0.010	0.041*	0.013	-0.022	0.016
In Employment	0.040	0.021	0.117*	0.026	0.077*	0.033
Constant	0.385*	0.022	-0.059*	0.035	-	-
F Stat for Regions	36.17*	[0.000]	89.56*	[0.000]	-	-
F Stat for Occ	73.41*	[0.000]	120.14*	[0.000]	-	-
N	8972		6844		15816	
Percentage of home owners	74.02		56.46			

Notes: The dependent variable is equal to 1 if the progeny owns their own home and zero otherwise. Controls also include ten regional dummies. Panel B also includes eight occupation dummies. The joint probability > F are in square brackets. The BCS 1970 does not collect information for Northern Ireland and so these samples are for Great Britain only. Birth cohorts are generation x born in 1970 and millennials born between 1981 and 1984. In the BCS parental occupation is measured at age 10, whilst in the LFS it is measured at age 14. * denotes statistically significant at the 5 percent level.

Table 6. LPM for Home Ownership and Parental Occupation of Graduates, aged 33 to 35.

	Generation X (BCS in 2004)		Millennials (LFS in 2014-17)		Change Across Cohorts	
	Coeff	SE	Coeff	SE	Coeff	SE
Parental Occupation						
Managers	0.043	0.037	0.156*	0.056	0.113	0.067
Professionals	0.039	0.036	0.158*	0.055	0.119	0.065
Assoc Profs	0.049	0.042	0.192*	0.058	0.143*	0.072
Admin/Sec	-0.010	0.064	0.070	0.061	0.080	0.091
Skilled Trades	-0.013	0.037	0.135*	0.056	0.148*	0.068
Caring/Leisure	-0.052	0.226	0.200*	0.074	0.253	0.258
Sales/Service	-0.059	0.066	0.144*	0.070	0.203*	0.099
Process/Plant	-0.087	0.047	0.102	0.063	0.188*	0.079
Elementary	0.045	0.068	0.069	0.065	0.024	0.097
Children's Characteristics						
Female	0.046*	0.021	0.061*	0.017	0.015	0.028
In Work	-0.034	0.115	0.261*	0.054	0.295*	0.137
Constant	0.624*	0.047	-0.054	0.075	-	-
F Stat for Regions	4.45*	[0.035]	57.47*	[0.000]	-	-
F Stat for Occ	0.24	[0.623]	9.36*	[0.002]	-	-
N	1458		2949		4407	
Percentage of home owners	80.93		69.58			

Notes: See Table 5.

Table 7. LPM for Home Ownership and Parental Occupation of Non-Graduates, aged 33 to 35.

	Generation X (BCS in 2004)		Millennials (LFS in 2014-17)		Change Across Cohorts	
	Coeff	SE	Coeff	SE	Coeff	SE
Parental Occupation						
Managers	0.053*	0.019	0.144*	0.036	0.090*	0.039
Professionals	0.077*	0.024	0.114*	0.035	0.037	0.041
Assoc Profs	0.097*	0.023	0.141*	0.038	0.043	0.043
Admin/Sec	0.108*	0.033	0.111*	0.046	0.003	0.055
Skilled Trades	0.032*	0.016	0.121*	0.031	0.089*	0.034
Caring/Leisure	0.001	0.052	0.064	0.046	0.062	0.069
Sales/Service	0.038	0.030	0.113*	0.044	0.076	0.052
Process/Plant	0.019	0.017	0.064	0.034	0.045	0.037
Elementary	-0.004	0.023	0.054	0.035	0.058	0.041
Children's Characteristics						
Female	0.067*	0.012	0.016	0.018	-0.050*	0.021
In Employment	0.059*	0.022	0.072*	0.030	0.013	0.036
Constant	0.338*	0.025	-0.015	0.044	-	-
F Stat for Regions	37.25*	[0.000]	29.70*	[0.000]	-	-
F Stat for Occ	74.50*	[0.000]	103.90*	[0.000]	-	-
N	7514		3895		11409	
Percentage of home owners	72.68		46.52			

Notes: See Table 5.

Table 8. LPM for Home Ownership and Parental Occupation of High Skilled Workers, aged 33 to 35.

	Generation X (BCS in 2004)		Millennials (LFS in 2014-17)		Change Across Cohorts	
	Coeff	SE	Coeff	SE	Coeff	SE
Parental Occupation						
Managers	0.017	0.022	0.139*	0.049	0.121*	0.051
Professionals	0.000	0.023	0.145*	0.048	0.145*	0.050
Assoc Profs	0.027	0.026	0.169*	0.051	0.142*	0.054
Admin/Sec	0.012	0.037	0.079	0.056	0.066	0.065
Skilled Trades	-0.012	0.021	0.152*	0.049	0.164*	0.050
Caring/Leisure	-0.098	0.070	0.179*	0.065	0.277*	0.097
Sales/Service	-0.004	0.036	0.138*	0.063	0.142*	0.070
Process/Plant	-0.034	0.024	0.083	0.054	0.117*	0.056
Elementary	-0.004	0.034	0.062	0.057	0.066	0.064
Children's Characteristics						
Graduate	-0.007	0.014	0.103*	0.019	0.110*	0.023
Female	0.010	0.012	0.035*	0.016	0.025	0.020
Constant	0.751*	0.025	0.389*	0.052	-	-
F Stat for Regions	10.94*	[0.010]	59.40*	[0.000]	-	-
F Stat for Occ	2.11	[0.147]	5.23*	[0.022]	-	-
N	3606		3060		6666	
Percentage of home owners	84.50		73.04			

Notes: See Table 5.

Table 9. LPM for Home Ownership and Parental Occupation of Lower Skilled Workers and Respondents that are not in Employment, aged 33 to 35.

	Generation X (BCS in 2004)		Millennials (LFS in 2014-17)		Change Across Cohorts	
	Coeff	SE	Coeff	SE	Coeff	SE
Parental Occupation						
Managers	0.079*	0.024	0.153*	0.037	0.074	0.044
Professionals	0.149*	0.032	0.120*	0.036	-0.028	0.048
Assoc Profs	0.134*	0.030	0.154*	0.039	0.020	0.049
Admin/Sec	0.142*	0.043	0.084	0.045	-0.059	0.062
Skilled Trades	0.047*	0.020	0.103*	0.033	0.056	0.038
Caring/Leisure	0.046	0.068	0.057	0.048	0.011	0.084
Sales/Service	0.034	0.040	0.103*	0.046	0.068	0.060
Process/Plant	0.031	0.021	0.062	0.036	0.031	0.041
Elementary	0.008	0.028	0.048	0.037	0.041	0.046
Children's Characteristics						
Graduate	0.045	0.026	0.123*	0.020	0.078*	0.033
Female	0.121*	0.016	0.049*	0.020	-0.072*	0.025
In Employment	0.068	0.023	0.115*	0.027	0.047	0.036
Constant	0.285*	0.031	-0.050	0.043	-	-
F Stat for Regions	25.14*	[0.000]	34.16*	[0.000]	-	-
F Stat for Occ	1.22*	[0.269]	24.09*	[0.000]	-	-
N	5366		3784		9150	
Percentage of home owners	66.98		43.05			

Notes: See Table 5.

Table 10 LPM for Employment Propensity and Parental Occupation, aged 33 to 35.

	Generation X (BCS in 2004)		Millennials (LFS in 2014-17)		Change Across Cohorts	
	Coeff	SE	Coeff	SE	Coeff	SE
Parental Occupation						
Managers	0.064*	0.014	0.115*	0.015	0.051*	0.023
Professionals	0.044*	0.017	0.111*	0.014	0.067*	0.024
Assoc Profs	0.036*	0.017	0.123*	0.015	0.087*	0.025
Admin/Sec	0.016	0.025	0.116*	0.017	0.101*	0.032
Skilled Trades	0.040*	0.013	0.098*	0.014	0.059*	0.021
Caring/Leisure	0.044	0.043	0.098*	0.020	0.054	0.046
Sales/Service	0.025	0.024	0.105*	0.019	0.080*	0.032
Process/Plant	0.006	0.014	0.101*	0.015	0.095*	0.024
Elementary	-0.011	0.019	0.080*	0.016	0.091*	0.026
Children's Characteristics						
Graduate	0.048*	0.011	0.060*	0.006	0.012	0.013
Female	-0.180*	0.008	-0.077*	0.006	0.103*	0.010
Constant	0.875*	0.016	0.830*	0.015	-	-
F Stat for Regions	1.70	[0.192]	10.55*	[0.001]	-	-
N	8972		6844		15816	
Percentage in Employment	82.97		93.67			

Notes: See Table 5. The dependent variable is equal to 1 if the progeny is in paid employment and zero otherwise.

Table 11. LPM for Employment Propensity and Parental Occupation of Graduates, aged 33 to 35.

	Generation X (BCS in 2004)		Millennials (LFS in 2014-17)		Change Across Cohorts	
	Coeff	SE	Coeff	SE	Coeff	SE
Parental Occupation						
Managers	0.024	0.030	-0.010	0.021	-0.034	0.036
Professionals	-0.011	0.029	-0.018	0.020	-0.007	0.035
Assoc Profs	0.042	0.035	-0.010	0.021	-0.052	0.039
Admin/Sec	-0.016	0.053	-0.005	0.022	0.010	0.049
Skilled Trades	0.024	0.031	-0.027	0.021	-0.051	0.036
Caring/Leisure	0.194	0.187	-0.013	0.027	-0.207	0.138
Sales/Service	0.086	0.055	-0.016	0.026	-0.103	0.053
Process/Plant	-0.027	0.039	-0.008	0.023	0.019	0.042
Elementary	-0.017	0.056	-0.011	0.024	0.006	0.052
Children's Characteristics						
Female	-0.107*	0.017	-0.028*	0.006	0.079*	0.015
Constant	0.898*	0.030	0.994*	0.021	-	-
F Stat for Regions	3.10*	[0.079]	2.17*	[0.141]	-	-
N	1458		2949		4407	
Percentage in Employment	88.07		97.29			

Notes: See Table 5. The dependent variable is equal to 1 if the progeny is in paid employment and zero otherwise. Standard errors are in parentheses.

Appendix

Figure A1: Graduate and Non-Graduate Parental Occupation Differentials for Home Ownership, by Birth Cohort

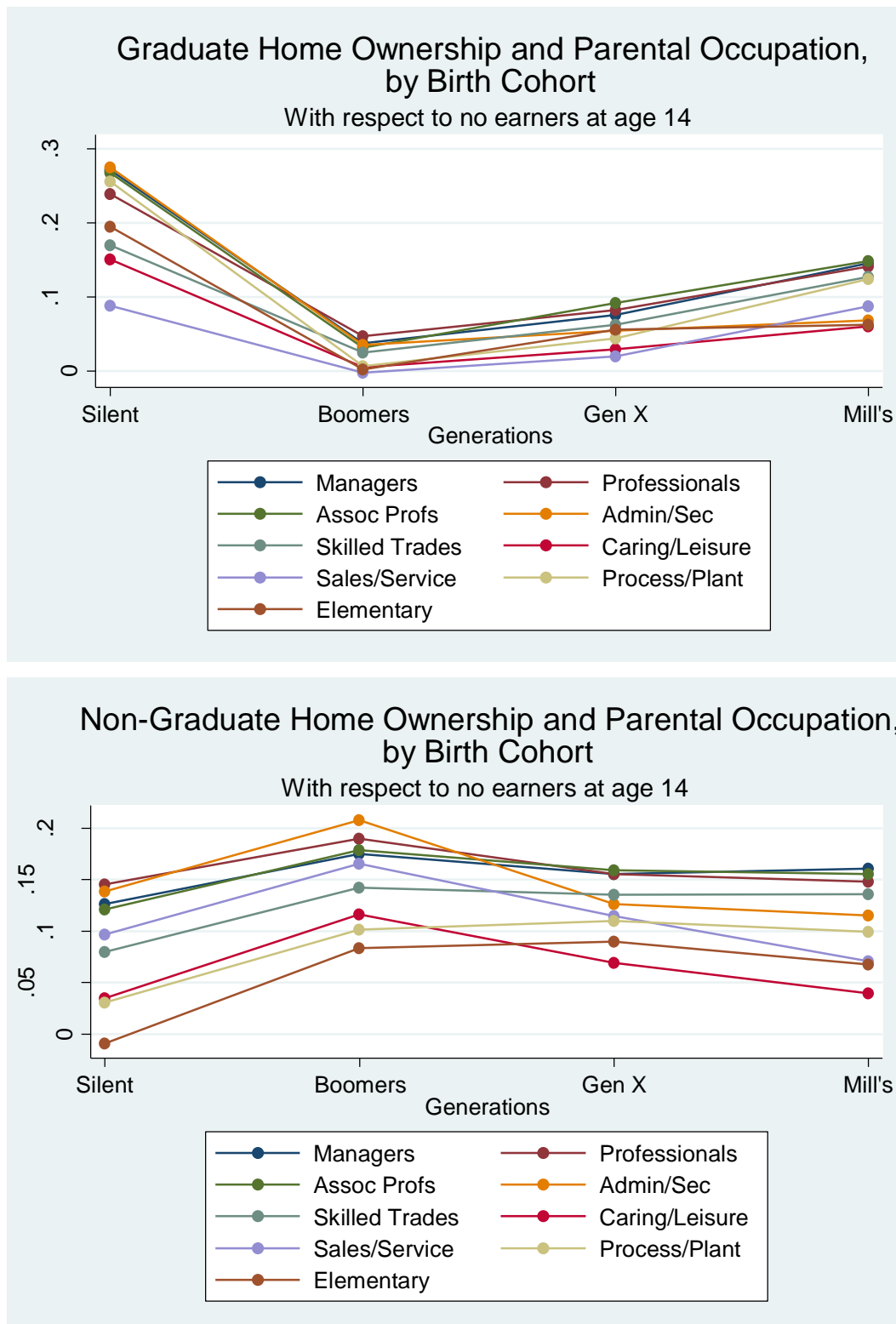


Table A1: Linear and Non-Linear Probability Model Marginal Effects for Home Ownership and Parental Occupation, for Respondents Aged 18 and Over.

	LPM (Table 2)		Logit		Probit	
	Coeff	SE	Coeff	SE	Coeff	SE
Parental Occupation						
Managers	0.164*	0.005	0.130*	0.004	0.138*	0.004
Professionals	0.168*	0.005	0.134*	0.004	0.143*	0.004
Assoc Profs	0.167*	0.006	0.130*	0.004	0.139*	0.004
Admin/Sec	0.157*	0.006	0.121*	0.004	0.130*	0.005
Skilled Trades	0.135*	0.005	0.112*	0.004	0.118*	0.005
Caring/Leisure	0.078*	0.007	0.062*	0.006	0.066*	0.007
Sales/Service	0.122*	0.007	0.094*	0.005	0.101*	0.006
Process/Plant	0.098*	0.005	0.074*	0.005	0.080*	0.005
Elementary	0.073*	0.005	0.055*	0.005	0.059*	0.005
Children's Generation						
Boomers	-0.148*	0.003	-0.152*	0.004	-0.152*	0.004
Gen X	-0.325*	0.004	-0.389*	0.005	-0.374*	0.005
Millennials	-0.576*	0.004	-0.643*	0.004	-0.630*	0.004
Children's Characteristics						
Graduate	0.079*	0.003	0.083*	0.003	0.085*	0.003
Female	0.019*	0.002	0.023*	0.002	0.022*	0.002
In Employment	0.088*	0.003	0.103*	0.004	0.100*	0.004
F/LR Stat for Region	1862.19*	[0.000]	1810.35*	[0.000]	1777.19*	[0.000]
F/LR Stat for Year	90.88*	[0.000]	75.29*	[0.000]	75.53*	[0.000]
F/LR Stat for Occ	1663.08*	[0.000]	1669.26*	[0.000]	1573.45*	[0.000]
N	192265		192265		192265	
LR Stat for All	-	-	335974.76*	[0.000]	33307.13*	[0.000]

Notes: See Table 2. For the LPM the joint probability > F is in square brackets. For the Logit and Probit models the joint probability > Chi squared are in square brackets.

Table A2. Probit Marginal Effects for Home Ownership and Parental Occupation, aged 33 to 35.

	Generation X (BCS in 2004)		Millennials (LFS in 2014-17)		Change Across Cohorts	
	Coeff	SE	Coeff	SE	Coeff	SE
Parental Occupation						
Managers	0.054*	0.016	0.151*	0.030	0.097*	-
Professionals	0.071*	0.018	0.142*	0.029	0.072	-
Assoc Profs	0.086*	0.018	0.169*	0.030	0.082	-
Admin/Sec	0.083*	0.025	0.084*	0.037	0.000	-
Skilled Trades	0.023	0.015	0.133*	0.029	0.111*	-
Caring/Leisure	-0.010	0.052	0.111*	0.040	0.122*	-
Sales/Service	0.021	0.027	0.127*	0.037	0.106*	-
Process/Plant	0.007	0.016	0.079*	0.033	0.071	-
Elementary	-0.005	0.022	0.062	0.034	0.068	-
Children's Characteristics						
Graduate	0.007	0.014	0.126*	0.015	0.118*	-
Female	0.066*	0.011	0.048*	0.014	-0.017*	-
In Employment	0.038	0.021	0.141*	0.031	0.103*	-
LR Stat for Regions	36.57*	[0.000]	90.11*	[0.000]	-	-
LR Stat for Occ	64.03*	[0.000]	110.12*	[0.000]	-	-
N	8972		6844		15816	

Notes: See Table 5. The joint probability > Chi squared are in square brackets. The significance of the cross-cohort changes are taken from the significance of the coefficients. These coefficients and the corresponding standard errors are available upon request.

Table A3. Probit Marginal Effects for Home Ownership and Parental Occupation for Graduates, aged 33 to 35.

	Generation X (BCS in 2004)		Millennials (LFS in 2014-17)		Change Across Cohorts	
	Coeff	SE	Coeff	SE	Coeff	SE
Parental Occupation						
Managers	0.047	0.033	0.141*	0.047	0.094	-
Professionals	0.039	0.033	0.149*	0.050	0.111	-
Assoc Profs	0.050	0.037	0.170*	0.043	0.120	-
Admin/Sec	-0.009	0.065	0.062	0.056	0.071	-
Skilled Trades	-0.009	0.037	0.122*	0.048	0.131*	-
Caring/Leisure	-0.033	0.227	0.169*	0.049	0.203	-
Sales/Service	-0.065	0.074	0.127*	0.054	0.192*	-
Process/Plant	-0.085	0.054	0.091	0.054	0.176*	-
Elementary	0.043	0.058	0.061	0.060	0.017	-
Children's Characteristics						
Female	0.044*	0.021	0.066*	0.018	0.022	-
In Work	-0.028	0.092	0.274*	0.065	0.301*	-
LR Stat for Regions	5.18*	[0.023]	54.87*	[0.000]	-	-
LR Stat for Occ	0.27	[0.602]	9.22*	[0.002]	-	-
N	1458		2949		4407	

Notes: See Table 5. The joint probability > Chi squared are in square brackets. The coefficients from the probit model and the corresponding standard errors are available upon request.

Table A4. Probit Marginal Effects for Home Ownership and Parental Occupation for High Skilled Workers, aged 33 to 35.

	Generation X (BCS in 2004)		Millennials (LFS in 2014-17)		Change Across Cohorts	
	Coeff	SE	Coeff	SE	Coeff	SE
Parental Occupation						
Managers	0.017	0.021	0.117*	0.039	0.100*	-
Professionals	0.000	0.023	0.127*	0.040	0.127*	-
Assoc Profs	0.028	0.023	0.142*	0.036	0.114*	-
Admin/Sec	0.012	0.035	0.064	0.047	0.052	-
Skilled Trades	-0.012	0.021	0.128*	0.038	0.139	-
Caring/Leisure	-0.095	0.085	0.145*	0.042	0.239	-
Sales/Service	-0.006	0.036	0.113*	0.046	0.119*	-
Process/Plant	-0.034	0.027	0.071	0.045	0.105*	-
Elementary	-0.006	0.034	0.050	0.050	0.056	-
Children's Characteristics						
Graduate	-0.006	0.014	0.107*	0.020	0.113*	-
Female	0.009	0.012	0.037*	0.016	0.028	-
LR Stat for Regions	10.47*	[0.001]	58.98*	[0.000]	-	-
LR Stat for Occ	2.56*	[0.110]	2.86*	[0.028]	-	-
N	3606		3060		6666	

Notes: See Table 5. The joint probability > Chi squared are in square brackets. The coefficients from the probit model and the corresponding standard errors are available upon request.